

REGIONAL CONNECTORS STUDY

Meeting Minutes

Date: March 27, 2019

Location: Webinar/Conference Call

Subject: Scenario Planning Updates #3: Drivers Discussion

Attendees:

- HRTPO/HRPDC – Keith Cannady, Greg Grootendorst, Theresa Brooks, Leonardo Pineda
- HRTAC – Kevin Page
- RCS Project Coordinator - Camelia Ravanbakht
- City of Hampton – Angela Rico
- City of Newport News – Bryan Stilley
- City of Norfolk – Brian Fowler
- City of Williamsburg – Carolyn Murphy, Erin Burke
- City of Virginia Beach – Tara Reel, Katie Shannon
- James City County – Tammy Rosario, Thomas Leininger, Tori Haynes
- VDOT – Jenny Salyers
- VDRPT – Tiffany Dubinsky
- York County – Tim Cross
- Consultant Team – Craig Eddy, Lorna Parkins, Nick Britton, Vlad Gavrilovic, Jason Espie, Will Cockrell, Naomi Stein, Scott Middleton

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Lorna presented the draft schedule of the working group webinars.

Questionnaire Results

Lorna discussed the results of the questionnaire and the different drivers.

Environmental Drivers

Brian Fowler, Norfolk: Are we talking about displacing land use due to sea level rise by the horizon year of this study?

Lorna Parkins, MBI: We're working with a 2045 baseline that may not account for that type of land use displacement, so that may be tricky. But there might be some benefit to seeing how travel patterns can be impacted by sea level rise. We may not be moving around population based on sea level rise but we could allocate less growth (jobs, population) and transportation changes to the TAZs which may be impacted.

Vlad Gavrilovic, EPR: The economic narratives are the primary movers of the scenarios, so sea level is not the primary force behind the modeling.

Lorna P.: We could hold sea level rise constant across all scenarios so we don't lose the potential impacts of sea level rise in the results.

Tara Reel, Va. Beach: Look at flood maps for the standards. FEMA has them available.

Brian F.: We might be worrying too much about sea level rise and not making the most of our three-scenario limit.

Lorna P.: It sounds like the two suggestions are that we don't want to vary the levels across the scenarios or use the maximum scenario for sea level rise. We can always do a separate exercise later on (not within this scope) with the same models for more specific sea level rise assumptions.

Spatial Drivers

Brian F.: Not all of our assumptions regarding technology or transportation will be reflected in land use. This will require changes to the TDM.

Lorna P.: We're making explicit changes to the TDM to reflect some changes based on our scenarios and our assumptions.

Lorna P.: Are there questions about the spatial organization/allocation of jobs and households?

Brian F.: There is a national trend toward higher density living and higher urbanization; one of the scenarios needs to reflect that. Not all types of employment go in the same places, though.

Bryan Stilley, NN: Consider new "urban" areas that were originally rural, greenfield, or suburban. See areas of Chesapeake, development near Moyock.

Tammy Rosario, JCC: Are location decisions generational or intra-generational?

Lorna P.: That's the kind of thing we vary in different scenarios.

Transportation Policy Drivers

Brian F.: Autonomous vehicles can do two things: disperse land use and make trips longer. Or autonomous transit makes future transportation less costly, which will support the trend to making development less pliable and move towards more urbanization.

Lorna P.: It's not either/or: We can align them with similar spatial assumptions in two different scenarios.

Economic Analysis

Naomi Stein gave a presentation with responses to some of the feedback from the Working Group.

Brian F.: I'm not concerned about how plausible something is by 2045. There's nothing wrong with planning for a slightly longer horizon. We need to assume that there is going to be a substantial amount of growth at some point in time. I'm supportive of going to the upper end of the growth range.

Tara R.: I agree. Take a more optimistic approach. We're looking at 2045, but this growth may be longer range and this will still be necessary.

Brian F.: Why would we not prepare for 21%+? That doesn't worry me.

Scott Middleton presented the foundations behind the three proposed scenarios.

Brian F.: The water-oriented scenario is interesting. A potential third scenario is a status quo plus baseline and then the additional growth; i.e., no change in allocation across industries.

Tara R.: Scenario 3—I'm curious about advanced manufacturing. Is that also included in the first scenario if we grow the water sector moving products?

Scott Middleton, EDR: We will have to make sure that the scenarios are adequately different.

Greg Grootendorst, PDC: One option: Combine Scenarios 1 and 3, then make new Scenario one of more intensive growth than the other options across all industries (no industry winners).

Brian F.: We need to create some meaningful distinctions between the spatial allocations so that we see actual differences in the transportation modeling results.

Open Discussion

Vlad G.: We need to make sure we don't pick drivers within scenarios that cancel each other out.

Naomi Stein, EDR: While we've been talking about the spatial distribution of employment, the other thing that will move the needle and create many of the O/D pairs in the travel model is the spatial distribution of housing. We will need to meaningfully shape our assumptions on housing allocation.

Camelia Ravanbakht: Next webinar is on April 11.

The webinar slides are attached and the webinar recording can be accessed [here](#).



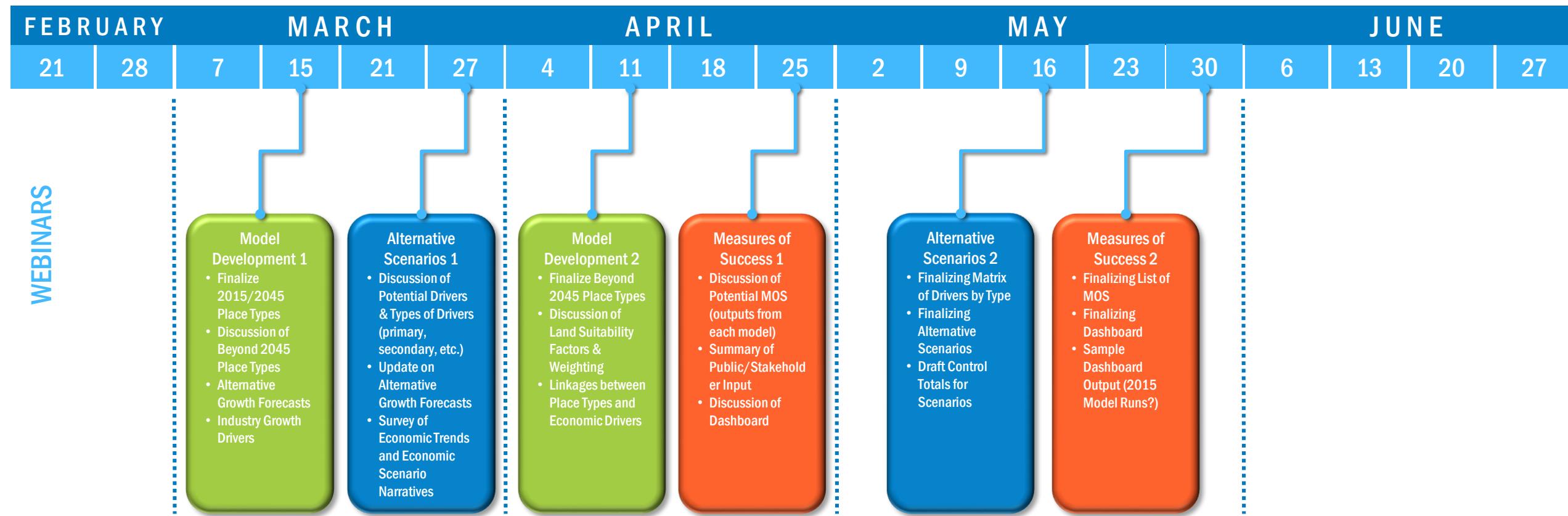
REGIONAL CONNECTORS STUDY

WORKING GROUP WEBINAR #3

March 27, 2019

Michael Baker
INTERNATIONAL

REGIONAL CONNECTORS STUDY – INITIAL DRAFT SCHEDULE OF WORKING GROUP WEBINARS



DATES AND TOPICS ARE SUBJECT TO CHANGE



REGIONAL CONNECTORS STUDY

DRIVERS DISCUSSION

March 27, 2019

Michael Baker
INTERNATIONAL

Questionnaire Summary Overview

- Who responded to the survey?
 - Hampton Roads Transit, James City, WATA, Virginia Beach, VDOT, The U.S. Navy, Norfolk
- Major themes:
 - Focus land use, economic and transportation drivers on different spatial patterns
 - Incorporate climate change
 - Consider technology impacts across all types of drivers
 - ***Note: Economic trends/drivers to be discussed later***

Questionnaire Summary Overview

- Demographic Drivers
 - Most Important:
 - Population Growth Trends
 - Age Trends
 - Other Demographic Drivers?
 - Low Millennial birthrates/Population replacement rates
 - Military personnel characteristics/preferences
 - Military housing policies (on vs. off-base housing)
 - Higher education (expansion of employment could increase student populations)
- Employment Drivers
 - Most Important:
 - Employment Growth Rate
 - Military Proportion of workforce
 - Other Employment Drivers?
 - STEM field trends
 - Job automation/Artificial intelligence
 - Quality of data connection/internet
 - Environmental future

Questionnaire Summary Overview

- Transportation Drivers
 - Most Important:
 - Locational Preference
 - Public transit availability
 - Freight shifts
 - Other Transportation Drivers?
 - Transportation policies (taxation, tolling, etc.)
 - AV technology and transportation
 - Changes in work (more telework/part-time)
 - Future burst of sub-prime auto bubble
 - Transportation trends among younger people
- Technology Drivers
 - Most Important:
 - Level of connected vehicle/AV adoption
 - TNC usage
 - Other Technology Drivers?
 - Fossil fuel alternatives adoption
 - How will automation/future technologies impact regional industries

Questionnaire Summary Overview

- Environmental Drivers
 - Most Important:
 - Climate change/dramatic sea level rise
 - Transportation modal shifts
 - Buy-out programs for/investment in alternative energy sources
 - Other Environmental Drivers?
 - Investment in regional transit

Drivers

- Discussion Items

- Environmental Drivers
- Spatial Drivers
- Transportation Policy Drivers
- Transportation Technology Drivers

“There should be a scenario that takes the worst-case for sea-level rise and anticipates... disruptions on business and the military...”

“Locational (spatial) impacts of land use [are] by far the most critical element.”

“Autonomous vehicles may have a detrimental impact on [vehicle] travel time as it would then be feasible to live much further out and commute without having the hassle of commuting...”



REGIONAL CONNECTORS STUDY

ALTERNATIVE SCENARIO DEFINITION – ECONOMIC COMPONENTS

March 27, 2019

Michael Baker
INTERNATIONAL

Working Group Feedback

Further contextualize HRTPO growth forecasts to help choose incremental growth to explore in scenarios:

- Retrospective – what has past growth looked like in Hampton Roads, compared to Virginia or the US?
- Exploration – what might a major “shock” to the economy, like Amazon HQ2 look like in terms of changes in growth trajectory?

Working Group Feedback

Refining economic narratives for scenario definition:

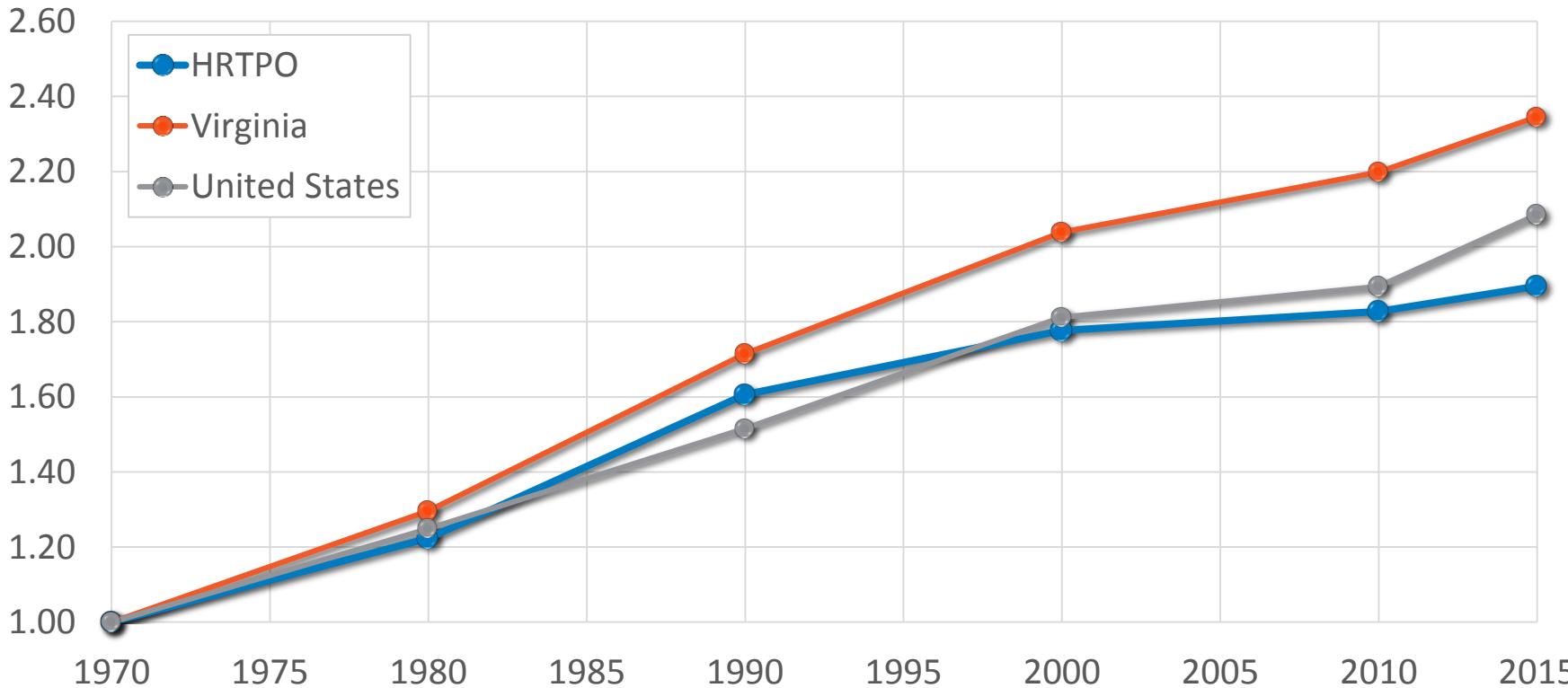
- National industry growth trends already reflected in baseline HRTPO forecast
- Exact industry composition is not as important as defining scenarios that will meaningfully differ in terms of spatial patterns of growth and travel behavior/trip-generation
- Build from regional industry targets

Contextualize growth forecasts

TO HELP CHOOSE INCREMENTAL GROWTH TO EXPLORE IN SCENARIOS

Employment growth over time (retrospective)

Employment Growth (Indexed to 1970)



Relative to HRTPO:

- Virginia grew significantly faster in the past
- US grew slightly faster on aggregate

Source: Bureau of Economic Analysis (HRTPO data as reported in 2045 Socioeconomic Forecast Report)

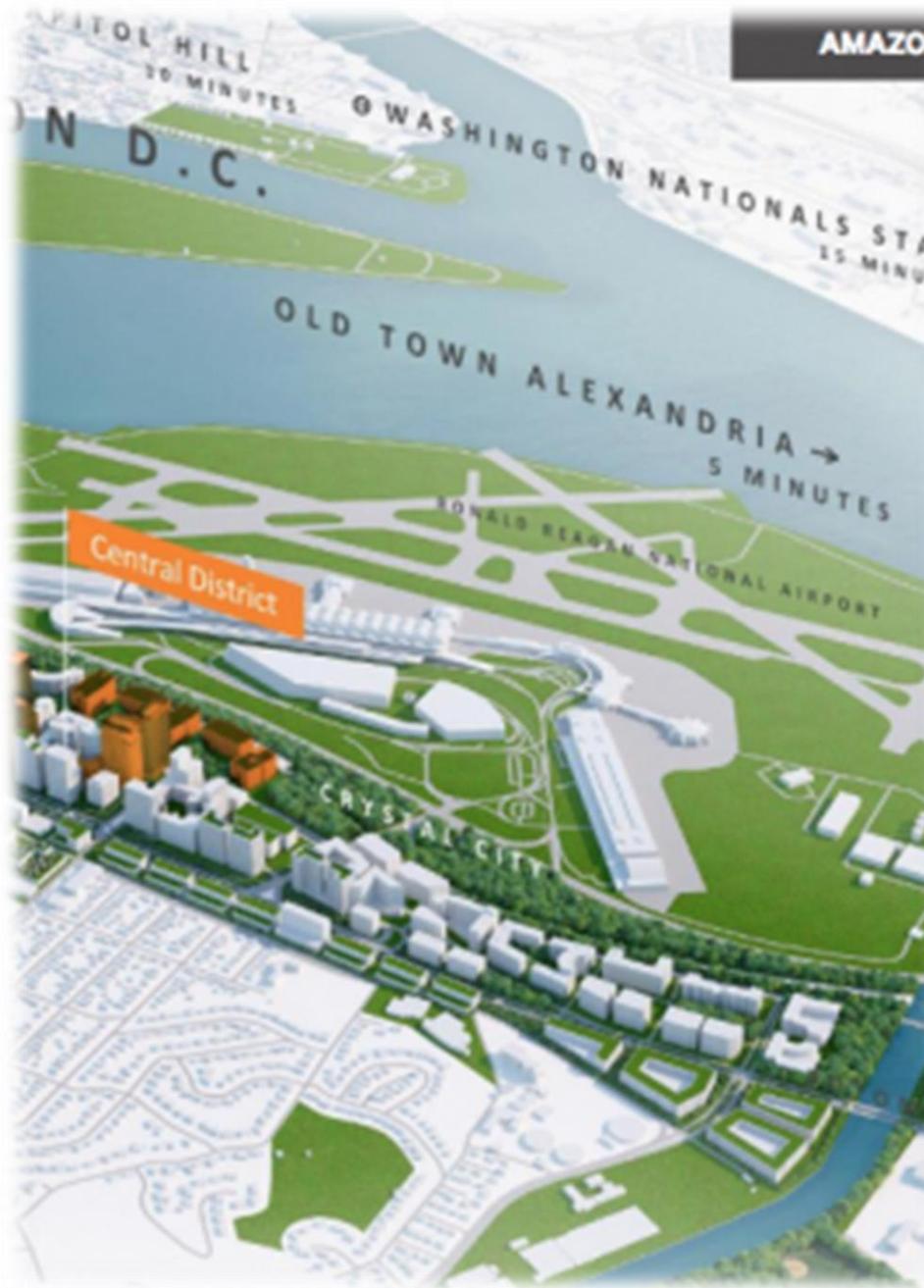
The next 30 years forecast slower growth

Nationally and in Hampton Roads:

- Decelerating population growth
- Aging population
- Decreasing labor force participation

"Established industries in Hampton Roads are not poised for long-term robust growth"

- Greg Grootendorst, Hampton Roads 2045 Socioeconomic Forecast



AMAZON

Catalytic change

Imagining the possible...what does "big change" look like?

Amazon HQ2 – for the sake of illustration:

- 25,000 jobs
- VA incentives for up to 37,850 jobs in 20 years
- Chmura Economics Study: 2.37 Statewide Job Multiplier Impact*

Compare:

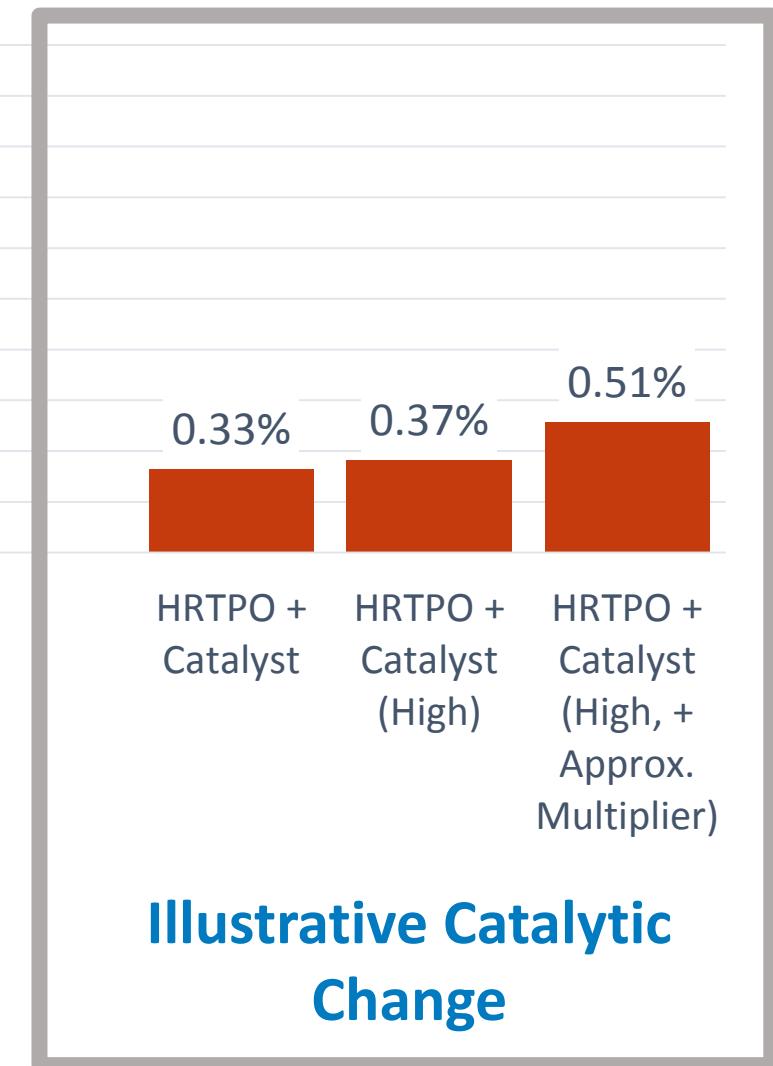
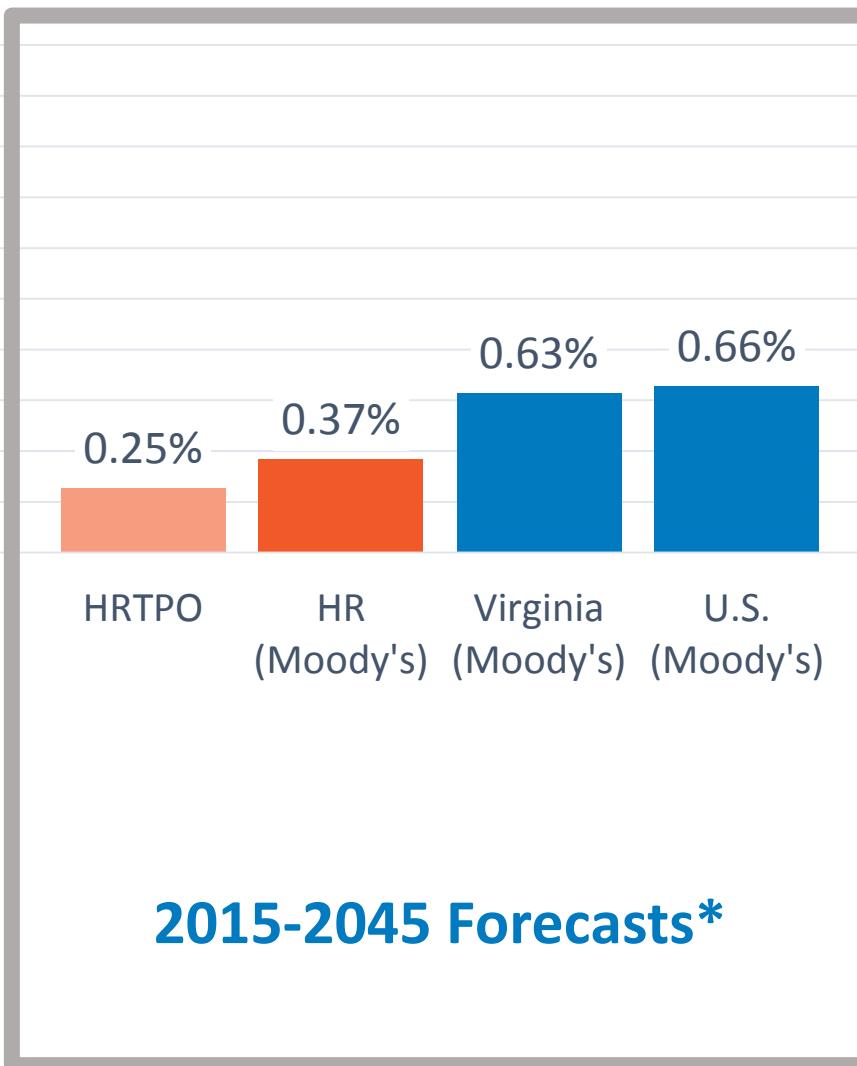
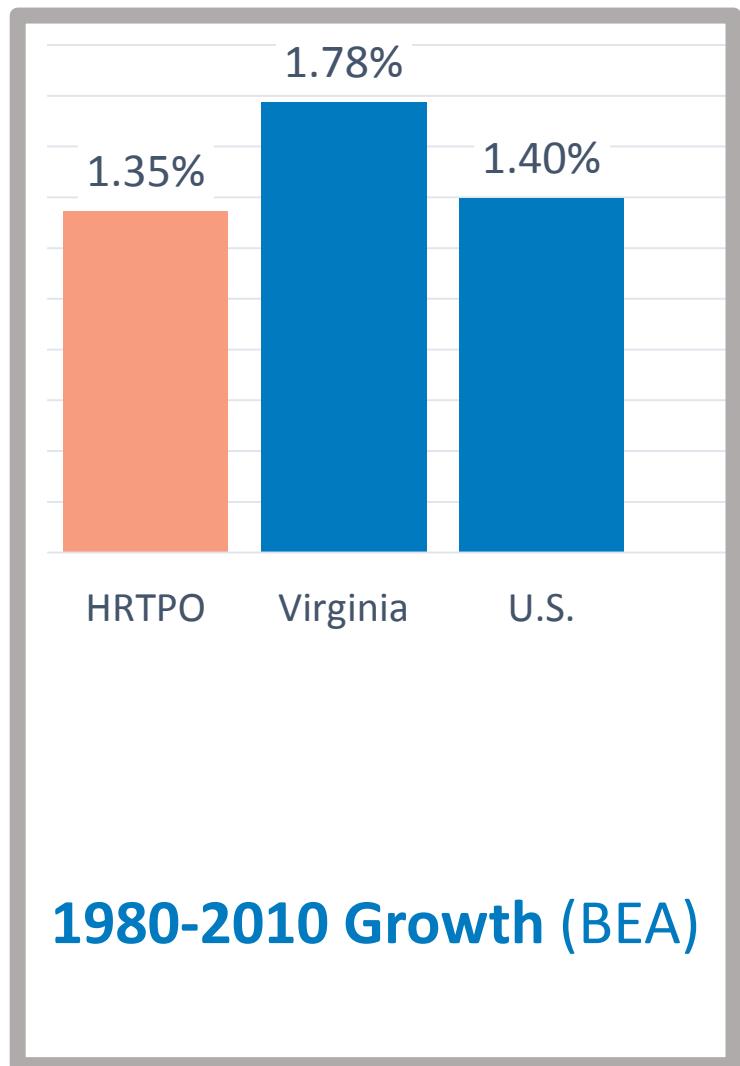
- HRTPO forecasts add 81,268 jobs over 30 years

*<http://www.chmuraecon.com/blog/2018/december/10/economic-impact-how-much-will-amazons-new-second-headquarters-benefit-virginia/>

Purpose of Alternative Growth Approaches

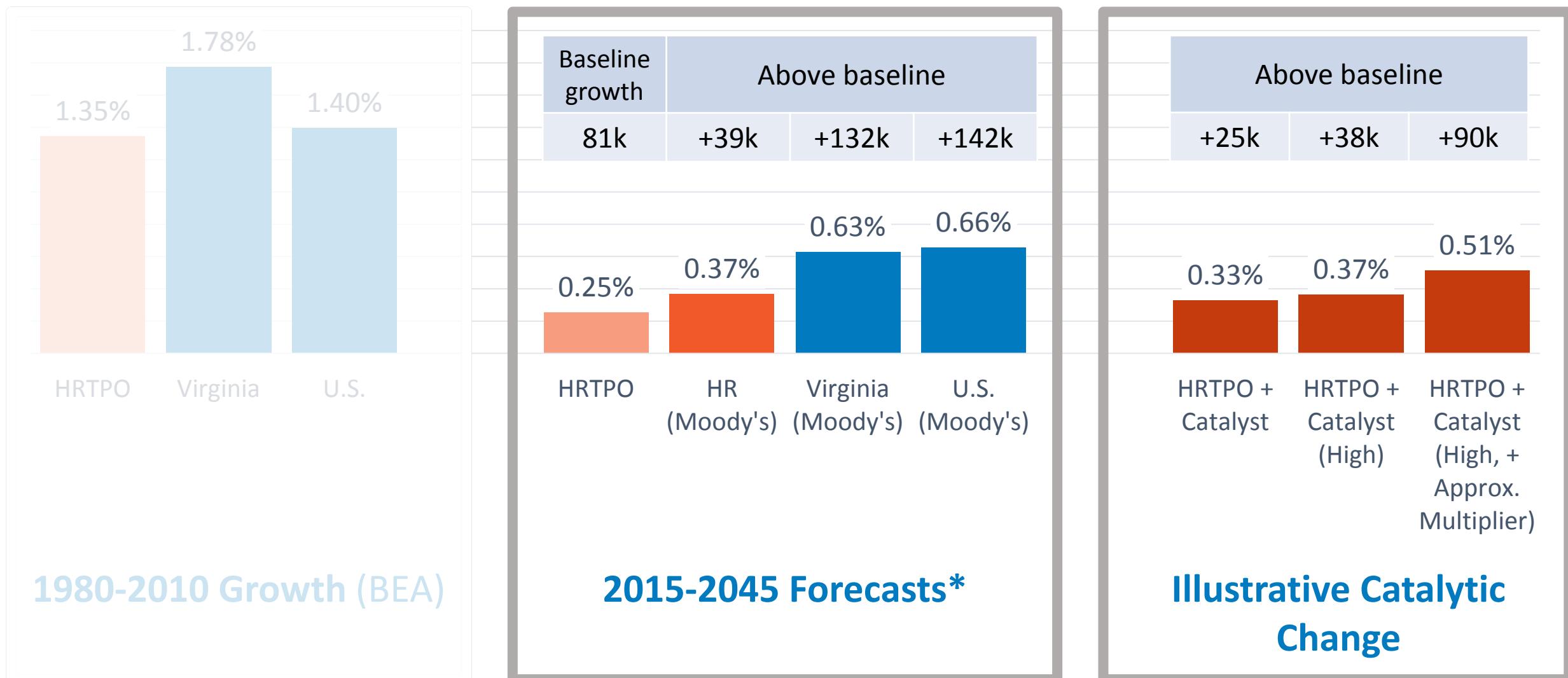
- To establish a Control Total for the “Greater Growth” Scenarios
- These will look at growth in addition to the 2045 Baseline of growth
- The purpose is not to try to predict what may happen in the future
- The purpose is to establish a threshold of additional growth against which to stress test the transportation alternatives
- Need to have a sufficient increment of growth in the region to “move the needle” in the modeling

Annual employment growth rates (comparison)



*Different forecast sources employ different methodologies

Annual employment growth rates (comparison)

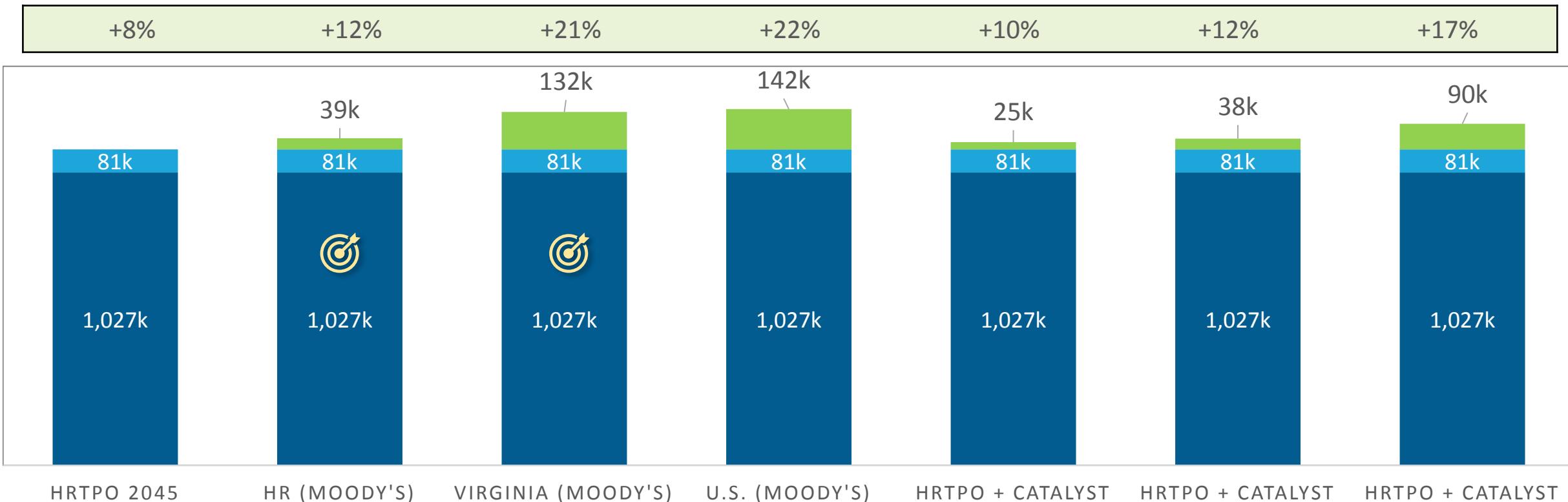


*Different forecast sources employ different methodologies

Regional Employment Added by 2045

% Increase 2015-2045:

■ HRTPO 2015 Employment ■ Baseline Jobs Added by 2045 ■ Additional Scenario Jobs by 2045



Potential Control Total Range
for Greater Growth Scenario

Discussion

- Selected level of growth needs to be plausible but also support differentiation between baseline forecast and scenarios
- Optimistic regional forecast and optimistic VA forecast brackets potential “greater growth” at 12-21%
- Catalyst analysis shows that 12-20% growth is in the range of what a major ‘shock’ to the economy would do
- Idea: do a quick sensitivity analysis with the travel demand model to identify what ‘moves the needle’

Refining economic narratives

FOR SCENARIO DEFINITION

Defining Industry Sectors

1. **Federal/military:** Armed services installations, civil servants supporting military operations, private defense contractors, and other federal agencies and contractors
2. **Maritime/transportation technology:** Specialized manufacture, assembly, and repair for maritime equipment, railcars, buses, trucks, sensors, aerospace, etc. Includes ship repair/shipbuilding, advanced materials and components, unmanned systems/aerospace
3. **Water technologies:** Architecture, planning, and engineering for coastal areas/climate research. Includes engineering and technical consulting, as well as creative design
4. **Shared services:** High value internal support functions to corporate operations, including finance and human resources. Includes management and operations services
5. **Software development and IT:** Development of software applications, support and consulting services for U.S. and international markets. Includes cyber security, data analytics, and modeling and simulation

Defining Industry Sectors

6. **Data port-oriented development:** Data centers, data analytics. Mix of job opportunities includes software engineers and data scientists, but also jobs with lower educational requirement (sales, security, service, etc.)
7. **Distribution:** Regional distribution/logistics centers for Eastern U.S. market. Includes port operations, logistics, and warehousing
8. **Advanced manufacturing:** Specialized food and beverage manufacturing, medical equipment manufacturing, or other manufacturing from employers with high R&D spending and >20% of jobs requiring a STEM education. Includes bottling and food packaging, distilled spirits, and specialty food products
9. **Tourism/arts & culture:** Hospitality, amusement/entertainment, culinary, traveler engagement, arts & culture, sporting events, outdoor recreation

Potential Scenario Narratives – Industry Mix

Scenario 1: Greater Growth on the Water

- **Narrative:** Growth in water-oriented sectors. Port of Virginia becomes even more competitive.
- **Core sectors:** Military, Port Employment, Tourism
- **Target sectors:** Maritime and Transportation Technology, Water Technologies, Distribution
- **Example place types:** port industrial (PI), military (MM), utilities (IU)

Scenario 2: Greater Growth in Urban Places

- **Narrative:** Employment growth from significant economic diversification. Space requirements per FTE are low and new professionals prefer to live in urban settings. Large role for data port.
- **Core sectors:** (Growth primarily in target sectors)
- **Target sectors:** Shared Services, Software Development and IT, Data Centers, Water Technologies
- **Example place types:** boulevard commercial (BC), urban town center (UTC), transit oriented center (TOC)

Scenario 3: Greater Suburban/Greenfield Growth

- **Narrative:** Growth is suburban/exurban. Port of Virginia becomes more even more competitive. Data port brings additional jobs.
- **Core sectors:** Distribution, marine/transportation technologies
- **Target sectors:** Advanced manufacturing, data centers
- **Example place types:** port industrial (PI), regional industrial center (RIC), suburban town center (STC), rural cluster (RC)

NOTE: Overall job growth constant across all three scenarios

Economic Drivers by Scenario (Industry Mix)

Employment by Industry	Scenario 1	Scenario 2	Scenario 3
Federal/military	↑	-	-
Maritime/transportation technology	↑	-	↑
Water technologies	↑	↑	-
Shared services	-	↑	-
Software development and IT	-	↑	-
Data centers	-	↑	↑
Distribution	↑	-	↑
Advanced manufacturing	-	-	↑
Tourism/arts & culture	↑	-	-

Discussion