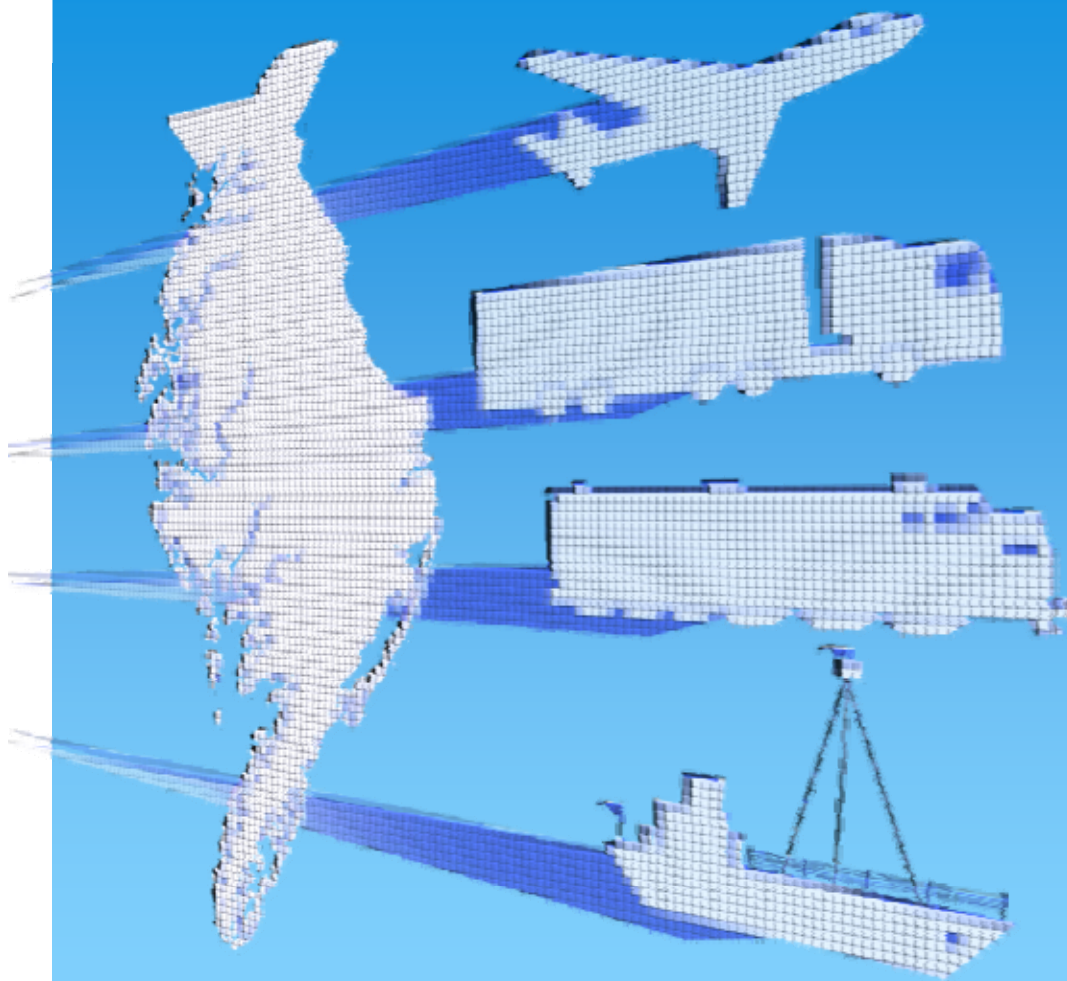


DELMARVA FREIGHT PLAN

Delmarva Freight Plan Summary



VANTAGE POINT
DEVELOPMENT ADVISORS, LLC

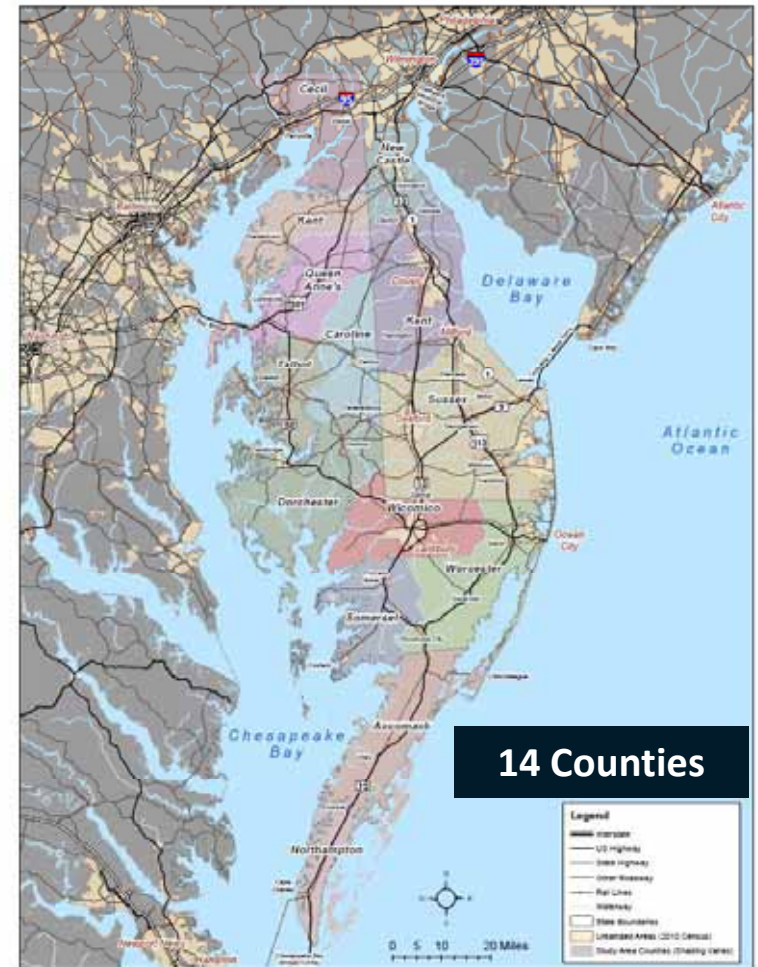


WHITMAN, REQUARDT & ASSOCIATES, LLP
ENGINEERS • ARCHITECTS • PLANNERS
WRALLP.COM

DELMARVA FREIGHT PLAN

What is the Delmarva Freight Plan?

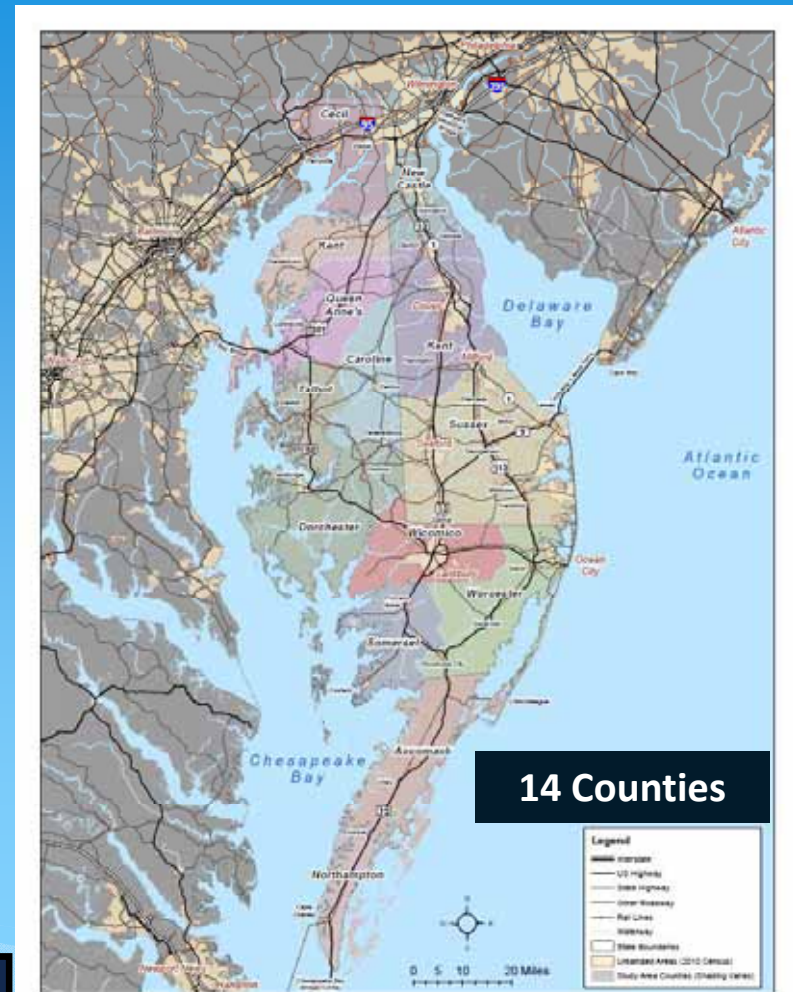
- A **multi-state, multi-MPO** effort to develop a comprehensive, multi-modal evaluation of the freight transportation system and its operations along the Delmarva Peninsula.
- According to MAP-21, States are **highly recommended** to have a freight plan which can improve their ability to meet National Freight Policy goals & objectives.
- Not a requirement, but in order for some projects to be eligible for fed \$, they **must come from a freight plan!**



DELMARVA FREIGHT PLAN

Key Functions of Study

- Conduct Outreach (Agencies, Industries & Shippers)
- Collect Most Recent **Commodity Flow Data**:
 - Transearch, FAF3,
 - STBWaybill
- Develop **CUBE Cargo Model**
- Generate **Current/Future Freight Forecasts** for Multiple Modes (Truck, Rail, Water, Pipeline)
- Analyze **Future Freight Scenarios**
- Develop Recommended Action Plan



DELMARVA FREIGHT PLAN

Analysis and Stakeholder Research



DELMARVA FREIGHT PLAN

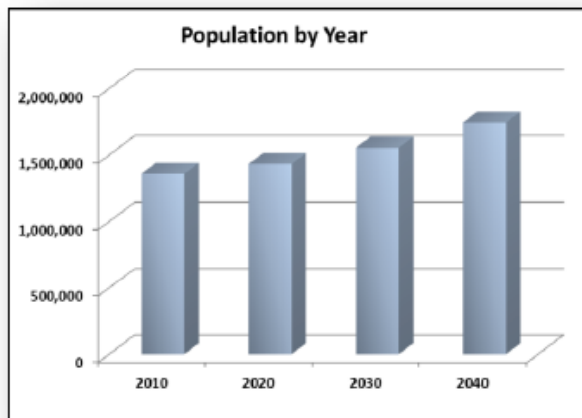
Analysis and Stakeholder Research

2.0 – Existing Economic Context

- Population and Employment
- Key Industries and Supply Chains
- Economic Development Strategies
- Global Economic Perspectives

**Key influence
on...**

**Freight Generators
Areas of Opportunity
Areas of Concern
Scenario Assumptions
Screening/Prioritization
Policies**



Areas of Concern (from Outreach):

Rail

- NEC / Chesapeake Connector
- Delmarva Secondary / Indian River Coal
- 75 Rail Car Capacity
- Cape Charles Rail Car Float



Ports

- Post-Panamax
- New Markets



Inland Waterways

- Nanticoke & Wicomico Rivers
- Spoil Sites for Dredged Materials

Motor Freight

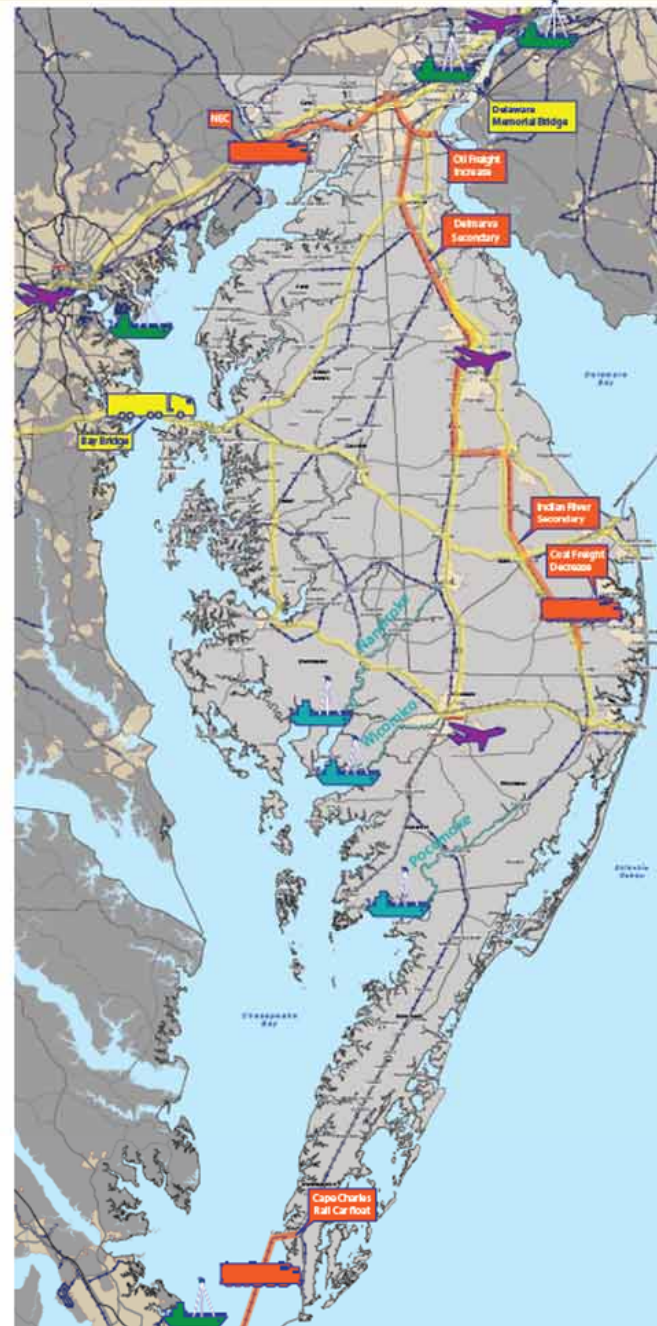


- Seasonal / Tourist-Based Congestion
- Secondary Roads / Bridges
- Fuel Taxes / Toll Rates / Weight Limits
- Parking & Rest Areas



Air Freight

Freight-Related Areas of Concern*



* As identified by project-specific outreach to-date



Rail

- NEC / Chesapeake Connector
- Delmarva Secondary
- Delaware City Refinery / Oil Freight
- Indian River Secondary / Coal Freight
- 75 Rail Car Capacity
- Cape Charles Rail Car Float



Ports

- Access to Key Ports (Wilmington, Baltimore, Norfolk, or Philadelphia)
- Post-Panamax
- New Markets



Inland Waterways

- Nanticoke / Wicomico / Pocomoke Rivers
- Spoil Sites for Dredged Materials



Motor Freight

- Highway - Rail Grade Crossings
- Seasonal / Tourist-Based Congestion
- Secondary Roads / Bridges
- Fuel Taxes / Toll Rates / Weight Limits
- Parking & Rest Areas



Air Freight

- Access to Key Airports
- Access to DIAFB Civil Air Terminal



Delmarva
Freight
Plan

Areas of Opportunity (from Outreach):

Growth & Industry

- Cecil County
- New Castle County
- Sussex County
- Wicomico County
- DAFB Civil Air Terminal

Site-Specific Issues

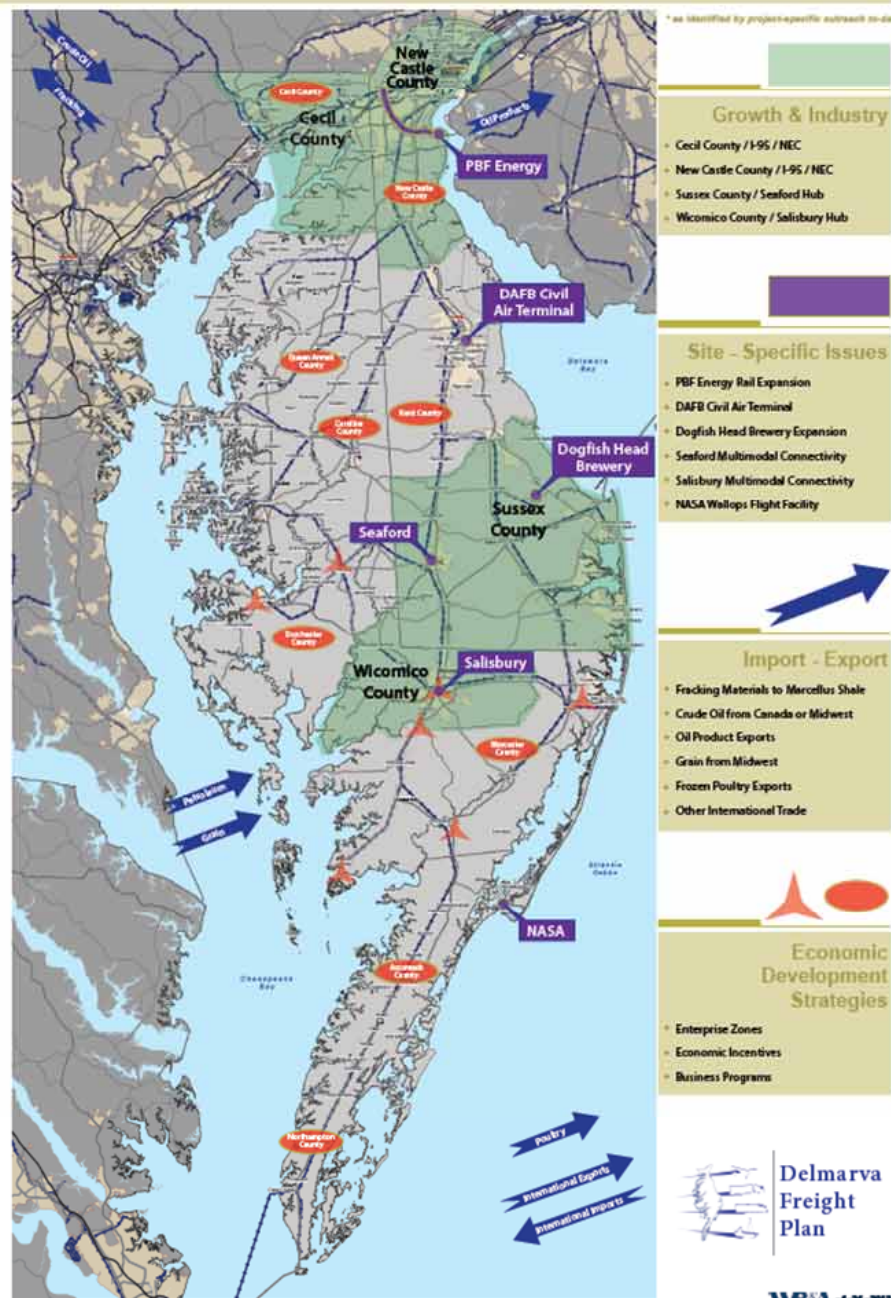
- PBF Energy Rail Expansion
- Dogfish Head Brewery Expansion
- Seaford Multimodal Connectivity
- Salisbury Multimodal Connectivity
- NASA Wallops Flight Facility

Import-Export

- Fracking Materials to Marcellus Shale
- Crude Oil from Canada or Midwest
- Grain from Midwest
- Frozen Poultry to Russia

Enterprise Zones / Other Incentives

Freight-Related Areas of Opportunity*



DELMARVA FREIGHT PLAN

Existing Commodity Flows



DELMARVA FREIGHT PLAN

Freight traffic in Delmarva region is highly concentrated. Five commodity groups constitute over 70% of the region's truck traffic.

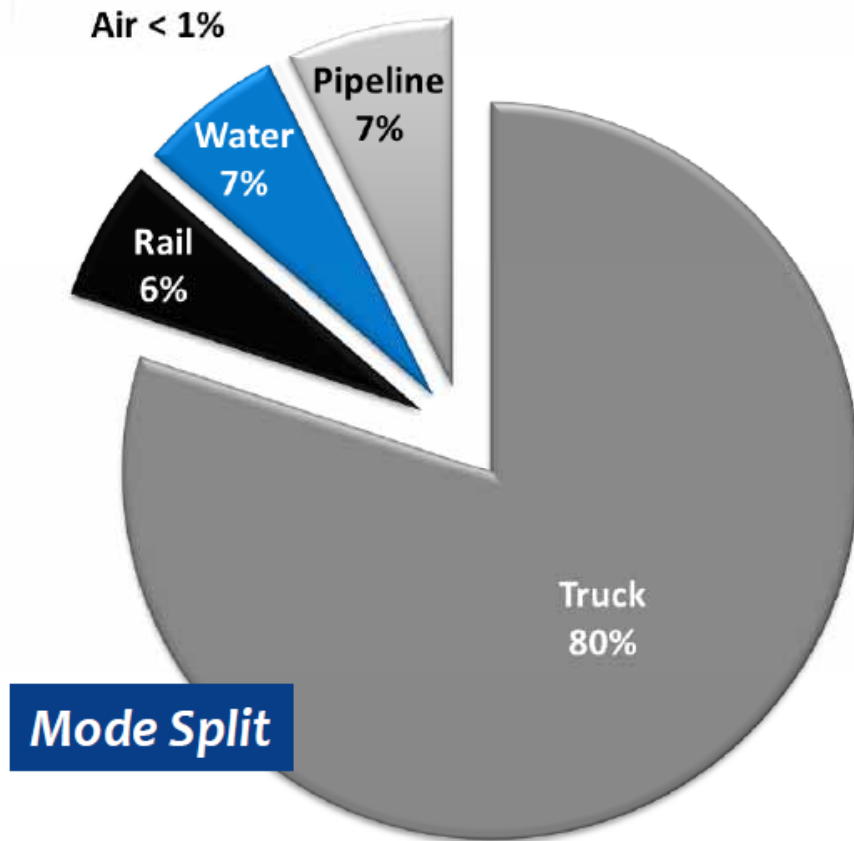
Commodity	Millions of Tons*	Cumulative %
50 Secondary Traffic	12.8	20%
32 Clay, Concrete, Glass, Stone	12.6	40%
20 Food and Kindred Products	6.6	51%
29 Petroleum and Allied Products	6.6	61%
28 Chemical or Allied Products	7.4	73%
33 Primary Metal Products	2.9	78%
24 Lumber or Wood Products	2.3	81%
37 Transportation Equipment	1.5	84%
26 Pulp, Paper and Allied Productst	1.1	86%
34 Fabricated Metal Products	0.7	87%
Else	8.4	100%
TOTAL	62.9	

* Includes inbound, outbound, and local truck tons



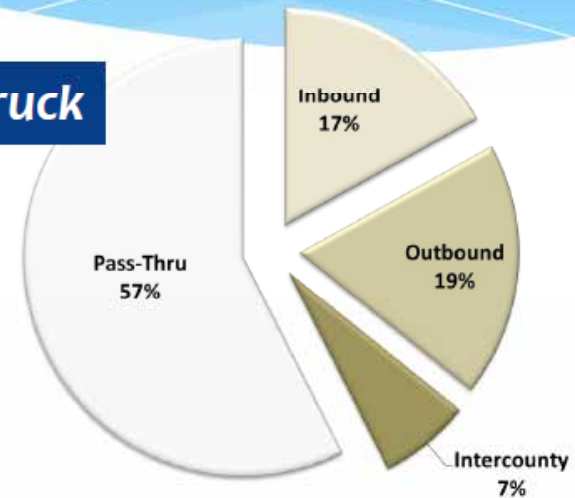
DELMARVA FREIGHT PLAN

Freight Modes

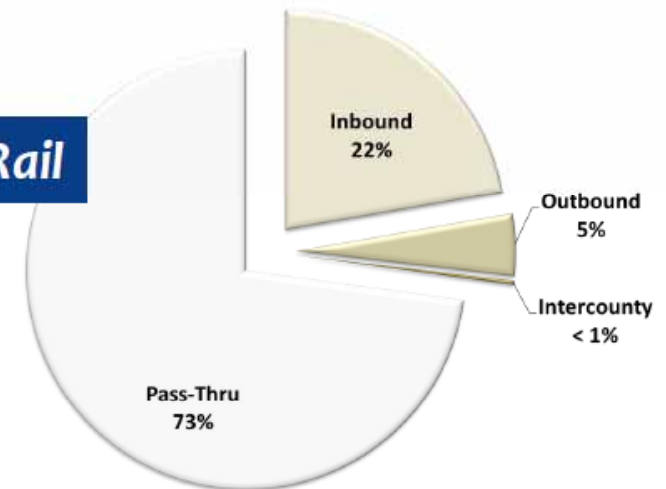


≈ 80-88% truck (with variations in weight vs. value vs. pass-thru)

By Truck



By Rail



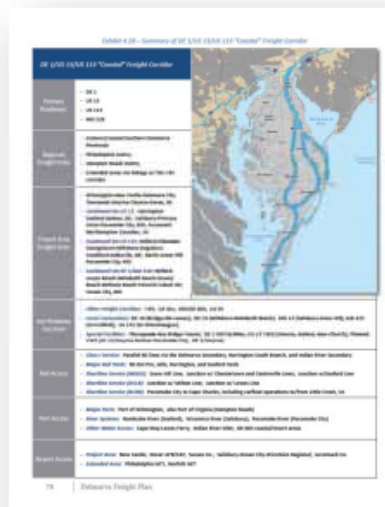
DELMARVA FREIGHT PLAN

Existing Transportation System

- Modal Assets
- Logistics Nodes and Support Facilities
- System/Network Summary
 - ✓ Freight Corridors, Zones, and Gateways

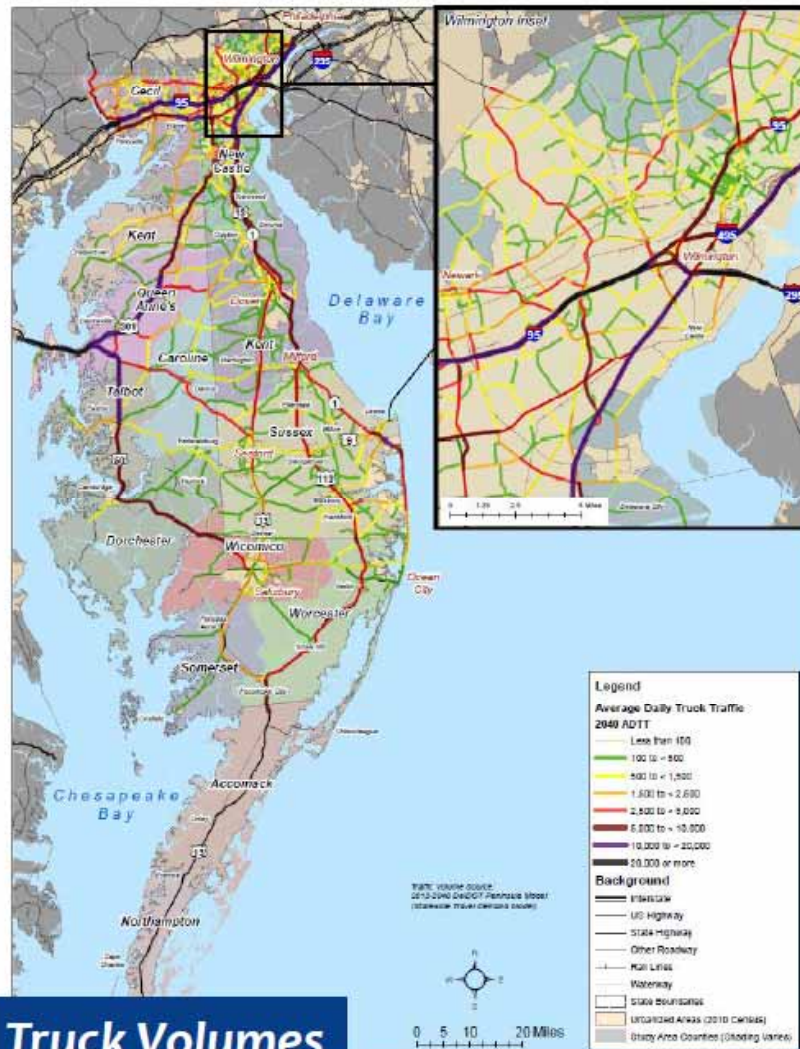
Key influence on...

System Roles
System Needs
Freight Corridors
Screening/Prioritization

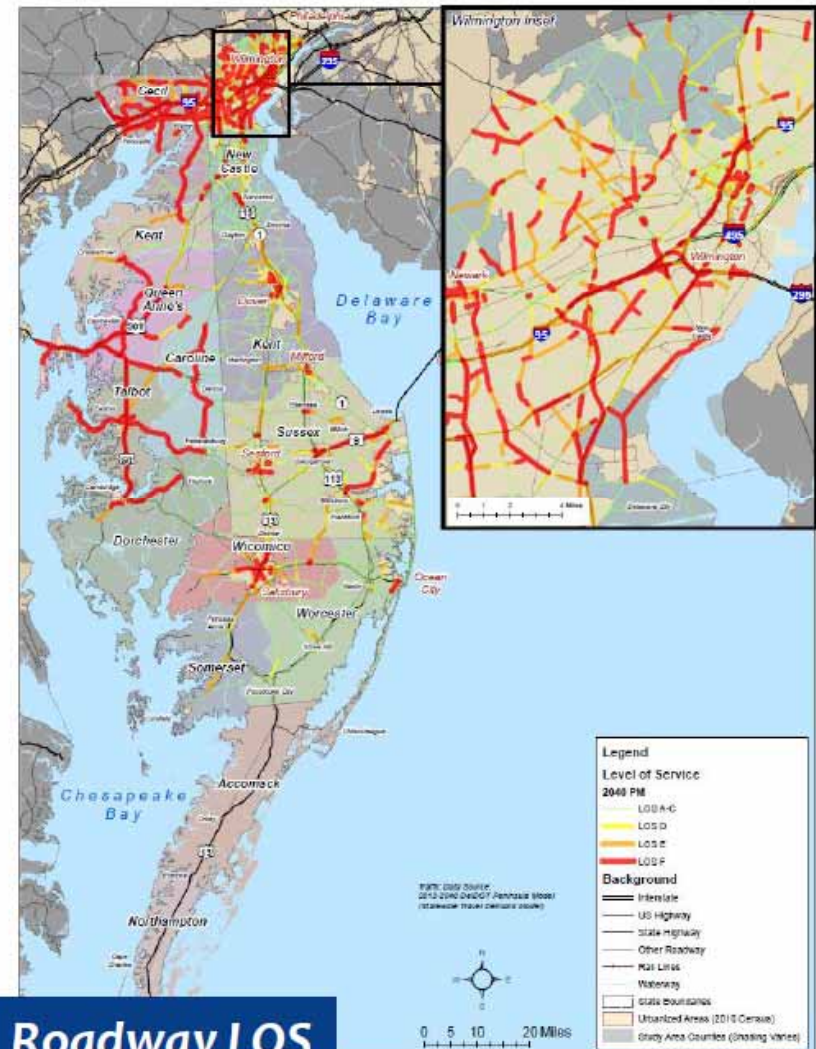


DELMARVA FREIGHT PLAN

Roadway Network



Truck Volumes



Roadway LOS

DELMARVA FREIGHT PLAN

Freight Trends, Needs, and Issues

- Key summary and transition point between:
 - ✓ identifying Delmarva's freight issues today...
 - ✓ and planning to react to or improve tomorrow...
- Foundation for project & policy selection

Key influence
on...



Freight Planning Issues
Freight Focus Areas
Screening/Prioritization
Policies

DELMARVA FREIGHT PLAN

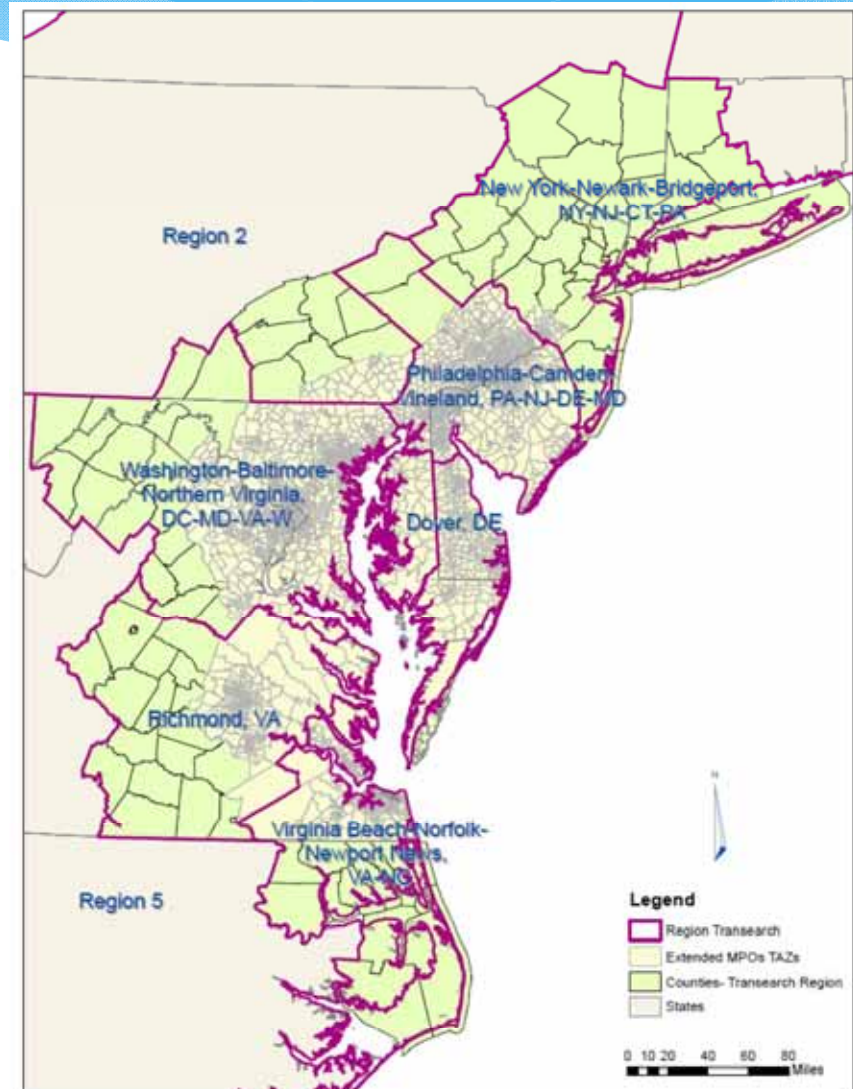
Scenario Development



DELMARVA FREIGHT PLAN

Model Boundaries

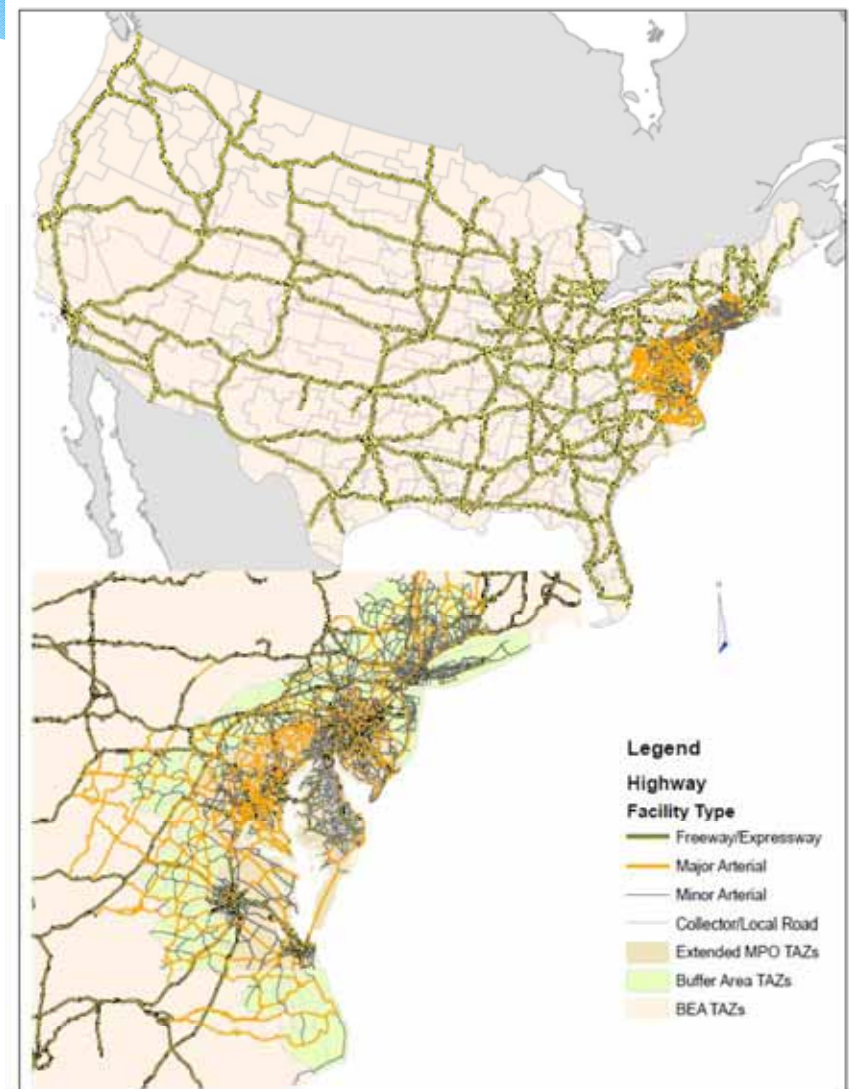
- ❖ Based on IHS Transearch Regions
- ❖ 6 BEA's
- ❖ Additional counties added to span gaps between:
 - *Washington-Baltimore-Northern Virginia*
 - *Philadelphia-Camden-Vineland*



DELMARVA FREIGHT PLAN

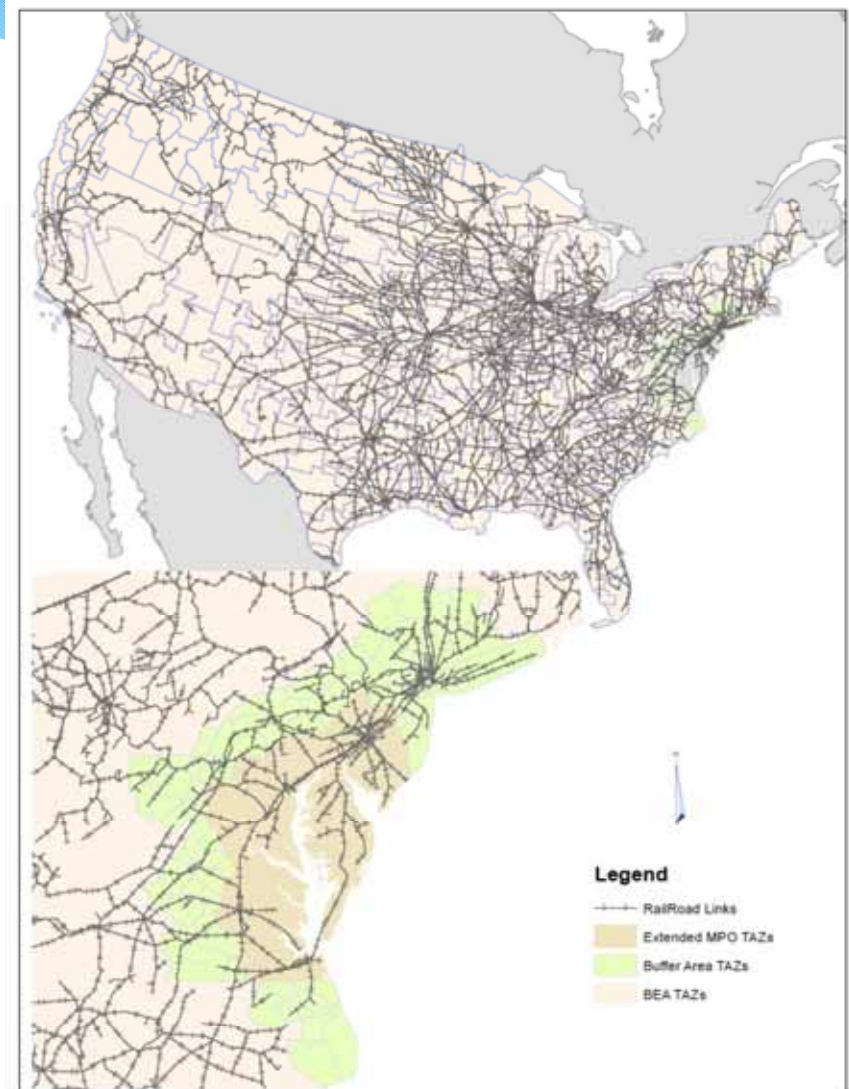
Model Boundaries

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Model Boundaries

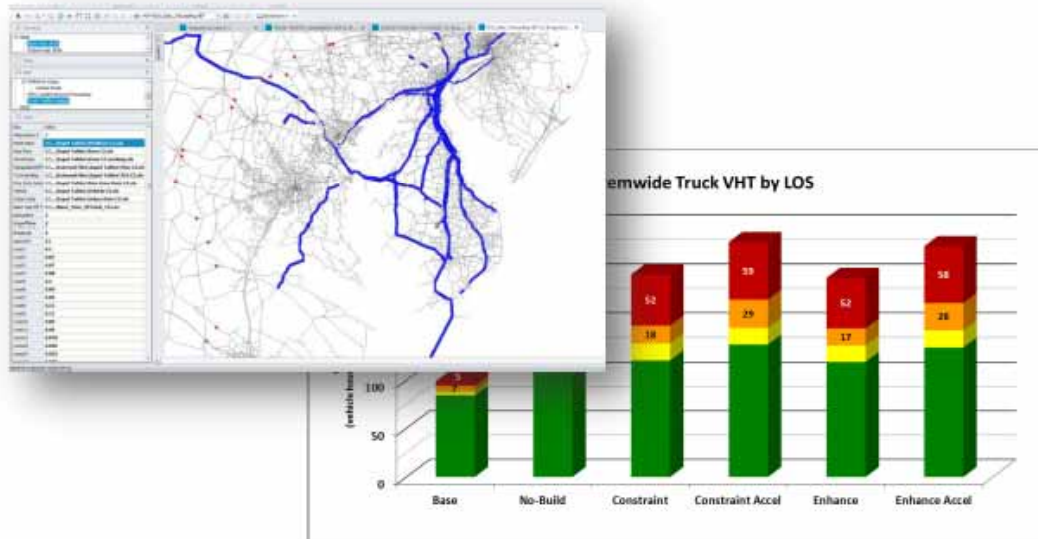
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 - *Philadelphia-Camden-Vineland*



DELMARVA FREIGHT PLAN

Future Freight Planning Scenarios

- Future Baseline
- Multimodal Constraint or Enhancement
- Trendline or Accelerated Growth



Key influence
on...

Freight Project Needs
Broader Implications
Performance Measures
Screening/Prioritization
Policies

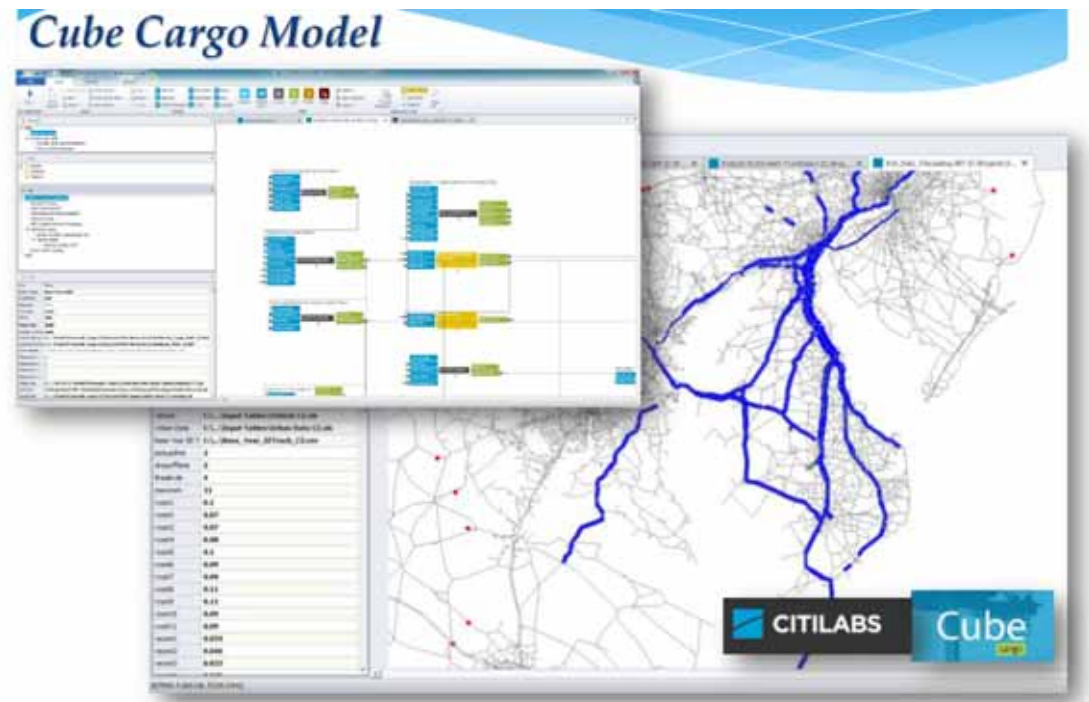
Scenario Planning

Cube Cargo Evaluation

❖ Potential Measures of Effectiveness include:

- **Travel Time** to Market by Mode
- Level of Service
- **Delay**
- Transportation Cost by commodity and mode
- **Emissions**
- **Truck Volumes** on Roadways
- **Freight Demand by Mode**

❖ Add'l research: Cost assumptions for freight movement by mode



DELMARVA FREIGHT PLAN

Potential Scenarios: Two Types

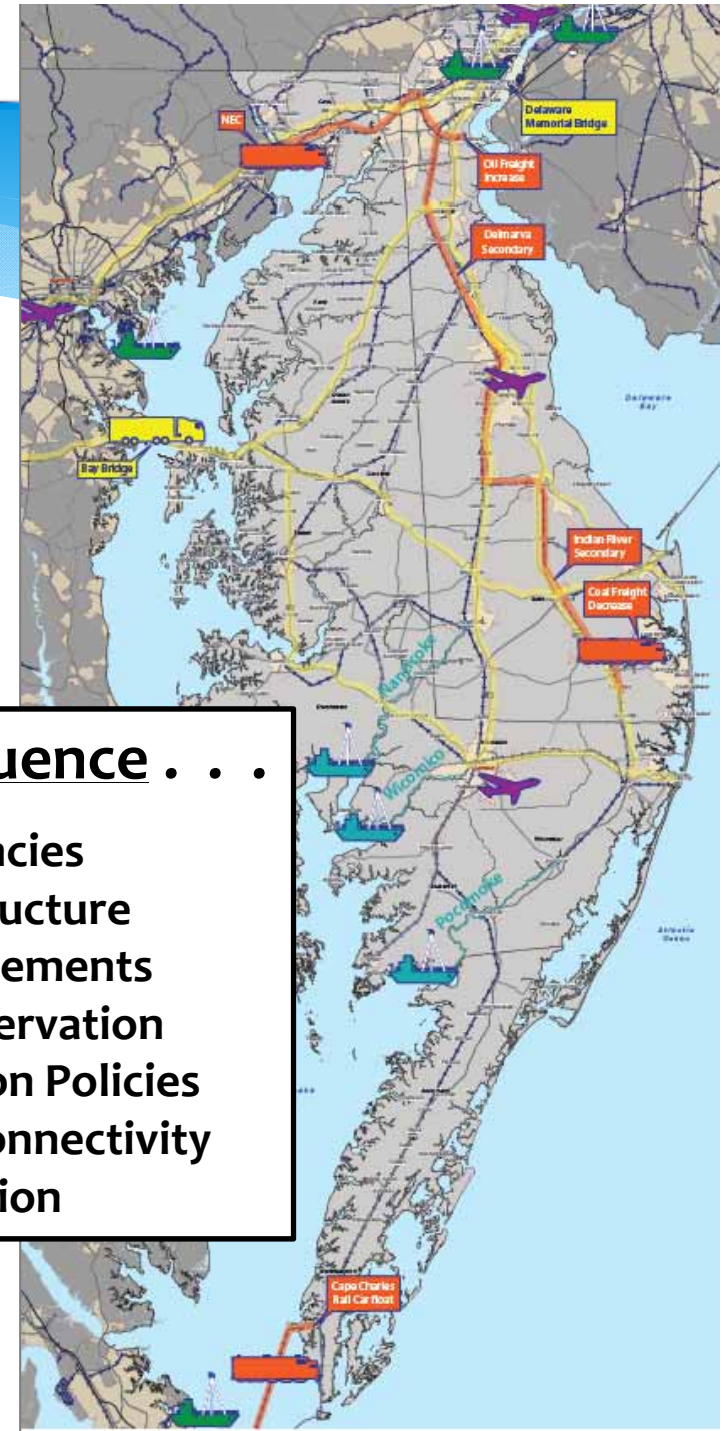
POLICIES & PROJECTS

Factors to React to . . .

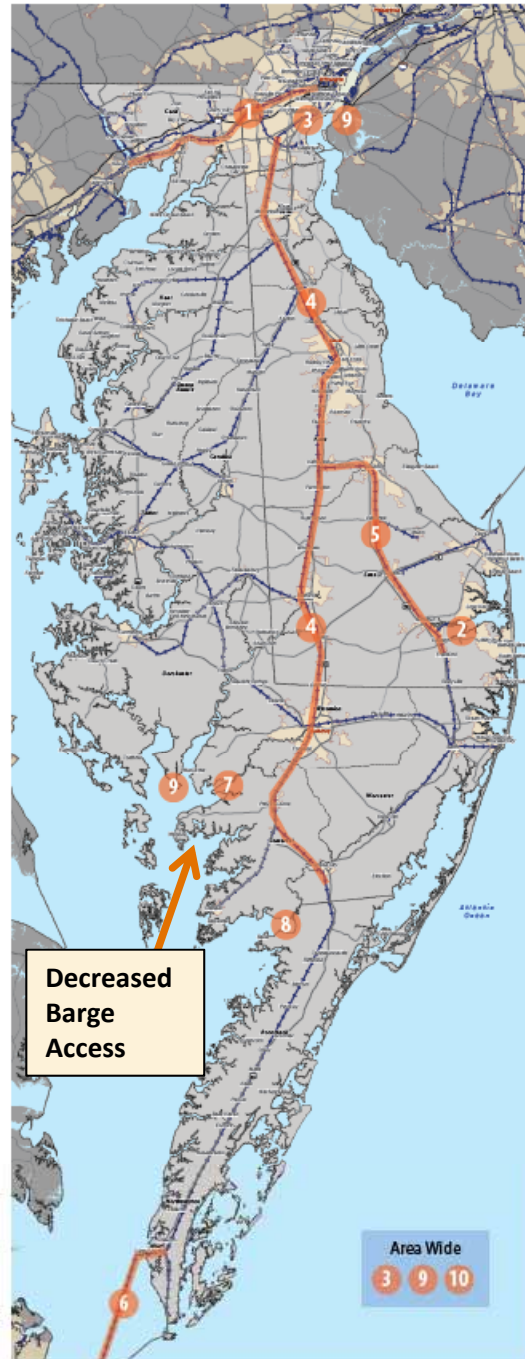
- Rail Service Loss
- Port Expansion or Market Shifts
- Post-Panamax Impacts
- Inland Waterway Loss
- Truck Transportation Costs
- Energy Market Trends (Coal, Oil)
- Fulfillment Services Trends

Factors to Influence . . .

- Rail Service Efficiencies
- Intermodal Infrastructure
- Port Access Enhancements
- Infrastructure Preservation
- Truck Transportation Policies
- Freight Network Connectivity
- Land Use Preservation



Multimodal Constraint Scenario



- Region becomes more dependent on trucks to move goods
- Fewer multi-modal options

- 1 ... freight rail access across/along the NEC continues to be restricted to a narrow window of time?
- 2 ... coal freight demand to the Indian River power plant ceased?
- 3 ... at-grade rail / highway crossing conflicts increased?
- 4 ... the NS Delmarva Secondary became a shortline railroad (from Porter to Pocomoke City)?
- 5 ... the NS Indian River Secondary became a shortline railroad (from Harrington to Frankford)?
- 6 ... the BCRR car float operations permanently ceased?
- 7 ... Wicomico River barge travel was restricted due to funding / dredging constraints?
- 8 ... Pocomoke River barge travel was restricted due to funding / dredging constraints?
- 9 ... oil and gas imports/exports had fewer transport options?
- 10 ... truck volumes and roadway maintenance needs increased substantially?

Multimodal Enhancement Scenario



- Enhanced multi-modal facilities
- Rail bottlenecks expanded
- All rail weight limits 286K +
- BCRR car float expanded

- 1 ... a completed Chesapeake Connector expanded freight rail access along/across the NEC?
- 2 ... coal freight losses to the Indian River power plant were offset by other/new rail demand?
- 3 ... the NS Indian River Secondary became a shortline railroad (from Harrington to Frankford)?
- 4 ... the peninsula's rail network was enhanced (e.g., removal of speed/weight restrictions or bottlenecks)?
- 5 ... the Seaford Rail Bridge was reconstructed?
- 6 ... a new intermodal facility was strategically located (e.g. near Newark, Seaford, Delmar, or Salisbury)?
- 7 ... BCRR car float operations were stabilized or expanded?
- 8 ... Post-Panamax shipping trends directly impacted the region (e.g., via Baltimore or Norfolk)?
- 9 ... short sea shipping opportunities or the marine highway concept flourished?
- 10 ... the Port of Wilmington developed a new container facility?
- 11 ... oil and gas imports/exports had more transport options?
- 12 ... higher freight volumes increased conflicts with other users (e.g., barges versus recreational water or waterfront property access; or trucks versus seasonal tourism)?

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Performance Measures

Performance Measure	Measurement Details
Regional Intermodal Connectivity	Travel Time to select cities (Philadelphia, Harrisburg, Baltimore, Washington D.C., Hampton Roads)
Local Intermodal Connectivity	Population near select distribution centers (within 15-30-45 minutes of Amazon, WalMart, FedEx, UPS, Sysco) Employment near select freight transfer hubs (within 15-30-45 minutes of Port of Wilmington, NS Newark Yard, NS Jello Yard, NS Harrington Yard, NS Seaford Yard, Perdue Farms)
Roadway Congestion	Truck VMT @ LOS A-C, D, E, F Truck VHT @ LOS A-C, D, E, F
Modal Split	Freight Tonnage by Mode



DELMARVA FREIGHT PLAN

- Provide detailed analysis on 5 major freight corridors along Peninsula:

I-95

US 301

DE 1

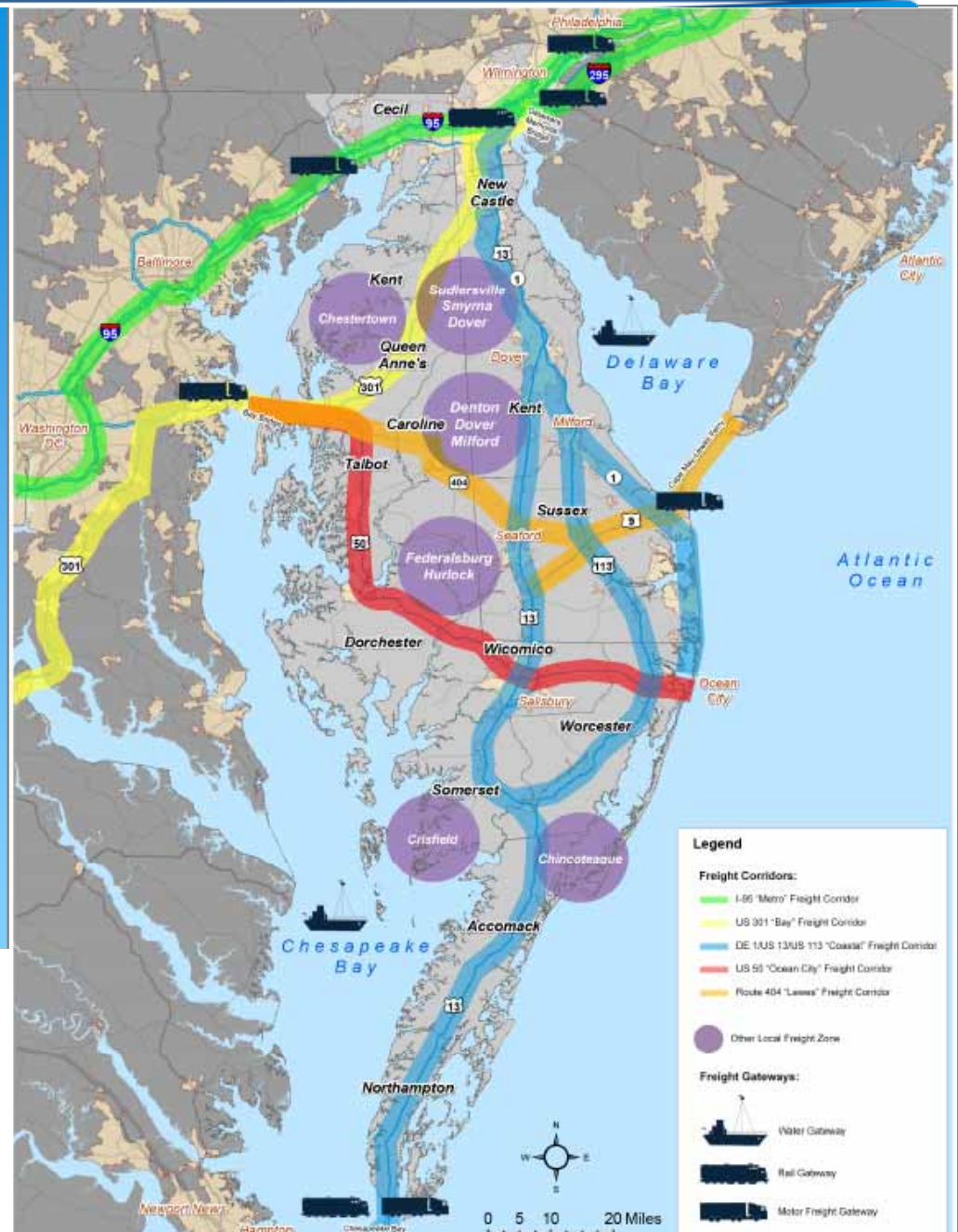
US 13

US 113

MD 404

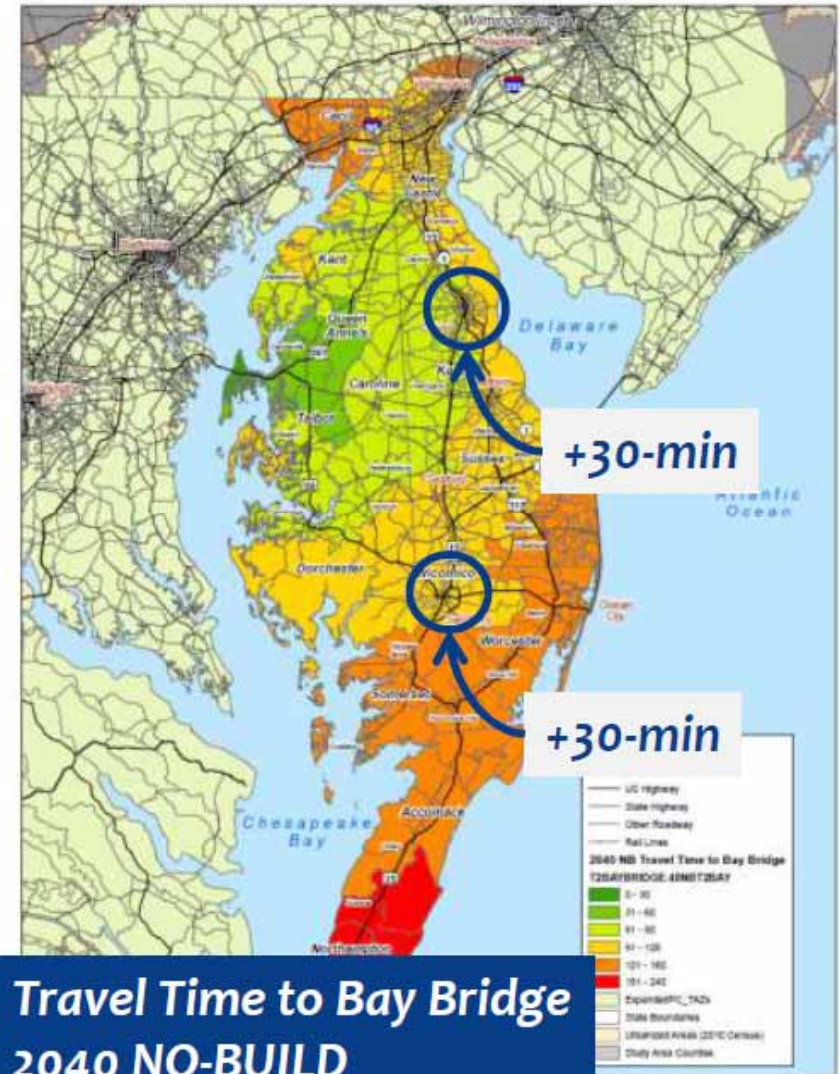
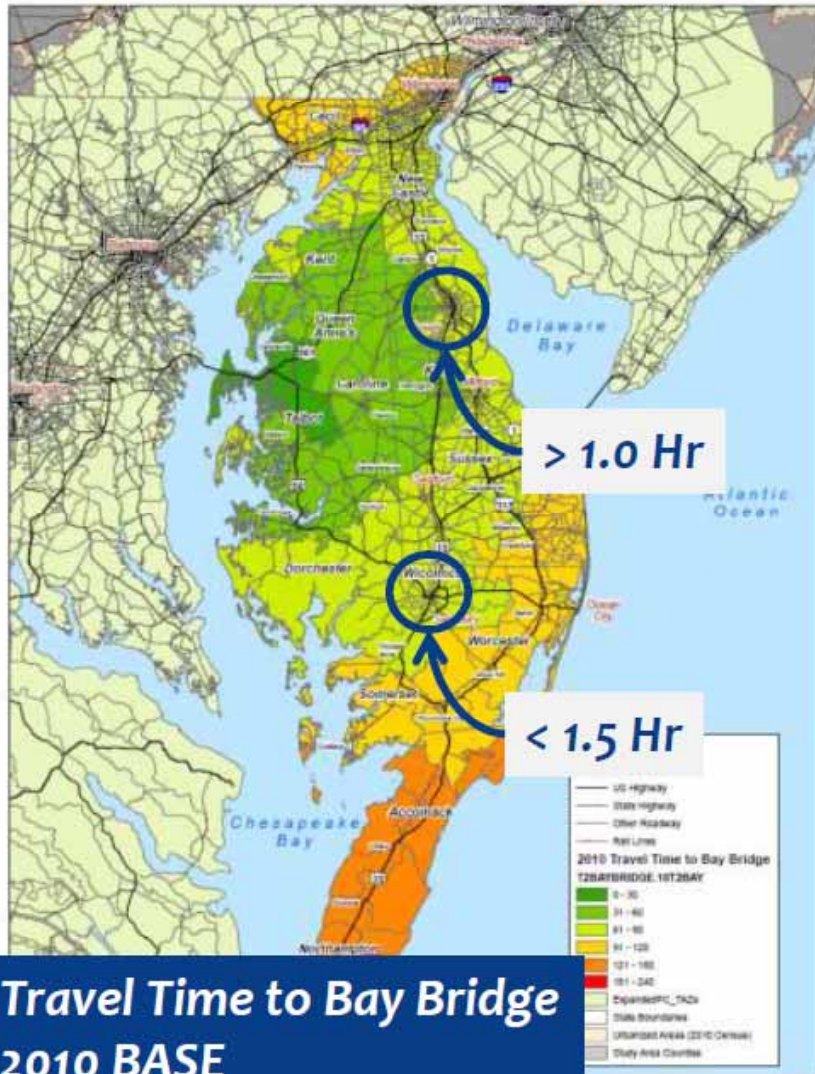
DE 404

US 50



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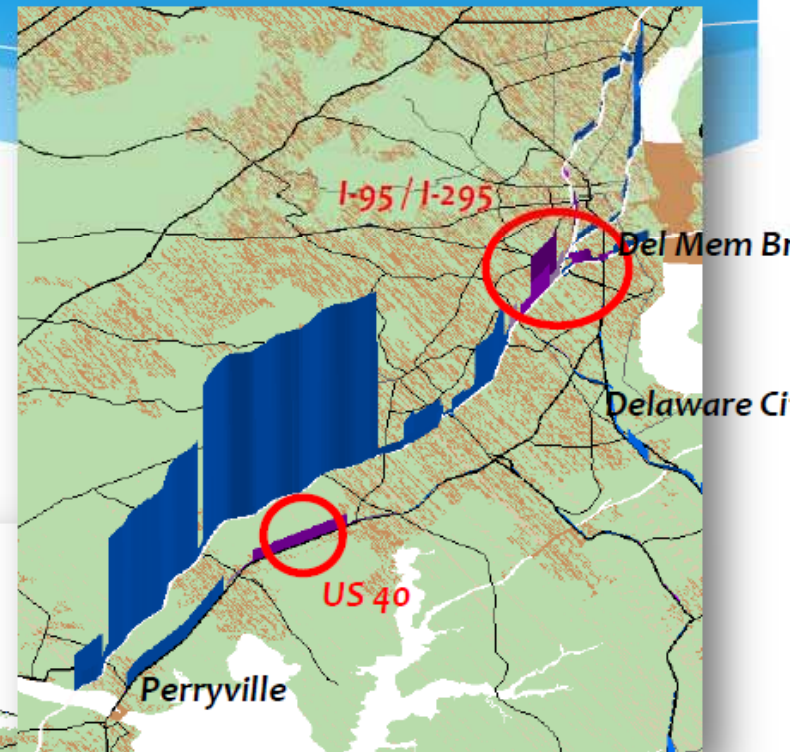
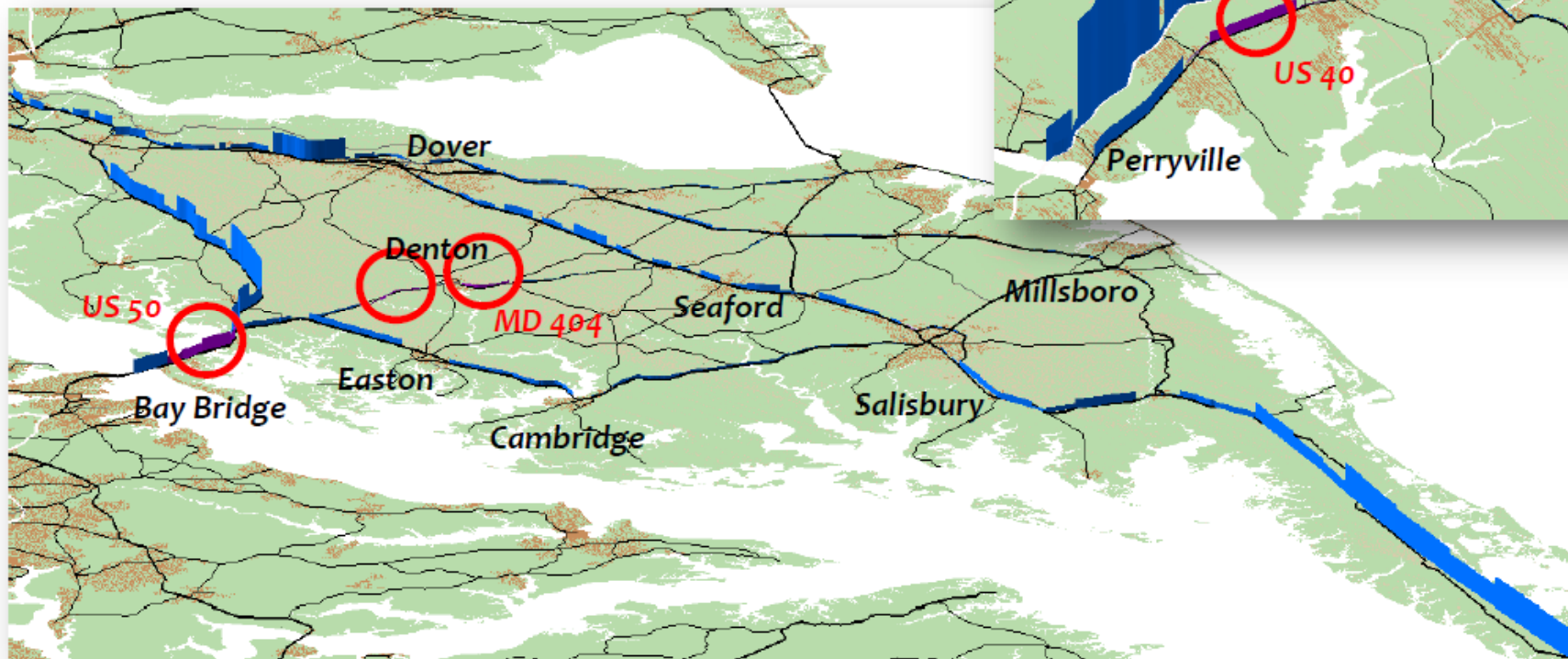
System Summary



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Corridor Details

Truck VHT by LOS
(2010 BASE)



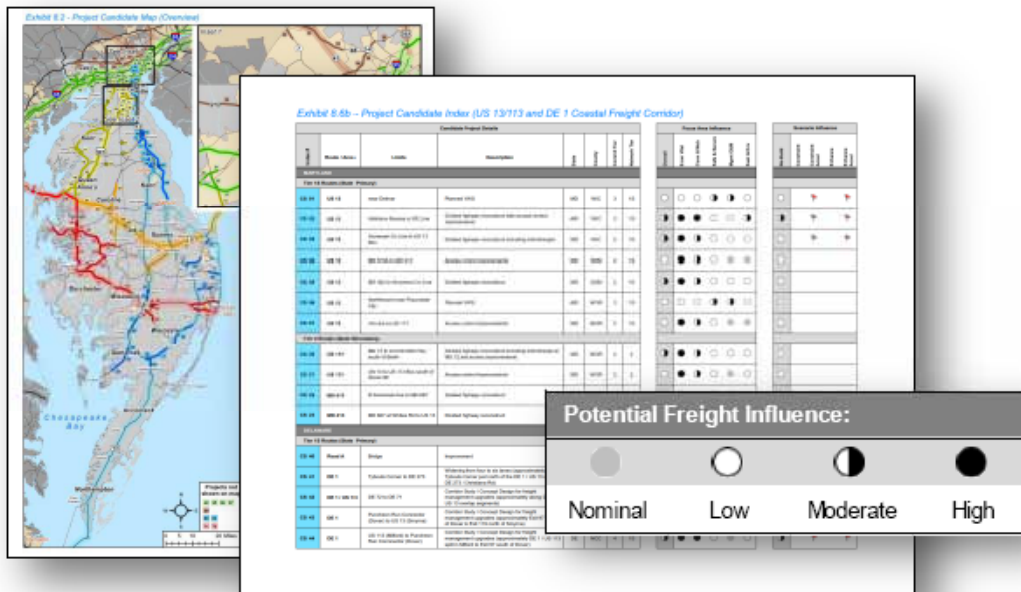
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Recommended Action Plan

- Project Screening
- Project Prioritization
- Policy Implications

Key influence
on...

Future Freight Planning
Other Planning Efforts
Jurisdictional Relationships
Agency Coordination



DELMARVA FREIGHT PLAN



Questions?