



REGIONAL
CONNECTORS
STUDY

SCENARIO PORT NARRATIVES – INITIAL DEFINITION

Recap: Scenario Narratives

Greater Growth on the Water

Growth in water-oriented activity.
Port of Virginia becomes even more competitive.

Greater Growth in Urban Centers

Significant economic diversification. Space requirements per FTE are low and new professionals prefer to live/work in urban settings. Large role for “digital port.”

Greater Suburban/Greenfield Growth

Growth is suburban/exurban.
Port of Virginia becomes even more competitive. “Digital port” brings additional jobs.

→ **Today: Begin defining port narratives in greater detail**

Recap: Scenario Industry Clusters

Greater Growth on the Water

Federal/Military

Tourism/Arts & Culture

Port Growth

Marine/Transportation Technology

Water Technologies

Distribution

Greater Growth in Urban Centers

Shared Services

Software Development and IT

“Digital Port”-Oriented Development

Water Technologies

Greater Suburban/Greenfield Growth

Distribution

Marine/Transportation Technology

Port Growth

Advanced Manufacturing

“Digital Port”-Oriented Development

→ Consider alignment between port and industry activity

Goals for Port Scenario Drivers

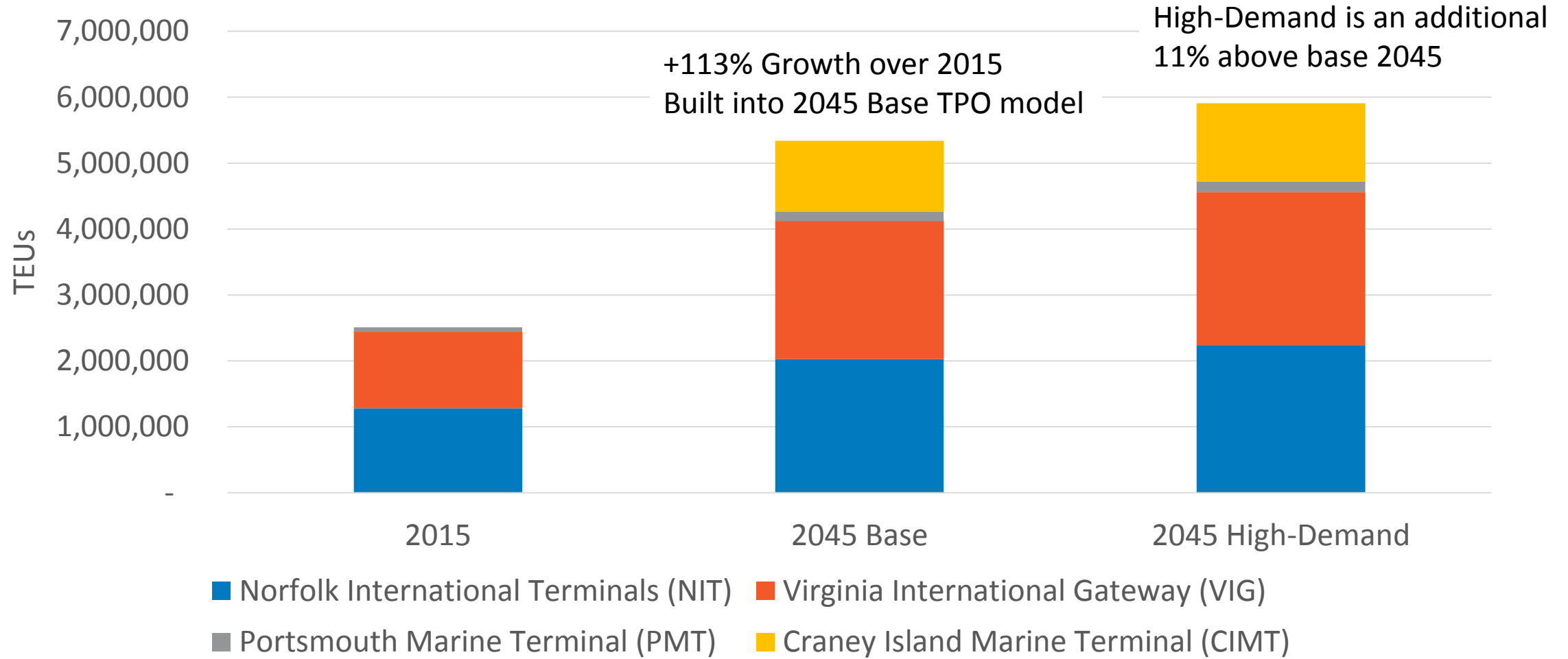
- Address uncertainty in port growth trends – explore greater growth
- Understand the implications of landside mode share for port-generated goods movement
- Explore the spatial implications of different patterns of regional growth alongside port-related travel demand (as well as the relationship between the two)
- Acknowledge technological uncertainty
- “Stress test” the transportation system

Port Scenario “Building Blocks”

- Input from Port of Virginia (Barb Nelson)
- 2045 Base case and high-demand container volume growth forecasts from the Port of Virginia
- 2045 Base case container volume landside mode share by terminal
- POV long-term desired target of 50% rail mode share
- Spatial information on port facilities and port related warehouses

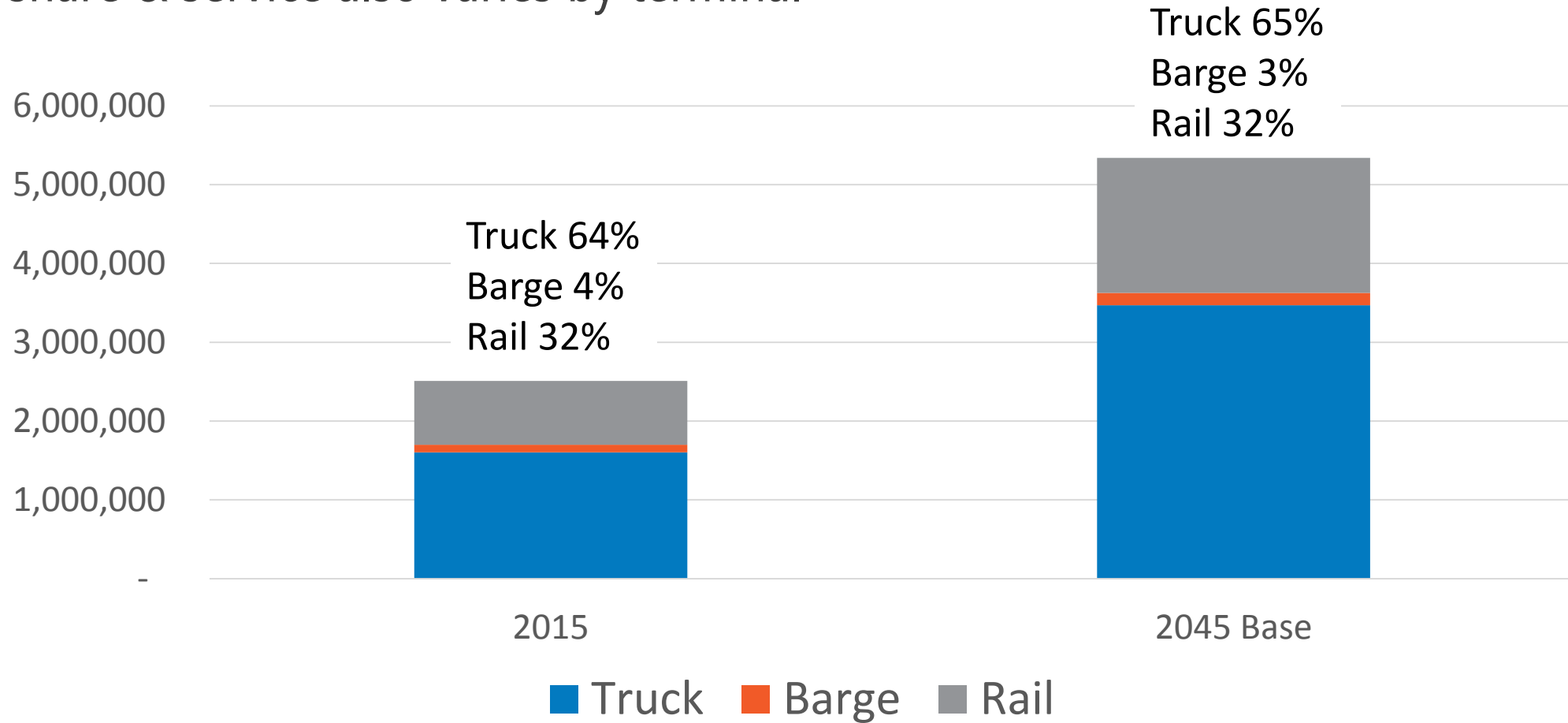
Port Forecasts – Containerized Volume

Container Volume Growth by Terminal



Port Forecasts – Containerized Mode

- Mode share & service also varies by terminal



CIMT (Planned)

- On-dock NS & CSX
- Barge Service
- Semi-automated terminal

NIT North & South

- Direct NS
- CSX Service via Portsmouth Beltline
- Barge Service
- New I-564 Intermodal Connector
- NIT South is semi-automated

VIG

- On-dock NS & CSX
- Barge Service
- Semi-automated terminal

PMT

- Forecast 100% truck in 2045

Proposed Port Scenarios

- Explore range of volumes and modal shares
- Align with patterns of transportation demand and land (economic) development created by scenario economic narratives

#1 Greater Growth on the Water

- Port of Virginia becomes even more competitive for containerized goods: achieves high-demand growth forecasts
- Relatively greater share of demand growth is pass-through rather than serving regional businesses
- Automation of barge service to Richmond reduces costs and increases mode share
- Increased rail capacity allows PoV to reach 50% target at NIT, VIG, and CIMT and mitigate exposure to road network congestion from water-adjacent development

Desired insight: High growth but with limited burden on road network

#2 Greater Growth in Urban Centers

- Port of Virginia growth according to 2045 Baseline forecasts
- Urban growth in vicinity of port increases pressure on road network serving the port as well community pressure to manage port growth
- In response, increased investment in rail and resulting increase in rail mode share above baseline – but less than in scenario #1

Desired insight: Explore baseline 2045 growth with overlap of urban and port growth pressures

#3 Greater Suburban/Greenfield Growth

- Port of Virginia becomes even more competitive for containerized goods: achieves high-demand growth forecasts
- Relatively greater share of demand growth is regional-serving rather than pass-through, increasing truck exchange between port, regional warehousing/distribution sites, and industrial growth areas
- Advanced manufacturing incorporates 3D printing, increasing demand for localized delivery
- Automated or semi-automated platooning for trucks increases competition with the railroads, leading to greater truck share particularly at NIT north gate with new I-564 connector

Desired insight: Explore truck-intensive growth effects on network

Port Drivers by Scenario

Employment by Industry	Scenario 1	Scenario 2	Scenario 3
Containerized volume (TEUs)	↑	–	↑
Rail mode share	↑↑	↑	↓
Barge mode share	↑	–	–
Truck mode share	↓	↓	↑↑