

# 2022 Delaware State Freight Plan



Draft Plan Summary

AUGUST 2022



# Introduction

## Purpose and Context

### Purpose

- Plan is required by State DOTs
- Updated every 4 years

The **2022 Delaware Freight Plan** will:

- assess the freight transportation system
- summarize needs and opportunities
- identify key projects, strategies, and tasks
- maximize the efficiency and reliability of Delaware's freight transportation networks
- enhance economic opportunities within the state and the surrounding region

### Context



**2015-2017**

*Delmarva Freight Plan and related FAST Act Compliancy Update*



**2019**

*Innovation in Motion: The Delaware Long Range Transportation Plan*



**2020**

*National Freight Strategic Plan*

**2021**



*Infrastructure Investment and Jobs Act*

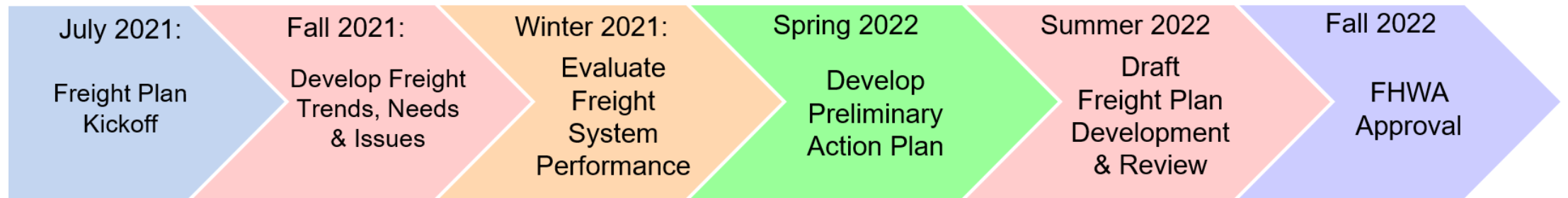
# Introduction

## Purpose and Context

### Purpose

- Plan is required by State DOTs
- Updated every 4 years

#### Time Schedule



# Introduction

## Federal Requirements

1. Freight System Trends, Needs, and Issues
2. Freight Policies, Strategies, and Performance Measures
3. Freight Network Facilities
4. Alignment with National Freight Policy and Goals
5. Innovative Technologies and Operational Strategies
6. Asset Preservation and Improvements
7. Freight Bottlenecks, Mobility Issues, and Mitigation
8. Freight Induced Congestion and Mitigation
9. Freight Investment Plan
10. **Truck Parking Facilities Assessment**
11. **Supply Chain Cargo Flows**
12. **Commercial Ports Inventory**
13. **Multistate Freight Compact Considerations**
14. **E-commerce Impacts**
15. **Military Freight Considerations**
16. **Freight Resilience and Environmental Impacts**
17. **State Freight Advisory Committee (encouraged)**

(49 U.S.C. §70202)



*new requirements per the IIJA*

# Draft Plan Chapters & Appendices

**CH 1:** Introduction

**CH 2:** Freight and the Economy

**CH 3:** Freight Network

**CH 4:** Performance and Trends

**CH 5:** Needs and Opportunities

***Background & Current Conditions***

**CH 6:** Freight Investment Plan

**CH 7:** Freight Strategic Plan

***Proposed Actions***

## **And PLENTY of Appendices!**

Appendix A: Federal Freight Planning Requirements by Code

Appendix B: Delaware Freight Collaboration (2020-2022)

Appendix C: Delaware Details for the National Highway  
Freight Network

Appendix D: Delaware Freight Emphasis Areas (IIJA-Based)

Appendix E: Delaware Freight Scenario Planning Summary

Appendix F: Delaware Truck Bottleneck Analysis Details

Appendix G: Freight Project Candidates – Truck Bottleneck  
Improvements

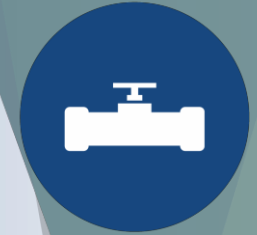
Appendix H: Freight Project Candidates – Port Strategic Plan

Appendix I: Freight Project Candidates – Screening Details

Appendix J: Funding Highlights – Federal Programs

Appendix K: Funding Highlights – Delaware Estimates (FY 2022-2026)

Appendix L: Delaware Freight Investment Plan for NHFP Funding



# CH 1: Introduction

*What are the plan's purpose, context, and requirements?*

# Introduction



## NATIONAL FREIGHT STRATEGIC PLAN (NFSP) → Federal Freight Policy Goals <sup>3</sup>

Safety

Infrastructure

Innovation



## DELAWARE LRTP → Statewide Overarching Transportation Planning Goals <sup>4</sup>

Safety and Security

Economic Vitality

Connectivity

Quality of Life

System Preservation

System Management and Operations

Resiliency and Reliability

Environmental Stewardship

Travel and Tourism

Customer Service and Communication

### Plan Goals

#### Safety and Security

- Crash Prevention
- Truck Parking Enhancements
- OS/OW Vehicle Enforcement
- Incident Management Planning
- Hazardous Materials Planning
- Homeland Security Planning

#### Economic Vitality

- Regional and Multi-Jurisdictional Collaboration
- Delaware Market Expansion Support
- Regional Supply Chain Studies
- Multimodal Freight Transportation Options
- Air Cargo Opportunities
- Freight Land Use Preservation
- Freight and Community Impact Planning

#### System Management, Operations, and Maintenance

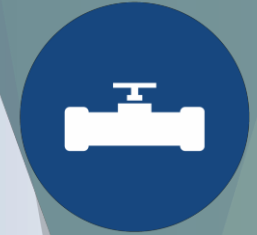
- Truck Data Monitoring
- Freight Infrastructure Maintenance
- Freight Network Improvements
- Periodic Signal Optimization
- Truck Traffic Management during Construction
- Dredged Material Management
- Freight Relevant Technology Systems
- Connected and Automated Vehicle Monitoring

#### Freight Connectivity, Accessibility, and Mobility

- Freight Network Refinements
- Multimodal Improvement Priorities
- Multimodal Expansion and Connectivity
- Congestion Management
- Highway-Rail Crossing Upgrades
- Marine Highway Opportunities

#### Resilience, Sustainability, and Environmental Stewardship

- Public Outreach and Education
- Community Planning Considerations
- First/Final Mile Route Resilience
- Flooding and SLR Vulnerability Assessments
- Air Quality Improvement Opportunities
- Climate Action Plan Support



# CH 2: Freight and the Economy

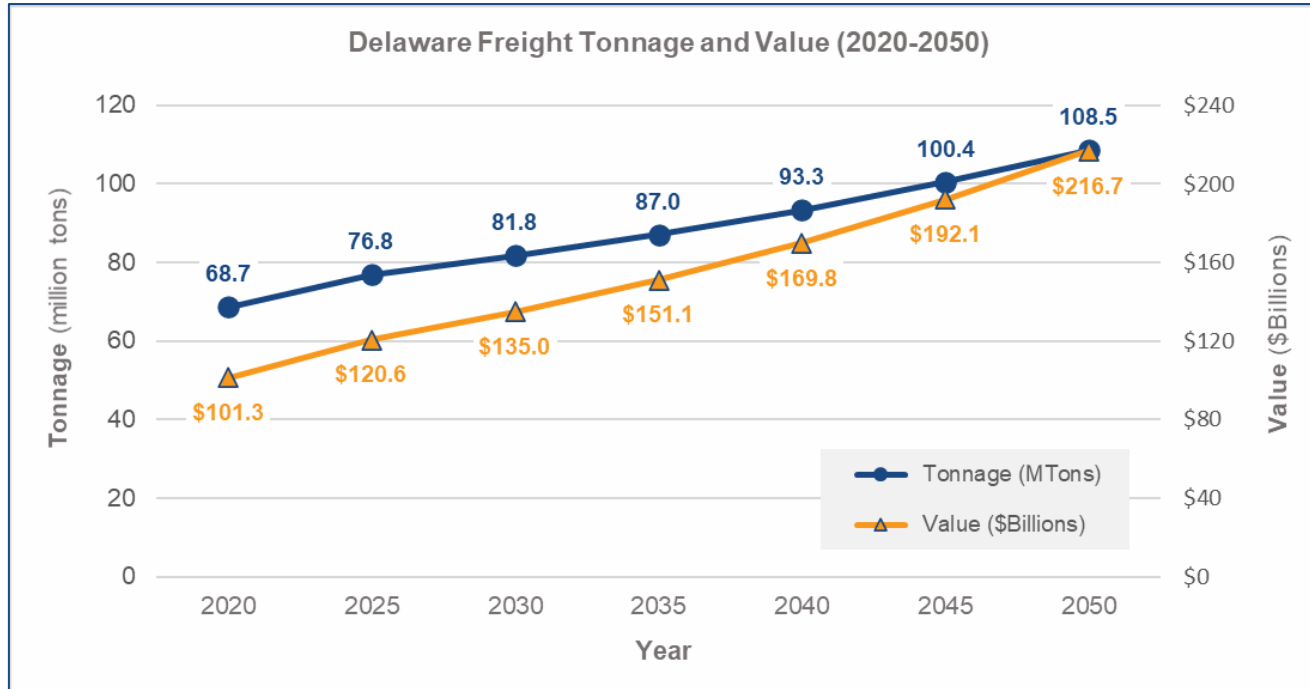
## CH 3: Freight Network

*What moves, where, and how?*



# Economy

## Freight Flows

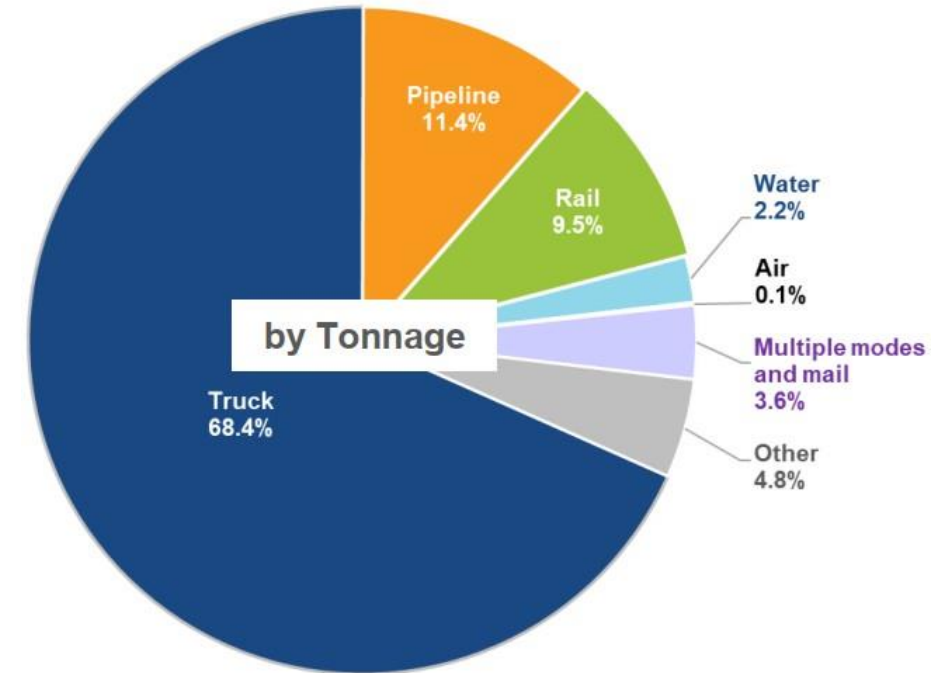


### Year 2020

68.7 million tons  
\$101.3 billion

### Year 2050

+58% tonnage  
+114% value

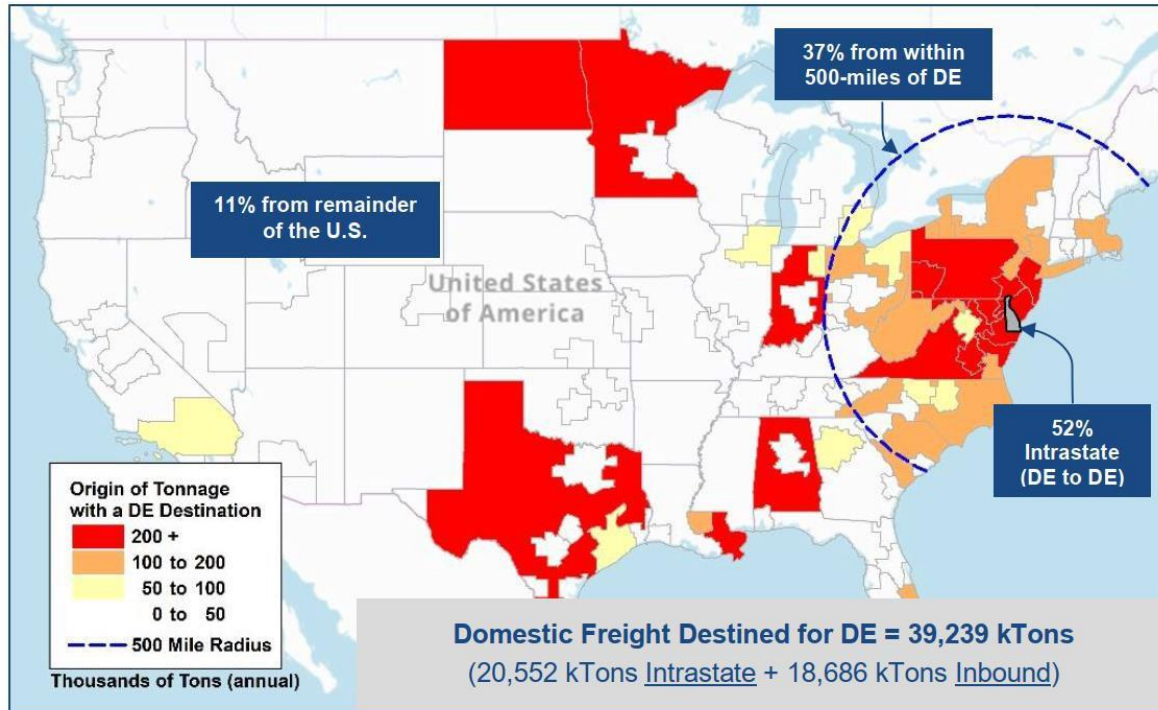


### ~68% trucks

...then pipeline and rail (tonnage)  
...or multiple modes/mail (value)

# Economy

## Freight Flows

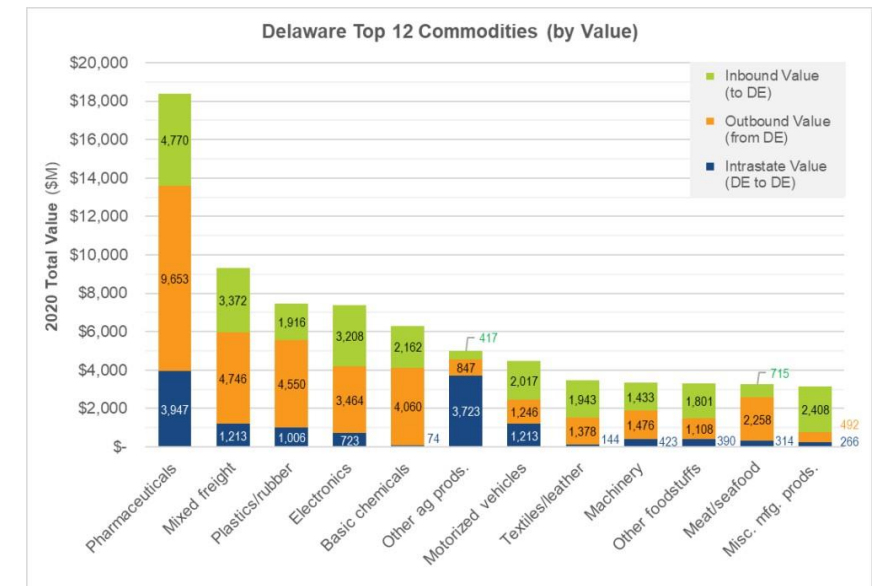
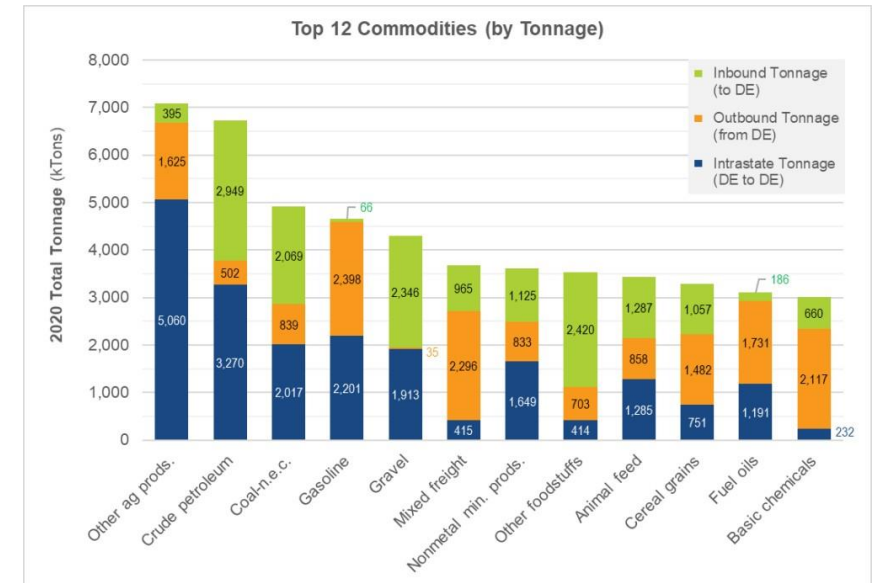


~ half of all freight is **intrastate** within DE

~ 90% of all freight moves **within 500 miles** of DE

Top tonnage includes **ag products, petroleum, ...**

Top value includes **pharmaceuticals, mixed freight, ...**



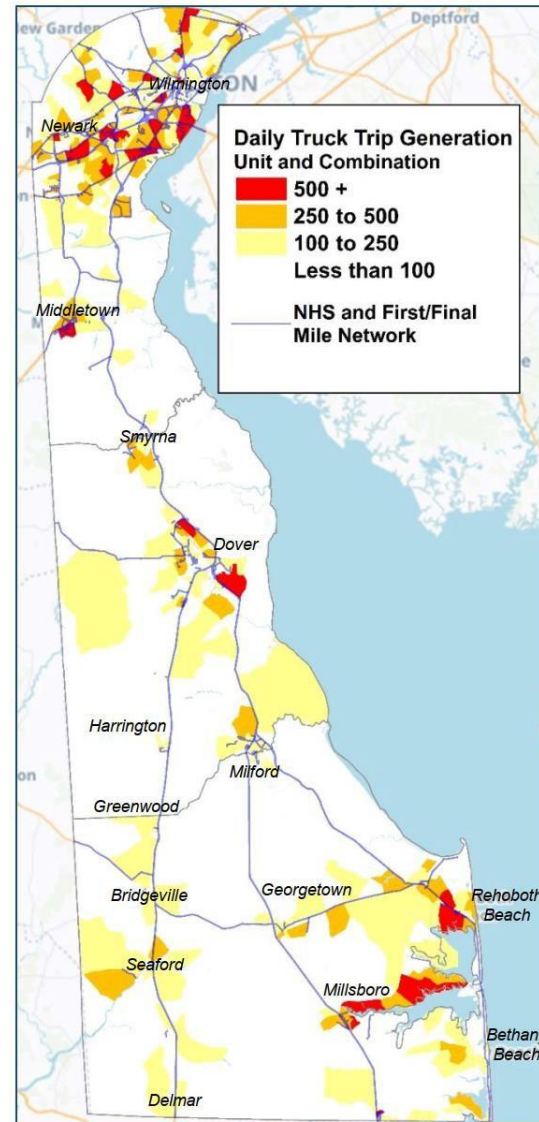
# Economy

## Industry Sectors

FIS EMPLOYMENT



TRUCK TRIP GENERATION



## Freight Intensive Sectors (FIS)

Industries where the production and consumption of cargo (i.e., **freight generation**) is central to the activity, as compared to **freight trips** or **service trips**

## New Castle County

manufacturing, oil & gas extraction, transportation & warehousing, hospitality, food services

## Kent County

manufacturing, warehousing, agriculture, Dover AFB

## Sussex County

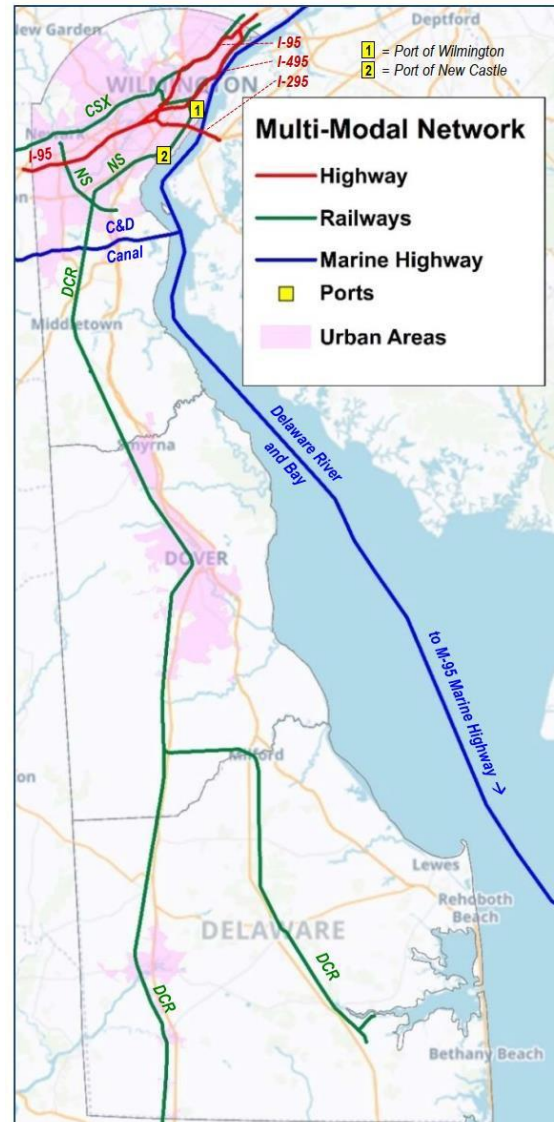
agriculture, retail trade, peak-season tourism



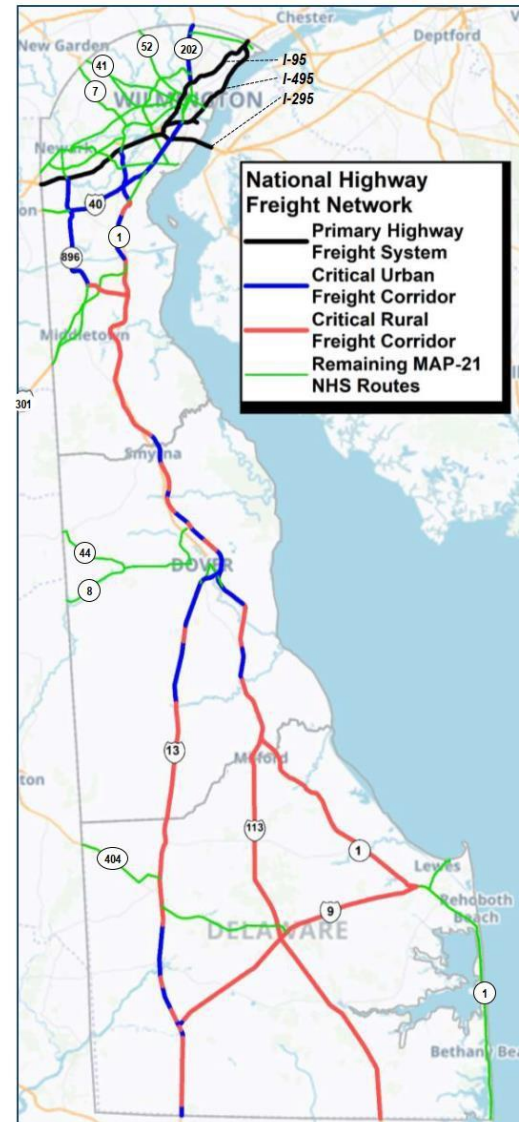
# Network

## Federally Designated

INTERIM MULTIMODAL FREIGHT NETWORK



NATIONAL HIGHWAY FREIGHT NETWORK



## National Multimodal Freight Network (NMFN)

Interstates, NS-CSX-DCR, Port of Wilmington, New Castle port activity, Delaware River/Bay, C&D Canal, M-95

## National Highway Freight Network (NHFN)

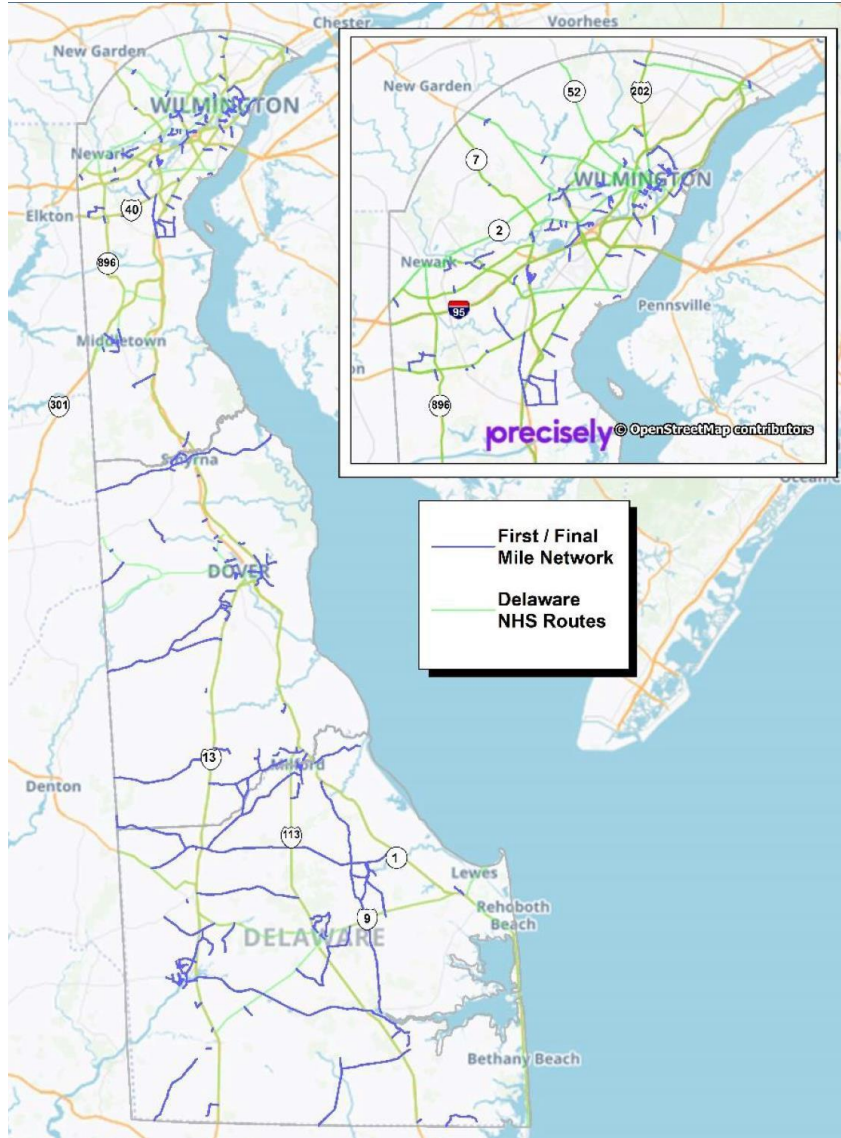
Primary Highway Freight System (PHFS), Critical Rural Freight Corridors (CRFC), Critical Urban Freight Corridors (CUFC)

## CUFC/CRFC Expansion

Mileage caps under IIJA were doubled to allow up to **150** and **300** total miles for Delaware's CUFC and CRFC networks, respectively

# Network

## Highways



## Delaware First/Final Mile Freight Network

Approximately 294 miles of roadway that link freight sites to broader portions of the state's overall roadway system, the NHFN, and/or the NHS.



## Areas of Focus

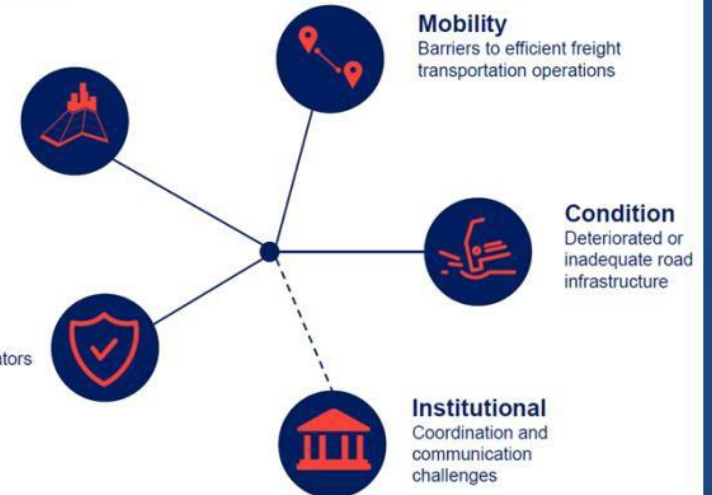
**Land Use**  
Conflicts arising due to freight routes passing through residential or otherwise sensitive areas

**Safety**  
Barriers to safe transportation operators

**Mobility**  
Barriers to efficient freight transportation operations

**Condition**  
Deteriorated or inadequate road infrastructure

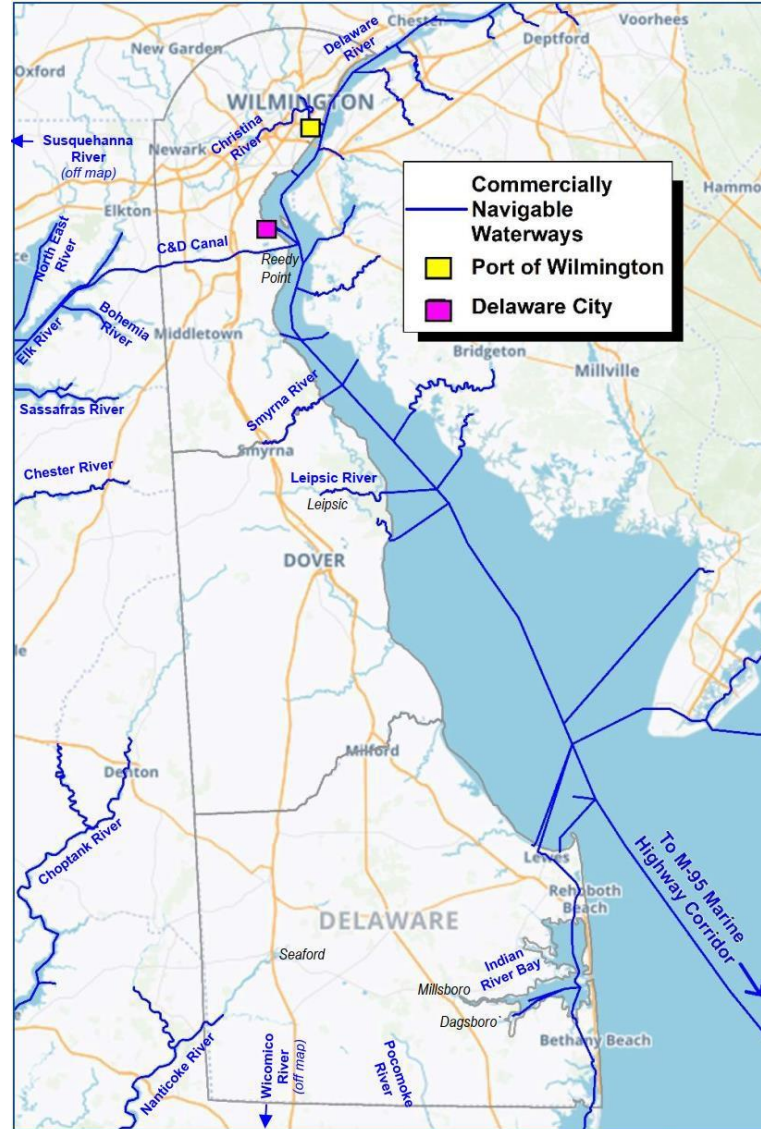
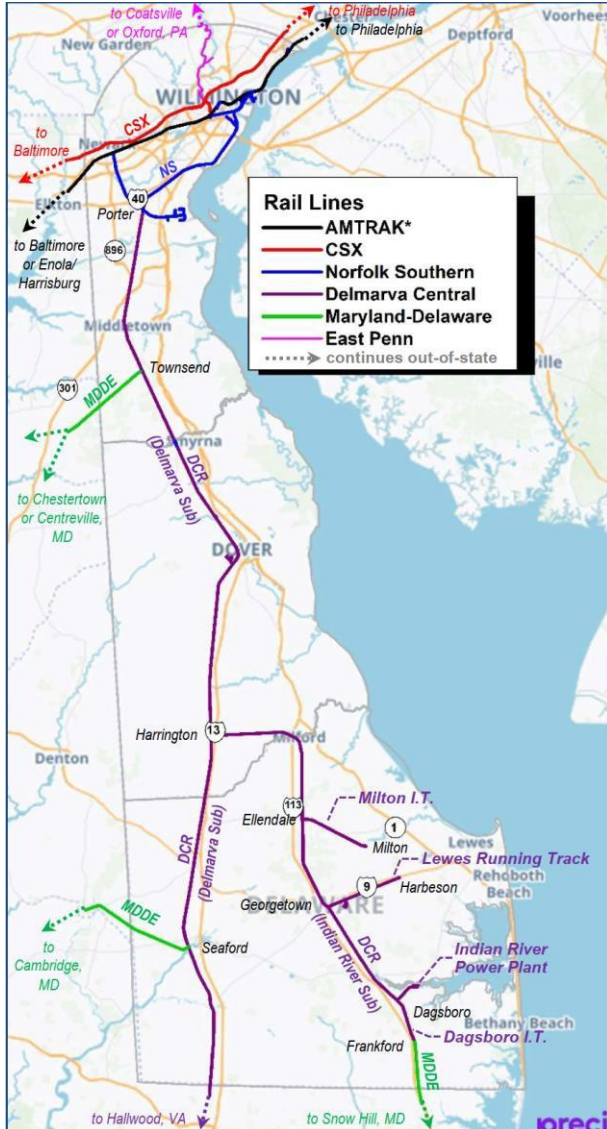
**Institutional**  
Coordination and communication challenges





# Network

## Rail, Port, Waterway



## Rail

Class I via NS, CSX

Class III via DCR, MDDE, ESPN

## Port

Port of Wilmington

New Castle port activity

Delaware River/Bay System

C&D Canal

M-95 Marine Highway

## Waterway

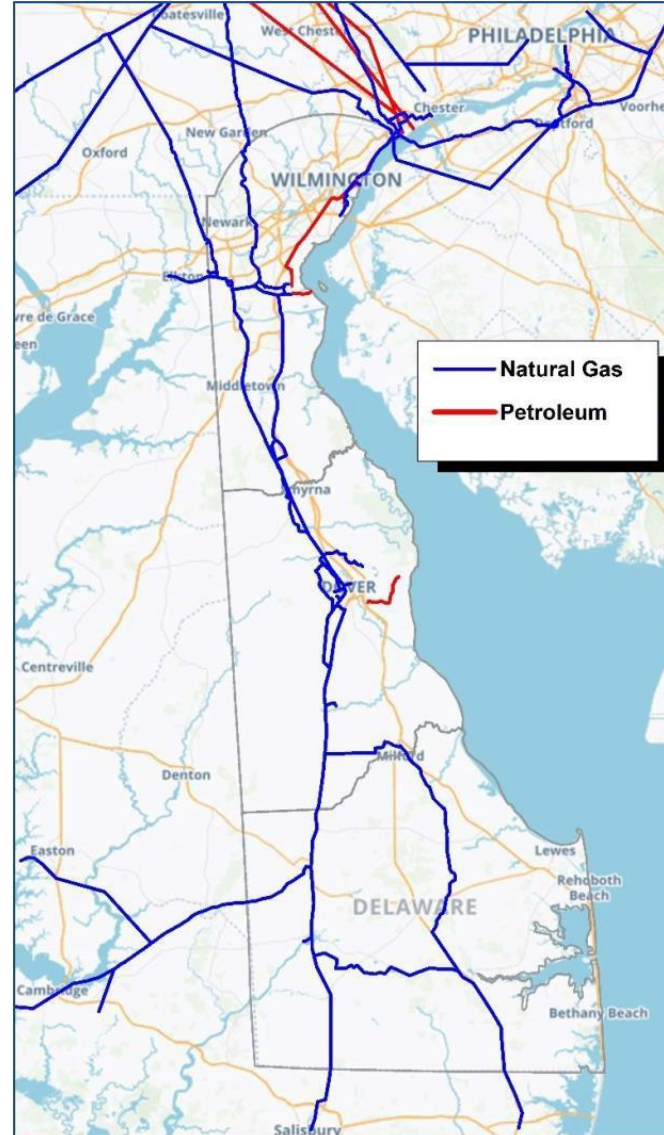
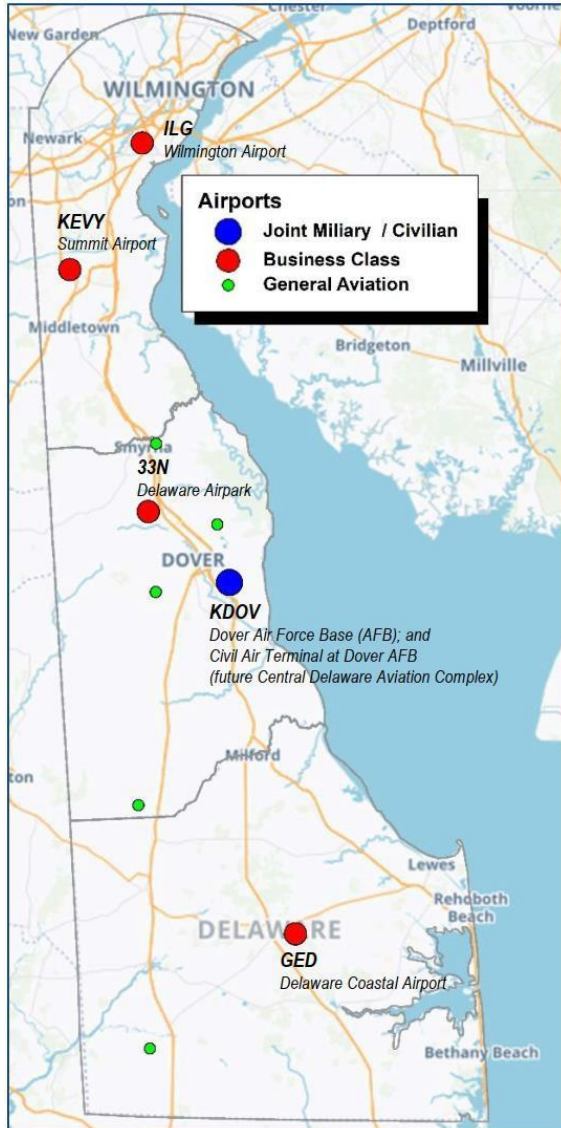
Nanticoke River (Seaford)

Wicomico River (Salisbury)

Other (minor shipments)

# Network

## Airport, Pipeline, Energy



### Airports

Air carrier service (Wilmington),  
Business class (Summit Airport,  
Delaware Airpark, and Delaware  
Coastal Airport), and Joint Use at  
Dover AFB / Civil Air Terminal (future  
Central Delaware Aviation Complex)

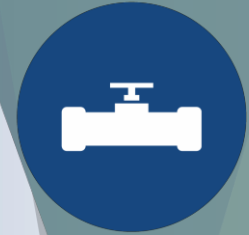
### Pipeline

387 miles natural gas distribution  
44 miles petroleum pipeline

### Power Generation

Fuel and equipment shipped by  
pipeline, truck, rail, barge, and ship  
power generating sites statewide





# CH 4: Performance and Trends

## CH 5: Needs and Opportunities

*How well does the system  
operate, and what  
planning considerations  
are important?*



# Performance and Trends

## IIJA Emphasis Areas

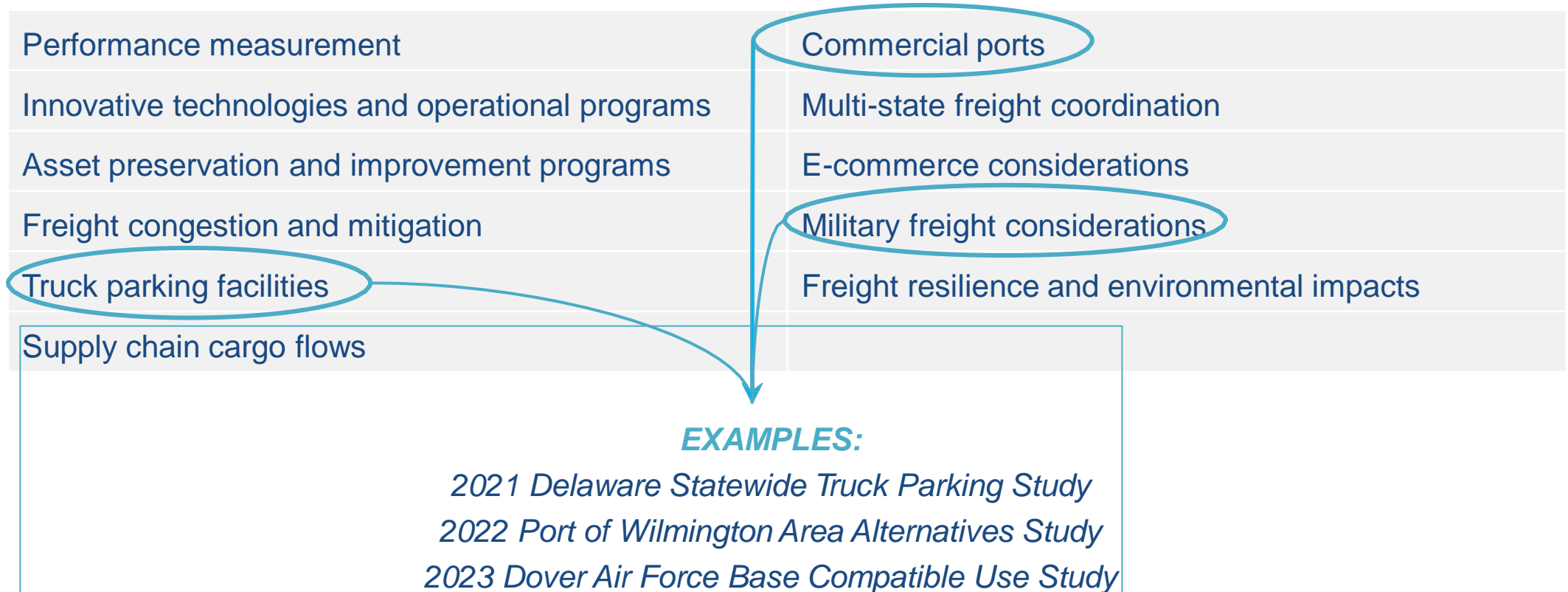
- Key data and program resources, study initiatives, and freight relevant insights that align with IIJA emphasis areas

Performance measurement	Commercial ports
Innovative technologies and operational programs	Multi-state freight coordination
Asset preservation and improvement programs	E-commerce considerations
Freight congestion and mitigation	Military freight considerations
Truck parking facilities	Freight resilience and environmental impacts
Supply chain cargo flows	

# Performance and Trends

## IIJA Emphasis Areas

- Key data and program resources, study initiatives, and freight relevant insights that align with IIJA emphasis areas



# Needs and Opportunities

## Area-Specific Details



- Developed based on feedback at Freight forums
- Use of WikiMap





# Needs and Opportunities

## Area-Specific Details



### EXAMPLE CONCERNS:

truck bottlenecks and undesignated truck parking cluster data per DeIDOT / WILMAPCO



**C-9** – Truck parking



**C-11** – Truck bottlenecks

### EXAMPLE OPPORTUNITIES:

findings and momentum from recent Dover/Kent County MPO studies



**O-2** – rail accessible property



**O-7** – east/west connectivity



**O-11** – air cargo operations



# Needs and Opportunities

## Scenario Implications

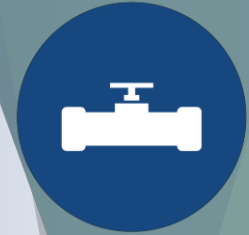
### Future Scenarios?

- Growth
- Technology/Innovation
- Climate/Global Disruption



*Example scenarios with considerable uncertainty...*

- **Driving Forces:**  
Identify the major external factors that push the future in that direction.
- **Freight Implications:**  
Identify freight impacts, changes, or other trends if that future occurs.
- **Action Plan Possibilities:**  
Highlight options to manage, mitigate, or leverage freight implications.
- **Project Implications:**  
Compare findings to project screening criteria to highlight “key” criteria.



# CH 6: Freight Investment Plan

## CH 7: Freight Strategic Plan

*What actions – including projects, strategies, and specific planning tasks – are important?*

# Freight Investment Plan

## Project Screening

- Candidates:**

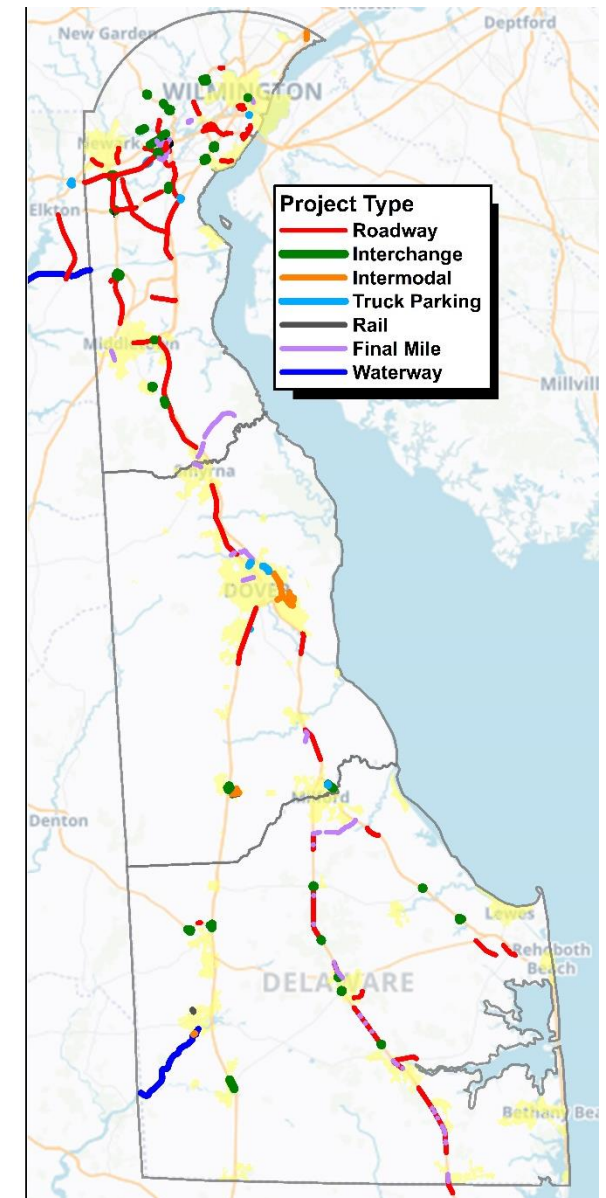
~120 projects screened from the DE CTP and MPO RTP or related long-range plans to assess potential “freight-relevance”

- Methodology:**

Mixture of data, mapping, and qualitative insights through 15 screening criteria, including linkage to IIJA emphasis areas

- Screening Criteria:**

Prior study?	First/final mile route?	SLR 4-ft inundation?
NHFN?	DE state strategy level?	Project key focus type?
STRAHNET?	CTP or MPO LRTP status?	Regional impact?
DE TOMP hotspot?	EJ minority/low income?	IIJA program eligibility?
DE truck bottleneck?	EJ diesel particulates?	Project cost range?





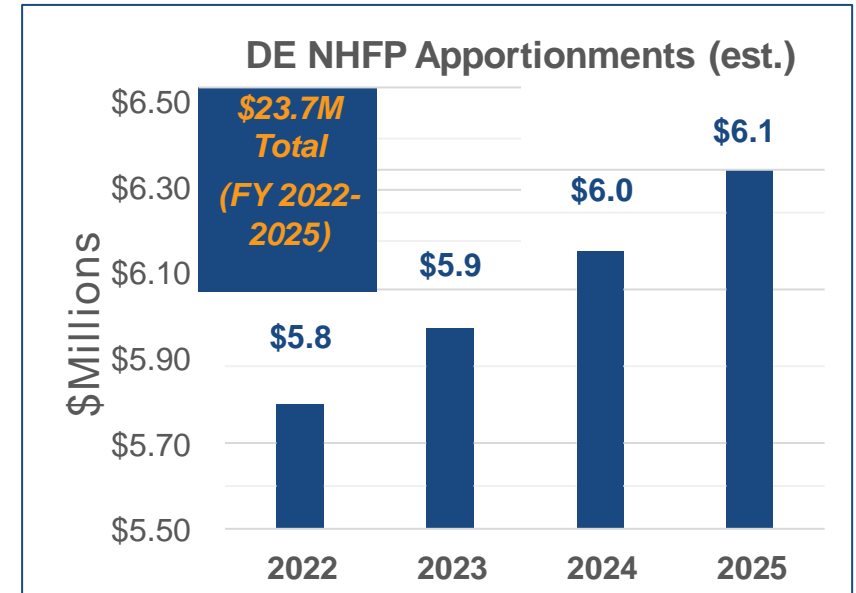
# Freight Investment Plan

## Funding Opportunities

- **National Highway Freight Program (NHFP)**
- **IIJA 5-year formula funding** through DeIDOT or MPO transportation programming, with initial estimates including:
  - \$ 1.4 B in highway/bridge formula funds
  - \$ 27 M to reduce emissions
  - \$ 31 M to increase resilience
  - \$ 15 M for highway safety traffic programs
  - \$ 9 M to augment CMV safety efforts
  - \$ 18 M to expand EV charging networks
  - \$ 6 M for infrastructure development for airports
- **Competitive Grant Programs:**

RAISE Grants, INFRA Grants, FAA Terminal Program, MEGA Projects, PROTECT Program, Port Infrastructure Development Program, FHWA Nationally Significant Bridges Program, Charging and Fueling Infrastructure, Reconnecting Communities Pilot Program, Rural Surface Transportation Grant Program

[https://www.transportation.gov/sites/dot.gov/files/2022-01/BIL\\_Delaware.pdf](https://www.transportation.gov/sites/dot.gov/files/2022-01/BIL_Delaware.pdf)



### **NHFP Allocations through FY 2025:**

- **SR 72** / Advanced Utilities Work
- **SR 72** / McCoy Rd to SR 71
- **US 13** / Lochmeath Way to Puncheon Rd Connector
- **US 40** / Salem Church Rd to Walther Rd



# Freight Strategic Plan

## Planning Strategies



### Safety and Security

*Truck parking / Permitting and enforcement / Technology and legislative constraints*



### Economic Vitality

*Freight Intensive Sectors (FIS) / Supply chains / Rail accessible land use / Multi-jurisdictional coordination*



### Freight Connectivity, Accessibility, and Mobility

*Multimodal opportunities / First/final mile network / Freight and passenger conflicts / Warehousing & distribution*



### System Management, Operations, and Maintenance

*Freight bottlenecks / Work zone management / ITS and operational technologies / Highway and bridge conditions*



### Resilience, Sustainability, and Environmental Stewardship

*Vulnerable infrastructure / Community impacts / Environmental impacts / Land use and freight implications*

# Freight Strategic Plan

## Planning Tasks

### **ONGOING Tasks** (annual or intermittent updates)

1. Truck traffic trend analysis (*Wavetronix data application*)
2. Grant pursuits (*screening priorities, eligibility, cost compatibility*)
3. Rail corridor preservation and education (*annual program and safety funds*)

### **PROCEDURAL Tasks** (formal agency/stakeholder coordination)

4. CUFC/CRFC expansion (*additional mileage per IIJA*)
5. STRAHNET refinement (*updated connectivity via US 301*)
6. NMFN refinement (*FHWA updates and/or multimodal CRFF considerations*)

# Freight Strategic Plan

## Planning Tasks

### **SHORT-TERM Tasks** (next 1-4 years)

7. Truck parking info systems (*Smyrna pilot follow-up*)
8. Truck parking data updates (*2024 usage/trends*)
9. Supply chain studies (*freight intensive sectors (FIS), pharmaceuticals, e-commerce, green energy*)
10. Land use agency coordination (*first/final mile network planning*)
11. Local freight planning support (*DeIDOT contract to provide municipal assistance*)
12. Truck parking facilities (*implementation of 2021 study recommendations*)
13. First/final mile network refinements (*GIS data updates*)
14. System resilience planning (*freight impacts alongside SLR studies*)

# Freight Strategic Plan

## Planning Tasks

### **LONG-TERM Tasks** (beyond 4-years out)

15. Energy supply chain trends (*DE rail, port, refinery implications*)
16. Potential feasibility studies (*based on DE Senate Resolution 10\**)
  - Bypass between US 1 and I-95
  - Dedicated freight line between Perryville and Newark
  - Rail spur parallel to SR 41
  - SR 896 corridor improvements and alternate/parallel route
  - SR 7, SR 41, and SR 48 truck restrictions / alternate routes

**NOTE:** Additional guidance required from General Assembly and bi-state working group

*\* DE Senate Resolution 10: Special Committee to Study and Make Recommendations Regarding Truck Traffic & Freight Movements Along SR 41, SR 48, and SR 7*



# Thank You!

***Full Document Access***

***<http://freight.deldot.gov>***













# ADDITIONAL REFERENCE

*Areas of Concern (complete list)*

*Areas of Opportunity (complete list)*

# Needs and Opportunities

## Areas of Concern
















	<b>C-1</b> – Rail crossing safety		<b>C-10</b> – Seasonal congestion
	<b>C-2</b> – Indian River rail markets		<b>C-11</b> – Truck bottlenecks
	<b>C-3</b> – Southern DE rail markets		<b>C-12</b> – Truck routing
	<b>C-4</b> – Class I rail access		<b>C-13</b> – Highway resilience
	<b>C-5</b> – Rail preservation		<b>C-14</b> – Air cargo access
	<b>C-6</b> – Rail system resilience		<b>C-15</b> – Cybersecurity
	<b>C-7</b> – Port traffic impacts		<b>C-16</b> – Fuel & shipping costs
	<b>C-8</b> – Dredging		<b>C-17</b> – Warehousing & dist.
	<b>C-9</b> – Truck parking		<b>C-18</b> – Land use planning





# Needs and Opportunities

## Areas of Opportunity

	<b>O-1</b> – short line rail markets		<b>O-10</b> – UAV technology
	<b>O-2</b> – rail accessible property		<b>O-11</b> – air cargo operations
	<b>O-3</b> – Port expansion		<b>O-12</b> – oil/shale markets
	<b>O-4</b> – Port specialty freight		<b>O-13</b> – warehousing & dist.
	<b>O-5</b> – truck parking expansion		<b>O-14</b> – specialty industries
	<b>O-6</b> – CAV technology		<b>O-15</b> – FIS connectivity
	<b>O-7</b> – east/west connectivity		
	<b>O-8</b> – Port access improvements		
	<b>O-9</b> – real-time info systems		

