

# DELMARVA FREIGHT PLAN

## *Delmarva Freight Plan*

*Project Overview and Update  
for the 2014 Delmarva Freight Summit*

**August 6, 2014**



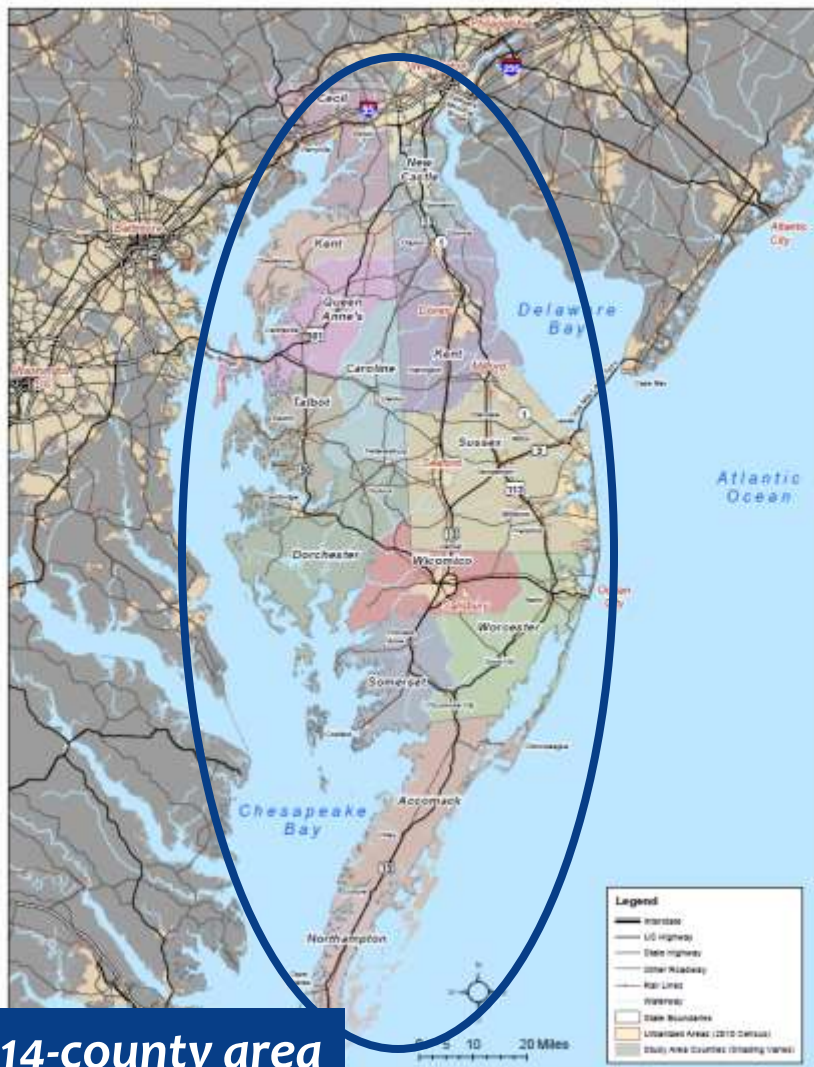
VANTAGE POINT  
DEVELOPMENT ADVISORS, LLC



WHITMAN, REQUARDT & ASSOCIATES, LLP  
ENGINEERS · ARCHITECTS · PLANNERS  
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# DELMARVA FREIGHT PLAN

## Introduction



14-county area

- ❖ Multimodal / multi-jurisdictional freight plan for the Delmarva Peninsula



Delaware Department  
of Transportation



Maryland Department  
of Transportation



- ❖ MAP-21 / performance-oriented

# DELMARVA FREIGHT PLAN

## *Agenda*

- ❖ Freight Background & Context
- ❖ Freight Scenario Planning
- ❖ Freight Planning Implications
- ❖ Next Steps / Questions



## Freight Background & Context

**Freight &  
Economic  
Drivers**

**Commodity  
Flows**

**Freight  
Network**

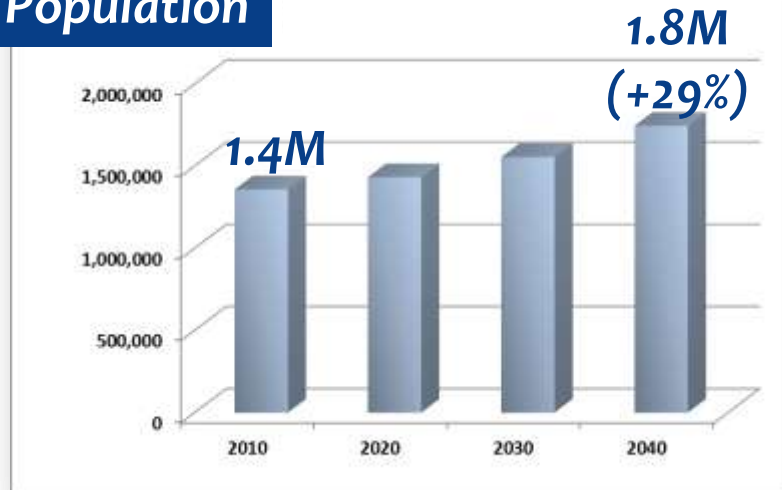
**Broader  
Perspectives**



# DELMARVA FREIGHT PLAN

## Freight & Economic Drivers

### Population



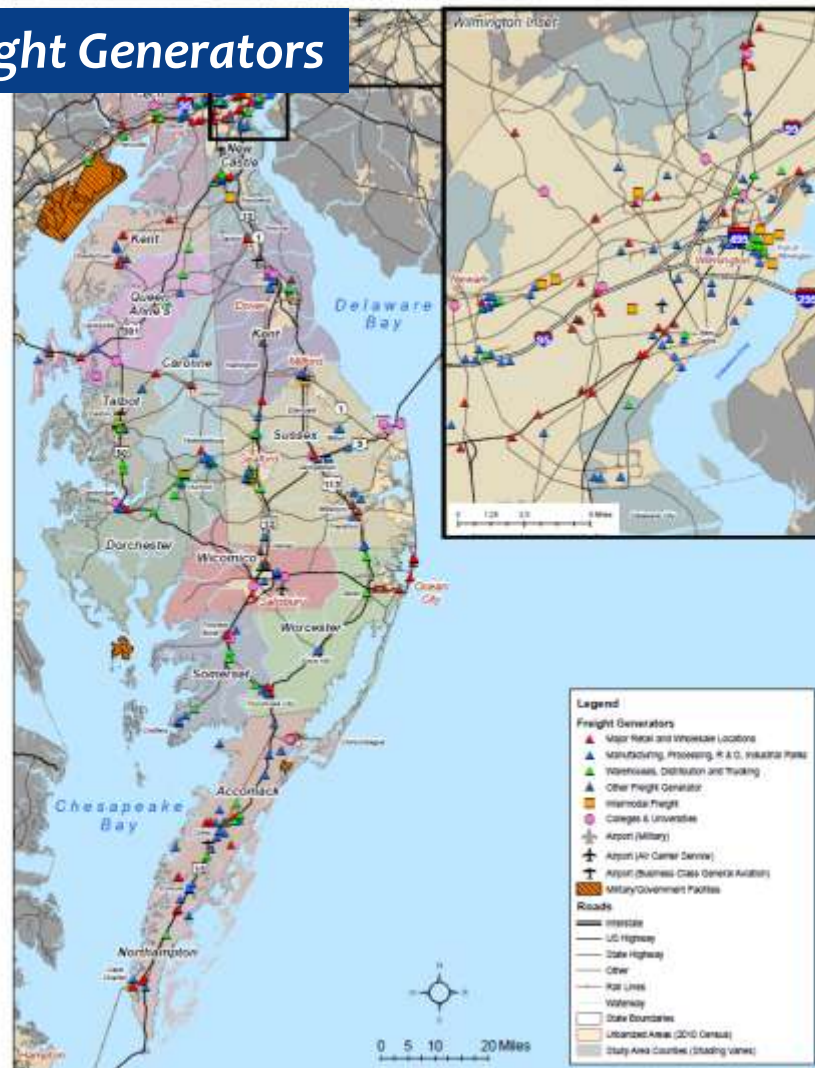
3% VA

32% MD

65% DE

### Households

### Freight Generators



# DELMARVA FREIGHT PLAN

## Commodity Data



### Transearch

*(county-level source; truck/water flows; commodity details)*



### FAF3

*(air/pipeline flows; import/export; growth comparisons)*



### STB Waybill Data

*(Delaware rail flows; pass-thru and Maryland assumptions)*



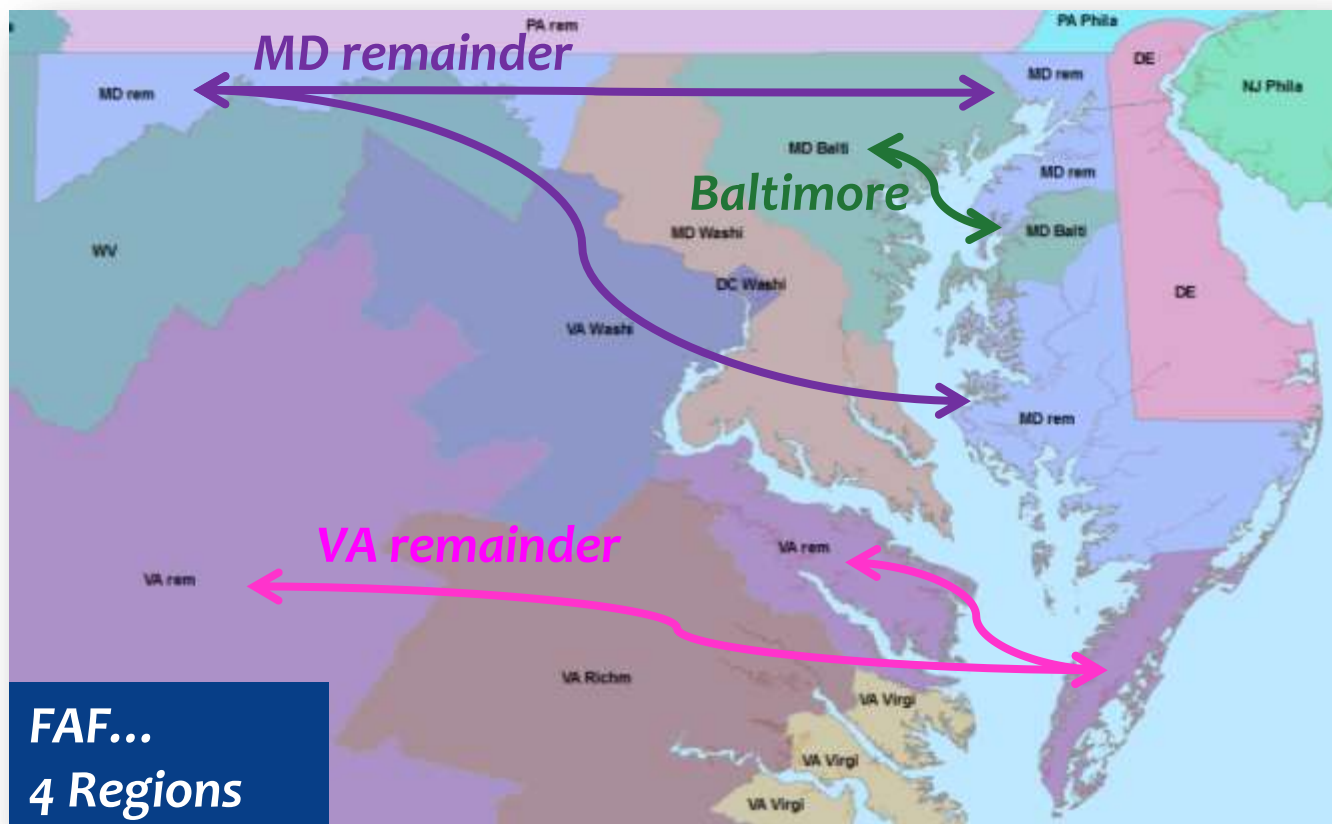
### Other

*(intercounty adjustments; Cargo Model commodity groups)*

# DELMARVA FREIGHT PLAN

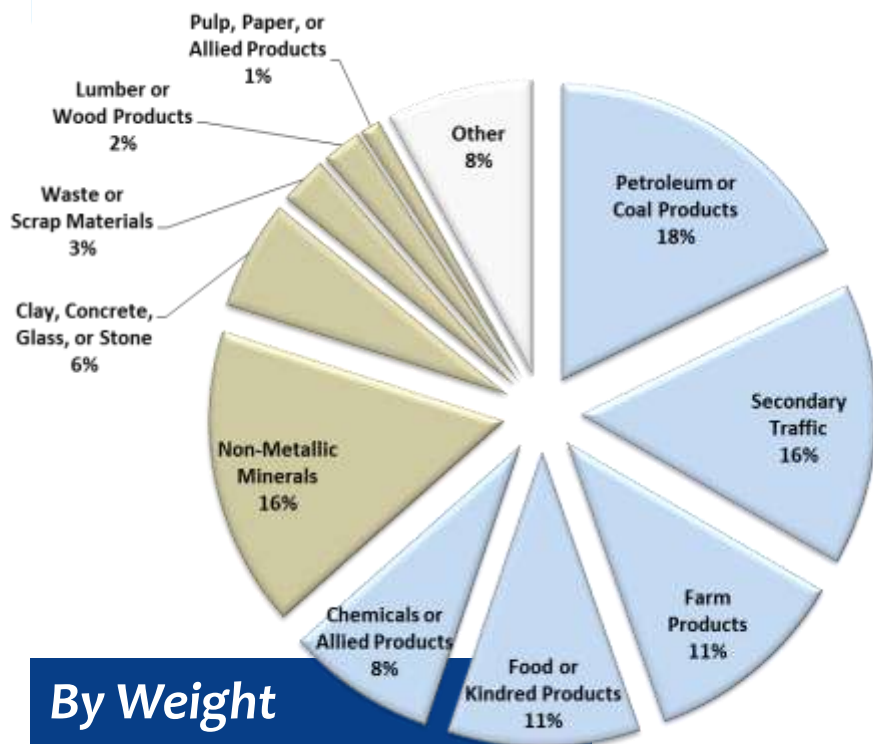
## Commodity Data

FAF and Transearch geographies on the peninsula...



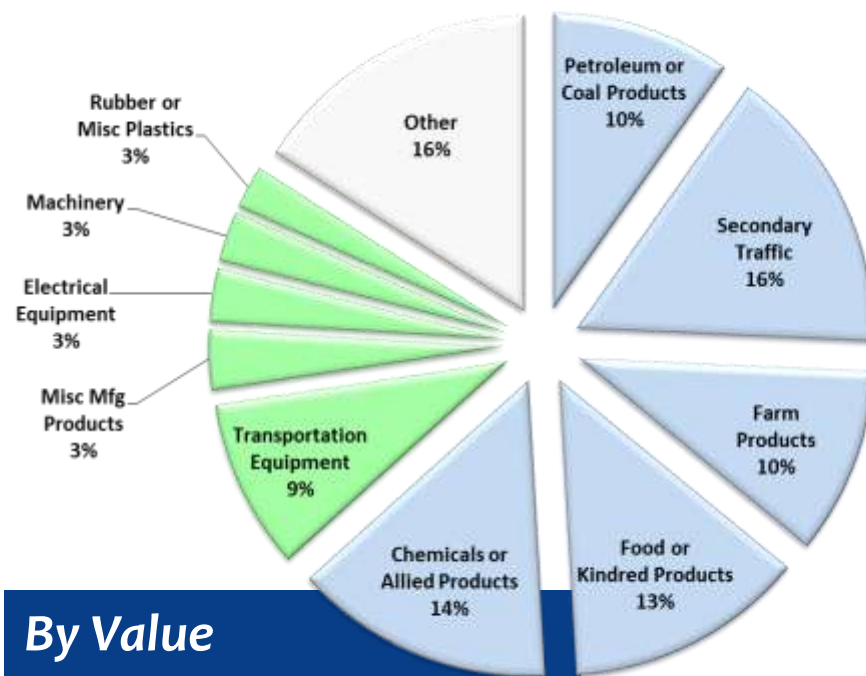
# DELMARVA FREIGHT PLAN

## Commodity Types



**By Weight**  
70 M tons...

157 M tons w/ pass-thru



**By Value**

\$75 billion...

\$327 billion w/ pass-thru

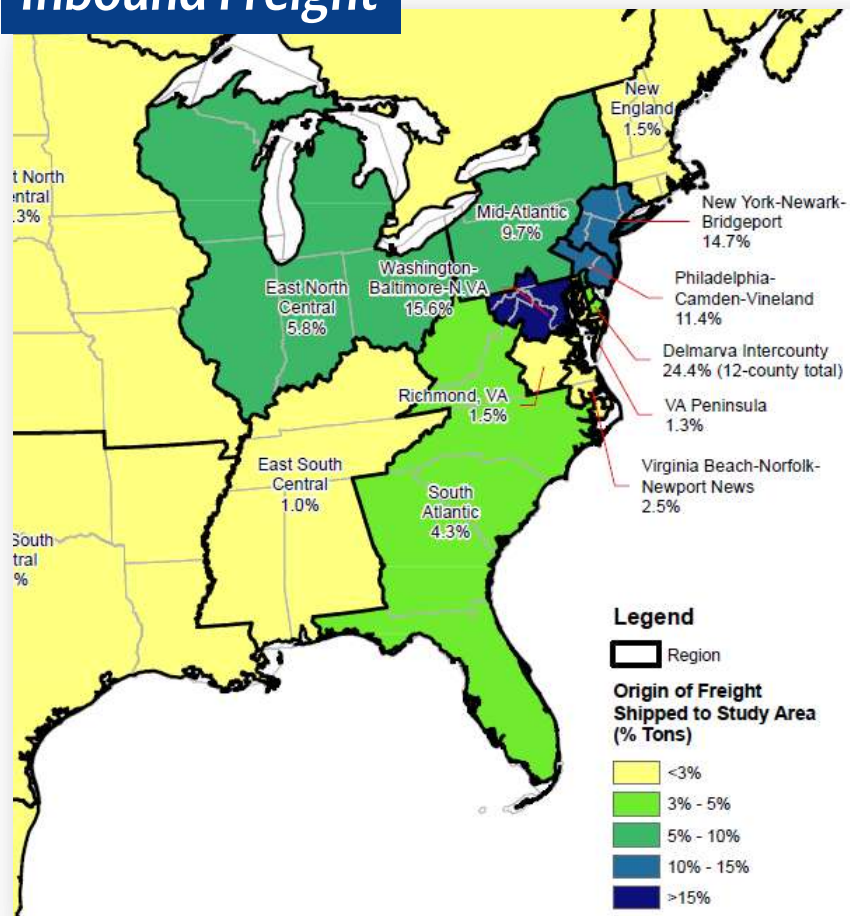
> 60% of total freight in 5 core groups... 80-90% in top 10



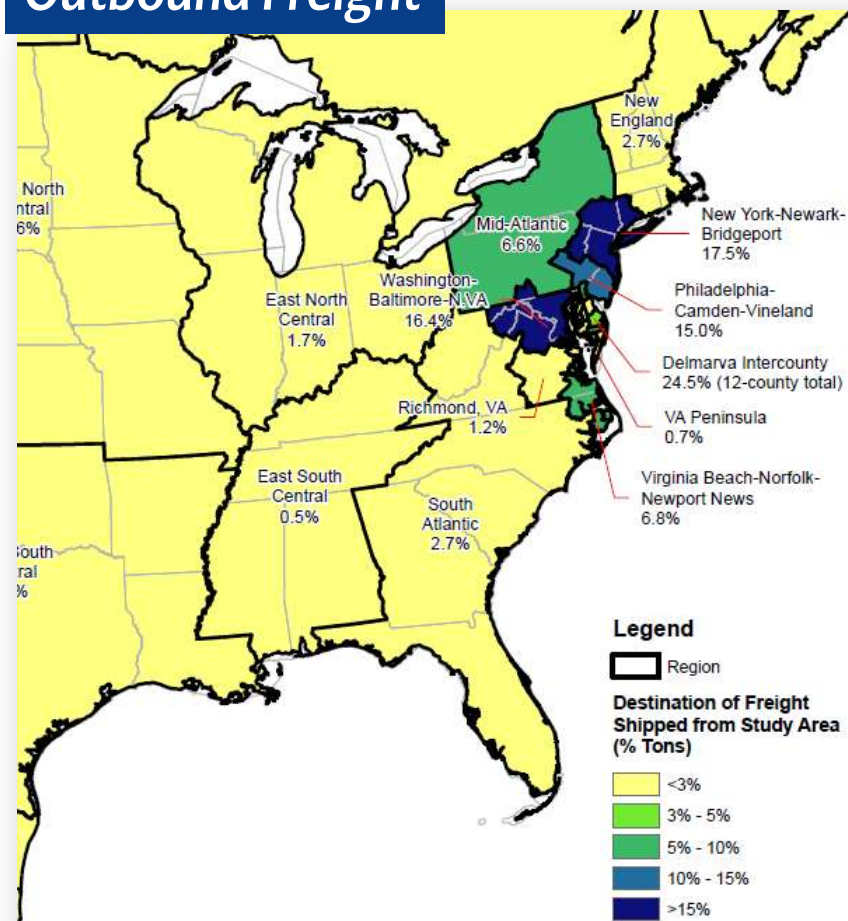
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## Domestic Partners

### Inbound Freight



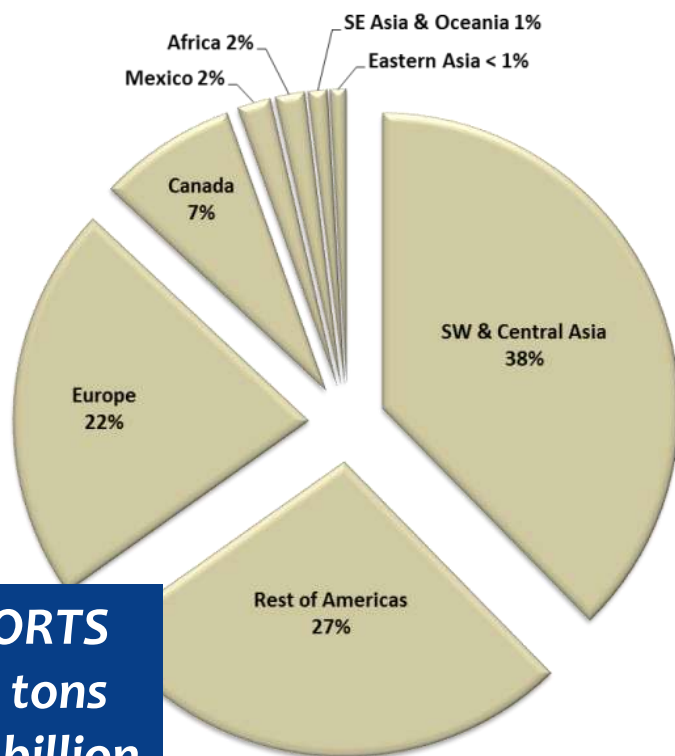
### Outbound Freight



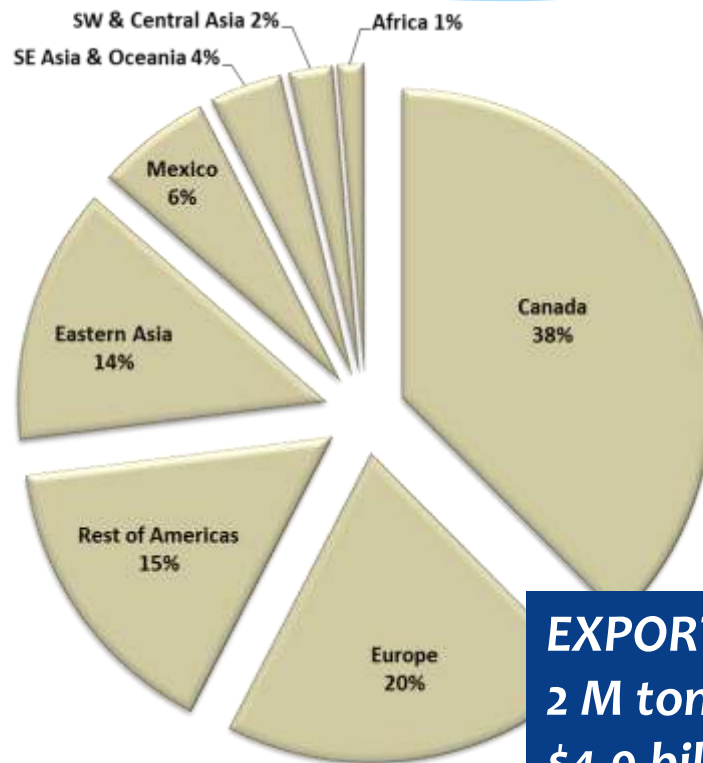
≈25% intercounty freight... 95% east of the Mississippi

# DELMARVA FREIGHT PLAN

## International Partners



**IMPORTS**  
12 M tons  
\$8.2 billion



**EXPORTS**  
2 M tons  
\$4.9 billion

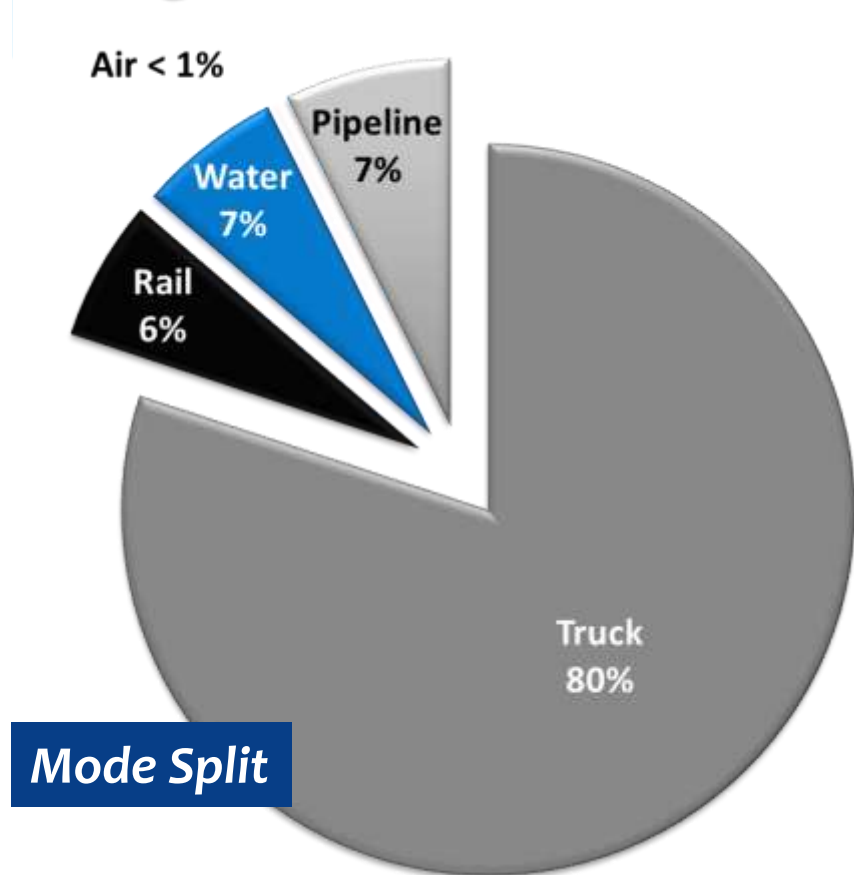
*Canada, Europe, and Rest of the Americas...*

*...plus imports from Southwest and Central Asia...*

*...plus exports to Mexico and Eastern Asia*

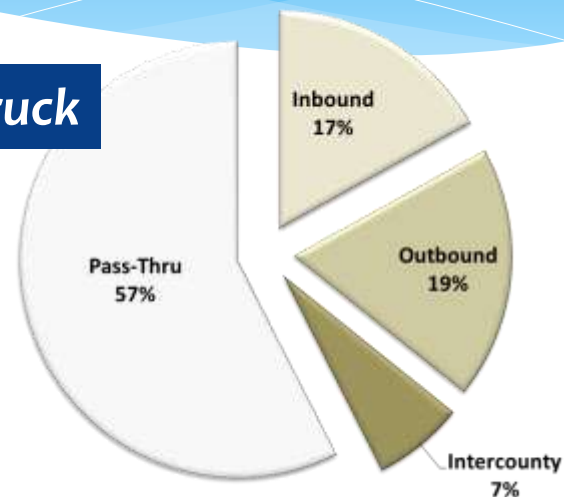
# DELMARVA FREIGHT PLAN

## Freight Modes

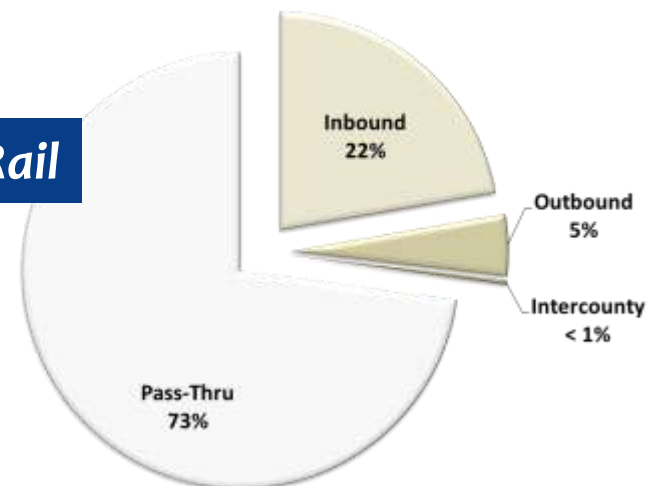


*≈ 80-88% truck (with variations in weight vs. value vs. pass-thru)*

### By Truck



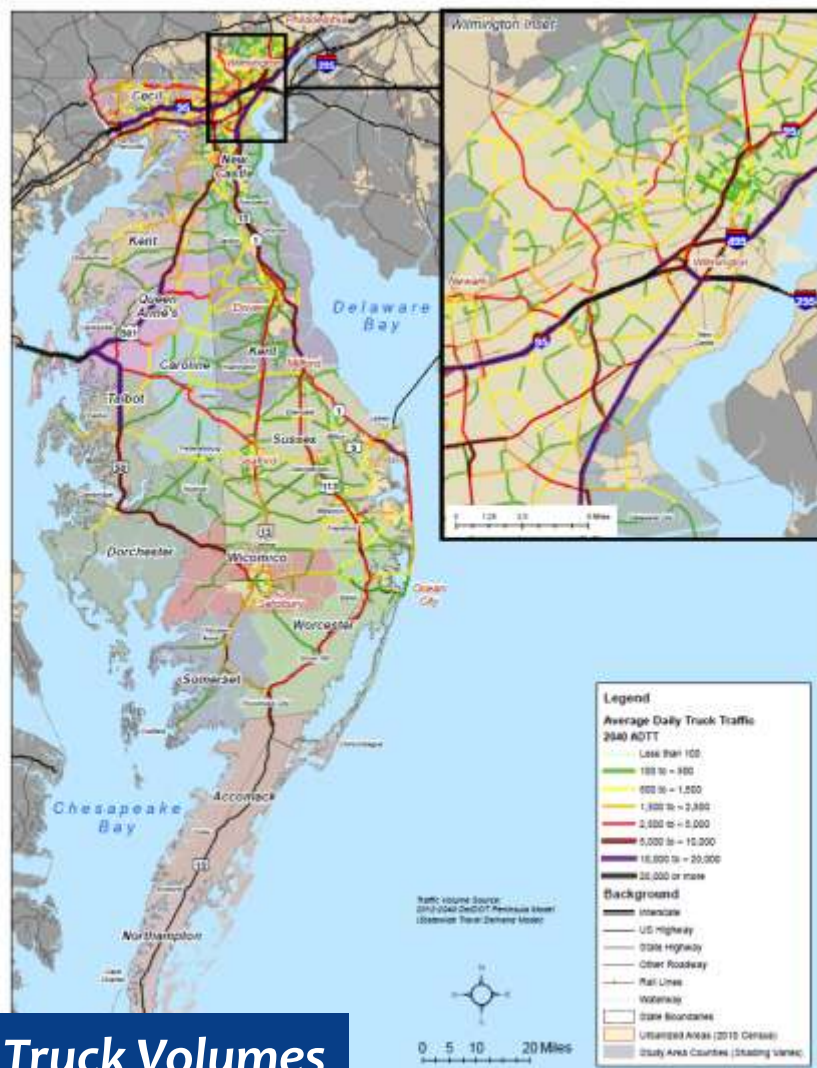
### By Rail



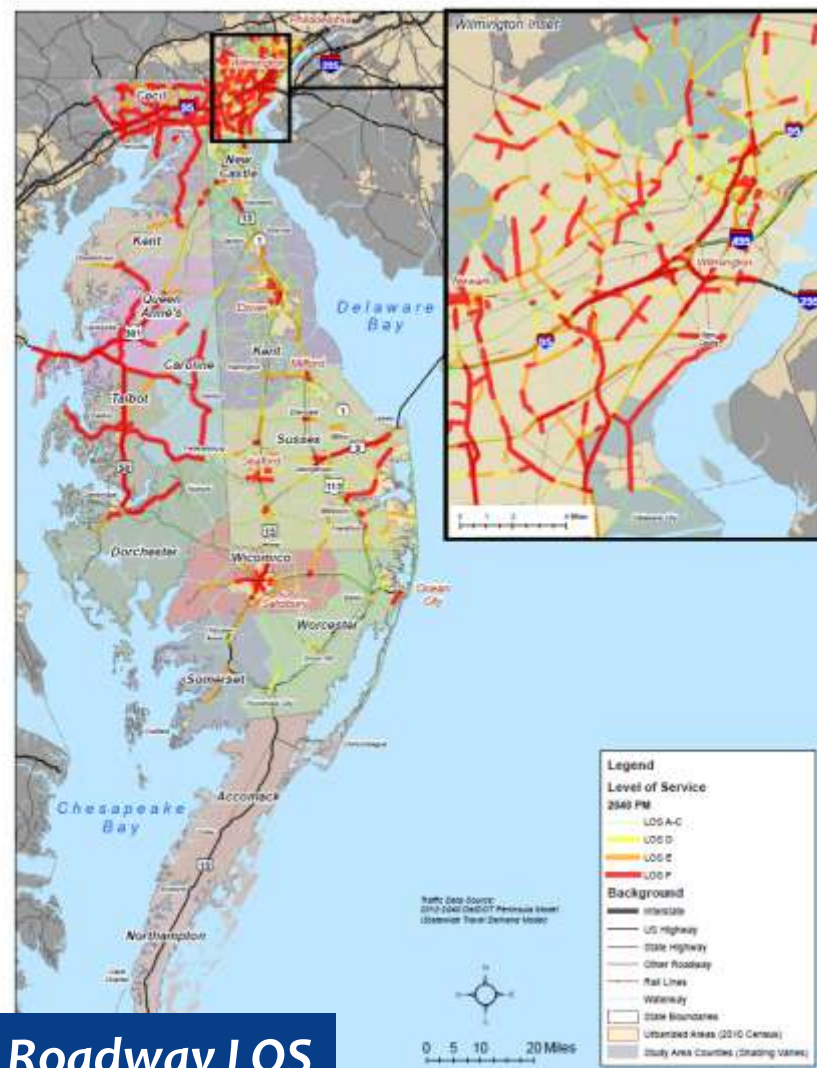


# DELMARVA FREIGHT PLAN

## Roadway Network



Truck Volumes

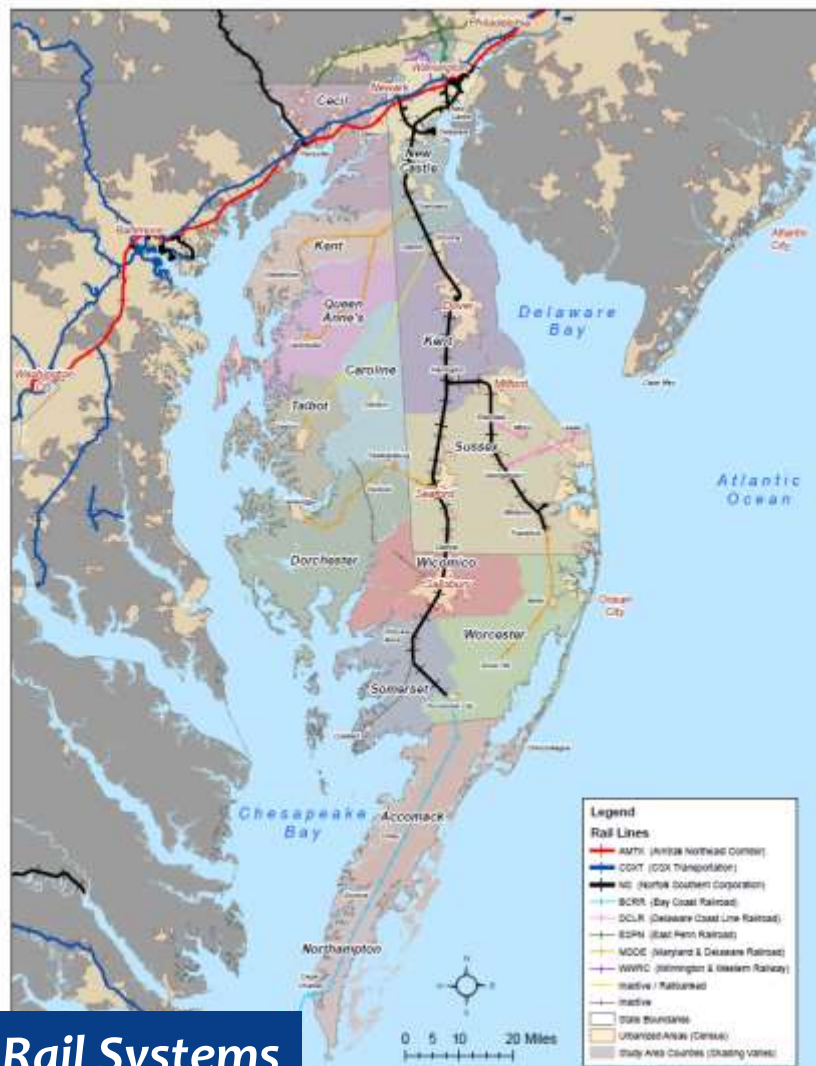


Roadway LOS

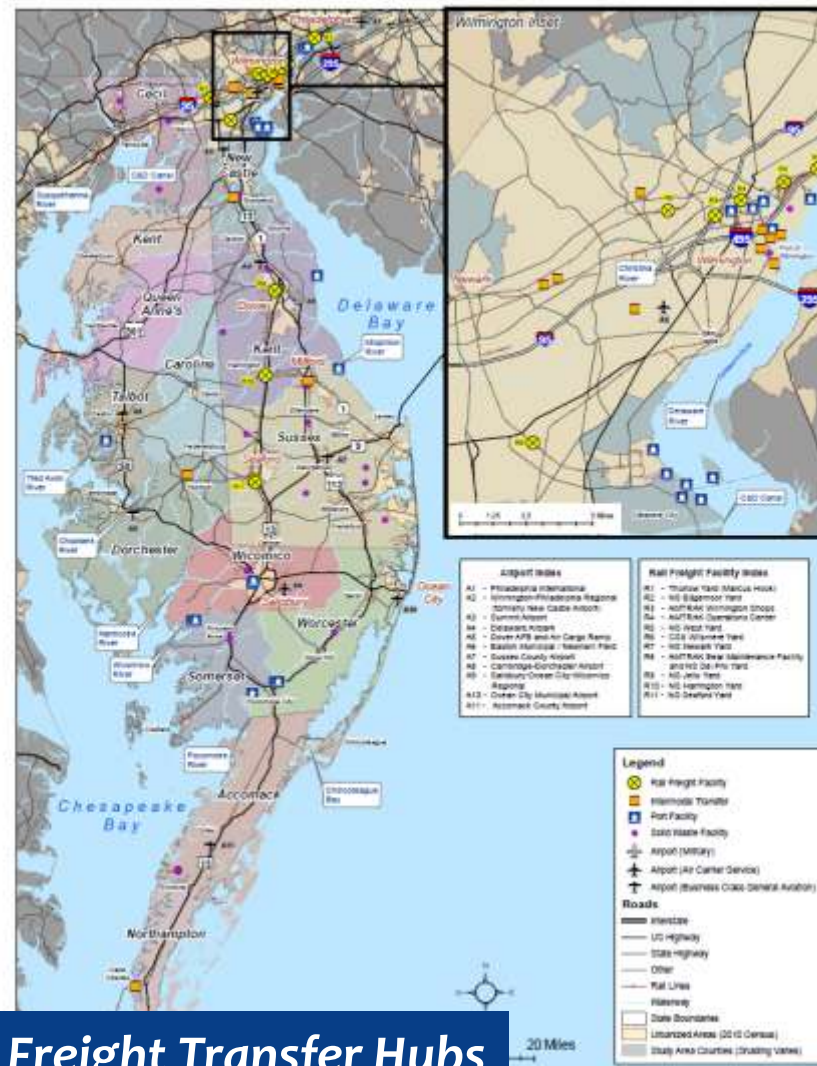


# DELMARVA FREIGHT PLAN

## Multimodal Network



**Rail Systems**



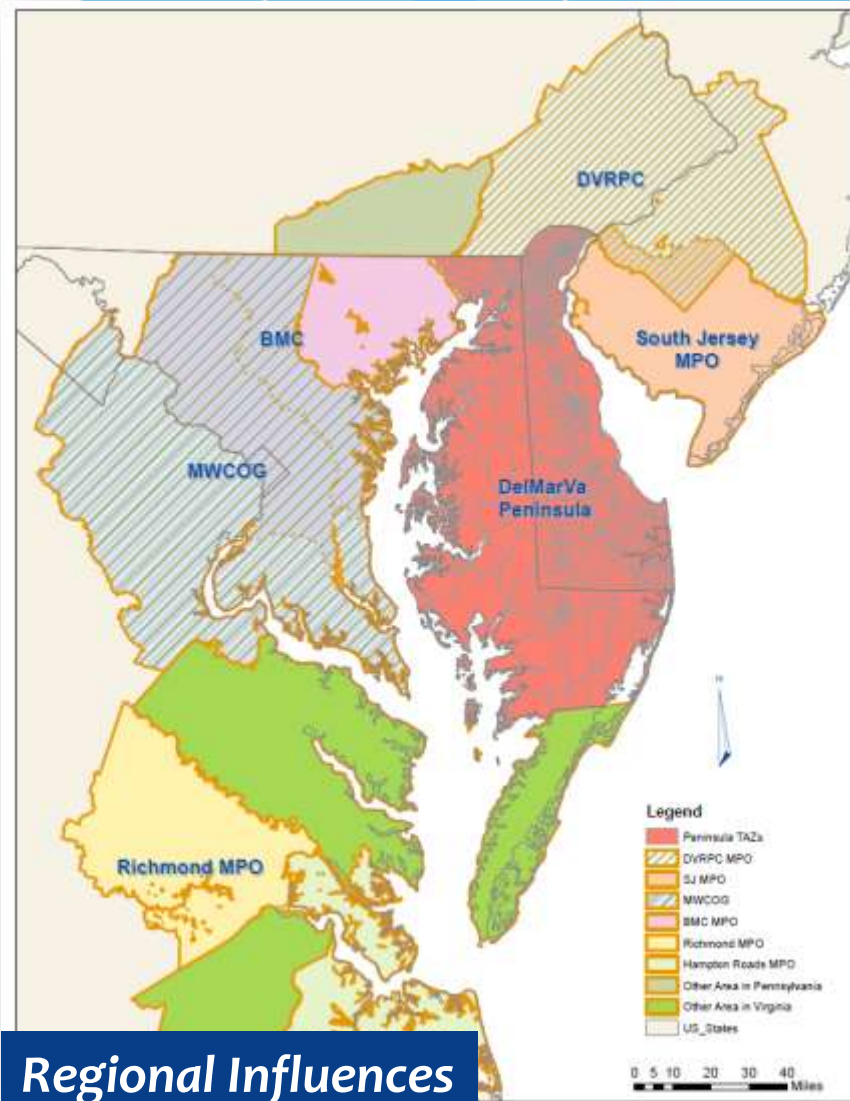
**Freight Transfer Hubs**

# DELMARVA FREIGHT PLAN

## Broader Perspectives



Summary Corridors



Regional Influences

## Freight Scenario Planning

Scenario  
Assumptions

Cube Cargo  
Model

Performance  
Measures

Preliminary  
Results



## *Freight Scenarios*

***Scenarios are methodically-constructed stories... not alternatives***

1. Baseline *(2011 “existing” vs. 2040 “future”)*
2. Multimodal Constraint *(trendline vs. accelerated growth)*
3. Multimodal Enhancement *(trendline vs. accelerated growth)*



## *Scenario Assumptions*

### Economic Influence

- Population and household growth
- Targeted industries
- Market shifts
- Productivity
- Energy markets
- Port markets

### Rail Influence

- NEC accessibility
- Rail service modifications
- Rail network enhancements

### Intermodal Influence

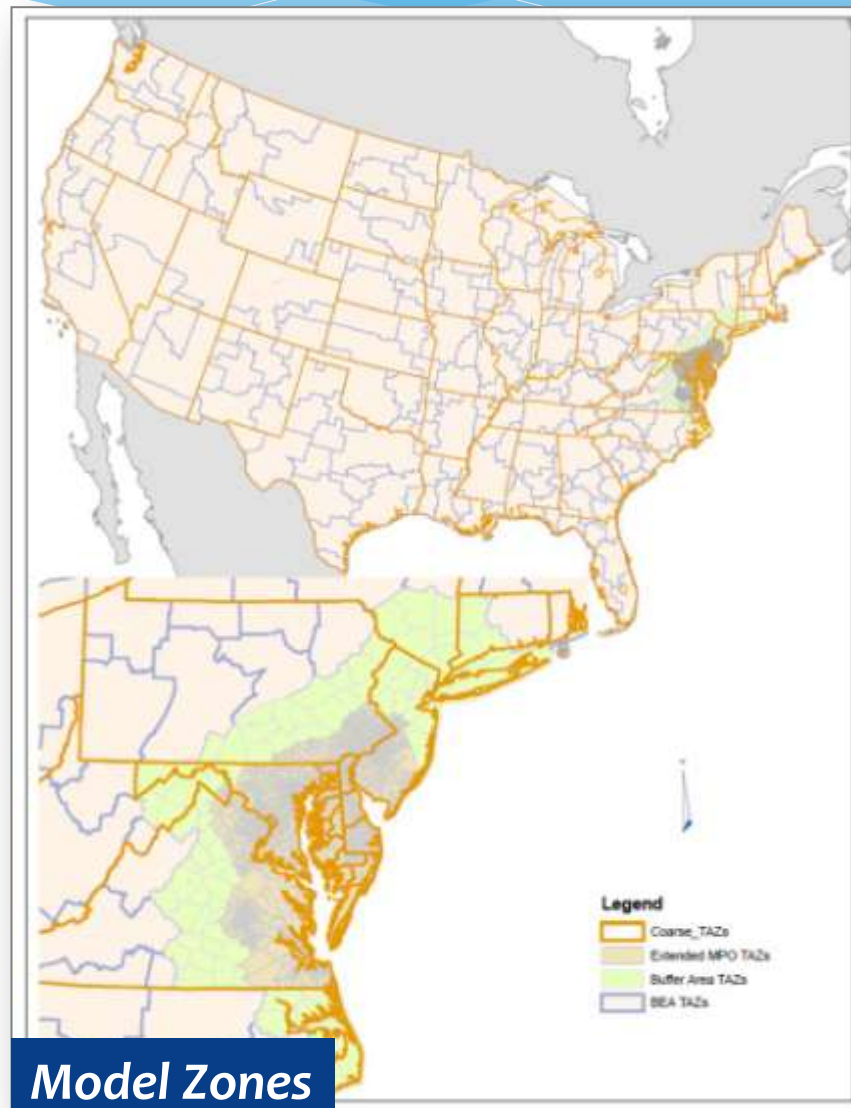
- Future intermodal facility sites
- River/barge accessibility

# DELMARVA FREIGHT PLAN

## Cube Cargo Model



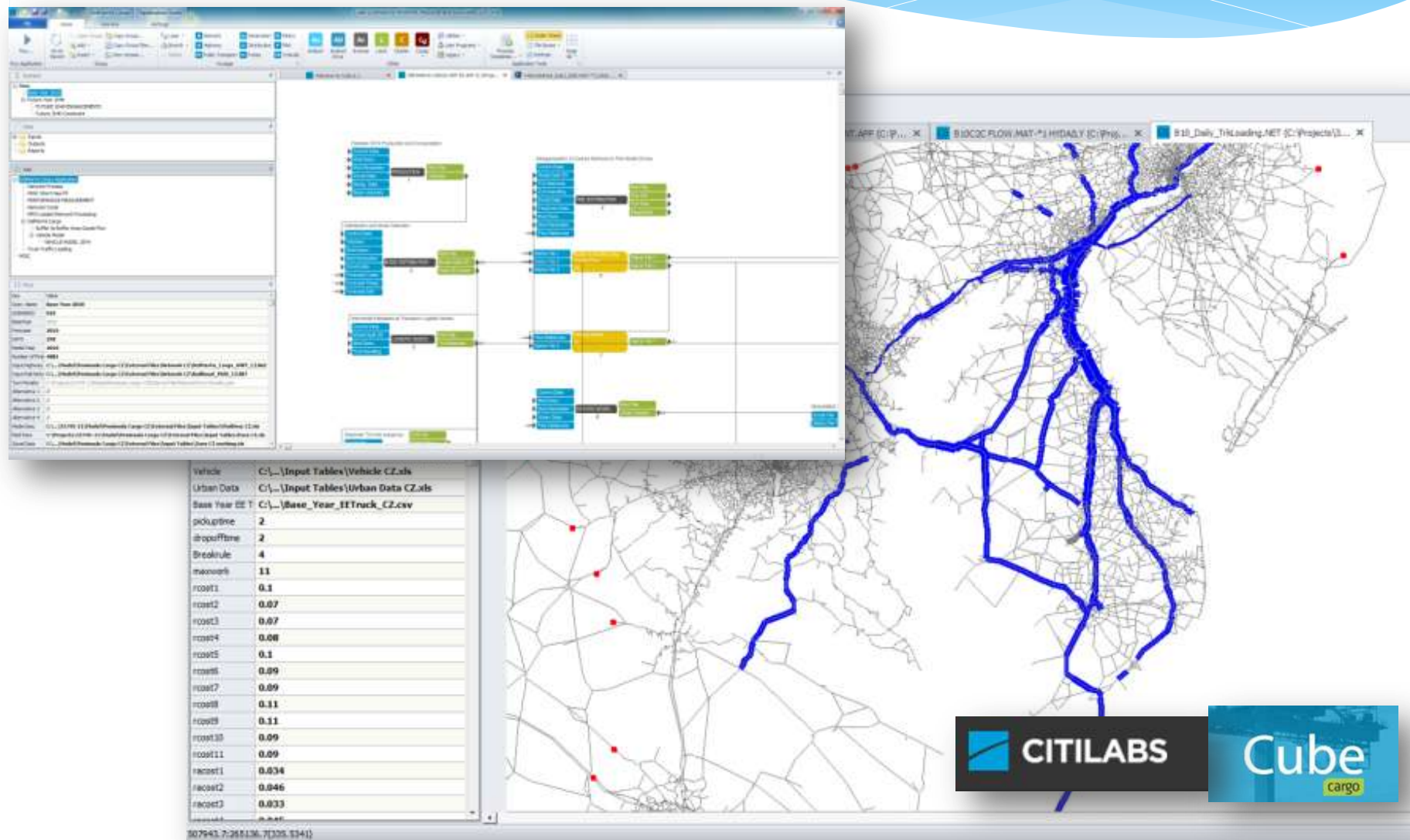
**Model & Buffer Area**



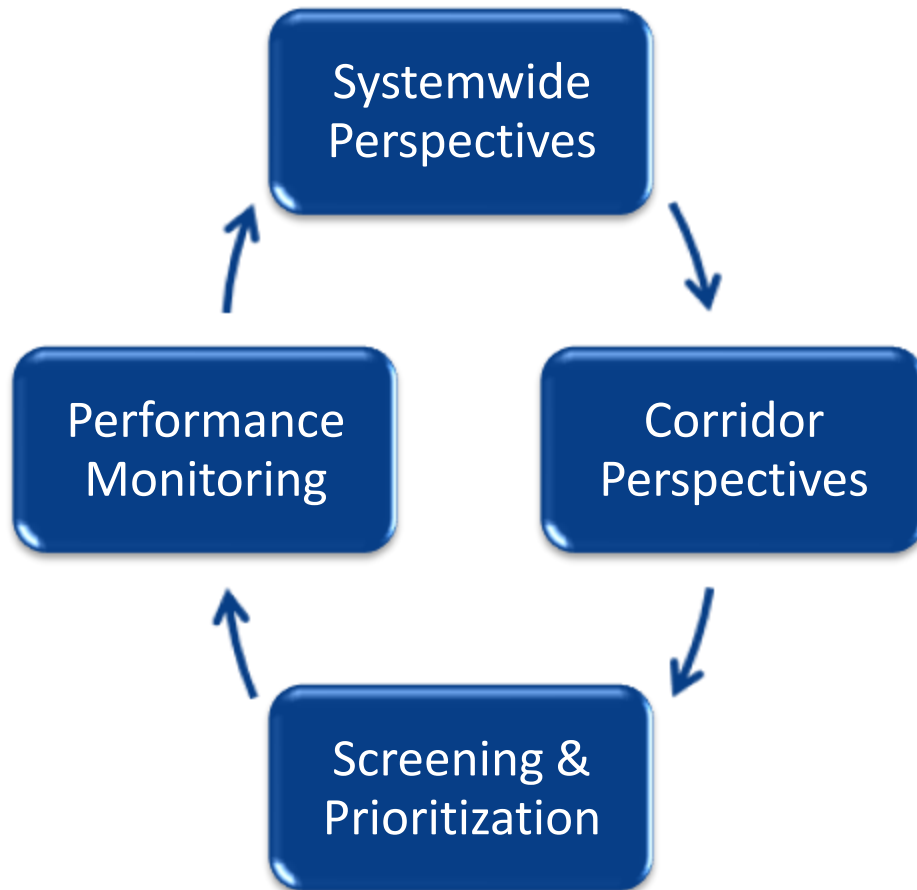
**Model Zones**

# DELMARVA FREIGHT PLAN

## Cube Cargo Model



## *Performance Measures*



### *Systemwide & Corridor Examples:*

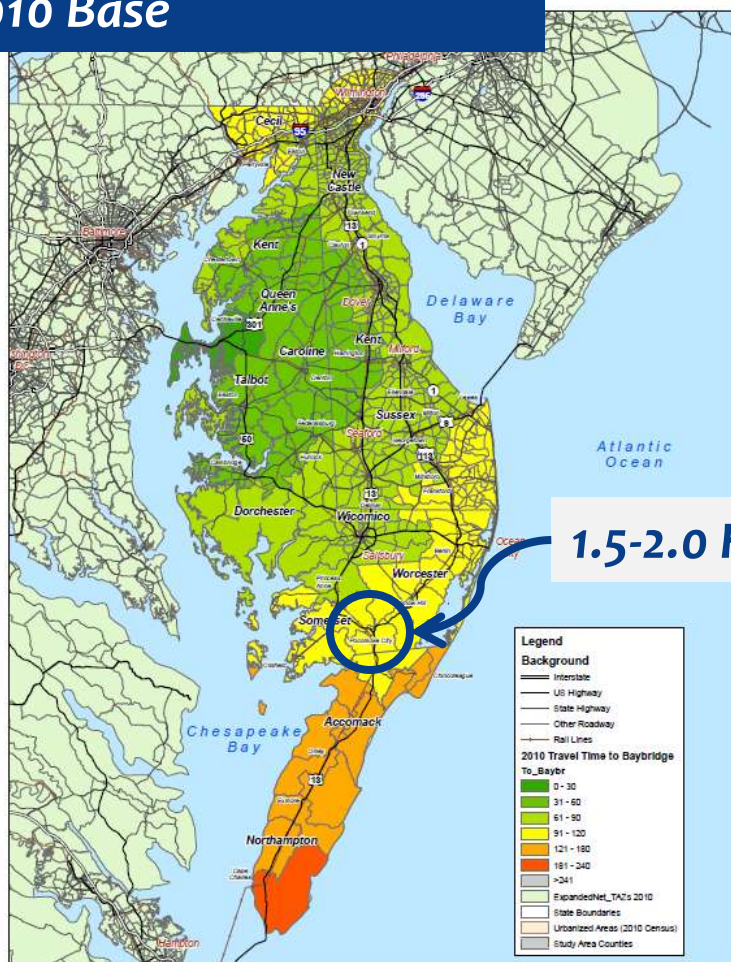
- Truck volume and VMT
- Truck delay and VHT by LOS
- Travel times
- Tonnage by mode
- Tonnage by commodity
- Fiscal impacts
- Capture for distribution centers
- Capture for transfer hubs
- Weigh station exposure
- Rail blockage potential
- Emissions data



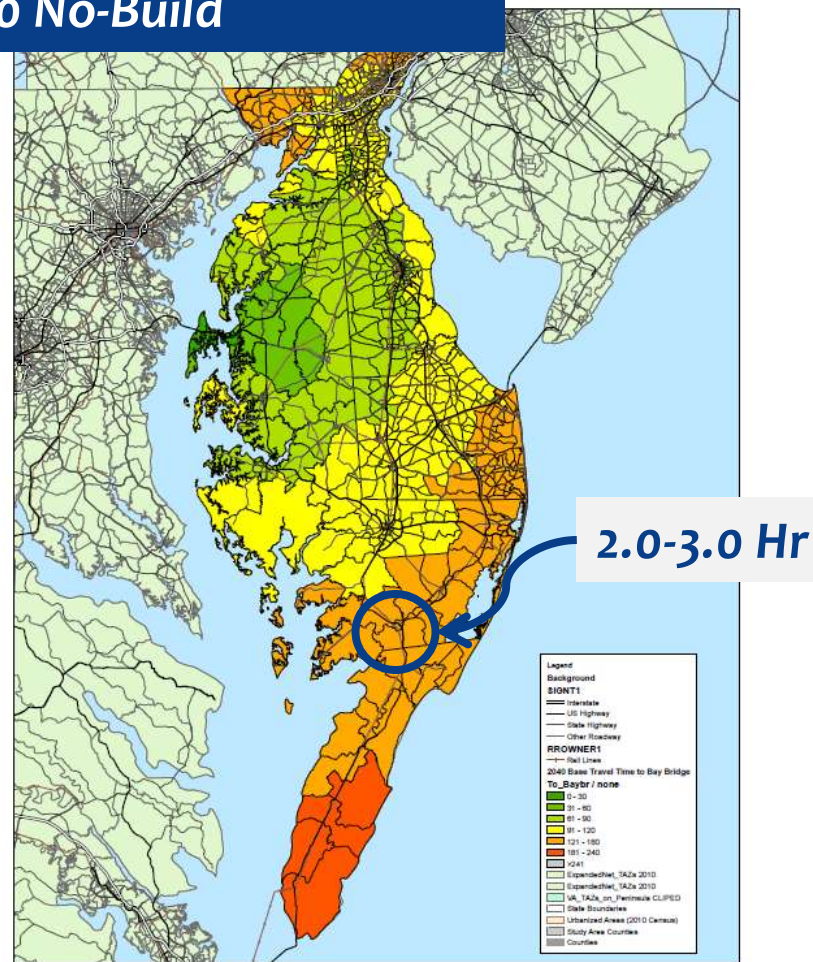
# DELMARVA FREIGHT PLAN

## Preliminary Results

### Travel Time to Bay Bridge 2010 Base



### Travel Time to Bay Bridge 2040 No-Build



# DELMARVA FREIGHT PLAN

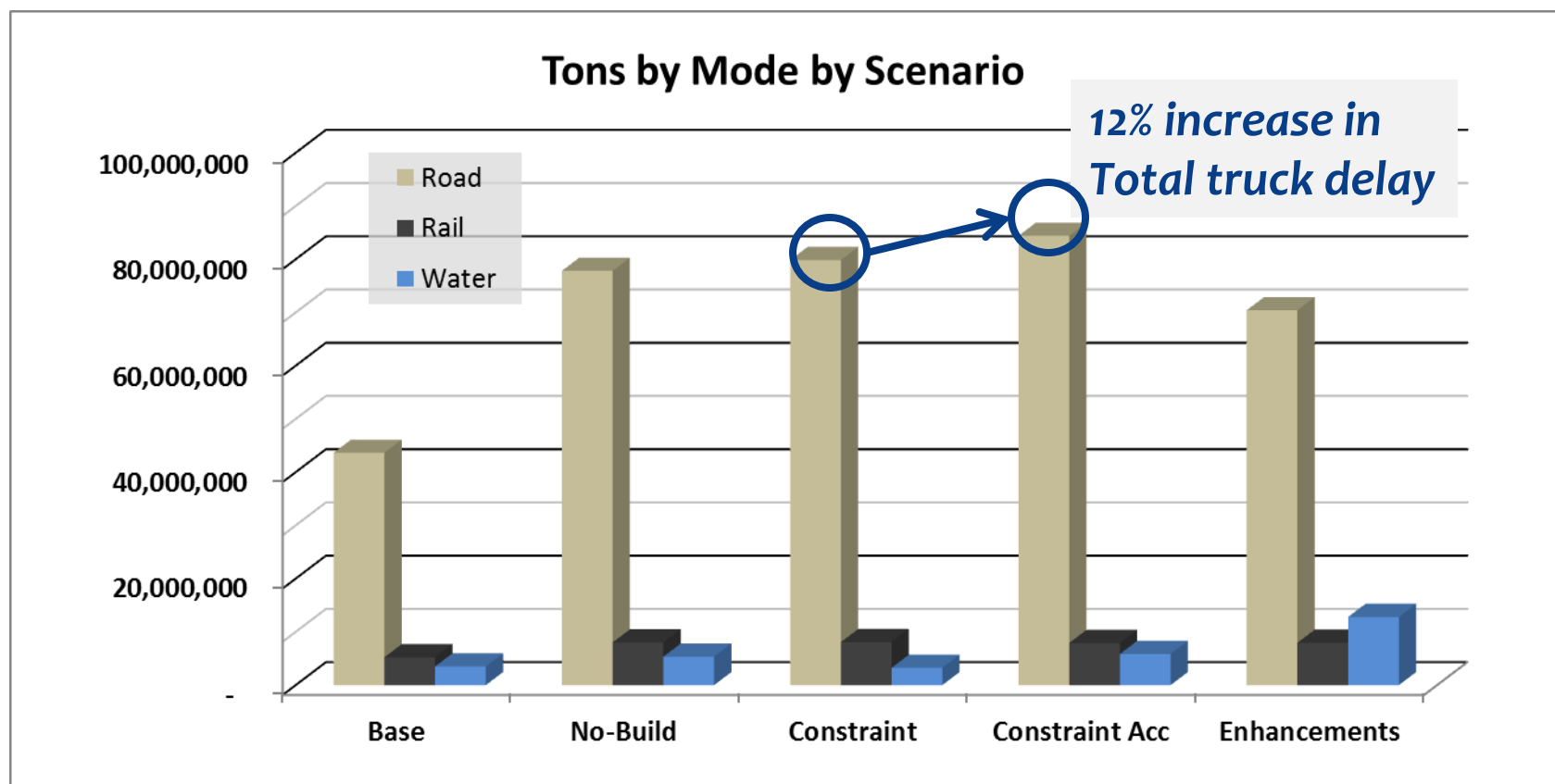
## Preliminary Results

### Change in Travel Time: Base to Future No-Build

County	I-95 W	I-95 E	US 50/301 Bay Br (MD)	US 113 Bay Br (VA)	Cape May Lewes Ferry
New Castle	43%	8%	25%	3%	6%
Kent DE	28%	9%	34%	3%	6%
Sussex	24%	13%	38%	1%	13%
Caroline	14%	10%	60%	4%	10%
Cecil	45%	29%	34%	8%	16%
Dorchester	12%	2%	49%	2%	8%
Kent MD	25%	-5%	47%	6%	8%
Queen Ann	10%	-7%	68%	4%	1%
Somerset	15%	7%	31%	1%	9%
Talbot	13%	1%	81%	3%	7%
Wicomico	17%	9%	35%	1%	11%
Worcester	18%	10%	28%	0%	0%

# DELMARVA FREIGHT PLAN

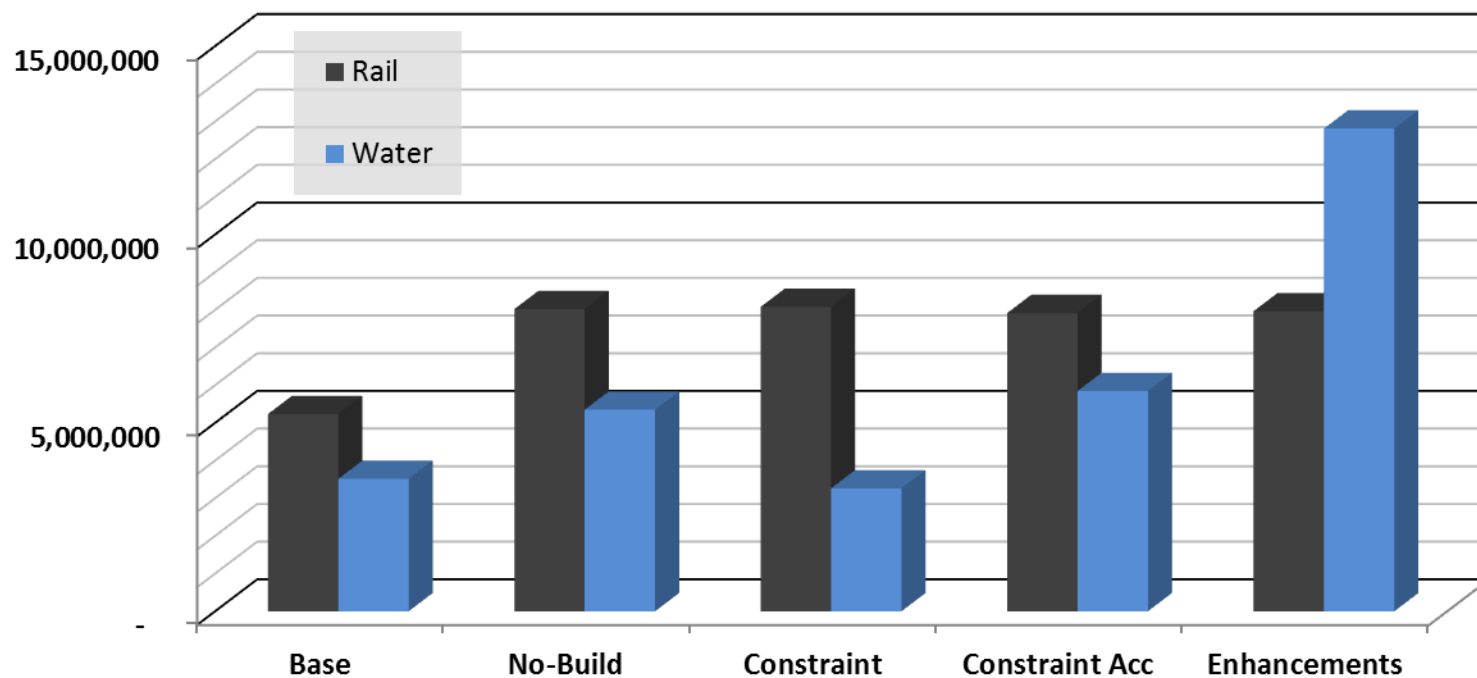
## Preliminary Results



# DELMARVA FREIGHT PLAN

## *Preliminary Results*

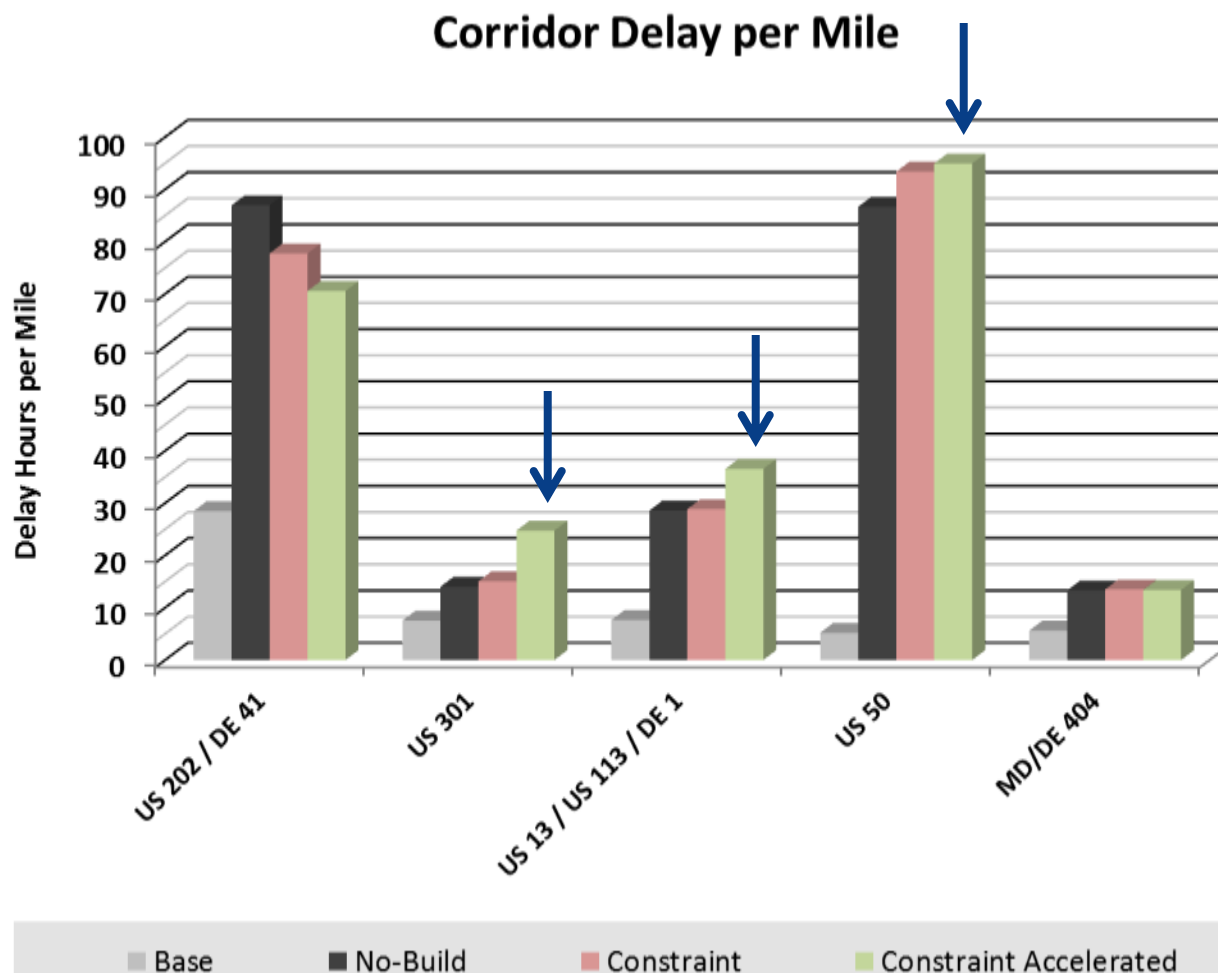
**Tons by Mode by Scenario**





# DELMARVA FREIGHT PLAN

## Preliminary Results



*Along I-95, traffic increases imply:*

*2.3-2.6% per year*

*65-78% growth by 2040*

*39k trucks by 2040*

## Freight Planning Implications

Economic  
Vitality

Connectivity,  
Mobility,  
Accessibility

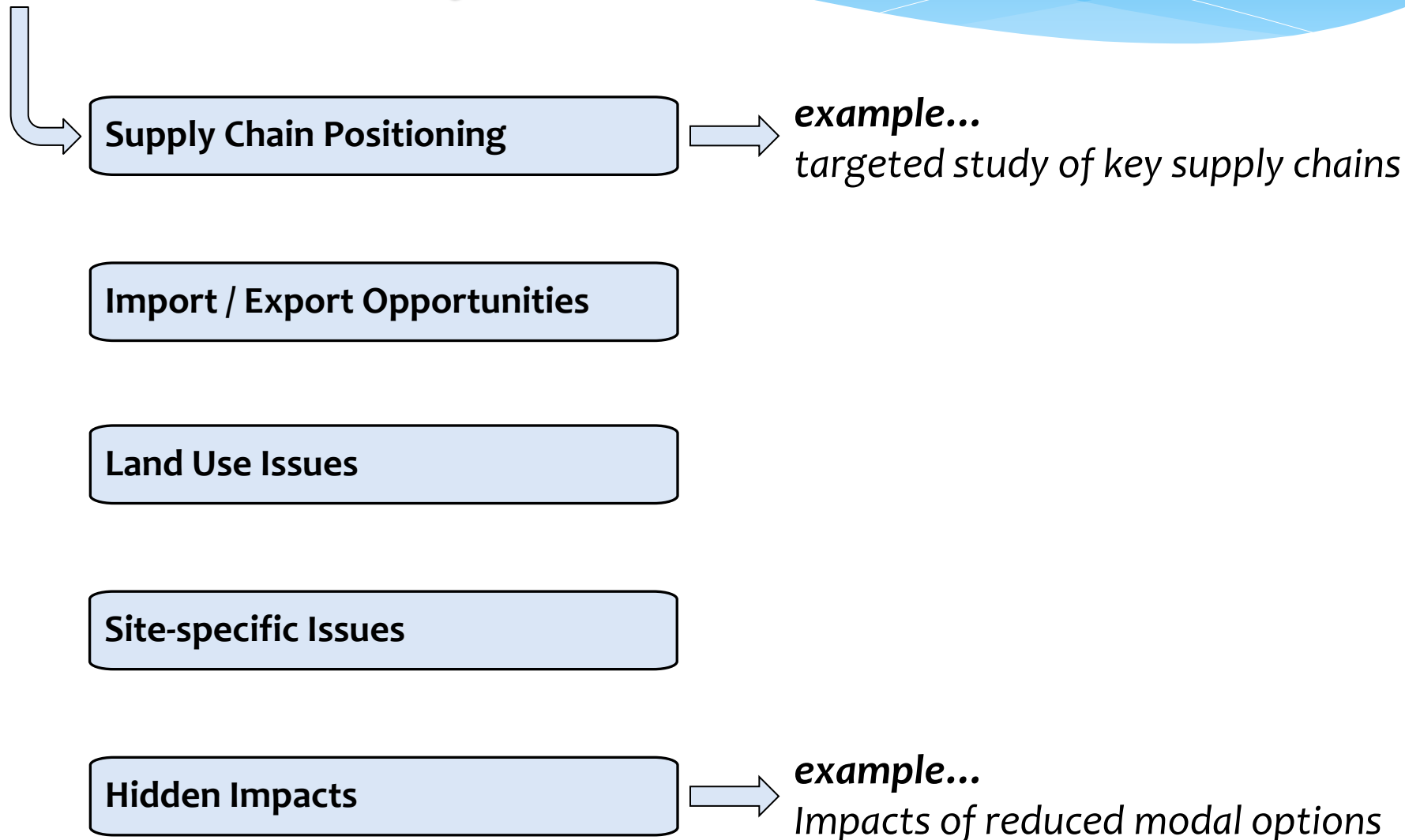
Safety  
Security

System Mgmt,  
Operations,  
Maintenance

Sustainability  
and  
Environmental  
Stewardship

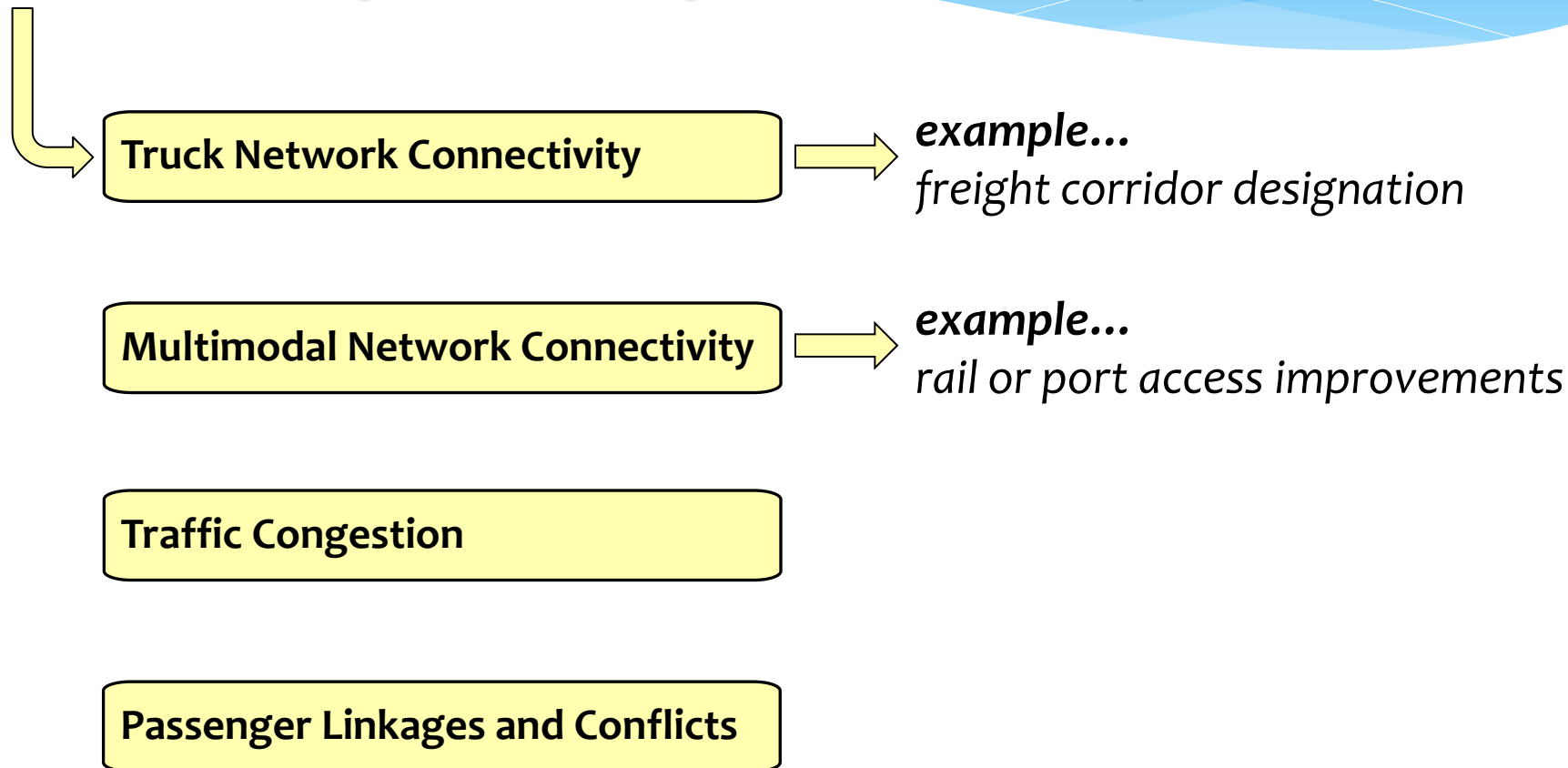
# DELMARVA FREIGHT PLAN

## *Economic Vitality*



# DELMARVA FREIGHT PLAN

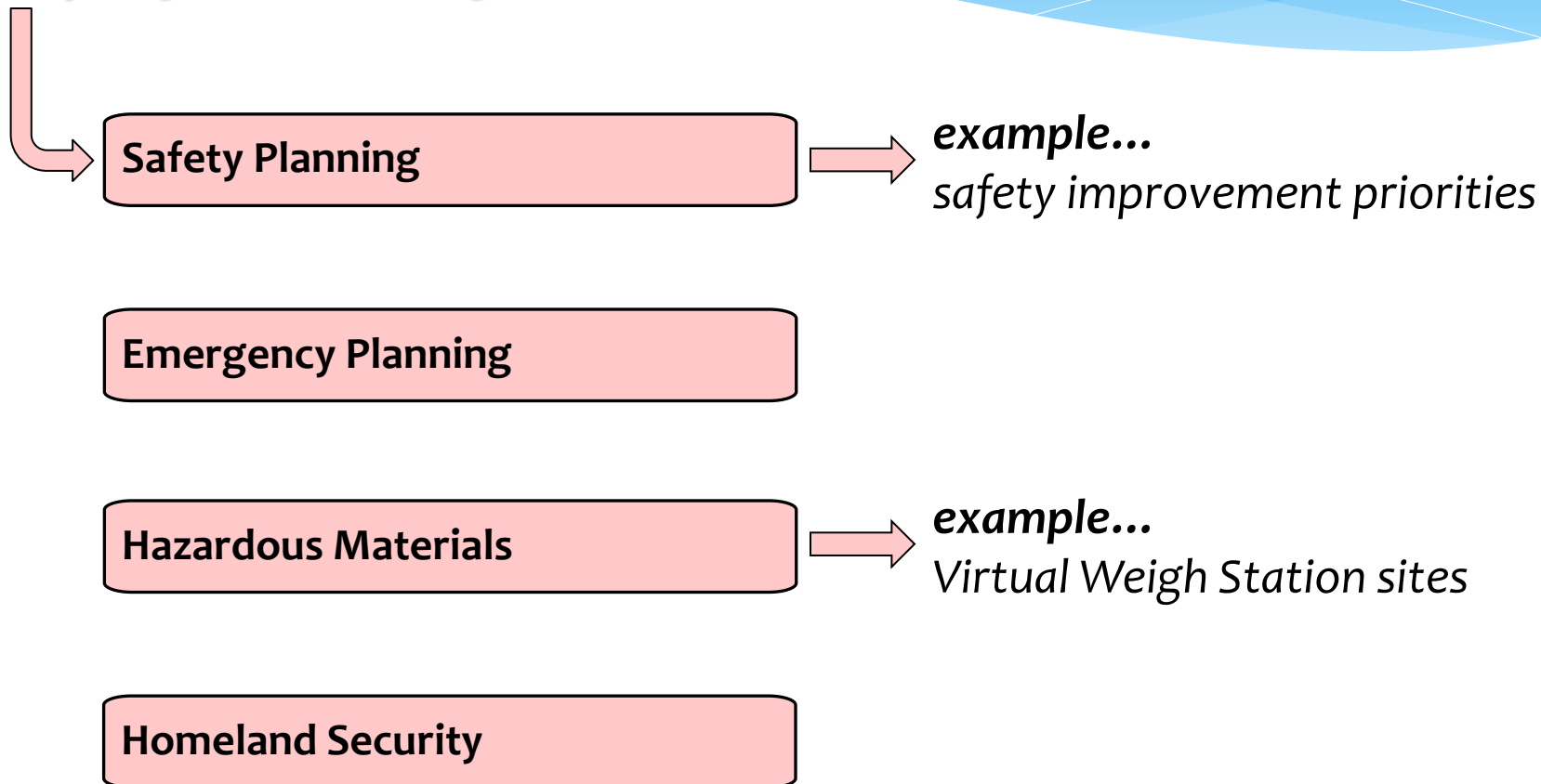
## *Connectivity / Mobility / Accessibility*





# DELMARVA FREIGHT PLAN

## *Safety / Security*



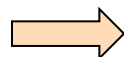
# DELMARVA FREIGHT PLAN

## *Mgmt / Operations / Maintenance*



**Jurisdictional Relationships**

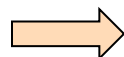
**Truck Policies**



***example...***  
*freight management areas*

**Pavement Management**

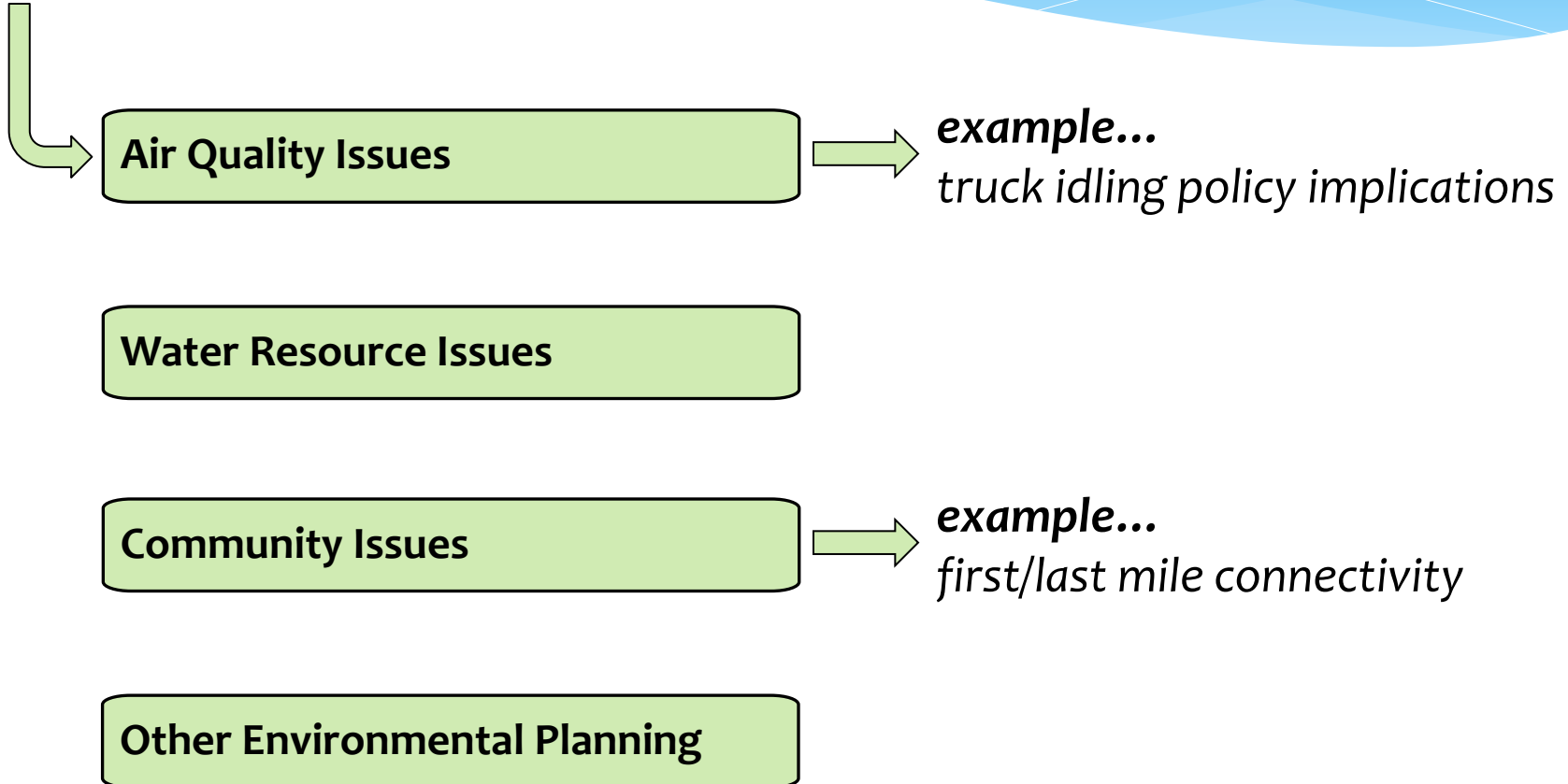
**Technologies and ITS**



***example...***  
*future TRS or VWS site needs*

**Waterway Dredging**

## *Sustainability / Environmental*



## Next Steps / Questions

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Scenario  
Refinements

Final  
Scenario  
Insights

Final Action  
Plan

Final Freight  
Plan