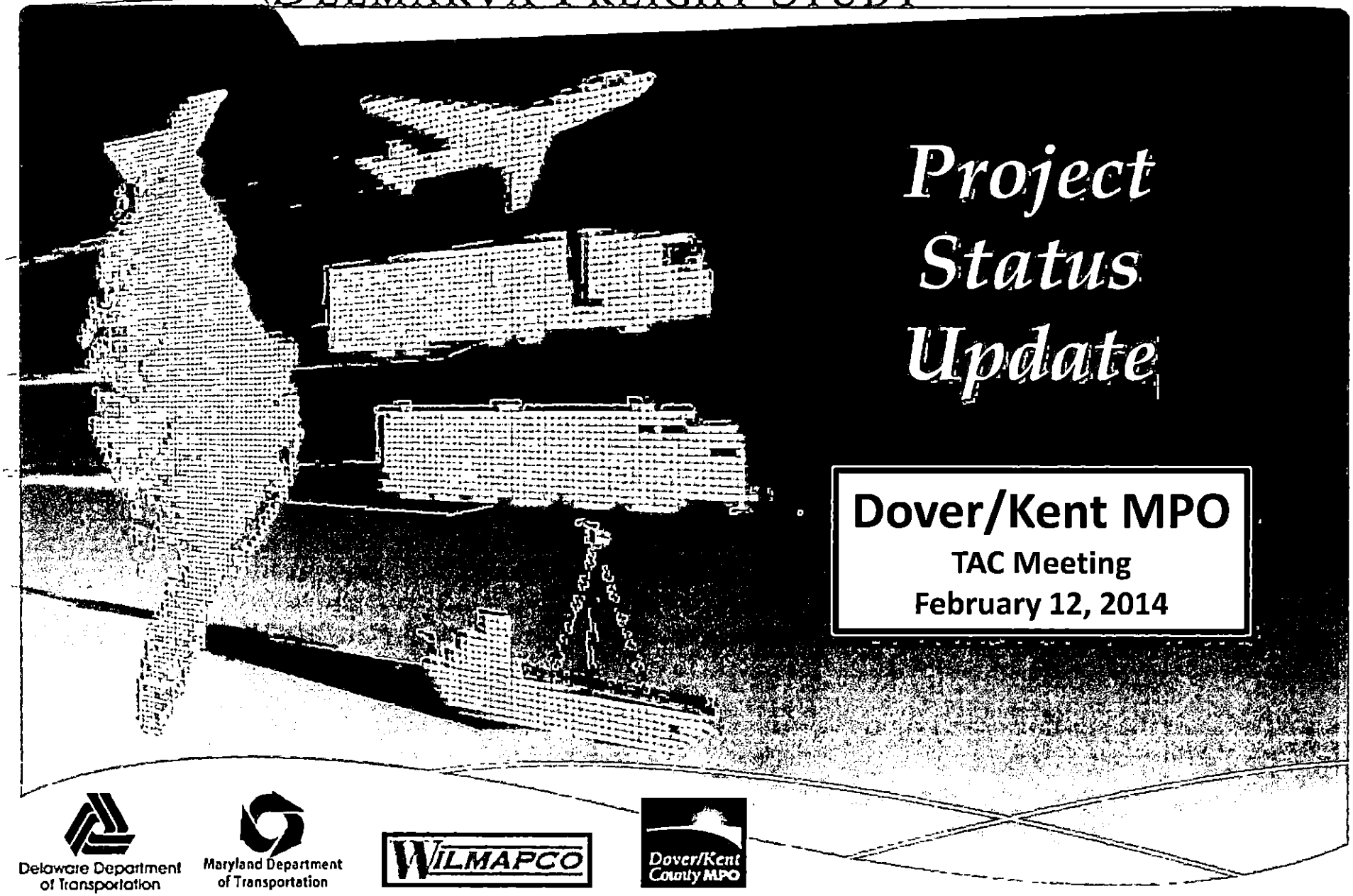
DELMARVA FREIGHT STUDY



Project Status Update

Dover/Kent MPO

TAC Meeting

February 12, 2014

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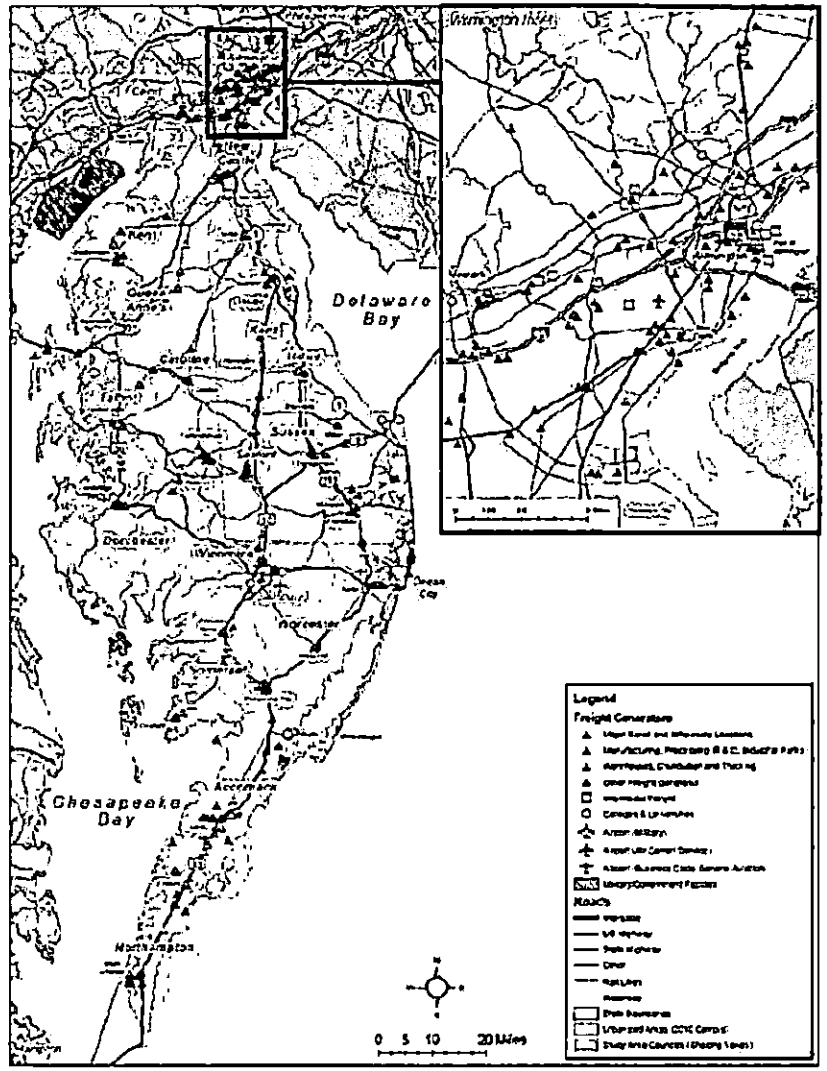
Delmarva Freight Study

What is the Delmarva Freight Study?

- 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***!



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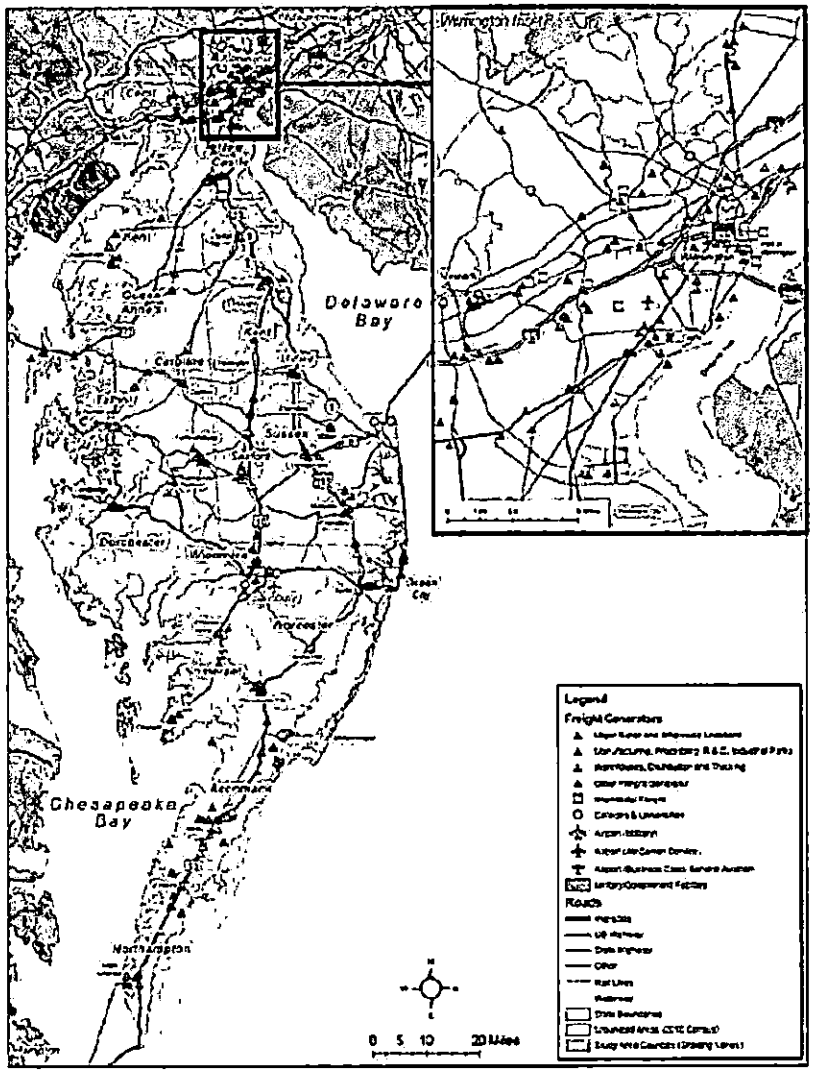
Delmarva Freight Study

Key Functions of Study

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



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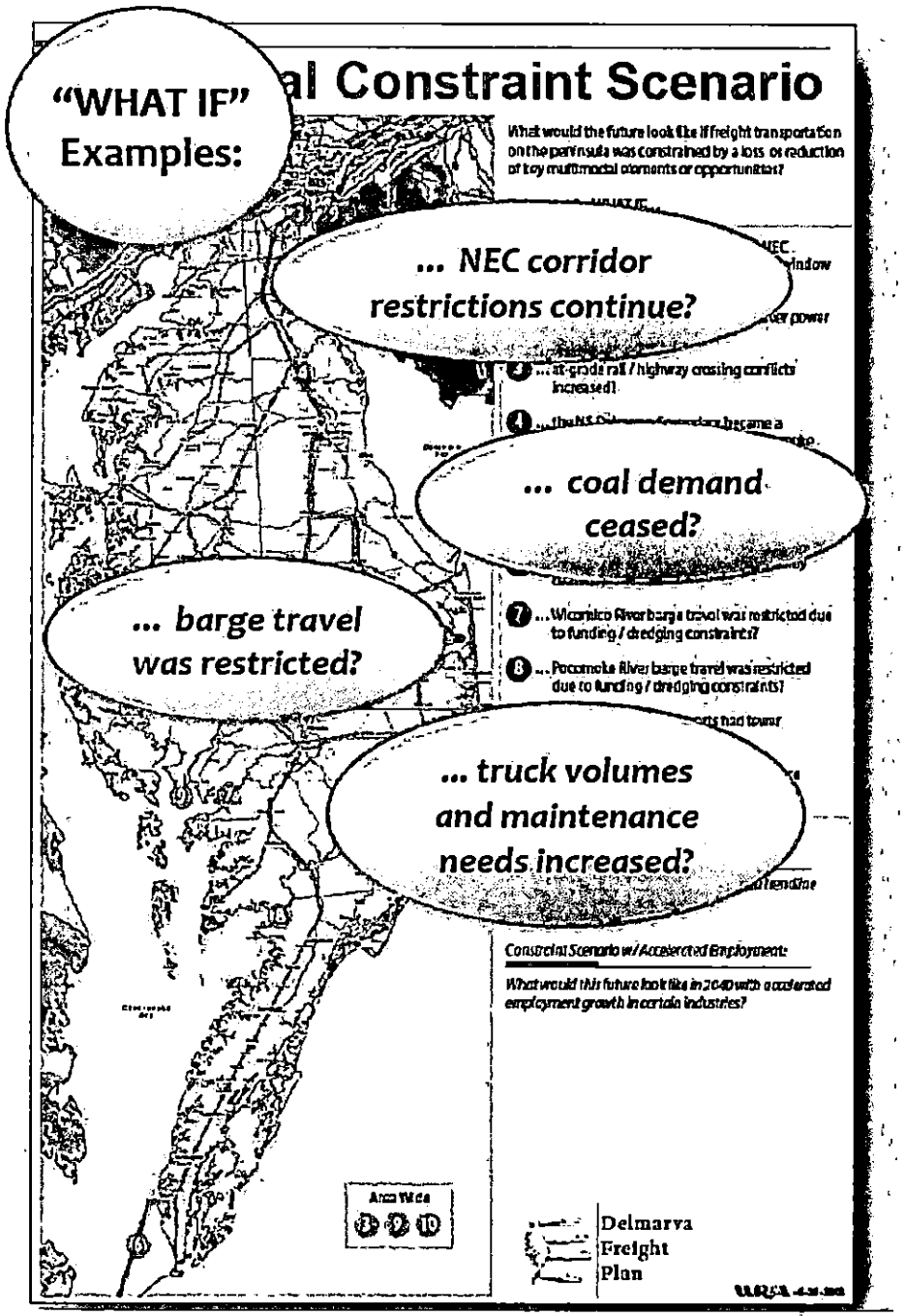
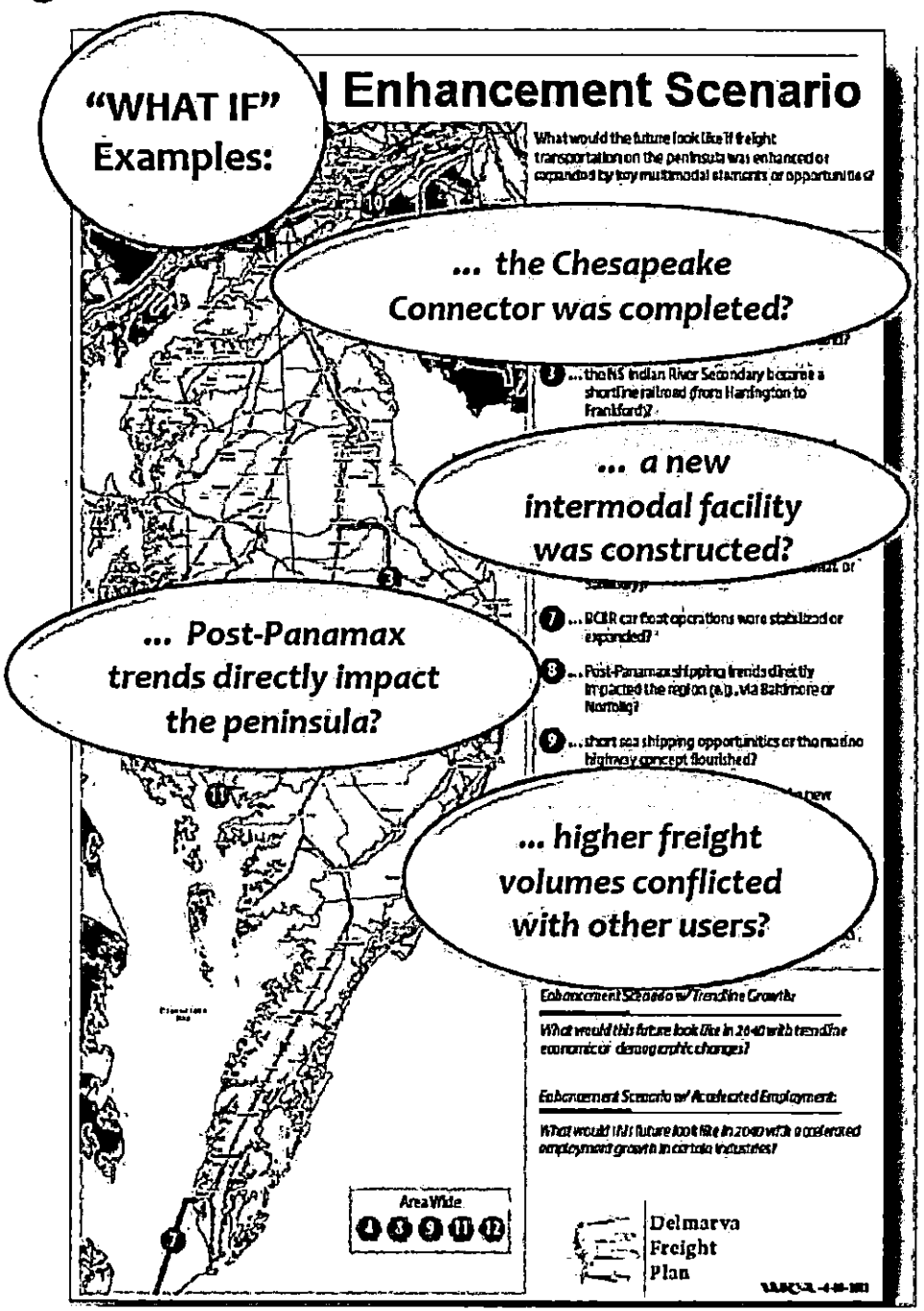
Chapters:

Chapter 1: Introduction
Chapter 2: Existing Economic Context
Chapter 3: Existing Commodity Flows
Chapter 4: Existing Transportation System
Chapter 5: Existing Freight Programs and Coordination
Chapter 6: Freight Trends, Needs and Issues
Chapter 7: Future Freight Planning Scenarios
Chapter 8: Recommended Action Plan
Chapter 9: Summary & Conclusion
Chapter 10: Appendix

Overall Goal: To answer ongoing "What if" Scenarios

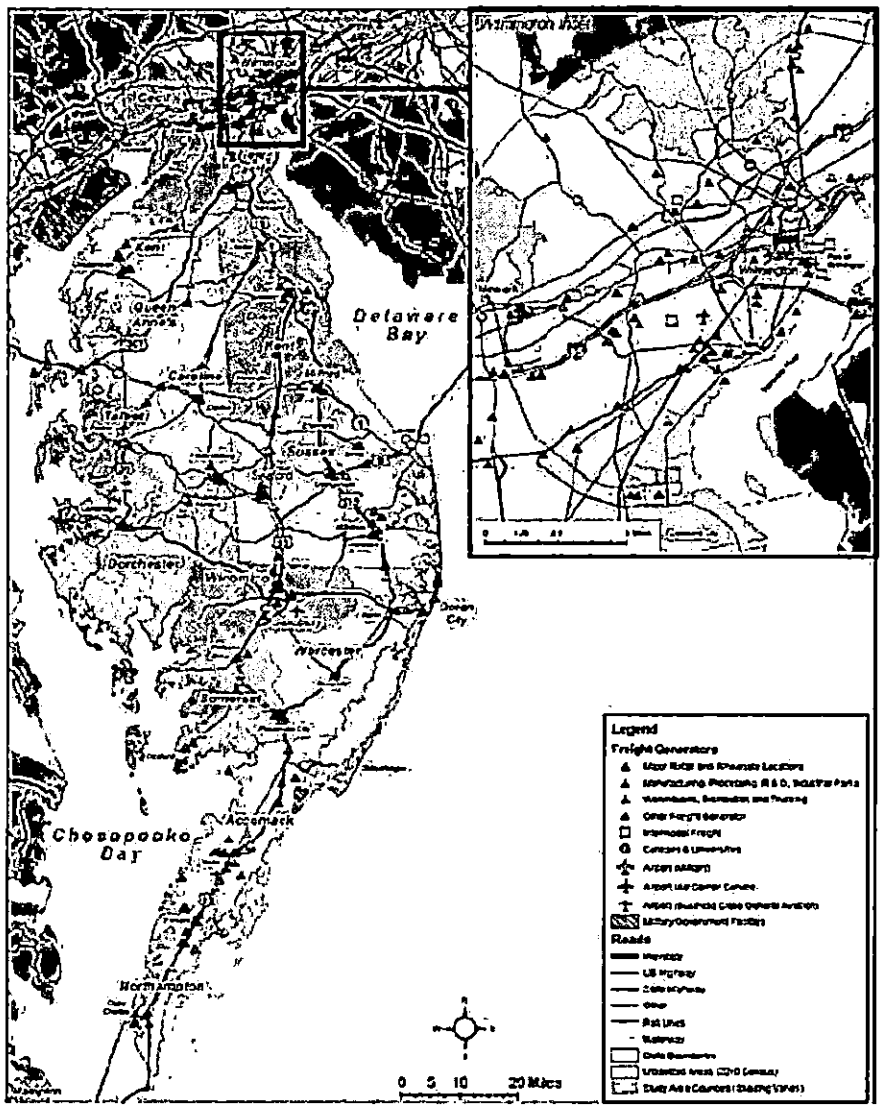




2.0 Economic Context

Latest Draft 10/9/2013

- Summarizes economic insights from previous meetings
- Presents population and employment forecasts through 2040
- Locates over 430 major freight generating industry/business sites (*Exhibit 2.8*)
- Ties global economic perspectives with potential relevance for the peninsula



Despite Economy, Freight Generating Industries Growing

Industry	Employment				Output			
	Thousands of Jobs		2004-2014 Change		Billions of Constant 2000 Dollars		2004-2014 Change	
	2004	2014	#	%	2004	2014	#	%
Transportation and Warehousing	4,250	4,756	506	11.9%	619	889	270	43.6%
Warehousing and Storage	556	694	138	24.8%	359	565	206	57.4%
Transit and Ground Passenger Transportation	385	476	91	23.6%	309	406	97	31.4%
Scenic and Sightseeing Transportation and Support	112	123	11	9.8%	107	152	45	42.1%
Trucking Transportation, Courlers, Messengers	135	148	13	9.6%	224	317	93	41.5%
Air Transportation	515	560	45	8.7%	130	213	83	63.8%
Water Transportation	57	58	1	1.8%	224	269	45	20.1%
Rail Transportation	224	215	-9	-4.0%	432	599	167	38.7%

Source: Transportation Industry, Department of Labor, 2007

Trucking will lead the way, increasing faster than automobile growth.

Exhibit 2.13 – Truck Revenue Forecasts (2011-2023)

Category	Billions of Dollars			Average Annual Growth Rate		
	2011	2017	2023	2012-2017	2018-2023	2012-2023
Truckload	280.2	382.9	464.4	6.1%	3.5%	4.8%
LTL	46.9	68.2	90.7	7.6%	5.5%	6.5%
Private	276.8	355.6	414.0	4.8%	2.7%	3.7%
Total	603.9	806.7	969.0	5.6%	3.4%	4.5%

Source: U.S. Freight Transportation Forecast to 2023, ATA, 2012

Status Updates

Stakeholder Outreach

- Online Survey: General Comments
  - 36% Miscellaneous Infrastructure Improvements
  - 25% Truck Restrictions (height, weight, width, hazmat)
  - 17% Northeast Corridor Constraints
  - 11% Rail Restrictions (height, weight, width)
  - 11% Short Line Railroad Support

SurveyMonkey.com
because knowledge is everything

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

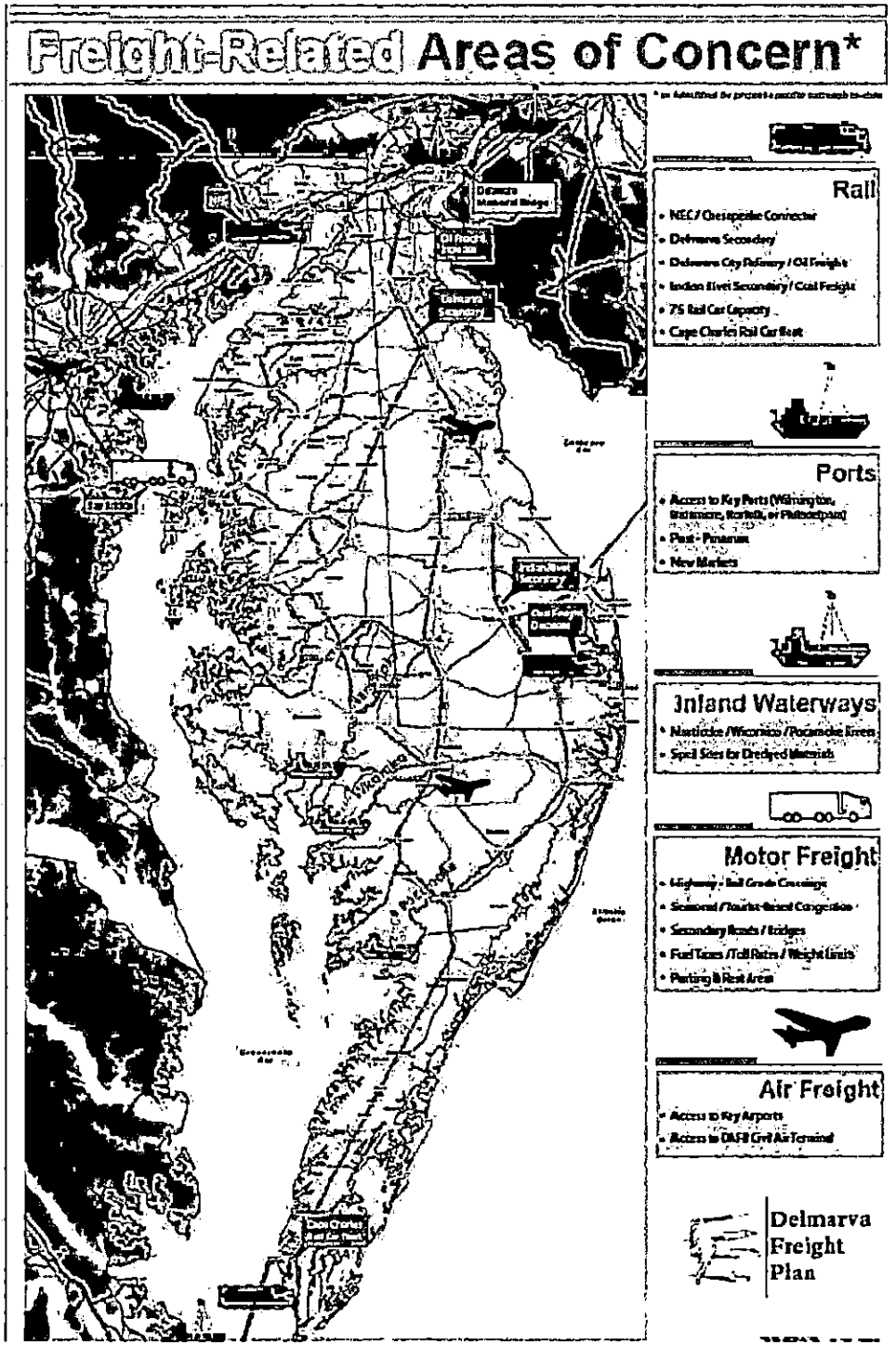
Inland Waterways

- 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



Areas of Opportunity (from Outreach):

Growth & Industry

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

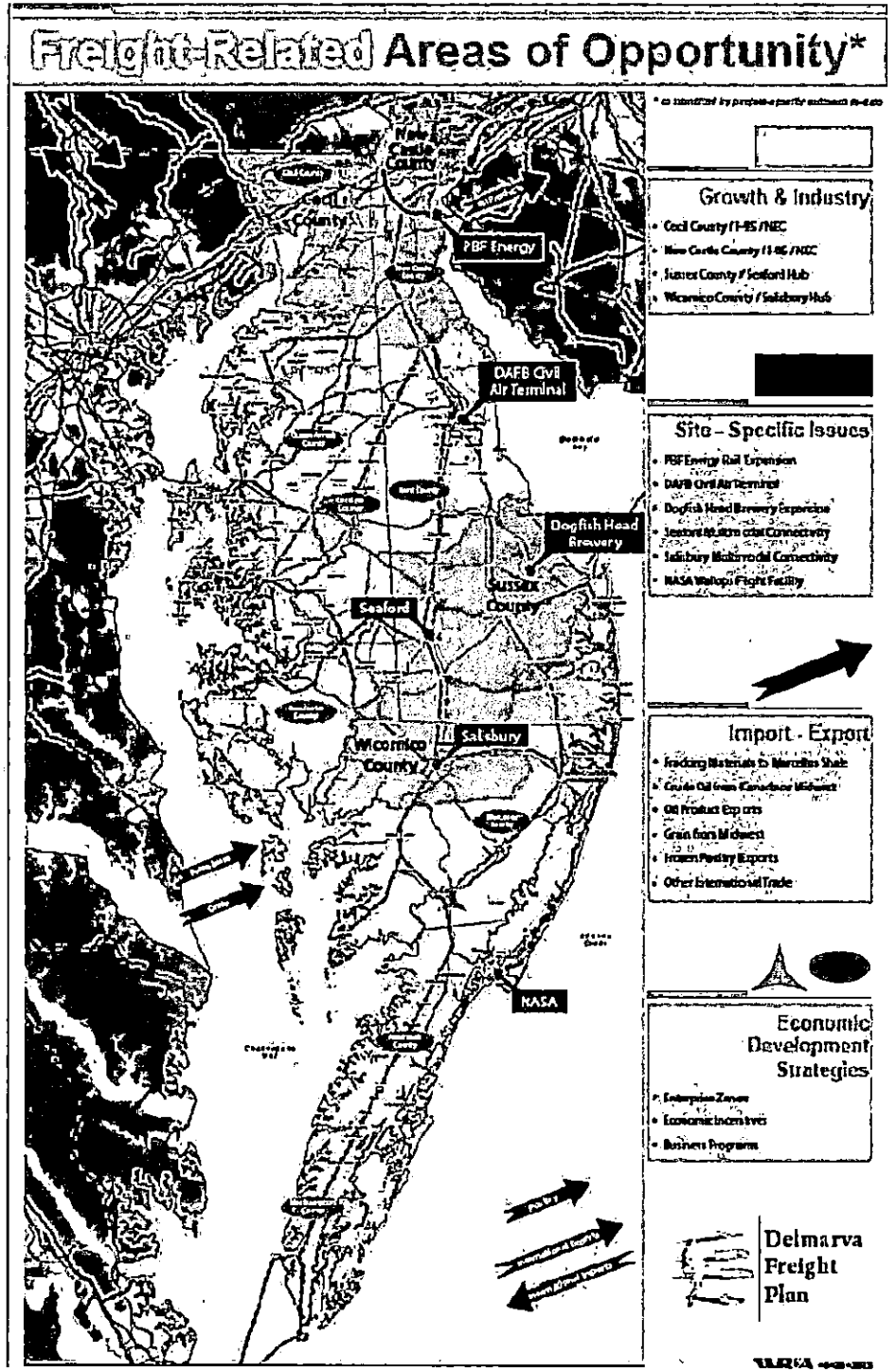
Site-Specific Issues

- 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



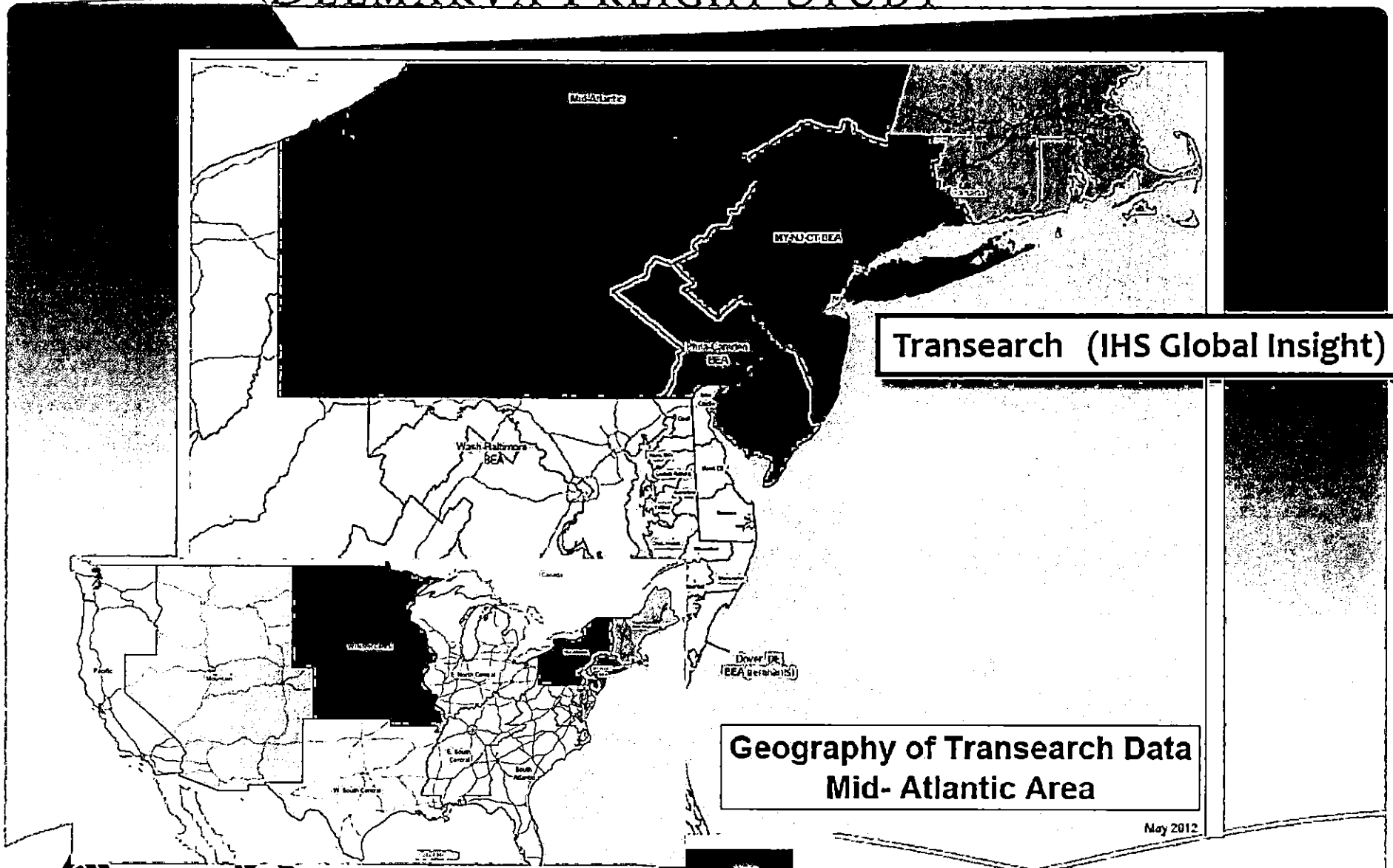
Data Collection

Transearch (IHS Global Insight)
FAF 2, FAF 3
STB Waybill (Rail)

Commodity Flow Data

Transearch	FAF
County-level data	Larger regions

DELMARVA FREIGHT STUDY



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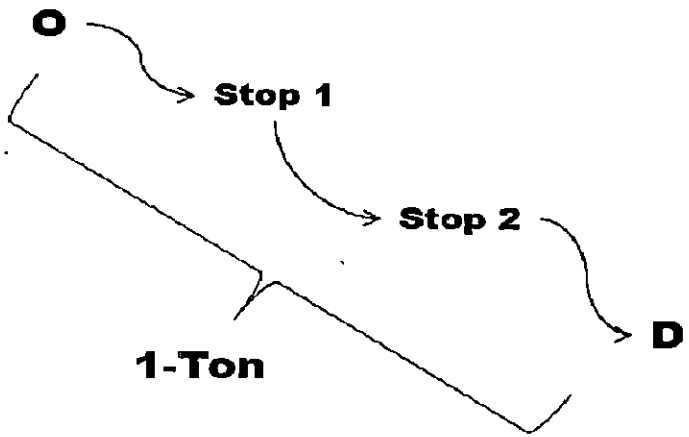
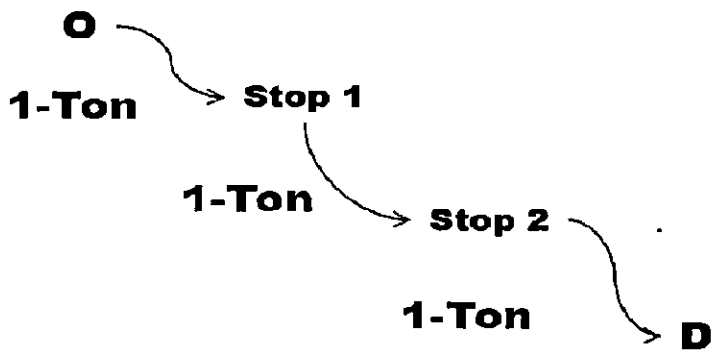
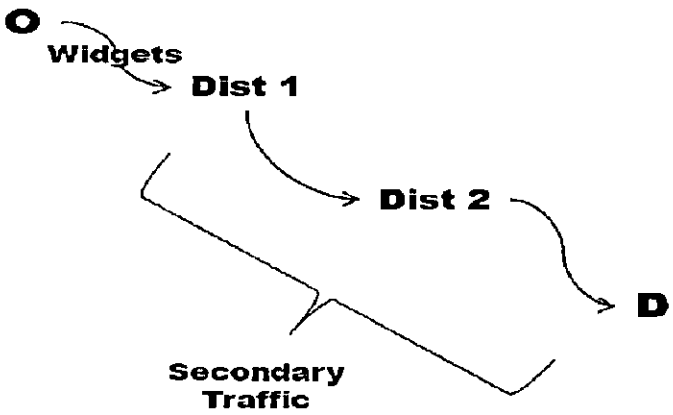
Commodity Flow Data

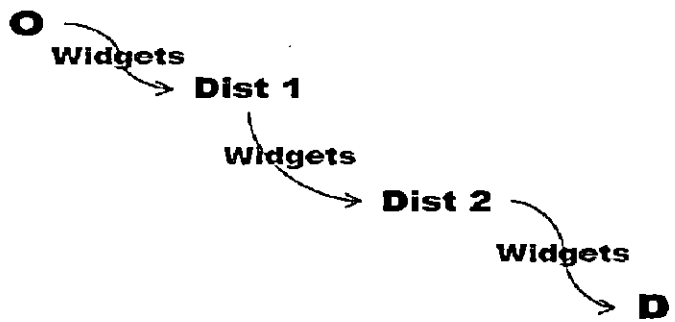
Transearch	FAF
One trip per O-D unless change in mode	Multiple trips based on intermediate stops





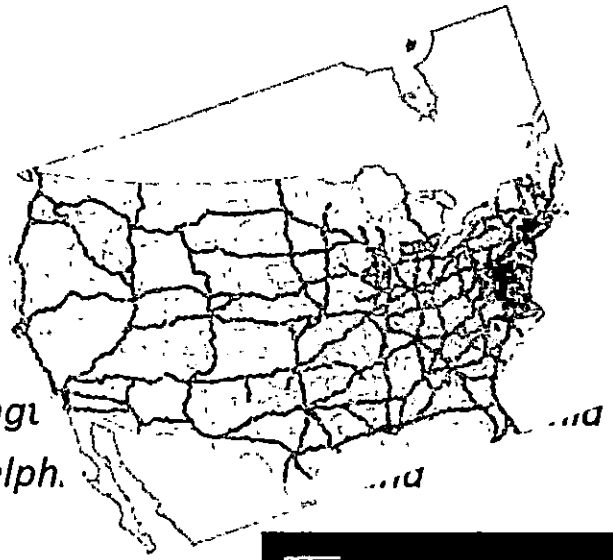
Transearch	FAF
Secondary traffic out of distribution centers	Commodity-specific out of distribution centers

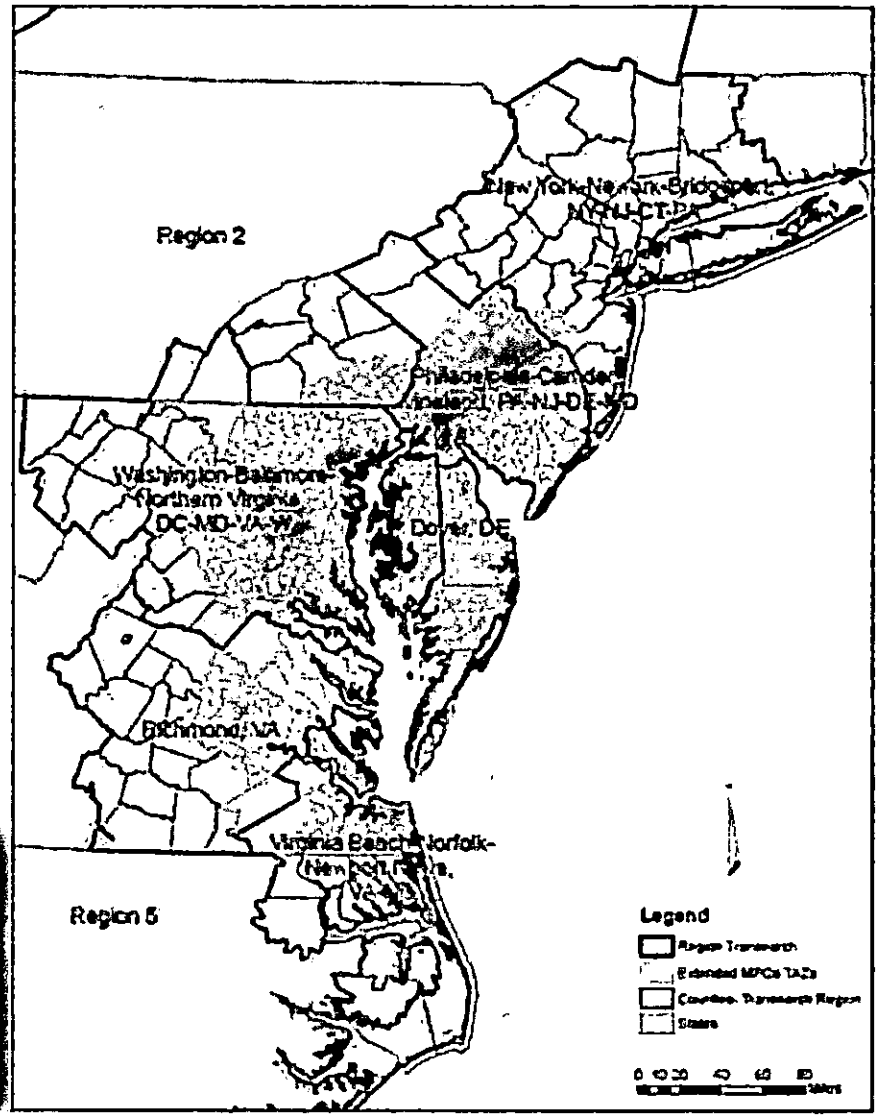




Model Boundaries

- Based on IHS Transearch Regions
- 6 BEA's
- Additio
  gaps bet
  - *Washingt*
  - *Philadelph*

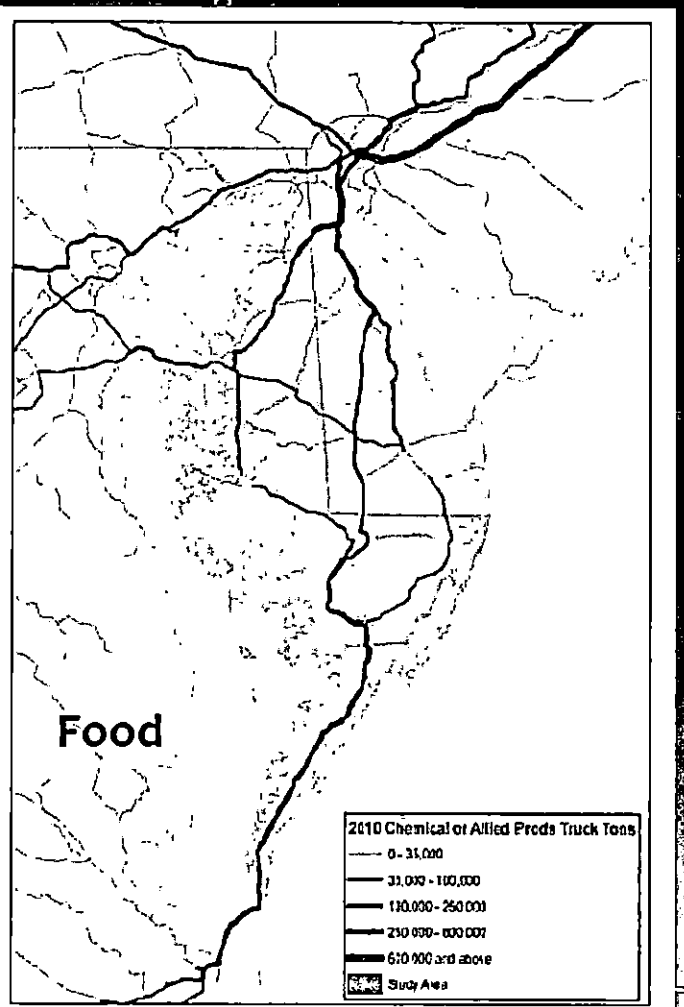


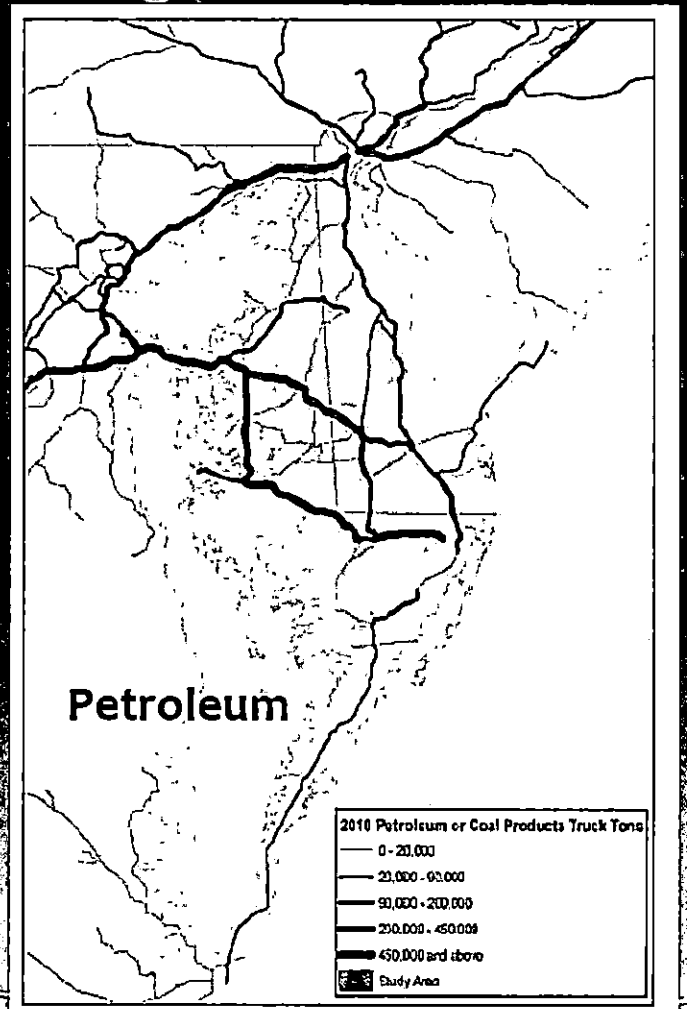


CITILABS Cube cargo

Delmarva Freight Study

Delmarva's Major Industries Have Different Freight Flow Characteristics:





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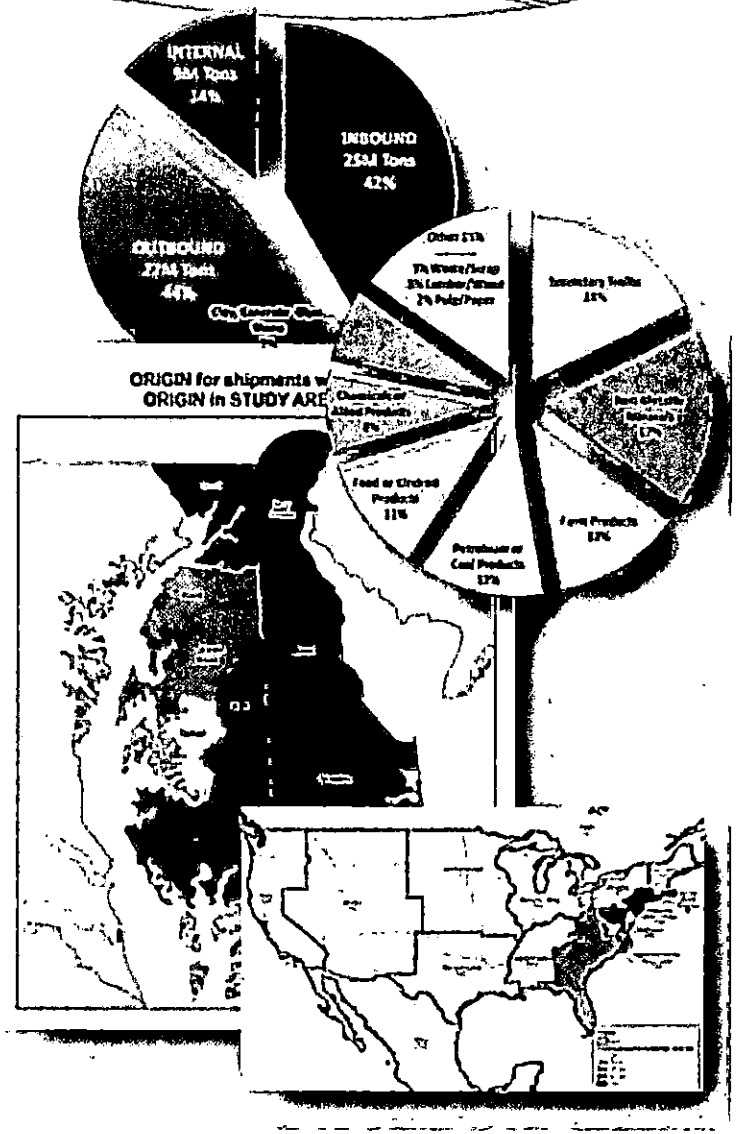
3.0 Existing Commodity Flows

Pending Draft

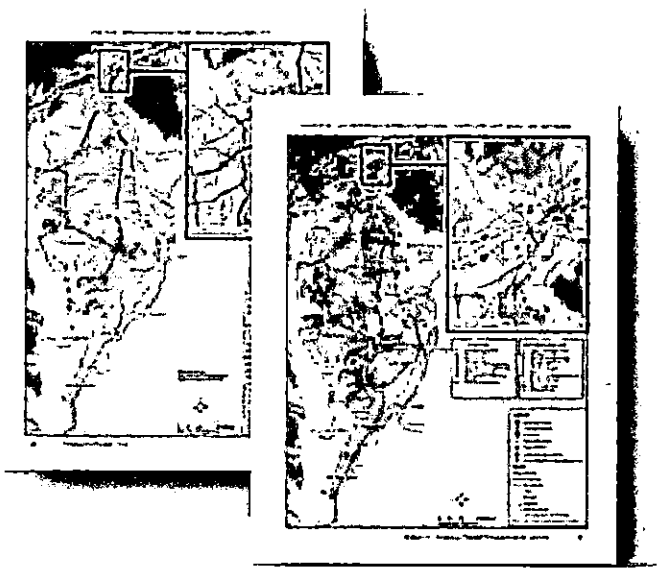
- Will summarize overall commodity data, pending resolution of outstanding issues
  - ✓ Resolved: Transearch tropical fruit coding
  - ✓ Resolved: Transearch routing & FIPS code gaps
  - ✓ Resolved: Transearch vs. FAF differences
  - ✓ Resolved: DE waybill data incorporation
  - ✓ Resolved: Transearch missing regions data
  - ✓ Resolved: Transearch average distances
  - ☐ Pending: MD waybill data
  - ☐ Pending: Missing intra-county flows
  - ☐ Pending: Transearch model updates

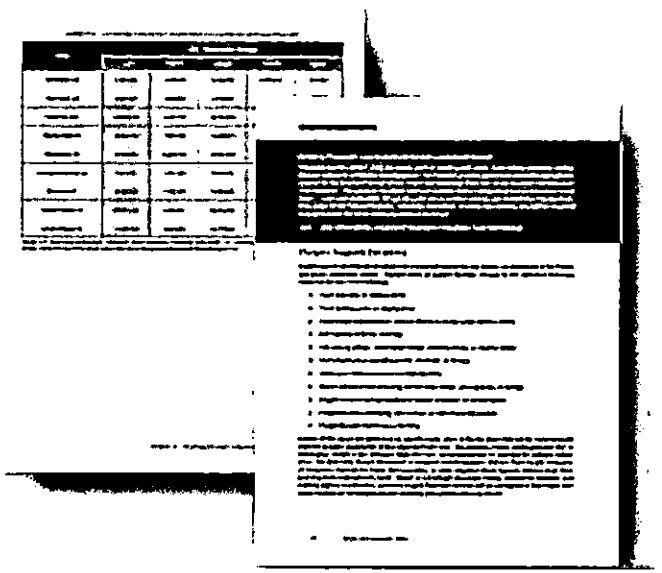


4.0 Freight Transportation System

Latest Draft 10/9/2013

- Inventories modal assets for motor freight, rail, water, air, and pipeline transport
- Summarizes current travel demand model (TDM) based volume and LOS data
- Maps key freight transfer sites (rail yards, ports, airports, intermodal sites, etc.)
- Identifies key freight corridors, local freight zones, and gateways





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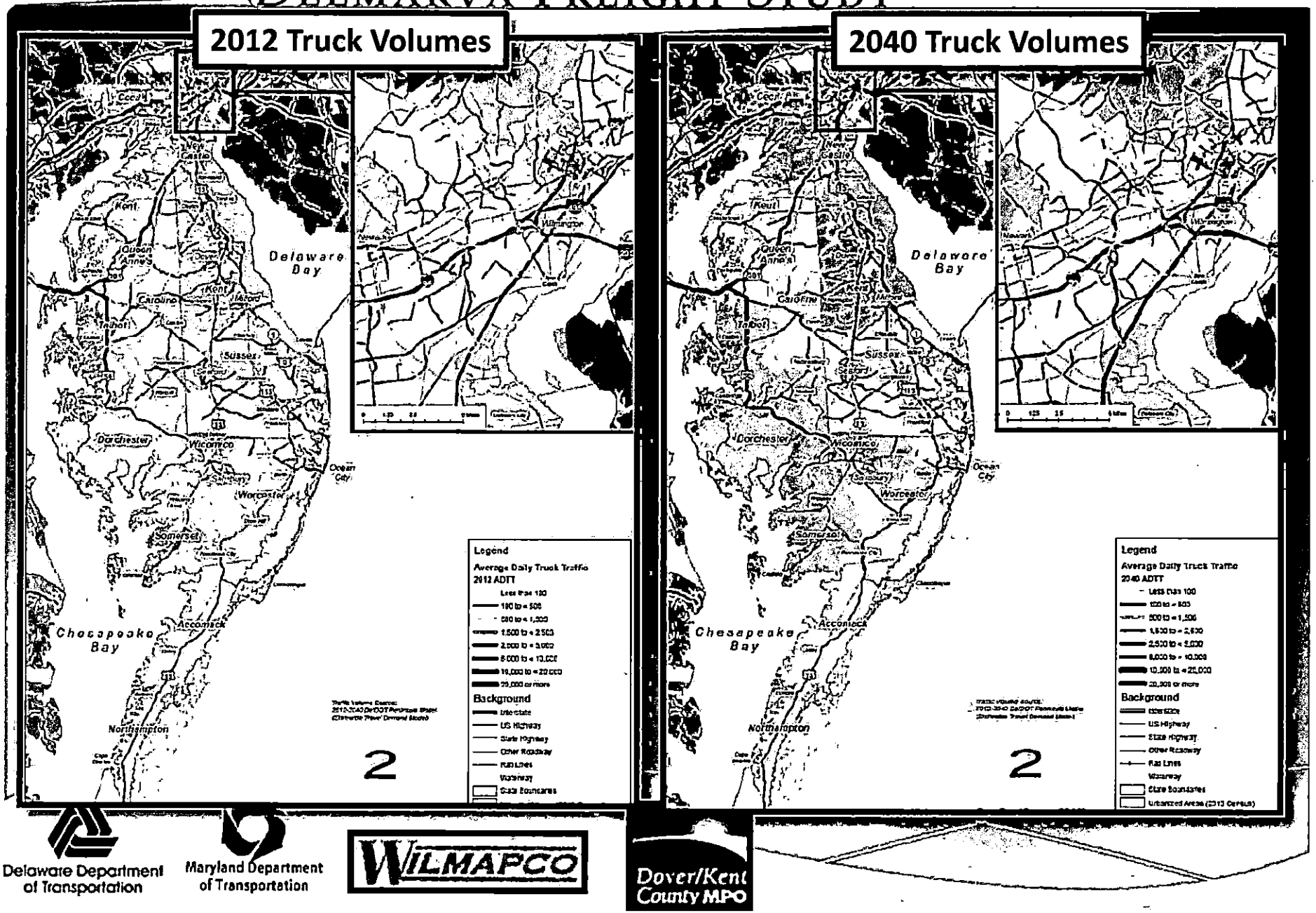

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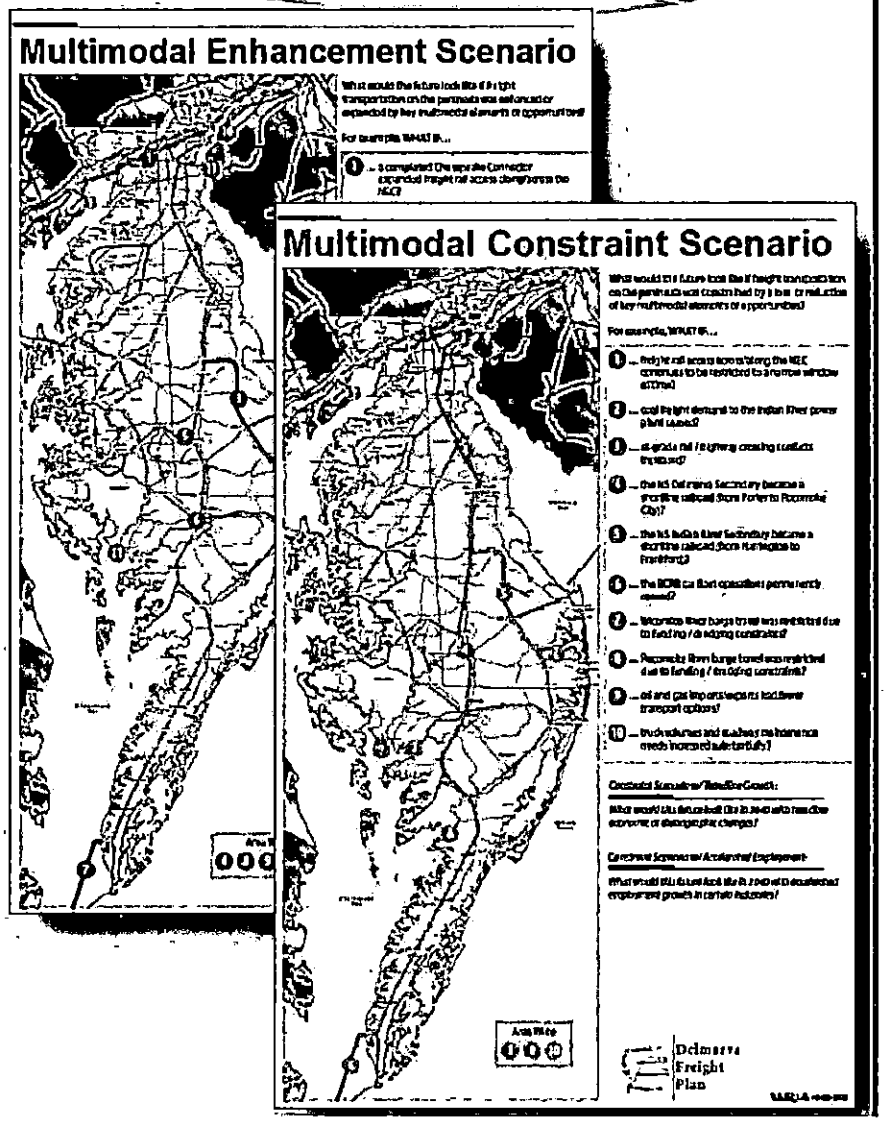
Freight Planning Scenarios

Pending Draft

- Incorporates previously-developed scenarios w/ refinements ongoing
- Incorporates performance measure concepts w/ refinements ongoing
- Incorporates Cube Cargo modeling
- Identifies scenario planning insights
- Will help to inform remaining Chapters 8-9...the Recommended Action Plan and Freight Plan Summary/Conclusion



Delmarva Freight Study

Potential Scenarios: Two Types

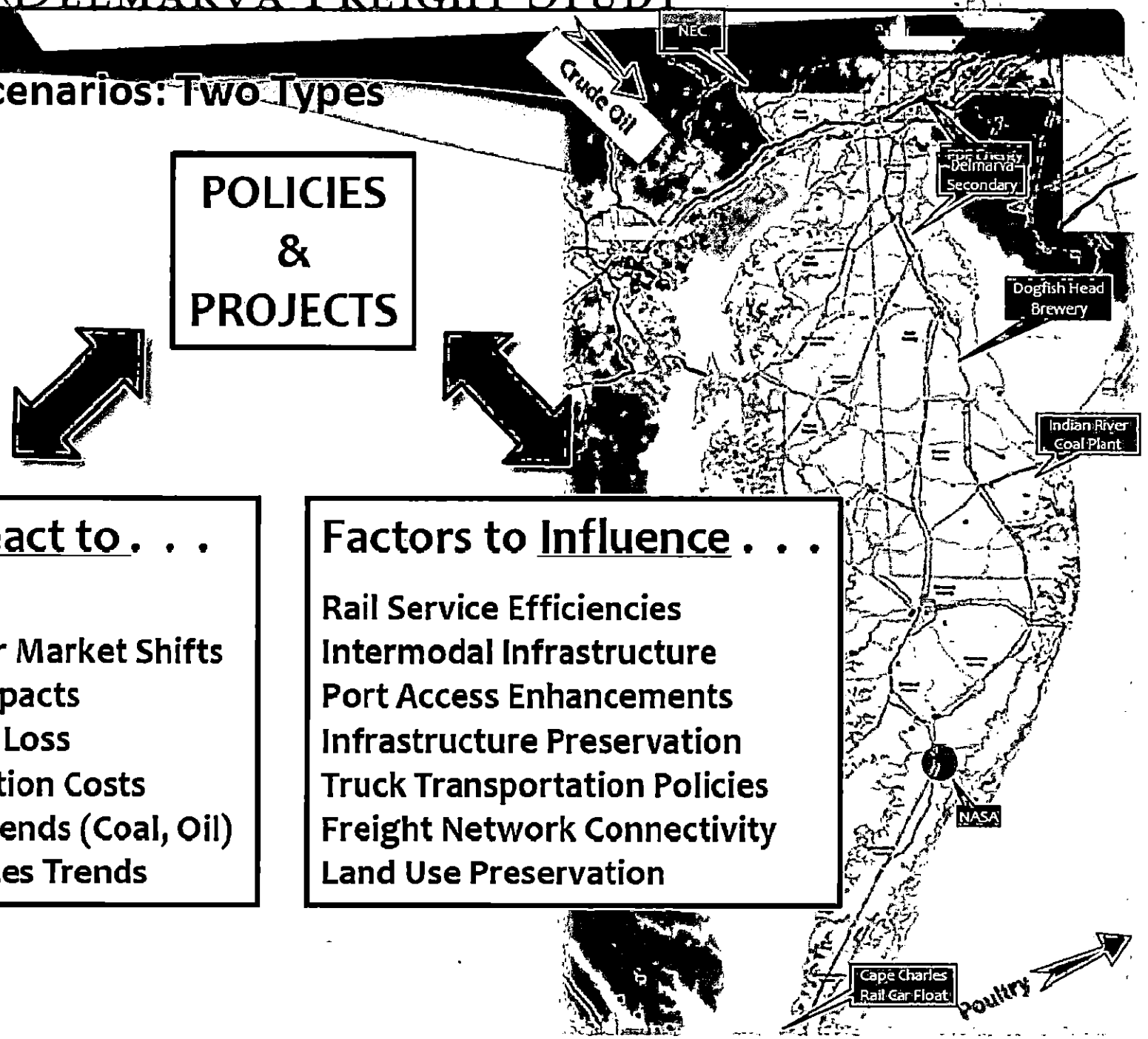
POLICIES & PROJECTS

Factors to <u>React to</u> . . .

- 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 <u>Influence</u> . . .

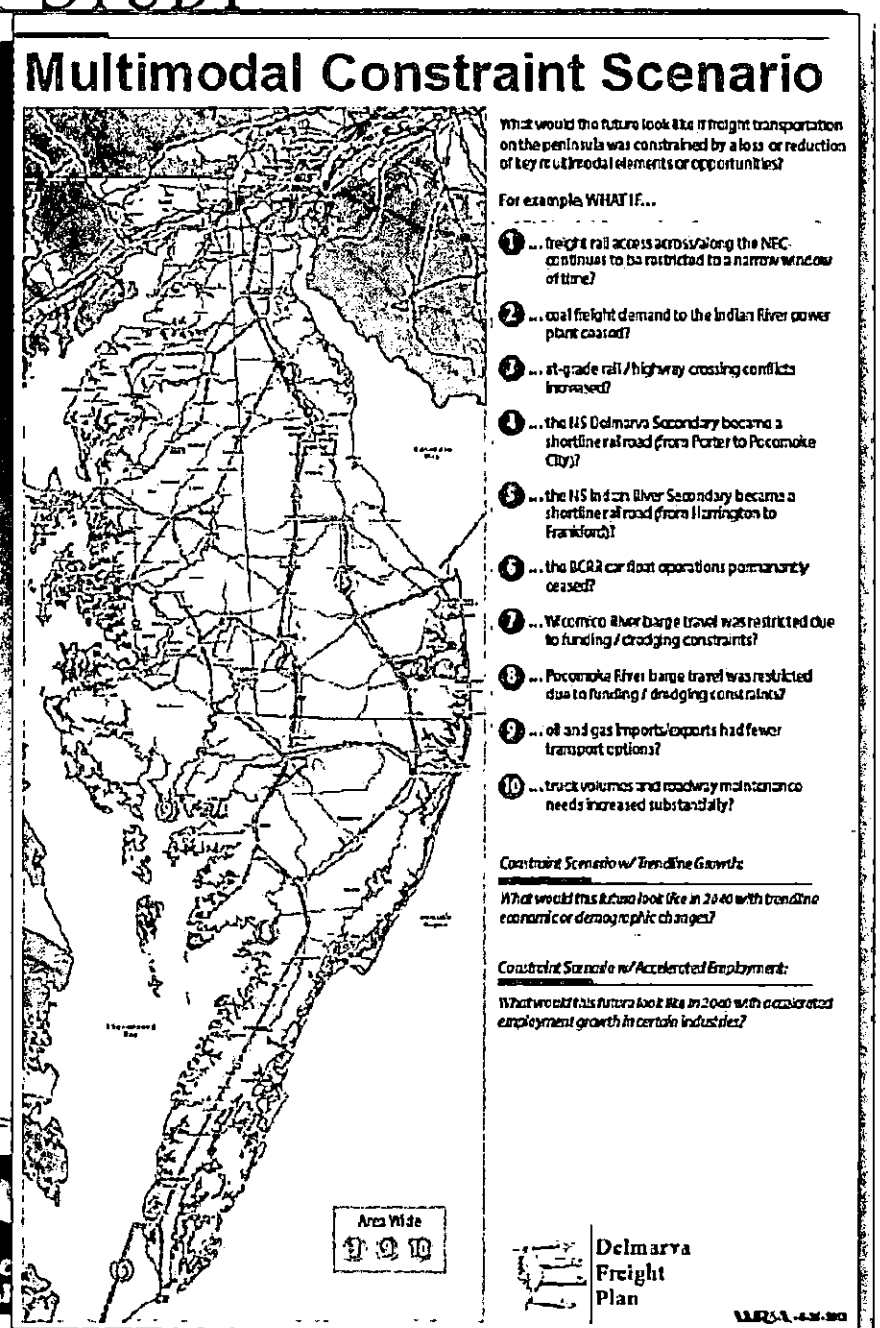
- Rail Service Efficiencies
- Intermodal Infrastructure
- Port Access Enhancements
- Infrastructure Preservation
- Truck Transportation Policies
- Freight Network Connectivity
- Land Use Preservation



Freight Planning Scenarios

Possible future constraints, such as:

- Decreased rail access to Peninsula
- Less capacity due to less dredging
- Car float operations reduced
- Increased reliance on truck mode



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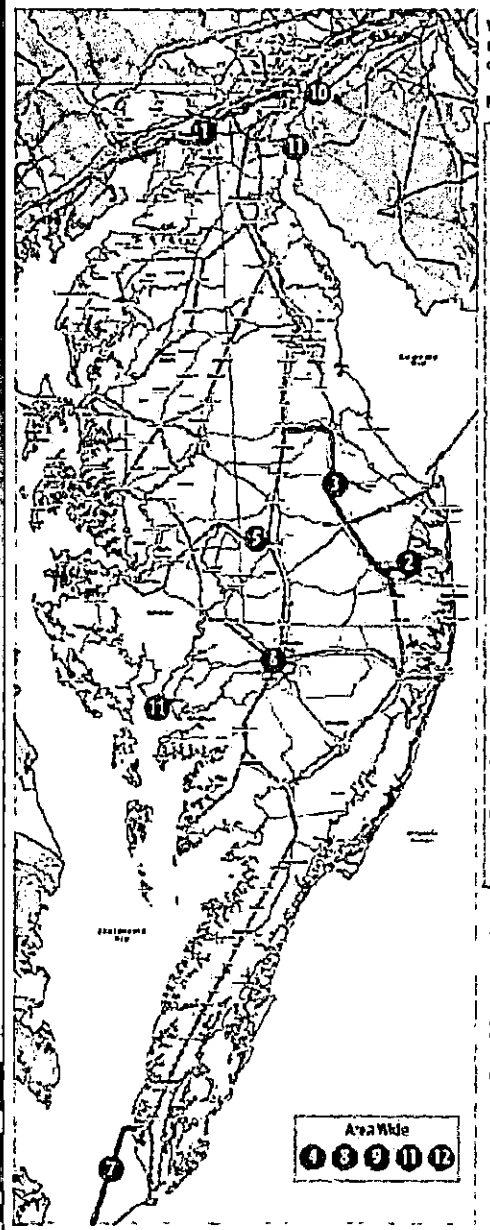
Freight Planning Scenarios

Possible multi-modal improvements, such as:

- Expansion/Improve Rail facilities
  - Chesapeake Connector
  - Weight/speed improvements
- Increased carfloat capacity
- Increased intermodal facilities in key locations along Peninsula

Multimodal Enhancement Scenario



What would the future look like if freight transportation on the peninsula was enhanced or expanded by key multimodal elements or opportunities?

For example, WHAT IF...

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. ...RCRR 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)?

Enhancement Scenario w/ Trendline Growth:

What would this future look like in 2040 with trendline economic or demographic changes?

Enhancement Scenario w/ Accelerated Employment:

What would this future look like in 2040 with accelerated employment growth in certain industries?

Area Wide: 4 8 9 11 12

Delmarva Freight Plan

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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

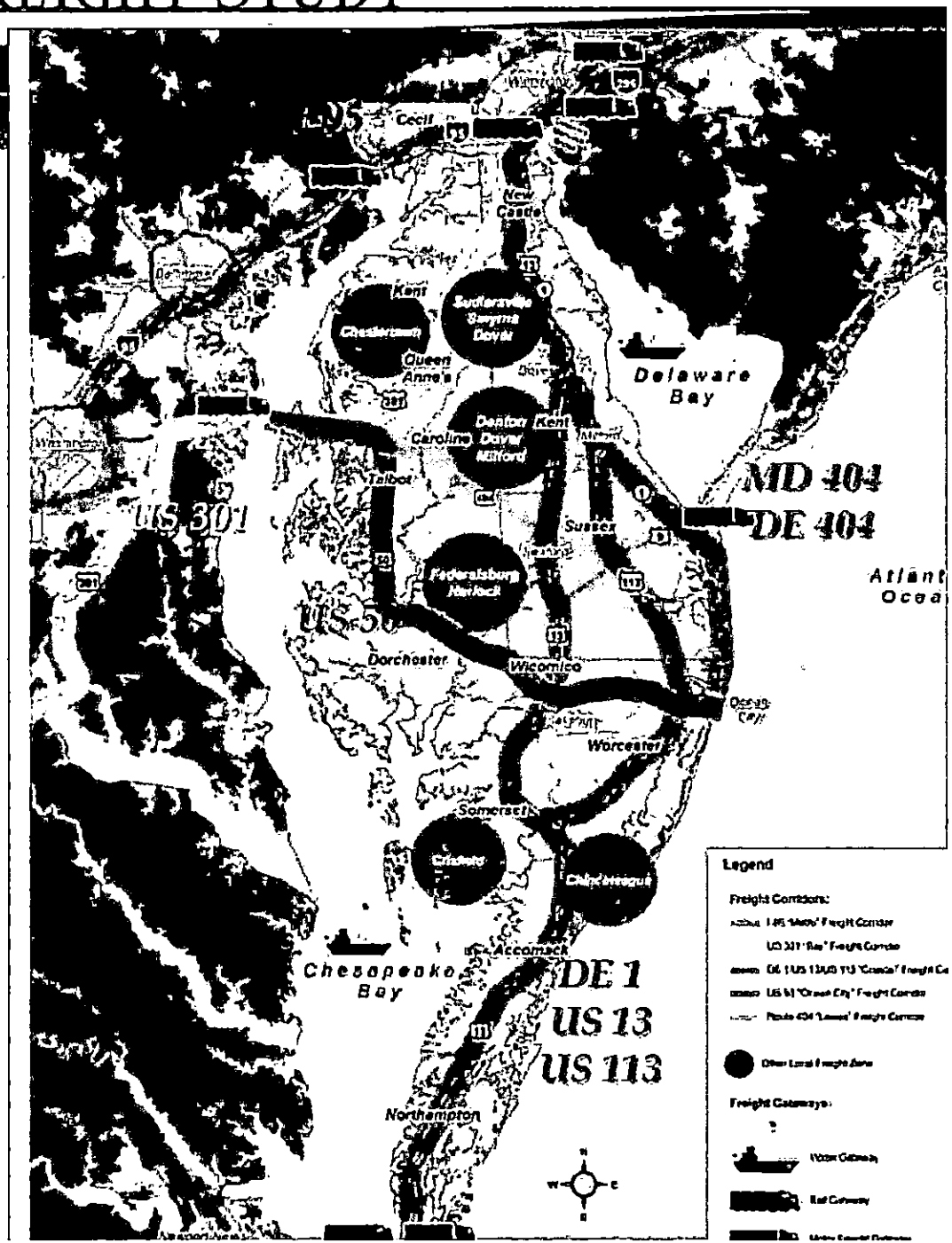
Performance Measures

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

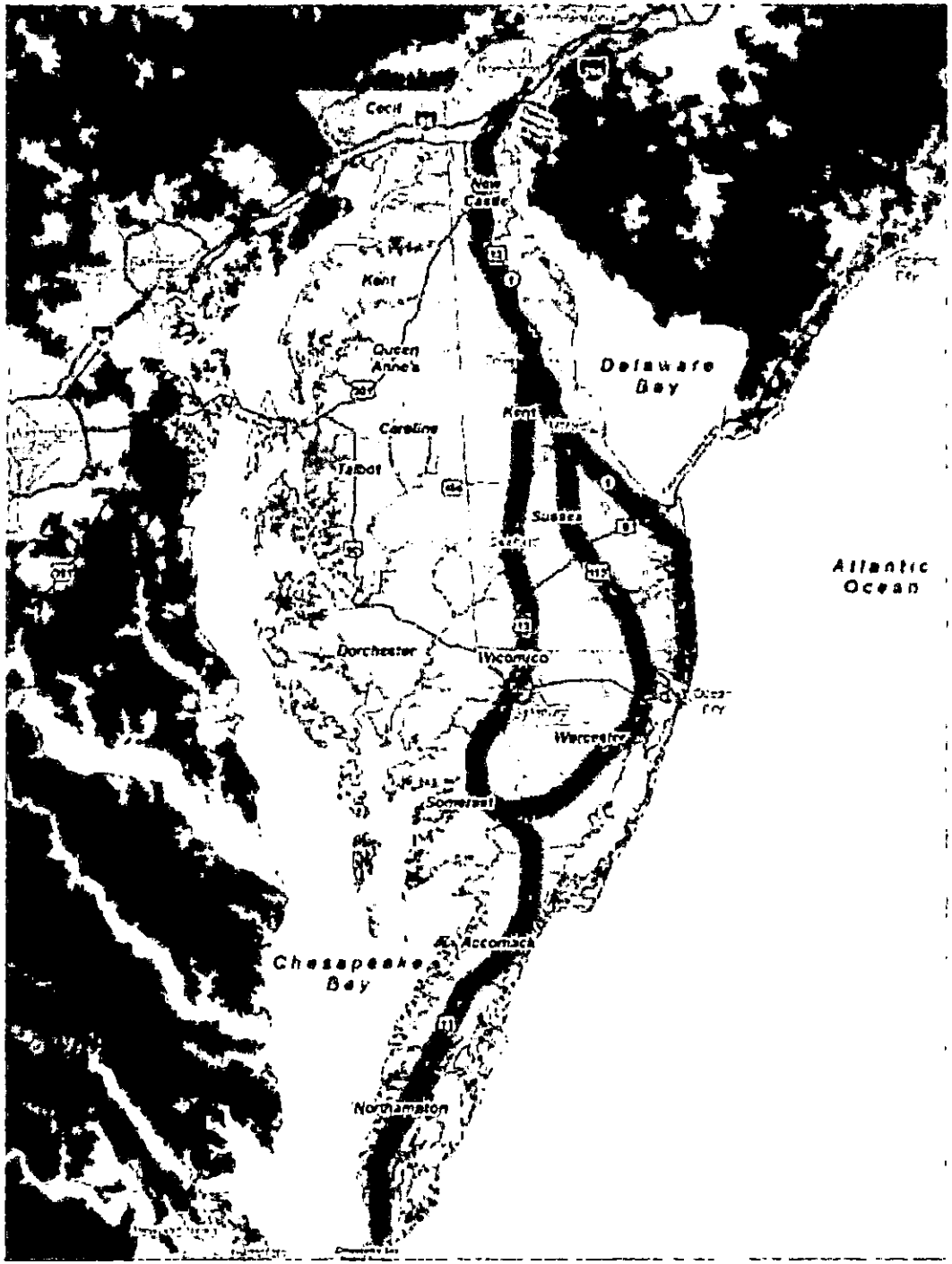
Delmarva Freight Study

Specific Details to be given on Identified key freight connections



DE 1/US 13/US 113 "Coastal" Freight Corridor

Primary Roadways:	- DE 1 - US 13 - US 113 - MD 528
Regional Freight Hubs	- Eastern/Coastal/Southern Delmarva Peninsula - Philadelphia metro; - Hampton Roads metro; - Extended areas via linkage w/ the I-95 Corridor
Project Area Freight Hubs	- Wilmington-New Castle-Delaware City-Townsend-Smyrna-Clayton-Dover, DE - *Continued via US 13:* Harrington-Seaford-Delmar, DE; Salisbury-Princess Anne-Pocomoke City, MD; Accomack-Northampton Counties, VA - *Continued via US 113:* Milford-Ellendale-Georgetown-Millsboro-Dagsboro-Frankford-Selbyville, DE; Berlin-Snow Hill-Pocomoke City, MD - *Continued via DE 1/MD 528:* Milford-Lewes Beach-Rehoboth Beach-Dewey Beach-Bethany Beach-Fenwick Island, DE; Ocean City, MD



Next Steps

- Finalize commodity flow data
- Complete and calibrate Cube Cargo
- Run and fine-tune scenarios
- Summarize scenario results and insights
- Develop recommended action plan
- Finalize overall freight plan

Remaining Schedule

- **DECEMBER-JANUARY**: Ongoing model prep; submittal of Final Chapter 5 (programs, institutions and funding) and 6 (trends, needs and issues)
- **JANUARY-FEBRUARY**: Ongoing model prep and prelim calibration; submittal of Draft Chapter 7 (performance measures, scenario prep).
- **PAC MEETING #8** in late January/early February to discuss model status, draft to-date, and final scenario prep
- **FEBRUARY-MARCH**: Scenario modeling and results; development of preliminary recommendations
- **PAC MEETING #9** in late March to review scenario results and recommendations
- **APRIL-???:** We will finalize the overall plan upon receipt of comments on preferred scenarios/recommendations following PAC Meeting #9.