REGIONAL CONNECTORS STUDY

Meeting Minutes

Date: March 15, 2019

Location: Webinar/Conference Call

Subject: Scenario Planning Updates

Attendees:

- HRTPO/HRPDC – Dale Stith, Greg Grootendorst, Keith Nichols, Sara Kidd
- RCS Project Coordinator - Camelia Ravanbakht
- City of Chesapeake – Troy Eisenberger, Ben Camaras
- City of Hampton – Angela Rico
- City of Newport News – Bryan Stilley
- City of Norfolk – Janice Hurley, Brian Fowler
- City of Portsmouth – Carl Jackson
- City of Williamsburg – Carolyn Murphy
- City of Virginia Beach – Tara Reel, Katie Shannon
- FHWA – Ivan Rucker
- James City County – Tammy Rosario, Thomas Leininger
- VDOT – Robin Grier
- WATA – Josh Moore
- Consultant Team – Craig Eddy, Lorna Parkins, Bill Thomas, Nick Britton, Vlad Gavrilovic, Jason Espie, Will Cockrell, Naomi Stein, Scott Middleton

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Land Use Model (Part 1)

Vlad Gavrilovic and Jason Espie provided an overview of the existing 2015 and future 2045 place types for the scenario planning efforts. Discussion items were as follows:

Tammy Rosario, James City County: This seems logical and well-laid out. Many opportunities for use in JCC's use, especially in its upcoming future land use plan.

Land Use Model (Part 2)

Vlad and Jason provided an overview of the Beyond 2045 place types for the scenario planning efforts. Discussion items were as follows:

> **Brian Fowler, Norfolk:** The terminology has a dual, confusing meaning; could also mean "beyond" the horizon year of 2045. But these changes could happen before 2045. We don't want to imply that it can only happen later than 2045.
>
> **Tammy Rosario:** Again, this works with the direction that James City County is going.

Economic Analysis

Naomi Stein and Scott Middleton provided an update of the Economic Analysis tasks. Discussion items were as follows:

> **Greg Grootendorst, HRPDC:** The VEC forecast is an out-of-date Weldon Cooper forecast.
>
> **Brian Fowler:** Do these population forecasts include any detailed demographic stratification such as households with non-working people to give more context to their relationship with the job forecasts?
> **Greg Grootendortst:** The Weldon-Cooper forecast is just population. The TPO uses REMI which has everything tied together: labor-force participation, aging population rates, etc.
>
> **Brian Fowler:** In other cities, there have been examples where major catalysts have upset forecasts (eg, Amazon HQ2). In our forecasts, the growth might be too conservative to account for a potential catalyst like this. Look for similarly-sized regions and see what is "in the realm of possible."
> **Troy Eisenberger, Chesapeake:** We could set some upper bound to account for that kind of unpredictable change.
>
> **Greg Grootendorst:** Remove the REDS plan as a primary source; it's okay to use as background information.
>
> **Brian Fowler:** Concerned that we don't get too caught up in the microscopic concepts of growth industries that could be location-specific. To test the impact of more growth on the transportation system, we may want to keep a more macroscopic focus.
> **Lorna Parkins, MBI:** Sometimes you have to look in greater detail to frame up what you are analyzing in long-range planning. We'll use the placetypes to help us reflect general differences in the types of economic sectors, such as urban vs megasite locations, and also to have a window into the freight dynamics that may differ among the sectors included in the scenarios.
>
> **Greg Grootendorst:** National growth sectors from the BLS are already utilized in the REMI model so adding them in later doubles their impact on the analysis.

The webinar slides are attached and the webinar recording can be accessed here.
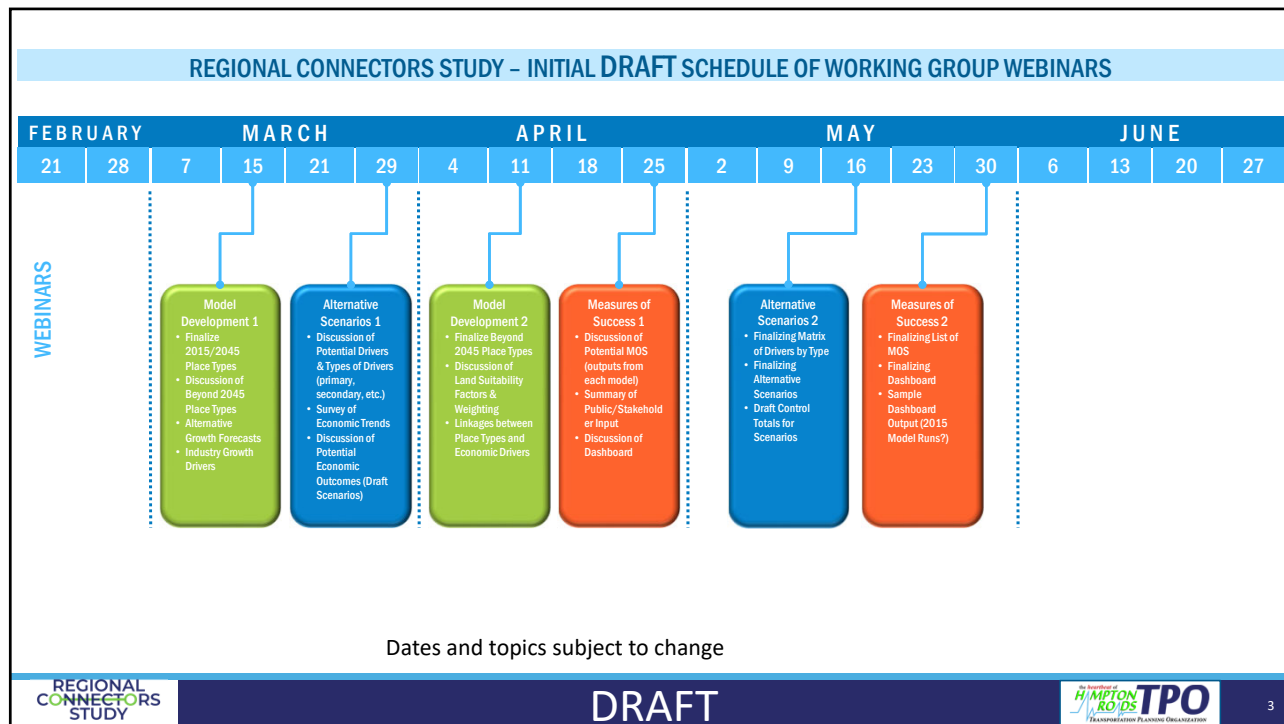
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Scenario Planning Update #2

March 15, 2019

Michael Baker
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Scenario Planning Schedule

Schedule

Task No	Task	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN
						2019								2020
TASK 4	**CONDUCT SCENARIO PLANNING**													
4.1	Building the Base Data, Models, and Scenarios													
4.2	Defining Alternative Future Scenarios													
4.3	Defining Measures of Success													
4.4	Evaluate 2015 Current Regional Conditions													
4.5	Modeling the 2045 Baseline Alternative													

Legend:
- ◆ Draft Deliverables
- ◻ Final Deliverables
- ● Steering Committee Meetings and Presentations
- ✦ Working Group Coordination Meeting
- ▪ll HRTPO to approve updated Prioritization Tool
- △ 2015 Regional Travel Demand Model available
- ▲ 2045 Regional Travel Demand Model available

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REGIONAL CONNECTORS STUDY – INITIAL DRAFT SCHEDULE OF WORKING GROUP WEBINARS

FEBRUARY		MARCH				APRIL				MAY					JUNE			
21	28	7	15	21	29	4	11	18	25	2	9	16	23	30	6	13	20	27

WEBINARS

Model Development 1
- Finalize 2015/2045 Place Types
- Discussion of Beyond 2045 Place Types
- Alternative Growth Forecasts
- Industry Growth Drivers

Alternative Scenarios 1
- Discussion of Potential Drivers & Types of Drivers (primary, secondary, etc.)
- Survey of Economic Trends
- Discussion of Potential Economic Outcomes (Draft Scenarios)

Model Development 2
- Finalize Beyond 2045 Place Types
- Discussion of Land Suitability Factors & Weighting
- Linkages between Place Types and Economic Drivers

Measures of Success 1
- Discussion of Potential MOS (outputs from each model)
- Summary of Public/Stakeholder Input
- Discussion of Dashboard

Alternative Scenarios 2
- Finalizing Matrix of Drivers by Type
- Finalizing Alternative Scenarios
- Draft Control Totals for Scenarios

Measures of Success 2
- Finalizing List of MOS
- Finalizing Dashboard
- Sample Dashboard Output (2015 Model Runs?)

Dates and topics subject to change

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▪ **Task 4.1 Update – LAND USE COMPONENTS of Building the Base Data, Models, and Scenarios**

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Task 4.1c: Build Place Types

Task Summary:

1. Profile existing and future land use types in the region to develop a **unified set of Place Types** that describe regional development patterns
2. Develop **quantitative summaries** of each Place type that summarize land uses, developed areas, and environmental data for each
3. Develop **summary visualizations** of each Place type, to clearly explain them to stakeholders and the public

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LAND USE MODELING IN THIS STUDY:

- 2015 (VIRTUAL PRESENT)
- 2045 (VIRTUAL FUTURE)
- A B C Beyond 2045 (Alternative Scenarios)
- TESTING OF TRANSPORTATION ALTERNATIVES

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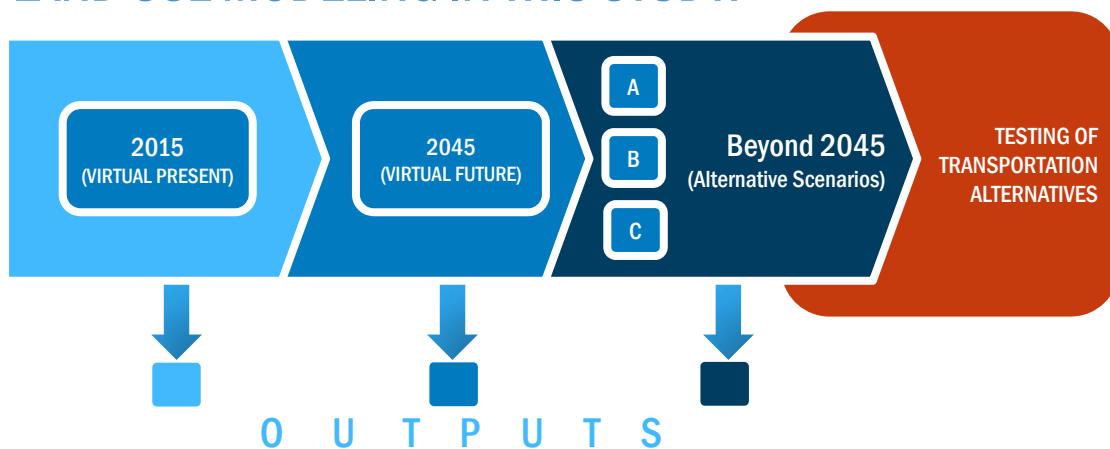
PLACE TYPE DEVELOPMENT

PART 1:
2015 (EXISTING) AND
2045 (FUTURE) PLACE TYPES

PART 2:
BEYOND 2045 PLACE TYPES

Develop 2015 & 2045 Place Types

Determine "Typical" Place Type Densities

Allocate Place Types on the Regional Map

Calibrate population/employment to TAZ Control Totals

Run the Land Use Model for 2015 & 2045

Develop Draft Beyond 2045 Place Types

Correlate Place Types to Beyond 2045 Scenarios

Allocate Place Types according to Scenarios

Run the Land Use Model for Beyond 2045 Scenarios

Output data to Travel Demand Model

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PART 1:
2015 (EXISTING) AND
2045 (FUTURE) PLACE TYPES

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USING THE HRTPO REGIONAL LAND USE MAP AS THE BASIS FOR 2015 & 2045 PLACE TYPES:

- Methodology approved by the HRTPO Board & coordinated with localities' staff
- Developed an accepted methodology for "the merging of 16 local comprehensive plans and existing land uses."
- Key tool for inter-local and regional planning

Legend
- Residential
- Commercial
- Industrial
- Mixed Use
- Military
- Institutional
- Agriculture
- Parks, Open Space & Greenways

Basic Categories

- Future Regional Land Use Detailed
  - Residential
    - Rural Density Residential
    - Low Density Residential
    - Medium Density Residential
    - High Density Residential
  - Commercial
    - Neighborhood Commercial
    - Community Commercial
    - Regional Commercial
  - Industrial
    - Light Industrial
    - Heavy Industrial
    - Airport
  - Mixed Use
  - Military
  - Institutional
  - Agriculture
  - Parks, Open Space, and Greenw...
    - Historical/Cultural
    - Parks
    - Resource Conservation

Detailed Categories

Hampton Roads Regional Land Use Map
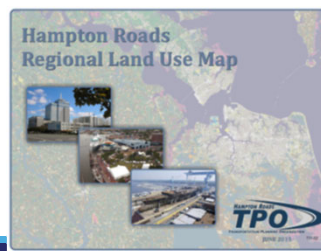
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THE 2015 & 2045 PLACE TYPES

Use the HRTPO Regional Land Uses for the 2015 (existing) and 2045 (future) place types
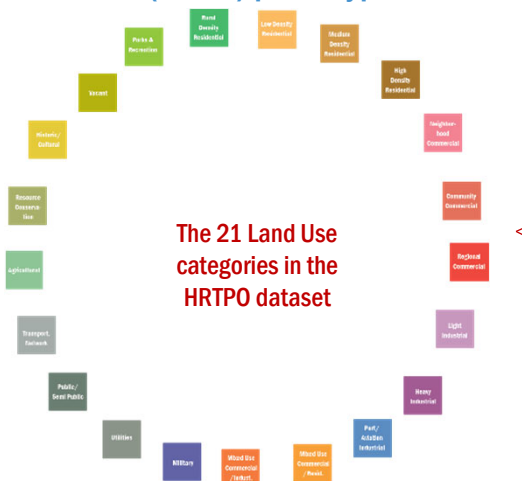
Become the Place Types used for the Virtual Present & Virtual Future modeling

The 21 Land Use categories in the HRTPO dataset
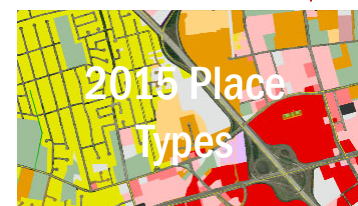
2015 Place Types

Existing Land Use from HRTPO Dataset
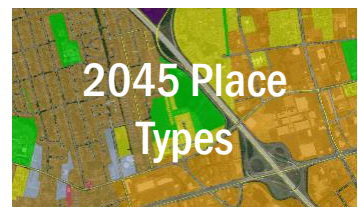
2045 Place Types

Future Land Use from HRTPO Dataset

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QUANTIFYING PLACE TYPES

Each Place Type was sampled with multiple locations to determine the average/typical population & employment data for each
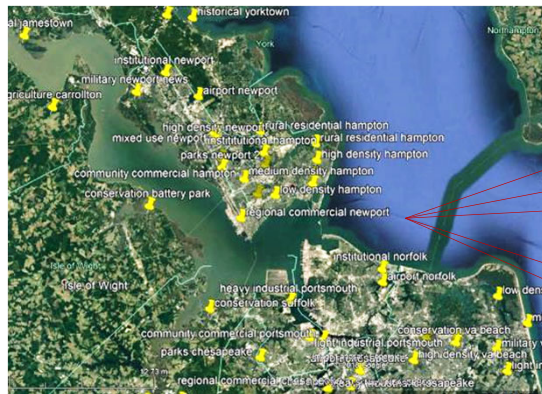
For each Land Use, sample multiple locations
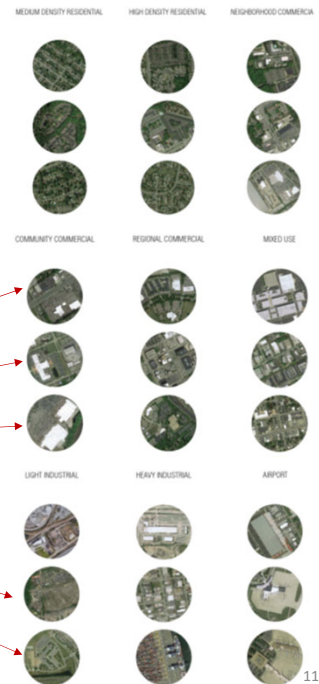
11

EXAMPLE

LOCAL COMMERCIAL PLACE TYPE
- 0   People/acre
- 4.9   Jobs/acre
- 0.2   Typical FAR
  - 20% Building footprint
  - 60% Parking
  - 20% Open Space

Results of the Sampling are summarized in the Draft Place Type matrix

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Allocating PLACE TYPES

Applying **Jobs & Population** totals for each Place Type

98 people
468 people
0 people
352 people
878 people   267 jobs
36 jobs
962 people   19 jobs

Sum from allocating Place Type totals:

**2,758 people
322 jobs**

Need to be reconciled with Control Totals for TAZ:

**2,362 people
426 jobs**

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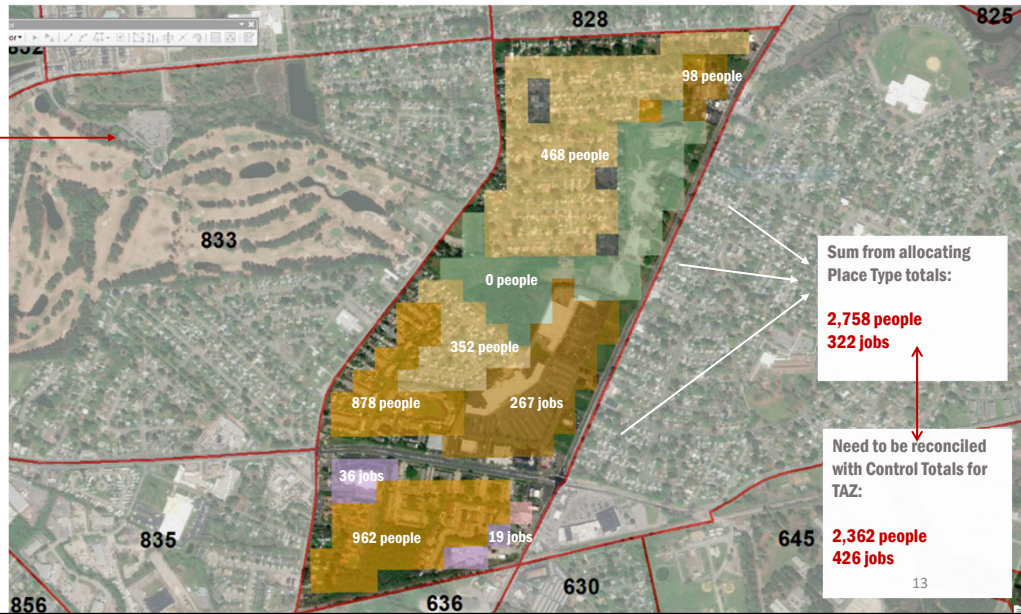
Allocating PLACE TYPES

Reconciling Place Type allocation with TAZ Control Totals

Place Type totals:
**2,758 people
322 jobs**

TAZ Control Totals:
**2,362 people
426 jobs**

Applying **Development Factors**:

2,758 people **X 0.86** Development Factor = **2,362 people**

322 jobs X **1.32** Development Factor = **426 jobs**

What is a Development Factor?
The ratio between "typical" Place Type development and actual TAZ development

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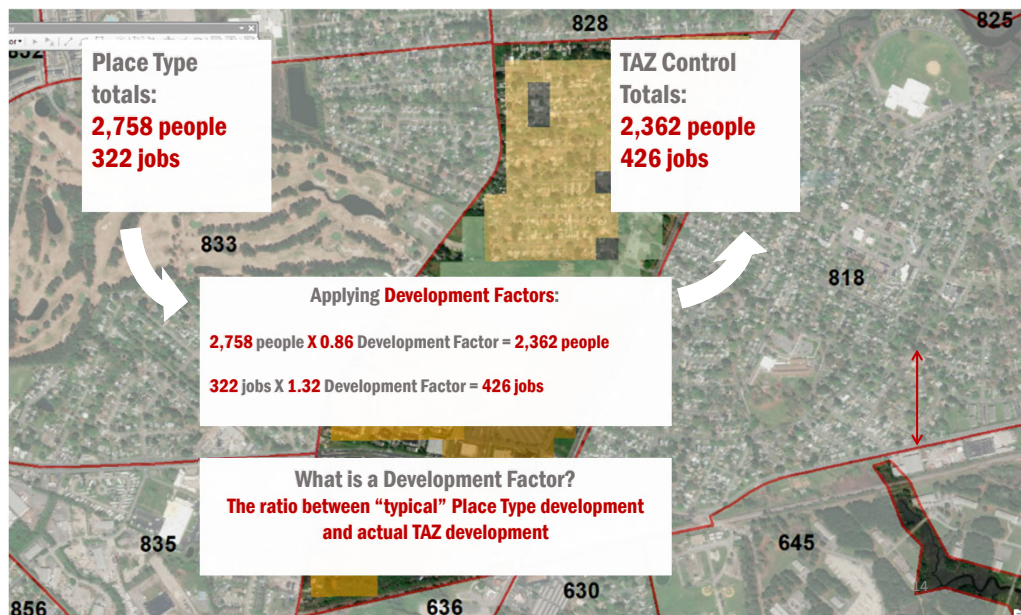
RESULT

- 2015 "Virtual Present" map of the Region

- 2045 "Virtual Future" map of the Region

- With quantified Land Uses reconciled to the TAZ control totals for the Regional Travel Demand Model

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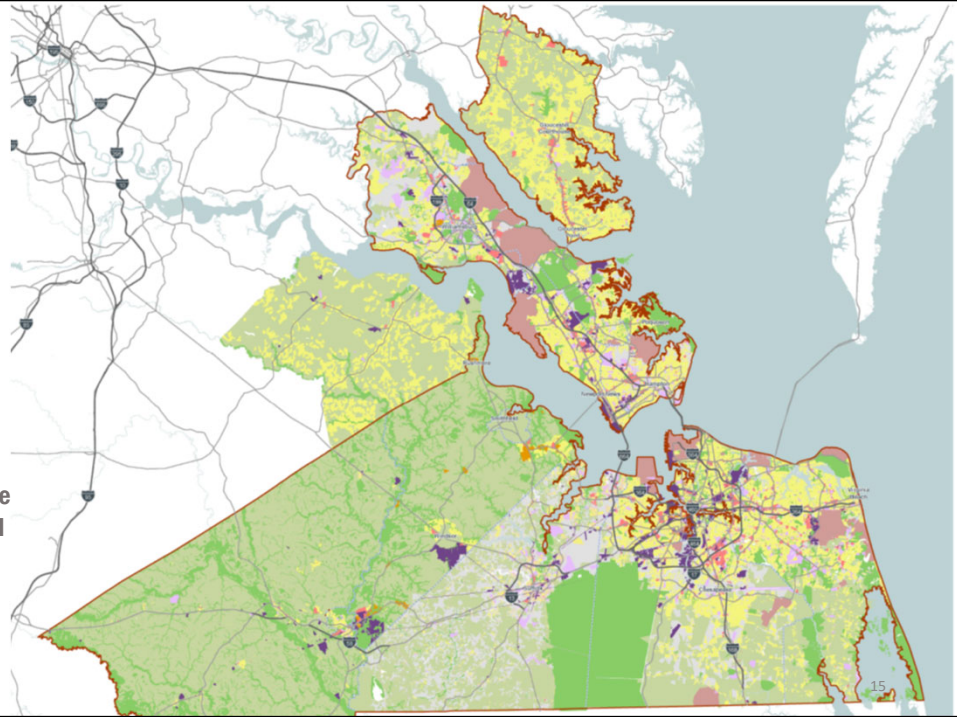
2015 & 2045 PLACE TYPES
1. RESIDENTIAL

Code and Name[2]		Examples	DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
RR	Rural Residential		0.1-.9	-	0.4-3	0	Very large lot single family homes in a rural context interspersed with some agricultural uses
RLD	Low Density Residential		1-3	-	4-10	0	Large lot single family homes in a low-density suburban context
RMD	Medium Density Residential		4-12	-	10-36	0	Attached homes and small lot single family homes in a moderate density suburban or urban context
RHD	High Density Residential		13+	-	37+	0	Multifamily apartments and condominiums in a high density urban or suburban context

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2. COMMERCIAL

Code and Name[2]		Examples	DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
CN	Neighborhood Commercial		-	.1-.3	-	5-10	Limited scale shopping, business, or trade activity
CL	Local Commercial		-	.1-.3	-	11-20	Inter-neighborhood shopping, business, or trade activity
CR	Regional Commercial		-	.4+	-	21+	Regional shopping, business, or trade activity

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3. INDUSTRIAL

Code and Name[2]		Examples	DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
IL	Light Industrial		-	.05-.3	-	7-15	Light industrial uses (Research & Development, warehousing, service, etc.)
IH	Heavy Industrial		-	.05-.8	-	15+	Heavy industrial uses with possible adverse environmental impacts (manufacturing, etc.)
IPA	Port/Aviation Industrial		N/A	N/A	N/A	N/A	Port, General and Commercial Aviation related industrial operations

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4. MIXED USE

Code and Name[2]		Examples	DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
MCR	Mixed Use Comm/Res		4+	0.6+	10+	20+	Commercial/ residential mixed use activity
MCI	Mixed Use Comm/Ind		5+	0.6+	12+	30+	Commercial/ industrial mixed use activity

5. MISCELLANEOUS

Code and Name[2]		Examples	DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
MM	Military		N/A	N/A	N/A	N/A	Military related facilities
IU	Utilities		-	-	-	1-3	Utility facilities
IP	Public/Semi-Public		-	0.1+	5-10	30-60	Government/Educational/Religious/Social or healthcare facilities
IT	Transportation Network		-	-	-	-	Transportation facilities

6. MISCELLANEOUS

Code and Name[2]		Examples		DU/Acre Range[3]	FAR Range	People / Acre	Jobs / Acre	Description
AA	Agriculture			.01-.1	-	.03-.3	.03-.3	Agricultural operations
V	Vacant			-	-	-	-	Vacant developable lands
NP	Parks and Recreation			-	-	-	-	Open space and recreational uses
NC	Resource Conservation			-	-	-	-	Conservation lands
NH	Historic/ Cultural			-	0.1+	3-5	6-12	Historic Preservation / Cultural uses

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Discussion

- Affirm basic Approach for 2015 & 2045 Place Types & Allocations

- Opportunities for using these for Local as well as regional Planning efforts?

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PART 2:
BEYOND 2045 PLACE TYPES

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DEVELOPING PLACE TYPES FOR BEYOND 2045 SCENARIOS:

- These will be used to allocate growth **in addition to the 2045 Baseline**
- We can **still use the same 21** HRTPO Land Use categories to allocate growth beyond 2045
- However, we need some **additional Place Types** to reflect **potential new community types** in the Beyond 2045 Scenarios

Place Types for
2015 and 2045
Land Use Modeling

Place Types for
Beyond 2045 Land
Use Modeling

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BEYOND 2045 PLACE TYPES

- Series of 9 new Place Types that represent potential future Community Types
- Account for some potential future trends, including:
  - Economic diversification
  - Market trends
  - Aging population
  - E-Retail
  - Walkable mixed use & transit
  - Automatic Vehicles
  - Industrial concentrations
- These are DRAFT and may be modified to fit the economic conditions in the Alternative Scenarios

RC	Rural Cluster	
CN	Compact Neighborhood	
BR	Boulevard Residential	
BC	Boulevard Commercial	
STC	Suburban Town Center	
UTC	Urban Town Center	
TOC	Transit Oriented Center	
RIC	Regional Industrial Center	
PI	Port Industrial	

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NEW PLACE TYPES :

Each new Place Type is a composite of multiple uses on a 9-100 acre typical site

STC-SUBURBAN TOWN CENTER

Place Type

STC-SUBURBAN TOWN CENTER

49 ac. Mixed Use Community

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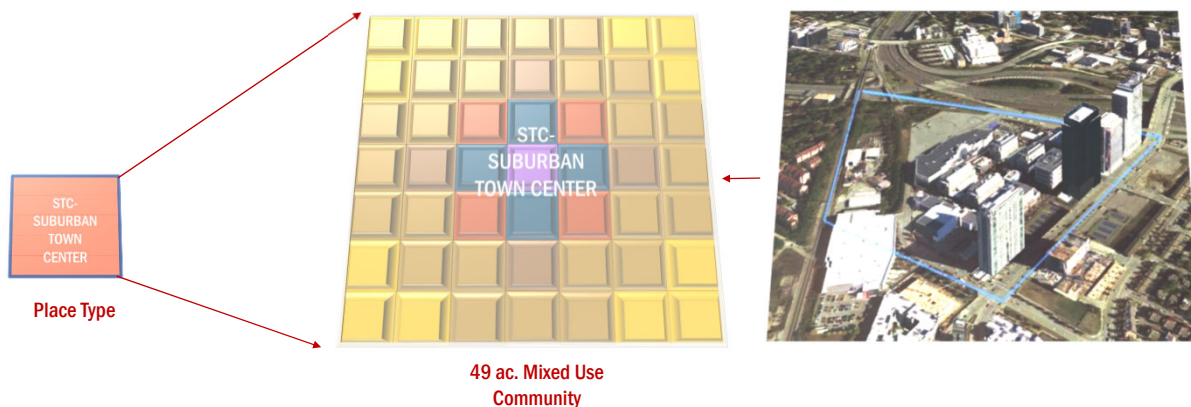
BEYOND 2045 PLACE TYPES

1. MIXED DENSITY RESIDENTIAL

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
RC	Rural Cluster		25 ac.	.1-.5	-	.3-1.3	0-.1	Small cluster housing development surrounded by undeveloped rural lands
RC	Rural Cluster	Belmont Drive, Toano						

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
CN	Compact Neighborhood		16 ac.	3-5	.1-.3	8-13	0-.3	Mixed housing neighborhood with small lot singles and attached housing around community amenities
CN	Compact Neighborhood	East Beach, Norfolk						

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2. BOULEVARD MIXED USE

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
BR	Boulevard Residential		9 ac.	15-30	.3-1.0	40-80	5-20	High density multifamily developments along major arterials designed to front on walkable streetscapes
BR	Boulevard Residential	Jefferson Estates, Jefferson Ave. Newport News						

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
BC	Boulevard Commercial		9 ac.	-	.3-2.0	-	14-90	Mixed retail, office and mixed use along major arterials designed to front on walkable streetscapes
BC	Boulevard Commercial	Columbus St.& Constitution Dr. Virginia Beach						

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3. URBAN/SUBURBAN TOWN CENTERS &TOD

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
STC	Suburban Town Center		49 ac.	15-30	.3-2.0	40-80	14-90	High density walkable mixed-use center in a suburban context
STC	Suburban Town Center	Oyster Point City Center, Newport News						
UTC	Urban Town Center		49 ac.	20+	.4+	30+	50+	Very high density walkable mixed-use center in an urban context
UTC	Urban Town Center	Virginia Beach Town Center						
TOC	Transit Oriented Center		25 ac.	40+	1.0+	100+	100+	High density mixed use urban center with walkable access to premium transit station
TOC	Transit Oriented Center	Downtown Norfolk						

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4. INDUSTRIAL

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
RIC	Regional Industrial Center		100 ac.	-	.1-.4	-	5+	Large site industrial center with regional market
RIC	Regional Industrial Center	Newport News Shipbuilding						

Code and Name		Examples	Size[6]	DU/Acre	FAR	People / Acre	Jobs / Acre	Description
PI	Port Industrial		100 ac.	-	.1-.3	-	5+	Port related industrial development
PI	Port Industrial	Port of Virginia, Norfolk						

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ALLOCATING NEW PLACE TYPES :

- New growth can be allocated as Greenfield (vacant land) development, Infill development or Redevelopment
- We can use either the HRTPO 2015/2045 Place Types or the New (Beyond 2045) Place Types to allocate new growth
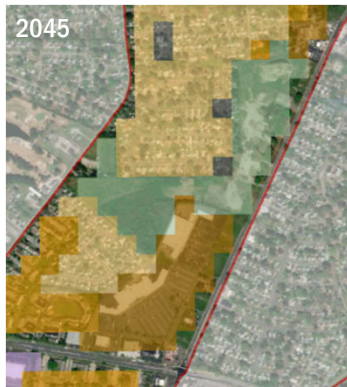
Place Types allocated in 1-ac. grid cells for 2015 & 2045 Land Uses
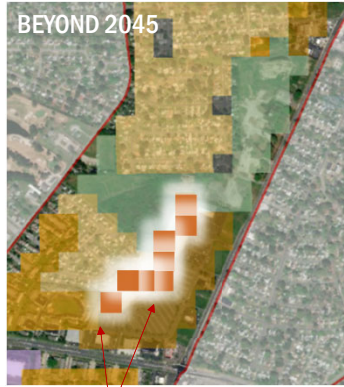
2015/2045 Place Types allocated as Infill Development
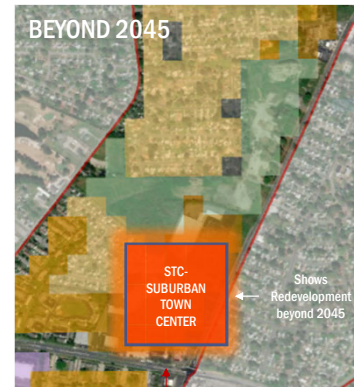
New Place Type allocated as Redevelopment

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RESULT

- Beyond 2045 Growth allocations using **a combination of Place Types**
- Place Types and spatial allocation of growth will be **tailored to match each Beyond 2045 Alternative Scenario**
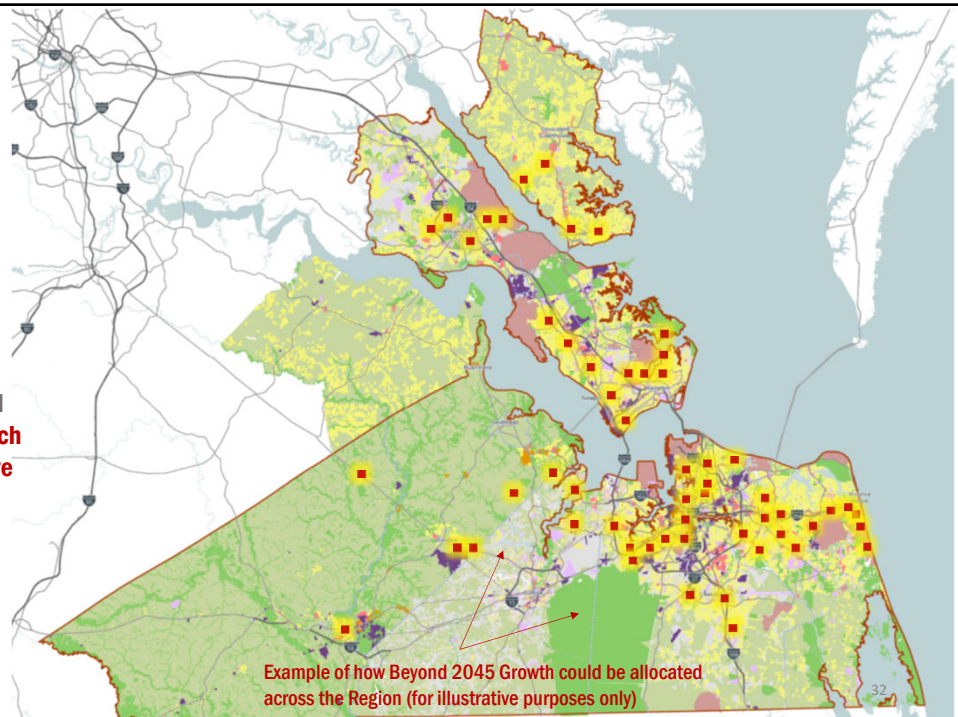
Example of how Beyond 2045 Growth could be allocated across the Region (for illustrative purposes only)

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Discussion

- Pros/cons of initial "Beyond 2045" Place Type approach (i.e. as mixed-use complete communities/neighborhoods)?

- Recognition that they may be modified to suit the Beyond 2045 Alternatives in next step

- Are there other important trends or issues we need to capture in these Place Types?

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Task 4.1 Update – Economic Components of Building the Base Data, Models, and Scenarios

March 15, 2019

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Economic Objectives – Task 4.1

Research to support development of economic "drivers" for use in scenario planning:

1. **Baseline:** Understand TPO's current and forecast economic conditions
   – *establish baseline conditions from which alternative scenarios will pivot*

2. **Scenarios:** Identify economic risks & opportunities that may affect patterns of long term regional growth – *identify building blocks of alternative scenarios*

Economic Objectives – Task 4.1

Key questions:

- How much additional growth is plausible?

- What might the composition of that growth be?
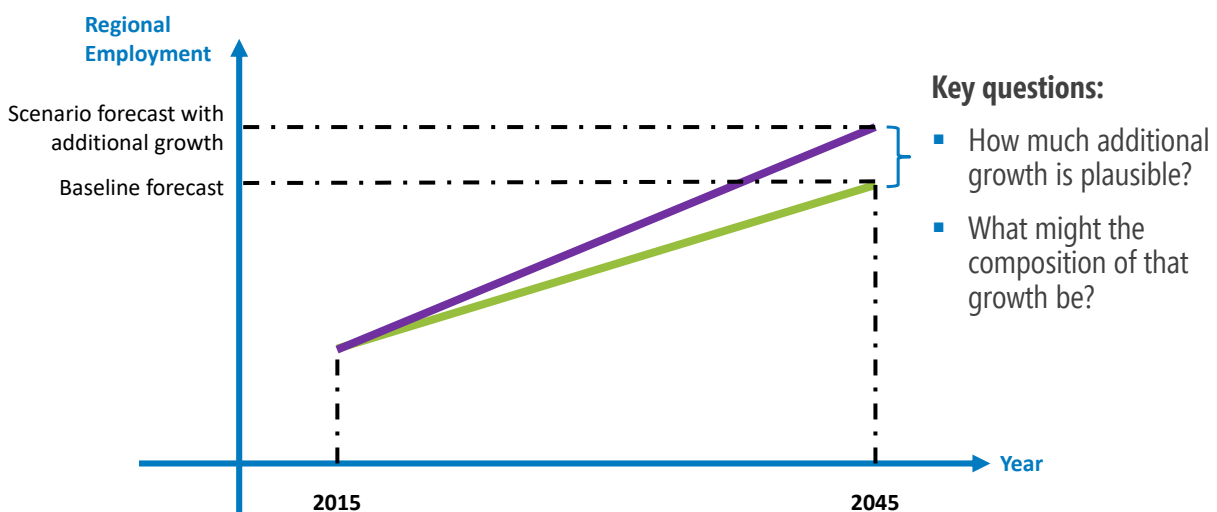
Economic Objectives – Task 4.1

1. Understand TPO's current and forecast economic conditions
   - Industry drivers of growth
   - Benchmarking forecasts
   - *Discussion:* Forecasts

2. Identify economic risks & opportunities
   - Industry targets/opportunities
   - *Discussion:* relevance to scenario definition

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Industry Drivers of Growth

UNDERSTAND TPO'S CURRENT AND FORECAST FUTURE
ECONOMIC CONDITIONS

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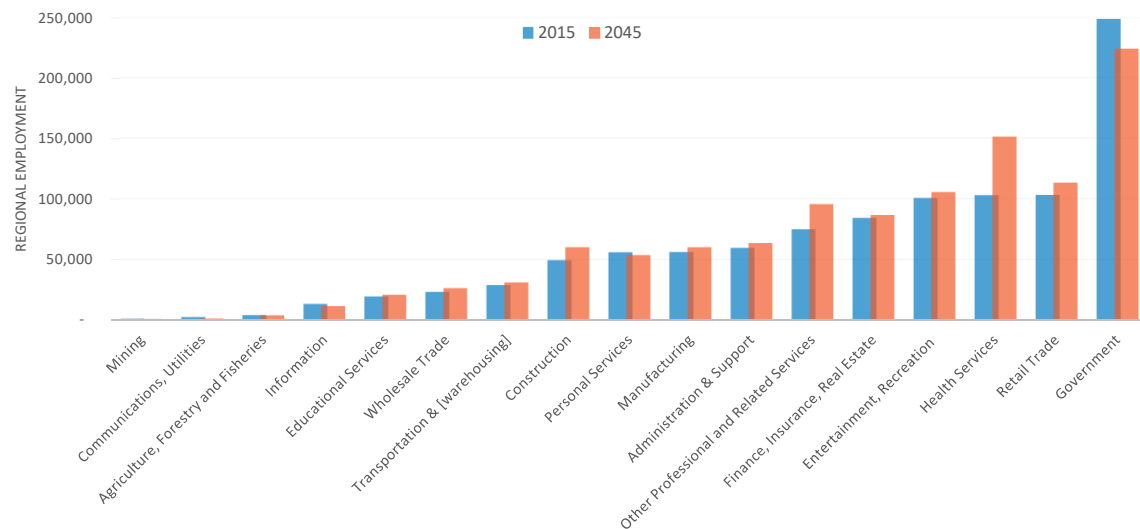
HRTPO Industry Forecasts - 2015 to 2045

HRTPO Industry Forecasts - 2015 to 2045
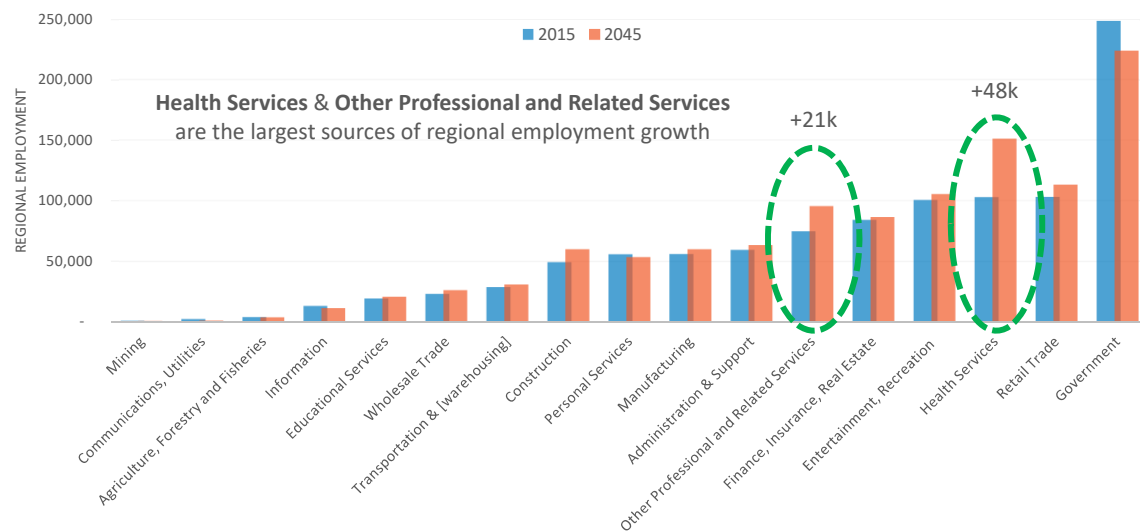
Health Services & Other Professional and Related Services are the largest sources of regional employment growth

+21k

+48k

3/27/2019
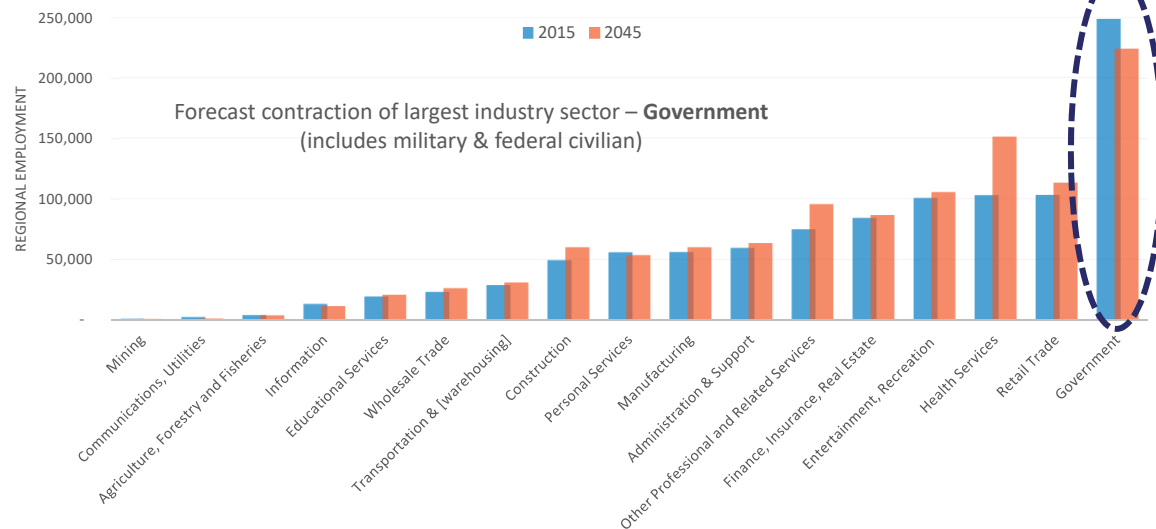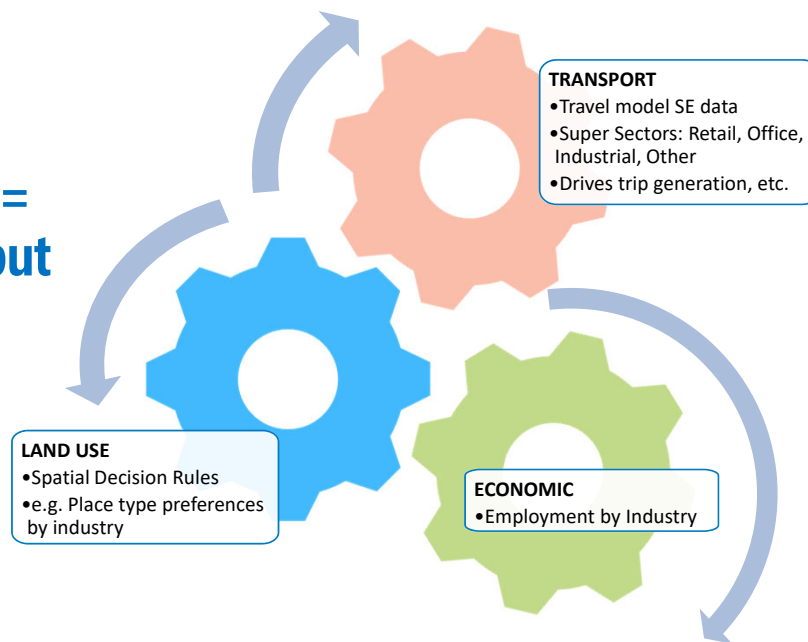
Benchmarking Forecasts

UNDERSTAND TPO'S CURRENT AND FORECAST FUTURE
ECONOMIC CONDITIONS

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Guiding Principles & Goals of Benchmarking

- TPO's 2045 growth forecasts regarded as conservative baseline

- Alternative future scenarios will involve plausible additional growth

- Additional growth above the baseline forecast will be the *same increment* across the three scenarios, but the composition will differ

- Long-term forecasts are inherently uncertain

- ***Alternative forecasts can provide guidance on defining plausible additional growth***

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2015 to 2045 TPO Forecast Summary

HRTPO Population and Employment, 2015 & 2045

+17% population
+8% employment
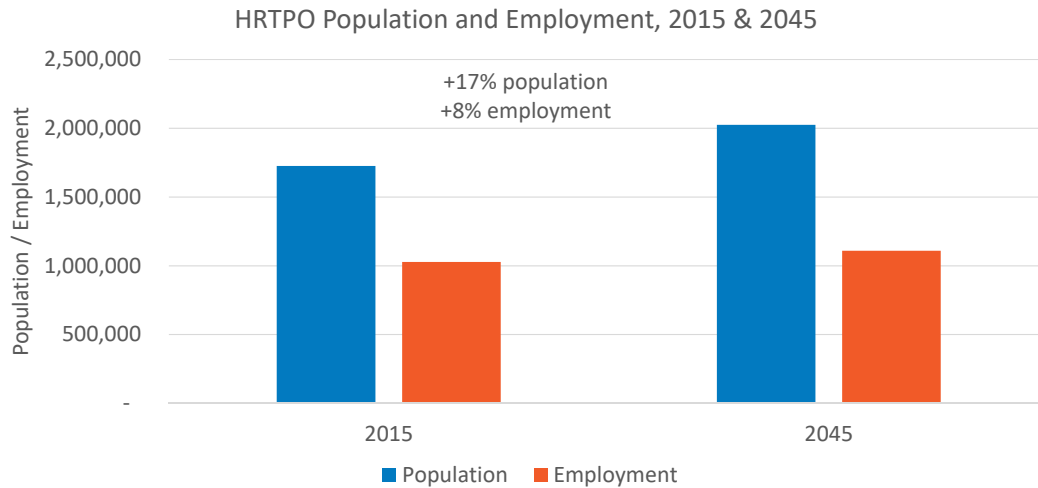
*TPO model forecasts include Surry County

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Population Forecasts

- HRTPO Forecasts (REMI Model)

- Weldon Cooper Center for Public Service

- Virginia Employment Commission *Horizon: 2010-2040*

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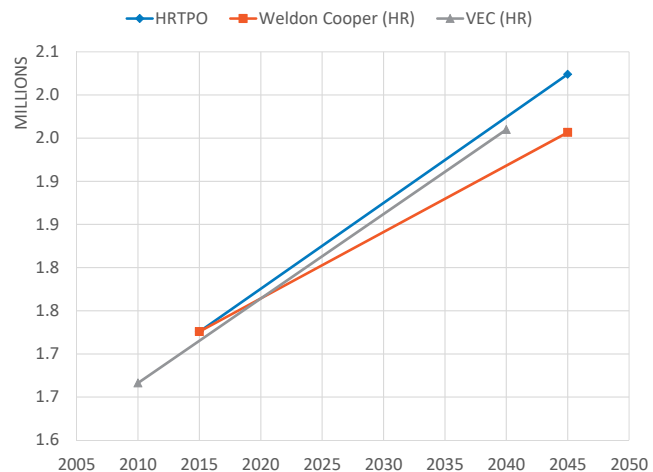
Population Forecasts
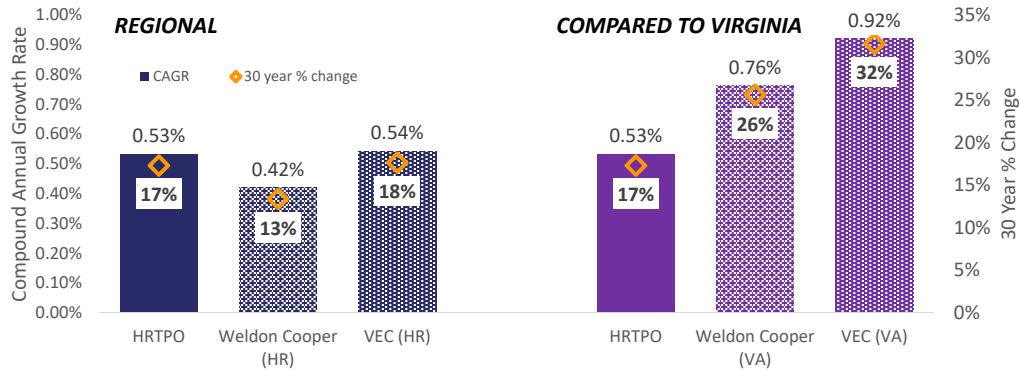
- Region: HRTPO forecast similar to VEC, somewhat faster than Weldon Cooper
- Virginia: Faster growth forecast for the Commonwealth as a whole

Employment Forecasts

Published for different time horizons:

- HRTPO Forecasts, REMI Model (Horizon: 2015-2045)
- Moody's Economy.com (Horizon: 2015-2045)
- Virginia Employment Commission (Horizon: 2016-2026)*
- Economic Modeling Specialists International (EMSI), published by HREDA (Horizon: 2016-2026)**

*VEC forecasts assembled from Hampton Roads & Greater Peninsula LWIA (does not include Surry Co.)
**HREDA forecasts cover smaller 11 locality geography

Employment Forecasts
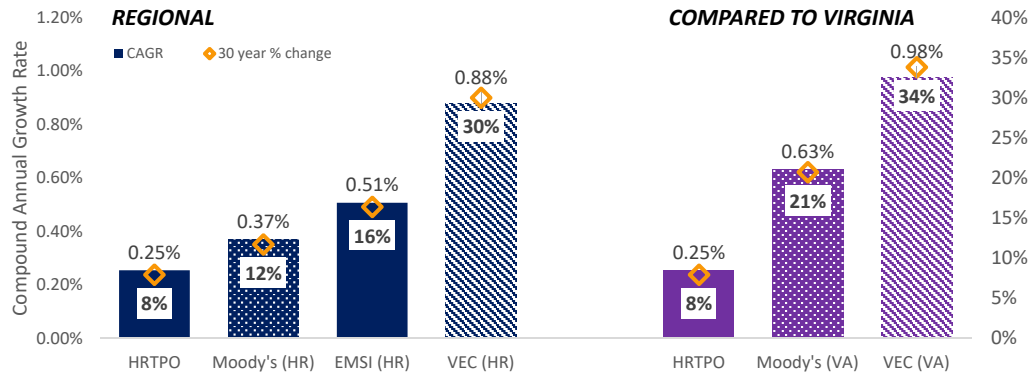
- Region: Considerable range in forecast growth rates, with VEC 10-year forecasts most aggressive
- Virginia: Faster growth forecast for the Commonwealth as a whole

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National Reference Growth

HRTPO 2015-2045

Pop = 0.53% CAGR

Emp = 0.25% CAGR

Annual growth rate, by decade, 1996 to projected 2026

Source: Bureau of Labor Statistics

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Discussion

- Reminders:
  - The goal is not to *predict,* but to choose a plausible level of additional growth that will be useful in *testing transportation system performance*
  - Increment of growth to be held constant across scenarios – focus will be on the implications of different visions for that additional growth

- Initial reactions to the range of forecasts?

- Thoughts on how aggressive the "beyond 2045" figures should be?

Industry Targets/Opportunities

IDENTIFY ECONOMIC RISKS & OPPORTUNITIES THAT MAY AFFECT PATTERNS OF LONG TERM REGIONAL GROWTH

Industry Targets/Opportunities

▪ From last time:

HRPDC Regional Economic Development Strategy (2015)	HREDA Go-to-Market Strategy (2019)

• Grow/Maintain 3 Pillars:
  • Federal
  • Port/maritime
  • Tourism/arts & culture
• Diversify
	• Shared (business) services
	• Software & IT
	• Transportation technology
	• Distribution
	• Food & beverage processing

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Industry Targets/Opportunities

Additional information:

▪ GO Virginia Region 5 Growth And Diversification Plan (2017)

▪ "Digital Port" Opportunities (Working Group Suggestion)

▪ Preliminary data on national industry trends

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GO Virginia Priority Industry Clusters

Clusters chosen on the following criteria:

1. Existing capacity that can be scaled
2. Occupations in these clusters are forecast to grow nationally
3. There is opportunity for the region to create a national identity

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Priority Industry Clusters

- Advanced manufacturing
- Ship repair and shipbuilding
- Port operations, logistics and warehousing
- Cyber security, data analytics, and Modeling & Simulation
- Water technologies
- Unmanned systems and aerospace
- Life sciences
- Business services
- Tourism and recreation

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Priority Clusters vs. Target Business Sectors

- Advanced manufacturing ——————— • Food and beverage processing
- Ship repair and shipbuilding ————— • Transportation technology
- Port operations, logistics and ———— • Distribution
  warehousing
- Cyber security, data analytics, and ——— • Software development and IT
  Modeling & Simulation
- Water technologies
- Unmanned systems and aerospace
- Life sciences
- Business services
- Tourism and recreation ——————————— • Shared services

Priority Clusters not included in Go-to-Market Report

- Water technologies
  - Architecture, planning, and engineering for coastal areas/climate research
- Unmanned systems and aerospace
  - Aircraft/drone manufacturing, aircraft parts, robotic manufacturing, and aerospace engineering. Arguably, this could be included in transportation technology
- Life sciences
  - Bio-technology, pharmaceutical and medical device manufacturing. While included in the report, GoVirginia also acknowledges that the region would need to enhance its assets to compete in this space. IBM-PLI reached a similar conclusion.
- Tourism and recreation
  - Not a target business sector in the Go-to-Market Report, but REDS does consider it a pillar of the regional economy
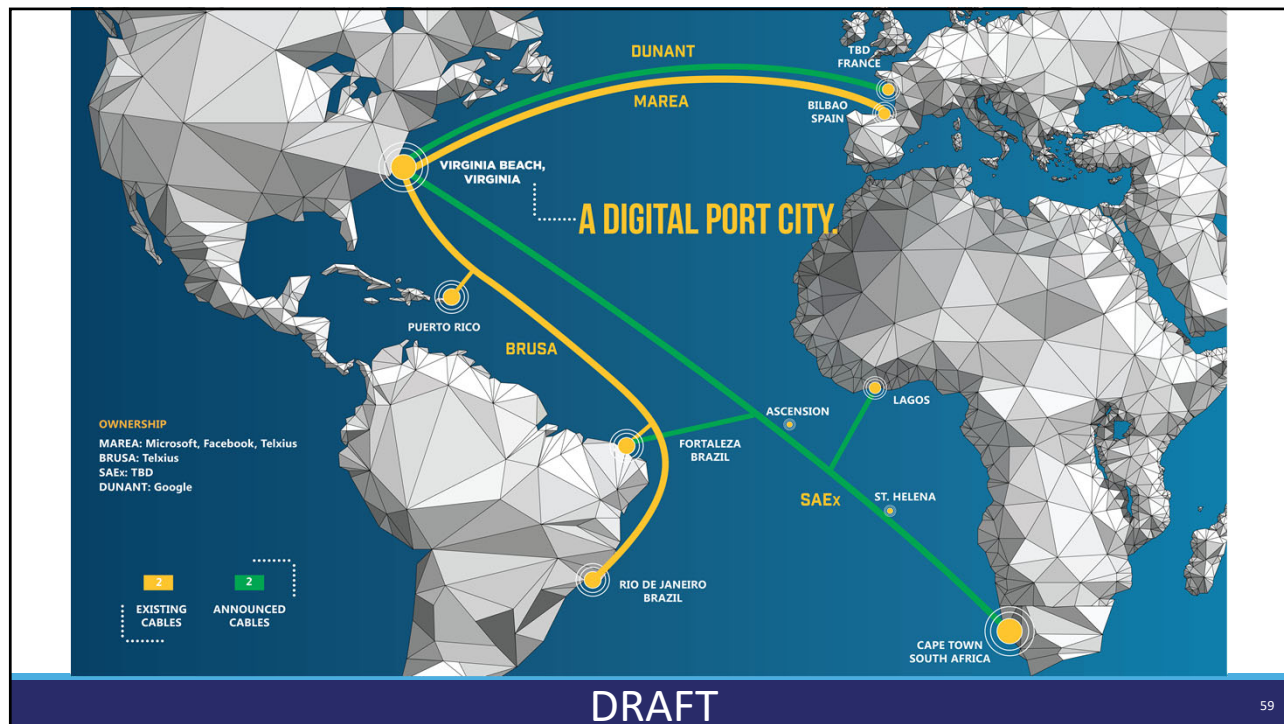
Digital Port Oriented Development

- Virginia beach - targeted recruitment of data centers
  - Advertising sites with energy connections, low tax rates, and fiber access hubs
  - The City has reduced the tax rate for data center equipment

- Developments in progress
  - Globalinx Data Centers plans to open a 10,750 sf center as Phase I of their planned 150,000 sf data center campus in Virginia Beach (in Corporate Landing Business Park)
  - ACA International also plans to develop a 130,000-square-foot data center as part of the relocation of its corporate headquarters to Virginia Beach, as part of its partnership with SAEx
  - The Dutch company NxtVn has bought 219 acres of property in Virginia Beach

Digital Port Opportunities

- Virginia Beach is looking to become a major hub itself, but associated opportunities may be regional in nature

- Growth potential:
  - Data centers, data analytics, and big data.
  - Mix of job opportunities - software engineers and data scientists, but also jobs with lower educational requirement (sales, security, service, etc.)

- Primary competition comes from subsea cable systems in the New York-New Jersey region

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National Industry Trends:
Preliminary data

Annual rate of change for wage and salary employment, projected 2016-26

Industry	Rate
Health care and social assistance	1.9%
Mining	1.4%
Educational services, private	1.3%
Construction	1.2%
Professional and business services	1.0%
Leisure and hospitality	0.8%
Transportation and warehousing	0.7%
Financial activities	0.6%
Other services	0.5%
State and local government	0.4%
Retail trade	0.3%
Wholesale trade	0.2%
Information	0.2%
Utilities	0.1%
Federal government	-0.2%
Manufacturing	-0.6%

Legend: Service providing / Goods producing

Total nonagricultural wage and salary annual growth = **0.7%**

Source: Bureau of Labor Statistics

National Industry Trends: Preliminary Data

20 Fastest Growing (2016-2026)	Top 20 by Employment Growth (2016-2026)
Home health care services	Food services and drinking places
Other information services	Individual and family services
Individual and family services	Construction
Outpatient care centers	Home health care services
Offices of other health practitioners	Offices of physicians
Medical and diagnostic laboratories	Nursing and residential care facilities
Other ambulatory health care services	Computer systems design and related services
Support activities for mining	Hospitals
Other personal services	Local government educational services compensation
Management, scientific, and technical consulting services	Outpatient care centers
Office administrative services	Management, scientific, and technical consulting services
Offices of physicians	Offices of other health practitioners
Warehousing and storage	Services to buildings and dwellings
Computer systems design and related services	Colleges, universities, and professional schools
Software publishers	Warehousing and storage
Offices of dentists	Employment services
Oil and gas extraction	Offices of dentists
Other educational services	Motor vehicle and parts dealers
Local government passenger transit	Wholesale trade
Museums, historical sites, and similar institutions	Agencies, brokerages, & other insurance related activities

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National Industry Trends: Preliminary Data

20 Fastest Growing (2016-2026)	Top 20 by Employment Growth (2016-2026)
Home health care services	Food services and drinking places
Other information services	family services
Individual and	on
Outpatient	e services
Offices of other	sicians
Medical and diag	l care facilities
Other ambulatory	nd related services
Support activi	
Other per	services compensation
Management, scientific, an	centers
Office admin	nical consulting services
Offices	n practitioners
Warehousi	and dwellings
Computer systems de	rofessional schools
Software	d storage
Offices	services
Oil and g	dentists
Other educa	e and parts dealers
Local government passenger transit	Wholesale trade
Museums, historical sites, and similar institutions	Agencies, brokerages, & other insurance related activities

Next Steps:
Consider which national trends...
- ...align with regional forecasts/targets
- ...present new potential opportunities

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Discussion: Relevance to Scenario Definition

National Growth Sectors
Advanced manufacturing / food & beverage manufacturing
Transportation technology (including ship repair & shipbuilding)
Unmanned systems & aerospace
Port operations and related logistics, distribution, and warehousing
Water technologies
Software & IT / Cyber security, data analytics and modeling & simulation
Business/Shared Services
Life sciences
Tourism and recreation
Digital Port & Related

National Growth Sectors

?

ILLUSTRATIVE ECONOMIC NARRATIVES

1. The Defense Economy

2. Regional Industry Targets (Steering into Existing Strengths)

3. Something Completely Different (e.g., according to National Industry Trends)

Questionnaire Input

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Next Steps

Schedule

Task No	Task	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN
					2019									2020
TASK 4	CONDUCT SCENARIO PLANNING													
4.1	Building the Base Data, Models, and Scenarios													
4.2	Defining Alternative Future Scenarios													
4.3	Defining Measures of Success													

Next Webinar:

Alternative Scenarios 1
• Discussion of Potential Drivers & Types of Drivers (primary, secondary, etc.)
• Survey of Economic Trends
• Discussion of Potential Economic Outcomes (Draft Scenarios)

◆ Draft Deliverables
▢ Final Deliverables
● Steering Committee Meetings and Presentations
❖ Working Group Coordination Meeting

HRTPO to approve updated Prioritization Tool

△ 2015 Regional Travel Demand Model available

▲ 2045 Regional Travel Demand Model available

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