Agenda

Regional Connectors Study

Working Group Meeting

June 13, 2019

9:00 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

   Summary Minutes from May 21, 2019 Working Group Scenario Planning Workshop – Attachment 4

   - Recommended Action: For Approval
5. Regional Connectors Study Phase 2 Supplement: Budget Issue due to Omission – Craig Eddy, MBI

   The Consultant team Project Manager inadvertently omitted subconsultant EDR Group's budget from the Phase 2 supplement budget that was approved by the HRTPO Board on May 16. The amount is $106,421 and a subsequent Phase 2 supplement budget is attached. The goal is to seek approval to increase the study budget to cover EDR Group's efforts from the Working Group on June 13, the Steering (Policy) Committee on July 9, and the HRTPO Board on July 18.

   Attachment 5 – Phase 2 Supplement- Budget Omission

   - Recommended Action: For Review and Approval
6. Regional Connectors Study: Scenario Planning Update – Lorna Parkins, MBI

   Updated Goals, Objectives, and Performance Measures
   Scenario Narrative including Drivers and Future Place Types

Options for Greater Growth Employment Level
Travel Demand Sensitivity Analysis including Pros and Cons for each Option

Attachment 6A – Updated Goals, Objectives, and Performance Measures
Attachment 6B – Scenario Narrative
Attachment 6C – Greater Growth and Travel Demand Sensitivity Analysis
Attachment 6D – Summary of Group Discussions from May 21 Workshop

- Recommended Action: For Review, Discussion, and Approval

7. Regional Connectors Study – Summary Project Briefing, Issue 1 – Camelia Ravanbakht, Project Coordinator

A draft Summary Briefing has been developed by the consultant team. This document is intended to be used by WG members when providing internal briefings to various departments within their localities/agencies.

Attachment 7 – RCS Summary Project Briefing, Issue 1

- Recommended Action: For Information

8. Next Meetings and Planned Activities: Camelia Ravanbakht, Project Coordinator

- Steering (Policy) Committee Meeting, July 9, 2019, 10 AM
- HRTPO Board Meeting, July 18, 2019, 10:30 AM
- Craney Island Site Visit – Navy Fuel Depot – Date TBD
- Port Proposed Craney Island 4th Marine Terminal Site Visit and Presentation – Date TBD
- Other Meetings/Webinars – Dates to be announced by the Consultant Team at the June 13 meeting.

9. Adjournment

Regional Connectors Study
Working Group Meeting
Minutes
May 21, 2019, 10:00am
Regional Building, Chesapeake

The following were in attendance (alphabetically by last name):

Theresa Brooks (HRTPO)
Nick Britton (Michael Baker Intl.)
Rob Case (HRTPO)
Craig Eddy (Michael Baker Intl.)
Jason Espie (EPR)
Jason Flowers (USACE)
Brian Fowler (Norfolk)
Vlad Gavrilovic (EPR)
Greg Grootendorst (HRPDC)
Tori Haynes (James City County)
Carl Jackson (Portsmouth)
George Janek (USACE)
Mike Kimbrel (HRTPO)
Michael King (Navy)
Tom Leininger (James City County)
Kendall Miller (HRTPO)
Keith Nichols (HRTPO)
Bridjette Parker (Newport News)
Lorna Parkins (Michael Baker Intl.)
Leo Pineda (HRTPO)
Camelia Ravanbakht (RCS Project Coordinator)
Tara Reel (VB)
Tammy Rosario (James City County)
Esandro Santos (Norfolk)
Earl Sorey (Chesapeake)
Jason Souders (Suffolk)
Naomi Stein (EDR Group)
Bryan Stilley (NN)
Dale Stith (HRTPO)
Eric Stringfield (VDOT)
Bill Thomas (Michael Baker Intl.)- by phone
Thomas Wysong (James City County)

1. Call to Order

Earl Sorey (Chesapeake) called the meeting to order at 10:05am.

2. Welcome and Introductions

New attendees introduced themselves.

3. Public Comment Period

There were no public comments.

4. Minutes

The minutes of the April 17, 2019 working group meeting were approved.

5. Scenario Planning Greater Growth Scenarios

Of the total "Scenario Planning Workshop" slide package, Lorna Parkins (Michael Baker Intl.) presented the portion entitled "Review of Drivers and Levers for Scenarios", discussing scenario drivers (economic, lifestyle, demographic, technology, environment), and three proposed scenarios (Greater Growth on the Water, Greater Growth in Urban Centers, Greater Suburban/Greenfield Growth).

Lorna broke attendees into groups, by scenario, to discuss the driver directions (up, down, steady) in each scenario.

After reconvening attendees at the main table, Vlad Gavrilovic (EPR, Baker team) presented the portion of the slide package entitled "Levers in the Land Use and Travel Models". Jason Espie (EPR) and Bill Thomas (Michael Baker, on phone) presented the portion of the slide package entitled "Example". Naomi Stein (EDR Group, Baker team) and Bill Thomas presented the "Greater Growth Employment Level" portion of the slide package.

At its next meeting, the Working Group will be asked to approve a percentage of extra growth for the Greater Growth scenarios.

6. Schedule and Next Meetings

Webinar #6: June 6, 2019, 10am
Working Group Meeting: June 13, 2019, 9am
Steering (Policy) Committee Meeting: (tentative) June 25 or July 9, 2019, 10am

7. Adjournment

The meeting was adjourned approximately at noon.

Cost Proposal

HRTPO

REGIONAL CONNECTORS STUDY

PHASE 2 - Supplement 2

May 28, 2019

Attachment 5

TEAM SUMMARY

Task	HOURS							LABOR COSTS						
	Baker	PRR	EPR	EDR Group	McPherson	Solstice	TOTAL	Baker	PRR	EPR	EDR Group	McPherson	Solstice	TOTAL
EXECUTE ENGAGEMENT PLAN														
Task Management	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Engagement Plan Review	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Implementation of Engagement Plan	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Study Mailing List and Comment Database	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Stakeholder Briefings and Presentations	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Brochures, Factsheets, Handouts	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Community Events and Outreach	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Website Upgrades and Maintenance	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Total Task 1	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
DEVELOPMENT OF PRELIMINARY ALTERNATIVES														
Develop Geometry of Preliminary Alternatives	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Hydraulics and Hydrology	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Structures	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Utilities and Railroad Crossings	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Planning Cost Estimates	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Total Task 2	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
DETERMINATION OF CANDIDATE ALTERNATIVES (Screen 1)														
Conduct Congestion Relief Assessments	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Conduct Permitability Assessments	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Conduct Constructability Assessments	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Total Task 3	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
CONDUCT SCENARIO PLANNING														
Building the Base Data, Models, and Scenarios	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Defining Alternative Future Scenarios	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Defining Measures of Success	0	0	0	68	0	0	68	$0	$0	$0	$11,895	$0	$0	$11,895
Evaluate 2015 Current Regional Conditions	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Modeling the 2045 Baseline Alternative	0	0	0	128	0	0	128	$0	$0	$0	$20,012	$0	$0	$20,012
Building the Alternative Scenarios	0	0	0	52	0	0	52	$0	$0	$0	$8,908	$0	$0	$8,908
Evaluating the Scenarios	0	0	0	244	0	0	244	$0	$0	$0	$38,715	$0	$0	$38,715
Total Task 4	0	0	0	492	0	0	492	$0	$0	$0	$79,530	$0	$0	$79,530
PREPARE FOR AND ATTEND MEETINGS (WORKING GROUP AND STEERING COMMITTEE														
Working Group Meetings	0	0	0	23	0	0	23	$0	$0	$0	$4,071	$0	$0	$4,071
Steering Committee Meetings	0	0	0	2	0	0	2	$0	$0	$0	$315	$0	$0	$315
Total Task 5	0	0	0	25	0	0	25	$0	$0	$0	$4,386	$0	$0	$4,386
MANAGE THE PROJECT														
Weekly Coordination with Study Leadership	0	0	0	44	0	0	44	$0	$0	$0	$7,864	$0	$0	$7,864
Schedule and Budget Oversight	0	0	0	18	0	0	18	$0	$0	$0	$2,835	$0	$0	$2,835
Quality Assurance of Deliverables	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Craney Island site visit	0	0	0	0	0	0	0	$0	$0	$0	$0	$0	$0	$0
Total Task 6	0	0	0	62	0	0	62	$0	$0	$0	$10,699	$0	$0	$10,699
TOTALS	0	0	0	579	0	0	579	$0	$0	$0	$94,615	$0	$0	$94,615
							ODC	$0	$0	$0	$2,131	$0	$0	$2,131
							TOTALS	$0	$0	$0	$96,746	$0	$0	$96,746
							Work Split	0%	0%	0%	100%	0%	0%	100%

Attachment 5

TASK SUMMARY

Task No.	Task	Hours	Labor Costs	ODC's	TOTAL COST
1	**EXECUTE ENGAGEMENT PLAN**				
1.1	Task Management	0	$0	$0	$0
1.2	Engagement Plan Review	0	$0	$0	$0
1.3	Implementation of Engagement Plan	0	$0	$0	$0
1.3a	Study Mailing List and Comment Database	0	$0	$0	$0
1.3b	Stakeholder Briefings and Presentations	0	$0	$0	$0
1.3c	Brochures, Factsheets, Handouts	0	$0	$0	$0
1.3d	Community Events and Outreach	0	$0	$0	$0
1.4	Website Upgrades and Maintenance	0	$0	$0	$0
	Total Task 1	**0**	**$0**	**$0**	**$0**
2	**DEVELOPMENT OF PRELIMINARY ALTERNATIVES**				
2.1	Develop Geometry of Preliminary Alternatives	0	$0	$0	$0
2.2	Hydraulics and Hydrology	0	$0	$0	$0
2.3	Structures	0	$0	$0	$0
2.4	Utilities and Railroad Crossings	0	$0	$0	$0
2.5	Planning Cost Estimates	0	$0	$0	$0
	Total Task 2	**0**	**$0**	**$0**	**$0**
3	**DETERMINATION OF CANDIDATE ALTERNATIVES (Screen 1)**				
3.1	Conduct Congestion Relief Assessments	0	$0	$0	$0
3.2	Conduct Permitability Assessments	0	$0	$0	$0
3.3	Conduct Constructability Assessments	0	$0	$0	$0
	Total Task 3	**0**	**$0**	**$0**	**$0**
4	**CONDUCT SCENARIO PLANNING**				
4.1	Building the Base Data, Models, and Scenarios	0	$0	$0	$0
4.2	Defining Alternative Future Scenarios	0	$0	$0	$0
4.3	Defining Measures of Success	68	$11,895	$0	$11,895
4.4	Evaluate 2015 Current Regional Conditions	0	$0	$0	$0
4.5	Modeling the 2045 Baseline Alternative	128	$20,012	$764	$20,776
4.6	Building the Alternative Scenarios	52	$8,908	$0	$8,908
4.7	Evaluating the Scenarios	244	$38,715	$764	$39,479
	Total Task 4	**492**	**$79,530**	**$1,528**	**$81,058**
5	**PREPARE FOR AND ATTEND MEETINGS (WORKING GROUP AND STEERING COMMITTEE**				
5.1	Working Group Meetings	23	$4,071	$603	$4,674
5.2	Steering Committee Meetings	2	$315	$0	$315
	Total Task 5	**25**	**$4,386**	**$603**	**$4,989**
6	**MANAGE THE PROJECT**				
6.1	Weekly Coordination with Study Leadership	44	$7,864	$0	$7,864
6.2	Schedule and Budget Oversight	18	$2,835	$0	$2,835
6.3	Quality Assurance of Deliverables	0	$0	$0	$0
6.4	Craney Island site visit	0	$0	$0	$0
	Total Task 6	**62**	**$10,699**	**$0**	**$10,699**
	TOTALS	**579**	**$94,615**	**$2,131**	**$96,746**
	10% Contingency				**$9,675**
	TOTAL				**$106,421**

TEAM SUMMARY

Task No.	Task	Other Direct Costs									
		Reproduction	Travel	Lodging	Per Diem	Communication/Postage	Survey - layout, printing, mailing, scanning		Phase I Budget Shortage	Phase 3 Contingency	TOTAL
1	**EXECUTE ENGAGEMENT PLAN**										
1.1	Task Management	$0	$0	$0	$0	$0					$0
1.2	Engagement Plan Review	$0	$0	$0	$0	$0					$0
1.3	Implementation of Engagement Plan	$0	$0	$0	$0	$0					$0
1.3a	Study Mailing List and Comment Database	$0	$0	$0	$0	$0					$0
1.3b	Stakeholder Briefings and Presentations	$0	$0	$0	$0	$0					$0
1.3c	Brochures, Factsheets, Handouts	$0	$0	$0	$0	$0					$0
1.3d	Community Events and Outreach	$0	$0	$0	$0	$0					$0
1.4	Website Upgrades and Maintenance	$0	$0	$0	$0	$0					$0
	Total Task 1 Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	**DEVELOPMENT OF PRELIMINARY ALTERNATIVES**										
2.1	Develop Geometry of Preliminary Alternatives	$0	$0	$0	$0	$0					$0
2.2	Hydraulics and Hydrology	$0	$0	$0	$0	$0					$0
2.3	Structures	$0	$0	$0	$0	$0					$0
2.4	Utilities and Railroad Crossings	$0	$0	$0	$0	$0					$0
2.5	Planning Cost Estimates	$0	$0	$0	$0	$0					$0
	Total Task 2 Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
3	**DETERMINATION OF CANDIDATE ALTERNATIVES (Screen 1)**										
3.1	Conduct Congestion Relief Assessments	$0	$0	$0	$0	$0					$0
3.2	Conduct Permitability Assessments	$0	$0	$0	$0	$0					$0
3.3	Conduct Constructability Assessments	$0	$0	$0	$0	$0					$0
	Total Task 3 Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4	**CONDUCT SCENARIO PLANNING**										
4.1	Building the Base Data, Models, and Scenarios	$0	$0	$0	$0	$0	$0	$0			$0
4.2	Defining Alternative Future Scenarios	$0	$0	$0	$0	$0					$0
4.3	Defining Measures of Success	$0	$0	$0	$0	$0					$0
4.4	Evaluate 2015 Current Regional Conditions	$0	$0	$0	$0	$0					$0
4.5	Modeling the 2045 Baseline Alternative	$0	$400	$210	$154	$0					$764
4.6	Building the Alternative Scenarios	$0	$0	$0	$0	$0					$0
4.7	Evaluating the Scenarios	$0	$400	$210	$154	$0					$764
	Total Task 4 Costs	$0	$800	$420	$308	$0	$0	$0	$0	$0	$1,528
5	**PREPARE FOR AND ATTEND MEETINGS (WORKING GROUP AND STEERING COMMITTEE**										
5.1	Working Group Meetings	$0	$400	$105	$98	$0					$603
5.2	Steering Committee Meetings	$0	$0	$0	$0	$0					$0
	Total Task 5 Costs	$0	$400	$105	$98	$0	$0	$0	$0	$0	$603
6	**MANAGE THE PROJECT**										
6.1	Weekly Coordination with Study Leadership	$0	$0	$0	$0	$0			$0	$0	$0
6.2	Schedule and Budget Oversight	$0	$0	$0	$0	$0					$0
6.3	Quality Assurance of Deliverables	$0	$0	$0	$0	$0					$0
6.4	Craney Island site visit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	Total Task 6 Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL COSTS	$0	$1,200	$525	$406	$0	$0	$0	$0	$0	$2,131

Attachment 5

Regional Connectors Study: DRAFT Goals and Objectives + Performance Measures

	GOALS →		ECONOMIC VITALITY			SUSTAINBILITY -- EQUITY, COMMUNITY & ENVIRONMENTAL			CONNECTIVITY & ACCESSIBILITY			SAFETY, RESILIENCY & INNOVATION		
	OBJECTIVES →		Support regional growth and productivity	Support efficient freight movement	Support accessibility for tourism	Improve the sustainbility of communities through increased housing choice and reduced auto-dependency	Ensure that mobility benefits positively affect low income residents	Minimize the environmental impact of future growth and transportation	Improve connectivity and reliability between the Peninsula and Southside	Improve connectivity and access for all	Reduce delay and improve travel efficiency	Improve safety through a more adaptive transportation network	Make investments that improve flood resiliency	Consider the impacts of technology on system demand and performance
Performance Measures ↓	Scenario Measure	Candidate Project Measure												
(Change in) Lost productivity from delay	■	■	✓							✓	✓			
(Economic impact of change in) Labor market accessibility	■	■	✓						✓	✓	✓			
Performance on the freight network - total delay + spatial results	■			✓					✓		✓			
Change in hours of delay on freight network		■		✓					✓		✓			
Economic impact of change in delay and reliability on the freight network		■		✓										
(Change in) Percent of freight traffic on secondary streets - total + spatial	■	■		✓				✓				✓		
Traffic volumes at at-grade rail crossings		■						✓			✓	✓		
(Change in) Accessibility to major tourist attractions	■	■			✓									
Percent of population in multi-family housing	■					✓								
(Change in) Mode share index	■	■				✓								
(Change in) Transit ridership	■	■				✓								
Percent of growth near key destinations	■					✓								
Average trip length by purpose		■				✓				✓	✓			
Percent of jobs/pop within (15 min) drive time to airport or Amtrak station	■	■			✓					✓				
Ratio of user costs for low income travelers to all user costs (ratio of savings)	■	■					✓							
Low income household access to employment	■	■					✓							
Percent of growth near transit stops	■					✓	✓	✓						
Percent of growth in urban place types	■							✓						
(Change in) cost of emissions	■	■						✓						
Percent of growth on formerly undeveloped land (per 2016 Land Cover Data)		■						✓						
(Change in) Delay on cross-harbor trips [time and dollar value]	■	■							✓		✓			
(Change in) Circuity of cross-harbor trips	■	■							✓		✓			
(Change in) Reliability for cross-harbor trips [time and dollar value]	■	■							✓					

Attachment 6A

Regional Connectors Study: Goals and Objectives + Performance Measures

	GOALS →	ECONOMIC VITALITY			SUSTAINBILITY -- EQUITY, COMMUNITY & ENVIRONMENTAL			CONNECTIVITY & ACCESSIBILITY			SAFETY, RESILIENCY & INNOVATION		
	OBJECTIVES →	Support regional growth and productivity	Support efficient freight movement	Support accessibility for tourism	Improve the sustainbility of communities through increased housing choice and reduced auto-dependency	Ensure that mobility benefits positively affect low income residents	Minimize the environmental impact of future growth and transportation	Improve connectivity and reliability between the Peninsula and Southside	Improve connectivity and access for all	Reduce delay and improve travel efficiency	Improve safety through a more adaptive transportation network	Make investments that improve flood resiliency	Consider the impacts of technology on system demand and performance
Performance Measures ↓	**Scenario Measure**	**Candidate Project Measure**											
(Change in) Cross-harbor accessibility								✓	✓				
(Change in) Multimodal accessibility to jobs	■	■							✓				
(Change in) Accessibility index by mode	■	■							✓				
Performance of the transit-serving roadway network [i.e., average speed]	■	■							✓				
(Change in) Regional delay [total + spatial]	■	■								✓			
System reliability	■									✓			
Reliability cost savings		■								✓			
(Change in) User cost	■	■				✓				✓			
Bottlenecks on identified evacuation routes (daily peak conditions)		■								✓			
Cost of forecasted crashes	■	■									✓		
Percent of trips by automated vehicles	■										✓		
(Change in) Percent of travel using facilities wth adaptive technologies [e.g., V2I, ITS]	■	■									✓		
Percent of growth near flood-prone areas	■						✓					✓	
(Change in) Transportation network impact from flood-prone conditions [e.g., delay, trip length, and/or circuity]	■	■					✓					✓	
Reliability enhancement from technology	■												✓
Induced trip demand from technology	■												✓

Attachment 6A

Scenarios Organized around Spatial Themes

DRAFT

Greater Growth on the Water	What happens if jobs focus on the waterfront, housing choices are varied, and transportation technology adoption is moderate?
Greater Growth in Urban Centers	What happens if jobs and housing focus in urban areas, with greater multimodal availability and high adoption of connected vehicle technology?
Greater Suburban/ Greenfield Growth	What happens if jobs and housing are developed in dispersed activity centers, with a higher level of truck transportation and high adoption of autonomous vehicle technology?

Attachment 6B

Summary of Working Group Input / Next Steps

- General buy-in to the scenario narratives
  - Specifying activity center component of Greater Suburban/Greenfield growth
- Setting aside some drivers that can't be truly modeled
  - Retiree Population, Military Population, Environmental Regulation

Next Steps

- Further defining the drivers that remain
- Retaining flexibility to develop technology drivers as we know more about the travel model
- Connecting Drivers to modeling inputs

Attachment 6B

Updated Scenario Narratives

DRAFT

Greater Growth on the Water

Growth in water-oriented activity. Port of Virginia becomes even more competitive with freight more multimodal. More dispersed housing locations. Moderate assumptions for CAV adoption and network adaptation.

Greater Growth in Urban Centers

Significant economic diversification. Low space requirements per job. Large role for "digital port." New professionals prefer to live/work in urban settings. High level of CV adoption and low auto ownership/high TNC mode.

Greater Suburban/Greenfield Growth

Growth is suburban/ exurban, but growth includes walkable mixed use centers. Port of Virginia becomes even more competitive. "Digital port" brings additional jobs. Housing is more suburban. High level of AV adoption and network adaptation.

WHAT THESE WILL HELP US TEST

Test greater cross-harbor travel in particular.

Test more urban and multimodal travel patterns.

Test more overall regional travel.

NOTE: Sea Level Rise assumed as 3 ft. in all Scenarios

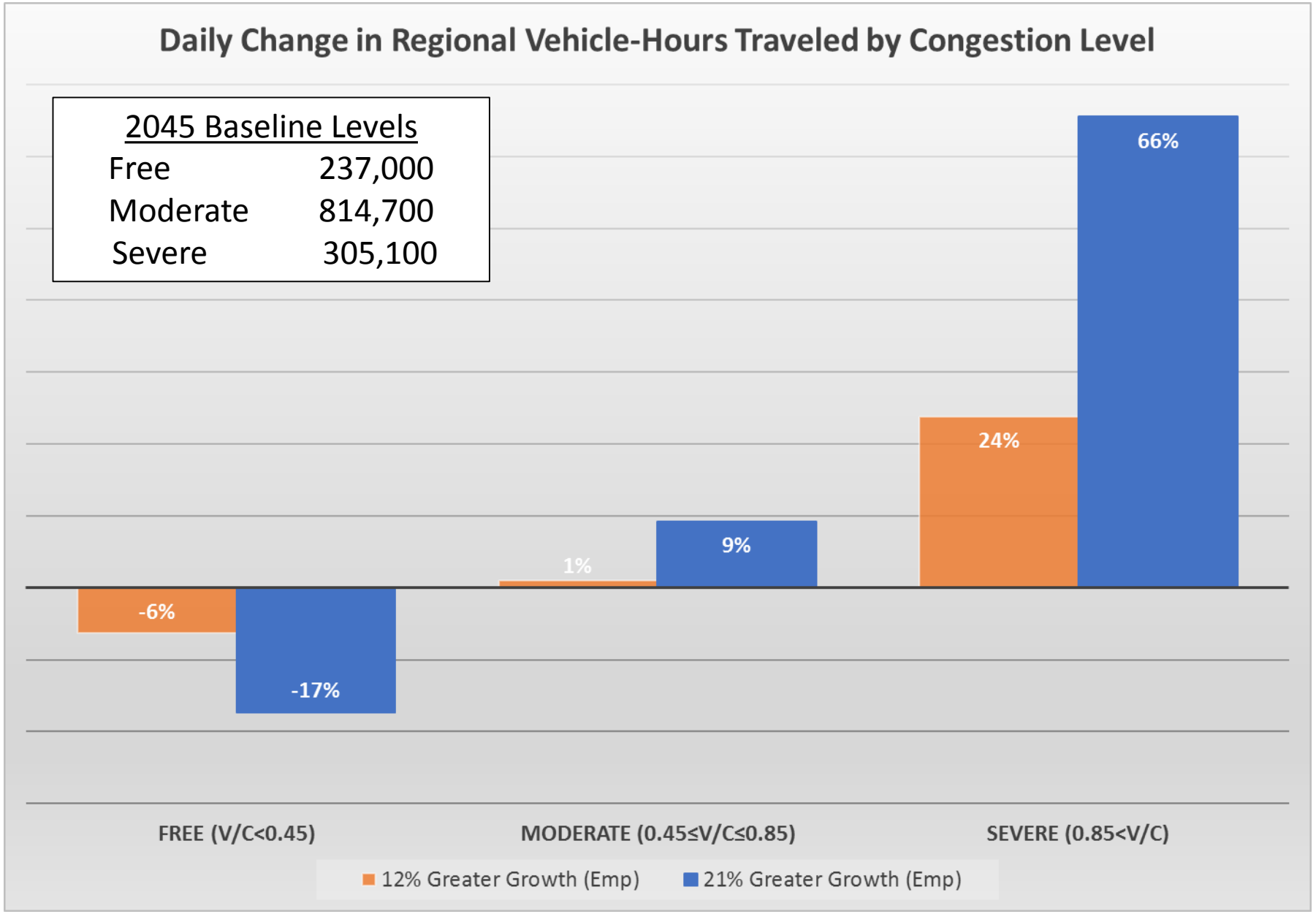
Attachment 6B

Travel Model Sensitivity Testing

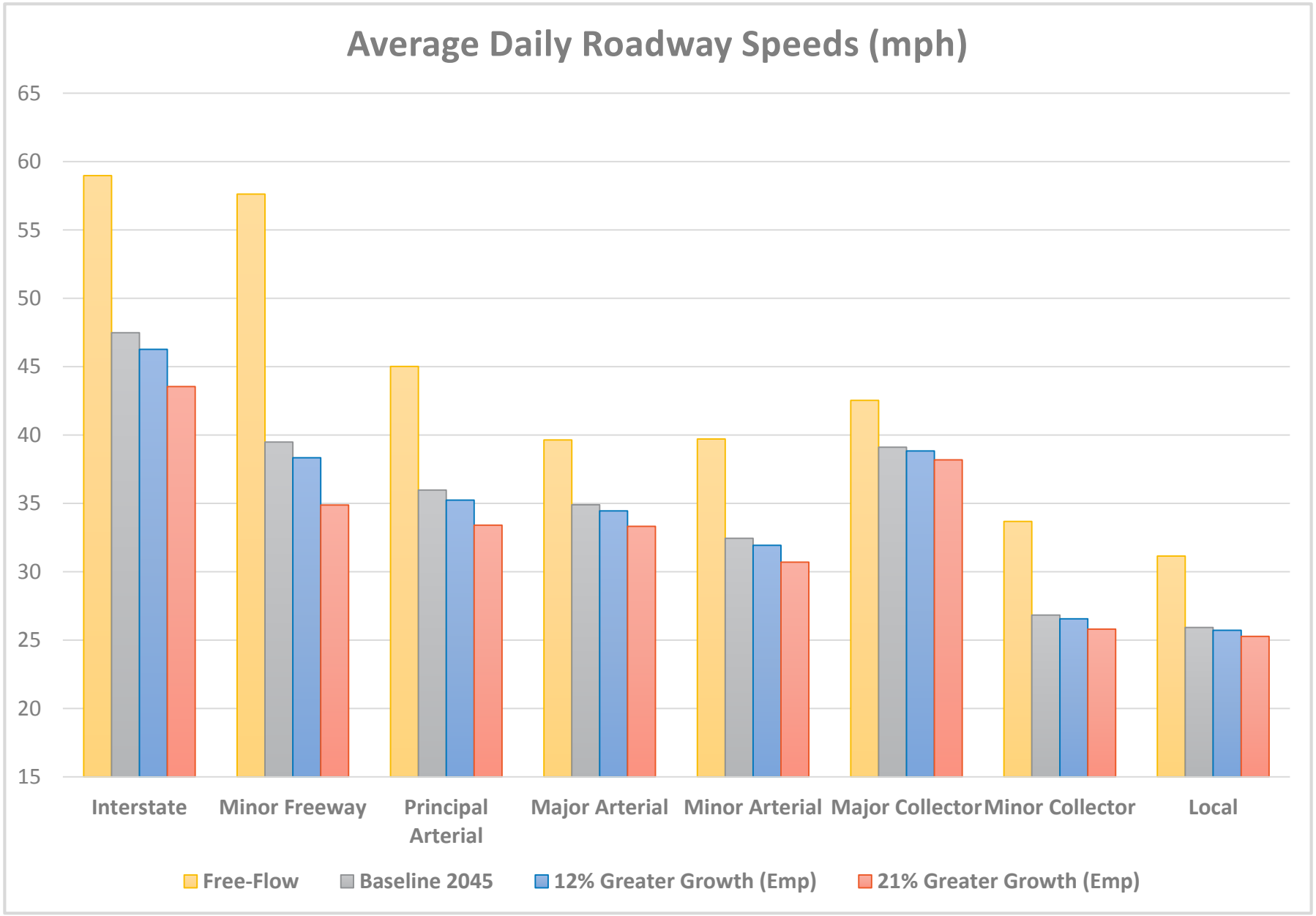
- Gauge regional reaction of the travel demand model to greater growth for 12% and 21% increases in employment over 2015
  - Applied employment growth proportionately to all TAZs
  - Maintained population/employment ratio in 2045 baseline forecasts
  - Maintained average household occupancy and vehicle availability
  - Adjusted I-E/E-I travel in accordance with resulting changes in TAZ trip generation
  - E-E travel held constant
- 2025/2026 E+C Network
- Examined changes in vehicle-hours traveled and roadway speeds* compared with the 2045 baseline

Attachment 6C

*Speeds are raw model output and are intended for comparison between growth scenarios only.



Attachment 6C



Note: Speeds are raw model output and are intended for comparison between growth scenarios only.

Attachment 6C

Harbor Crossings

Daily Levels-of-Service

Crossing	Direction	Free-Flow Speed	Baseline 2045 Land Use		12% Greater Growth		21% Greater Growth	
			Congested Speed	V/C	Congested Speed	V/C	Congested Speed	V/C
Hampton Roads Bridge-Tunnel	GP - WB	60	17.3	1.09	16.3	1.10	14.5	1.13
	GP - EB	60	17.1	1.09	15.9	1.10	14.1	1.13
	Managed - WB	60	35.8	0.57	32.0	0.59	27.6	0.65
	Managed - EB	60	33.0	0.60	31.3	0.63	28.3	0.70
Monitor Merrimac Memorial Bridge-Tunnel	WB	60	33.7	0.80	31.4	0.82	28.3	0.87
	EB	60	32.0	0.82	30.0	0.83	27.3	0.88
James River Bridge	EB	52	33.1	0.75	26.2	0.78	23.1	0.84
	WB	52	32.5	0.72	25.5	0.75	22.6	0.81
TOTAL				**0.84**		**0.87**		**0.91**

Note: Speeds are raw model output and are intended for comparison between growth scenarios only.

Attachment 6C

- AV Adoption
    - Trending upward here might be aggressive. It doesn't make sense in urban areas this soon. Hampton Roads regional economy might not support above-baseline adoption of personal AV usage.

Jason's group:

- Military population may hold steady in this rather than decline downwards given that the economic trend for Federal/Military is trending "steady."
- Retiree population may find urban places that are diverse, walkable and vibrant to be more attractive than suburban. Consider revising this trend to either steady or upwards.
- Question was raised on why are even considering military or retiree population when the model is just allocating people, and not military people, or older people?
- There was discussion about the "tighter environmental regulations" and how it was uncertain exactly how these differ between scenarios. A suggestion was made to keep the same "steady" assumption for this for all scenarios.
- The whole AV/CV needs further clarification. There is not consensus yet in the research community on how AV/CV will impact growth and development yet. Need to be explicit in how we are testing these in our scenarios and what the assumptions are. Also, are we to separate AV and CV?

Greater Suburban/Greenfield Growth

Nick's group:

- Urbanization
    - Could a population shift to the suburbs spur some redevelopment of downtown
    - Urban land prices will go down
    - There may be a shift in population/residential distribution based on socioeconomic factors
- AV Adoption
    - Generally agree with the strong growth but it will be on the trucking/commercial side

Jason's group:

- Be cognizant that the Retiree Population is not really connected to employment forecast because they are not linked to jobs.
- Transit propensity in suburban/greenfield may not be steady, might trend downward if this if more people are living in auto oriented places.
- Need to understand the differences between the two higher "Port Competitive" scenarios, e.g., what are the assumptions behind the strong downward trend in rail and barge in this one vs the greater growth on the water. Did not question the arrows, just needed to understand the nuances of the two port oriented scenarios.
- The whole AV/CV needs further clarification. There is not consensus yet in the research community on how AV/CV will impact growth and development yet. Need to be explicit in how we are testing these in our scenarios and what the assumptions are. Also, are we to separate AV and CV?

Vlad's group:

- It may not be realistic to expect environmental regulations to actually be looser than they are in the 2045 baseline scenario. Therefore, better to show the arrow as steady rather than declining.
- The group felt that the active transportation arrow should be steady rather than declining in this scenario. Greater suburban growth could be in the form of mixed-use suburban centers (such as New Town in James City County) which could still have considerable localized use of active transportation modes.

Scenario Feedback

May 21, 2019 Workshop

Greater Growth on the Water

Naomi's group:

- Consider retiree growth in this scenario to correspond to increase in tourism
- Make sure that dispersed housing does still include housing on the water, even if it also has dispersed housing elsewhere (participants noted that in their jurisdictions housing on the water is seen as a stronger market than is commercial development)
- Having AV flat in this one compared to AV up in the Greater Suburban/Greenfield Growth scenario is useful because both have dispersed housing and longer trips, but in this one you will not get capacity benefits from AV, while in Greater Suburban/Greenfield Growth you will
- On characterizing greater military growth:
    - This should not be new bases but rather increased utilization at existing bases
    - On explanation for this could be that technology allows for remote operations meaning that military personnel in the region could be engaging in activities worldwide through technology

Vlad's group:

- It may not be realistic to expect environmental regulations to actually be looser than they are in the 2045 baseline scenario. Therefore, better to show the arrow as steady rather than declining.

Greater Growth in Urban Centers

Naomi's group:

- AV adoption may not be so impactful in this scenario because there are more non-driving mobility options
- Rail Use for Freight:
    - Growth in urban centers has the potential to put pressure on rail infrastructure – suggested analysis of impact on at grade rail crossings
    - Asked if there is enough rail capacity to facilitate greater freight movement on rail. Answered that rail capacity is controlled by the private sector and the scenario would just assume that capacity investments are made to enable the scenario. If we learn through the scenario planning that it's important, then that could be monitored in planning efforts going forward.

Nick's group:

- Retiree Population Growth
    - Are retirees moving to downtown urban areas as well as suburban town center developments? Both have similar amenities and attractors.
    - Is this more likely to follow the baseline (when all movement is considered)?
    - Consider the costs of urban/downtown square footage vs. suburban town center square footage: In this scenario, which are we gearing towards empty nesters/retirees and which are we gearing to younger generations?
- Water Technologies
    - Why is Water Technologies tied to Urban Centers? Urban waterfronts are developed.
    - This may need to be better defined as a driver.

Other

Naomi's group:

- Sea level rise will affect the cost of development along the water and may shift where the waterfront is that attracts development in the growth on the water scenario

Nick's group:

- Tighter Environmental Regulation needs to be more clearly defined

Jason's group:

- It would be good to see or know better what some of the base 2045 growth trends are to know what "steady" means, and consequently from that what is meant by downward or upward off of those trends.

Vlad's group:

- The cost of gas could be a big external factor that would significantly affect travel and VMT
- It seems that the scenarios have more to do with VMT growth so why not define the scenario narratives in terms of what they would do to future VMT?

REGIONAL CONNECTORS STUDY

Introduction

The Hampton Roads Transportation Planning Organization (HRTPO) kicked-off the Regional Connectors Study in June 2018 with funding from the Hampton Roads Transportation Accountability Commission (HRTAC). The study will focus on Hampton Roads connectivity through the lenses of congestion relief, economic vitality, resiliency, accessibility, and quality of life.

The HRTPO Regional Connectors Study will reexamine projects previously studied in the Hampton Roads Crossing Study (HRCS) Supplemental Environmental Impact Statement (SEIS) including the following corridors shown on the map on the next page:

- VA 164
- I-564 Connector
- VA 164 Connector
- I-664 Connector
- I-664 widening (from I-64 in Hampton to US 460/58/13 in Chesapeake)

In addition to these projects, HRTPO may also study other feasible projects that could improve Hampton Roads Connectivity. The completed study will provide a long-term vision for improved connectivity between the Peninsula and Southside, with recommendations for project phasing.

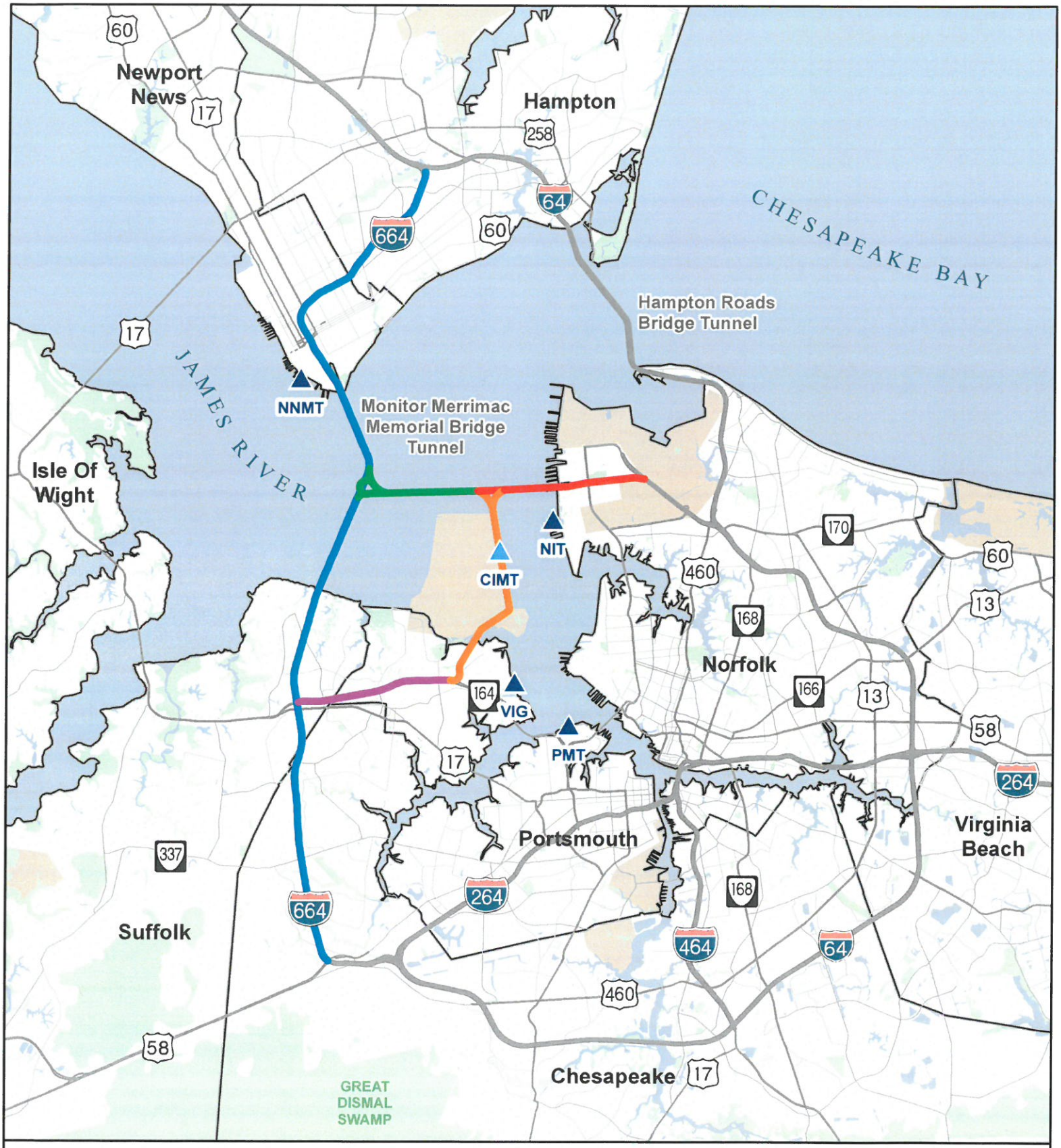
Phases of the Study

The study has been divided up into phases. Phase 1 has been completed and consisted of a regional statistically valid random survey of Hampton Roads citizens, stakeholder interviews, an assessment of existing conditions along the interstate facilities in the region, an assessment of the regional travel demand model to determine potential upgrades, and the launching of a project website. Work products from those Phase 1 tasks are available for viewing on the project webpage:

www.connectorstudy.org

Those tasks assisted in determining what is important to people that live and work in Hampton Roads and what should be addressed with potential improved connections between the Peninsula and Southside.

Hampton Roads Regional Connectors Study



The study is currently in Phase 2, which is focused on a type of planning known as Scenario Planning. In this phase, goals, objectives and measures of success of the study are being determined so they can guide future phases of the study, such as alternative development and assessments.

Phase 2 also includes the development of important databases and tools that will not only be used in the Regional Connectors Study, but also for the 2045 Long-Range Transportation Plan (LRTP) update being conducted by the HRTPO in accordance with federal regulations. That update must be completed by June 2021, and it is important for regional planning consistency that the same Scenario Planning framework, assumptions, and tools be used in both the Regional Connectors Study and the 2045 LRTP update. Phase 2 of the Regional Connectors Study must be completed by January 2020 so that the Scenario Planning foundation may be applied to the development of the 2045 LRTP.

The number, scope, and timing of subsequent phases will be determined as work on the Study progresses.

The budgets for phases of the study that have been approved by the HRTPO Board thus far are:

• Phase 1		$359,497
• Phase 2 interim		$857,119
• Phase 2 supplement		$780,601
	TOTAL	$1,997,217

Phase 1 - Complete

Highlights of Phase 1 included conducting stakeholder interviews and a statistically valid regional survey. Those efforts yielded the following noteworthy findings:

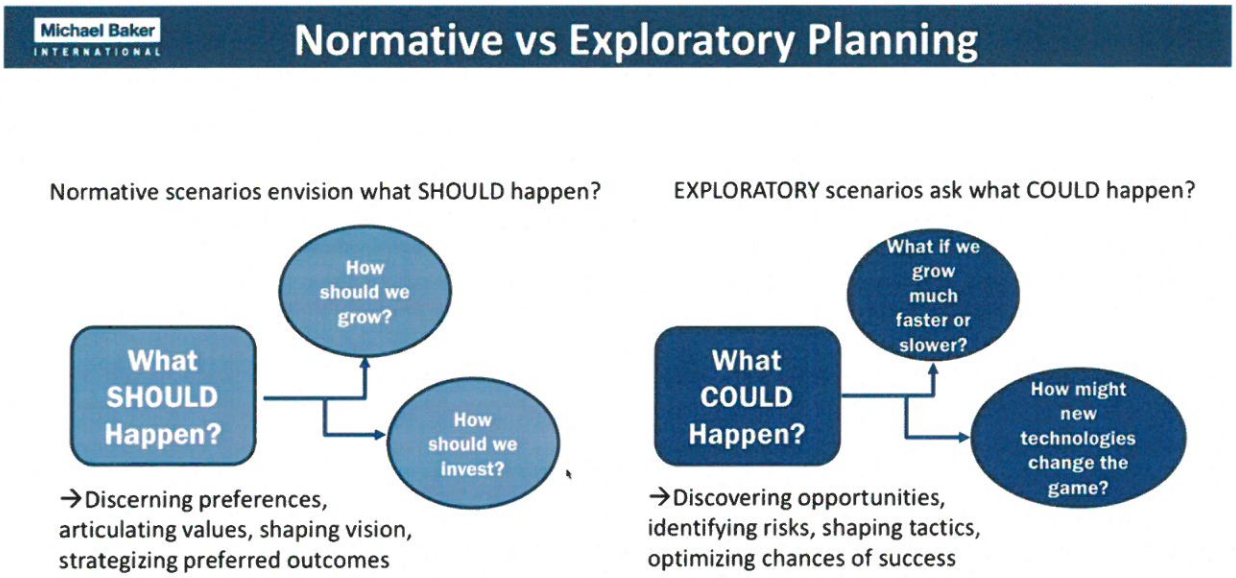
- More coverage and greater frequency of transit is desired
- Tolls and HOV lanes are very unpopular
- More transportation connectivity (all modes) is desired
- Personal commute times are generally considered satisfactory
- Life choices (job and housing locations) to avoid crossing Hampton Roads channel have been made by many
- Unpredictability of travel time is a frustration to many

Phase 2 – On-going

Scenario Planning

Scenario planning is a non-traditional type of planning that is gaining popularity in the industry. It differs from traditional planning (normative) in that it is exploratory and not predictive in nature. Traditional planning makes predictions about the patterns and quantities of future land use and then correlates that land use to different modes of travel. Scenario planning, on the other hand, takes the traditional planning method a step farther and looks at potential influences on the types and quantities of land use. Potential technological (e.g., the new trans-Atlantic fiberoptic network, connected/autonomous vehicles, ridesharing), environmental (e.g., sea level rise, resiliency), and economic (e.g., increased

freight capacity and military presence) influences are explored in scenario planning to forecast what regional conditions might be like if a combination of these influences come to fruition in the future. Scenario planning does not predict what will happen, but rather forecasts what could happen so a range of possibilities is introduced to help plan for the future. A comparison of normative vs exploratory planning is illustrated on the following page.



Next Steps

Between now and January 2020 the study will be focusing on finalizing planning scenarios. In addition, while the planning scenarios are being finalized, the next subsequent phase of the study will be determined so that the study can progress with the identification and evaluation of potential infrastructure improvements.