September 20, 2022

Memorandum #2022-137

TO: Regional Connectors Study Steering Committee and Working Group

BY: Camelia Ravanbakht, RCS Project Coordinator

RE: Regional Connectors Study (RCS) Steering Committee and Working Group Joint Meeting – September 27, 2022
Please RSVP by COB Thursday, September 22, 2022

Attached is the agenda for the joint meeting of the Regional Connectors Study (RCS) Steering Committee and Working Group scheduled for Tuesday, September 27, 2022, at 9:30 AM.

This meeting will be held in person in the 757 Room of the Regional Building located at 723 Woodlake Drive, Chesapeake.

/cm

Attachments

RCS Steering Committee and Working Group Members

Voting Members:

Steering Policy Group
Rick West (CH)
Donnie Tuck (HA)
McKinley Price (NN)
Martin Thomas (NO)
Shannon Glover (PO)
Mike Duman (SU)
Robert Dyer (VB)

Working Group
Troy Eisenberger (CH)
Jason Mitchell (HA)
Bryan Stilley (NN)
Deborah Mangiaracina (NO)
James Wright (PO)
Jason Souders (SU)
Ric Lowman (VB)

Nonvoting Members:
Ivan Rucker (FHWA)
Rick Dwyer (HRMFFA)
Kevin Page (HRTAC)
Lesley Dobbins-Noble (USACE)
Col. Brian Hallberg (USACE)
George Janek (USACE)
Keith Lockwood (USACE)
Robert Pruhs (USACE)
Zack Hoekwater (USCG)
Gene Leonard (USCG)
Michael King (USN)
Pamela Phillips (VDOT)
Jennifer Salyers (VDOT)
Chris Hall (VDOT)
Stephen Edwards (VPA)
Barbara Nelson (VPA)

Staff:
Bob Crum (HRTPO)
Pavithra Parthasarathi (HRTPO)
Rob Case (HRTPO)
Greg Grootendorst (HRPDC)
Keith Nichols (HRTPO)
Dale Stith (HRTPO)

Project Coordinator:
Camelia Ravanbakht

Project Consultants:
Paul Prideaux
Lorna Parkins

Agenda
Regional Connectors Study
Joint Steering (Policy) Committee and Working Group Meeting
Tuesday September 27, 2022
9:30 AM

The Regional Building, Regional Board Room
723 Woodlake Drive, Chesapeake, Virginia

1. **Call to Order**

2. **Welcome and Introductions**

3. **Public Comment Period** (Limit 3 minutes per individual)

4. **Minutes** (**Action Requested**)

   Summary Minutes from August 9, 2022, Joint Steering (Policy) Committee and Working Group Meeting

   Attachment 4 - Summary Minutes of August 9, 2022 Meeting

   Recommended Action: **For Approval**
   Motion: Approve Summary Minutes of August 9, 2022, Meeting

5. **Regional Connectors Study Phase 3: Qualitative Evaluation of Mandated Segments – Updates**
   Lorna Parkins (MBI) and Paul Prideaux (MBI), RCS Project Co-Managers

   At the August 9, 2022, Joint Steering (Policy) Committee and Working Group Meeting, Ms. Parkins (MBI), RCS Project Co-Manager, reviewed the comments received from the Joint Committee members on the Draft Qualitative Evaluation of Mandated Segments. Ms. Parkins also reviewed the consultant team's responses to the comments. Since the last meeting, the Consultant Team has further used these comments as well as the revised segment costs and engineering analysis to update permitability and readiness factors for some of the mandated segments (Attachment 5).

   Ms. Parkins (MBI) and Mr. Prideaux (MBI) will brief the Joint Committee members on this item.

Attachment 5 – Updated Qualitative Evaluation of Mandated Segments

<u>Recommended Action</u>: For Information and Discussion

6. **Regional Connectors Study Phase 3: Step 2 – Cost Estimation and Revised Design: Draft Segment Tiering – (<u>Action Requested</u>)**
Lorna Parkins (MBI) and Paul Prideaux (MBI), RCS Project Co-Managers

At the last Joint Meeting of August 9, 2022, Mr. Prideaux (MBI), RCS Project Co-Manager, reviewed the four segment bundles approved by the Joint Committee in April 2022:

- Bundle A – I-664 North of College Drive
- Bundle B – I-664 North of College Drive and VA 164
- Bundle C – I-664 North of College Drive, I-664 Connector, I-564 Connector
- Bundle D – I-664 North of College Drive, VA 164, VA 164 Connector, I-564 Connector

Mr. Prideaux (MBI) noted that Michael Baker used the HRTPO 2045 Regional Travel Demand Model to test improvements in assessing congestion benefits and economic impacts. Mr. Prideaux noted that Bundles C and D have the greatest benefit on vehicle hours of travel and delay. Mr. Prideaux added that Bundles C and D have the largest reduction in the share of congested travel, which would lead to improved travel time reliability. Ms. Parkins (MBI) provided a summary of the economic impact analysis. She highlighted the societal benefits of each Bundle in 2045 relative to the 2045 baseline conditions and noted that Bundle D had the highest societal benefits, largely due to time and reliability. Bundle D has the most cumulative benefit, with most of that being due to the impacts of Segment 1a.

In addition to congestion benefits and economic impacts of segments, cost estimates and design refinements are required to develop the segment tiering. Since the last Joint Meeting, the Consultant Team has updated the cost for each of the mandated segments based on VDOT's Cost Estimating Program (PCES). The Consultant Team has also revised the design for some of the mandated segments due to additional engineering analysis and comments received from the Committee members. According to the scope of work for Phase 3, the draft tiering of segments will be based on the results of the qualitative evaluation and quantitative analysis including congestion reduction and economic benefits.

Ms. Parkins (MBI) and Mr. Prideaux (MBI) will brief the Joint Committee on this item.

Attachment 6 - Cost Estimates of Mandated Segments

Note: The segment drawings are provided for download via the following eFTP site link and will be available until October 16, 2022:
https://eFTP.mbakerintl.com/message/2U2XgGTEX5nGQF3J0JKKue

Recommended Action: **For Approval**
Motion: Approve the Draft Tiering of Mandated Segments

7. **Regional Connectors Study Phase 3: Step 3- Scenario Analysis (Action Requested)**
Lorna Parkins (MBI) and Paul Prideaux (MBI), RCS Project Co-Managers

The Scenario Analysis will consider a baseline 2045 land use scenario and three 2045 "Greater Growth" land use scenarios that present plausible futures with respect to economic, demographic, and technological factors. The 2045 "Greater Growth" land use scenarios include Greater Growth on the Water, Greater Growth in Urban Places, Greater Growth in Suburban/Greenfield Places. As described in the Scope of Work for Phase 3, the Consultant Team will run up to three segment bundles for each scenario (the 2045 Baseline Scenario and the three Greater Growth Scenarios). The Scope of Work assumes that only Tier 1 and Tier 2 segments will be included in the bundles for scenario analysis.

Ms. Parkins (MBI) and Mr. Prideaux (MBI) will brief the Joint Committee on this item.

Recommended Action: **For Approval**
Motion: Approve Up to three Segment Bundles from Tier 1 and Tier 2 to be Used for Scenario Analysis

8. **Regional Connectors Study: Phase 3: Public Meetings Schedule**
Lorna Parkins (MBI), RCS Project Co-Manager

The revised Phase 3 Scope of Work consists of a four-step process including public engagement throughout the study. The Engagement Plan includes website updates, two rounds of public meetings, and a Regional Connector Symposium.

The public meetings consist of in-person meetings, pop-up meetings, and an online open house on the Study website. The Consultant Team has finalized the schedule for public meetings with dates and locations as listed below:

Date	Venue	City
Tuesday, November 15	Churchland Branch Library	Portsmouth
Thursday, November 17	VDOT Hampton Roads Office	Suffolk
Tuesday, November 29	Main Street Library	Newport News
Wednesday, November 30	Lambert's Point Community Center	Norfolk

Meetings scheduled 5:30-7:30 PM; Presentations to be given at 6:00 PM and 7:00 PM. All locations are accessible by transit; VDOT location also accessible to VA 164 corridor residents

Ms. Parkins (MBI), RCS Project Co-Manager, will brief the Joint Committee on this item.

Recommended Action: **For Information and Discussion**

9. For Your Information

RCS Diary of Key Decision Points: 2017 to Present

The attached diary includes a summary of key decision points from 2017 to the present time. The purpose of this document is to provide a quick reference for members and the public. This is a living document and will be updated with future approved key action Items.

Attachment 9 – RCS Diary September 2022 Update

10. RCS Next Meeting: Early 2023 - Date TBD

11. Other Items of Interest

12. Adjournment

Regional Connectors Study
Joint Steering (Policy) Committee & Working Group Meeting Minutes
August 9, 2022, 9:30 am

Steering (Policy) Committee

The following voting members attended the web meeting (alphabetically by city):

Rick West (CH)
Donnie Tuck (HA)
McKinley Price, Chair (NN)
Martin Thomas (NO)
Shannon Glover (PO)
Michael Duman (SU)
Robert Dyer (VB)

The following voting members were absent from the meeting (alphabetically by city):

No voting members of the Steering (Policy) Committee were absent.

Working Group

The following voting members attended the web meeting (alphabetically by city):

Tracy Jones-Schoenfeld (CH)
Bryan Stilley (NN)
John Stevenson (NO)
Carl Jackson (PO)
Jason Souders (SU)
Ric Lowman (VB)

The following voting members were absent from the meeting (alphabetically by city):

James Mitchell (HA)

Others

The following others attended the meeting (alphabetically by last name):

Robert A. Crum, Jr. (HRTPO/HRPDC)
Lesley Dobbins-Noble (USACE)
Rick Dwyer (HRFFMA)
Chris Gullickson (VPA)
Todd Halacy (VDOT)
Megan Gribble (Virginia Beach)
Steve Jones (Naval Station Norfolk)
Chris Largy (Michael Baker Intl.)
Phil Lohr (STV)

Karen McPherson (McPherson Consulting)
Albert Moor (Suffolk)
Barbara Nelson (VPA)
Kevin Page (HRTAC)
Lorna Parkins (Michael Baker Intl.)
Pavithra Parthasarathi (HRTPO)
Paul Prideaux (Michael Baker Intl.)
Camelia Ravanbakht (RCS Project Coordinator)
Mark Shea (Virginia Beach)
Earl Sorey (Chesapeake)
Stefanie Strachan (Hampton)
Joe Strange (Michael Baker Intl.)
Eric Stringfield (VDOT)
Cathie Vick (VPA)
James Wright (Portsmouth)

The following others attended the meeting virtually (alphabetically by last name):

Michael King (Navy)
Tammy Leigh DeMent (PRR)
Naomi Stein (EPB)
Bill Thomas (Michael Baker Intl.)

1. Call to Order

Chair McKinley Price called the meeting to order at 9:30 a.m.

2. Welcome and Introductions

Mr. Robert Crum, HRTPO Executive Director, asked attendees to introduce themselves.

3. Public Comment Period

There were no public comments.

4. Minutes

The April 26, 2022 minutes were approved, with Mayor West making the motion and Mayor Glover seconding the motion.

5. Regional Connectors Study: Step 1: Qualitative Evaluation of Mandated Segments and Segment Bundling – Comments and Responses

Mr. Crum introduced this item by providing a quick review of the last meeting and noting that committee members were asked to provide comments to the consultant after the meeting. Mr. Crum added that many comments were submitted (which were included in today's agenda packet) and he thanked the committee for their participation.

Ms. Parkins started her presentation by noting that she will discuss the Qualitative Evaluation of Mandated Segments and Segment Bundling, Congestion Reduction Evaluation and Economic Impacts Analysis, and Public Participation Plan at today's meeting.

Ms. Parkins discussed the Phase 3 Process Graphic, and noted that the study is currently in Step 2 which includes the congestion reduction evaluation and revised design and cost estimation. At the end of Step 2 draft segments will be tiered, which will be followed by public meetings.

Ms. Parkins reminded the group of the definition of project segments vs. bundles, followed by how segments will be classified using tiers. Tier 1 will include segments that are ready for advancement and recommended for consideration in the HRTPO 2050 LRTP. Tier 2 will include segments which require further refinement, and will be recommended for consideration in the HRTPO 2050 Vision Plan. Tier 3 will include segments that due to technical challenges and uncertainties will be further developed at an appropriate time in the future.

Ms. Parkins detailed the comments that were received from committee members on the mandated segments. These comments include:

- The City of Portsmouth provided comments on the VA 164 Widening, including recommending further refinement of alignment assumptions, looking at local impacts and local opposition, analyzing stormwater management concerns, and incorporating Environmental Justice concerns.
- The Navy provided comments on the VA 164 Connector. These comments reflect the security requirements of the Navy Fuel Depot and fuel pipeline facilities, and also the strategic nature of both the Fuel Depot and the Colonial Pipeline.
- The Navy also provided comments on the I-564 Connector. These comments include the security requirements of the Navy Fuel Depot, height restrictions due to flight paths, security concerns at Gate 6 and at Piers 1-3, and changing assumptions for the ATI interchange along the I-564 Intermodal Connector.
- The US Army Corps of Engineers (USACE) Operations provided comments on the VA 164 Connector. These included updated data on Craney Island, concerns on Craney Island operations, and Section 408 permit requirements.
- The USACE Regulatory also provided comments, including comments on independent utility, future permitting requirements, wetland impacts and remediation, Environmental Justice concerns, and endangered species evaluations.
- The Port of Virginia provided comments supportive of the VA 164 and I-564 Connectors. They also noted that security concerns can be resolved during later stages of project development after further planning and conceptual design.

Ms. Parkins added that it is very helpful to receive all of these comments, particularly for constructability, permitting, and readiness considerations. She added that responses to each comment were included in the agenda packet except for the comments received from the Port, which will be prepared shortly.

There were no questions or comments on this item.

6. Regional Connectors Study: Step 2 – Congestion Reduction Evaluation and Economic Impacts Analysis

Mr. Prideaux introduced the topic by noting that Michael Baker used the HRTPO 2045 Regional Travel Demand Model to test improvements. They looked at both regionwide results and results at key facilities, and also prepared a summary of economic results.

Mr. Prideaux discussed the segment bundles that were analyzed:

- Segment Bundle A is comprised of Segment 1a (I-664 north of College Drive).
- Segment Bundle B is comprised of Segment 1a (I-664 north of College Drive) and Segment 2 (VA 164)
- Segment Bundle C is comprised of Segment 1a (I-664 north of College Drive), Segment 4 (I-564 Connector), and Segment 5 (I-664 Connector)
- Segment Bundle D is comprised of Segment 1a (I-664 north of College Drive), Segment 2 (VA 164), Segment 3 (VA 164 Connector) and Segment 4 (I-564 Connector)

Mr. Prideaux noted that Segment 1b (I-664 south of College Drive) was included in the 2045 RCS Baseline Network, based on a decision made at the last RCS meeting.

Mr. Prideaux provided highlights on the congestion analysis for the regionwide results. He noted that total regional travel levels are similar for the 2045 baseline and all four bundles, but vehicle-hours of travel and delay are reduced with all four bundles as a result of reduced congestion. He also noted that Bundles C and D have the greatest benefit on vehicle-hours of travel and delay. Mr. Prideaux added that Bundles C and D have the largest reduction in the share of congested travel, which would lead to improved travel time reliability.

Mr. Prideaux added that cost estimates will be provided at the next meeting to provide insight on the cost-effectiveness of each segment.

Mr. Prideaux noted that congestion at 23 key locations was also examined and highlighted the results at some key locations including the Hampton Roads Bridge-Tunnel, three Hampton Roads Harbor crossings, the Midtown and Downtown Tunnels, and Hampton Boulevard. Mr. Prideaux added that these results will help with the tiering of segments, which will be discussed at the next meeting.

Mr. Jackson asked if we could further determine whether Bundle C or Bundle D would have the greatest reduction in congestion. He expressed his concern that Bundle D has many more issues than Bundle C. Mr. Prideaux and Ms. Parkins replied that they would provide further analysis on these bundles with the upcoming cost effectiveness analysis.

Ms. Parkins provided a summary of the economic impact analysis. She highlighted the societal benefits of each Bundle in 2045 relative to the 2045 baseline conditions, and noted that Bundle D had the highest societal benefits, largely due to time and reliability savings. Ms. Parkins also highlighted the regional economic impact in 2045 relative to 2045 baseline conditions, in terms of increase in the Gross Regional Product. Bundle D has the most cumulative benefit, with most of that being due to impacts of Segment 1a.

Mayor Price asked if we are able to determine how certain potential large economic development projects that could increase housing and population levels would impact congestion. Ms. Parkins replied that this will be looked at as part of the scenario analysis, with the three scenarios of Greater Growth on the Water, in Urban Centers, and in Suburban Centers.

Mr. Crum mentioned the escalating costs of the HRBT project through the years and noted that there are costs associated with waiting. Mr. Crum asked if we can get into these costs of waiting in the RCS in terms of escalating construction costs. Mayor Price added that escalating costs through the years was also an issue for the CBBT project. Ms. Parkins replied that their team will think about how to represent this opportunity cost in the study.

Mr. Stringfield asked if all of the bundles include Bundle A, which improves the Monitor-Merrimac Memorial Bridge-Tunnel. Ms. Parkins replied that yes, all four bundles include

improvements at the tunnel. Ms. Parkins added that they have been coordinating with HRSD in terms of the proposed alignment of improvements to I-664.

Mayor Tuck asked about increasing costs and the ability to fund projects now versus years in the future. Mr. Crum replied that this is a conversation for this group to have with the HRTPO Board as the study progresses with costs provided by the consultant. Ms. Parkins added that there is about a year left remaining on the study, and then that question should be addressed in the HRTPO Long-Range transportation planning process.

7. Regional Connectors Study: Phase 3: Public Engagement Plan – Proposed Outreach Plan

Ms. Parkins introduced the proposed outreach plan by noting that strategies have changed due to the pandemic. She noted that the plan no longer is to take a preferred alternative to the public, but rather to take the tiering of projects to the public. The plan is now for a more hybrid approach. This will include four in-person meetings (Lower Peninsula, Norfolk, Suffolk, and Portsmouth), three pop-up meetings (including events spread out geographically), and more online engagement to reach those unable to attend in-person meetings.

Ms. Parkins highlighted maps showing demographics and transit routes to help with determining the four proposed meeting locations.

Mr. Stringfield asked about online engagement, and whether they are planning to run an online survey to accompany each public meeting or are they planning to run a single survey throughout the entire public involvement period. Ms. Parkins replied that public meetings will be on the front end of the public involvement period and that the survey will continue to be available afterward for the full public involvement period.

Mayor Glover noted that public meetings in that area of Portsmouth are typically held at Churchland High School, since it is a larger venue.

Ms. Parkins wrapped up the presentation by noting that a discussion of possible locations for pop-up meetings, such as at fall festivals, will be discussed at the next meeting.

8. For Your Information

The agenda packet includes a diary of key decision points in the RCS study from 2017 to the present time.

9. RCS Next Meeting

Ms. Parkins noted that the next meeting of the Joint RCS Steering (Policy) Committee and Working Group is scheduled for September 27th. At this meeting, it is expected that there will be a discussion on recommended draft tiers.

10. Other Items of Interest

There were no other items of interest.

11. Adjournment

The meeting was adjourned at 10:40 a.m.

ATTACHMENT 5

REGIONAL CONNECTORS STUDY

Phase 3
Update of Qualitative Evaluation

PREPARED SEPTEMBER 20, 2022

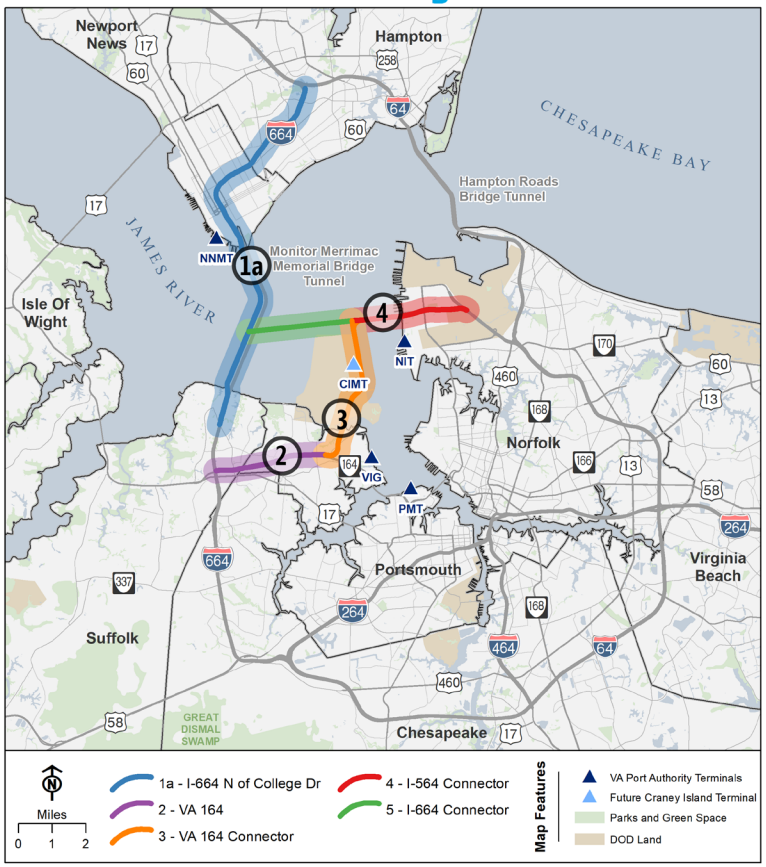
UPDATED FROM APRIL 15, 2022 DRAFT

Attachment 5

RCS Phase 3 – Summary of Qualitative Evaluation of Mandated Segments

Table of Contents

Mandated Segments



Attachment 5

Regional Connectors Study

Readiness Evaluation Criteria

Summary of Changes

Segment 1a: I-664 N. of College Dr.

Operational independence shift from moderate to most as a result of operational benefits.

Phasing potential shifted from moderate to most as a result of operational benefits.

HRTAC rating shifted from moderate to most as a result of congestion relief benefits.

Segment 3: VA 164 Connector

IIJA funding shifted from moderate to least due to lack of detail plan with no dedicated funding.

Segment 4: I-564 Connector

IIJA funding shifted from moderate to least due to lack of detail plan with no dedicated funding.

Permitting Issues Evaluation Criteria

Summary of Changes

Segment 2: VA 164

Stakeholder coordination shifted from moderate to high due to community impact concerns.

Segment 3: VA 164 Connector

404 permit issues changed from moderate to high with modifications to alignment.

408 permit issues changed from moderate to high with modifications to alignment.

Note that other segment ratings did not change, but all were re-examined with updated segment designs and/or new information as applicable. Additional observations are provided in the Technical Evaluation Tables.

Construction Complexity Evaluation Criteria

Omitted from this document and reflected in Cost Estimates going forward.

List of Abbreviations

Abbreviations	Meaning
AC	Acres
ACOE	Army Corps of Engineers
APE	Area of Potential Effects
BMP	Best Management Practices
CC	Collection Concern
CFR	Code of Federal Regulations
CGP	Construction General Permit
CIDMMA	Craney Island Dredged Material Management Area
CIFD	Craney Island Fuel Terminal
Conn	Connector
COSS	Corridor of Statewide Significance
CWA	Clear Water Act
DOD	Department of Defense
DON	Department of the Navy
E&S	Erosion Sediment
ERC	Elizabeth River Crossings
ESA	Environmental Site Assessment
FESE	Federal Endangered, State Endangered
FHWA	Federal Highway Administration
FIRMs	Flood Insurance Rate maps
FTSE	Federal Threatened, State Endangered
FTST	Federal Threatened, State Threatened
GWMA	Groundwater Management Areas
HOT	High Occupancy Toll
HRBT	Hampton Road Bridge Tunnel
HREL	Hampton Roads Express Lanes
HRSD	Hampton Roads Sanitation District
HRTAC	Hampton Roads Transportation Accountability Commission
HRTPO	Hampton Roads Transportation Planning Organization

Abbreviations	Meaning
IIJA	Infrastructure Investment and Job Act
IMR	Interchange Modification Report
LEDPA	Least Environmental Damaging Practicable Alternative
LOD	Limits of Disturbance
LRTP	Long Range Transportation Plan
LWCF	Land and Water Conservation Fund
MMBT	Monitor-Merrimac Bridge Tunnel
MMMBT	Monitor-Merrimac Memorial Bridge-Tunnel
N/A	Not Applicable
NAS	Naval Station
NAVSTA	Naval Station in Norfolk
NEPA	National Environmental Policy Act
NIT	Norfolk International Terminals
N-MMBT	Northern - Monitor-Merrimac Bridge Tunnel
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NRHP	National Register of Historic Places
NSA	Naval Support Activity
PCB	Polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
RCSII	Regional Connectors Study Phase II
ROW	Right-of-way
SE	State Endangered
SEIS	Supplemental Environmental Impact Statement
SMART SCALE	System for the Management and Allocation of Resources for Transportation – Safety, Congestion Mitigation, Accessibility, Land Use, and Economic Development and environment
SPUI	Single Point Urban Interchange
ST	State Threatened
SWPPP	Stormwater Pollution Prevention Plan
TBD	To-Be-Determined

Attachment 5

List of Abbreviations (continued)

Abbreviation	Meaning
TMDL	Total Maximum Daily Load
US	United States
USACE	United State Army Corps of Engineers
USACOE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United State Fish and Wildlife Service
USS	United States Ship
VA	Virginia
VAC	Virginia Administration Code
VaFWIS	Virginia Fish and Wildlife Information Service
VDACS	Virginia Department of Agriculture and Consumer Services
VDEQ	Virginia Department of Environmental Quality

Abbreviation	Meaning
VDGIF	Virginia Department of Game and Inland Fisheries
VDOT	Virginia Department of Transportation
VESCH	Virginia Erosion and sediment Control Handbook
VIG	Virginia International Gateway
VIMS SAV	Virginia Institute of Marine Science - Submerged
VLR	Virginia Landmark Register
VMRC	Virginia Marine Resources Commission
VPA	Virginia Port Authority
VSMP	Virginia Storm Water Program
VTrans	Virginia's Statewide Transportation Plan
VWPP	Virginia Water Protection Permit
W-RNHT	Washington-Rochambeau Revolutionary Route National Historic Trail

Attachment 5

Segments Evaluated

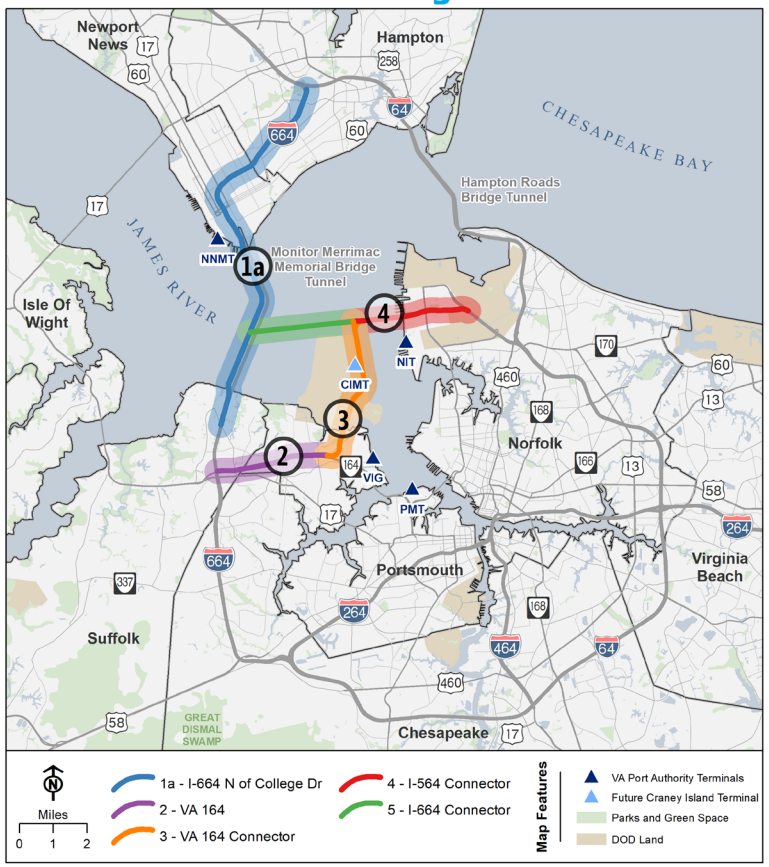
- 1a I-664 North of College Drive – Starting with general alignment of SEIS Alternative D – *adapted lane configuration* to 8 lanes with 4 GP lanes and 4 managed lanes.
- 2 VA 164 – Widen toward the median to 6 GP lanes per SEIS (adding one in each direction) – *expanded corridor by 20' each side as a cautionary measure to allow for inside crash wall depth for freight rail.*
- 3 VA 164 Connector – SEIS alignment (4 GP lanes)
- 4 I-564 Connector – SEIS Alternative D (4 GP lanes)
- 5 I-664 Connector – SEIS Alternative D (4 GP lanes)

For EJ evaluation, also considered demographics of surrounding 500' corridor

Final SEIS available at the HRBT Resources Page at *https://www.hrbtexpansion.org/resources-and-documents/default.asp*

Segment drawings showing limits of disturbance (LOD) and profiles available until **October 16th** *at* *https://eFTP.mbakerintl.com/message/2U2XgGTEX5nGQF3J0JKKue*

Mandated Segments

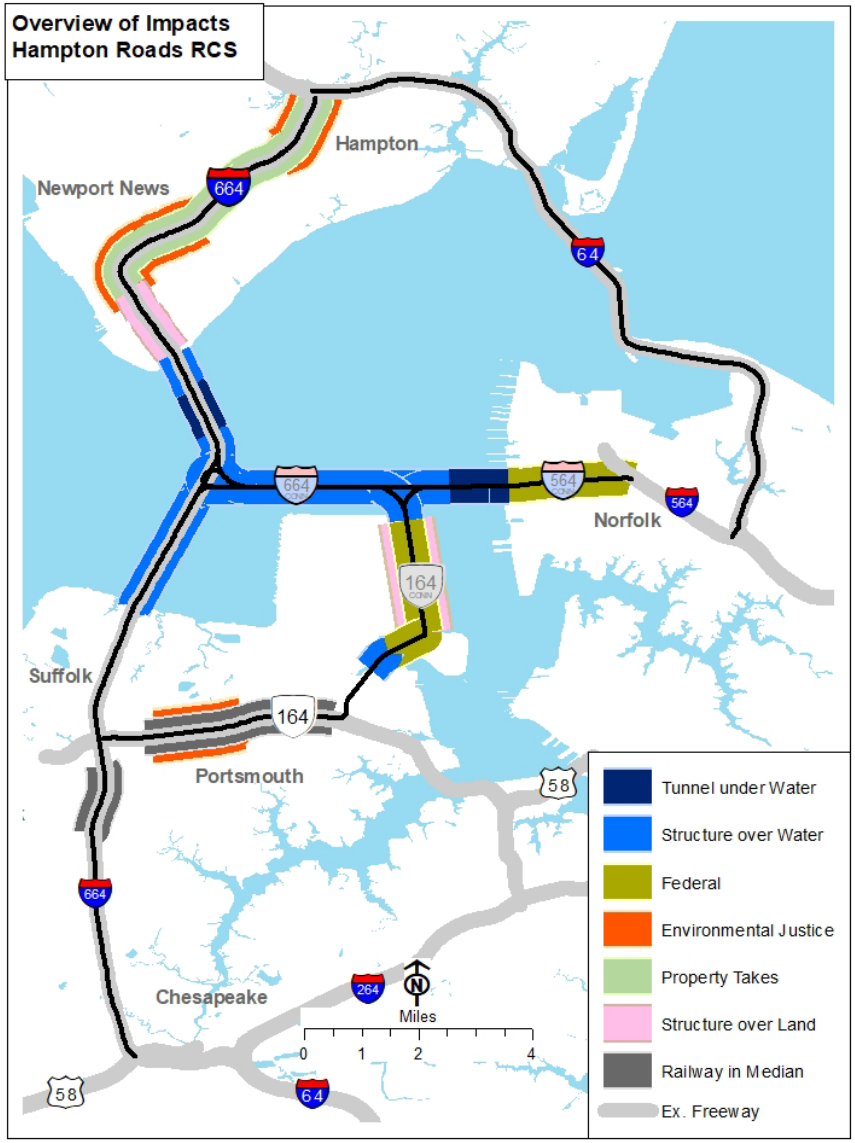


Attachment 5

REGIONAL CONNECTORS STUDY

Evaluation Summary Tables and Map

Attachment 5



Step 2 Qualitative Evaluation Highlights - Key Features

Attachment 5

REGIONAL CONNECTORS STUDY

Permitting Issues Technical Evaluation

Attachment 5

Permitting Issues Evaluation Criteria

Summary of Changes

Segment 2: VA 164 Connector

Stakeholder coordination shifted from moderate to high due to community impact concerns.

Segment 3: VA 164 Connector

404 permit issues changed from moderate to high with modifications to alignment.

408 permit issues changed from moderate to high with modifications to alignment.

Note that other segment ratings did not change, but all were re-examined with updated segment designs and/or new information as applicable. Additional observations are provided in the Technical Evaluation Tables.

REGIONAL CONNECTORS STUDY

Step 1 Evaluation Measures – Segment Comparison

Range of Impact
High
Moderate
Minimal

Permitting Issues and Key Environmental Impacts

Permitting Issues	*Segment 1a: I-664 N of College Dr.*	*Segment 2: VA 164*	*Segment 3: VA 164 Connector*	*Segment 4: I-564 Connector*	*Segment 5: I-664 Connector*
	1a	*2*	*3*	*4*	*5*
Community impacts (right-of-way, consistency with local plans)					
Sensitive property impacts (noise, community facilities, cultural)					
Environmental Justice (low income and minority communities)					
USACOE Section 404 Permit Issues			*		
USACOE Section 408 Permit Issues			*		
USACOE Section 10 permit					
USCG Bridge Permit					
NOAA Incidental Harassment Authorization					
VDEQ Section 401 Virginia Water Protection Permit					
VMRC Subaqueous Bottomlands Permit					
VDEQ Virginia Construction General Permit					
Local Wetlands Board Permit Issues					
Mitigation Complexity and Cost					
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)		*			
Effect on other Federal Navigation Projects					
Potential Future Changes in Policy Issues					

* Evaluations that have been revised since original April 2022 draft

Attachment 5

REGIONAL CONNECTORS STUDY

Step 1 Evaluation Measures – Segment Comparison

Range of Impact
High
Moderate
Minimal

Definitions of Evaluation Framework:

Impact Rating Concern – This evaluation category captures the potential effect of the project and its construction on the natural and social environment. Some of the most common environmental impacts are:

- social and community environment
- noise impacts
- water resources and wetlands
- protected species
- damage to ecosystems and loss of biodiversity
- historic resources
- regulatory requirements and complexity
- mitigation cost and complexity
- interdependence or conflict with other projects

Human well-being depends directly on biodiversity and ecosystems. It is therefore vital to try to measure, plan and minimize any segment activity that might alter the ecological balance.

- *Minimal: No or Minimal impacts to ecosystems (including social and natural)*
- *Moderate: Impacts that have reasonable solutions to ecosystems (including social and natural)*
- *High: Challenging or Unknown impacts to ecosystems (including social and natural)*

Feasibility Concern - Resource feasibility concerns indicate whether the segment will interfere with the socioeconomic activities within the corridor and identify potential issues and problems that could arise from pursuing the project.

- *Minimal: No or Minimal impacts to existing operations or other transportation projects occurring within the segment*
- *Moderate: Impacts that have reasonable solutions to existing operations or other transportation projects occurring within the segment*
- *High: Challenging or Unknown impacts to existing operations or other transportation projects occurring within the segment*

Timing Implications - It is important that such regionally significant projects can be reliably scheduled so that funding pipelines and adjacent projects are not disrupted by setbacks from the permitting issues being evaluated. While these considerations will be presented as notes for each category, below is a general range of how the timing impacts will be viewed:

- *Minimal: No or Minimal likelihood of timing issues or schedule impacts*
- *Moderate: Impacts that have reasonable solutions of timing issues or schedule impacts*
- *High: Challenging or Unknown (i.e. likelihood of future changes in policies related to permitting) impacts of timing issues or schedule impacts*

Resource Impacts – Reference to the HRTPO Corridor Evaluation Technical Memorandum Table of Resources for a detailed overview of resources potentially present within the segment.

- *Minimal: No or Minimal impacts to resources*
- *Moderate: Impacts that have reasonable solutions to resources*
- *High: Challenging or Unknown impacts to resources*

Attachment 5

SEGMENT: *1a: I-664 North of College Dr.*

1a: I-664 North of College Dr. **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Social Environment		
Community impacts (right-of-way, consistency with local plans)	Moderate	Most resources are adjacent to the LOD; however, final LOD requirements may show that minor right-of-way acquisitions will be needed and further detailed design may avoid and/or minimize potential impacts. Construction activities would result in temporary interruptions to vehicular traffic patterns, including the potential temporary closure of roads and temporary interruptions to vehicular traffic patterns. Construction activities would cause intermittent fluctuations in noise levels throughout the construction area. The degree of noise impact would vary, as it is directly related to the types of equipment used and the proximity to the noise-sensitive land uses within the project area. Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated.
Sensitive property impacts (noise, community facilities, cultural)	Moderate	Most sensitive resources are located outside the LOD; however, final LOD requirements may show that minor right-of-way acquisitions will be needed. Some sensitive properties immediately adjacent to the limits of disturbance may be impacted including Park Place Playground and Kingdom Hall of Jehovah's Witnesses.
Environmental Justice (low income and minority communities)	Moderate	Widening of the existing corridor in an urban environment provides limited adjacent land for construction. Identified Environmental Justice impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts. All communities within 500 feet of the proposed construction to the north and south of the corridor are majority minority, with most over 75% minority. All communities in Newport News within 500 feet of the proposed edge of the corridor have over 25% poverty, and many have 75-100% poverty. There are 3 apartment buildings, 11 apartment blocks, and 45 houses within 500 feet of the corridor in Newport News. In Hampton, poverty is less severe, though the communities next to I-664 are also majority minority. In the indirectly impacted areas of Hampton that have over 25% poverty, there are 144 homes and a senior living facility, as well as a High School. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*

1a: I-664 North of College Dr. Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Federal Permits		
USACOE Section 404 Permit Issues	Moderate	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Federal Regulatory Agencies; however, the segment will be widening of the existing corridor. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
USACOE Section 408 Permit Issues	Moderate	Section 408 is the process that allows alteration to a federally authorized project. The proposed project cannot pose a risk to the public interest and will not impair the usefulness of the federally authorized project. Construction activities requiring access to the James River (Newport News Channel) maintained channel for potential barge work zones and safe harbor sites will most likely be required.
USACOE Section 10 permit	Moderate	Maintenance of operations and traffic will be required for all identified Maintained Federal Channels and the existing I664 Monitor Merrimack transportation corridor.
USCG Bridge Permit	Moderate	The segment does cross the James River (Newport News Channel), construction activities requiring access to potential barge work zones and safe harbor sites in or adjacent to the James River (Newport News Channel) will most likely be required.
NOAA Incidental Harassment Authorization	Moderate	There is moderate potential for incidental harassment within this segment.
State Permits		
VDEQ Section 401 Virginia Water Protection Permit	Moderate	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies; however, the segment will be widening of the existing corridor. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VMRC Subaqueous Bottomlands Permit	Moderate	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies; however, the segment will be widening of the existing corridor. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VDEQ Virginia Construction General Permit	Minimal	Assumption that all required stormwater controls and requirements pursuant to this permit will be obtained and adhered to. It is assumed for this segment that all additional stormwater controls would be located within the boundaries of the LOD.

Attachment 5

1a: I-664 North of College Dr. Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Local Permits		
Local Wetlands Board Permit Issues	Moderate	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Local Wetlands Boards; however, the segment will be widening of the existing corridor. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
Additional Factors		
Mitigation Complexity and Cost	High	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, and current operations at the Newport News Marine Terminals. Moderate to extensive mitigation costs would be required for wetland and US waters impacts; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team. Additional coordination with mitigation banks to ensure sufficient capacity for required purchases will occur as design progresses and more precise impacts can be determined.*
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)	High	Extensive stakeholder coordination with Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, rail facilities, and current operations at the Newport News Marine Terminals will be required and may pose design and/or construction schedule risk.
Effect on other Federal Navigation Projects	Moderate	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, and current operations at the Newport News Marine Terminals; however, the segment is the widening of the existing corridor.
Potential Future Changes in Policy Issues	Minimal	No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *2: VA 164*

2: VA 164 **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Social Environment		
Community impacts (right-of-way, consistency with local plans)	Minimal	Construction activities would result in temporary interruptions to vehicular traffic patterns, including the potential temporary closure of roads and temporary interruptions to vehicular traffic patterns. Construction activities would cause intermittent fluctuations in noise levels throughout the construction area. The degree of noise impact would vary, as it is directly related to the types of equipment used and the proximity to the noise-sensitive land uses within the project area. Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated. *Communities within 500 feet of the preliminary Limits of Disturbance for VA 164 are diverse racially and in income. As this and future planning and project development processes continue, outreach, partnering and collaboration with neighboring communities will engage these communities to mitigate any potential impacts.*
Sensitive property impacts (noise, community facilities, cultural)	Minimal	Many sensitive property identified resources are located outside of the limits of disturbance. It does not appear that the LOD will exceed the ROW parcel edge along this segment; therefore, there will be no impact to existing businesses, schools, residences, places of worship, or cemeteries. Expansion to the eastbound side of VA-164 may require a portion of easement from Ebony Heights Park; however, further detailed design may avoid and/or minimize any potential impacts. *At this qualitative stage, noise and air quality were not specifically measured or modeled, but described generally as potential impacts. Noise wall information will be incorporated into the more detailed planning and design reviews.*
Environmental Justice (low income and minority communities)	Moderate	Expansion to the eastbound side of VA-164 may require a portion of easement from Ebony Heights Park; however, further detailed design may avoid and/or minimize any potential impacts. No residents or neighboring communities would be relocated. Communities within 500 feet of the proposed construction to the north and south of the corridor are majority minority with over 25% of households in poverty. 102 houses 58 2-story apartments, 44 garden apartment blocks, and 3 churches.

2: VA 164 Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Environmental Justice cont'd		*Communities within 500 feet of the preliminary Limits of Disturbance for VA 164 are diverse racially and in income. As this and future planning and project development processes continue, outreach, partnering and collaboration with neighboring communities will engage these communities to mitigate any potential impacts.*
Resource Federal Permits		
USACOE Section 404 Permit Issues	Minimal	Non-tidal US Waters and wetlands were identified within the segment; however, however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential impacts. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated.*
USACOE Section 408 Permit Issues	Minimal	No rivers or harbors are located within the boundaries of the LOD evaluated.
USACOE Section 10 permit	Minimal	This segment does not contain bridge structures over or adjacent to Federal Navigation Projects nor does this segment cross any maintained Federal Channels.
USCG Bridge Permit	Minimal	This segment does not contain bridge structures over or adjacent to Federal Navigation Projects or mat.
NOAA Incidental Harassment Authorization	Minimal	There is no potential for incidental harassment within this segment.
State Permits		
VDEQ Section 401 Virginia Water Protection Permit	Minimal	Non-tidal US Waters and wetlands were identified within the segment; however, however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential impacts. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated.*
VMRC Subaqueous Bottomlands Permit	Minimal	No subaqueous bottomlands were identified within the boundaries of the evaluated LOD.
VDEQ Virginia Construction General Permit	Minimal	Assumption that all required stormwater controls and requirements pursuant to this permit will be obtained and adhered to. It is assumed for this segment that all additional stormwater controls would be located within the boundaries of the LOD. *At this early planning stage, it is unknown what additional impervious surface will be constructed. The future design process will develop better estimates of impervious surface burden to determine what best management practices to implement, and where, in the future timeframe that is indicated in the RCS segment tiering recommendation.*

2: VA 164 **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Local Permits		
Local Wetlands Board Permit Issues	Minimal	No tidal US Waters or wetlands were identified within the boundaries of the LOD of this segment. Limited coordination would be required with Local Wetlands Boards.
Additional Factors		
Mitigation Complexity and Cost	Minimal	No business impacts are anticipated within the segment corridor. Minimal anticipated mitigation costs would be required for wetland and US waters; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs.
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)	High *	Transportation facilities identified within the LOD; however, it is the assumption that all transportation facilities will remain at existing or improved functionality. Stakeholder coordination with railroad facilities elevates this segment to Moderate status since coordination will be required and may pose design and/or construction schedule risk. *Portsmouth will be included in the discussion as the planning and design process outreach, with opportunities to raise, raise, document and resolve concerns. This inclusive process including Portsmouth will continue as detailed planning proceeds at a later date.*
Effect on other Federal Navigation Projects	Minimal	This segment does not contain bridge structures over or adjacent to Federal Navigation Projects.
Potential Future Changes in Policy Issues	Minimal	No major regulatory policy changes are anticipated at this time.

* Evaluations that have been revised since original April 2022 draft

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

Attachment 5

SEGMENT: *3: VA 164 Connector*

3: VA 164 Connector **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Social Environment		
Community impacts (right-of-way, consistency with local plans)	High	Construction activities would result in temporary interruptions to vehicular traffic patterns, including the potential temporary closure of roads and temporary interruptions to vehicular traffic patterns. Construction activities would cause intermittent fluctuations in noise levels throughout the construction area. The degree of noise impact would vary, as it is directly related to the types of equipment used and the proximity to the noise-sensitive land uses within the project area. Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated. Segment traverses through a host of Military/DOD/USACOE facilities. Setback requirements for Anti-Terrorism Force Protection, Security Requirements, and Gate Access for all noted facilities. *The northern terminus of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.* *As a result of this required specification for safety distance requirements from public highway to the facilities at Craney Island Fuel Terminal, the RCS Team is developing the VA 164 connector corridor with an 1,800-foot distance from the planned refueling in addition to a visual barrier in future design iterations.* *There are also noise walls along a portion of the bridge on the outside edge to serve as visual barriers to the fuel line and future facility per the Navy's current force protection standard.*
Sensitive property impacts (noise, community facilities, cultural)	Minimal	Many sensitive property identified resources are located outside of the limits of disturbance. It does not appear that the LOD will exceed the ROW parcel edge along this segment; therefore, there will be no impact to existing schools, residences, places of worship, or cemeteries. ~~Current design has 2 total business takes required. Identified Businesses and/or Business Access impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts. Additional detailed design and analysis required.~~ *Current design has three total*

Attachment 5

3: VA 164 Connector **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Sensitive property impacts, cont'd		*business takes required. Identified Businesses and/or Business Access impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts.*
Environmental Justice (low income and minority communities)	Minimal	Past and present growth and development - expansion of controlled access roadways have separated neighboring communities No residents or neighboring communities would be relocated. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*
Federal Permits		
USACOE Section 404 Permit Issues	High *	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Federal Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design. *Craney Island Dredge Disposal Facility Section 404 status and new GIS boundary received May 2022. The status of this segment will be changed for ongoing and future tiering coordination.* *A portion of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.*
USACOE Section 408 Permit Issues	High *	Section 408 is the process that allows alteration to a federally authorized project. The proposed project cannot pose a risk to the public interest and will not impair the usefulness of the federally authorized project. Although the segment does not cross the Elizabeth River, construction activities requiring access to potential barge work zones and safe harbor sites in or adjacent to the Elizabeth River will most likely be required. *Craney Island Dredge Disposal Facility Section 408 status and new GIS boundary received May 2022. The status of this segment will be changed for ongoing and future tiering coordination.*

3: VA 164 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
USACOE Section 408 Permit Issues, cont'd		*A portion of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.*
USACOE Section 10 permit	Moderate	This segment does contain a bridge structures over Craney Island Creek which is a tributary of the adjacent Elizabeth River, a maintained Federal Channel. Although the segment does not cross the Elizabeth River, construction activities requiring access to potential barge work zones and safe harbor sites in or adjacent to the Elizabeth River will most likely be required.
USCG Bridge Permit	Moderate	This segment does contain a bridge structures over Craney Island Creek.
NOAA Incidental Harassment Authorization	Minimal	There is limited potential for incidental harassment within this segment.
State Permits		
VDEQ Section 401 Virginia Water Protection Permit	Moderate	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VMRC Subaqueous Bottomlands Permit	Moderate	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VDEQ Virginia Construction General Permit	Minimal	Assumption that all required stormwater controls and requirements pursuant to this permit will be obtained and adhered to. It is assumed for this segment that all additional stormwater controls would be located within the boundaries of the LOD.
Local Permits		
Local Wetlands Board Permit Issues	Moderate	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Local Wetlands Boards. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.

3: VA 164 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Additional Factors		
Mitigation Complexity and Cost	Moderate	Current design has total business take required. Identified Businesses and/or Business Access impacts anticipated within the LOD. Moderate to Extensive anticipated mitigation costs would be required for wetland and US waters impacts; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)	High	Extensive stakeholder coordination with Military/DOD/USACOE facilities, the City of Portsmouth Landfill, and railroad facilities will be required and may pose design and/or construction schedule risk. *A portion of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.* *The RCS evaluation team acknowledges that strategic importance of Craney Island within the context of Naval Station Norfolk and are staying in communication with stakeholders like the Navy throughout the process to ensure that the planning process evolves into a design and construction process that serves both the strategic and regional needs of the Hampton Roads region.* *The RCS report in May of 2022 was a qualitative assessment, and the RCS team is now working on refining the quantitative understanding of traffic demand modeling and design needs. The RCS team and the agencies that carry this planning process forward to design, construction and operations will work in partnership with the Navy to develop, design, and construct the VA 164 connector alignment, roadway, and facilities in a way that does not impair the planned functions of Craney Island.*

3: VA 164 Connector **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Effect on other Federal Navigation Projects	High	This segment does contain roadway structures landside to Federal Navigation Projects along the Elizabeth River and current operations at the US Army Corps of Engineers Craney Island Disposal Area. At the present time, the affect would be considered High; however, the status would change to Moderate once the US Army Corps of Engineers Craney Island Disposal Area were identified as end of operational life. *Section 408 permit requirements for the Craney Island Dredge Disposal Facility will be taken into consideration.*
Potential Future Changes in Policy Issues	Minimal	No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation if policy regulations change.*

* Evaluations that have been revised since original April 2022 draft
Strikethrough and italicized text reflects revision made in response to stakeholder comments

SEGMENT: *4: I-564 Connector*

4: I-564 Connector **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Social Environment		
Community impacts (right-of-way, consistency with local plans)	High	Construction activities would result in temporary interruptions to vehicular traffic patterns, including the potential temporary closure of roads and temporary interruptions to vehicular traffic patterns. Construction activities would cause intermittent fluctuations in noise levels throughout the construction area. The degree of noise impact would vary, as it is directly related to the types of equipment used and the proximity to the noise-sensitive land uses within the project area. Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated. Segment traverses through the DON and NIT properties. Need additional information regarding potential anti-terrorism force protection requirements. *As the project moves into design and construction, the project owner will be able to make decisions about equipment height and clearance to accommodate the Navy's operational needs in Norfolk.* *The loss of operational use at the Lineage Logistics at Talon Marine Terminals, NIT Pier 3 needs more information in order to determine all of the factors to be considered.* *It should be noted that the fueling facility referred to in this comment is within 300 feet of the existing Intermodal connector, which is currently planned to have the same alignment as the proposed I-564 connector. There are currently walls separating the Navy's fuel facility from the existing Intermodal connector. To satisfy the 1,800 foot the setback from the fueling facility would require a significant re-evaluation of the I-564 connector by FHWA, VDOT, Norfolk, and Port of Virginia.* *Evolving security and visibility technology may resolve these security concerns as the I-564 corridor progresses from planning to design. Evolving transportation technology may change the corridor design as well. Horizontal and vertical clearances required by the Navy for essential security will be considered in the future planning and design process.*

4: I-564 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Community impacts, cont'd		*At the end of the Phase 3 (Step 2) Quantitative analysis, which we are conducting now, we will recommend tiering of the segments into three tiers that correspond to timing of/readiness for implementation, with Tier 1 the most ready and Tier 3 the least ready. At the time of project design and construction, the project owner will be able to make decisions about equipment height and clearance to accommodate the Navy's operational needs in Norfolk. At this early planning stage of the segment tiering process the Regional Connectors study is not considering an elevated section between the end of the existing Intermodal connector and the end of Norfolk International Terminal Pier 3. Instead, the I-564 connector is planned to be underground along the length of existing NIT Pier 3 and tunnel under the Elizabeth River shipping lanes to surface at a bridge to the west of the NIT and to the north of Craney island.* *It may be possible to tunnel the I-564 connector further East approaching the Hampton Boulevard underpass, but that design will involve additional costs.*
Sensitive property impacts (noise, community facilities, cultural)	Minimal	Sensitive property resources are located outside of the limits of disturbance. It does not appear that the LOD will exceed the ROW parcel edge along this segment; therefore, there will be no impact to existing businesses, schools, residences, places of worship, or cemeteries. May have disturbance within the LOD for Fleet Recreation Park (park access/maintenance roads); however, further detailed design may avoid and/or minimize any potential impacts.
Environmental Justice (low income and minority communities)	Minimal	Past and present growth and development - expansion of controlled access facilities such as military installations like NAVSTA Norfolk have separated neighboring communities. No residents or neighboring communities would be relocated. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*
Federal Permits		
USACOE Section 404 Permit Issues	High	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Federal Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues*

4: I-564 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
USACOE Section 404 Permit Issues, cont'd		*for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.* *Additional mitigation measures for bird nesting impacts will be evaluated as more detailed design allows for the determination of potential bird nesting impacts. The RCS team will not be the project owner in the final stages of planning, design and construction.*
USACOE Section 408 Permit Issues	High	Section 408 is the process that allows alteration to a federally authorized project. The proposed project cannot pose a risk to the public interest and will not impair the usefulness of the federally authorized project. The segment does cross the Elizabeth River and is adjacent to the James River (Newport News Channel), construction activities requiring access to potential barge work zones and safe harbor sites in or adjacent to the Elizabeth River and the James River (Newport News Channel) will most likely be required.
USACOE Section 10 permit	High	The loss of operational use at the Lineage Logistics at Talon Marine Terminals, NIT Pier 3 needs more information in order to determine all of the factors to be considered.
USCG Bridge Permit	High	The segment does cross the Elizabeth River and is adjacent to the James River (Newport News Channel), construction activities requiring access to potential barge work zones and safe harbor sites in or adjacent to the Elizabeth River and the James River (Newport News Channel) will most likely be required.
NOAA Incidental Harassment Authorization	High	There is moderate/high potential for incidental harassment within this segment.
State Permits		
VDEQ Section 401 Virginia Water Protection Permit	High	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VMRC Subaqueous Bottomlands Permit	High	Tidal and non-tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.

4: I-564 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
VDEQ Virginia Construction General Permit	Minimal	Assumption that all required stormwater controls and requirements pursuant to this permit will be obtained and adhered to. It is assumed for this segment that all additional stormwater controls would be located within the boundaries of the LOD.
Local Permits		
Local Wetlands Board Permit Issues	High	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Local Wetlands Boards. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
Additional Factors		
Mitigation Complexity and Cost	High	No business impacts are anticipated within the segment corridor. High anticipated mitigation costs would be required for wetland and US waters impacts due to construction of the new island required for the tunnel segment. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)	High	Extensive stakeholder coordination with Military/DOD/USACOE facilities, transportation facilities, Lineage Logistics at Talon Marine Terminals, NIT Pier 3, and railroad facilities will be required and may pose design and/or construction schedule risk. *The Regional Connectors Study is a conceptual planning stage of design. The future stages of the project will be carried forward by regional or commonwealth such as HRTAC and VDOT. They will maintain communication and coordination with stakeholders and decisionmakers throughout the planning, design, and construction process.*

4: I-564 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Effect on other Federal Navigation Projects	Moderate	No impacts to Federal Navigational Channels and Civil Works Projects are anticipated. All Maintained Navigational Channels will be avoided by the tunnel design.
Potential Future Changes in Policy Issues	Minimal	No major regulatory policy changes are anticipated at this time.

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *5: I-664 Connector*

5: I-664 Connector **Resource**	**Impact Rating**	**Comments on Resource Impacts or Timing Implications**
Social Environment		
Community impacts (right-of-way, consistency with local plans)	High	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. At the present time, the affect would be considered High; however, the status would change to Moderate once the US Army Corps of Engineers Craney Island Disposal Area were identified as end of operational life. *Project limits are outside of the updated CIDDMA Site Boundary as received by the USACOE.*
Sensitive property impacts (noise, community facilities, cultural)	Minimal	No sensitive properties are located within the limits of disturbance.
Environmental Justice (low income and minority communities)	Minimal	No residents or neighboring communities would be relocated.
Federal Permits		
USACOE Section 404 Permit Issues	High	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Federal Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated.*
USACOE Section 408 Permit Issues	High	Section 408 is the process that allows alteration to a federally authorized project. The proposed project cannot pose a risk to the public interest and will not impair the usefulness of the federally authorized project. Construction activities requiring access to the Elizabeth River and James River (Newport News Channel) maintained channels for potential barge work zones and safe harbor sites will most likely be required.
USACOE Section 10 permit	High	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River, Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. Need more information on the US Army Corps of Engineers Craney Island Disposal Area anticipated end of operational life.
USCG Bridge Permit	High	The segment does cross the Elizabeth River and James River (Newport News Channel), construction activities requiring access to potential barge work zones and

5: I-664 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
USCG Bridge Permit, cont'd		safe harbor sites in or adjacent to the Elizabeth River and the James River (Newport News Channel) will most likely be required.
NOAA Incidental Harassment Authorization	High	There is moderate/high potential for incidental harassment within this segment.
State Permits		
VDEQ Section 401 Virginia Water Protection Permit	High	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated.*
VMRC Subaqueous Bottomlands Permit	High	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with State Regulatory Agencies. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
VDEQ Virginia Construction General Permit	Minimal	Assumption that all required stormwater controls and requirements pursuant to this permit will be obtained and adhered to. It is assumed for this segment that all additional stormwater controls would be located within the boundaries of the LOD.
Local Permits		
Local Wetlands Board Permit Issues	High	Tidal US Waters and wetlands were identified within the boundaries of the LOD of this segment. Extensive coordination would be required with Local Wetlands Boards. Field surveys and additional detailed detail to avoid and/or minimize impacts would be evaluated with more detailed design.
Additional Factors		
Mitigation Complexity and Cost	High	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. Moderate to extensive mitigation costs would be required for wetland and US waters impacts; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs. *Additional coordination with mitigation banks to ensure sufficient capacity for required purchases will occur as design progresses and more precise impacts can be determined.*

5: I-664 Connector Resource	Impact Rating	Comments on Resource Impacts or Timing Implications
Mitigation Complexity and Cost, cont'd		*Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation if policy regulations change.* *Anticipate strong interest in and public objections to impacts to colonial nesting birds. Mitigation requirements for displaced birds may be required under Migratory Bird Treaty Act.*
Permit Stakeholder Coordination (i.e. Maritime Stakeholders)	High	Extensive stakeholder coordination with Military/DOD/USACOE facilities will be required and may pose design and/or construction schedule risk.
Effect on other Federal Navigation Projects	High	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River, Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. Need more information on the US Army Corps of Engineers Craney Island Disposal Area anticipated end of operational life. *Project limits are outside of the updated CIDDMA Site Boundary as received by the USACOE.*
Potential Future Changes in Policy Issues	Minimal	No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

Attachment 5

Note that detailed resource evaluations are documented in the Technical Resource Memos for Permitting

Definitions of Tiering Framework:

Impact Rating Concern – This evaluation category captures the potential effect of the project and its construction on the natural and social environment. Some of the most common environmental impacts are:

- social and community environment
- noise impacts
- water resources and wetlands
- protected species
- damage to ecosystems and loss of biodiversity
- historic resources
- regulatory requirements and complexity
- mitigation cost and complexity
- interdependence or conflict with other projects

Human well-being depends directly on biodiversity and ecosystems. It is therefore vital to try to measure, plan and minimize any segment activity that might alter the ecological balance.

- *Minimal: No or Minimal impacts to ecosystems (including social and natural)*
- *Moderate: Impacts that have reasonable solutions to ecosystems (including social and natural)*
- *High: Challenging or Unknown impacts to ecosystems (including social and natural)*

Feasibility Concern - Resource feasibility concerns indicate whether the segment will interfere with the socioeconomic activities within the corridor and identify potential issues and problems that could arise from pursuing the project.

- *Minimal: No or Minimal impacts to existing operations or other transportation projects occurring within the segment*
- *Moderate: Impacts that have reasonable solutions to existing operations or other transportation projects occurring within the segment*
- *High: Challenging or Unknown impacts to existing operations or other transportation projects occurring within the segment*

Timing Implications - It is important that such regionally significant projects can be reliably scheduled so that funding pipelines and adjacent projects are not disrupted by setbacks from the permitting issues being evaluated. While these considerations will be presented as notes for each category, below is a general range of how the timing impacts will be viewed:

- *Minimal: No or Minimal likelihood of timing issues or schedule impacts*
- *Moderate: Impacts that have reasonable solutions of timing issues or schedule impacts*
- *High: Challenging or Unknown (i.e. likelihood of future changes in policies related to permitting) impacts of timing issues or schedule impacts*

Resource Impacts – Reference to the HRTPO Corridor Evaluation Technical Memorandum Table of Resources for a detailed overview of resources potentially present within the segment.

- *Minimal: No or Minimal impacts to resources*
- *Moderate: Impacts that have reasonable solutions to resources*
- *High: Challenging or Unknown impacts to resources*

REGIONAL CONNECTORS STUDY

Readiness Technical Evaluation

Attachment 5

Readiness Evaluation Criteria

Summary of Changes

Segment 1a: I-664 N. of College Dr.

Operational independence shift from moderate to most as a result of operational benefits. Phasing potential shifted from moderate to most as a result of operational benefits. "HRTAC" criterion shifted from moderate to most as a result of congestion relief benefits.

Segment 3: VA 164 Connector

IIJA funding shifted from moderate to least due to lack of detail plan with no dedicated funding.

Segment 4: I-564 Connector

IIJA funding shifted from moderate to least due to lack of detail plan with no dedicated funding.

Range of Readiness

Least
Moderate
Most

Project Readiness

Readiness Issues	*Segment 1a: I-664 N of College Dr.*	*Segment 2: VA 164*	*Segment 3: VA 164 Connector*	*Segment 4: I-564 Connector*	*Segment 5: I-664 Connector*
	1a	*2*	*3*	*4*	*5*
Project Independence					
Independence from other segments to achieve operational benefits	*				
Phasing Potential	*				
Integration with HREL					
Project Development					
Adopted by a regional agency					
Stakeholder / Review Agency Engagement					
Advancement of Project Study					
Funding Opportunities Eligibility					
HRTAC	*				
SMART Scale High Priority Project					
Infrastructure Investment and Jobs Act (IIJA) Grant Funding			*	*	

* Evaluations that have been revised since original April 2022 draft

Attachment 5

Definitions of Evaluation Framework:

Readiness – This evaluation category captures the effort required to move a project through development, to identify the independent nature of each segment, the ability to move through the regional planning and prioritization process, as well as the project's ability to obtain funding.

Level of Project Independence – Each segment of the RCS II will improve the overall regional network. However, benefits are more easily achieved if a segment function has independent benefits or functions as an extension of an ongoing project. Additionally, some segments can be phased to provide interim benefits in a cost-effective manner or extend the region's express lanes project (HREL) which has been identified as a regional priority project.

Operational Independence/Benefits

- *High Readiness:* *Segment provides operational benefits with existing logical termini currently under construction*
- *Moderate Readiness:* *Segment provides operational benefits with programmed improvements*
- *Low Readiness:* *Project operationally dependent on completion of adjacent project*
- *Unknown*

Phasing Potential

- *High Readiness:* *Project segments/phases provide operational benefits and are easily expanded for ultimate build out*
- *Moderate Readiness:* *Project segments/phases result in minor operational benefits but are easily expanded for ultimate build out*
- *Low Readiness:* *Project segments/phases do not result in operational benefits and/or create challenges for ultimate build out*
- *Unknown*

Integration with HREL

- *High Readiness:* *Project segments/phases will extend the HREL that is currently underway*
- *Moderate Readiness:* *Project segments/phases will create a future connection to the HREL network*
- *Low Readiness:* *Project segments/phases will not include HREL*
- *Unknown*

Level of Project Development – A key step in project development process is gaining consensus in the planning process which involves prioritizing projects and ranking based on cost and benefits. In order to increase projects rankings, independent efforts may have taken place or are underway that provide more detailed information that enhance a project ranking. Stakeholder engagements are included in every step of the project development, but input or concerns vary based on where a project is in the overall process.

Adopted by a regional agency (In the existing LRTP)

- *High Readiness:* *Included in more than one Long Range Transportation Plan (LRTP) and within the constrained model*
- *Moderate Readiness:* *Included in the LRTP vision plan*
- *Low Readiness:* *Not included in long-range planning*
- *Unknown*

Stakeholder / Review Agency Engagement (Excluding SEIS effort)

- *High Readiness:* *Documentation of support by local, state, and federal agencies*
- *Moderate Readiness:* *Neither support nor opposition documented*
- *Low Readiness:* *Documentation of opposition by local, state, and federal agencies*
- *Unknown*

Advancement of Project Study

- *High Readiness:* *Project segment or phase is independently being studied or standalone study has been completed within last 3-5 years*
- *Moderate Readiness:* *Project segment or phase has been previously studied or is part of another study such as an interchange modification report*
- *Low Readiness:* *No activity has occurred beyond the SEIS*
- *Unknown*

Funding Opportunities Eligibility – All of the segments included in the RCSII will have significant costs and the current regional needs far exceed available funding for traditional financial sources. Therefore, it is important to identify projects that may be able to take advantage of federal, state, or future earmark funding sources.

HRTAC – Congestion Benefit (Transit not an option)

- *High Readiness:* *Eligible; capacity improvements provide significant level of congestion relief*
- *Moderate Readiness:* *Unknown*
- *Low Readiness:* *Non-Eligible; capacity improvements provide non-congestion benefits*
- *Unknown* *N/A*

SMART Scale High Priority Project

- *High Readiness:* *Meets VTrans and is a High Priority Need*
- *Moderate Readiness:* *Meets VTrans need*
- *Low Readiness:* *Does not meet VTrans need*
- *Unknown*

Infrastructure Investment and Jobs Act (IIJA) Grant Funding – to be further defined as funding opportunities are documented

Funding not clearly defined at this time; preliminary criteria identified the following objectives

- *Freight Funding – Rail Crossing (requires additional research)*
- *Transit Funding (requires additional research)*

- *High Readiness:* *N/A – not defined at this time*

Attachment 5

Range of Readiness

Least
Moderate
Most

- *Moderate Readiness:* *Priority – direct benefit to currently identified objectives*
- *Low Readiness:* *Non-Priority – no or indirect benefit to currently identified objectives*
- *Unknown*

Range of Readiness
Least
Moderate
Most

SEGMENT: *1a: I-664 North of College Dr.*

Readiness Criteria	Rating	Description of Readiness
Project Independence		
Independence from other RCS segments to achieve operational benefits	Most *	Segment adds capacity. Consistent mainline cross section with northeastern termini at I-664/I-64 interchange, which is part of HRBT expansion (currently under construction). Capacity improvements fully realized upon completion of I-664 S widening to Bowers Hill.
Phasing Potential	Most *	Capacity improvements would have incremental benefits if phasing occurred between interchanges. Interim solutions may create interim bottlenecks at termini. Ability to support HREL system, phasing will depend on points of entry to the HREL system within each segment. MMBT Project may be a standalone project if adjacent land side projects completed first; would be last phased segment;
Integration with HREL	Most	HREL included in adjacent HRBT project and referenced as Ph 4A/4B
Project Development		
Adopted by a regional agency	Moderate	Included in 2045 Vision Plan, not fiscally constrained plan
Stakeholder / Review Agency Engagement	Moderate	No documented support nor opposition from stakeholders
Advancement of Project Study	Least	No effort has occurred beyond SEIS
Funding Opportunities Eligibility		
HRTAC	Most *	Likely candidate for HRTAC Funding based on Level of congestion benefit and support HREL completion and transportation reliability
SMART Scale High Priority Project	Most	VTrans High Priority – Corridor of Statewide Significance (COSS)
Infrastructure Investment and Jobs Act (IIJA) Grant Funding	Least	Project is still within the concept phase with no current funding plan.

* Evaluations that have been revised since original April 2022 draft

Attachment 5

Range of Readiness
Least
Moderate
Most

SEGMENT: *2: VA 164*

Readiness Criteria	Rating	Description of Readiness
Project Independence		
Independence from other RCS segments to achieve operational benefits	Moderate	Segment adds capacity. Inconsistent mainline cross section with eastern and western termini. Potential bottlenecks created until VA 164 Connector and I-664 widening projects completed.
Phasing Potential	Moderate	Capacity improvements would have incremental benefits if phasing occurred between interchanges. Interim solutions would create interim bottlenecks at termini.
Integration with HREL	Least	HREL not included along VA 164
Project Development		
Adopted by a regional agency	Most	Included in 2045 Fiscally Constrained Plan
Stakeholder / Review Agency Engagement	Least	Documented opposition from stakeholders (Portsmouth)
Advancement of Project Study	Moderate	~~Previous IMR completed by Port of Virginia~~ *VDOT considering corridor Planning Study*
Funding Opportunities Eligibility		
HRTAC	Most	Included in the HRTAC Plan of Finance
SMART Scale High Priority Project	Moderate	VTrans Priority, not COSS; benefits to VA 164 assist port/truck travel therefore promoting VTrans goals of economic prosperity and connected places
Infrastructure Investment and Jobs Act (IIJA) Grant Funding	Moderate	~~Currently Unknown as no specific criteria has been published~~ *Project under consideration and funding included in the HRTAC 2045 Long Range Plan of Finance.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

Attachment 5

Range of Readiness
Least
Moderate
Most

SEGMENT: *3: VA 164 Connector*

Readiness Criteria	Rating	Description of Readiness
Project Independence		
Independence from other RCS segments to achieve operational benefits	Least	Requires either I-664 Connector or I-564 Connector for interstate connection OR requires VA 164 widening to be complete.
Phasing Potential	Least	Capacity improvements contingent on VA 164 widening and I-564 Connector project.
Integration with HREL	Least	HREL not included along VA 164
Project Development		
Adopted by a regional agency	Moderate	Included in 2045 Vision Plan, not Fiscally Constrained Plan
Stakeholder / Review Agency Engagement	Least	Noted challenges from ACOE, DOD
Advancement of Project Study	Moderate	Craney Island Access Road Study funded (LRTP proj. 2045-604)
Funding Opportunities Eligibility		
HRTAC	Least	New roadway facilities do not have existing congestion and unlike to support HRTAC funding criteria.
SMART Scale High Priority Project	Least	New roadway facilities do not have existing congestion, therefore do not achieve high scores within SMARTSCALE Criteria
Infrastructure Investment and Jobs Act (IIJA) Grant Funding	Least *	Project is still within the concept phase with no current funding plan.

* Evaluations that have been revised since original April 2022 draft

Attachment 5

Range of Readiness
Least
Moderate
Most

SEGMENT: *4: I-564 Connector*

Readiness Criteria	Rating	Description of Readiness
Project Independence		
Independence from other RCS segments to achieve operational benefits	Least	Requires either VA 164 connector or I-664 connector for interstate connection
Phasing Potential	Least	Phases not feasible based on water crossing
Integration with HREL	Least	Project not adjacent to existing or proposed HREL expansion and would trigger an ERC compensation event
Project Development		
Adopted by a regional agency	Moderate	Included in 2045 Vision Plan, not Fiscally Constrained Plan
Stakeholder / Review Agency Engagement	Least	Noted challenges from ACOE, DOD
Advancement of Project Study	Least	No effort has occurred beyond SEIS
Funding Opportunities Eligibility		
HRTAC	Least	New roadway facilities do not have existing congestion and therefore are not eligible for HRTAC funding.
SMART Scale High Priority Project	Least	New roadway facilities do not have existing congestion, therefore do not achieve high scores within SMARTSCALE Criteria
Infrastructure Investment and Jobs Act (IIJA) Grant Funding	Least *	Project is still within the concept phase with no current funding plan.

* Evaluations that have been revised since original April 2022 draft

Attachment 5

REGIONAL CONNECTORS STUDY

RCS Corridor Evaluation Readiness Measures

Range of Readiness
Least
Moderate
Most

SEGMENT: *5: I-664 Connector*

Readiness Criteria	Rating	Description of Readiness
Project Independence		
Independence from other RCS segments to achieve operational benefits	Least	Requires either VA 164 connector or I-564 connector for interstate connection
Phasing Potential	Least	Phases not feasible based on water crossing
Integration with HREL	Least	HREL not included along VA 164 connector and would trigger an ERC compensation event
Project Development		
Adopted by a regional agency	Moderate	Included in 2045 Vision Plan, not Fiscally Constrained Plan
Stakeholder / Review Agency Engagement	Least	Noted challenges from ACOE
Advancement of Project Study	Least	No effort has occurred beyond SEIS
Funding Opportunities Eligibility		
HRTAC	Least	New roadway facilities do not have existing congestion and therefore are not eligible for HRTAC funding.
SMART Scale High Priority Project	Least	New roadway facilities do not have existing congestion, therefore do not achieve high scores within SMARTSCALE Criteria
Infrastructure Investment and Jobs Act (IIJA) Grant Funding	Least	Project is still within the concept phase with no current funding plan.

Attachment 5

Definitions of Tiering Framework:

Readiness – This evaluation category captures the effort required to move a project through development, to identify the independent nature of each segment, the ability to move through the regional planning and prioritization process, as well as the project's ability to obtain funding.

Level of Project Independence – Each segment of the RCS II will improve the overall regional network. However, benefits are more easily achieved if a segment function has independent benefits or functions as an extension of an ongoing project. Additionally, some segments can be phased to provide interim benefits in a cost-effective manner or extend the region's express lanes project (HREL) which has been identified as a regional priority project.

Operational Independence/Benefits

- *High Readiness:* *Segment provides operational benefits with existing logical termini currently under construction*
- *Moderate Readiness:* *Segment provides operational benefits with programmed improvements*
- *Low Readiness:* *Project operationally dependent on completion of adjacent project*
- *Unknown*

Phasing Potential

- *High Readiness:* *Project segments/phases provide operational benefits and are easily expanded for ultimate build out*
- *Moderate Readiness:* *Project segments/phases result in minor operational benefits but are easily expanded for ultimate build out*
- *Low Readiness:* *Project segments/phases do not result in operational benefits and/or create challenges for ultimate build out*
- *Unknown*

Integration with HREL

- *High Readiness:* *Project segments/phases will extend the HREL that is currently underway*
- *Moderate Readiness:* *Project segments/phases will create a future connection to the HREL network*
- *Low Readiness:* *Project segments/phases will not include HREL*
- *Unknown*

Level of Project Development – A key step in project development process is gaining consensus in the planning process which involves prioritizing projects and ranking based on cost and benefits. In order to increase projects rankings, independent efforts may have taken place or are underway that provide more detailed information that enhance a project ranking. Stakeholder engagements are included in every step of the project development, but input or concerns vary based on where a project is in the overall process.

Adopted by a regional agency (In the existing LRTP)

- *High Readiness:* *Included in more than one Long Range Transportation Plan (LRTP) and within the constrained model*
- *Moderate Readiness:* *Included in the LRTP vision plan*
- *Low Readiness:* *Not included in long-range planning*

- *Unknown*

Stakeholder / Review Agency Engagement (Excluding SEIS effort)

- *High Readiness:* *Documentation of support by local, state, and federal agencies*
- *Moderate Readiness:* *Neither support nor opposition documented*
- *Low Readiness:* *Documentation of opposition by local, state, and federal agencies*
- *Unknown*

Advancement of Project Study

- *High Readiness:* *Project segment or phase is independently being studied or standalone study has been completed within last 3-5 years*
- *Moderate Readiness:* *Project segment or phase has been previously studied or is part of another study such as an interchange modification report*
- *Low Readiness:* *No activity has occurred beyond the SEIS*
- *Unknown*

Funding Opportunities Eligibility – All of the segments included in the RCSII will have significant costs and the current regional needs far exceed available funding for traditional financial sources. Therefore, it is important to identify projects that may be able to take advantage of federal, state, or future earmark funding sources.

HRTAC – Congestion Benefit (Transit not an option)

- *High Readiness:* *Eligible; capacity improvements provide significant level of congestion relief*
- *Moderate Readiness:* *Unknown*
- *Low Readiness:* *Non-Eligible; capacity improvements provide non-congestion benefits*
- *Unknown* *N/A*

SMART Scale High Priority Project

- *High Readiness:* *Meets VTrans and is a High Priority Need*
- *Moderate Readiness:* *Meets VTrans need*
- *Low Readiness:* *Does not meet VTrans need*
- *Unknown*

Infrastructure Investment and Jobs Act (IIJA) Grant Funding – to be further defined as funding opportunities are documented

Funding not clearly defined at this time; preliminary criteria identified the following objectives

- *Freight Funding – Rail Crossing (requires additional research)*
- *Transit Funding (requires additional research)*

- *High Readiness:* *N/A – not defined at this time*

Attachment 5

- *Moderate Readiness:* *Priority – direct benefit to currently identified objectives*
- *Low Readiness:* *Non-Priority – no or indirect benefit to currently identified objectives*
- *Unknown*

REGIONAL CONNECTORS STUDY

Permitting Issues Technical Resource Memos

Attachment 5

SEGMENT: *1a: I-664 North of College Dr.*

1a: I-664 N of College Dr. **Resource**	**Resources Identified**	**Comments**
Social Environment		
Community Resources		
Military/DOD/USACOE	n/a	No resources within the LOD
Transportation Facilities	North Side: ▪ Overpass at W. Queen Street ▪ Braemer Drive ▪ Balmoral Drive ▪ Keswick Lane ▪ Interchange at Powhatan Parkway ▪ 50th Street *(would need to be permanently closed due to LOD from Industry Drive to Howmet Drive)* ▪ Maxwell Drive *(would need to be permanently closed due to LOD from G Street to 50th Street)* ▪ *Partial closure of 50th Street (Business access relocation would be required)* ▪ Interchange at Aberdeen Road ▪ Overpass of Railway Line (near Greenlawn Avenue) ▪ *Railroad adjacent to 39th Street* ▪ Overpass at Chestnut Avenue ▪ Overpass at Roanoke Avenue ▪ Overpass at Marshall Avenue ▪ Overpass at 39th Street ▪ Overpass of Railway Lines (near Terminal Avenue) ▪ Terminal Avenue (several locations)*(may require partial closure or permanent re-route)* ▪ Overpass at 35th Street ▪ Overpass at 36th Street ▪ Interchange at Route 60 ▪ Overpass at 28th Street ▪ Overpass at 27th Street ▪ Overpass at 26th Street ▪ Overpass at 25th Street ▪ Overpass at 21th Street ▪ 19th Street ▪ 17th Street ▪ 14th Street ▪ Harbor Road ▪ Commonwealth Road ▪ Club Drive ▪ Wagon Road ▪ Armstead Road ▪ College Drive (VA-135)	Transportation facilities identified within the LOD. Assumption that all transportation facilities will remain at existing or improved functionality. Stakeholder coordination with railroad facilities will be required and may pose construction schedule risk.

1a: I-664 N of College Dr. Resource	Resources Identified	Comments
Virginia Port Authority (VPA)	Newport News Marine Terminals	May require right-of-way acquisition and/or construction easements. Maintenance of terminal operations and traffic will be required.
Businesses/Business Access	North Side: ▪ 1 utility impact ▪ 2 telecom impacts ▪ 1 active and 1 inactive rail corridor impact ▪ 1 police impact 1 house of worship impact ▪ 12-13 commercial impacts, including ▪ 1 restaurant impact ▪ 1 grocery impact ▪ 1 probable Navy impact ▪ 3 core structure impacts ▪ 6 Driveway impacts ▪ *Tidewater Tire* ▪ *Ashcraft Services – storage yard* ▪ *Chesapeake Bay Parking*	Identified Businesses and/or Business Access impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts.
Sensitive Resources		
Parks & Recreation	North Side: ▪ Superblock Park (2601 Washington Avenue) ▪ King Lincoln Park (600 Jefferson Ave) ▪ Park Place Playground (50th Street)	May have disturbance within the LOD for Park Place Playground; however, further detailed design may avoid and/or minimize potential impacts.
Section 4(f) Properties (publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places)	Section 4(f) resources are identified within the segment corridor – refer to individual line items for each resource type. North Side: ▪ Park Place Playground (50th Street)	It is anticipated that all efforts to avoid any identified Section 4(f) resource will be evaluated. All impacts to Section 4(f) properties are anticipated to either not be considered a Section 4(f) use, or are considered a *de minimis* use, per 23 CFR 774 and the Section 4(f) Policy Paper.
Section 6(f) Properties	Any property that was planned, purchased, or improved with Land and Water Conservation Fund (LWCF) money (recreational lands that are also regulated under Section 4(f)	No resources within the LOD
Places of Worship	North Side: ▪ New Covenant Baptist Church ▪ Agape Hands Cathedral Church ▪ Kingdom Hall of Jehovah's Witnesses	Kingdom Hall of Jehovah's Witnesses – impacts within LOD; however, further detailed design may avoid and/or minimize potential impacts.
Cemetery	North Side: ▪ Pleasant Shade Cemetery ▪ Greenlawn Cemetery ▪ Greenlawn Memorial Park	No resources within the LOD

1a: I-664 N of College Dr. **Resource**	**Resources Identified**	**Comments**
School/University	North Side: ▪ Hampton High School (adjacent to LOD) ▪ BT Washington Middle School (adjacent to LOD)	No resources within the LOD
Apartment Complexes/Residences	North Side: ▪ Tidewater Senior Apartments ▪ Single family residences along Braemar Drive ▪ Single family residences along Azaela Drive ▪ Single family residences along Birch Avenue ▪ Single family residences along Byrd Street	Most resources are adjacent to the LOD; however, final LOD requirements may show that minor right-of-way acquisitions will be needed.
Children's Health & Safety	The most likely locations of potential effects on children (other than at residences abutting right-of-way) would be at schools where there are outdoor activity areas for children. ▪ Hampton High School (adjacent to LOD) ▪ BT Washington Middle School (adjacent to LOD)	No resources within the LOD
Environmental Justice		
Environmental Justice	North Side: ▪ 35 private residence impacts in the Jefferson neighborhood and Azalea Garden subdivision, including ▪ 1 driveway impact ▪ 9 structure (outbuilding) impacts *(adjacent to 41st Street)* ▪ There may be a catering business on the 1100 block of 41st street ▪ Concentration of poverty and population is on the west side of the corridor in East End, Marshall & Huntington. Populations in this area south of I-664 are predominately African American south of I-664, with an increasing minority Hispanic population north of I-664	Identified Environmental Justice impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*
Federal State, and Local Permits		
Water Resources		
Tidal Waters/Tidal Streams/Subaqueous bottom	North Side: ▪ *Newport News Creek (E1UBL) – most likely temporary construction access impacts (0.3 acres)* ▪ ~~Newport News Creek (E1UBL) – adjacent but direct impact~~ ▪ North Island Tunnel (24 acres) ▪ James River (E1UBL)(north bridge/trestle) ~~(16 acres)~~ *(28 acres)* ▪ South Island Tunnel (27 acres) ▪ James River (E1UBL)(south bridge/trestle) (43 acres)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Tidal Waters/Tidal Streams from Trestle construction: ~~59 acres~~ *71 acres* Subaqueous bottom for island construction: 51 acres

1a: I-664 N of College Dr. **Resource**	**Resources Identified**	**Comments**
		Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Non-Tidal Waters	North Side: ▪ Freshwater roadway drainage ditch at Howmet Corporation (approx. ~~190~~ *270* linear feet) ▪ Freshwater roadway drainage ditch W Pembroke Ave (approx. 1500 linear feet)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Non-Tidal Waters: ~~1,690~~ *1,770* linear feet Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*

1a: I-664 N of College Dr. Resource	Resources Identified	Comments
Maintained Navigational Channels and Civil Works Projects	▪ Newport News Creek (E1UBL) – adjacent but direct impact ▪ Newport News Channel	No impacts to Maintained Navigational Channels and Civil Works Projects is anticipated. All Maintained Navigational Channels will be avoided by the tunnel design.
Wetlands	n/a	No resources within the LOD
Waterfront Development Areas		
Commercial Ports	▪ River Port ▪ Blue Night Energy Partners ▪ Chesapeake Bay Fish Packing ▪ Seafood Industrial Park ▪ Davis Boat Works ▪ Boat Marina along Seawall	Impacts TBD when southern terminus with tunnel structure LOD alignment is complete; ~~however anticipated to be outside limits of LOD.~~
Commercial Fishing Piers	▪ Green Mile Fishing Pier ▪ King-Lincoln Park Fishing Pier	No resources within the LOD
Wildlife Habitat		
Colonial Waterbird Nesting	▪ Urban, Newport News South, Newport News (outside LOD) ▪ 22nd Avenue (outside LOD) ▪ Peterson Yacht Basin (outside LOD) ▪ Salters Creek (outside LOD) ▪ Craney Island, Northwest (outside LOD)	No resources within the LOD Habitat is present for the Gull-billed tern, Piping plover, Red knot, and Wilson's plover. *Anticipate strong interest in and public objections to impacts to colonial nesting birds. Mitigation requirements for displaced birds may be required under Migratory Bird Treaty Act. Consultant will make note of all comments during the public involvement stage of this project.*
Benthic Species	▪ Hard Clam Habitat (571 acres) ▪ Hard Clam Habitat Tunnels (294 acres) ▪ Public Clamming Grounds (0 acres) ▪ Blue Crab (*Callinectes sapidus*) (0 acres) ▪ Oyster Reefs (*Crassostrea virginica*) (0 acres) ▪ Oyster Sanctuary (0 acres) ▪ Public Baylor Grounds (93 acres) ▪ Private Shellfish Leases (0 acres) The introduction of additional hard substrate such as pilings and riprap protection could provide beneficial habitat where it did not previously exist for oysters and other marine benthic organisms.	The entire footprint beneath each segment is considered potential hard clam habitat because the entire bottom is composed of sand, mud, or a combination suitable for hard clams. Construction BMPs, including conforming to the guidelines contained in the VESCH, would be employed to reduce turbidity and sediment disturbance. The time of year and length of dredging operations may need to be considered as prolonged dredging would result in disturbance to the benthos and adjacent water column over a longer period of time dependent upon the nature of the bottom substrate, tidal fluctuations, and estuarine dynamics. Strict adherence to erosion and

1a: I-664 N of College Dr. Resource	Resources Identified	Comments
		sediment control measures and permit requirements would minimize water quality impacts due to sedimentation and turbidity during construction. Long-term effects to benthic communities due to changes in water quality would be minimized and avoided through implementation of stormwater management plans designed to minimize impacts from increases in impervious surfaces, mitigate increases in runoff volume, and satisfy requirements to reduce pollutant loads below existing baseline conditions, as required by the VSMP regulations and Chesapeake Bay TMDL. *No specific mitigation measures can be determined at this level of engineering design.*
Historic Resources		
Architectural Resources / Historic Districts	North Side: ▪ 121-0032 (St. Vincent de Paul Catholic Church)(NRHP-Listed 2005) ▪ 121-0033 (Brown Manufacturing Coca-Cola Bottling Works, Daily Press Building)(Recommended Potentially Eligible 2016) ▪ 121-0157 (Peninsula Catholic High School/St. Vincent's School for Girls)(Recommended Potentially Eligible 2016) ▪ 121-0299 (Noland Company Building)(NRHP-Listed 2010) ▪ 121-5318 (Jefferson Avenue Commercial Historic District) ▪ 121-5277 (Jefferson Avenue Commercial Historic District) ▪ 121-0020 (Middle Ground Light Station)(NRHP Listing, VLR Listing)	The area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. No direct APE impacts. No anticipated indirect APE (viewshed) impacts.
Archaeological Resources	North Side: ▪ Captain John Smith Chesapeake National Historic Trail (first water trail designated under the National Trails System Act) ▪ Washington-Rochambeau Revolutionary Route National Historic Trail (designated a National Historic Trail under the National Trails System Act)(The W-RNHT is located within what is now a highly	If any significant archaeological sites associated with the Captain John Smith Chesapeake National Historic Trail and Washington-Rochambeau Revolutionary Route National Historic Trail are eventually identified within the LOD, they likely would meet the regulatory exception to the requirements of Section 4(f)

1a: I-664 N of College Dr. **Resource**	**Resources Identified**	**Comments**
	industrialized and developed area in which few remnants of the historic landscape survive)	approval: the sites likely would be important chiefly for the information they contain, which can be retrieved through data recovery, and would have minimal value for preservation in place.
Additional Factors		
Mitigation Complexity and Cost	▪ Wetland, US waters, and subaqueous bottomlands impacts	High anticipated mitigation costs would be required for wetland and US waters impacts due to construction of the new island required for the tunnel segment. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.* *Additional coordination with mitigation banks to ensure sufficient capacity for required purchases will occur as design progresses and more precise impacts can be determined.*
Permit Stakeholder Coordination	▪ Transportation facilities identified within the LOD (north side). ▪ Newport News Marine Terminals identified within the LOD (north side). ▪ Railroad facilities identified within the LOD (north side). ▪ River Port LLC facilities identified within the LOD (north side). ▪ Blue Night Energy Partners facilities identified within the LOD (north side). ▪ Adjacent Property Owners (Residents and Businesses)	Extensive stakeholder coordination with Federal Navigation Projects along the James River (Newport News Channel), Elizabeth River, rail facilities, and current operations at the Newport News Marine Terminals will be required and may pose design and/or construction schedule risk.
Effect on other Federal Navigation Projects	▪ Newport News Creek (E1UBL) – adjacent but direct impact ▪ Newport News Channel	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River (Newport News Channel), Elizabeth

1a: I-664 N of College Dr. **Resource**	**Resources Identified**	**Comments**
		River, and current operations at the Newport News Marine Terminals.
Potential Future Changes in Policy Issues		No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *2: VA 164*

2: VA 164 **Resource**	**Resources Identified**	**Comments**
Social Environment		
Community Resources		
Military/DOD/USACOE	n/a	No resources within the LOD
Transportation Facilities	▪ VA-164 ▪ Western Branch Boulevard ▪ College Drive ▪ Town Point Road ▪ Cedar Lane ▪ Railway Facilities	Transportation facilities identified within the LOD. Assumption that all transportation facilities will remain at existing or improved functionality. Stakeholder coordination with railroad facilities will be required and may pose construction schedule risk.
Businesses/Business Access	No business impacts.	~~No resources within the LOD.~~ *Businesses are located adjacent to the LOD; however, this is a constrained corridor that will be addressed as the planning process continues. More advanced conceptual design will be done later in the planning process that will further identify corridor constraints and impacts. There are business parking lots near the LOD to the western end of this segment.*
Sensitive Resources		
Parks & Recreation	Ebony Heights Park	Expansion to the eastbound side of VA-164 may require a portion of easement from Ebony Heights Park; however, ~~further detailed design may avoid and/or minimize any potential impacts.~~ *more advanced conceptual design will be done later in the planning process. At this first tier planning stage, it does not appear that Ebony Heights Park falls within the preliminary and developing Limits of Disturbance. The planning process is still in its early stages, and will continue to solicit, document and resolve comments and concerns about relocation, displacement and property from Portsmouth in later stages of planning and design.*
Section 4(f) Properties	Publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places. ▪ Ebony Heights Park	Expansion to the eastbound side of VA-164 may require a portion of easement from Ebony Heights Park; however, ~~further detailed design may avoid and/or minimize any potential impacts.~~

2: VA 164 **Resource**	**Resources Identified**	**Comments**
		more advanced conceptual design will be done later in the planning process. At this first tier planning stage, it does not appear that Ebony Heights Park falls within the preliminary and developing Limits of Disturbance. The planning process is still in its early stages, and will continue to solicit, document and resolve comments and concerns about relocation, displacement and property from Portsmouth in later stages of planning and design.
Section 6(f) Properties	Any property that was planned, purchased, or improved with Land and Water Conservation Fund (LWCF) money (recreational lands that are also regulated under Section 4(f)	No resources within the LOD
Places of Worship	▪ New Beginning Cristian Center ▪ New Beginning Pentecostal Church	No resources within the LOD
Cemetery	▪ New Beginning Pentecostal Church Cemetery ▪ *Churchland Cemetery in Ebony Heights Park.*	No resources within the LOD
School/University	n/a	No resources within the LOD
Apartment Complexes/Residences	▪ Stonebridge Apartments ▪ Churchland Square Apartments ▪ Westwinds Apartments ▪ Preston Trails Apartments ▪ 3833 Old Farm Rd – appears to have cleared into the right of way	~~No resources within the LOD~~ *At this first tier planning stage, it does not appear that any residential structures fall within the preliminary and developing Limits of Disturbance. The planning process is still in its early stages, and will continue to solicit, document and resolve comments and concerns about relocation, displacement and property from Portsmouth in later stages of planning and design.*
Children's Health & Safety	n/a	No resources within the LOD
Environmental Justice		
Environmental Justice	Past and present growth and development - expansion of controlled access roadways have separated neighboring communities. ▪ Expansion to the EB side of VA-164 may require a portion of easement from Ebony Heights Park	No residents or neighboring communities would be relocated. *Communities within 500 feet of the preliminary Limits of Disturbance for VA 164 are racially and income diverse. As this and future planning and project development processes continue, outreach, partnering and collaboration with neighboring communities will engage these*

2: VA 164 **Resource**	**Resources Identified**	**Comments**
		communities to mitigate any potential impacts.
Federal State, and Local Permits		
Water Resources		
Tidal Waters/Tidal Streams/Subaqueous bottom	n/a	No resources within the LOD
Non-Tidal Waters	▪ Non-Tidal channel at Lilac Drive (approx. 500 linear feet)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Non-Tidal Waters: 500 linear feet Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design *as well as coordination with mitigation banks to ensure sufficient capacity for required purchases*.
Maintained Navigational Channels and Civil Works Projects	n/a	No resources within the LOD
Wetlands	Several wetland systems within the segment corridor are located outside the LOD. ▪ PFO at Harvey Street (0.06 acres) – adjacent to ROW ▪ PFO at Bowden Street (0.24 acres) – adjacent to ROW ▪ PFO at Pond Lane (0.18 acres) – adjacent to ROW	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. PFO Wetlands: 0.48 acres Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design *as well as coordination with mitigation banks to ensure sufficient capacity for required purchases*.
Waterfront Development Areas		
Commercial Ports	n/a	No resources within the LOD
Commercial Fishing Piers	n/a	No resources within the LOD
Wildlife Habitat		
Colonial Waterbird Nesting	▪ Urban, Newport News South, Suffolk (outside LOD) Habitat is present for the Gull-billed tern, Piping plover, Red knot, and Wilson's plover.	No resources within the LOD.
Benthic Species	n/a	No resources within the LOD
Historic Resources		
Architectural Resources / Historic Districts	▪ 133-5542: Camellia Historic District (adjacent to ROW)	The area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly

2: VA 164 **Resource**	**Resources Identified**	**Comments**
	▪ 124-5264: Churchland West Historic District (adjacent to ROW) ▪ 124-5265: Churchland West Historic District (adjacent to ROW) ▪ 124-5261: Churchland Square Apartments (adjacent to ROW)(not eligible) ▪ 124-5262: Preston Trails Apartments (adjacent to ROW) (not eligible) ▪ 124-5260: Stone Ridge Apartments (adjacent to ROW) (not eligible) ▪ 124-5266: Merrifields Historic District (adjacent to ROW)	cause alterations in the character or use of historic properties. No direct APE impacts. No anticipated indirect APE (viewshed) impacts.
Archaeological Resources	n/a	No resources within the LOD
Additional Factors		
Mitigation Complexity and Cost	▪ Wetland, US waters, and subaqueous bottomlands impacts	Minimal anticipated mitigation costs would be required for wetland, US waters, and subaqueous bottomlands impacts throughout the corridor. *Additional coordination with mitigation banks to ensure sufficient capacity for required purchases will occur as design progresses and more precise impacts can be determined.*
Permit Stakeholder Coordination	▪ Transportation facilities identified within the LOD. ▪ Railroad facilities identified within the LOD. ▪ Adjacent Property Owners (Residents and Businesses) ▪ *City of Portsmouth*	Assumption that all transportation facilities will remain at existing functionality. Stakeholder coordination with railroad facilities will be required and may pose construction schedule risk. *Portsmouth will be included in the discussion as the planning and design process outreach, with opportunities to raise, raise, document and resolve concerns. This inclusive process including Portsmouth will continue as detailed planning proceeds at a later date.*
Effect on other Federal Navigation Projects	n/a	Resources outside the LOD.
Potential Future Changes in Policy Issues		No major regulatory policy changes are anticipated at this time.

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *3: VA 164 Connector*

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
Social Environment		
Community Resources		
Military/DOD/USACOE	▪ US Army Corps of Engineers Craney Island Disposal Area (CIDDMA) ▪ Craney Island Naval Supply Center ▪ US Coast Guard Sector Virginia ▪ US Coast Guard Base Portsmouth ▪ US Navy Craney Island Fuel Depot (CIFD Terminal) ▪ US Navy	Segment traverses through all the facilities noted. Would require major right-of-way acquisition and/or construction easements. Setback requirements for Anti-Terrorism Force Protection, Security Requirements, and Gate Access for all noted facilities. *The northern terminus of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.* *As a result of this required specification for safety distance requirements from public highway to the facilities at Craney Island Fuel Terminal, the RCS Team is developing the VA 164 connector corridor with an 1,800-foot distance from the planned refueling in addition to a visual barrier in future design iterations.* *There are also noise walls along a portion of the bridge on the outside edge to serve as visual barriers to the fuel line and future facility per the Navy's current force protection standard.*
City of Portsmouth	▪ City of Portsmouth Landfill	Segment bisects the City of Portsmouth Landfill

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
Transportation Facilities	▪ Outer limit ring road of US Army Corps of Engineers Craney Island Disposal Area ▪ Waterfront Drive ▪ Oyster Shell Drive ▪ Main Road ▪ Main Drive ▪ South Perimeter Road ▪ Coast Guard Boulevard ▪ Access Road off Coast Guard Boulevard ▪ Railroad Facilities ▪ Old Coast Guard Boulevard ▪ Renfrow Road ▪ Wyatt Drive ▪ Wild Duck Lane ▪ Western Freeway (VA-164) ▪ Cedar Lane ▪ West Norfolk Road ▪ Virginia International Gateway Boulevard ▪ Sunnyside Avenue ▪ Gail Court	Transportation facilities identified within the LOD. Stakeholder coordination with railroad facilities will be required and may pose construction schedule risk. *Noted: Segment alignment was proposed adjacent to the comer where Midway Road intersects Waterfront Drive, this area of Navy property has been approved and designated for the construction of four additional above ground fuel storage tanks. In addition, the proposed segment crosses further West over Navy property where the above ground main fuel supply lines are located. As a result of this required buffer, the RCS Team is developing the VA 164 connector corridor with an 1,800-foot distance from the planned refueling in addition to a visual barrier in future design iterations.*
Businesses/Business Access	▪ *Coast Guard Building & Parking Facility* ▪ Driveway impact on Commercial Ready Mix off Coast Guard Boulevard ▪ Aire Serv HVAC Contractor on W. Norfolk Rd off of the Old Coast Guard Road	Current design has *three* total business takes required. Identified Businesses and/or Business Access impacts anticipated within the LOD; however, further detailed design may avoid and/or minimize potential impacts.
Sensitive Resources		
Parks & Recreation	▪ Hoffler Creek Wildlife Preserve (Lake Ballard) ▪ *Churchland Park*	No resources within the LOD
Section 4(f) Properties	Publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places	No resources within the LOD
Section 6(f) Properties	Any property that was planned, purchased, or improved with Land and Water Conservation Fund (LWCF) money (recreational lands that are also regulated under Section 4(f)	No resources within the LOD
Places of Worship	Liberty Christian Fellowship Liberty New Testament Church West Norfolk Baptist	No resources within the LOD
Cemetery	n/a	No resources within the LOD
School/University	▪ Churchland High School	No resources within the LOD

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
Apartment Complexes/Residences	West Norfolk Road Apartments	No resources within the LOD
Children's Health & Safety	The most likely locations of potential effects on children (other than at residences abutting right-of-way) would be at schools where there are outdoor activity areas for children.	No resources within the LOD
Environmental Justice		
Environmental Justice	Past and present growth and development - expansion of controlled access roadways have separated neighboring communities.	No residents or neighboring communities would be relocated. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*
Federal State, and Local Permits		
Water Resources		
Tidal Waters/Tidal Streams/Subaqueous bottom	▪ Estuarine and Marine Wetland (E2USN) at Craney Island Creek (~~2.25 acres~~) *Bridge structure (2.89 acres)* ▪ Estuarine and Marine Deepwater at Craney Island Creek (~~0.4~~ *0.3* acres) ~~▪ Estuarine and Marine Wetland (E2USN) at Craney Island Creek (3.01 acres)~~ ~~▪ Estuarine and Marine Wetland (E2USN) at Craney Island Creek (0.41 acres)~~ *The revised segment now includes the ramp connections to 564/664 Connector segments.*	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Tidal Waters/Tidal Streams: ~~5.67~~ *3.19* acres Subaqueous bottom: ~~0.4 acres~~ ▪ *Revised ramp inclusions: 43.6 acres* Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Non-Tidal Waters	▪ Non-Tidal channel (drainage ditch) on Craney Island (approx. ~~260~~ *190* linear feet)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate.

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
	▪ Non-Tidal channel (drainage ditch) on Craney Island (approx. ~~1400~~ *270* linear feet) ▪ Non-Tidal channel (drainage ditch) on Craney Island (approx. ~~650~~ *535* linear feet) ▪ Non-Tidal channel (drainage ditch) south of Craney Island Creek (approx. ~~325~~ *401* linear feet) ▪ Non-Tidal channel (drainage ditch) south of Craney Island Creek (approx. ~~325~~ *297* linear feet)	Non-Tidal Waters: ~~2,635~~ *1,693* linear feet Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Maintained Navigational Channels and Civil Works Projects	▪ Newport News Channel ▪ Elizabeth River ▪ *Craney Island Dredged Material Management Area (CIDDMA)*	~~No resources within the LOD~~ *A portion of this segment falls within the Craney Island Dredged Material Management Area (CIDDMA) updated boundary. We will continue to work with the COE to understand the operations requirements for the Craney Island Dredge Disposal Facility and incorporate all requirements into the planning and design. The RCS team will not be the project owner in the final stages of planning, design and construction.*
Wetlands	▪ Craney Island Disposal Area is classified as Lake (L2UBFh) – ~~(0 acres)~~ *15 acres with elevated structure / bridge* ▪ PEM wetland near ~~Oyster Shell Road~~ *Main Street (*~~1.25~~ *0.38 and 0.57* acres) ▪ PEM wetland south of Craney Island Creek (~~3.27~~ *3.18* acres) ▪ PFO at Coast Guard Boulevard (~~0.04~~ *3.1* acres) ▪ PFO at Coast Guard Boulevard *((*~~13~~ *2.2* acres) ▪ *PSS at Coast Guard Boulevard (5.7 acres)* ▪ *PSS at Coast Guard Boulevard (3.6 acres)*	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. ▪ Craney Island Disposal Area is classified as Lake (L2UBFh) – ~~(0 acres)~~ *15 acres with elevated structure / bridge will have limited footprint impacts* *Lake (L2UBFh) – 15 acres* *PEM Wetlands - 4.13 acres* *PSS Wetlands – 9.3 acres* PFO Wetlands: ~~31.31~~ *12.1* acres

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
	▪ PFO at Wild Duck Lane (~~12~~ *5.5* acres) ▪ *PFO at Wyatt Drive (1.3 acres)* ▪ ~~PFO at Western Freeway (1.75 acres)~~	Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers wetland resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Waterfront Development Areas		
Commercial Ports	▪ VIG Portsmouth	Access to VIG Portsmouth
Commercial Fishing Piers	n/a	No resources within the LOD
Wildlife Habitat		
Colonial Waterbird Nesting	▪ Craney Island ▪ Urban, Norfolk North, Portsmouth ▪ Craney Island Northwest (outside LOD) ▪ Urban, Norfolk South, Portsmouth (outside LOD) ▪ Lovett Point (outside LOD) ▪ Pinehurst ▪ Winston Colony ▪ Winston	Colonial Waterbird Nesting sites located on the eastern terminus of the segment LOD. Habitat is present for the Gull-billed tern, Piping plover, Red knot, and Wilson's plover. *Additional mitigation measures for bird nesting impacts will be evaluated as more detailed design allows for the determination of potential bird nesting impacts. The RCS team will not be the project owner in the final stages of planning, design and construction.*
Benthic Species	▪ Hard Clam Habitat (~~0 acres~~) *43.6 acres* ▪ Hard Clam Habitat Tunnels (0 acres) ▪ Public Clamming Grounds (0 acres) ▪ Blue Crab (*Callinectes sapidus*) (0 acres) ▪ Oyster Reefs (*Crassostrea virginica*) (0 acres) ▪ Oyster Sanctuary (0 acres) ▪ Public Baylor Grounds (~~0 acres~~) *101 acres* ▪ Private Shellfish Leases (0 acres)	~~No resources within the LOD~~ The entire footprint beneath each segment is considered potential hard clam habitat because the entire bottom is composed of sand, mud, or a combination suitable for hard clams. Construction BMPs, including conforming to the guidelines contained in the VESCH, would be employed to reduce turbidity and

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
		sediment disturbance. The time of year and length of dredging operations may need to be considered as prolonged dredging would result in disturbance to the benthos and adjacent water column over a longer period of time dependent upon the nature of the bottom substrate, tidal fluctuations, and estuarine dynamics. Strict adherence to erosion and sediment control measures and permit requirements would minimize water quality impacts due to sedimentation and turbidity during construction. Long-term effects to benthic communities due to changes in water quality would be minimized and avoided through implementation of stormwater management plans designed to minimize impacts from increases in impervious surfaces, mitigate increases in runoff volume, and satisfy requirements to reduce pollutant loads below existing baseline conditions, as required by the VSMP regulations and Chesapeake Bay TMDL. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Historic Resources		
Architectural Resources / Historic Districts	n/a	No resources within the LOD
Archaeological Resources	▪ Captain John Smith Chesapeake National Historic Trail (first water trail designated under the National Trails System Act) ▪ Washington-Rochambeau Revolutionary Route National Historic Trail (designated a National Historic Trail under the National	If any significant archaeological sites associated with the Captain John Smith Chesapeake National Historic Trail and Washington-Rochambeau Revolutionary Route National Historic Trail are eventually

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
	Trails System Act)(The W-RNHT is located within what is now a highly industrialized and developed area in which few remnants of the historic landscape survive)	identified within the LOD, they likely would meet the regulatory exception to the requirements of Section 4(f) approval: the sites likely would be important chiefly for the information they contain, which can be retrieved through data recovery, and would have minimal value for preservation in place.
Additional Factors		
Mitigation Complexity and Cost	▪ Wetland, US waters, and subaqueous bottomlands impacts ▪ Business Takes	Current design has total business take required. Identified Businesses and/or Business Access impacts anticipated within the LOD. Moderate to Extensive anticipated mitigation costs would be required for wetland and US waters impacts; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Permit Stakeholder Coordination	▪ Transportation facilities identified within the LOD. ▪ Railroad facilities identified within the LOD. ▪ Maritime Stakeholders ▪ US Army Corps of Engineers Craney Island Disposal Area ▪ Craney Island Naval Supply Center ▪ US Coast Guard Sector Virginia ▪ US Coast Guard Base Portsmouth ▪ US Navy Craney Island Fuel Depot (CIFD Terminal) ▪ US Navy ▪ City of Portsmouth	May require major right-of-way acquisition and/or construction easements. Maintenance of terminal operations and traffic will be required. Extensive setback requirements for Anti-Terrorism Force Protection, Security Requirements, and Gate Access for all noted facilities. Stakeholder coordination with facilities will be required and may pose construction schedule risk.

3: VA 164 Connector **Resource**	**Resources Identified**	**Comments**
	▪ Adjacent Property Owners (Residents/Businesses)	*The RCS evaluation team acknowledges that strategic importance of Craney Island within the context of Naval Station Norfolk and are staying in communication with stakeholders like the Navy throughout the process to ensure that the planning process evolves into a design and construction process that serves both the strategic and regional needs of the Hampton Roads region.* *The RCS report in May of 2022 was a qualitative assessment, and the RCS team is now working on refining the quantitative understanding of traffic demand modeling and design needs. The RCS team and the agencies that carry this planning process forward to design, construction and operations will work in partnership with the Navy to develop, design, and construct the VA 164 connector alignment, roadway, and facilities in a way that does not impair the planned functions of Craney Island.*
Effect on other Federal Navigation Projects	▪ Newport News Channel ▪ Elizabeth River ▪ US Army Corps of Engineers Craney Island Disposal Area	No anticipated impact to the Newport News Channel. This segment does contain roadway structures landside to Federal Navigation Projects along the Elizabeth River and to current operations at the US Army Corps of Engineers Craney Island Disposal Area. *Section 408 permit requirements for the Craney Island Dredge Disposal Facility will be taken into consideration.*
Potential Future Changes in Policy Issues		No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation if policy regulations change.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *4: I-564 Connector*

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
Social Environment		
Community Resources		
Military/DOD/USACOE	▪ NSA Hampton Roads ▪ Norfolk International Terminals ▪ Norfolk Naval Station ▪ Norfolk Naval Air Station ▪ US Marine Corps ▪ United States Department of the Navy ▪ Marine Corps Personnel Support ▪ Camp Elmore ▪ NAS Norfolk Air Passenger Terminal	Segment traverses through the DON and NIT properties. Need additional information regarding potential anti-terrorism force protection requirements. *As the project moves into design and construction, the project owner will be able to make decisions about equipment height and clearance to accommodate the Navy's operational needs in Norfolk.* *It should be noted that the fueling facility referred to in this comment is within 300 feet of the existing Intermodal connector, which is currently planned to have the same alignment as the proposed I-564 connector. There are currently walls separating the Navy's fuel facility from the existing Intermodal connector. To satisfy the 1,800 foot the setback from the fueling facility would require a significant re-evaluation of the I-564 connector by FHWA, VDOT, Norfolk, and Port of Virginia.* *At the time that the segment design is developed further the appropriate mitigation will be determined in consideration of the security protocols in place at that time.*
Transportation Facilities	▪ Northgate Road ▪ Hampton Boulevard (337) ▪ Seabee Road ▪ Intermodal Connector ▪ Admiral Taussig Boulevard (564) ▪ Patrol Road ▪ VPA Rail Facilities	Transportation facilities identified within the LOD. Assumption that all transportation facilities will remain at existing or improved functionality. Stakeholder coordination with railroad facilities will be required and may pose construction schedule risk. *Evolving security and visibility technology may resolve these security concerns as the I-564 corridor*

4: I-564 Connector Resource	Resources Identified	Comments
		progresses from planning to design. Evolving transportation technology may change the corridor design as well. Horizontal and vertical clearances required by the Navy for essential security will be considered in the future planning and design process. *At the end of the Phase 3 (Step 2) Quantitative analysis, which we are conducting now, we will recommend tiering of the segments into three tiers that correspond to timing of/readiness for implementation, with Tier 1 the most ready and Tier 3 the least ready. At the time of project design and construction, the project owner will be able to make decisions about equipment height and clearance to accommodate the Navy's operational needs in Norfolk. At this early planning stage of the segment tiering process the Regional Connectors study is not considering an elevated section between the end of the existing Intermodal connector and the end of Norfolk International Terminal Pier 3. Instead, the I-564 connector is planned to be underground along the length of existing NIT Pier 3 and tunnel under the Elizabeth River shipping lanes to surface at a bridge to the west of the NIT and to the north of Craney island.* *It may be possible to tunnel the I-564 connector further East approaching the Hampton Boulevard underpass, but that design will involve additional costs.*
Norfolk International Terminals	Lineage Logistics at Talon Marine Terminals, NIT Pier 3	*The loss of operational use at the Lineage Logistics at Talon Marine Terminals, NIT Pier 3 needs more information in order to determine all of the factors to be considered.* *The boundaries of Naval Station Norfolk as codified in the CFR begin along the northern edge of NIT pier*

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
		3. The RCS study does not plan nor contemplate exceeding the northern edge of Pier 3 of the NIT during the construction or operations of the I-564 connector. The RCS team will plan for and produce cost estimates to account for the need for vetting and hiring personnel with sufficient security clearances to work in the vicinity of Norfolk Naval Station Pier 1. *The Regional Connectors Study is a conceptual planning stage of design. The future stages of the project will be carried forward by regional or commonwealth such as HRTAC and VDOT. They will maintain communication and coordination with stakeholders and decisionmakers throughout the planning, design, and construction process.*
Businesses/Business Access	n/a	Resources outside the LOD.
Sensitive Resources		
Parks & Recreation	▪ Fleet Recreation Park (DON facility) ▪ Sewells Point Golf Course (DON facility) (adjacent only)	May have disturbance within the LOD for Fleet Recreation Park (park access/maintenance roads).
Section 4(f) Properties	Publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places	Resources outside the LOD.
Section 6(f) Properties	Any property that was planned, purchased, or improved with Land and Water Conservation Fund (LWCF) money (recreational lands that are also regulated under Section 4(f)	Resources outside the LOD.
Places of Worship	n/a	Resources outside the LOD.
Cemetery	n/a	Resources outside the LOD.
School/University	n/a	Resources outside the LOD.
Apartment Complexes/Residences	n/a	Resources outside the LOD.
Children's Health & Safety	n/a	Resources outside the LOD.
Environmental Justice		

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
Environmental Justice	Past and present growth and development - expansion of controlled access facilities such as military installations like NAVSTA Norfolk have separated neighboring communities.	No residents or neighboring communities would be relocated. *All segments have undergone an initial environmental justice review with additional evaluations occurring as more detailed design information becomes available.*
Federal State, and Local Permits		
Water Resources		
Tidal Waters/Tidal Streams/Subaqueous bottom	▪ East tunnel (on upland) ▪ West tunnel (30 acres)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Subaqueous bottom for island construction: 30 acres Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Non-Tidal Waters	• Non-tidal channel along Intermodal Connector (approx. 200 linear feet) • Non-tidal channel near Patrol Road (approx. 190 linear feet)	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Non-Tidal Waters: 390 linear feet Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude*

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
		impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.
Maintained Navigational Channels and Civil Works Projects	▪ Newport News Channel ▪ Elizabeth River Channel	No impacts to Maintained Navigational Channels and Civil Works Projects is anticipated. All Maintained Navigational Channels will be avoided by the tunnel design.
Wetlands	Wetlands are adjacent to portions of the corridor but none identified within the bounds of the LOD	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Waterfront Development Areas		
Commercial Ports	▪ Virginia Port Authority - Lineage Logistics at Talon Marine Terminals, NIT Pier 3	The loss of operational use at the Lineage Logistics at Talon Marine Terminals, NIT Pier 3 needs more information in order to determine all of the factors to be considered.
Commercial Fishing Piers	n/a	Resources outside the LOD.
Wildlife Habitat		

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
Colonial Waterbird Nesting	▪ Craney Island ▪ Urban, Norfolk North, Portsmouth ▪ Craney Island, Northwest ▪ Willoughby Spit ▪ Hermitage (outside LOD) ▪ Algonquin Park (outside LOD) ▪ Lochhaven (outside LOD)	Colonial Waterbird Nesting sites are located within the LOD. Proactive measures such as the sue of bird dogs could be employed during construction within the bird nesting season (April – September 1) so as to deter colonial bird nesting in these sites. Habitat is present for the Gull-billed tern, Piping plover, Red knot, and Wilson's plover. *Additional mitigation measures for bird nesting impacts will be evaluated as more detailed design allows for the determination of potential bird nesting impacts. The RCS team will not be the project owner in the final stages of planning, design and construction.*
Benthic Species	▪ Hard Clam Habitat Tunnels (30 acres) ▪ Public Clamming Grounds (0 acres) ▪ Blue Crab (*Callinectes sapidus*) (0 acres) ▪ Oyster Reefs (*Crassostrea virginica*) (0 acres) ▪ Oyster Sanctuary (0 acres) ▪ Public Baylor Grounds (0 acres) ▪ Private Shellfish Leases (0 acres) The introduction of additional hard substrate such as pilings and riprap protection could provide beneficial habitat where it did not previously exist for oysters and other marine benthic organisms.	The entire footprint beneath each segment is considered potential hard clam habitat because the entire bottom is composed of sand, mud, or a combination suitable for hard clams. Construction BMPs, including conforming to the guidelines contained in the VESCH, would be employed to reduce turbidity and sediment disturbance. The time of year and length of dredging operations may need to be considered as prolonged dredging would result in disturbance to the benthos and adjacent water column over a longer period of time dependent upon the nature of the bottom substrate, tidal fluctuations, and estuarine dynamics. Strict adherence to erosion and sediment control measures and permit requirements would minimize water quality impacts due to sedimentation and turbidity during construction. Long-term effects to benthic communities due to changes in water quality would be minimized and avoided through implementation of stormwater management plans designed to minimize impacts from

4: I-564 Connector Resource	Resources Identified	Comments
		increases in impervious surfaces, mitigate increases in runoff volume, and satisfy requirements to reduce pollutant loads below existing baseline conditions, as required by the VSMP regulations and Chesapeake Bay TMDL. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Historic Resources		
Architectural Resources / Historic Districts	▪ 121-0020 (Middle Ground Light Station)(NRHP Listing, VLR Listing) ▪ 122-0410 (Norfolk Naval Base Historic District) ▪ 122-5045 (Norfolk Naval Base Golf Historic District) ▪ 122-0334 (Sewells Point Docks (Historic); Virginia Port Authority (Current))	The area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. Alignment segment does bisect the 122-0334 (Sewells Point Docks (Historic); Virginia Port Authority (Current)); however, the area is currently an operational facility for VPA and no direct APE impacts are anticipated. No anticipated indirect APE (viewshed) impacts are anticipated for the adjacent 122-5045 (Norfolk Naval Base Golf Historic District) since existing transportation facility exists in the corridor.
Archaeological Resources	▪ Captain John Smith Chesapeake National Historic Trail (first water trail designated under the National Trails System Act) ▪ Washington-Rochambeau Revolutionary Route National Historic Trail (designated a National Historic Trail under the National Trails System Act)(The W-RNHT is located within what is now a highly	If any significant archaeological sites associated with the Captain John Smith Chesapeake National Historic Trail and Washington-Rochambeau Revolutionary Route National Historic Trail are eventually identified within the LOD, they likely would meet the regulatory exception

4: I-564 Connector Resource	Resources Identified	Comments
	industrialized and developed area in which few remnants of the historic landscape survive)	to the requirements of Section 4(f) approval: the sites likely would be important chiefly for the information they contain, which can be retrieved through data recovery, and would have minimal value for preservation in place.
Additional Factors		
Mitigation Complexity and Cost	▪ Wetland, US waters, and subaqueous bottomlands impacts	High anticipated mitigation costs would be required for wetland and US waters impacts due to construction of the new island required for the tunnel segment. *At this time in the evaluation, we only have rough order of magnitude impacts numbers for tidal and nontidal US Waters resources. As detailed design continues for specific bundles, more detailed impact numbers will be available to the project owner and coordination on available credits with approved commercial banks will be completed. Final planning, design, and construction will continue under the project owner, after the term of the RCS team.*
Permit Stakeholder Coordination	▪ Transportation facilities identified within the LOD. ▪ Railroad facilities identified within the LOD. ▪ Craney Island ▪ Lineage Logistics at Talon Marine Terminals, NIT Pier 3 ▪ NSA Hampton Roads ▪ Norfolk International Terminals ▪ Norfolk Naval Station ▪ Norfolk Naval Air Station ▪ US Marine Corps ▪ United States Department of the Navy ▪ Marine Corps Personnel Support ▪ Camp Elmore ▪ NAS Norfolk Air Passenger Terminal ▪ Maritime Stakeholders ▪ Adjacent Property Owners	Extensive stakeholder coordination with Military/DOD/USACOE facilities, transportation facilities, Lineage Logistics at Talon Marine Terminals, NIT Pier 3, and railroad facilities will be required and may pose design and/or construction schedule risk. *The Regional Connectors Study is a conceptual planning stage of design. The future stages of the project will be carried forward by regional or commonwealth such as HRTAC and VDOT. They will maintain communication and coordination with stakeholders and decisionmakers throughout the planning, design, and construction process.*
Effect on other Federal Navigation Projects	▪ Newport News Channel ▪ Elizabeth River Channel (Norfolk Harbor Reach)	No impacts to Federal Navigational Channels and Civil Works Projects are anticipated. All Maintained

4: I-564 Connector **Resource**	**Resources Identified**	**Comments**
		Navigational Channels will be avoided by the tunnel design.
Potential Future Changes in Policy Issues		No major regulatory policy changes are anticipated at this time.

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

SEGMENT: *5: I-664 Connector*

5: I-664 Connector **Resource**	**Resources Identified**	**Comments**
Social Environment		
Community Resources		
Military/DOD/USACOE	▪ US Army Corps of Engineers Craney Island Disposal Area	Maintenance of operations and traffic will be required for all identified Craney Island facilities, Maintained Federal Channels, and the connection to the existing I664 Monitor Merrimack transportation corridor. Need more information on the US Army Corps of Engineers Craney Island Disposal Area anticipated end of operational life. *Project limits are outside of the updated CIDDMA Site Boundary as received by the USACOE.*
Transportation Facilities	▪ I-664 (Monitor Merrimac Bridge Tunnel) ▪ US Army Corps of Engineers Craney Island Disposal Area North East Ring Road	Project is dependent on improvements to I664 (North MMMBT) segment.
Norfolk International Terminals	Lineage Logistics at Talon Marine Terminals, NIT Pier 3	No resource within the LOD
Businesses/Business Access	n/a	No resource within the LOD
Sensitive Resources		
Parks & Recreation	n/a	No resource within the LOD
Section 4(f) Properties	Publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places	No resource within the LOD
Section 6(f) Properties	Any property that was planned, purchased, or improved with Land and Water Conservation Fund (LWCF) money (recreational lands that are also regulated under Section 4(f)	No resource within the LOD
Places of Worship	n/a	No resource within the LOD
Cemetery	n/a	No resource within the LOD
School/University	n/a	No resource within the LOD
Apartment Complexes/Residences	n/a	No resource within the LOD
Children's Health & Safety	n/a	No resource within the LOD
Environmental Justice		
Environmental Justice	n/a	No resource within the LOD

5: I-664 Connector **Resource**	**Resources Identified**	**Comments**
Federal State, and Local Permits		
Water Resources		
Tidal Waters/Tidal Streams/Subaqueous bottom	▪ Bridge/Trestle (~~144 acres~~) *(153 acres)*	Impacts are not based on surveyed field delineations but are meant to provide a conservative quantitative estimate. ▪ Tidal Waters/Tidal Streams from Trestle construction: (~~144 acres~~) *(153 acres)* Field surveys and additional detail to avoid and/or minimize impacts would be evaluated with more detailed design. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated.*
Non-Tidal Waters	n/a	No resource within the LOD
Maintained Navigational Channels and Civil Works Projects	▪ Newport News Channel ▪ Elizabeth River Channel	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River, Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. *Project limits are outside of the updated CIDDMA Site Boundary as received by the USACOE.*
Wetlands	n/a	No resource within the LOD
Waterfront Development Areas		
Commercial Ports	n/a	No resource within the LOD
Commercial Fishing Piers	n/a	No resource within the LOD
Wildlife Habitat		
Colonial Waterbird Nesting	▪ Craney Island ▪ Urban, Norfolk North, Portsmouth ▪ Craney Island, Northwest ▪ Willoughby Spit ▪ Hermitage (outside LOD) ▪ Algonquin Park (outside LOD) ▪ Lochhaven (outside LOD)	Colonial Waterbird Nesting sites are located within the LOD. Proactive measures such as the sue of bird dogs could be employed during construction within the bird nesting season (April – September 1) so as to deter colonial bird nesting in these sites. Habitat is present for the Gull-billed tern, Piping plover, Red knot, and Wilson's plover.

5: I-664 Connector Resource	Resources Identified	Comments
		Anticipate strong interest in and public objections to impacts to colonial nesting birds. Mitigation requirements for displaced birds may be required under Migratory Bird Treaty Act.
Benthic Species	▪ Hard Clam Habitat (~~144 acres~~) *(153 acres)* ▪ Public Clamming Grounds (0 acres) ▪ Blue Crab (*Callinectes sapidus*) (0 acres) ▪ Oyster Reefs (*Crassostrea virginica*) (0 acres) ▪ Oyster Sanctuary (0 acres) ▪ Public Baylor Grounds (approx. ~~290 acres~~ *31 acres*) ▪ Private Shellfish Leases (0 acres) The introduction of additional hard substrate such as pilings and riprap protection could provide beneficial habitat where it did not previously exist for oysters and other marine benthic organisms.	The entire footprint beneath the segment is considered potential hard clam habitat because the entire bottom is composed of sand, mud, or a combination suitable for hard clams. Construction BMPs, including conforming to the guidelines contained in the VESCH, would be employed to reduce turbidity and sediment disturbance. The time of year and length of dredging operations may need to be considered as prolonged dredging would result in disturbance to the benthos and adjacent water column over a longer period of time dependent upon the nature of the bottom substrate, tidal fluctuations, and estuarine dynamics. Strict adherence to erosion and sediment control measures and permit requirements would minimize water quality impacts due to sedimentation and turbidity during construction. Long-term effects to benthic communities due to changes in water quality would be minimized and avoided through implementation of stormwater management plans designed to minimize impacts from increases in impervious surfaces, mitigate increases in runoff volume, and satisfy requirements to reduce pollutant loads below existing baseline conditions, as required by the VSMP regulations and Chesapeake Bay TMDL. *As more detailed design continues the exploration of more project-specific measures to control turbidity will be evaluated. Pilings and riprap from new bridge and tunnel structures are probably not sufficient to offset impacts to benthic species but no*

5: I-664 Connector Resource	Resources Identified	Comments
		specific measures can be determined at this level of engineering design.
Historic Resources		
Architectural Resources / Historic Districts	▪ 121-0020 (Middle Ground Light Station) (NRHP Listing, VLR Listing)	The area of potential effects (APE) is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. No direct APE impacts are anticipated. No anticipated indirect APE (viewshed) impacts are anticipated.
Archaeological Resources	▪ Captain John Smith Chesapeake National Historic Trail (first water trail designated under the National Trails System Act) ▪ Washington-Rochambeau Revolutionary Route National Historic Trail (designated a National Historic Trail under the National Trails System Act) (The W-RNHT is located within what is now a highly industrialized and developed area in which few remnants of the historic landscape survive)	If any significant archaeological sites associated with the Captain John Smith Chesapeake National Historic Trail and Washington-Rochambeau Revolutionary Route National Historic Trail are eventually identified within the LOD, they likely would meet the regulatory exception to the requirements of Section 4(f) approval: the sites likely would be important chiefly for the information they contain, which can be retrieved through data recovery, and would have minimal value for preservation in place.
Additional Factors		
Mitigation Complexity and Cost	▪ Wetland, US waters, and subaqueous bottomlands impacts	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River, Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. Moderate to extensive mitigation costs would be required for wetland and US waters impacts; however, field surveys and additional detailed design may avoid and/or minimize impacts to further reduce potential mitigation costs. *Additional coordination with mitigation banks to ensure sufficient capacity for required purchases will occur as design progresses and more precise impacts can be determined. Impacts to shallow water habitat (are less*

5: I-664 Connector **Resource**	**Resources Identified**	**Comments**
		than 2 meters deep) may require in-kind compensation if policy regulations change.
Permit Stakeholder Coordination	▪ Transportation facilities identified within the LOD. ▪ Maritime Stakeholders	Extensive stakeholder coordination with Military/DOD/USACOE facilities will be required and may pose design and/or construction schedule risk.
Effect on other Federal Navigation Projects	▪ Newport News Channel ▪ Elizabeth River Channel (Norfolk Harbor Reach)	This segment does contain bridge and roadway structures within water and landside to Federal Navigation Projects along the James River, Elizabeth River, and current operations at the US Army Corps of Engineers Craney Island Disposal Area. Need more information on the US Army Corps of Engineers Craney Island Disposal Area anticipated end of operational life. *Project limits are outside of the updated CIDDMA Site Boundary as received by the USACOE.*
Potential Future Changes in Policy Issues		No major regulatory policy changes are anticipated at this time. *Impacts to shallow water habitat (are less than 2 meters deep) may require in-kind compensation if policy regulations change.*

Strikethrough and italicized text reflects revision made in response to stakeholder comments.

Other Factors Evaluated and Considered

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164
Utilities	Existing utilities are identified within the corridors; however, it is assumed that all required utility relocations would be properly coordinated prior to any construction activities. Utility relocations would need to be included in the schedule of construction for each of the segments evaluated.				
Water Quality	In compliance with Sections 303(d), 305(b), and 314 of the CWA and the Safe Drinking Water Act, VDEQ has developed a prioritized list of waterbodies that currently do not meet state water quality standards (impaired waters). ▪ James River – Hampton Roads (Aquatic Life & Fish Consumption) (Chlorophyll-a, Dissolved Oxygen; Aquatic Plants (Macrophytes); PCB in Fish Tissue) ▪ Elizabeth River Mainstem (Aquatic Life & Fish Consumption) (Estuarine Bioassessments (Benthics), Dissolved Oxygen)				No overwater components of the James River or Elizabeth River Mainstem.
Floodplains	Flood Insurance Rate maps (FIRMs) depict the 100-year floodplain within the corridor and involve encroachment within regulatory floodplains. Segment would involve encroachment within regulatory floodplains but will not pose a significant flooding risk. Segment would be designed to be consistent with procedures for the location and hydraulic design of highway encroachments on floodplains contained in 23 CFR 650 Subpart A; therefore, the segment is not expected to increase flood elevations, the probability of flooding, or the potential for property loss and hazard to life.				
Sediment Transportation, Bank Erosion, Shoaling and Hydrodynamic Modeling	Not evaluated in detail at this time. Hydrodynamic Modeling evaluations is not included at this level of study.				
Dredging and Disposal of Dredged Material	Quantities of required dredge material have not been calculated at this level of evaluation. Not evaluated at this time. It is assumed that all regulatory requirements will be evaluated and adhered to at the appropriate time.				
Aquifers/Water Supply (ground water wells, surface water intakes, and springs)	The closest public ground-water well is approximately 4,000 feet south at the I-664 interchange with Route 460; there are no public surface water intakes, public springs, or reservoirs. The closest SSA is on the Eastern Shore of Virginia. Segment is within the Eastern Virginia Groundwater Management Areas (GWMA) which comprises all areas east of I-95. No project-related effect on public water supplies.				
Coastal Natural Resource Areas	Virginia's coastal zone encompasses the 29 counties, 17 cities, and 42 incorporated towns in Tidewater Virginia, as defined in the Code of Virginia 28.2-100 (VDEQ, 2016d). All segments are entirely located within Virginia's coastal zone. Anticipate the segment would be found to be consistent with the goals and objectives of the Virginia Coastal Resources Management Program. This process is completed during the design and permitting phase of a project with VDEQ as part of the Coastal Resources Management Consistency Certification.				

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164
Aquatic Spawning, Nursery, and Feeding Grounds	▪ James River ▪ Elizabeth River Temporary increases in turbidity and releases of nutrients and potential contaminants from dredging activities are not expected to substantially impact juvenile or adult fish because of their mobility and because construction would be spread out over time and would occur within discrete areas. Spawning, eggs and larvae, however, would be more vulnerable to these impacts. Time-of-year restrictions would be implemented to avoid or minimize impacts on fish during early life stages. VDGIF typically recommends restrictions on all in-stream work within Anadromous Fish Use Areas and their tributaries between February 15 and June 30, though no time-of-year restrictions are recommended on the James River and its tributaries below the Route 17 Bridge or on the Elizabeth River unless the project spans the width of the River to an extent that it significantly impedes fish passage. Exact restrictions may vary depending on the species, type of work, and location.				No overwater components of the James River or Elizabeth River Mainstem.
Coastal Primary Sand Dunes	No resources within the LOD				
Barrier Islands	No resources within the LOD				
Significant Wildlife Habitat Areas	No resources within the LOD				
Sand And Gravel Resources	No resources within the LOD				
Underwater Historic Sites	▪ 114-5471; Battle of Hampton Roads (no significant archaeological resources) ▪ 122-5426; Battle of Sewells Point ▪ 124-5267; Battle of Craney Island (NRHP-Eligible)(the battlefield is located within the bounds of the present day US Navy Fuel Depot) ▪ USS Cumberland (44NN0073) have been identified and are located roughly one mile northwest of the centerline of the proposed improvements to the west side of the existing MMMBT				No overwater components of the James River or Elizabeth River Mainstem.

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164
Underwater Historic Sites, cont'd	The APE is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. If any significant underwater resources associated with the Battle of Hampton Roads are eventually identified within the HRCS LOD, they likely would meet the regulatory exception to the requirements of Section 4(f) approval: i.e., the sites likely would be important chiefly for the information they contain, which can be retrieved through data recovery, and would have minimal value for preservation in place [23 CFR §774.13(b)(1)].				
Highly Erodible Soils	No resources within the LOD				
Coastal High Hazard Areas, including floodplains	Flood Insurance Rate maps (FIRMs) depict the 100-year floodplain within the corridor and involve encroachment within regulatory floodplains. Segment would involve encroachment within regulatory floodplains but will not pose a significant flooding risk. Segment would be designed to be consistent with procedures for the location and hydraulic design of highway encroachments on floodplains contained in 23 CFR 650 Subpart A; therefore, the segment is not expected to increase flood elevations, the probability of flooding, or the potential for property loss and hazard to life.				
Community Waterfronts	No residential community waterfronts or industrial community's identified.				
Virginia Public Beaches	No resources within the LOD				
Virginia Outdoors Plan	No resources within the LOD				
Wildlife Management Areas	No resources within the LOD				
Waterfront Recreational Land Acquisition	No resources within the LOD				
Waterfront Recreational Facilities	No resources within the LOD				
Waterfront Historic Properties	No resources within the LOD				
Terrestrial Wildlife / Habitat	The majority of the existing land cover within the segment consists of developed lands, natural terrestrial communities, and open water. Expanses of terrestrial habitat are uncommon and fragmented as residential, commercial, industrial, government/military, and open water areas are common, resulting in predominantly low-quality edge habitat.				
Essential Fish Habitat	▪ James River (20 species) ▪ Elizabeth River (20 species) https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper				No overwater components of the James River or Elizabeth River Mainstem.

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164
Essential Fish Habitat, cont'd	It is assumed that all time of year restrictions and construction special conditions as identified in regulatory permits will be strictly adhered to an will not cause impacts to construction schedule.				
Anadromous Fish	▪ James River (7 species) ▪ Elizabeth River (3 species) ▪ alewife, American shad, Atlantic Sturgeon, striped bass, blueback herring, yellow perch, and hickory shad It is assumed that all time of year restrictions and construction special conditions as identified in regulatory permits will be strictly adhered to an will not cause impacts to construction schedule.				No overwater components of the James River or Elizabeth River Mainstem.
Submerged Aquatic Vegetation	VIMS SAV Mapping (https://mobjack.vims.edu/sav/savwabmap/) – no SAVs identified				
Invasive Species	Construction equipment used in the study area could carry seeds or propagative plant parts from other construction projects or infested areas. Removal of sediment and soil to offsite locations could spread invasive species and placement of fill from borrow sites could introduce invasive species to the study area. Exposed soil also allows invasive species to spread, which could contribute to encroachment of invasive species on vegetation communities. The potential for the establishment of invasive animal or plant species during construction would be minimized by following provisions in VDOT's Road and Bridge Specifications.				
Section 106 Process	Coordination with VDHR for concurrence on project evaluation will be required.				
Farmlands	According to VDACS, there are no active farmlands within the Study Area Corridor.				
Forestal Districts	No land in the Study Area Corridor is currently zoned or used for agriculture.				
Energy	Qualitative comparison of energy consumption associated with the construction and maintenance of the evaluated segments and vehicle operation on the affected roadway network. Accurate construction energy costs cannot be determined given the uncertainty of field variables at this point in the study. An increase in capacity would consume more direct energy by roadway travelers; however, this consumption would be partially offset by reducing congestion over a larger area. Measures to mitigate the energy usage during construction may include limiting the idling of machinery and optimizing construction methods to lower overall fuel use.				
Traffic	Construction activities would result in temporary interruptions to vehicular traffic patterns, including the potential temporary closure of roads. Traffic modelling will be evaluated in Tier 2 of this study evaluation.				

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164
Air Quality	The air quality analyses will be evaluated as part of the travel demand model to evaluate peak hour volumes will then be used to support the air analysis. Temporary air quality impacts from construction would consist primarily of emissions produced during the construction of this project by heavy equipment and vehicle travel to and from the construction areas. Earthmoving and ground-disturbing operations would also generate airborne dust. Construction emissions would be temporary in nature.				
Noise	FHWA Traffic Noise Model evaluations is not included at this level of study. To assess the degree of impact of highway traffic and noise on human activity within the corridor, more detailed information is required. Construction activities would cause intermittent fluctuations in noise levels throughout the construction area. The degree of noise impact would vary, as it is directly related to the types of equipment used and the proximity to the noise-sensitive land uses within the project area. Based on a review of the project area, no considerable, long-term construction-related noise impacts are anticipated.				
Soils & Erosion	Construction would result in soil disturbance, soil exposure and compaction that could cause potential adverse effects on shallow soil permeability, and soil erosion caused by water and wind. An Erosion and Sediment (E&S) Plan will be developed as part of the construction documents. The plan will identify measures to minimize impact to the construction sites and surrounding water bodies as a result of construction-related soil erosion.				
Water Quality	Construction would potentially result in short-term impacts to water quality such as increased sedimentation, increased turbidity from in-stream work, and possible spills or non-point source pollutants entering groundwater or surface water from stormwater runoff. To minimize these impacts, appropriate erosion and sediment control practices would be implemented in accordance with the Virginia Erosion and Sediment Control Regulations.				
Hazardous Materials	Sites containing hazardous or contaminated materials may exist within the Study Area Corridor. These include sites regulated by the Resource Conservation and Recovery Act (RCRA), petroleum release sites and facilities registered with the VDEQ, and sites that participate in the Virginia Voluntary Remediation Program. Prior to the acquisition of right-of-way and construction, a Phase I Environmental Site Assessment (ESA) as well as Phase II ESA (as needed) will be conducted to determine whether any of the sites are actually contaminated, and, if so, the nature and extent of that contamination. Any additional hazardous material sites discovered during construction will be removed and disposed of in compliance with all applicable federal, state, and local regulations. All necessary remediation would be conducted in compliance with applicable federal, state, and local environmental laws and would be coordinated with the EPA, VDEQ, and other federal or state agencies as necessary.				
Visual	Temporary changes to the visual quality throughout the Study Area Corridor would occur during construction. These changes would primarily occur in the form of large construction equipment such as cranes and barges, as well as and materials, storage and yarding areas, construction fences/barriers, traffic control devices, and changes to the landscape associated with land clearing and earth moving operations. These visual changes from construction equipment would occur only during the construction period and would be removed at the completion of construction.				

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164	
Protected Species	**VaFWIS Database Search**					
All segments contain similar potential habitat for the identified protected species. Section 7 consultation will be completed before any irreversible or irretrievable commitments of resources are made expressly for construction activities.						
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)	FESE - Confirmed	FESE - Confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed
Woodpecker, red-cockaded (*Picoides borealis*)	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed
Atlantic Sturgeon (*Acipenser oxyrinchus*)	FESE - Confirmed	FESE - Confirmed	FESE - Confirmed	FESE - Confirmed	FESE - Confirmed	FESE - Not confirmed
Leatherback Sea Turtle (*Dermochelys coriacea*)	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	n/a
Hawksbill Sea Turtle (*Eretmochelys imbricate*)	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	FESE - Not confirmed	n/a
Loggerhead Sea Turtle (*Caretta caretta*)	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed
Red Knot (*Calidris canutus rufa*)	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed
Rail, eastern black (*Laterallus jamaicensis jamaicensis*)	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed
Northern Long-eared Bat (*Myotis septentrionalis*)	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed
Green Sea Turtle (*Chelonia mydas*)	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	FTST - Not confirmed	n/a
Piping Plover (*Charadrius melodus*)	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Confirmed	FTST - Potential
Manatee, West Indian (*Trichechus manatus*)	n/a	n/a	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed	FTSE - Not confirmed
Wilson's Plover (*Charadrius wilsonia*)	SE - Potential	SE - Potential	SE - Potential	SE - Potential	SE - Potential	SE - Potential

Attachment 5

Resource	4: I-564 Connector	5: I-664 Connector	3: VA 164 Connector	1a: I-664 North of College Dr.	2: VA 164	
Little Brown Bat (*Myotis lucifigus lucifigus*)	SE - Not confirmed	SE - Not confirmed	n/a	SE - Not confirmed	SE - Not confirmed	n/a
Bat, Rafinesque's eastern big-eared (*Corynorhinus rafinesquii macrotis*)	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed
Tri-colored Bat (*Perimyotis subflavus*)	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed	SE - Not confirmed
Canebrake Rattlesnake (*Crotalus horridus*)	SE - Potential	SE - Potential	SE - Potential	SE - Potential	SE - Potential	SE - Potential
Peregrine Falcon (*Falco peregrinus*)	ST - Confirmed	ST - Confirmed	ST - Confirmed	ST - Confirmed	ST - Confirmed	ST - Confirmed
Shrike, loggerhead (*Lanius ludovicianus*)	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed
Sparrow, Henslow's (*Centronyx henslowii*)	ST - Not confirmed	ST - Not confirmed	n/a	ST - Not confirmed	ST - Not confirmed	n/a
Gull-billed Tern (*Sterna nilotica*)	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed
Mabee's Salamander (*Ambystoma mabeei*)	ST - Potential	ST - Potential	ST - Potential	ST - Potential	ST - Potential	ST - Potential
Shrike, migrant loggerhead (*Lanius ludovicianus migrans*)	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed	ST - Not confirmed
Terrapin, northern diamond-backed (*Malaclemys terrapin terrapin*)	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC - Confirmed
Turtle, spotted (*Clemmys guttata*)	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC - Confirmed	CC – Not Confirmed
Kingsnale, scarlet (*Lampropeltis elapsoides*)	n/a	n/a	CC – Confirmed	CC – Not Confirmed	CC – Not Confirmed	CC – Not Confirmed

Attachment 5

Permits Considerations:

- Federal US Army Corps of Engineers - Section 404 of CWA (Waters of the US) – Individual Permit (*The USACE and VDEQ can only permit the LEDPA (Least Environmentally Damaging Practicable Alternative)*
- Federal: US Army Corps of Engineers - Section 408 permit under Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408). Work that may alter, occupy, or use a USACE Civil Works project, such as a USACE maintained navigation channel or USACE administered dredged material disposal area, requires authorization in the form of a Section 408 permit from the USACE under Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408).
- Federal: US Army Corps of Engineers - Section 10 permit
- Federal: USCG Bridge Permit (when crossing navigable waterways)
- Federal: USFWS Migratory Bird Permit
- State must certify that state water quality standards would not be violated by the Section 401 of CWA (VDEQ) - Virginia Water Protection Permit (VWPP) Program (9 VAC 25-210) – Individual Permit regulates activities in navigable waters, including tidal wetlands
- State: VMRC permit, under the authority of Chapter 12 of Title 28.2 of the Code of Virginia - Subaqueous Bottomlands Permit for subaqueous bottoms or bottomlands, tidal wetlands, and beaches and coastal primary sand dunes
- State: VDEQ Virginia Construction General Permit (CGP) (VAR10) outlines specific measures that development projects must address, including the development of a Stormwater Pollution Prevention Plan (SWPPP).
- State: VDEQ's Ground Water Withdrawal Permitting Program in their Office of Water Supply - proximity of public drinking water sources (ground water wells, surface water intakes, and springs)
- State: VDEQ Air Permits (for construction)
- State: VMRC cannot issue a permit to encroach upon Baylor Grounds unless the Virginia General Assembly removes that portion of the Baylor Grounds from the official survey.

Cost Estimates of Mandated Segments

- Based on cost-per-mile in VDOT's cost estimating program (PCES)
- Hybrid approach that considered the 2016 Supplemental Environmental Impact Statement (SEIS) information and recent tunnel/island cost estimates
- Added cost elements and/or contingencies to reflect constructability and security issues identified in this project
- Specific cost of non-standard items (e.g. retaining walls) based on recent data from comparable projects
- Cost reflecting 2022 dollars and include a 40% contingency

Segment drawings showing limits of disturbance (LOD) and profiles are available until Oct 16 at the following link:

https://eFTP.mbakerintl.com/message/2U2XgGTEX5nGQF3J0JKKue

Attachment 6

Cost Estimates of Mandated Segments

Segment	Costs ($ M) 2022$	Key factors related to cost
1a. I-664 Widening (North of College Drive)	$3,918	New tunnel and islands, sheer length of new roadway over water, significant number of new/widened bridges
2. VA 164 Widening	$286	Improvements to existing alignment, entirely over land, helps control cost; includes coordination with railroad, crash walls for railroad, and is partially widened to the outside
3. VA 164 Connector	$1,097	Significant structures over Craney Island, Navy security requirements, landfill and Corp of Engineers coordination requirements. Includes interchange with I-564 Connector
4. I-564 Connector	$3,242	New tunnel and island, Navy security requirements
5. I-664 Connector	$1,534	Entire segment on structure over water

Attachment 6

- Planning level estimates using VDOT Cost Estimating System (PCES), supplemented with project-specific elements such as security needs and relying on recent examples of key project elements such as tunnels. These preliminary cost estimates are as of Sept 2022 and may change as RCS project development continues

REGIONAL CONNECTORS STUDY

Regional Connectors Study

Summary of Key Decision Points

Prepared By: Camelia Ravanbakht, PhD
RCS Independent Project Coordinator

November 13, 2020
Revised: December 2020, January 2021, February 2021, April 2021, May 2021, June 2021, October 2021, December 2021, April 2022, July 2022, September 2022.

Abstract:

This document is a diary of key decision points approved by the RCS Steering (Policy) Committee and Working Group from 2017 to present, in chronological order.

The purpose of this document is to provide a quick reference for members of the Regional Connectors Study and the public. The information used in this document is based on excerpts from meeting minutes prepared by Dr. Rob Case, Mr. Keith Nichols, and Ms. Kathlene Grauberger of HRTPO.

This is a living document and will be updated with future key action items per approval from the Committee.

REGIONAL CONNECTORS STUDY

2017

Steering (Policy) Committee meeting on 10/05/2017

Item#5: Draft Guidance for Scope of Work

Motion: Mayor Sessoms (VB) moved the endorsement and recommendation of the HRTPO Board's approval of the Guidance for Scope of Work; Mayor Rowe (Portsmouth) seconded; Motion passed unanimously.

2018

Working Group meeting on 05/11/2018:

Item#5: Contract Negotiations with Selected Consultant:

Mr. Crum (HRPDC/HRTPO) gave an overview of the consultant selection process in which Michael Baker was chosen. Craig Eddy (Michael Baker) gave an overview, with slides, of a phased approach and a scope for Phase 1. After much discussion by Working Group members, HTRPO staff, and HRTAC staff, it was decided that the consultant would do the following: • Monthly meetings of the Working Group, to be canceled as appropriate considering project progress • Convene a group meeting of stakeholders (Working Group and Policy Group) for Task 1 (Initiate Engagement Program) • Coordinate with VDOT HR District surveys to avoid duplication. • Establish goals & objectives during Phase 1 • Prepare a scope for Phase 2 during Phase 1 • Send details of the proposed survey to Kendall Miller (HRTPO) • Prepare a new baseline of existing conditions.

Mr. Crum asked the group if it concurred with him asking the HRTPO Board for authorization to enter contract with Michael Baker for Phase 1. A motion made by Brian Stilley (Newport News) and seconded by John Yorks (Hampton)—to move ahead with Phase 1—passed unanimously.

Working Group meeting on 06/04/18:

Item#5: Revised Phase 1 Scope:

Craig Eddy (MBI) presented the current Phase 1 scope, revised based on earlier comments of the working group. Bob Crum (HRTPO) asked that the purpose of Phase 1— "the establishment of goals and objectives [and] the development of a draft scope for Phase 2"—be included in the scope of Phase 1. Craig said that he would add those items to Task 5. Bob asked if the group was comfortable with him signing a contract for Craig to proceed. The group concurred.

REGIONAL CONNECTORS STUDY

2019

Joint Steering (Policy) Committee and Working Group meeting on 02/13/2019:

Item#5: RCS and Relationship with 2045 Long-Range Transportation Plan (LRTP):

Mr. Crum (HRPDC/HRTPO) stated that to-date, the timelines of the RCS and the 2045 LRTP have been synchronized; however, concerns have grown that more time is needed to conduct the RCS, and it has been suggested to pursue a second option. The options for discussion are as follows:

- Option 1: RCS Concurrent with the 2045 LRTP Schedule
- Option 2: RCS Separate Path from the 2045 LRTP Schedule

Mayor Rowe (Portsmouth) expressed support for Option 2 and stated that the RCS should be decoupled from the LRTP since the LRTP is a fiscally constrained document. He noted that in the 2030 LRTP, adopted by the HRTPO Board in March 2007, no State highway construction funds would be available by 2018; therefore, the projects in the 2030 plan were either pared down or tolled. He indicated that the LRTP was flawed in concept and should reflect the region's vision without the restrictions of fiscal constraint.

Motion:

Mayor Rowe (Portsmouth) moved to decouple the timelines of the RCS and the 2045 LRTP; seconded by Mayor Price (Newport News). The Motion Unanimously Carried.

Item# 6: RCS Draft Scope of Services for Phase 2:

Motion:

Mayor Rowe (Portsmouth) moved to refer the Phase 2 Scope of Work technical comments to the Working Group for review and to recommend HRTPO Board approval of the $1 million Phase 2 abbreviated scope of work; seconded by Mayor West (Chesapeake). The Motion carried.

Steering (Policy) Committee Meeting on 04/30/2019:

Item#3: Committee Organizational Structure:

Mr. Crum (HRPDC/HRTPO) presented the idea of the committee nominating a voting member as chair. Mayor Price (Newport News) was chosen as Chair, and he appointed Mayor Rowe (Portsmouth) as Vice Chair.

Item#7: Phase 2 Supplemental Scope of Work, Cost and Budget:

The committee approved the Phase 2 Supplemental Scope of Work, Cost and Budget, forwarding it to the HRTPO Board for approval at its May 16, 2019.

Steering (Policy) Committee meeting on 07/09/2019:

Item#5: Phase 2 Supplement Budget Omission:

Craig Eddy (MBI) presented slides concerning this matter. The committee approved the correction.

Item#7: Scenario Planning and Greater Growth Assumptions:
The consultant will run the models with 16% employment growth, and then present the results to the Working Group for it to decide whether that produces sufficient variation in the congestion of the existing + committed network between the three Greater Growth scenarios. Should upward revisions be deemed necessary by the Working Group, the consultant will run the models with employment growth rates up to 21% until sufficient variation between the scenarios is determined. The Committee approved the Scenario Narratives, Goals, Objectives, and Performance Measures.

Steering (Policy) Committee on 11/05/2019:
Item#6. Draft Phase 3 Scope of Work:
Craig Eddy (MBI) presented the draft Phase 3 scope, schedule, and budget using slides. The Committee approved the scope, schedule, and budget as presented.

2020

Working Group Electronic Meeting 06/12/2020
For the Preliminary Alternatives discussion, Craig Eddy (MBI) provided a background of the project scope, vision, goals, and objectives. His presentation included maps of the segments from the HRCS SEIS that were specified to be part of the RCS effort, as well as additional candidate segments received through stakeholder interviews. The group discussed the potential segments and alternatives to review and analyze as part of the study. Jason Flowers (USACE) read a statement regarding the Corps' federally mandated position to maintain and protect navigable waterways, channels, and access. After much discussion, there was concurrence among the members of the Working Group that the following candidate segments (shown on map provided at meeting) not be forwarded for analysis:

- o Segment 1: New bridge over James River, includes improvements on Rt 10 to US 17
- o Segment 4: Ferry service, Hampton to Norfolk
- o Segment 5: New bridge tunnel from NIT to Hampton

The Working Group also discussed at length the potential future need and scope of the VA-164 Connector and whether it should remain an RCS segment for consideration. For now, VA-164 will remain a potential segment since it is one of the mandated segments to analyze. Additional discussions with all impacted stakeholders will continue at future meetings.

Working Group Electronic Meeting on 07/09/ 2020:

Motion to move the study forward and accept the Travel Demand Model adjustments and calibrations were unanimously passed.

Working Group Electronic Meeting on 08/13/2020:

Concerning Phase 2, Lorna Parkins (MBI), Vlad Gavrilovic (EPR), Bill Thomas (MBI) presented inputs and outputs of travel demand model runs for various growth scenarios. Craig Eddy (MBI) asked the working group to confirm that the Greater Growth forecasts provide adequate differentiation in results.

Working Group members concurred that the differentiation between the three greater growth scenarios is sufficient and directed the consultant team to move the study forward. Congestion related performance measures will be presented at the August 27th meeting.

Working Group Electronic Meeting on 08/27/2020:

Bill Thomas (MBI) used slides to provide a modeling and congestion (by scenario) update. Results showed a decrease in VMT and VHT from 2017 to 2045 Base. Members expressed concerns with a decrease. Bill Thomas indicated that he intends to perform more checking of the modeling results.

Working Group directed the consultant team to improve model findings, coordinate with staff and report back in late summer/early fall.

Working Group Electronic Meeting on 10/08/2020:

Item #5. RCS: Modeling Update on Congestion Measures

Bill Thomas (MBI) indicated that he made model fixes to correct earlier counter-intuitive results and substandard differences (in screenline volumes) between counts and model. He presented volume data showing a better relationship between counts and the model. Then he presented measures (vehicle-miles traveled, delay, speed, etc.) comparing the three 2045 Greater Growth scenarios (Water, Urban, and Suburban). Bryan Stilley (Newport News) asked whether the group was satisfied with the fixes. The group made no objections. Mr. Stilley indicated that this satisfaction recommends to the Steering Committee approval of Phase 2.

Item #6. Mandated and Other Potential Segments:

Craig Eddy (MBI) presented slides showing the five segments from the Hampton Roads Crossing Study (HRCS) Supplemental Environmental Impact Statement (SEIS).

Motion: Brian Fowler (Norfolk) made a motion that the RCS move forward studying alternatives comprised of the five SEIS segments and modifications of the five. Ric Lowman (Va. Beach) seconded the motion. The Working Group approved the motion (4 to 1 from those voting members present at the time of the motion).

Joint Steering (Policy) Committee and Working Group Electronic Meeting on 10/27/2020:

Item #5: RCS Phase 2 Status Report:

Motion: The joint body approved Phase 2 completion, including Greater Growth scenario planning differentiation and travel demand modeling performance measures. The motion was moved by Mayor Rowe (Portsmouth) and seconded by Mayor Dyer (Virginia Beach). Prior to the vote, at the request of Mayor Rowe (Portsmouth), Cathy Vick (VPA) and Barbara Nelson (VPA) verbalized the Port's perspective, including expected growth of the Port. The motion passed unanimously by individual voice vote.

Item #6: RCS Mandated SEIS Segments and Other Potential Segments:

Motion: Mayor Rowe (Portsmouth) moved that the Mandated Segments be carried forward for "feasibility". Camelia Ravanbakht (RCS Coordinator) mentioned that the segments will be evaluated for permitability. Brian Fowler (Norfolk) indicated that the next step would be for the segments to be modified, as necessary. Martin Thomas (Norfolk) asked that the motion mirrors the motion of the Working Group at its recent meeting. Bob Crum (HRTPO/HRPDC) listed the 5 Mandated segments—I-664 Connector, VA 164 Connector, I-564 Connector, I-664, VA 164—then he reiterated the motion: This joint committee directs the RCS to move forward with studying the feasibility of alternatives comprised of the 5 Mandated Segments and modifications thereof. The motion passed unanimously by individual voice vote.

Working Group Electronic Meeting on 12/10/2020:

Item#5: **Regional Connectors Study: Phase 3 - Task 2 - Development of Preliminary Alternatives**

The Consultant Team provided the group with a detailed presentation of two travel demand model (TDM) runs: 1) one Unconstrained 2045 Baseline with the Existing + Committed (E+C) network and 2) one Unconstrained 2045 Baseline with all five mandated segments including: I-664, I-664 Connector, I-564 Connector, VA 164, and VA 164 Connector. Results from these two unconstrained 2045 Baseline model runs were compared with 2017 traffic volumes at key locations. Following some group discussions, Working Group members directed the Consultant Team to prepare for the January 14, 2021, meeting, five new 2045 Baseline model runs with a Constrained E+C network and the following Unconstrained segments:

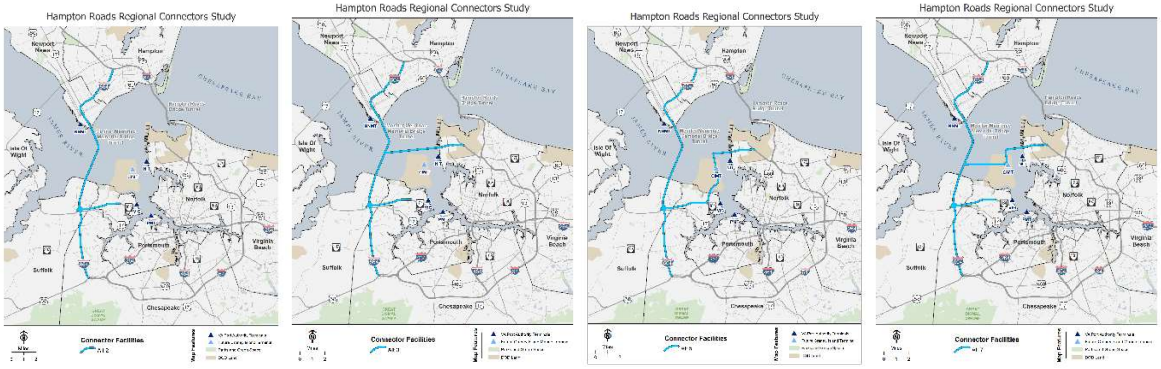
- All five Mandated Segments (I-664, I-664 Connector, I-564 Connector, VA 164, VA 164 Connector
- I-664 and VA 164
- I-664, VA 164, I-664 Connector, I-564 Connector
- I-664, VA 164, I-664 Connector, VA 164 Connector
- I-664, VA 164, VA 164 Connector, I-564 Connector

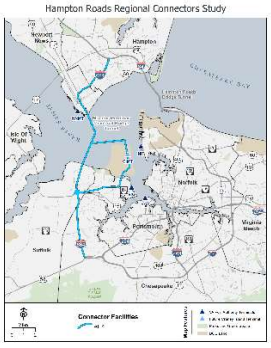
2021

Working Group Electronic Meeting 01/14/2021

Item#5: **Regional Connectors Study: Development of Preliminary Alternatives**

The Consultant Team presented the results from travel demand model runs for five Alternatives (see below graphics). Traffic volumes were tabulated for 2017, 2045 Baseline, and each of the five 2045 alternative runs. Following extensive discussions, Working Group Chair asked the members to decide which one of these alternatives should be moved forward to the next step for further modeling runs under Constrained E+C network as well as Constrained mandated segments.





Motion: Troy Eisenberger (Chesapeake) made a motion to move forward to the next step with Alternatives 2, 3, and 5. The motion was seconded by Ric Lowman (Virginia Beach) and passed 4 to 1 by those voting members present at the time of the motion.

Working Group Electronic Meeting 02/11/2021

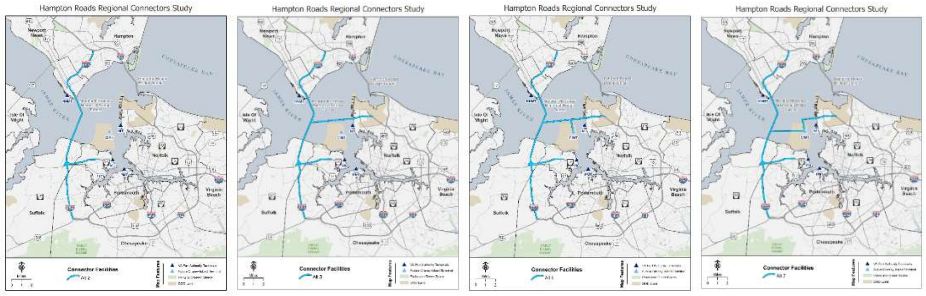
Item#5: **Regional Connectors Study: Development of Preliminary Alternatives**

The Consultant Team presented the traffic volume results from travel demand model runs for 2045 Baseline, Alternatives 2, 3, and 5. The presentation also included summaries of two meetings separately conducted on January 29, 2021, with ACOE and the Navy and on February 5,2021, with the Port of Virginia staff. Discussions focused on Segment 164 Connector regarding issues and constraints (listed below) expressed by ACOE, Navy and the City of Portsmouth:

- Segments must not interfere with operations, maintenance, construction, or capacity of Craney Island
- Current projected lifespan of Craney Island is 2050 based on current technology
- Segments must be a minimum of 1800 feet from the next phase of the Navy Fuel Depot project for safety and security reasons and may require walls to further safeguard from potential security threats
- City of Portsmouth Landfill expansion

Motion: Carl Jackson (Portsmouth) made a motion to delete Alternative 5 and add two new Alternatives 6 and 7. The motion was seconded by Brian Fowler (Norfolk) and passed unanimously.

The modeling results for Alternatives 2, 3, 6, and 7 will be presented at the March 11 Working Group meeting.



Working Group Electronic Meeting 03/11/2021 - Cancelled

Working Group Electronic Meeting 04/08/2021

Item#5: Regional Connectors Study: Development of Preliminary Alternatives

- The Consultant Team presented the modeling results from 2045 Baseline and Alternatives 2, 3, 6 and 7. The presentation included traffic volumes, capacity utilizations, and travel times for various runs. The Team also reviewed key model assumptions used for various model networks.

- Group discussion took place regarding the assumptions for HRELN toll rates, HRTPO Board approved 2045 list of projects, Bowers Hill Study recommended concept plans, and various design options.

- The WG members agreed to move all four alternatives (2, 3, 6, and 7) to the next step of the modeling process. In addition, they agreed to run Alternative 6 under two versions – with and without improvements to VA 164. Furthermore, they agreed to run each of the five preliminary alternatives under two design options for MMMBT: 6 General Purpose (GP) Lanes + 2 Managed Lanes (ML) and 4General Purpose Lanes + 4 Managed Lanes.

The next modeling runs will therefore include 10 Alternatives with the E+C Network (October 2020 version) while ensuring consistency with the Bowers - Hill Study recommended concept plans and HRTAC approved Initial Tolling Policy for HRELN ($0.06/mile or $0.25 per gantry). This is consistent with the scope of work.

Working Group Electronic Meeting 05/25/2021

Item#5: Regional Connectors Study Phase 3: Development of Preliminary Alternatives

- The Consultant Team presented the travel demand modeling results on five Alternatives (2, 3, 6, 7, and 8) selected at the April 8 meeting (see below Graphics 5A). The results were based on two design options for MMMBT: Option A (6GP+2M) and Option B (4GP+4M).

- The 2045 travel demand networks used for modeling these ten alternatives were corrected since the April 8th meeting to reflect the HRTAC Initial Toll Policy on the HRELN ($0.06/mile) and were also consistent with the recommendations from the Bowers-Hill Interchange Improvement Study (see Modeling assumptions below).

- The WG members agreed on eliminating Alternative 7 under both design options A and B due to design limitations and low estimated traffic volumes.

- The WG members agreed and selected Alternatives 2, 3, 6, and 8 with Options A and B to be moved to the next step of the analysis. The motion passed unanimously to recommend these 8 Alternatives for the Steering Committee's consideration and approval at their next meeting to be scheduled in the June/July timeframe.

REGIONAL CONNECTORS STUDY

ATTACHMENT 5A- ALTERNATIVES 2,3,6,7,8

2

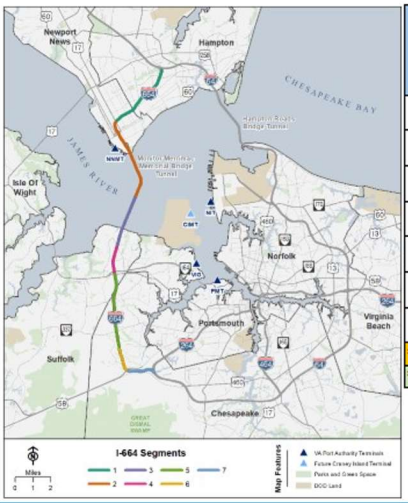
3

6

7

8

Modeling Assumptions



I-664 Roadway Segments	Actual Existing Lanes	MMMBT Design Option (6+2)	MMMBT Design Option (4+4)	Comments
I-64 to Terminal Avenue Interchange	6	6+2	6+4/2*	
Terminal Avenue Interchange to I-664 Connector	4	6+2	4+4	MMMBT
I-664 Connector to College Dr. (Exit 8)	4	6+2	4+4	
College Dr. (Exit 8) to VA 164**	6	6+4	6+4	Bowers Hill Study Area
VA 164 to Dock Landing Rd**	4	4+4	4+4	
Dock Landing Rd to US 58 (Bowers Hill)**	4	6+4	6+4	
US 58 (Bowers Hill) to I-264W**	8	8+4	8+4	
* Adds/drops second HOT lane at Powhatan Parkway				
**Per Bowers Hill Interchange Improvement Study				

Joint Steering (Policy) Committee and Working Group Electronic Meeting 06/22/2021

Item#5: **Regional Connectors Study Phase 3: Development of Preliminary Alternatives**

The Consultant Team provided an update of activities conducted since the October 27, 2020, Joint meeting. Mr. Craig Eddy reviewed Alternatives 1 through 8 as considered by the Working Group during the past several months. Mr. Eddy further indicated that the Working Group had eliminated Alternative 1 (high cost), Alternatives 4 and 5 (VA 164 Connector constraints and issues raised by the Navy, Army Corps of Engineers, and city of Portsmouth), and Alternative 7 (low estimated traffic volumes and design constraints). Lastly, Mr. Eddy shared with the members the four alternatives (Alternatives 2, 3, 6, and 8) under two design options A and B that were recommended by the Working Group for the Steering Committee's approval.

Motion: Chair Price requested the members for a motion to approve the Working Group's recommended alternatives and design options. Mr. Thomas (Norfolk) indicated that a funding request has been submitted to Congress for the Craney Island Access Study. He further requested the Chair to include Alternatives 5 and 7 in the final list of Preliminary Alternatives. Following some discussions and the absence of several members of the Policy Committee, Chair Price directed the staff to schedule a 30-minute electronic meeting the following week for the joint group to reconvene and act on this one item: selection of Preliminary Alternatives.

Joint Steering (Policy) Committee and Working Group Electronic Meeting 06/30/2021

Item#4: **Regional Connectors Study Phase 3: Development of Preliminary Alternatives**

The purpose of this meeting was for the members to vote on the Working Group recommended Alternatives 2, 3, 6, and 8 under two design options A and B (a total of 8 Alternatives). The design options pertain to the number of general purpose (GP) and managed (M) lanes on I-664 from its interchange with I-64 on the peninsula to its proposed interchange with the I-664 Connector over the Hampton Roads Harbor. Option A would provide 6 GP and 2 M while Option B would provide 4 GP and 4 M.

Mayor Price (Newport News) initiated this item by asking for a motion to move ahead with the alternatives recommended by the working group that were to be voted on at the previous week's (June 22) meeting. Mayor Tuck (Hampton) made a motion, and Mayor Glover (Portsmouth) seconded the motion.

Vice-Mayor Thomas (Norfolk) made a substitute motion. The substitute motion is to include Alternatives 5 and 7 in the study, due to the burden of truck traffic on Hampton Boulevard, the burden that will be imposed by the future Craney Island Terminal, and the possibility that these alternatives may be cheaper. Vice-Mayor Thomas (Norfolk) then mentioned the possibility of an additional $3.1 million in

federal earmark that was requested for a study to look at access to the future Craney Island Terminal. Mayor Dyer (Virginia Beach) seconded the substitute motion.

There was extensive discussion among the Steering (Policy) Committee members regarding the importance of Alternatives 5A, 5B, 7A, and 7B even though they had been recommended for removal. The addition of Alternatives 5A, 5B, 7A, and 7B, would result in twelve preliminary alternatives to be studied when added to the 8 recommended by the Working Group, which exceeds the number allowable (maximum of ten Alternatives) as per the scope of work. During the meeting, the Steering Committee was made aware of this scope limitation.

Motion: Vice-Mayor Thomas (Norfolk) amended his substitute motion. His amended substitute motion is to defer the action today to determine how much additional funding would be required to analyze 12 alternatives simultaneously through Phase 3 (including Alternatives 5 and 7) and to explore what additional money is available from HRTAC to fund the additional analysis. Mayor Tuck (Hampton) moved approval of the amended substitute motion; Mayor Dyer (Virginia Beach) seconded.

The Motion passed with five Yes votes and two No votes requiring:

- an estimated cost/per additional alternative (beyond 10)
- an inquiry as to the availability of additional funds from HRTAC for such study

RCS on Temporary Pause: July 2021 – September 2021

Following the June 30, 2021, Joint Steering (Policy) Committee/Working Group meeting, Robert Crum, HRPDC/HRTPO Executive Director collaborated diligently with the Committee members to resolve notable issues and develop a path forward to complete the RCS.

Joint Steering (Policy) Committee and Working Group Meeting 10/12/2021

Item #5: RCS Background and Recommended Path Forward:

Robert Crum, HRPDC/HRTPO Executive Director made a presentation on the path forward for the RCS. He began his presentation by introducing the consultant's new project leadership – Lorna Parkins and Paul Prideaux – and by highlighting the mandated segments and the past philosophy of the study.

Mr. Crum noted that he met with members of the Steering (Policy) Group after the June meeting. In these discussions he heard that some of the options in the RCS may not be constructed for decades; technology, community growth, and needs will evolve over time; there are questions and concerns about some segments but it's too early to eliminate them at this stage, the RCS should determine each segment's advantages and disadvantages, and ready-to-go projects shouldn't be slowed down.

Mr. Crum stated that HRTPO staff and the consultant team believe that retaining certain segments through the next stage of analysis can be accomplished without the need for additional funding. He added that each of these segments would be advanced to the next phase of this study, where an analysis would be completed on the degree to which each segment addresses the needs of the region.

Mr. Crum added that the cost, constructability, permitability and congestion relief of the various segments will be evaluated, and the various segments will be ranked using this evaluation and staged based on project readiness.

Mr. Crum concluded his presentation by noting the following potential category groupings:

- Those segments that are ready for advancement and should be recommended for consideration in the fiscally constrained portion of the Hampton Roads 2050 Long-Range Transportation Plan.
- Those segments which require further refinement and maturation and will be recommended for consideration in the 2050 Vision Plan as projects requiring further evaluation for permitability and constructability.
- Those segments that due to technical issues or other items will be retained but will warrant further consideration by the community at the appropriate time.

Motion: Mayor Dyer (Virginia Beach) made a motion to approve the recommended path forward and Mayor Duman (Suffolk) seconded. The motion was unanimously approved.

Item #6: RCS: Proposed Approach to Study Completion

Lorna Parkins (MBI) RCS Project Co-Manager noted that the mandated study segments have not changed. The updated methodology will simply sort the segments into chronological tiers based on readiness and known challenges associated with construction and permitting. She added that the updated Phase 3 Process will establish a tiering framework, apply the framework to tier the segments, evaluate congestion relief and finalize segments tiers, and provide the information for the 2050 LRTP and prioritization process.

Ms. Parkins added that there will be three tiers. Tier 1 will have favorable constructability, permitting and readiness; Tier 2 will have favorable or mixed constructability and permitting but less favorable readiness; and Tier 3 will be challenged for constructability and permitting and a higher degree of uncertainty.

Ms. Parkins noted that individual segments will be organized into bundles for analysis, and the congestion relief evaluation will include as many as three logical bundles for evaluation. The consultant team will evaluate congestion relief and other system effects of the bundles, and the evaluation results will finalize the tiering of the segments.

Mr. Jackson (Portsmouth) mentioned that the Working Group has had a strong role in the study to this point and asked if the Working Group will continue to have this role moving forward. Mr. Crum (HRTPO) replied that the Working Group will continue to be key in the technical work of the study. Mr. Crum

(HRTPO)also noted that committee members indicated a preference for more Joint Steering (Policy) and Working Group meetings moving forward.

Joint Steering (Policy) Committee and Working Group Meeting 12/07/2021 – Cancelled

2022

Joint Steering (Policy) Committee and Working Group Meeting 01/11/2022

Item# 5. Regional Connectors Study (RCS): Scope of Work and Schedule Update:

Ms. Lorna Parkins, RCS Co-Project Manager, briefed the Joint Committee members on the updated scope of work and schedule associated with the RCS. She stated that the updated methodology approved by the Steering Committee at the October 21, 2021, meeting will be used to evaluate and sort the RCS segments into chronological tiers based on readiness and known challenges associated with construction and permitting. She then provided a summary of the following three tiers:

- Tier 1
  - Favorable constructability and permitting
  - Favorable readiness
- Tier 2
  - Favorable or mixed constructability and permitting
  - Less favorable readiness
- Tier 3
  - Currently challenged for constructability and permitting
  - Higher degree of uncertainty/requires additional information

The updated Study process will consist of four steps:

- Step 1 – Draft Segment Tiering (3 months)
  - Qualitative assessment of construction, permitting, and readiness
- Step 2 – Final Segment Tiering (3 months) – to include updating the RCS 2045 Baseline Network
  - Congestion reduction evaluation
  - Revised design and cost estimation
- Step 3 – Full recommendations to the HRTPO (6 months)
  - Scenario analysis
  - Traffic operations analysis
- Step 4 – Final Report (4 months)

- Public engagement and documentation

Ms. Parkins stated that the consultant team will come back to the Joint RCS at the beginning of Step 2 to determine if any projects need to be added to the base network. She noted that although the schedule is tight, the consultant team should be able to make the original study completion date of June 2023.

Mr. Carl Jackson (Portsmouth) asked whether the Joint RCS was being asked to consider approving the updated study process or the baseline network. Ms. Parkins replied that the Joint RCS will be asked to vote on the updated study process.

Mayor Donnie Tuck (Hampton) stated that there were possible funding earmarks that may be brought forth from Congress and inquired to the status of the earmarks. Mr. Kevin Page, HRTAC Executive Director, replied that he was unaware of any federal funding at this time.

Motion: Mayor Rick West (Chesapeake) Moved to approve the revised RCS Scope of Work and Schedule; seconded by Mayor Donnie Tuck (Hampton). The Motion Carried.

Item# 6. Regional Connectors Study: Draft Evaluation Measures for Segment Tiering

Ms. Lorna Parkins stated that as noted in her previous presentation regarding the revised scope of work, the mandated RCS segments will be evaluated utilizing the following criteria:

- Permitting Issues
- Construction Complexity
- Project Readiness
- Congestion Relief

Ms. Parkins noted that the consultant team has developed a series of draft measures and factors for evaluating the mandated segments on the first three criteria. She summarized each criterion and stated that this evaluation will provide a comprehensive understanding of the mandated segments including impacts to community residents and businesses, environmental justice populations, regional economic drivers, and the environment.

She indicated that the outcome of this evaluation will provide logical information, supported by qualitative and quantitative observations, which will support the initial draft designation of the mandatory segments into three tiers as described in the revised scope of work.

Ms. Amy Inman (Norfolk) inquired as to the quality of evaluating the segments with these measures based on unknown traffic impacts. Ms. Parkins acknowledged that there are unknown factors; however, the impacts on the segment alignments will be initially based on the current level of engineering.

Motion: Mayor Rick West (Chesapeake) Moved to approve the draft Evaluation Measures; seconded by Mayor Donnie Tuck (Hampton). The Motion Carried.

REGIONAL CONNECTORS STUDY

Joint Steering (Policy) Committee and Working Group Meeting 04/26/2022

Item# 5. Regional Connectors Study (RCS): Qualitative Evaluation of Mandated Segments and Segment Bundling (Action Requested)

At the January 11, 2022, Joint Meeting, the Steering Committee approved a four-step process for moving forward. Ms. Lorna Parkins, RCS Co-Project Manager (MBI), presented the results of Step 1 "Qualitative Evaluation of Mandated Segments and Bundling of Segments". Dale Stith (HRTPO) provided the members a quick review of the HRTPO long-range transportation planning process.

Ms. Parkins described the assumed characteristics of the five mandated segments analyzed, and presented qualitative findings for each segment in the following categories:

- Construction Complexity
- Permitting Issues and Key Environmental Impacts
- Project Readiness

- ✓ Carl Jackson (Portsmouth) expressed concern about possible undercounting of property takes for the VA 164 Widening segment.
- ✓ Concerning the I-664 Connector segment, Lesley Dobbins-Noble (COE) suggested a high impact rating due to the Section 408 process for Craney Island.
- ✓ Concerning the VA 164 Connector segment, Steve Jones (Naval Station Norfolk) asked whether it had been changed to at-grade where it crosses the fuel depot.
- ✓ Kevin Page (HRTAC) noted that a crash wall is not required in the 99-year railroad permit. He also suggested that the southern portion of the I-664 segment—included in HRTAC's 2045 long-range plan of finance (to be approved by HRTAC in June) be considered "a given" and to be included in the RCS 2045 "baseline".
- ✓ Ms. Parkins noted that that is one of her recommendations.
- ✓ Mayor Price (Newport News) mentioned that VDEQ is studying the air-quality effects of the coal piles which may be impacted by widening of the northern portion of I-664.

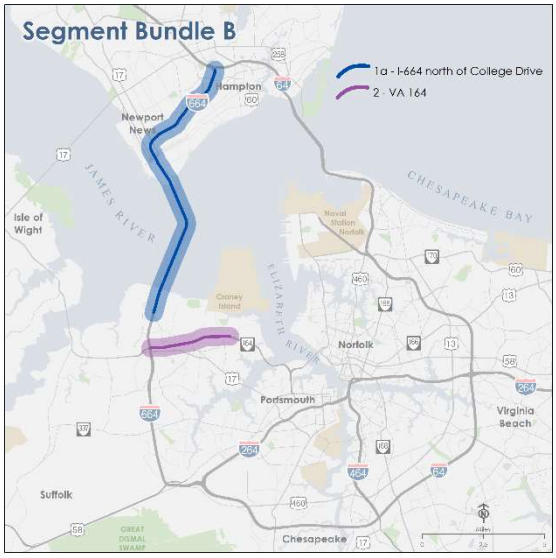
Ms. Parkins presented recommended bundling of segments (four bundles) to be used in the measurement of benefits in the congestion relief evaluation and economic impacts analysis.

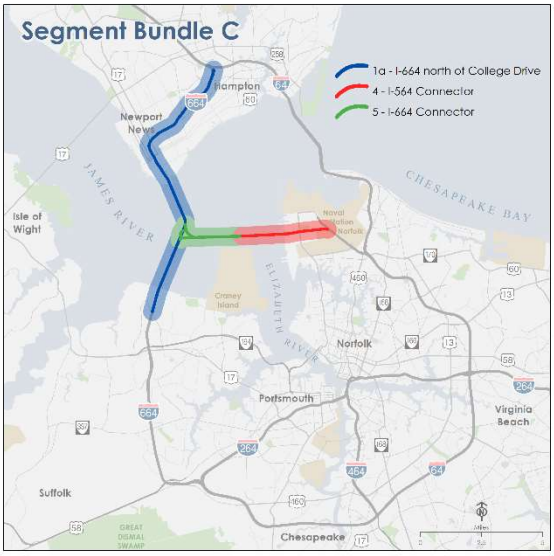
Recommendations for approval:

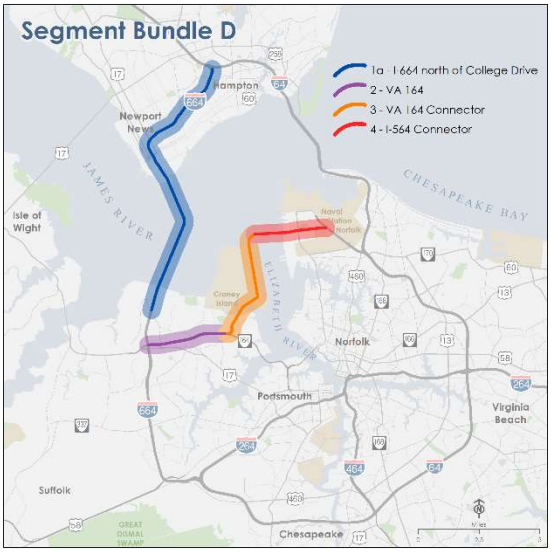
- Placing the southern portion of the I-664 segment in the RCS 2045 "baseline".
- Bundling segments into four bundles (A, B, C, and D, as shown below) for analysis of benefits.

Motion: Mayor Tuck (Hampton) moved to approve the above recommendations; seconded by Mayor Dyer (Va. Beach). The motion carried.


Segment Bundle A
1a - I-664 north of College Drive
Hampton
Newport News
Isle of Wight
JAMES RIVER
CHESAPEAKE BAY
ELIZABETH RIVER
Norfolk
Portsmouth
Virginia Beach
Suffolk
Chesapeake


Segment Bundle B
1a - I-664 north of College Drive
2 - VA 164
Hampton
Newport News
Isle of Wight
JAMES RIVER
CHESAPEAKE BAY
ELIZABETH RIVER
Norfolk
Portsmouth
Virginia Beach
Suffolk
Chesapeake


Segment Bundle C
1a - I-664 north of College Drive
4 - I-564 Connector
5 - I-664 Connector
Hampton
Newport News
Isle of Wight
JAMES RIVER
CHESAPEAKE BAY
ELIZABETH RIVER
Norfolk
Portsmouth
Virginia Beach
Suffolk
Chesapeake


Segment Bundle D
1a - I-664 north of College Drive
2 - VA 164
3 - VA 164 Connector
4 - I-564 Connector
Hampton
Newport News
Isle of Wight
JAMES RIVER
CHESAPEAKE BAY
ELIZABETH RIVER
Norfolk
Portsmouth
Virginia Beach
Suffolk
Chesapeake

REGIONAL CONNECTORS STUDY

Joint Steering (Policy) Committee and Working Group Meeting 08/09/2022

Item #5. Regional Connectors Study: Step 1: Qualitative Evaluation of Mandated Segments and Segment Bundling – Comments and Responses

Ms. Parkins discussed the Phase 3 Process Graphic and noted that the study is currently in Step 2 which includes the congestion reduction evaluation, revised design, and cost estimation. At the end of Step 2 draft segments will be tiered, which will be followed by public meetings.

Ms. Parkins reminded the group of the definition of project segments vs. bundles, followed by how segments will be classified using tiers. Tier 1 will include segments that are ready for advancement and recommended for consideration in the HRTPO 2050 LRTP. Tier 2 will include segments which require further refinement and will be recommended for consideration in the HRTPO 2050 Vision Plan. Tier 3 will include segments that due to technical challenges and uncertainties will be further developed at an appropriate time in the future.

Ms. Parkins detailed the comments that were received from committee members on the mandated segments. These comments include:

- The City of Portsmouth provided comments on the VA 164 Widening, including recommending further refinement of alignment assumptions, looking at local impacts and local opposition, analyzing stormwater management concerns, and incorporating Environmental Justice concerns.
- The Navy provided comments on the VA 164 Connector. These comments reflect the security requirements of the Navy Fuel Depot and fuel pipeline facilities, and also the strategic nature of both the Fuel Depot and the Colonial Pipeline.
- The Navy also provided comments on the I-564 Connector. These comments include the security requirements of the Navy Fuel Depot, height restrictions due to flight paths, security concerns at Gate 6 and at Piers 1-3, and changing assumptions for the ATI interchange along the I-564 Intermodal Connector.
- The US Army Corps of Engineers (USACE) Operations provided comments on the VA 164 Connector. These included updated data on Craney Island, concerns on Craney Island operations, and Section 408 permit requirements.
- The USACE Regulatory also provided comments, including comments on independent utility, future permitting requirements, wetland impacts and remediation, Environmental Justice concerns, and endangered species evaluations.
- The Port of Virginia provided comments supportive of the VA 164 and I-564 Connectors. They also noted that security concerns can be resolved during later stages of project development after further planning and conceptual design.

Ms. Parkins added that it is very helpful to receive all these comments, particularly for constructability, permitting, and readiness considerations.

No Action was required for this item.

Item #6. Regional Connectors Study: Step 2 – Congestion Reduction Evaluation and Economic Impacts Analysis

Mr. Prideaux introduced the topic by noting that Michael Baker used the HRTPO 2045 Regional Travel Demand Model to evaluate improvements. They looked at both regionwide results and results at key facilities and prepared a summary of economic results.

Mr. Prideaux discussed the segment bundles that were analyzed:

- Segment Bundle A is comprised of Segment 1a (I-664 north of College Drive).
- Segment Bundle B is comprised of Segment 1a (I-664 north of College Drive) and Segment 2 (VA 164)
- Segment Bundle C is comprised of Segment 1a (I-664 north of College Drive), Segment 4 (I-564 Connector), and Segment 5 (I-664 Connector)
- Segment Bundle D is comprised of Segment 1a (I-664 north of College Drive), Segment 2 (VA 164), Segment 3 (VA 164 Connector) and Segment 4 (I-564 Connector)

Mr. Prideaux noted that Segment 1b (I-664 south of College Drive) was included in the 2045 RCS Baseline Network, based on a decision made at the last RCS meeting.

Mr. Prideaux provided highlights on the congestion analysis for the regionwide results. He noted that total regional travel levels are similar for the 2045 baseline and all four bundles, but vehicle-hours of travel and delay are reduced with all four bundles because of reduced congestion. He also noted that Bundles C and D have the greatest benefit on vehicle-hours of travel and delay. Mr. Prideaux added that Bundles C and D have the largest reduction in the share of congested travel, which would lead to improved travel time reliability.

Mr. Jackson (Portsmouth) asked if we could further determine whether Bundle C or Bundle D would have the greatest reduction in congestion. He expressed his concern that Bundle D has many more issues than Bundle C. Mr. Prideaux and Ms. Parkins replied that they would provide further analysis on these bundles with the upcoming cost effectiveness analysis.

Ms. Parkins provided a summary of the economic impact analysis. She highlighted the societal benefits of each Bundle in 2045 relative to the 2045 baseline conditions and noted that Bundle D had the highest societal benefits, largely due to time and reliability savings. Ms. Parkins also highlighted the regional economic impact in 2045 relative to 2045 baseline conditions, in terms of increase in the Gross Regional Product. Bundle D has the most cumulative benefit, with most of that being due to impacts of Segment 1a.

Mayor Price (Newport News) asked if we could determine how certain potential large economic development projects that could increase housing and population levels would impact congestion. Ms. Parkins replied that this will be looked at as part of the scenario analysis, with the three scenarios of Greater Growth on the Water, in Urban Centers, and in Suburban Centers.

Mr. Crum (HRTPO) mentioned the escalating costs of the HRBT project through the years and noted that there are costs associated with waiting. Mr. Crum (HRTPO) asked if we could get into these costs of waiting in the RCS in terms of escalating construction costs. Mayor Price (Newport News) added that escalating costs through the years was also an issue for the CBBT project. Ms. Parkins replied that their team will think about how to represent this opportunity cost in the study.

Mr. Stringfield (VDOT) asked if all the bundles include Bundle A, which improves the Monitor-Merrimac Memorial Bridge tunnel. Ms. Parkins replied that yes, all four bundles include improvements at the tunnel. Ms. Parkins added that they have been coordinating with HRSD in terms of the proposed alignment of improvements to I-664.

Mayor Tuck (Hampton) asked about increasing costs and the ability to fund projects now versus years in the future. Mr. Crum (HRTPO) replied that this is a conversation for this group to have with the HRTPO Board as the study progresses with costs provided by the consultant. Ms. Parkins added that there is about a year left remaining on the study, and then that question should be addressed in the HRTPO Long-Range transportation planning process.

No Action was required for this item.

Item #7. Regional Connectors Study: Phase 3: Public Engagement Plan – Proposed Outreach Plan

Ms. Parkins introduced the proposed outreach plan by noting that strategies have changed due to the pandemic. She noted that the plan no longer is to take a preferred alternative to the public, but rather to take the tiering of projects to the public. The plan is now for a more hybrid approach. This will include four in-person meetings (Lower Peninsula, Norfolk, Suffolk, and Portsmouth), three pop-up meetings (including events spread out geographically), and more online engagement to reach those unable to attend in-person meetings.

Ms. Parkins highlighted maps showing demographics and transit routes to help with determining the four proposed meeting locations.

Mr. Stringfield (VDOT) asked about online engagement, and whether they are planning to run an online survey to accompany each public meeting or are they planning to run a single survey throughout the entire public involvement period. Ms. Parkins replied that public meetings will be on the front end of the public involvement period and that the survey will continue to be available afterward for the full public involvement period.

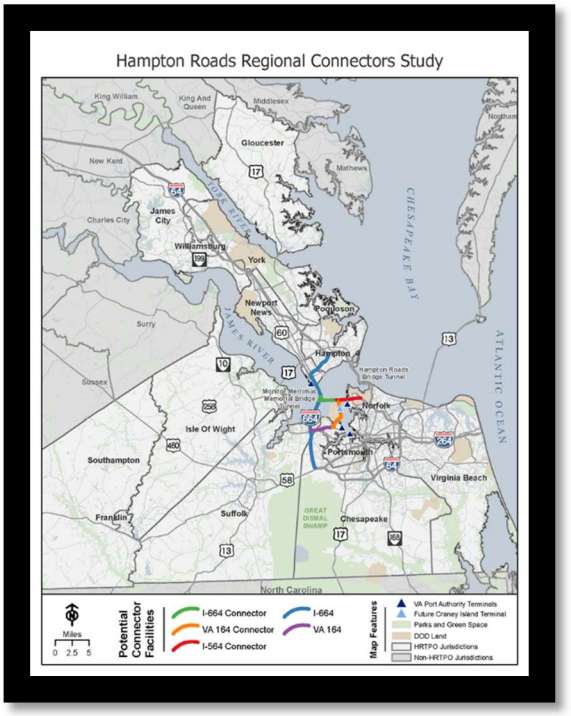
Mayor Glover (Portsmouth) noted that public meetings in that area of Portsmouth are typically held at Churchland High School, since it is a larger venue.

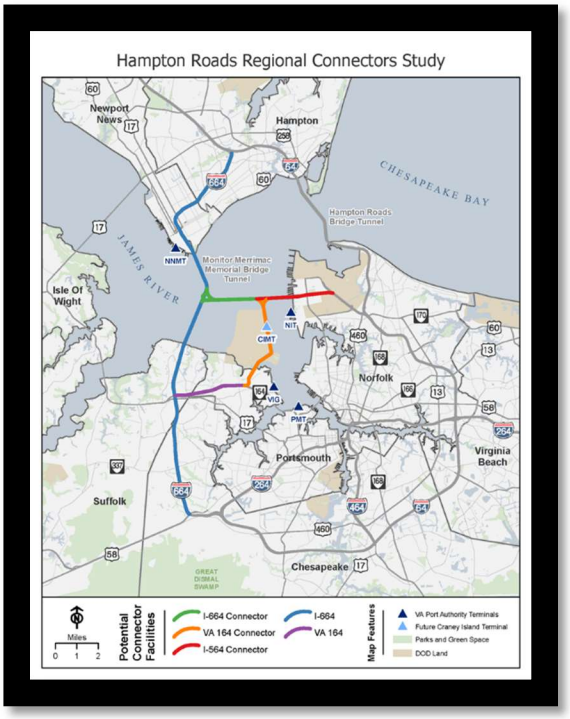
Ms. Parkins wrapped up the presentation by noting that a discussion of possible locations for pop-up meetings, such as at fall festivals, will be discussed at the next meeting.

No Action was required for this item.

REGIONAL CONNECTORS STUDY

APPENDIX A – STUDY AREA





REGIONAL CONNECTORS STUDY

Appendix B: Funding

Description Budget/Cost	
Phase 1	$359,497
Phase 1 (Supplement)	$3,784
Phase 2 (Interim)	$779,199
Phase 2 (Supplement)	$709,637
Phase 2 (Supplement Omission)	$96,746
Phase 3	$4,062,710
Subtotal amount (Consultant)	$6,011,573
Contingency	$80,638
Total Amount (Consultant)	$6,092,211
RCS Project Coordination	$322,000
HRTPO staff expenses	$535,756
Grand Total	**$6,949,967**

Funded by HRTAC, Administered by HRTPO

the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

HRTAC
Hampton Roads Transportation Accountability Commission