



REGIONAL CONNECTORS STUDY

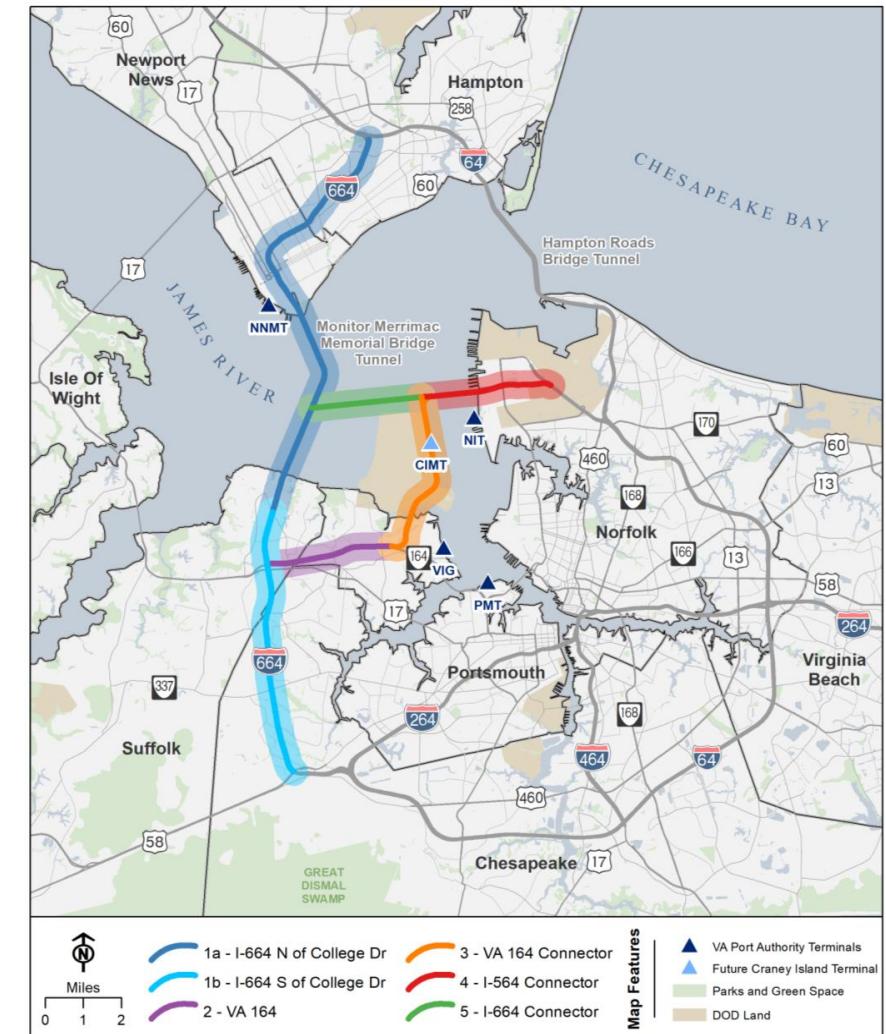
**STEERING (POLICY) COMMITTEE AND WORKING GROUP MEETING
AUGUST 9, 2022**

Michael Baker
INTERNATIONAL

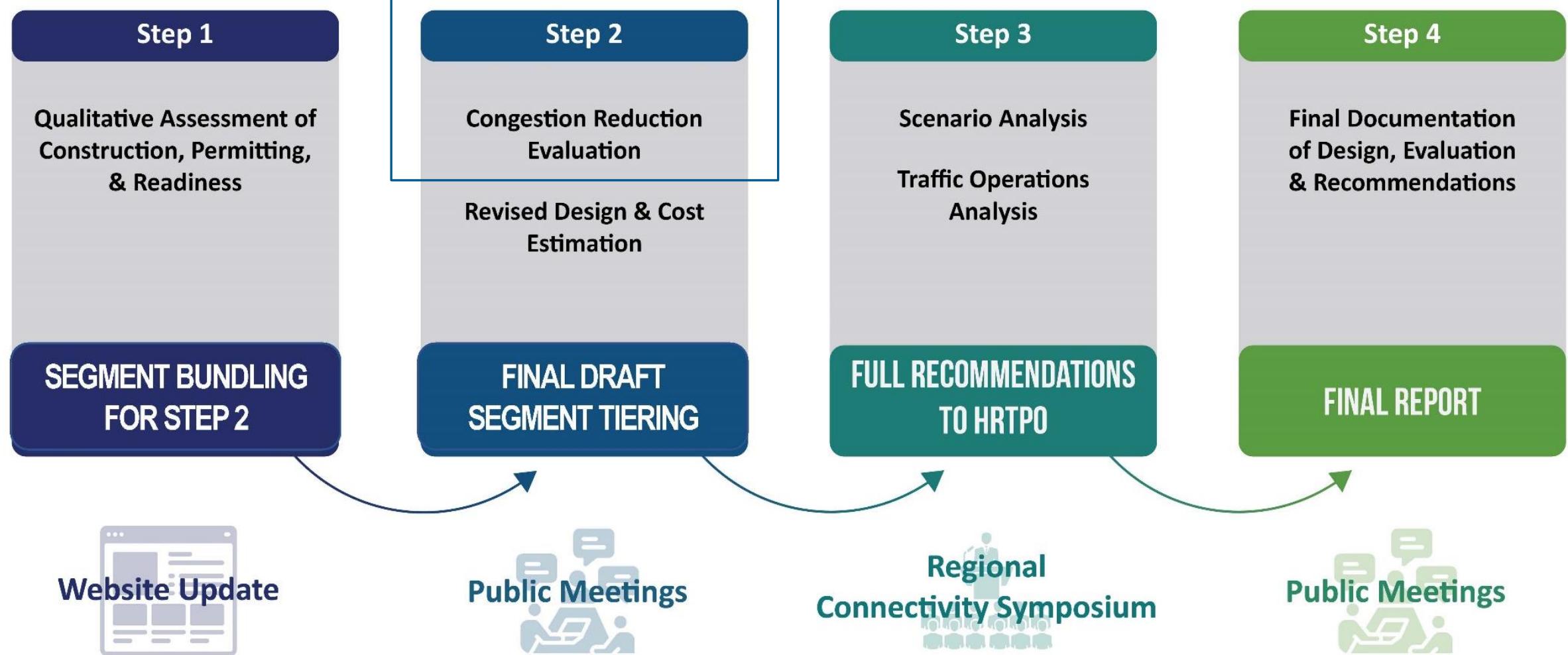
RCS Phase 3 – Agenda

- Qualitative Evaluation of Mandated Segments and Segment Bundling - Comments and Responses
- Congestion Reduction Evaluation and Economic Impact Analysis
- Public Engagement Plan – Proposed Outreach
- Next Steps

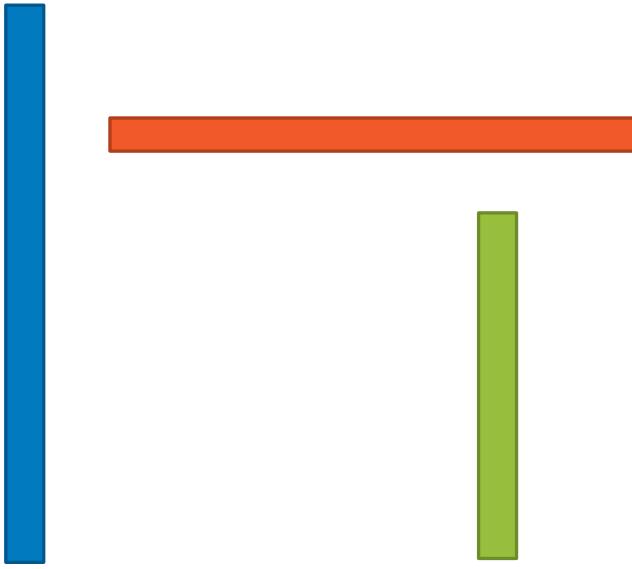
Mandated Segments



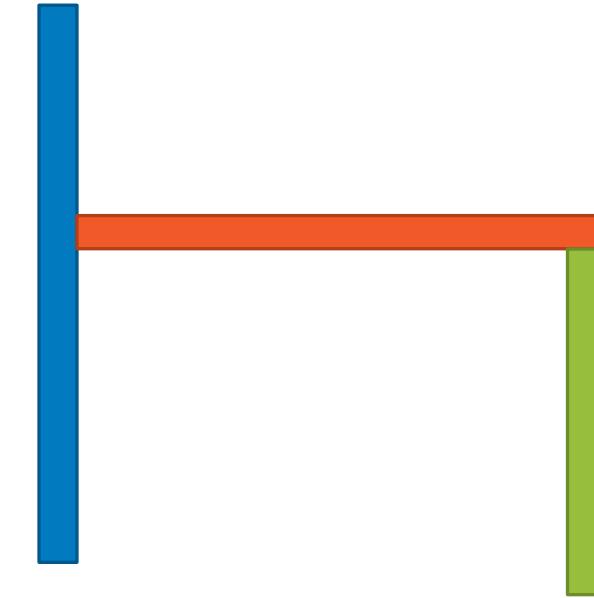
Phase 3 Process Graphic



Segments vs Bundles



SEGMENTS



BUNDLE

Tiering

SEGMENT TIERING

Tier
1

Segments ready for advancement and recommended for consideration in the fiscally constrained portion of the 2050 HRTPO Long Range Transportation Plan.

Tier
2

Segments which require further refinement and maturation, and will be recommended for consideration in the 2050 Vision Plan, as developed by the HRTPO.

Tier
3

Segments that due to technical challenges and uncertainties, will be further developed at an appropriate time in the future.



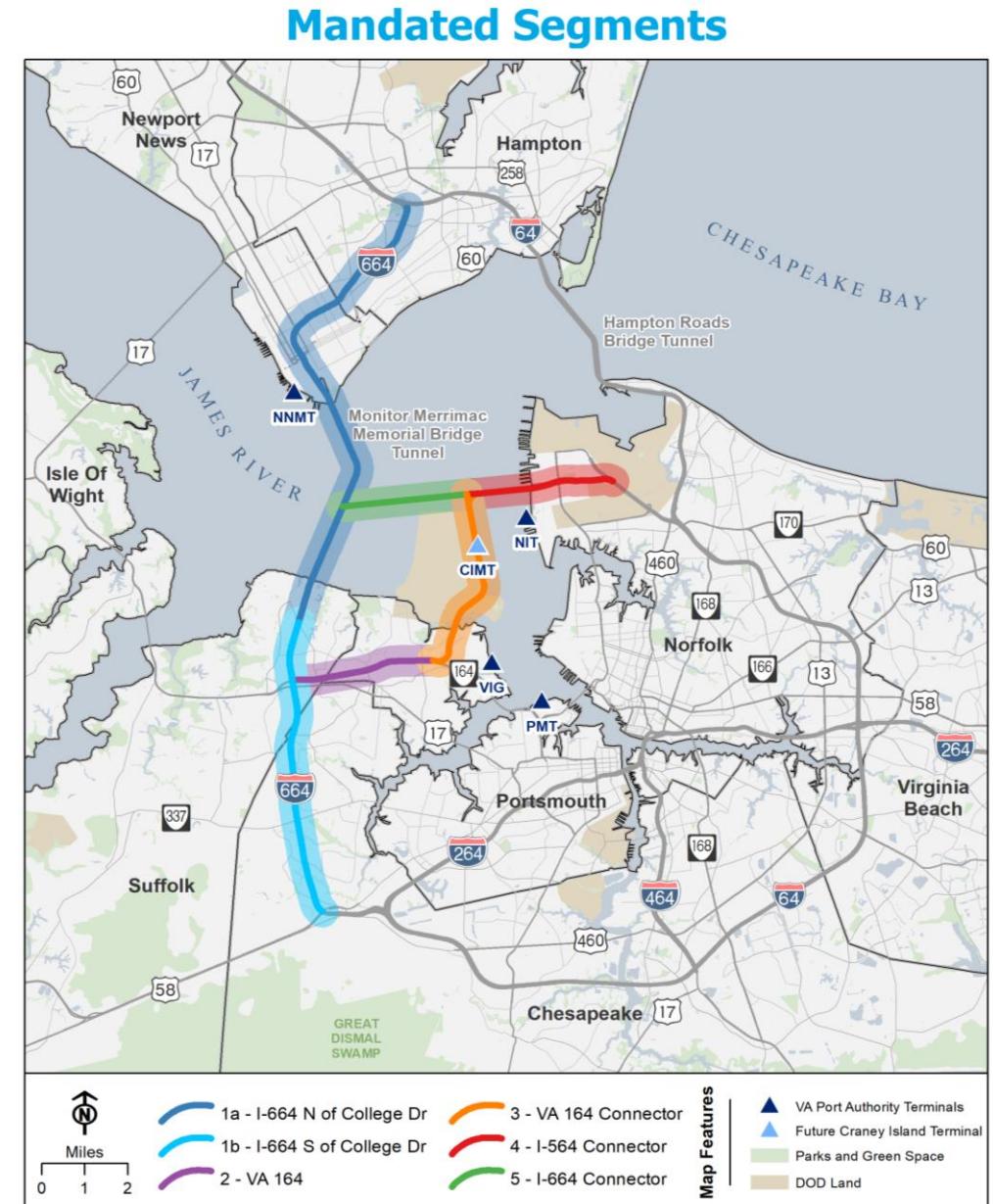
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QUALITATIVE EVALUATION OF MANDATED SEGMENTS AND SEGMENT BUNDLING - COMMENTS AND RESPONSES

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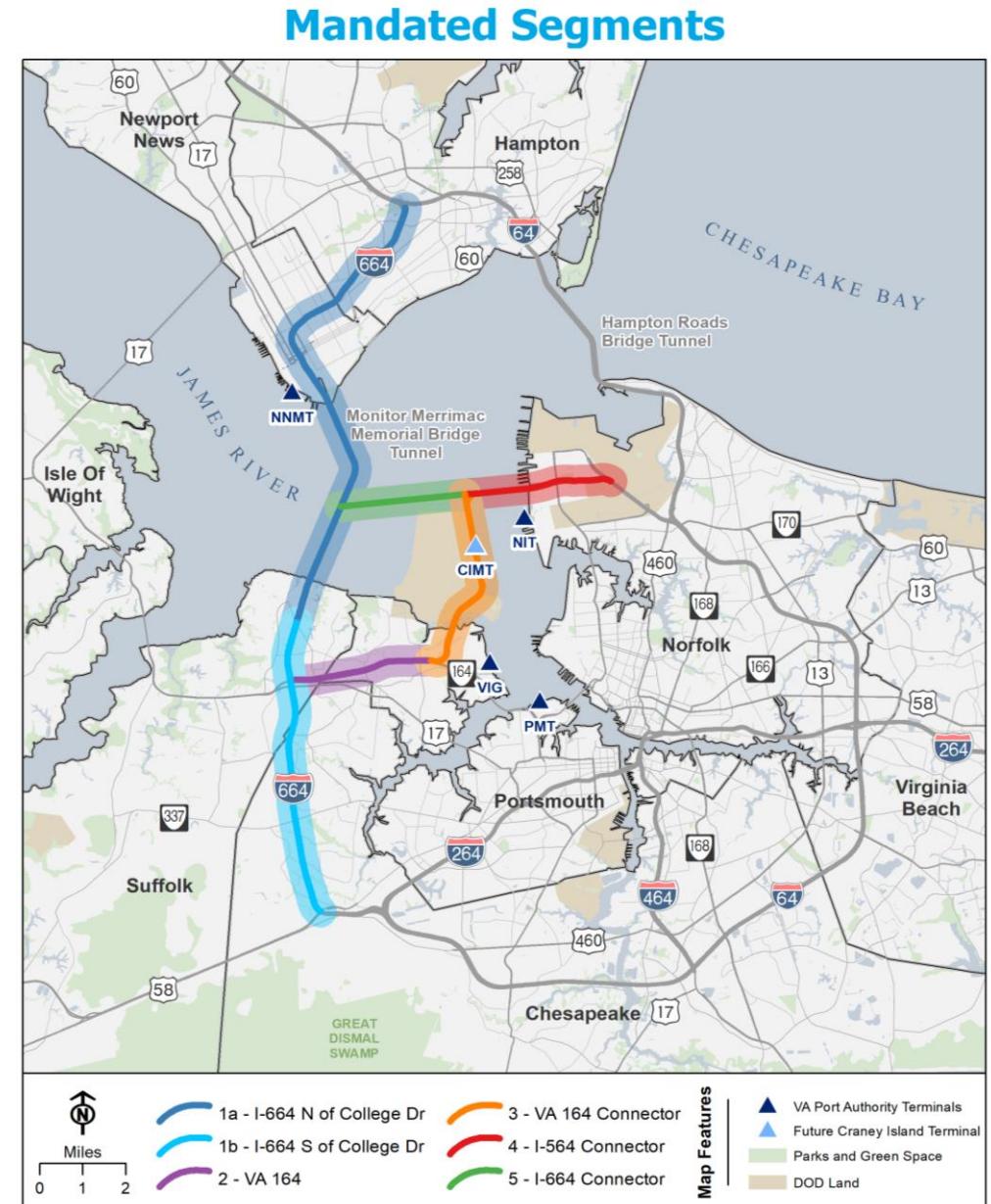
Comments Received

- Portsmouth – VA 164 Widening
 - Alignment assumptions need refinement
 - Ratings re: local impacts and local opposition
 - Environmental Justice
 - Stormwater management
- US Navy – 164 Connector
 - Security Requirements of Navy Fuel Depot
 - Security Requirements of Fuel pipeline facilities
 - Strategic nature of the Fuel Depot and Colonial Pipeline



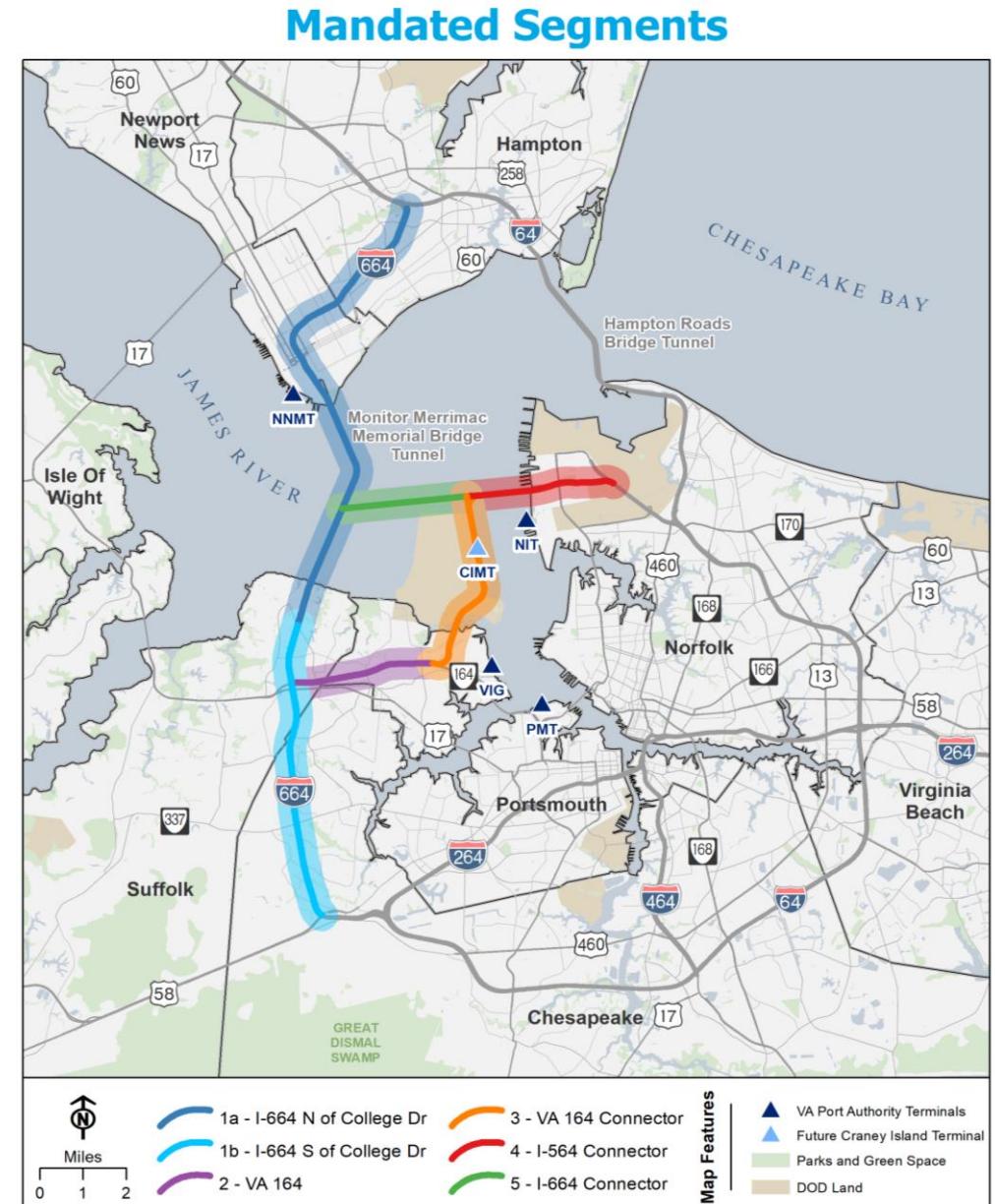
Comments Received

- US Navy – I-564 Connector
 - Security Requirements of Navy fueling facility
 - Height restrictions of facilities in flight paths (including construction limitations)
 - Strategic nature of the Fuel Depot and Colonial Pipeline
 - Security concerns proximate to/in view of Gate 6
 - Security concerns proximate to NSN piers 1-3 including construction limitations
 - Changing assumptions re: ATI interchange and I-564 Intermodal Connector



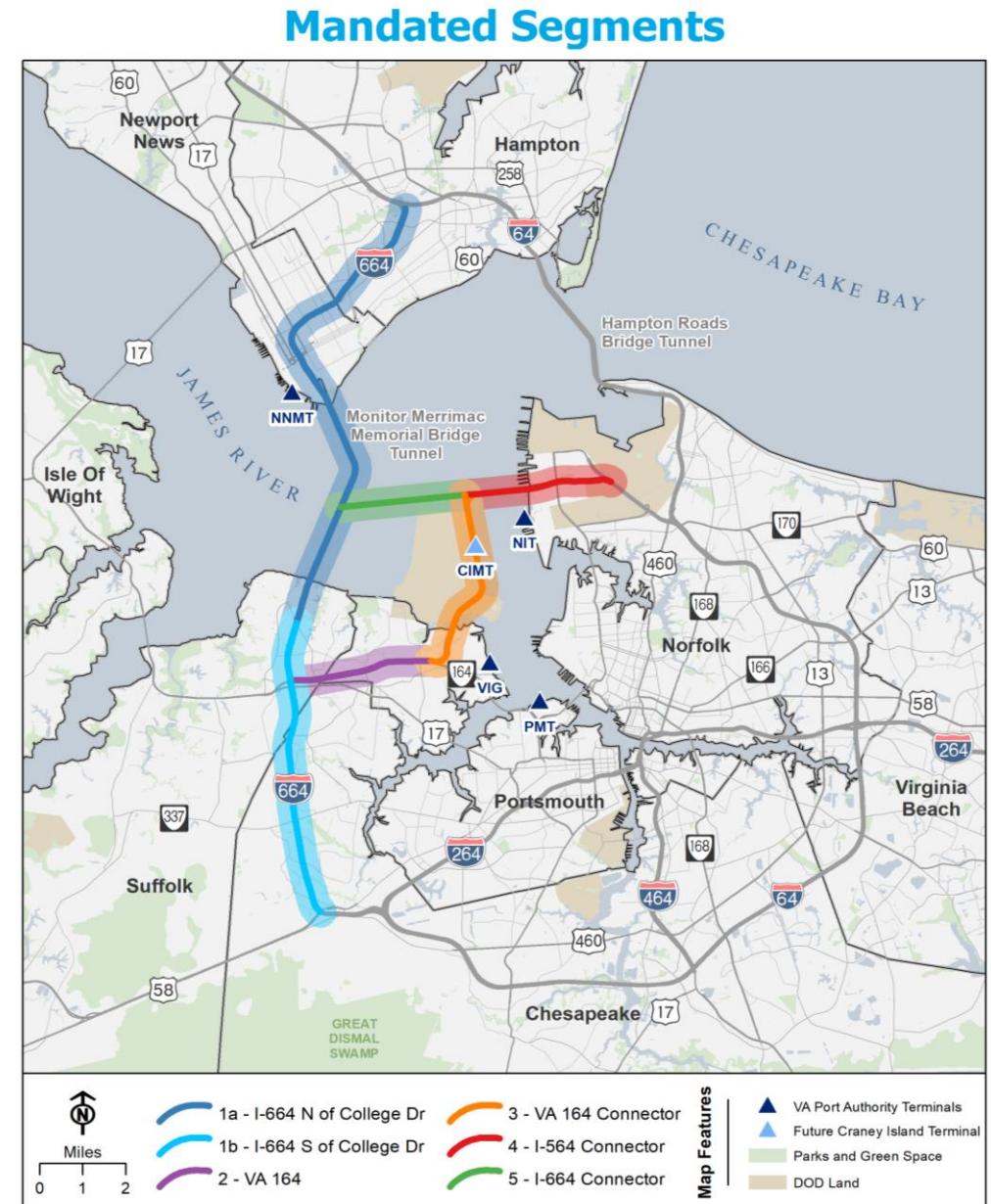
Comments Received

- USACE Operations –164 Connector
 - Provided updated GIS data of CIDMMA
 - East-side Craney Island operations concerns and clearance requirements
 - Section 408 Permit requirements
- USACE Regulatory
 - Reference to June 2016 letter re: 164 Connector
 - Independent utility reminder
 - Various future permitting requirements/considerations
 - Wetland impact & remediation reminders
 - Environmental justice
 - 164 Connector Section 408 rating should be higher
 - Benthic & Endangered Species evaluations & measures



Comments Received

- Port of Virginia
 - Supportive of I-564 and VA-164 Connectors
 - Confident that Navy and Port security concerns can be resolved during later stages of project development
 - Continue progress on planning and conceptual design



Comment Responses – Overview and Impacts to Study

- Very helpful to constructability, permitting and readiness considerations that should be documented at this stage and factor into qualitative ratings as well as cost estimates (i.e., contingencies)
- Some concerns can be addressed in the Step 2 evaluation update based on the additional engineering analysis of corridors
- Good documentation of key issues that will need to be addressed at future stages of project development – provides continuity and does include some new issues/considerations related to security in particular
- Acknowledge that the circumstances and standards in place at the time of later design should drive corridor location and design decisions, for example, I-564 proximity to sensitive Navy facilities
- Port comments received after meeting agenda was released. Responses will be prepared shortly



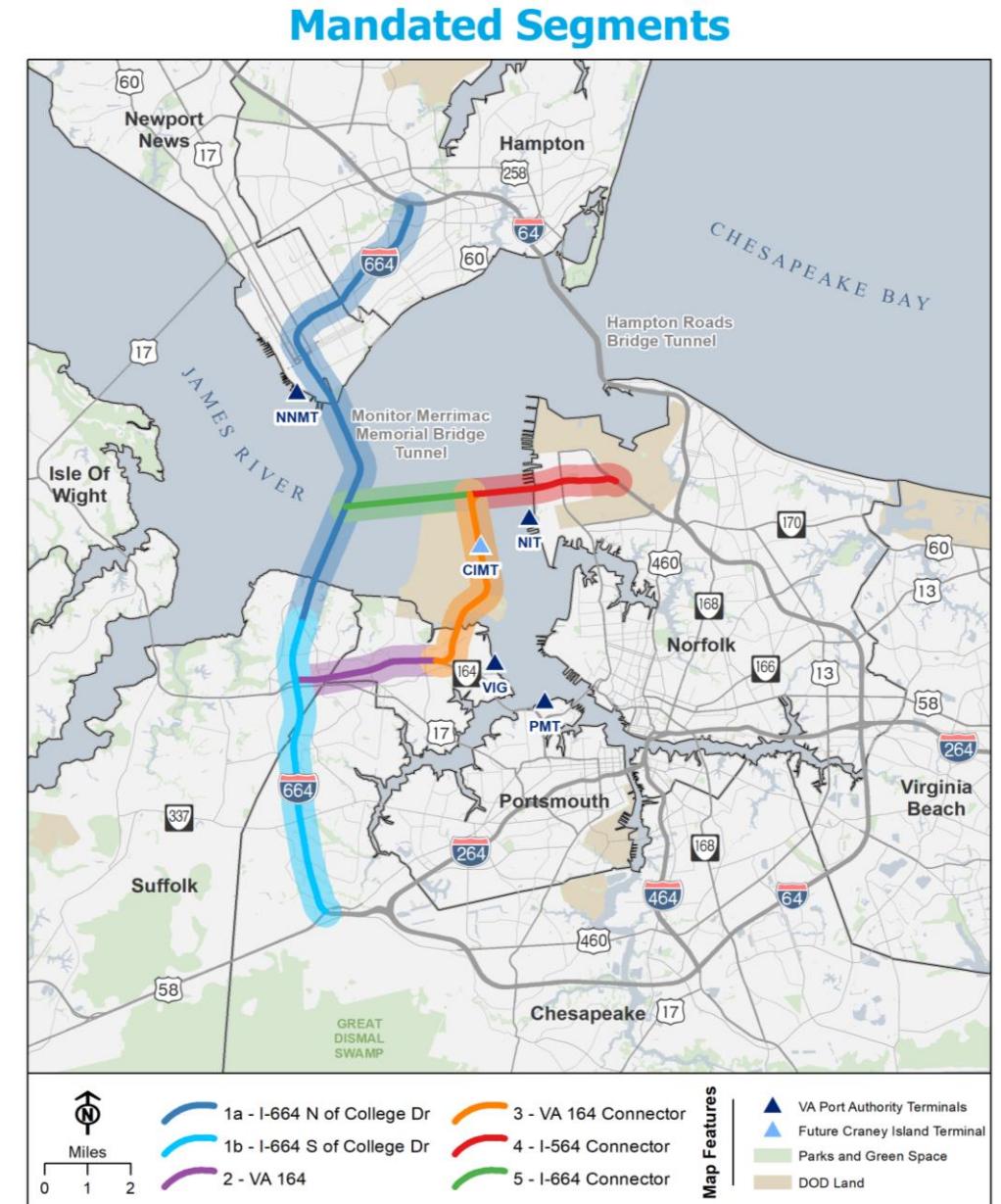
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CONGESTION REDUCTION EVALUATION AND ECONOMIC IMPACT ANALYSIS

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Overview

- Summary of Congestion Results
 - Regional Results
 - Key Facilities
- Summary Economic Results



Segment Bundle A



Segment Bundle B

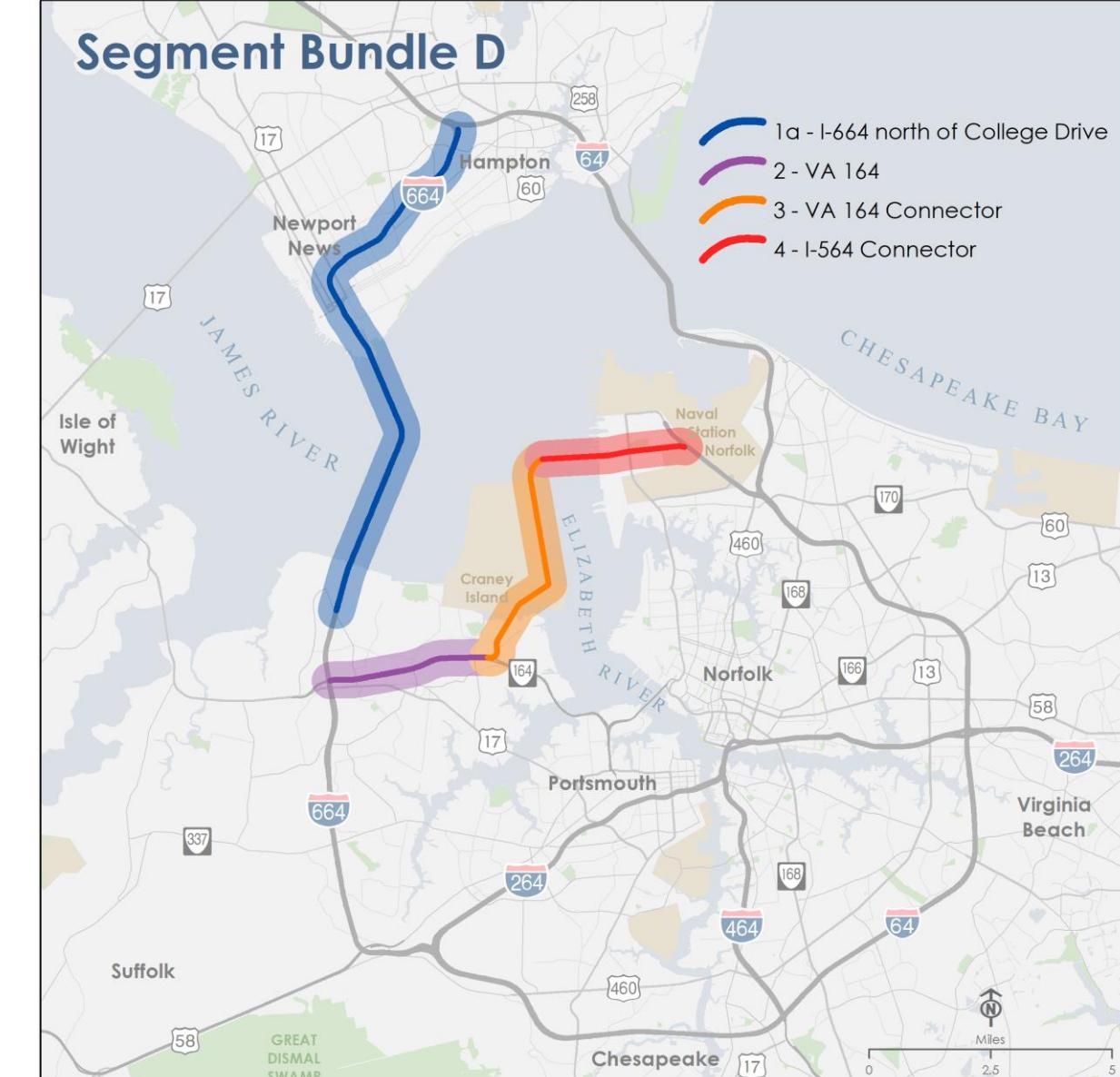


Segment 1b (I-664 South of College Drive) included in the 2045 RCS Baseline Network

Segment Bundle C



Segment Bundle D



Segment 1b (I-664 South of College Drive) included in the 2045 RCS Baseline Network

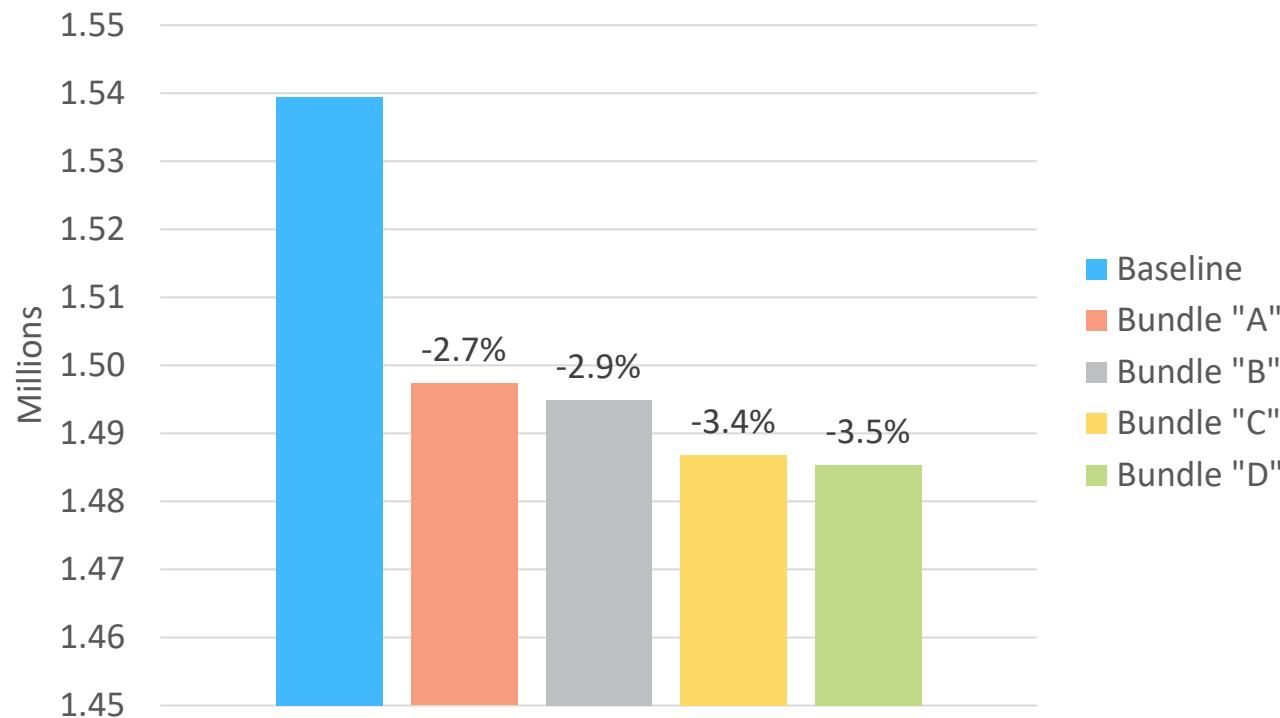
Congestion Analysis Takeaways – Regional Results

- Total regional travel levels (vehicle miles of travel - VMT) are similar for the 2045 baseline and all four bundles, but vehicle **hours** of travel are reduced with all four bundles. This is a result of reduction of congestion.
- Additional harbor crossing capacity reduces travelers' delay (the additional time spent driving due to congested conditions) by 10-14% daily and 12-17% in the peak periods relative to the 2045 baseline.
- Bundles C and D have the greatest cumulative effect on congestion.

Cost estimates for segments (next meeting) will bring greater insight on cost-effectiveness of the congestion benefits

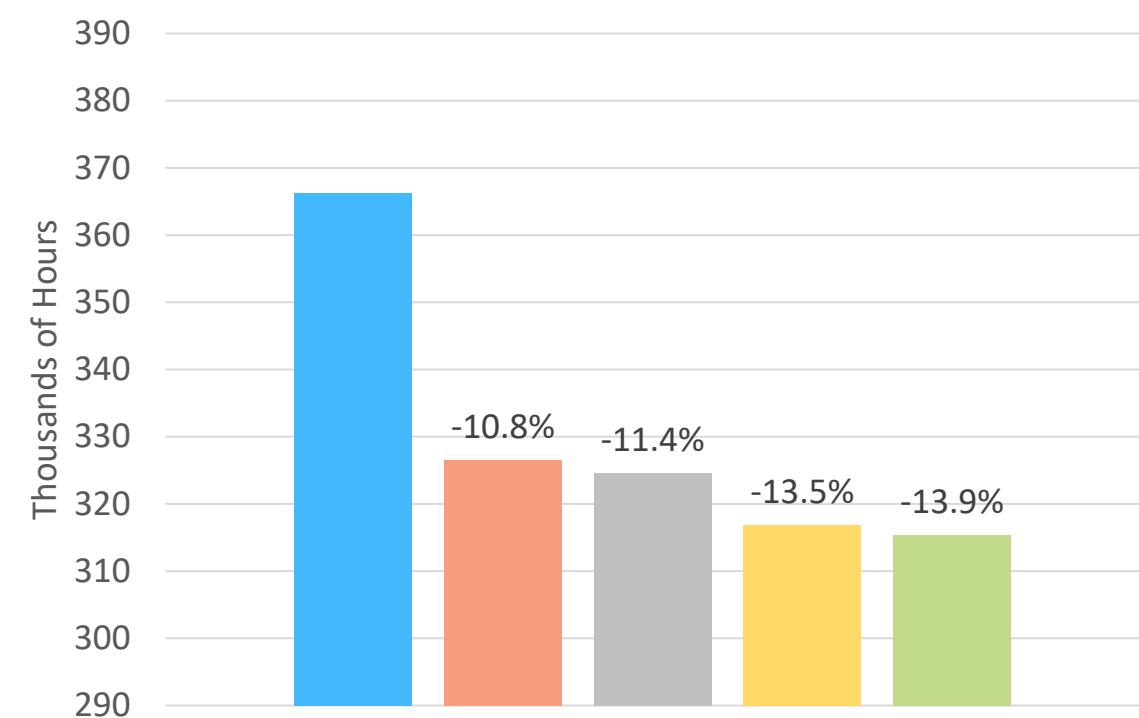
Regional Results of Congestion Analysis

2045 Regional Vehicle Hours of Travel



Vehicle hours of travel is the cumulative time of travelers spent on all the regional roadways

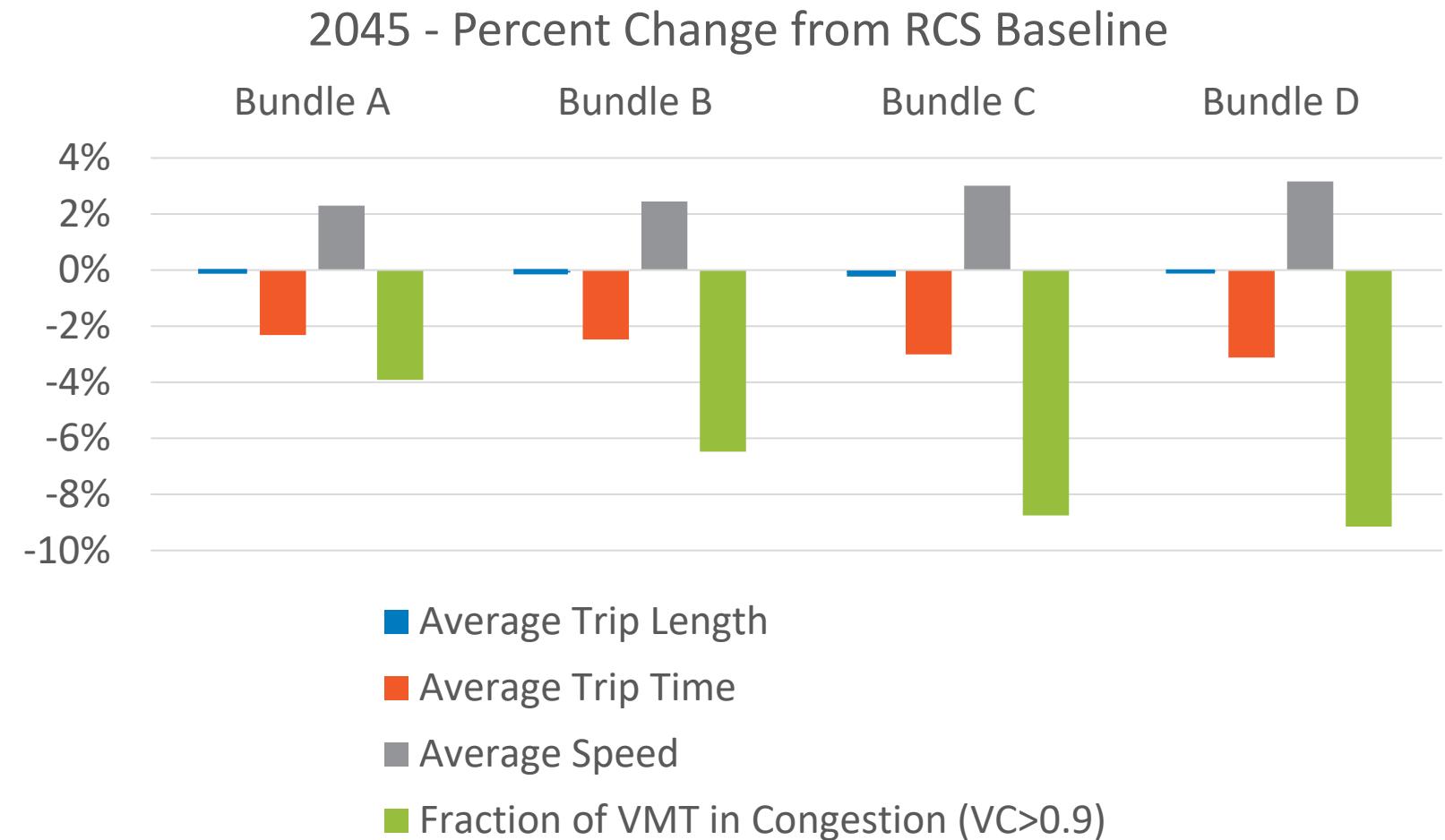
2045 Regional Delay



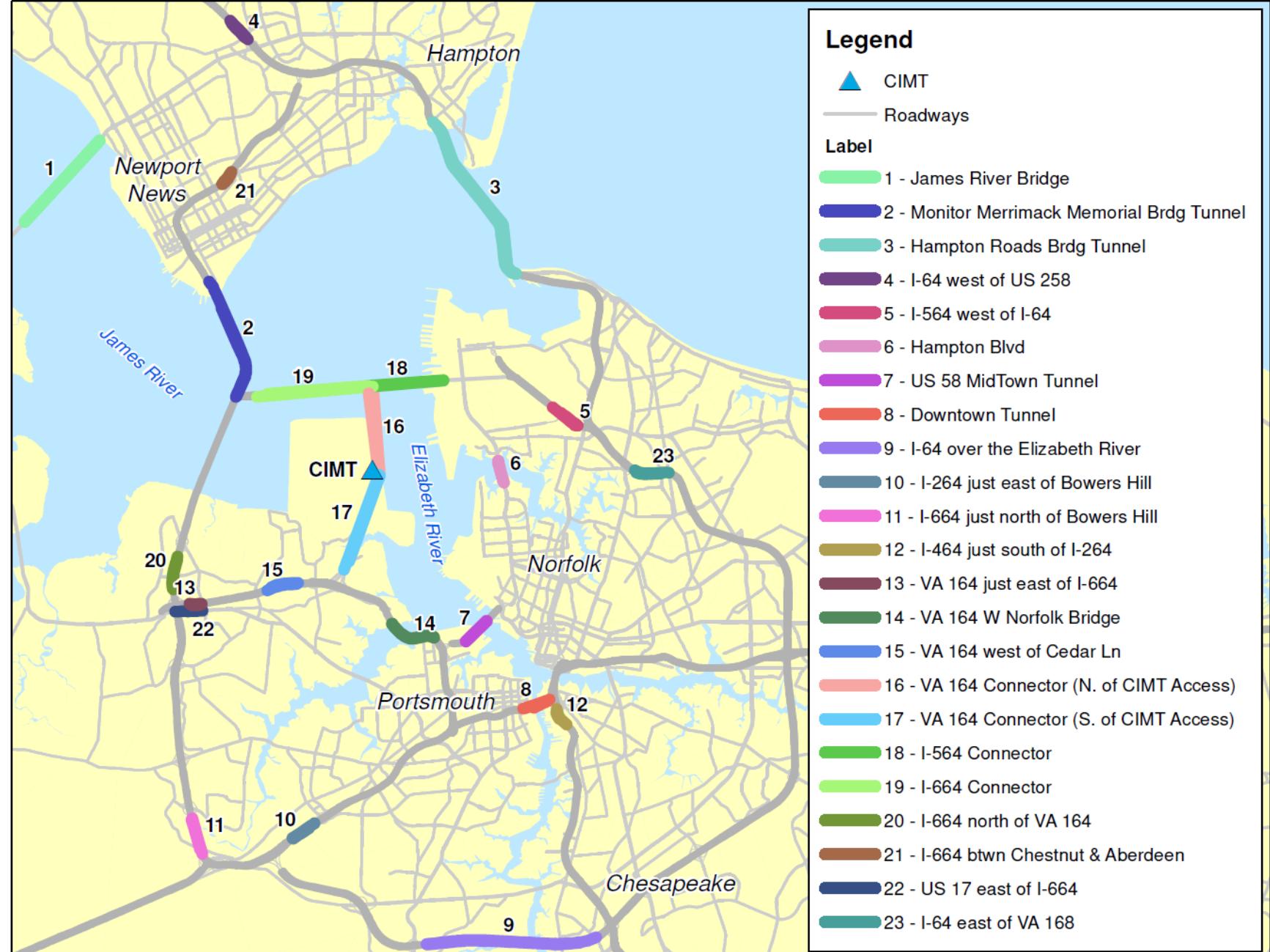
Delay is the amount of vehicle hours of travel spent due to traffic congestion

Congestion Analysis Takeaways – Regional Results

- Average trip length varies little
- Average trip time decreases
- Average speed increases
- Share of congested travel decreases significantly, leading to improved reliability



Locations Examined in Congestion Analysis



Example Congestion Analysis Findings – Key Facilities

- Hampton Roads Bridge Tunnel sees some relief from the bundles
 - Reduced peak period volumes and increased speeds in managed lanes; less overall benefit to the general-purpose lanes
- Comparing the 2045 Baseline and Bundles, Bundle A results in the highest daily volumes across the three existing North-South harbor crossings while Bundle D results in the lowest volumes.
- Midtown and Downtown tunnels have slightly higher daily volumes with Bundles A and B, and 5-6% lower volumes with Bundles C and D
- Hampton Boulevard has lower daily volumes in Bundles C and D compared to the 2045 baseline, providing some congestion relief.



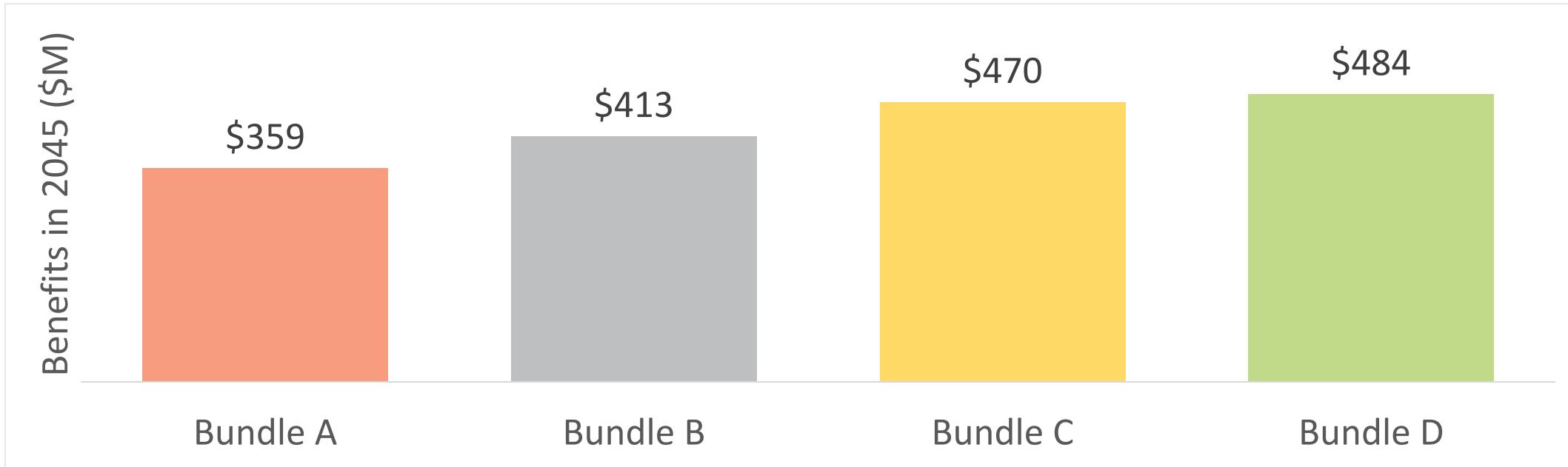
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SUMMARY ECONOMIC IMPACT ANALYSIS

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Societal Benefits in 2045

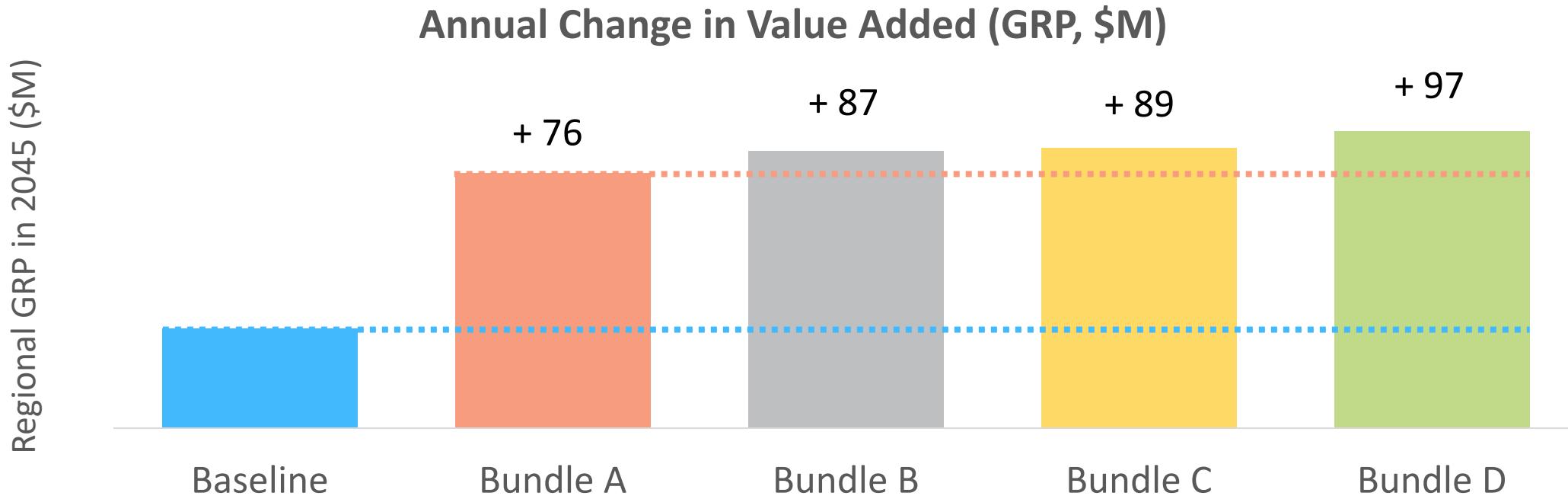
(Annual, \$M, benefits of each bundle are relative to 2045 baseline)



- Benefits dominated by time and reliability savings
- Very minimal effects related to VMT reductions (emissions, safety, vehicle operating costs)

Regional Economic Impact in 2045

(Annual, \$M, incremental effects relative to 2045 baseline)



- Greatest incremental economic impacts from Segment 1A in Bundle A
- Greatest overall economic value from Bundle D

GRP – Gross Regional Product (total value of production minus intermediate goods and services). The 2020 GRP was \$154 B.



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PUBLIC ENGAGEMENT PLAN – PROPOSED OUTREACH

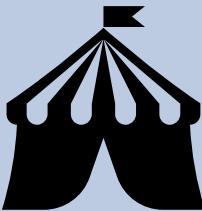
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Updates to Public Meetings Plan



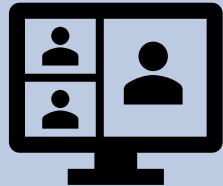
Four In-Person Meetings

- Lower Peninsula, Norfolk, Suffolk, Portsmouth



Three Pop-Up Meetings

- Add geographic coverage, go to people at events



Online Engagement

- Reach parties unable to attend meetings

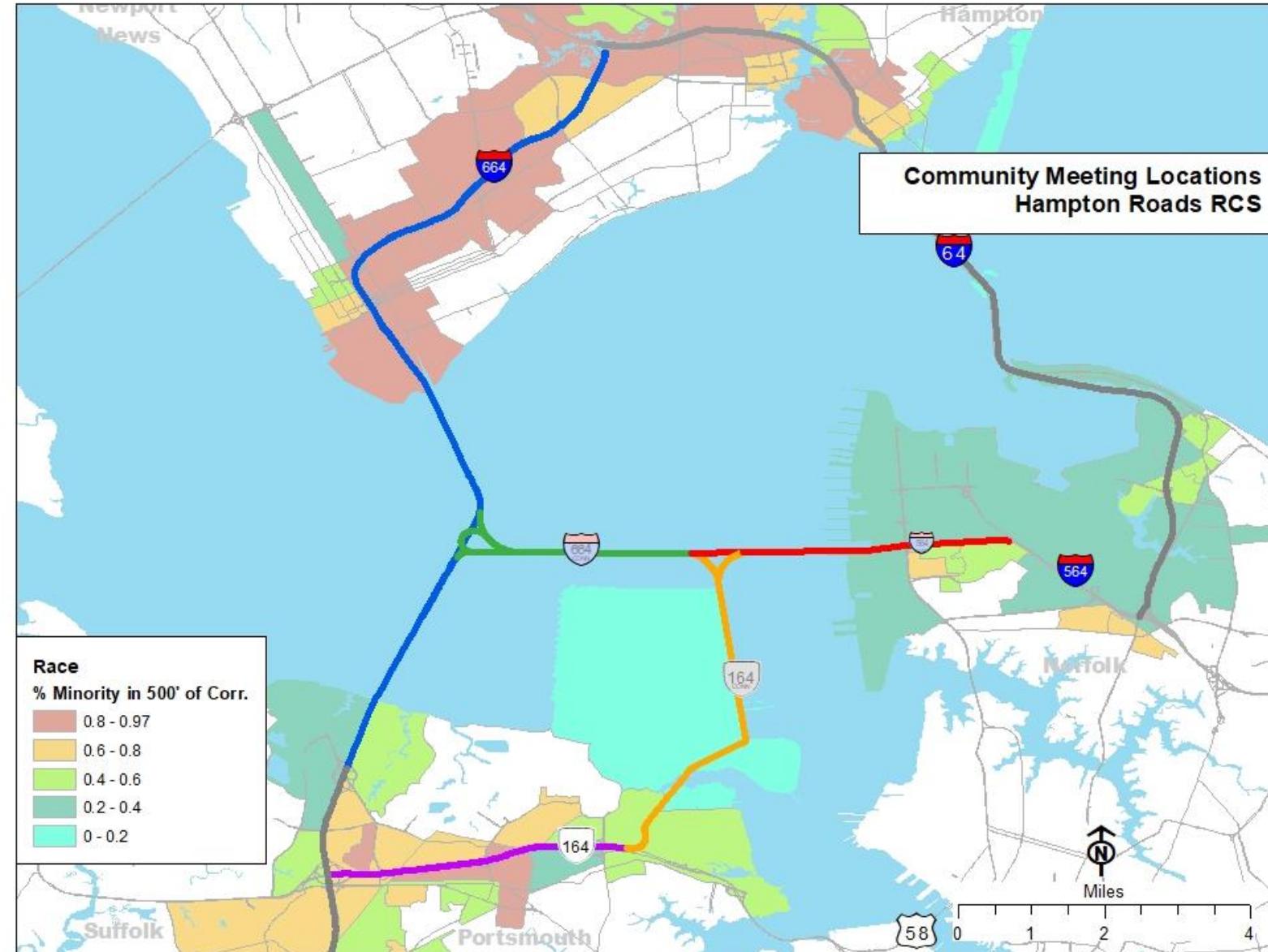
Proposed Meeting Locations Map

With Transit and
Demographics



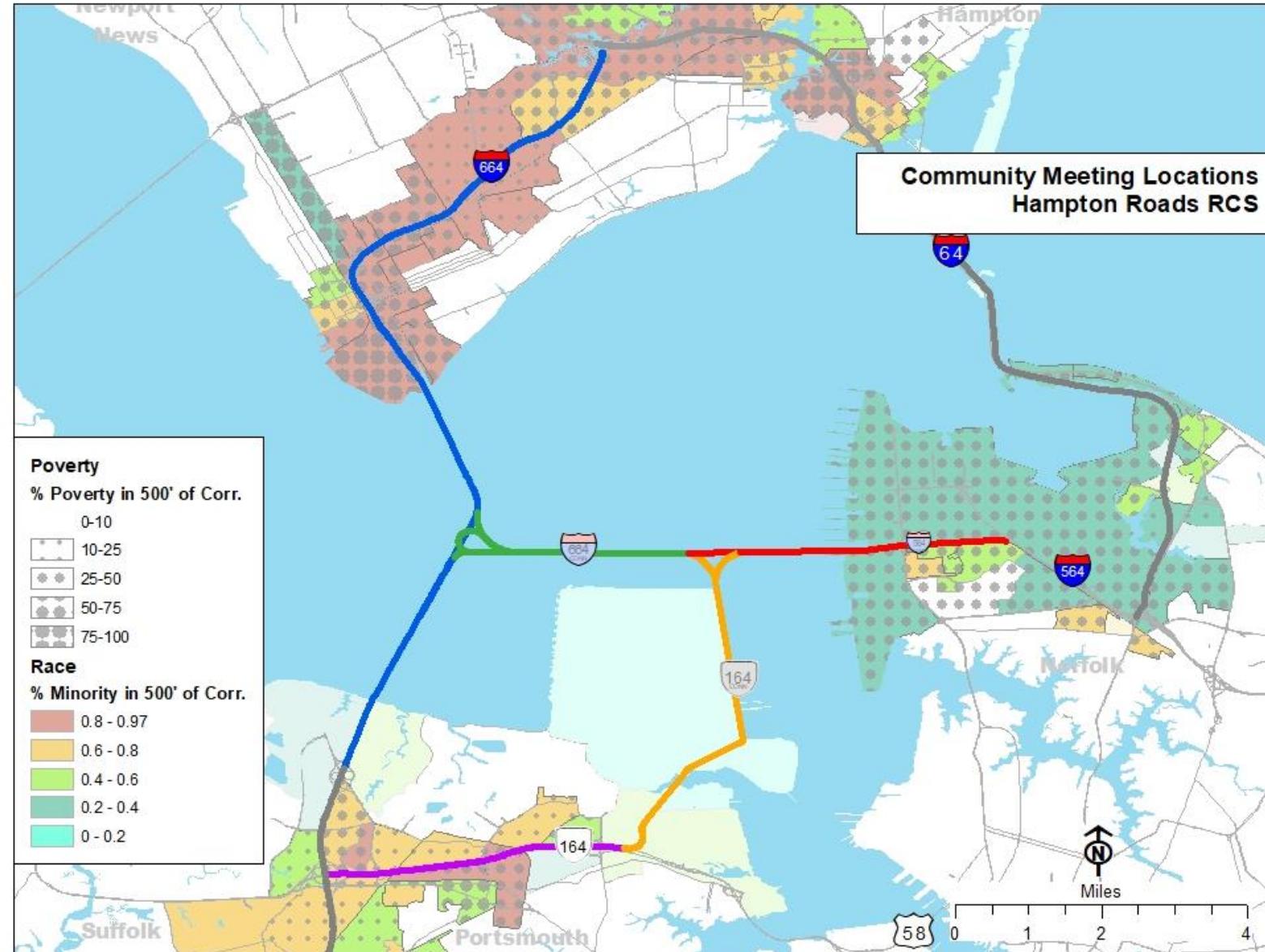
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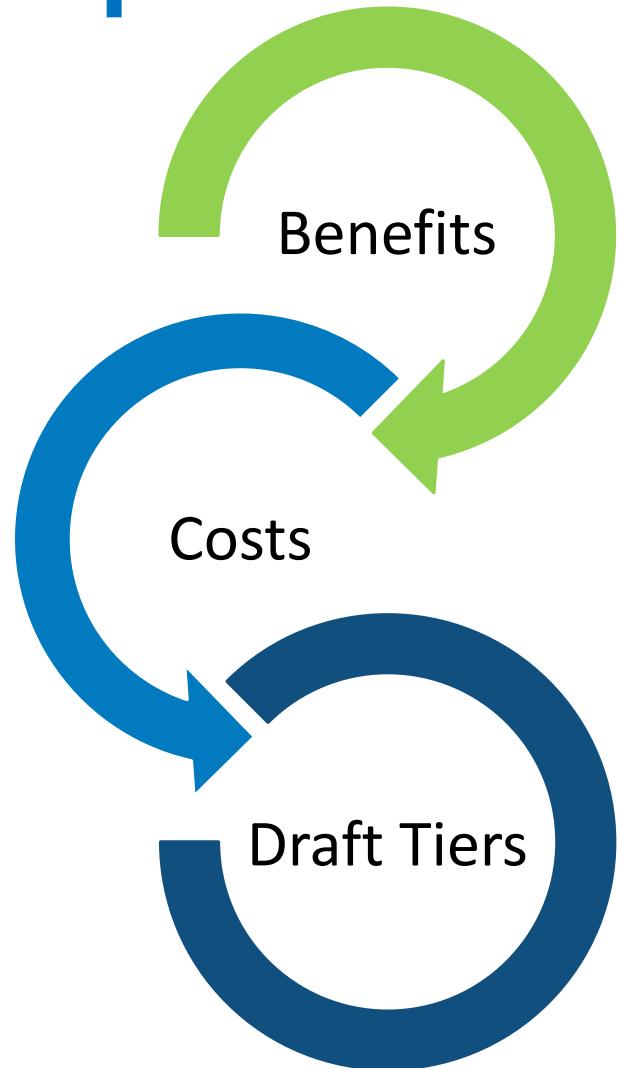


Proposed Meeting Locations Map

With Transit and
Demographics



Next Steps



Next Meeting:
September 27

Step 2

**Congestion Reduction
Evaluation**

**Revised Design & Cost
Estimation**

**Final Draft
Segment Tiering**