the heartbeat of HAMPTON ROADS TPO
TRANSPORTATION PLANNING ORGANIZATION

REGIONAL CONNECTORS STUDY

WORKING GROUP MEETING

February 11, 2021

Michael Baker INTERNATIONAL

Meeting Purpose

- Convey work activity since January 14, 2021 meeting
- Get final decision on preliminary alternatives (combinations of mandated segments) – **ACTION NEEDED**

Activity Since January 14, 2021 Working Group Meeting

- Continued work on draft Technical Guide for Scenario Evaluation (draft by Feb 18)
- Completed and circulated Travel Behavior Data Review memorandum
- Continued preparation for Scenario Planning - Virtual Public Meeting
- Held separate meetings with Corps/Navy and with Port
- Conducted constrained model runs for 3 combinations of mandated segments

Scenario Planning – Virtual Public Meeting

- Purpose
  - Present the greater growth scenarios
  - Document scenario development process & findings and provide an opportunity for the public to engage
- Components
  - Scenario Planning section of project website
  - Pre-recorded presentation of the Scenario Analysis
  - MetroQuest interactive survey
- Timeframe: February 10 – 24
  - https://connectorstudy.org/get-involved/

Corps of Engineers Letter – June 29, 2016

- Mission tries to avoid impair to civil works or be injurious to the public
- 60% or greater design plans needed to render official opinion
- Alternatives must not:
  - Obstruct or restrict navigable access
  - Interfere with vertical clearance requirements for vessels
  - Reduce capacity of containment cells
  - Impact maintenance and construction on Craney Island

Meeting Summary – Corps of Engineers and Navy – January 29, 2021

- 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 proposed Navy Fuel Depot expansion for safety and security reasons and may require walls to further safeguard from potential security threats
- 164 Connector alignments are disruptive to Craney Island maintenance and operations and pose safety/security concerns for the Navy
- Definitive permitability interpretation by Corps requires a minimum plan development of 60%

Meeting Summary – Port of Virginia – February 5, 2021

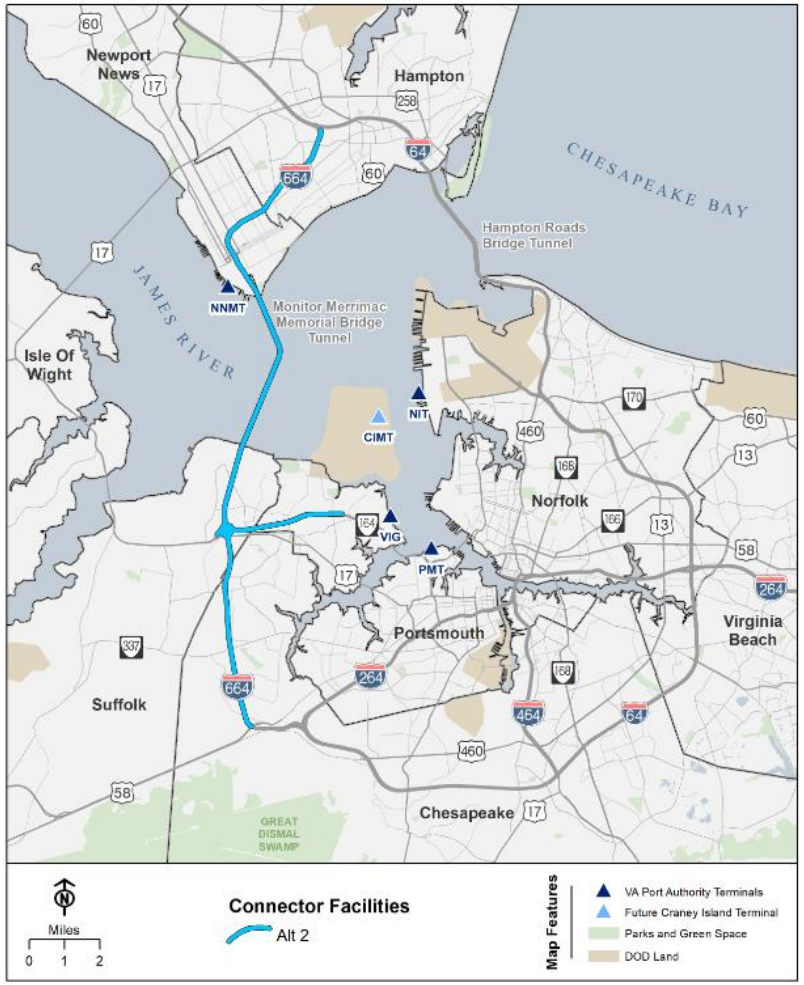
- Port needs road and rail access to proposed Craney Island Marine Terminal
- Without the 164 Connection, access opportunities are severely limited
- Waiting until lifespan of Craney Island expires does not dovetail into Port's plans (2035 First Phase of Expansion)
- Other access options should be explored

Constraints

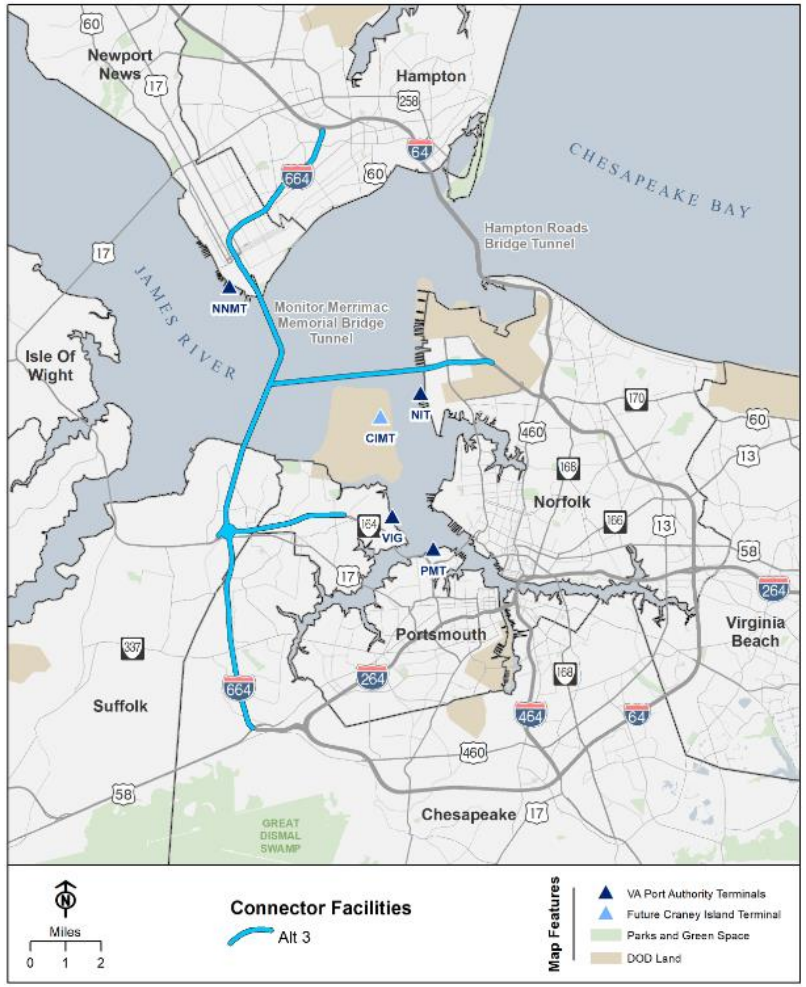
Modeling Runs

- Ran travel demand model for 3 combinations of mandated segments with all mandated segments constrained like the rest of the network:
  - Alternative 2 - I-664 and VA 164
  - Alternative 3 - I-664, I-664 Connector, I-564 Connector, and VA 164
  - Alternative 5 - I-664, I-564, VA 164, and VA 164 Connector
- Prepared matrix to illustrate volume differences between 2017, 2045 Baseline and the 3 combinations of segments in unconstrained and constrained conditions

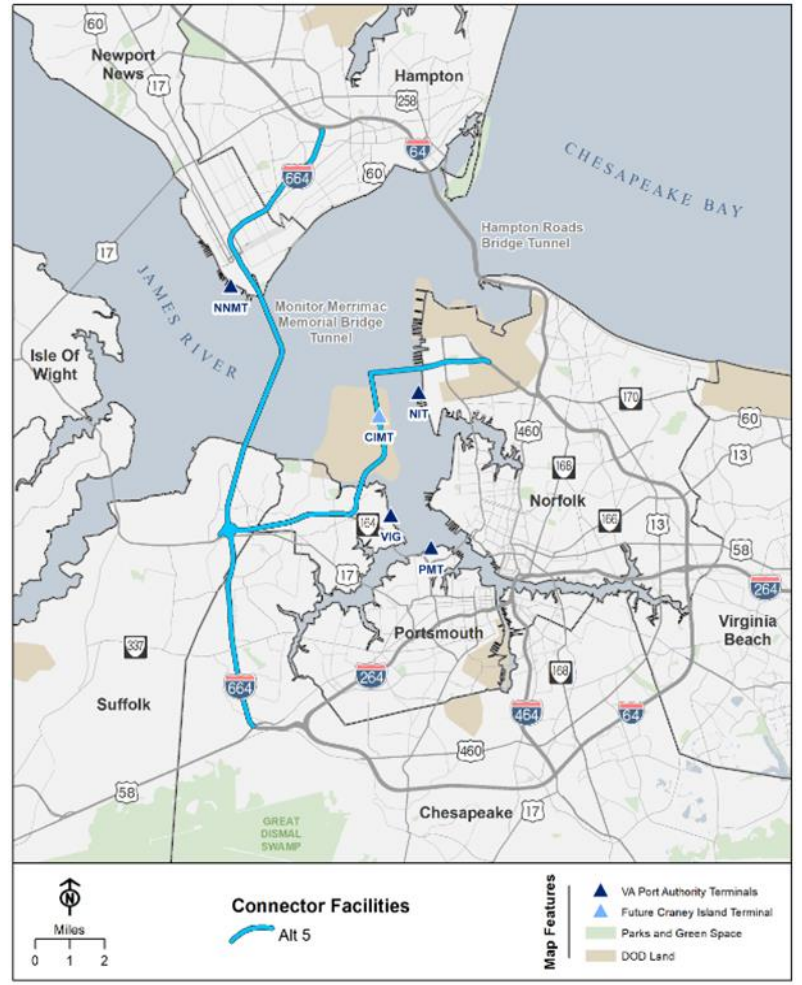
Alternative 2



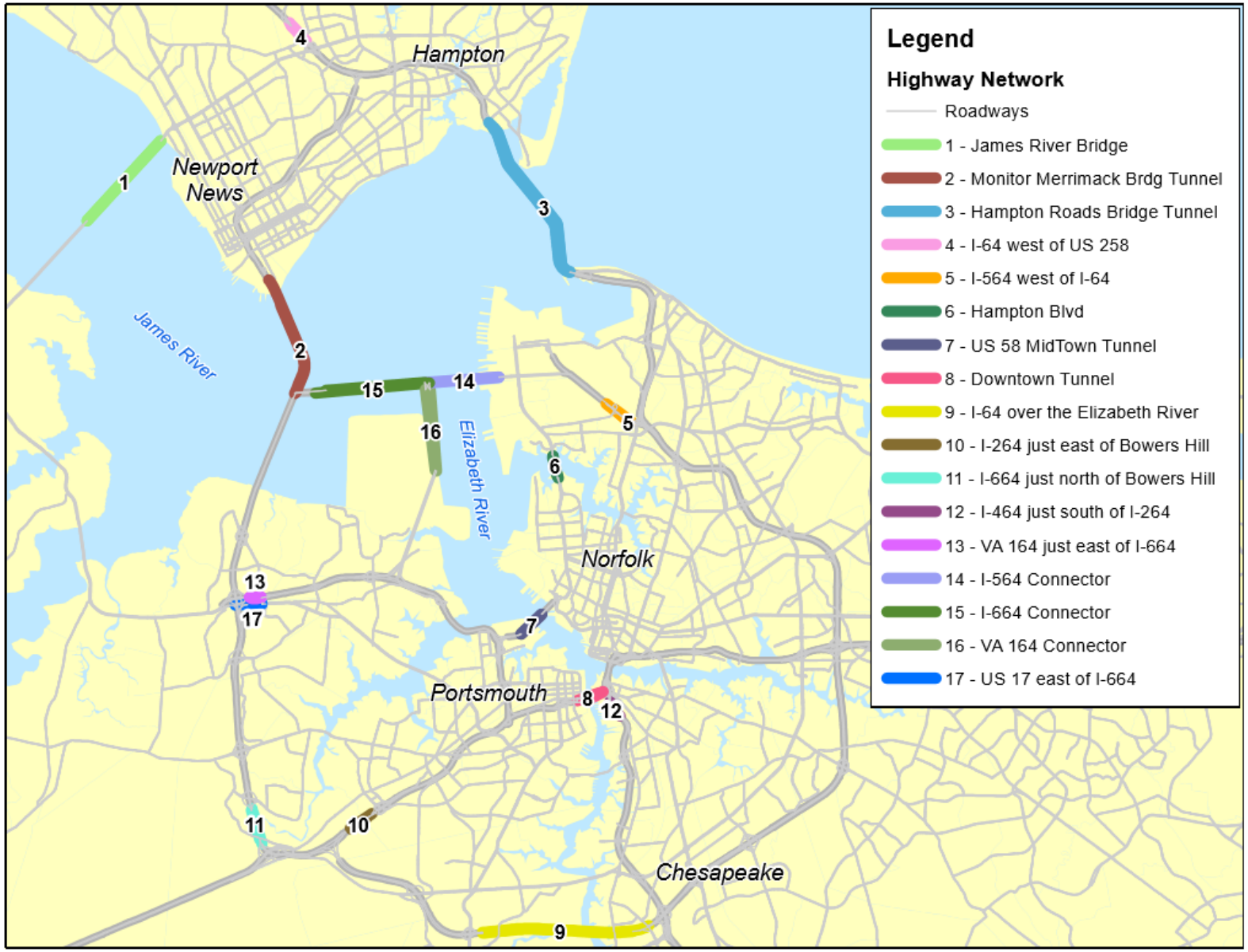
Alternative 3



Alternative 5



Modeling Volume Locations

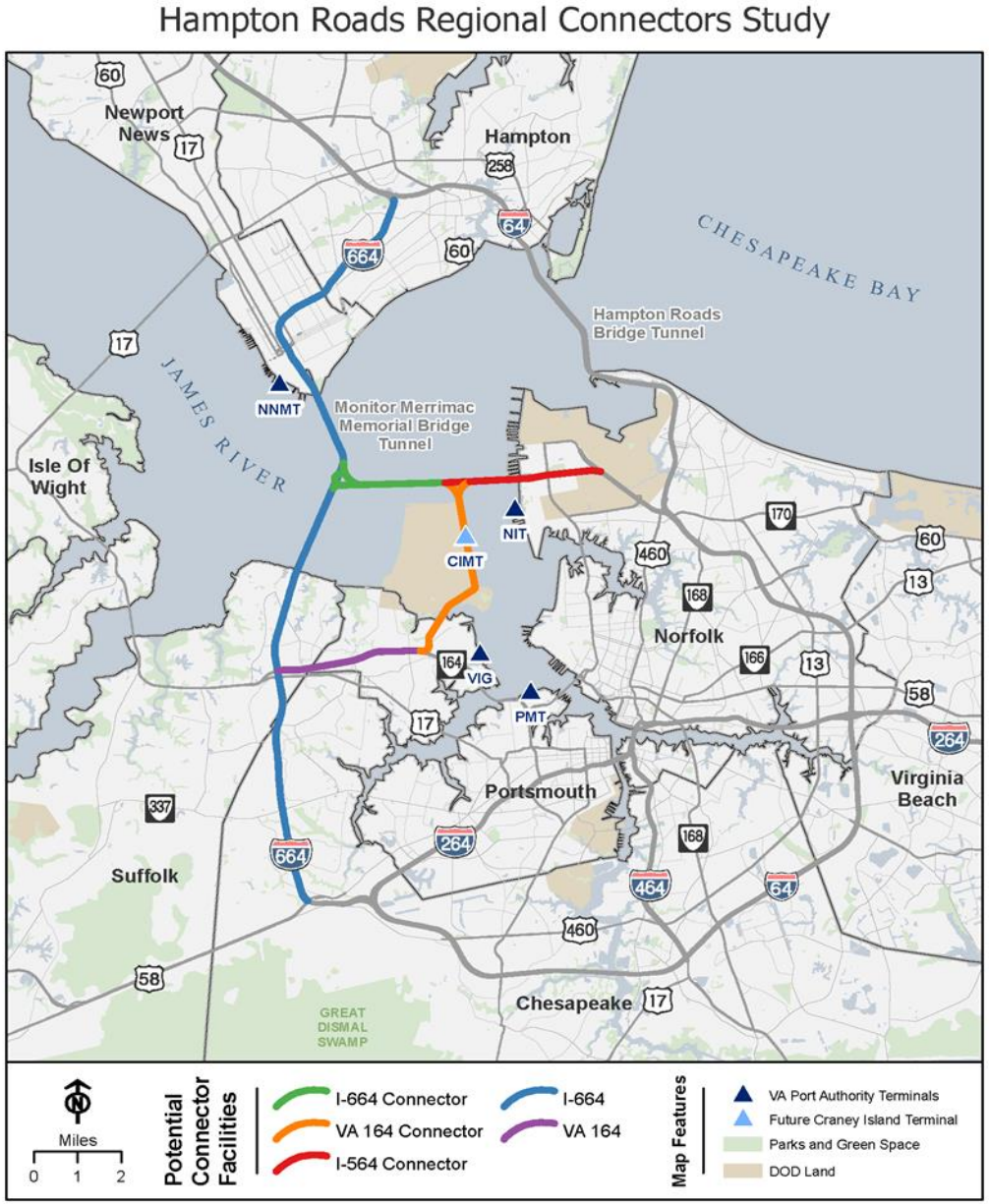


Daily Traffic Volumes at Key Locations

ID	Location	2017 Existing	2045 Baseline	2045 Unconstrained Alternative 2	2045 Constrained Alternative 2	2045 Unconstrained Alternative 3	2045 Constrained Alternative 3	2045 Unconstrained Alternative 5	2045 Constrained Alternative 5
1	James River Bridge	37,431	52,299	45,966	66,446	45,997	66,305	44,838	65,979
2	Monitor Merrimack Bridge Tunnel	74,994	89,602	104,386	75,695	132,701	82,646	111,387	72,301
3	Hampton Roads Bridge Tunnel	92,195	160,343	137,731	161,620	128,051	154,506	138,169	159,318
4	I-64 west of US 258 (Mercury Blvd)	133,420	181,822	178,420	171,877	181,381	169,757	181,189	170,673
5	I-564 west of I-64	124,208	107,045	107,545	107,144	157,995	125,423	150,092	112,781
6	Hampton Blvd over the Lafayette River	42,949	43,301	42,904	42,872	39,245	40,550	38,994	39,764
7	US 58 MidTown Tunnel	50,700	60,583	60,770	62,717	54,074	59,906	53,379	60,499
8	I-264 under the Elizabeth River (Downtown Tunnel)	76,479	83,530	83,761	84,596	80,908	83,493	80,895	84,149
9	I-64 over the Elizabeth River	106,183	133,137	133,760	129,833	127,402	128,588	126,383	131,430
10	I-264 just east of Bowers Hill	64,611	82,359	85,688	89,187	83,789	87,101	81,851	88,989
11	I-664 just north of Bowers Hill	85,186	100,594	120,133	104,716	115,555	103,763	118,141	103,973
12	I-464 just south of I-264	88,248	97,055	97,428	99,046	95,787	100,025	94,865	99,339
13	VA 164 just east of I-664	50,087	49,737	67,817	59,034	68,449	56,175	94,444	60,958
14	I-564 Connector	-	-	-	-	81,014	29,922	65,395	12,735
15	I-664 Connector	-	-	-	-	81,014	29,922	-	-
16	VA 164 Connector	-	-	-	-	-	-	65,395	12,735
17	US 17 east of I-664	22,206	27,482	24,024	28,202	23,547	27,022	23,052	28,585
	Crossing Total		302,243	288,083	303,761	306,749	303,457	294,394	297,598

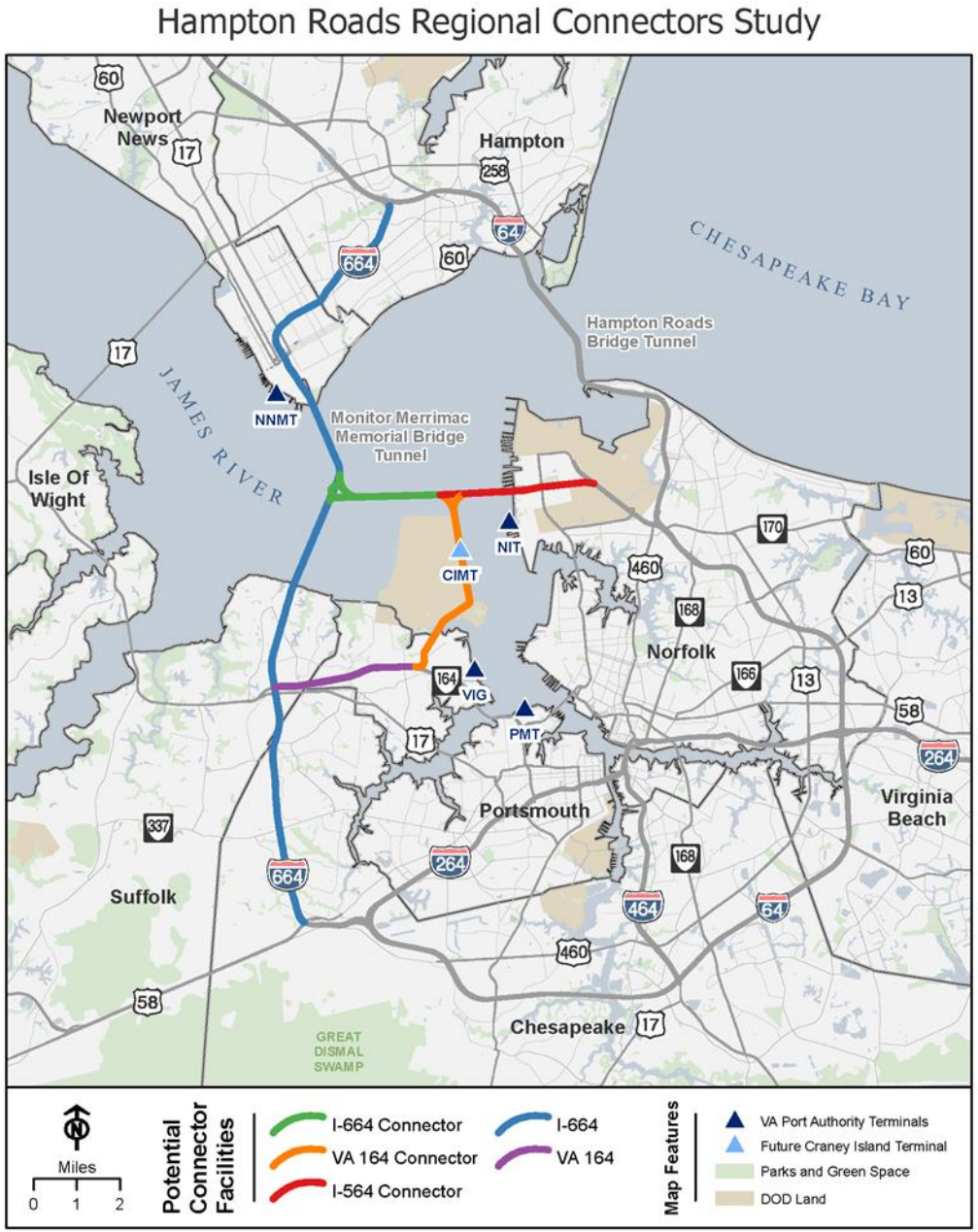
Study Purpose

- To evaluate the feasibility, permitability, and transportation benefits (including congestion relief) of the following segments not included in the CTB approved HRCS SEIS Preferred Alternative (Alternative A)
  - VA 164
  - I-564 Connector
  - VA 164 Connector
  - I-664 Connector
  - I-664 from I-64 to US 460/58/123 in Chesapeake, not including Bowers Hill
- To establish a regional long-term vision that investigates 21st century transportation options that connect the Peninsula and the Southside across the Hampton Roads Harbor that enhance economic vitality and improve the quality of life in the region



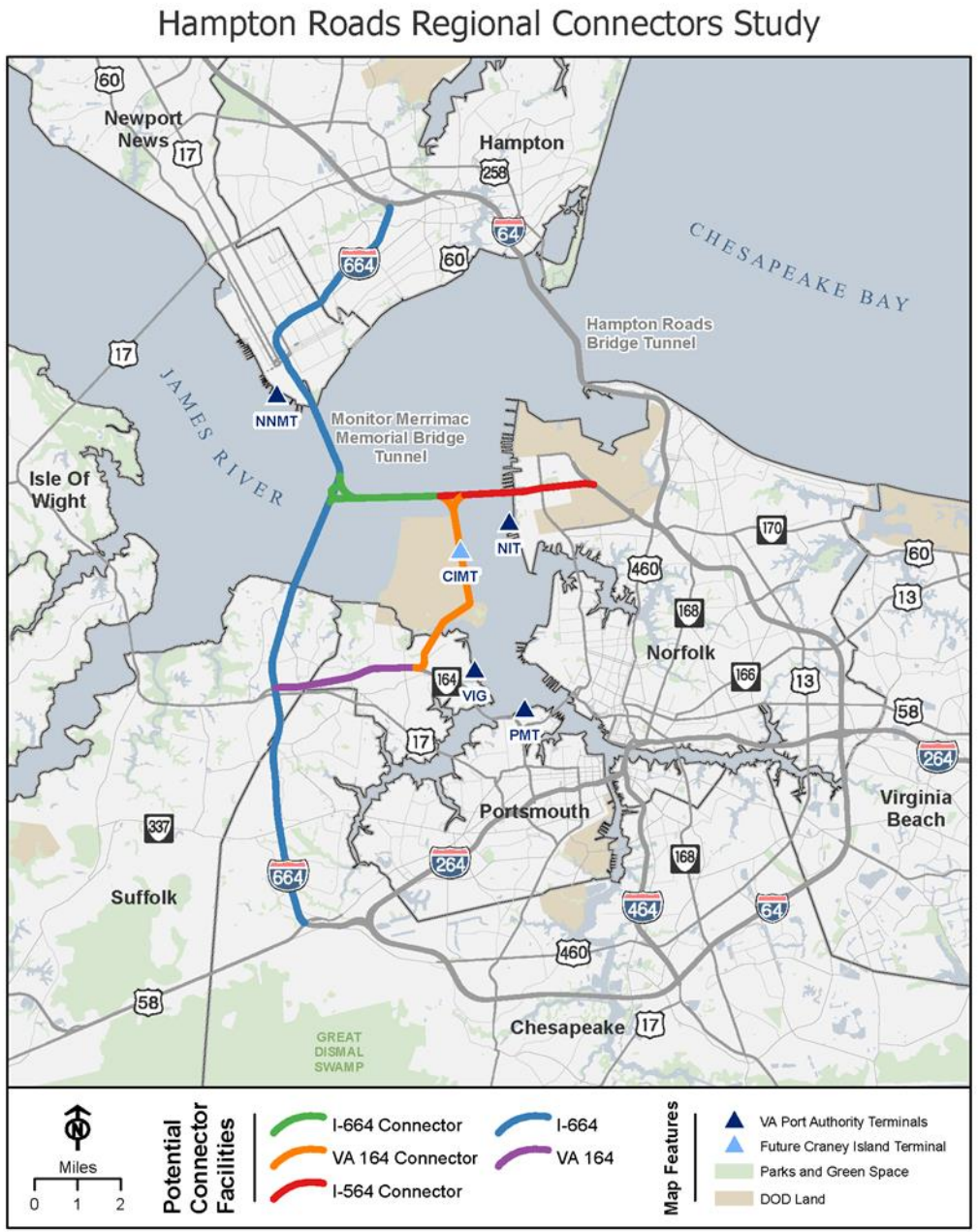
Group Discussion

- Combinations of segments
- Design options
- Port access issues and implications



Recommended Action

- Finalize combinations of segments – preliminary alternatives
- Recommend for Steering (Policy) Committee consideration and approval



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6-MONTH OUTLOOK

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Tasks - Next 6 Months

- Determine Preliminary Alternatives (today)
- Complete Phase 2 documentation
- Hold Scenario Planning Virtual Meeting (February)
- Complete Existing Conditions Analysis (end of February)
- Development of Preliminary Alternatives (Task 2)
  - Develop/Refine Geometry of Preliminary Alternatives (Task 2.2 – end of April completion)
  - Hydraulics and Hydrology (Task 2.3 – end of April completion)
  - Structures (Task 2.4 – end of April completion)
  - Utilities and Railroad Crossings (Task 2.5 – end of April completion)
  - Planning Cost Estimates (Task 2.6 – end of April completion)
- Determination of Candidate Alternatives (Task 3)
  - Conduct Congestion Relief Assessments (Task 3.1a – end of March completion)
  - Performance Evaluation (Task 3.1b – mid-July completion)
  - Conduct Permitability Assessments (Task 3.2 – mid-July completion)
  - Conduct Constructability Assessments (Task 3.3 – mid-July completion)

Phase 3 Schedule

REVISED - Regional Connectors Study - Phase 3 Schedule (January 14, 2021)

Task No.	Task	2020 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2022 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TASK 1	EXECUTE ENGAGEMENT PLAN																																				
1.1	Task Management																																				
1.2	Engagement Plan Review																																				
1.3a	Study Mailing List and Comment Database																																				
1.3b	Scenario Planning Virtual Meeting																																				
1.3c	Community Briefings and Presentations																																				
1.3d	Brochures, Factsheets, and Handouts																																				
1.3e	Public Meetings																																				
1.3f	Regional Connectivity Symposium																																				
1.3g	Community Events and Outreach																																				
1.3h	Social Media Engagement																																				
1.3i	Engagement Report																																				
1.4	Website Upgrades and Maintenance																																				
TASK 2	DEVELOPMENT OF PRELIMINARY ALTERNATIVES																																				
2.1a	Summarize Background Information																																				
2.1b	Conduct Unconstrained Travel Demand Model Analysis																																				
2.1c	Preliminary Alternatives Identification																																				
2.2	Develop/Refine Geometry of Preliminary Alternatives																																				
2.3	Hydraulics and Hydrology																																				
2.4	Structures																																				
2.5	Utilities and Railroad Crossings																																				
2.6	Planning Cost Estimates																																				
TASK 3	DETERMINATION OF CANDIDATE ALTERNATIVES																																				
3.1a	Conduct Congestion Relief Assessments																																				
3.1b	Performance Evaluation																																				
3.2	Conduct Permitability Assessments																																				
3.3	Conduct Constructability Assessments																																				
3.4	Identify Candidate Alternatives																																				
TASK 4	CONDUCT SCENARIO PLANNING																																				
4.8a	Confirmation/Network Coding of Candidate RCS projects for testing																																				
4.8b	Travel Demand Modeling for Baseline and 3 Greater Growth Scenarios (each Candidate Project)																																				
4.8c	Evaluate Performance of Candidate Projects under Baseline and 3 Greater Growth Scenarios																																				
4.8d	Evaluate Traffic Operating Conditions																																				
4.9a	Scenario Results Workshops																																				
4.9b	Recommendation Documentation																																				
TASK 5	PREPARE FOR AND ATTEND MEETINGS (WORKING GROUP AND STEERING COMMITTEE)																																				
5.1	Working Group Meetings																																				
5.2	Steering Committee Meetings																																				
TASK 6	MANAGE THE PROJECT																																				
6.1	Weekly Coordination with Study Leadership																																				
6.2	Schedule and Budget Oversight																																				
6.3	Quality Assurance of Deliverables																																				
TASK 7	PREPARE DOCUMENTATION																																				
7.1	Draft Study Report																																				
7.2	Final Study Report																																				

Steering Committee Meetings
Working Group Coordination Meeting
Public Meeting

Continuous Task
Task Schedule
Key Decision Point

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REFERENCE SLIDES – IF NEEDED

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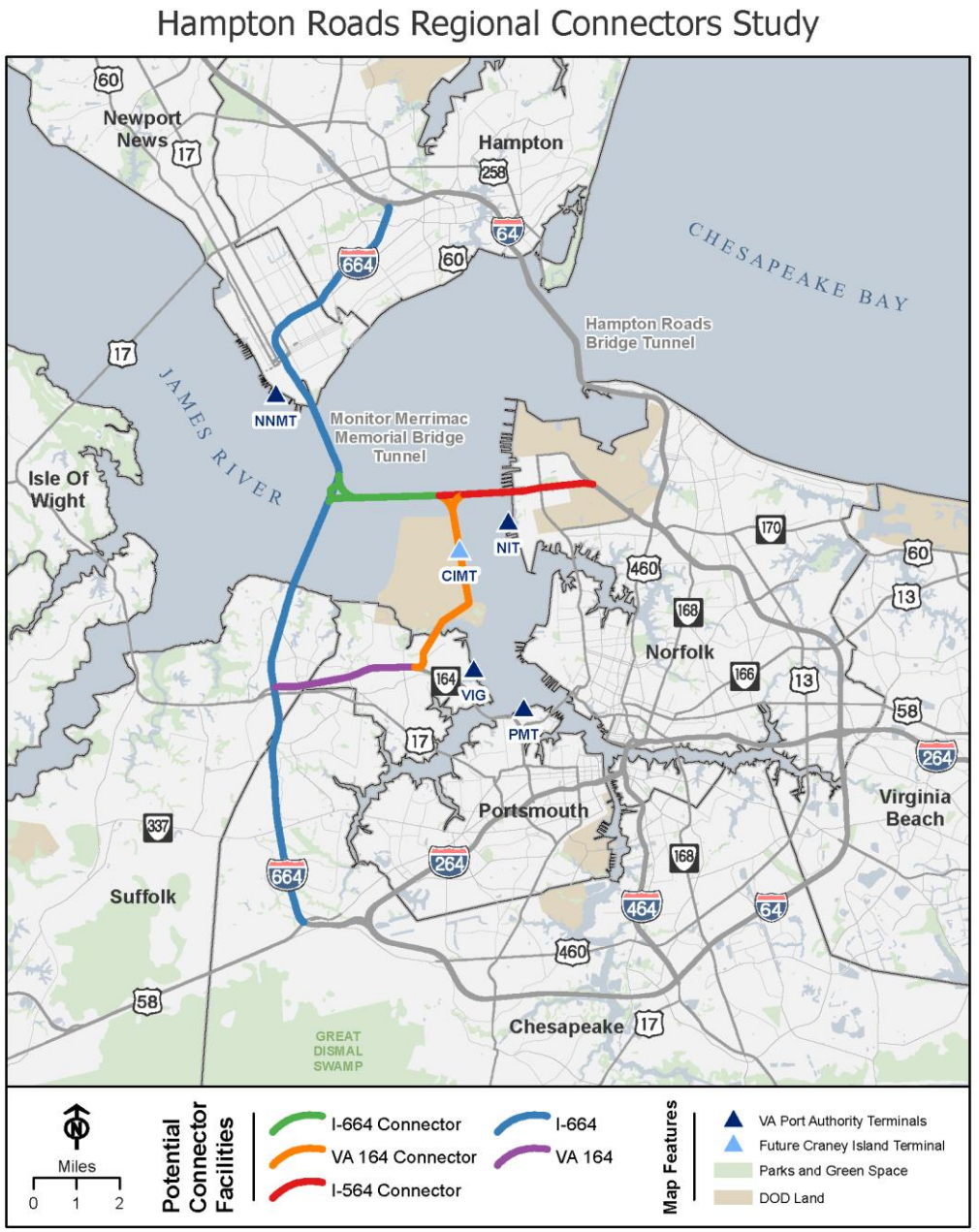
MANDATED SEGMENTS

Previous Discussion

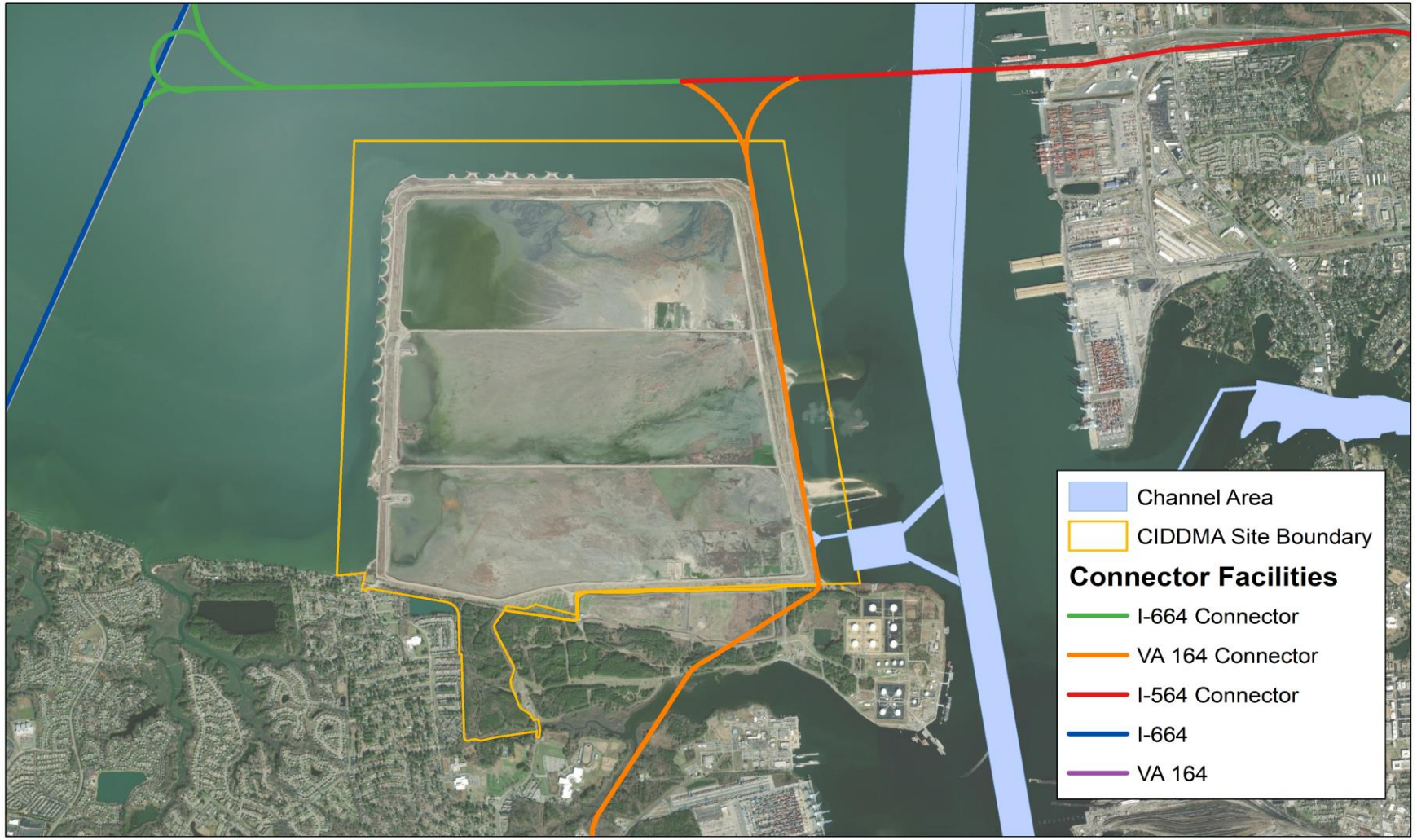
- As per October 27 Joint Steering (Policy) Committee/Working Group recommendation, Consultant team to investigate potential refinements of mandated segments



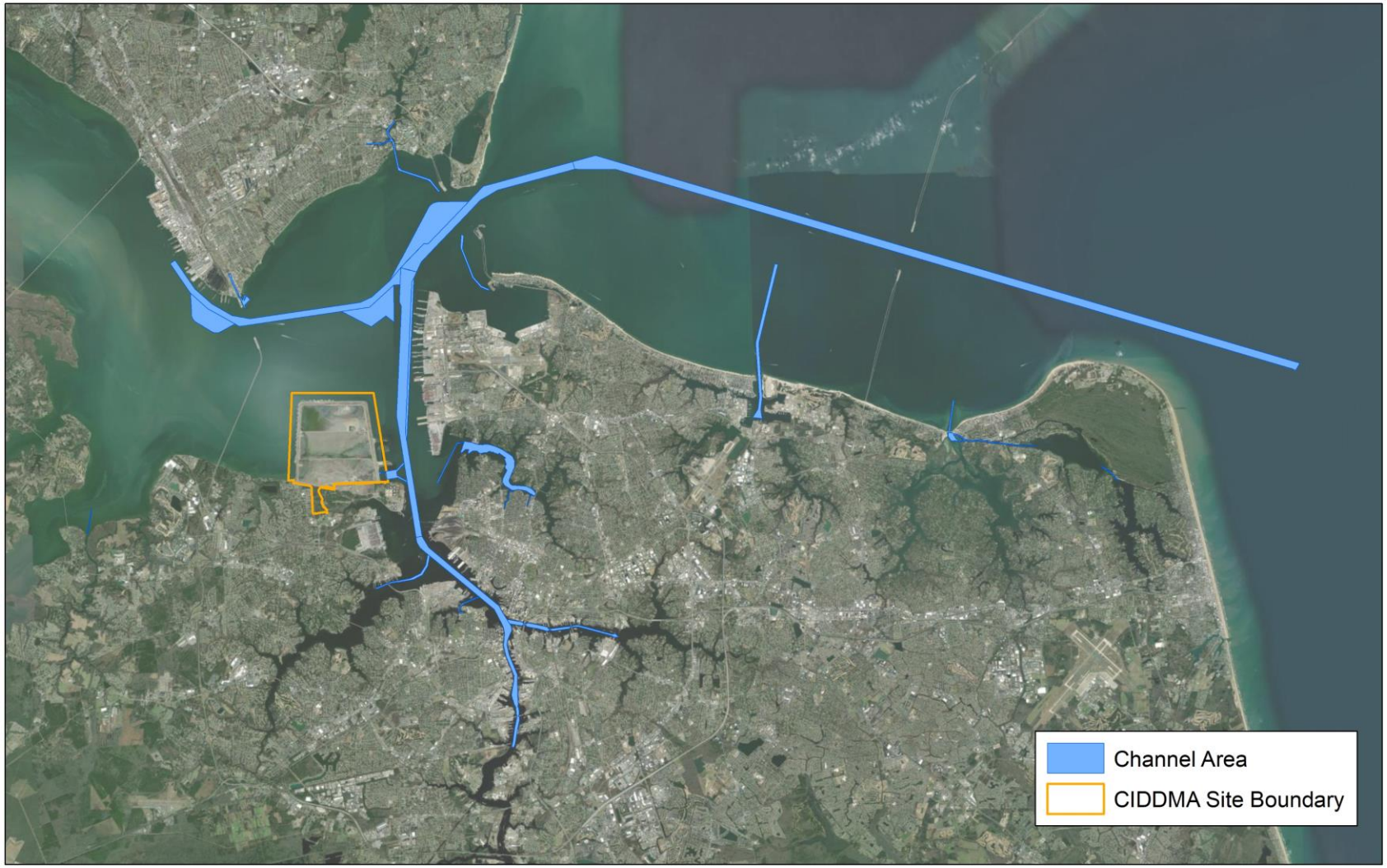
CONSTRAINTS

Following field visits to Craney Island and the Navy Fuel Depot the following constraints were identified:

- Craney Island operations and shy distance requirements
- Navy Fuel Depot operations requirements and planned expansion
- City of Portsmouth land fill location and future expansion plans



HARBOR CONSTRAINTS



Impacts on Regional Roadway Network (Daily)

Description	2017 Base Year	2045 Baseline w/o Tech	Change*	2045 Baseline w/o Tech**	Change*	2045 Baseline w/Tech**	Change*
Vehicle-Miles Traveled	42,225,948	50,116,393	18.7%	47,148,371	11.7%	52,106,565	23.4%
Vehicle-Hours Traveled	1,173,533	1,457,651	24.2%	1,319,064	12.4%	1,538,821	31.1%
Delay (Hours)	221,122	337,870	52.8%	261,629	18.3%	365,076	65.1%
Average Free-flow Speed (mph)	44.3	44.8		44.6		44.4	
Average Congested Speed (mph)	36.0	34.4		35.7		33.9	

*compared with 2017 Base Year
** includes MaaS