

2022 Delaware State Freight Plan

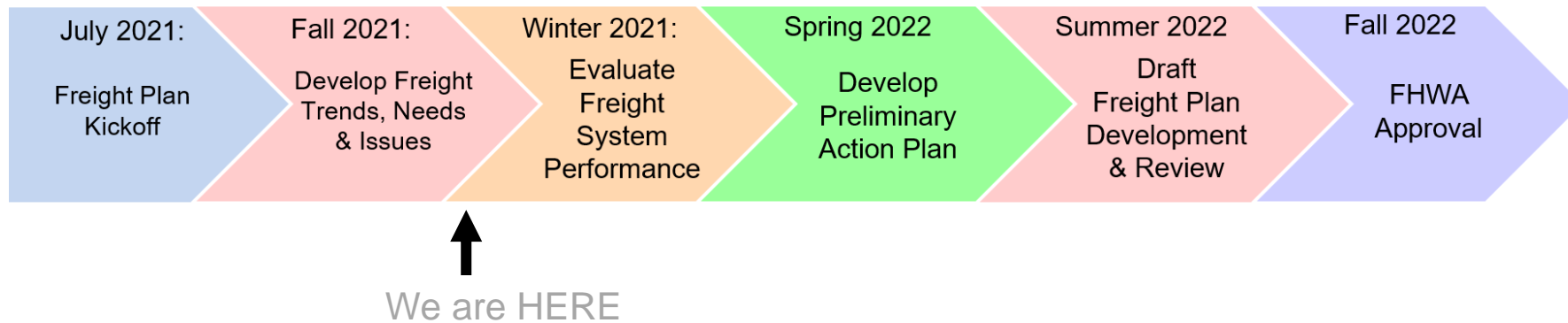
Progress Update and Preliminary Needs and Concerns

DECEMBER 2021

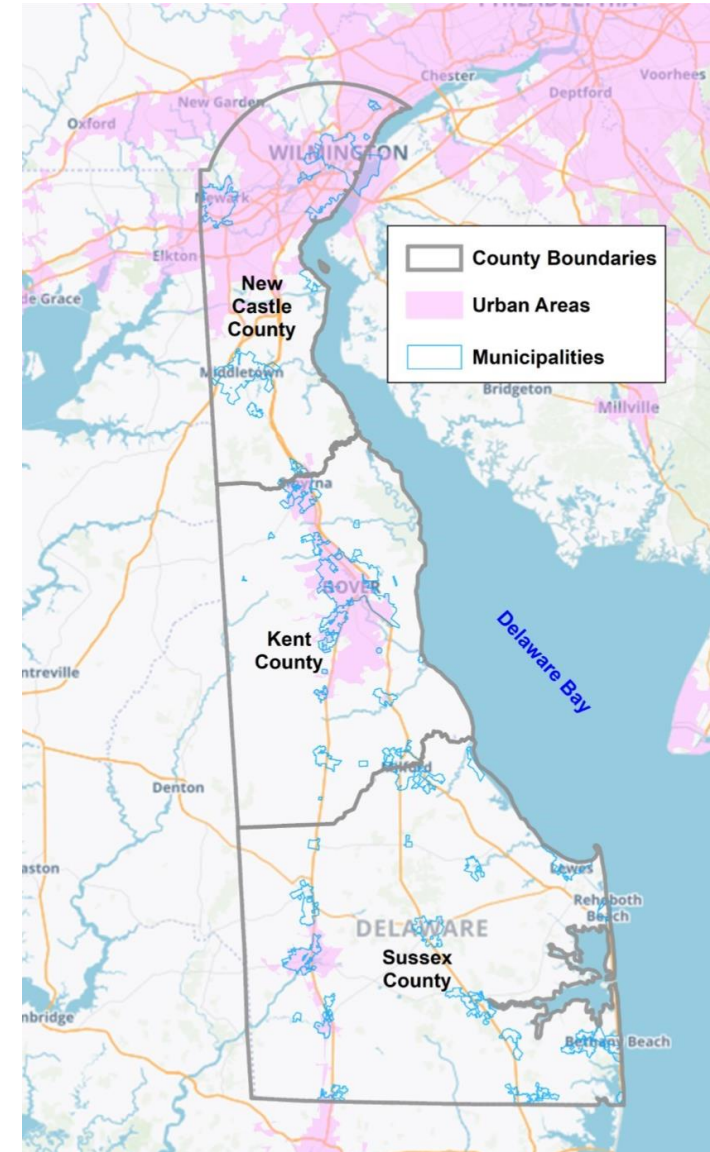


Agenda

- Plan format
- Progress to date



- State of the Freight System
- What does the future hold?
Opportunities/Concerns



Plan Organization

Chapter 1: Freight Vision & Goals

Chapter 2: Freight and the Economy

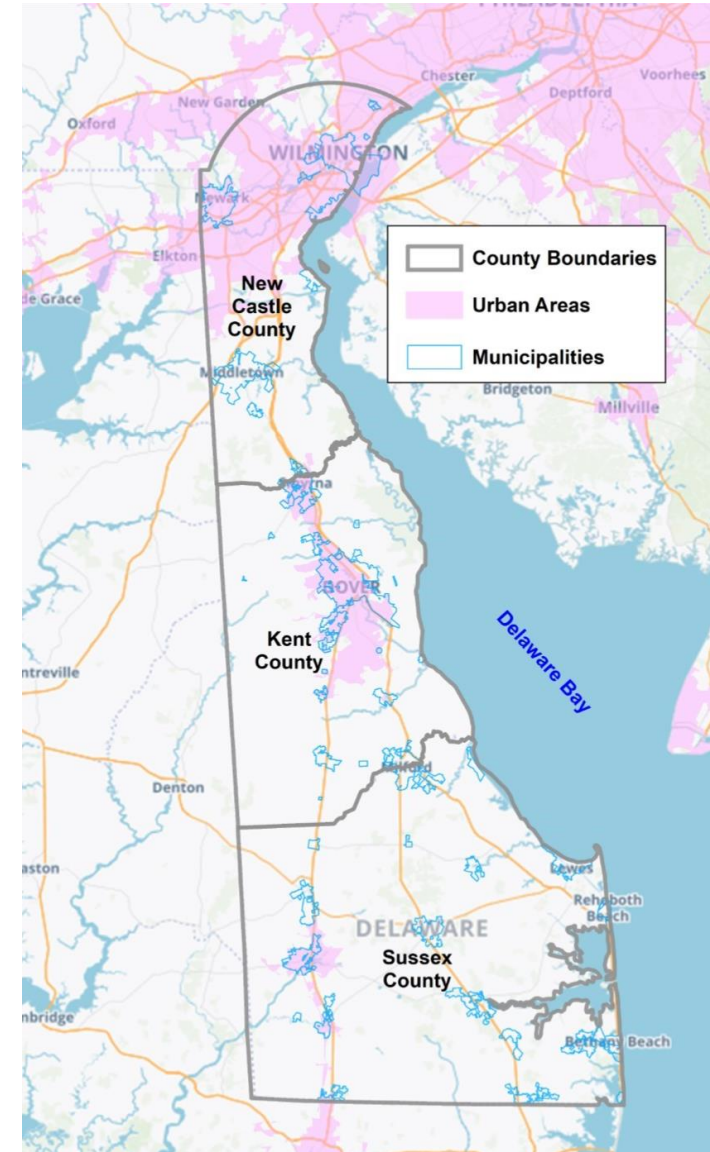
Chapter 3: Freight Network Facilities

Chapter 4: Freight Performance

**Chapter 5: Freight System Trends,
Needs, and Issues**

**Chapter 6: Freight Investment
Planning**

Chapter 7: Freight Action Plan



Plan Organization

Chapter 1: Freight Vision & Goals

Chapter 2: Freight and the Economy

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**Chapter 5: Freight System Trends,
Needs, and Issues**

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Planning**

Chapter 7: Freight Action Plan

**Portions of each Chapter will work to
address IIJA Freight Plan Requirements:**

1. Freight System Trends, Needs, and Issues
2. Freight Policies, Strategies, and Performance Measures
3. Freight Network Facilities (Multi-modal & CUFC/CRFC)
4. National Freight Policy/Program Support
5. Innovative Technology Considerations
6. Roadway Deterioration Issues and Mitigation Strategies
7. Freight Mobility Issues and Mitigation Strategies
8. Freight Induced Congestion and Mitigation Strategies
9. Freight Investment Plan (Fiscally Constrained)
10. Commercial motor vehicle parking facilities assessment
11. Recent supply chain cargo flows
12. Inventory of commercial ports
13. Consideration of multi-state freight compacts
14. Impacts of e-commerce on freight infrastructure
15. Considerations of military freight
16. Focus on enhancing freight resilience and reducing freight environmental impacts
17. State Freight Advisory Committee (SFAC) Consultation

New in IIJA



Freight Vision & Goals

Plan has 2 timeframes to focus on:

Short term – 1 to 5 years

New in IIJA



Items to pursue between freight plan **4-year** update cycles (i.e. advance recent plan recommendations and project funding via CTP or competitive MAP-21 federal programs)

Long term – 6+ years

- Highlight items which requires additional study and/or regional coordination
- Items for inclusion in MPO / Statewide Long Range Plans
- Preparation for the 2026 Freight Plan update cycle

Freight Vision & Goals

Key Step: Build on recent success

Build on Recently Completed/Ongoing Plans:

Delaware Statewide Truck Parking Study (2021)

Delaware First/Final Mile Freight Network Development (2021)

Planning for Freight-Related Development Summary and Checklist (2021)

Port of Wilmington Area Alternatives Study (2021)

Truck Bottlenecks Identification (2020)

Dover Air Cargo Freight Access Study (2019)

Harrington Multimodal Freight Terminal Feasibility Study (2021)

Rail Freight Zoning Study (2018 & 2022)

Development of a Truck Restrictions Database (2022)

West Dover East/West Truck Study (2022)

All reports and project websites can be found at:

<http://freight.deldot.gov>



Plan Highlights:

- Inventory of Identified & non-designed parking clusters
- Multiple site-specific capacity improvements at:
 - Existing sites
 - Private sites
 - Other State-owned facilities
 - Roadway shoulders
- Information & Technology Improvements

Freight Vision & Goals

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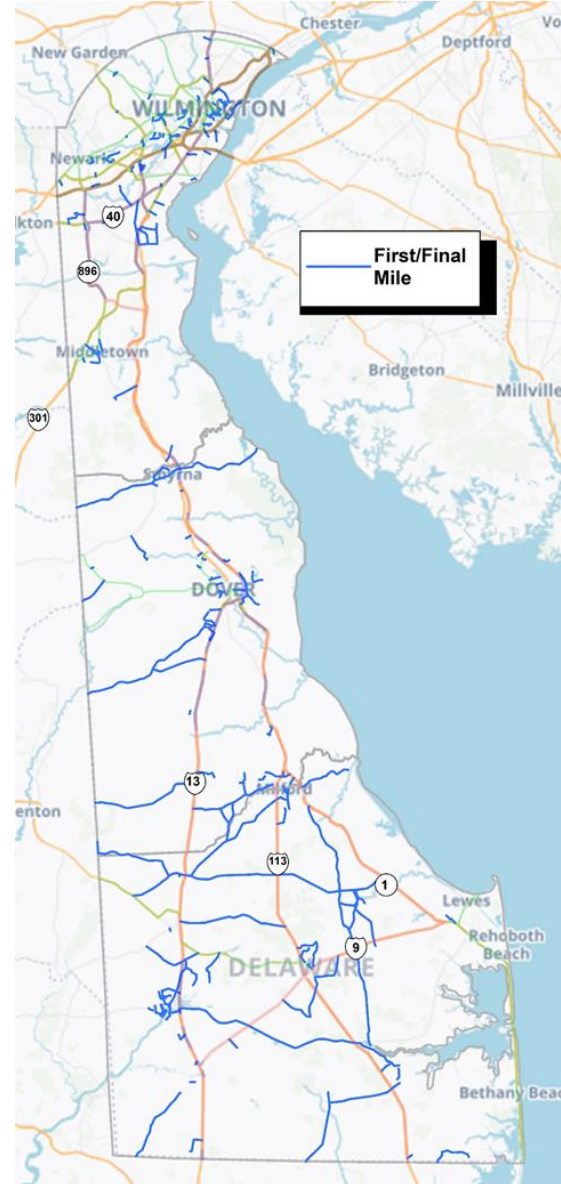
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Plan Highlights:

- Inventory of roadways that link truck-generating facilities to mainline routes
- Evaluate their needs and issues based on
 - Institutional
 - Land Use
 - Mobility
 - Safety
 - Condition
- Planning Considerations for freight related development

Freight Vision & Goals

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Plan Highlights:

- Evaluate Truck Route Alternatives
 - Alt. 1 – Pigeon Point Option 1
 - Alt. 2 – Pigeon Point Option 2
 - Alt. 3 – Pyles Lane Extension.
 - Alt. 4 – Garashes Lane.
 - Alt. 5 – Sign and Reroute All Port I-295 Traffic signed to I-495.

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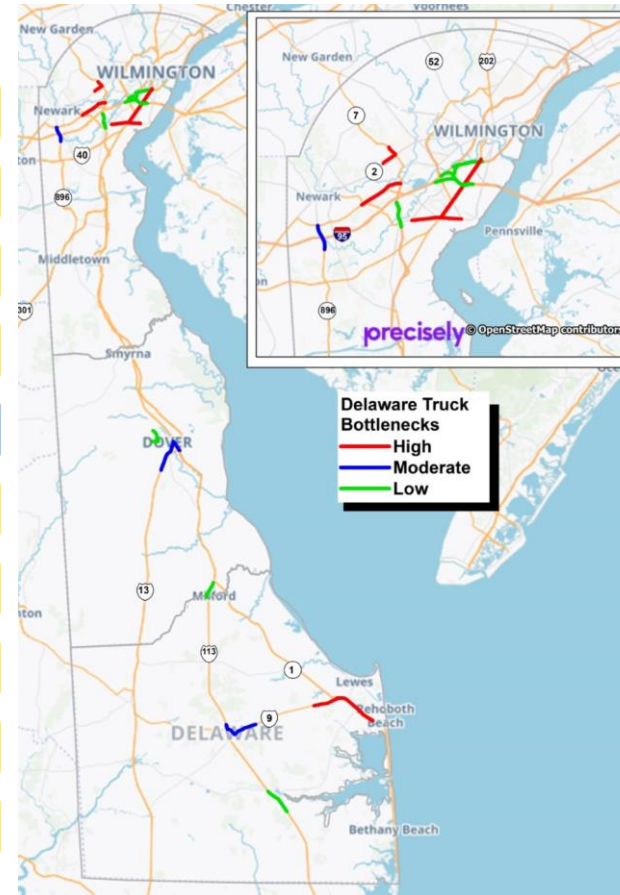
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Plan Highlights:

- Identified 15 highway segments that have constraints that significantly affect freight mobility and reliability
- FHWA Requirement

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Plan Highlights:

- Analysis of transportation improvements needed to support economic growth on the east side of SR1 around DAFB
- New roadway recommendations

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Plan Highlights:

- Feasibility study for a future Harrington industrial park shows the best land configuration
- Recommends expanding rail access and adding a train terminal



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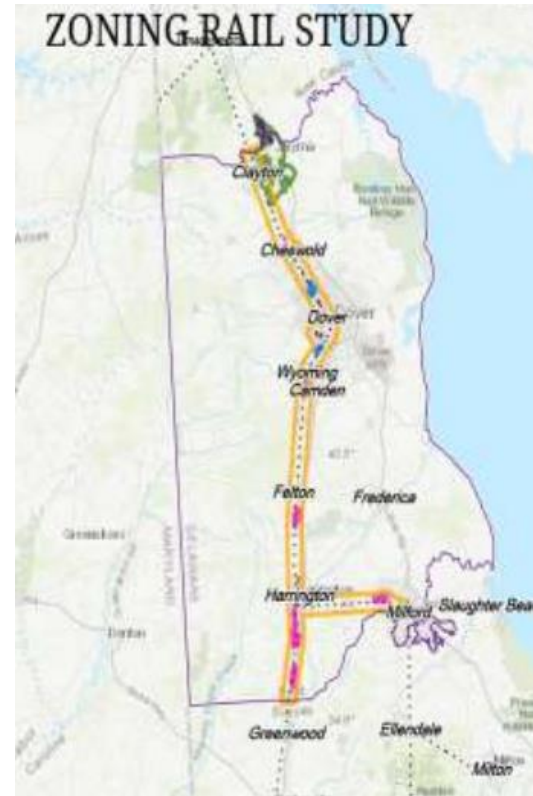
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Plan Highlights:

- To create an inventory of properties with appropriate zoning suitable as future Cargo Oriented Development (COD) could occur
- 2022 Update underway

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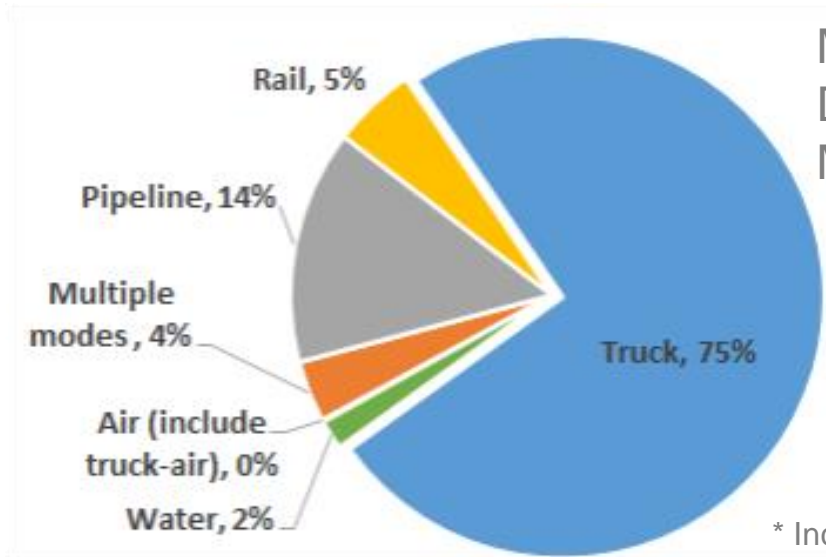
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Freight & The Economy

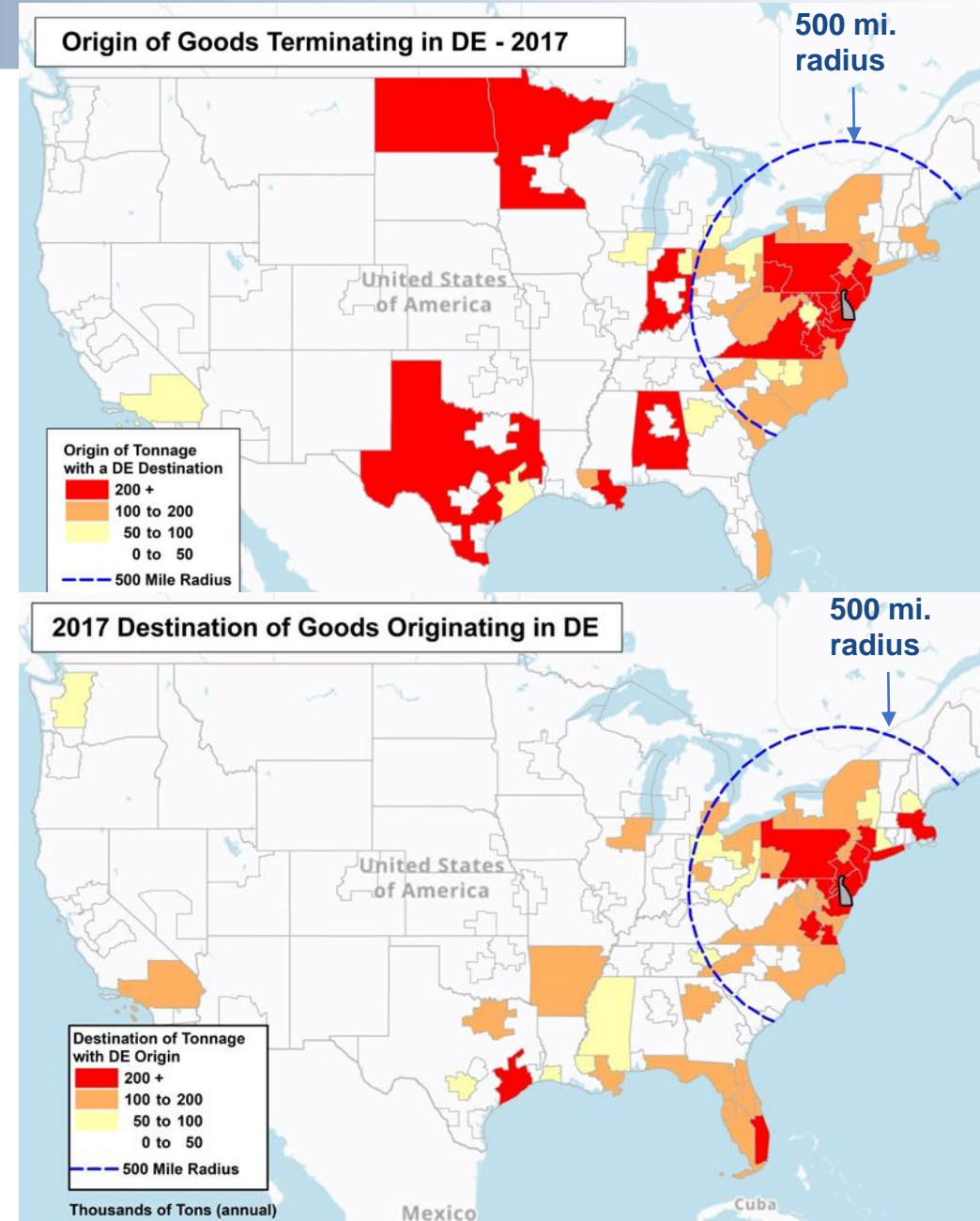
Delaware's Goods Movement in 2017:

- 72 Million tons worth \$101 billion
- 75% freight moves by truck
- 94% of all goods originating within Delaware terminates within 500 miles
- 91% of all goods terminating in Delaware are coming from within 500 miles



Mode Share of Delaware Freight Movements

* Includes imports, exports and within DE movements

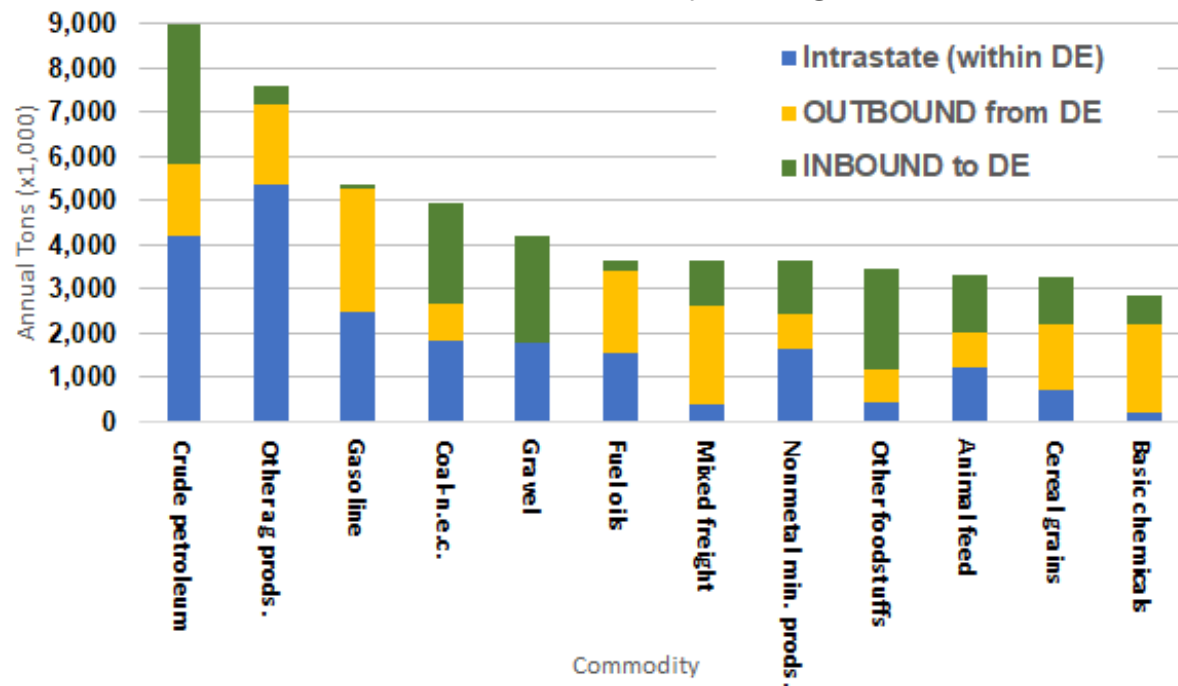


Freight & The Economy

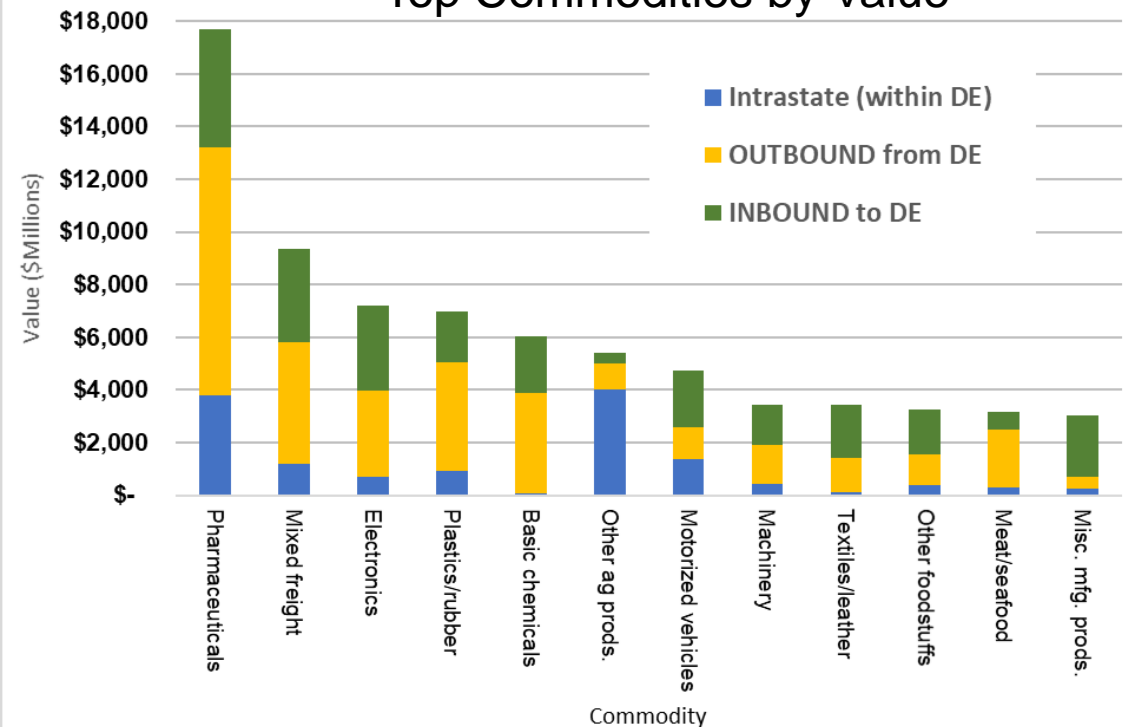
Top Commodities:

- Agriculture and energy related fields represent nearly 60% of all commodities by weight
- Pharmaceuticals represent a very small portion of the total tonnage of goods movement (0.4% of total tonnage) but is the most valuable (17% of total value)

Top Commodities by Weight



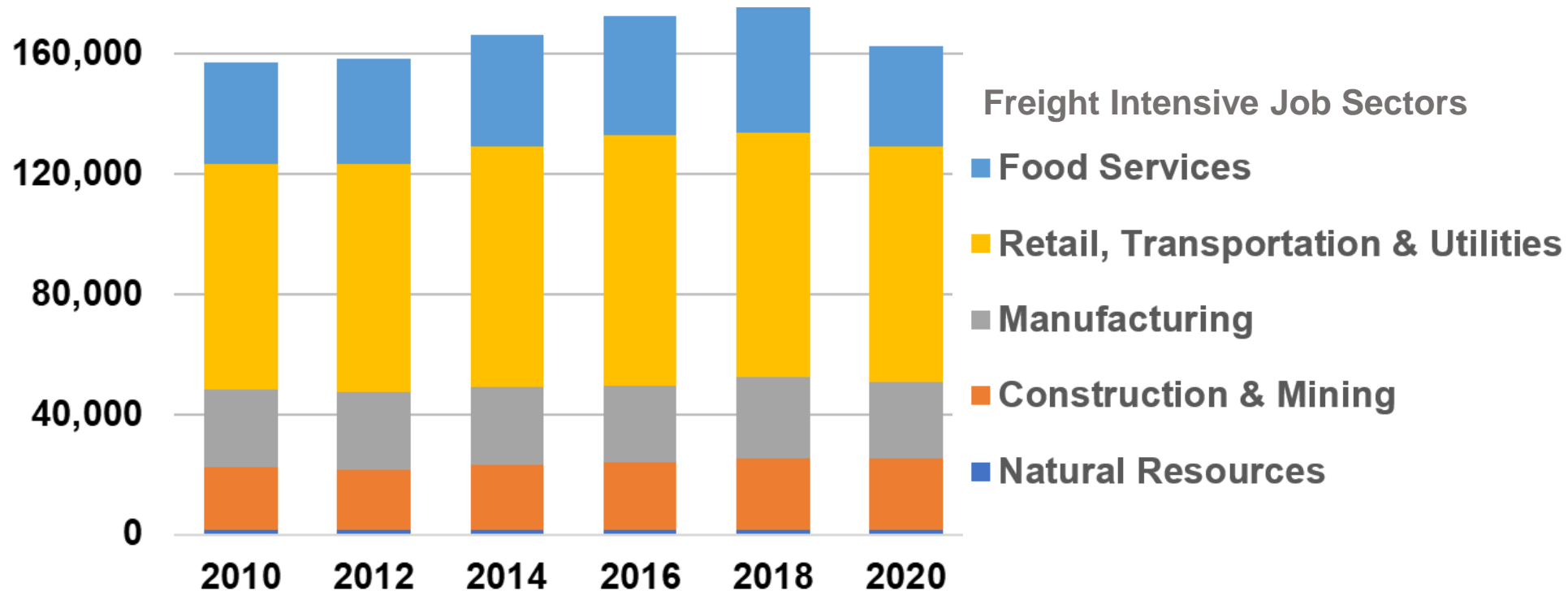
Top Commodities by Value



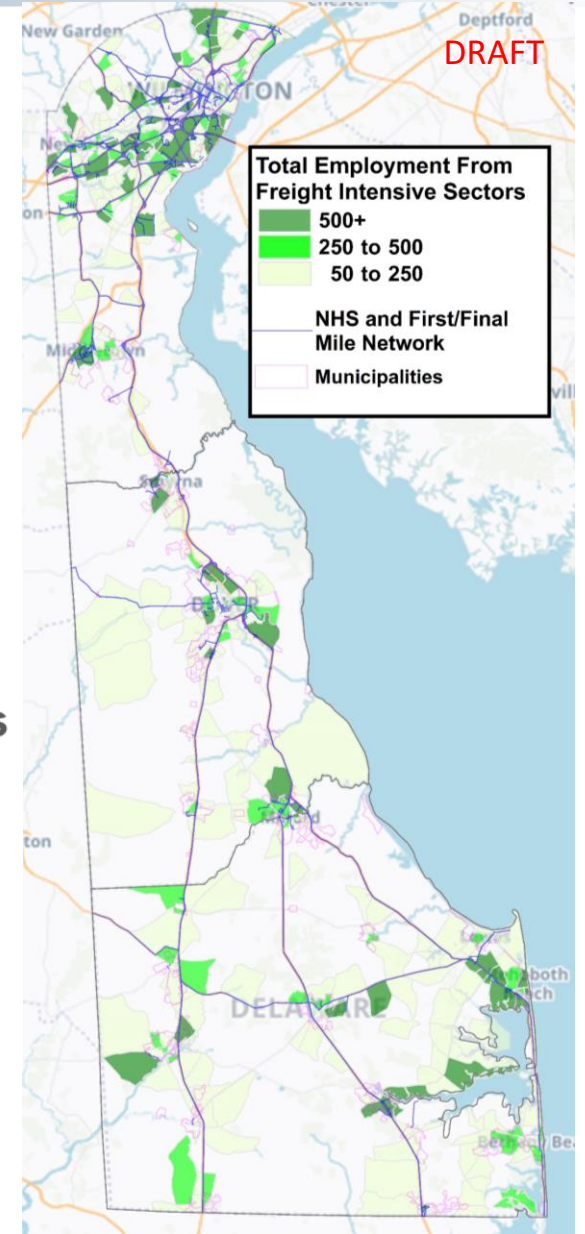
Freight & The Economy

Growth in *Freight Intensive* employment sectors:

- Industries that are dependent on goods movement to be competitive within the marketplace.
- Roughly 40% of all employment in DE



Sources: BLS, InfoUSA

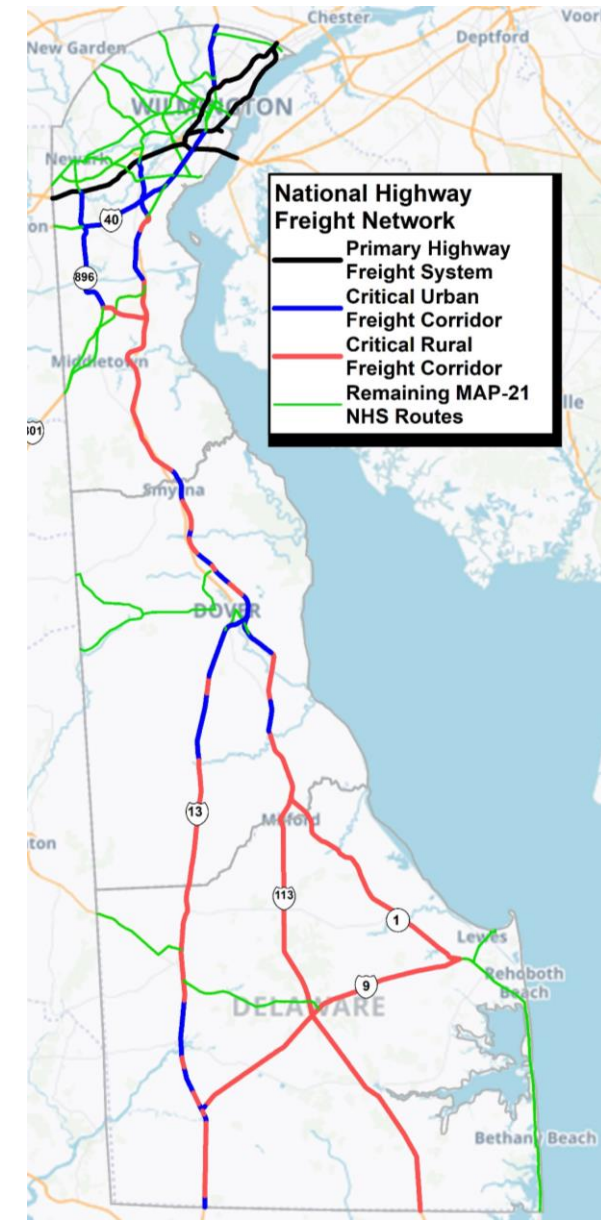


Existing Freight Network and Performance

Current Roadway System:

- **National Highway Freight Network (NHFN)** consists of the following components within DE:
 - Primary Highway Freight System (PHFS)
 - Critical Urban Freight Corridors (CUFC) – max. 75 miles
 - Critical Rural Freight Corridors (CRFC) – max. 150 miles

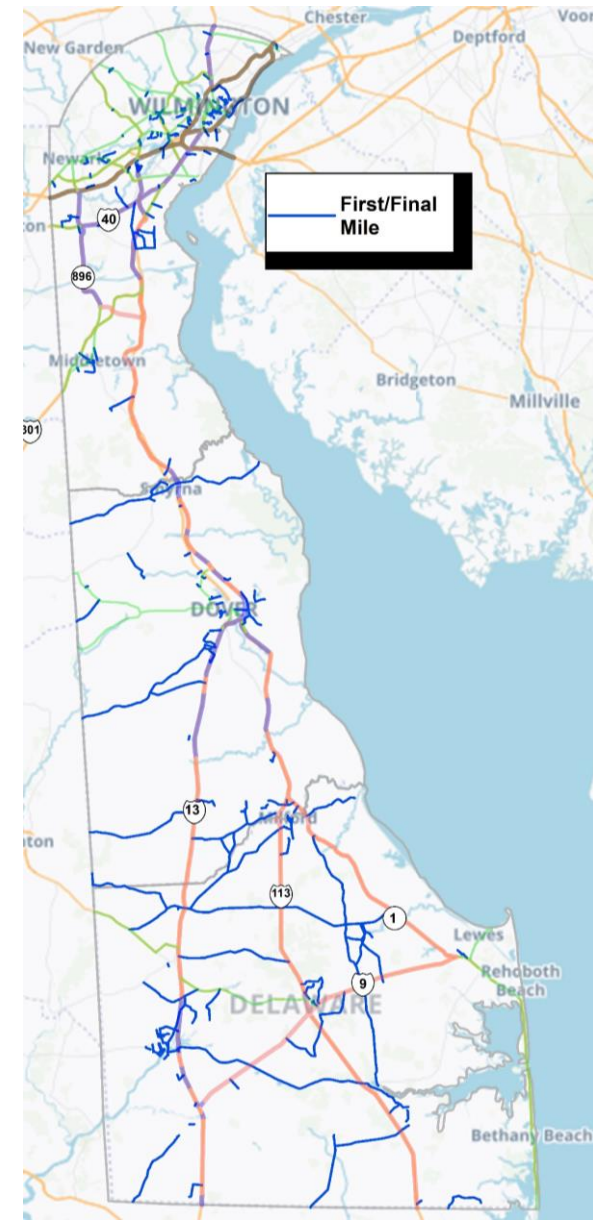
New IIJA
doubles
mileage for
CUFC /
CRFC!



Existing Freight Network and Performance

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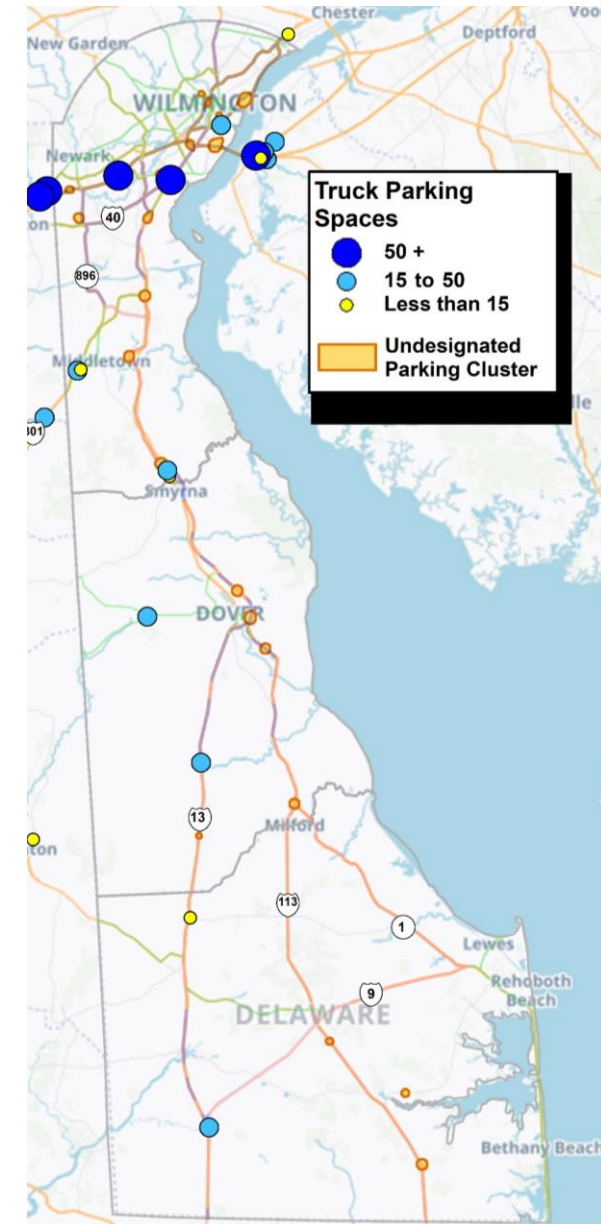
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- **First / Final Mile Freight Network:**
Local/collector roads that link businesses to state and national highway networks



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- **First / Final Mile Freight Network:**
local/collector roads that link businesses to state and national highway networks
- **Truck Parking Facilities**
 - 337 spaces over 12 locations in DE
 - 32 undesignated truck parking clusters
 - Truck Parking is part of the system!

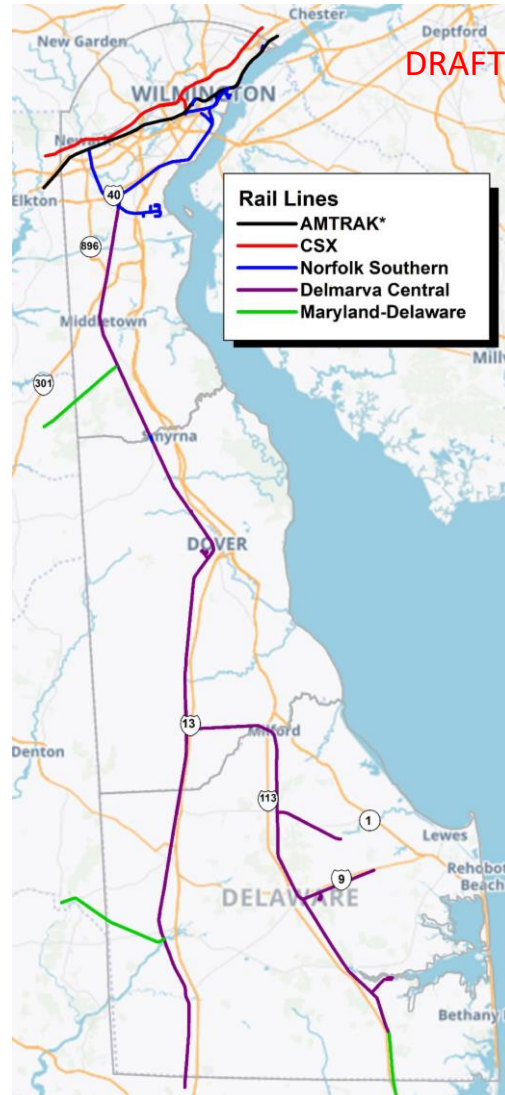


Existing Freight Network and Performance

Other Network Facilities:

Rail:

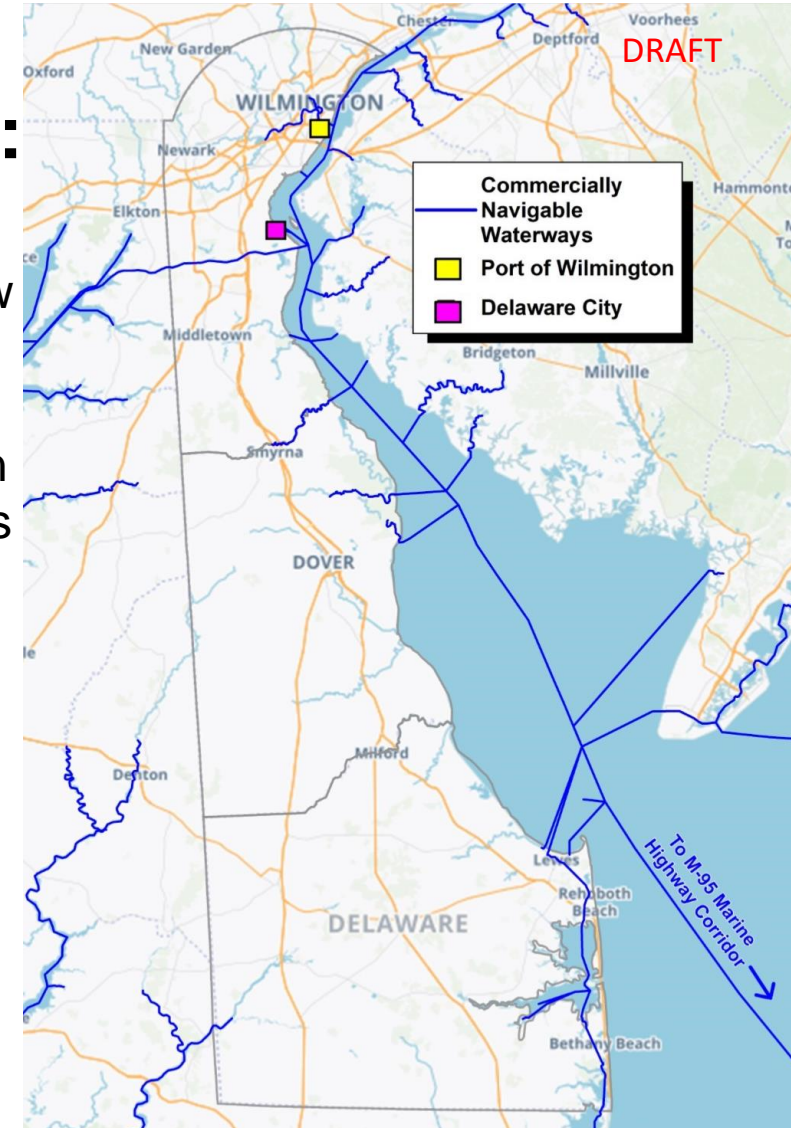
- 282 total miles of rail lines
- Commodities moving by rail: Chemical, Petroleum and coal



Ports/ Waterways:

- Delaware River Main Channel now 45 ft.
- Port of Wilmington sees 400+ vessels annually
- Top Commodities:
 - Bananas
 - Salt
 - Gas/Oil
 - Petroleum Coke
 - Other Fruits/Nuts

U.S. Dept. of Transportation -
Bureau of Transportation
Statistics

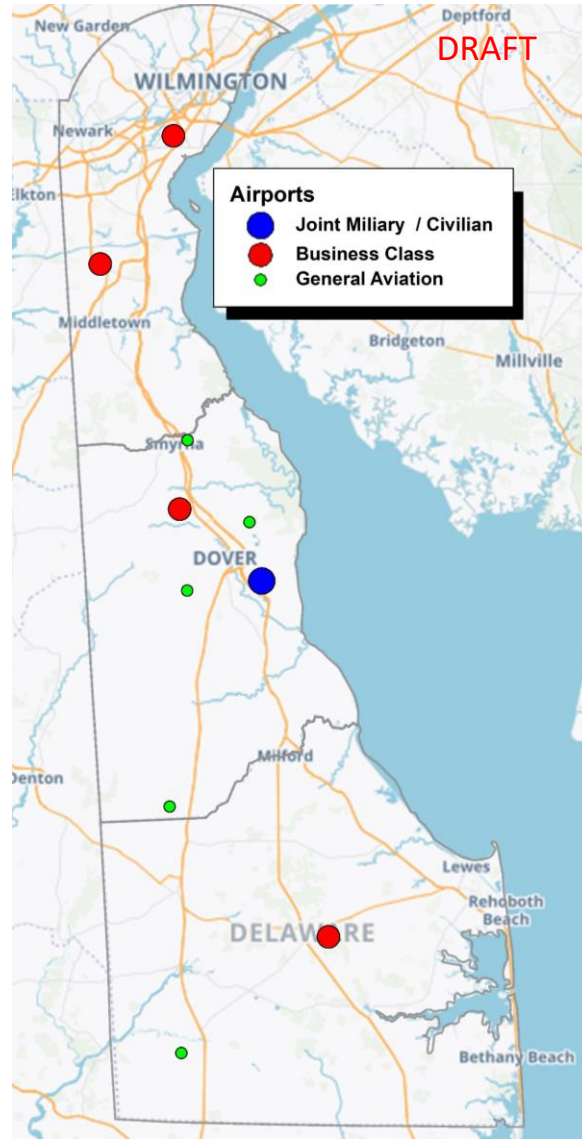


Existing Freight Network and Performance

Other Network Facilities:

Air:

- >1% of total freight tonnage moved via air
- Plastics/rubber, Nonmetal minerals top commodities moved by air



Pipeline:

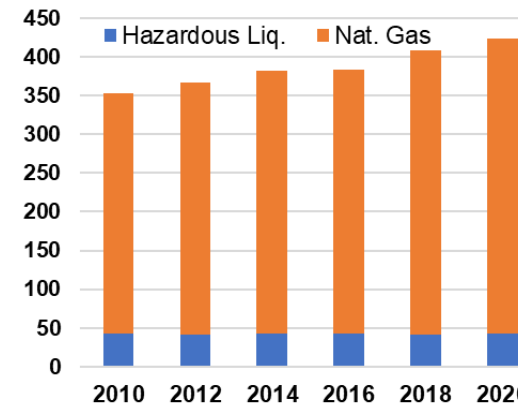
- 14% of total tonnage

2010 pipeline miles:

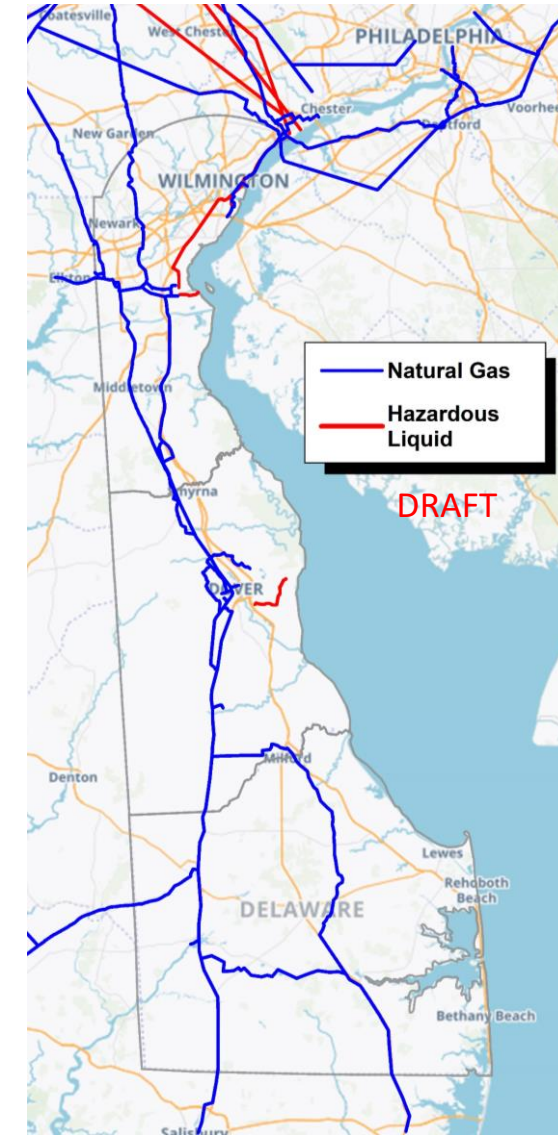
- 42 mi. Hazardous Liquids
- 311 mi. Natural Gas

2020 pipeline miles:

- 43 mi. Hazardous Liquids
- 380 mi. Natural Gas



Source: U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration



Opportunities & Concerns

Opportunities & Concerns

- **Assessment of the existing freight system and potential improvements**

Begin to formulate answers for these key questions:

- What outside forces will we need to be prepared to react to?
- What can proactively prepare for?
- Where can we invest to position Delaware for future economic opportunities?

Development of 2 broad categories:

Freight **Areas of Concern** reflect mode-specific issues, needs, or uncertainties surrounding freight movements or freight hubs, specific components of the freight transportation infrastructure, or freight related trends or policies.

Freight **Areas of Opportunity** reflect business and industry issues or other economic development trends. Opportunities also capture places where improvements to the transportation network can foster this growth while balancing other needs or concerns.

Opportunities & Concerns

Establish relationship of these back to our Freight Plan goals:



Safety and Security



Economic Vitality



Freight Connectivity, Mobility, and Accessibility



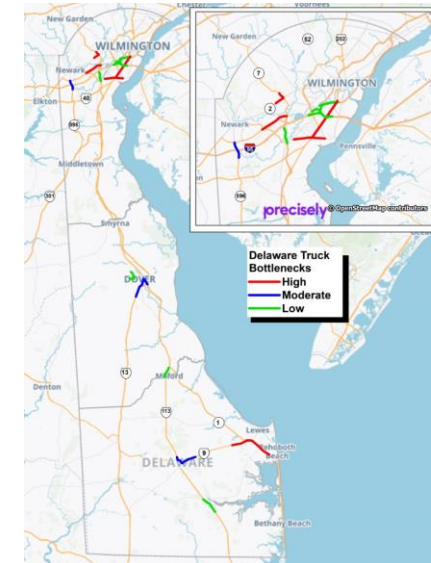
System Management, Operations, and Maintenance



Resilience, Sustainability, and Environmental Stewardship

Set the table for developing the Freight Action Plan

Congestion



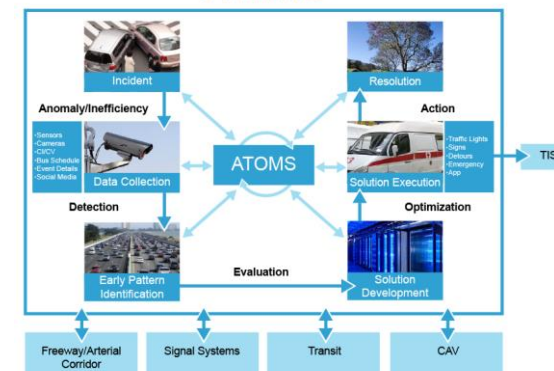
Environmental



Infrastructure Resilience



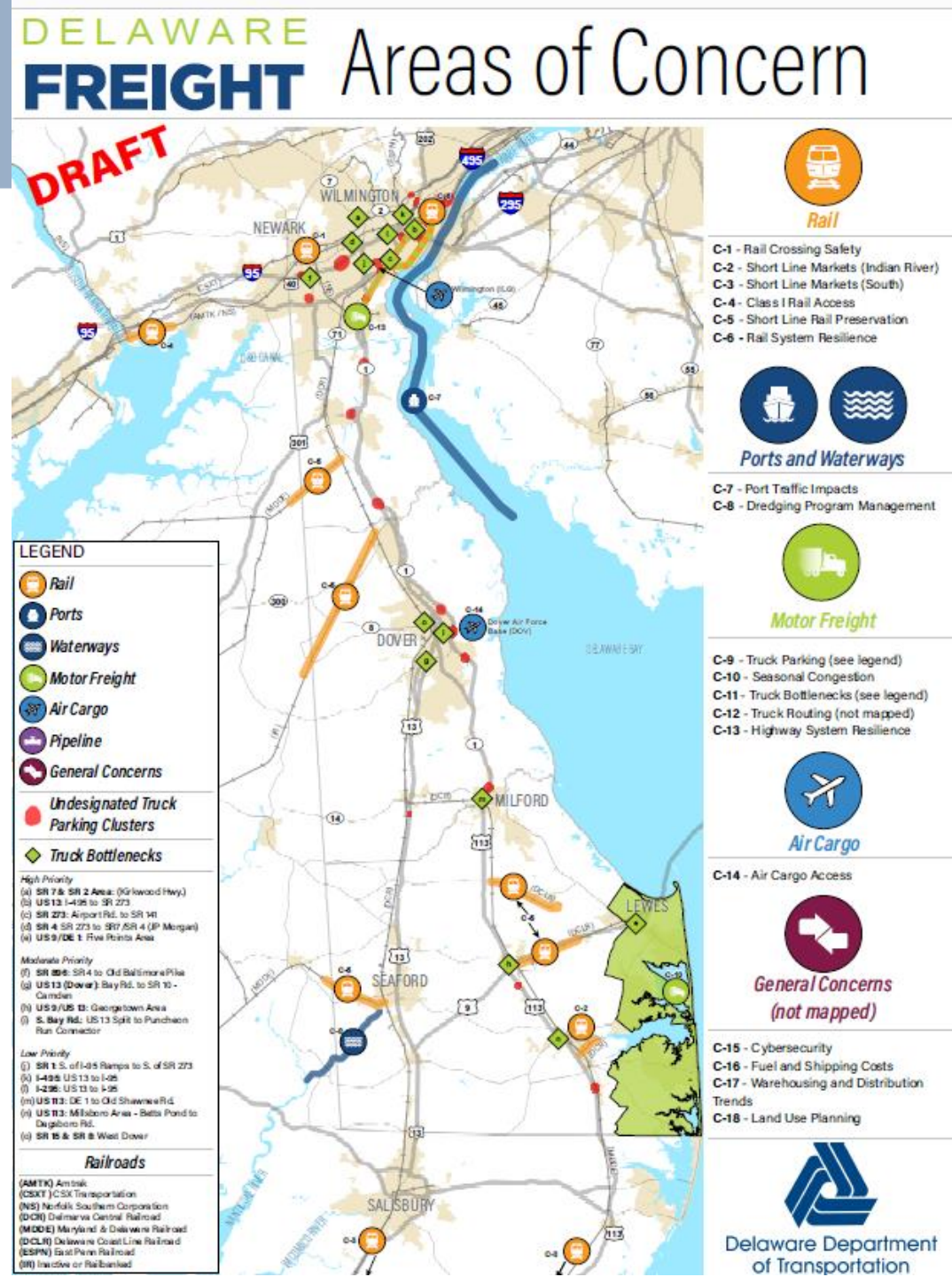
Technology



Opportunities & Concerns

Freight Areas of Concern:

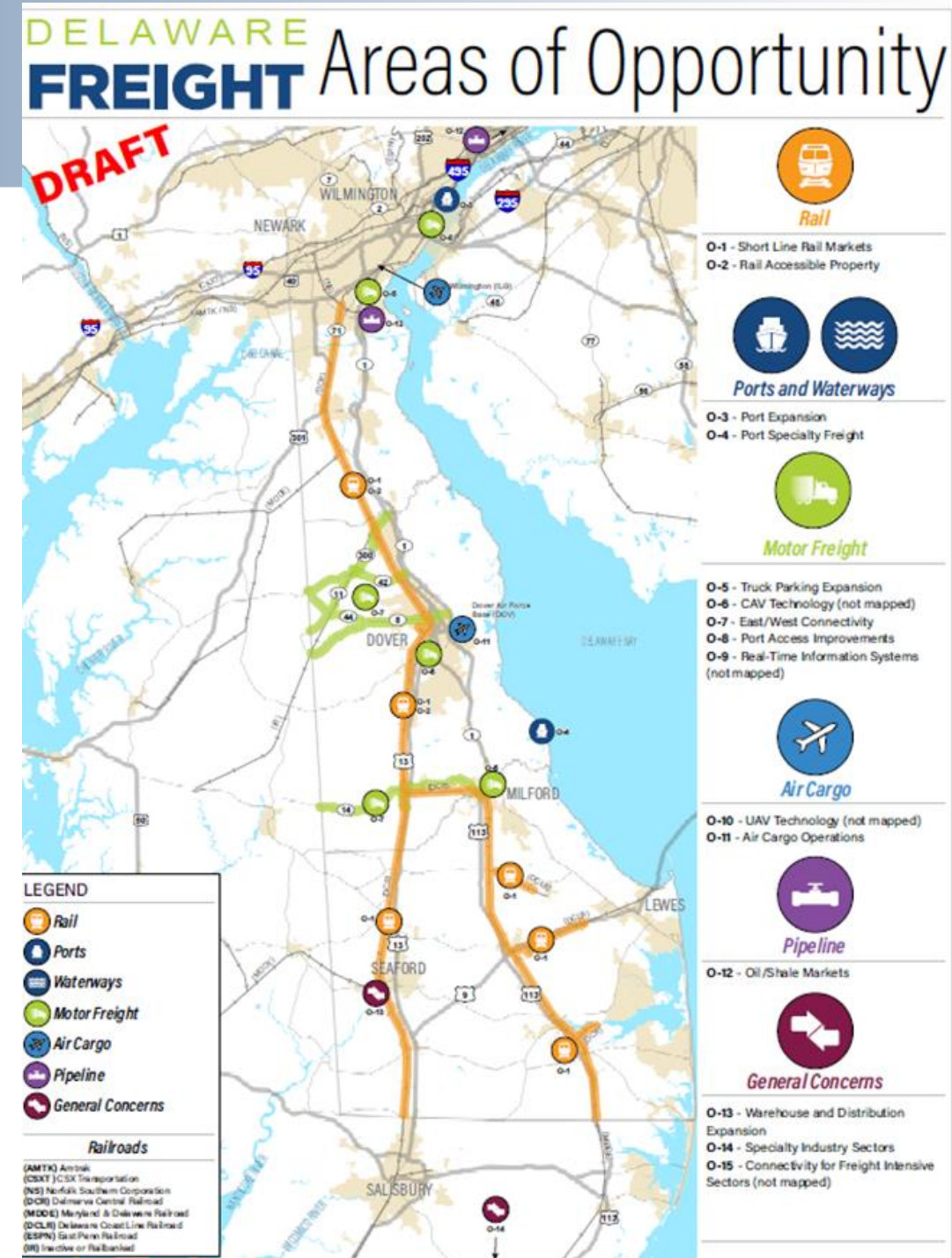
Reflect mode-specific issues, needs, or uncertainties surrounding freight movements or freight hubs, specific components of the freight transportation infrastructure, or freight related trends or policies.



Opportunities & Concerns

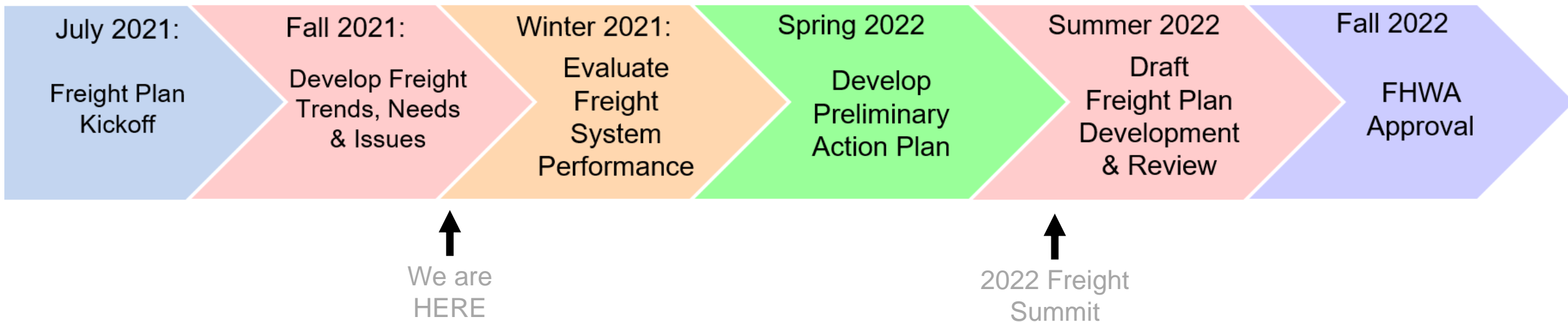
Freight Areas of Opportunity:

Reflect business and industry issues or other economic development trends. Opportunities also capture places where improvements to the transportation network can foster this growth while balancing other needs or concerns.



Next Steps

- **Refine Opportunities/Concerns (Winter 2022)**
Feedback requested by 12/17/21!
- **Move on to action plan portions of the plan (Spring 2022)**
 - Freight Investment Planning
 - Freight Action Plan and project lists
- **Release draft plan (Summer 2022)**



Thank You!!!!!!

Presentation and other materials can be found at:

<http://freight.deldot.gov>

Areas of Concern

Reflect mode-specific issues, needs, or uncertainties surrounding freight movements or freight hubs, specific components of the freight transportation infrastructure, or freight related trends or policies.

Rail	
C-1	Rail Crossing Safety Vehicle and pedestrian conflicts at rail crossing locations (e.g., through the City of Newark)
C-2	Short Line Rail Markets (Indian River) Indian River Secondary operations and the direct impact of potential coal freight reductions
C-3	Short Line Rail Markets (South) Preservation of rail markets south of Delaware, especially with the ending of operations for Bay Coast Railroad (BCR) and a loss of system connectivity with closure of the Cape Charles Rail Car Float
C-4	Class I Rail Access NEC freight delays and access constraints to the Delmarva Peninsula. Chesapeake Connector project emphasis and potential benefits
C-5	Short Line Rail Preservation Preservation of short line rail assets and service
C-6	Rail System Resilience Impacts of sea-level rise on existing rail lines, especially in/around the City of Wilmington
Ports and Waterways	
C-7	Port Traffic Impacts Effect of Post-Panamax traffic and Delaware River Main Channel Deepening on freight volumes. Additional container traffic with future port expansion (e.g. at Edgemoor, DE or around Philadelphia, PA)
C-8	Dredging Program Management Dredging for continued river access (e.g. the Nanticoke) and identification of suitable sites for excess dredge materials

Motor Freight	
C-9	Truck Parking Overnight truck parking in undesignated areas, as detailed in the 2021 <i>Statewide Truck Parking Study</i>
C-10	Seasonal Congestion Seasonal or tourist-based congestion and related conflicts with (or impacts to) freight traffic, particularly with population growth in Southern Delaware
C-11	Truck Bottlenecks Congestion and delays that significantly affect freight mobility and reliability, including findings from the 2018 and 2020 <i>Truck Bottlenecks Identification</i> efforts
C-12	Truck Routing Areawide truck routing/information needs/issues, both physical and digital
C-13	Highway System Resilience Impacts of sea-level rise on the existing roadway system, especially along several final-mile delivery segments near the coastline and in/around the City of Wilmington
Air Cargo	
C-14	Air Cargo Access Truck impacts to local roads serving Garrison Oak and the Central Delaware Aviation Complex (CDAC)
General Concerns	
C-15	Cybersecurity Cybersecurity within the supply chain and potential ripple effects on various transportation modes (e.g. as influenced by recent examples of cyber-attacks), particularly with expansion of future freight technologies
C-16	Fuel and Shipping Costs With 75% of goods moving in Delaware via trucks, rising fuel prices cause increased shipping costs resulting in higher costs for goods
C-17	Warehousing and Distribution Trends Impacts of e-commerce expansion and related demands on the road network, final-mile network, and in the area of new distribution facilities (e.g. Amazon in Seaford, DE)
C-18	Land Use Planning Enhance efforts to identify and reduce or manage the potential impacts of freight facility expansion (and any related negative public perceptions) beginning in the earliest phases of land use planning

Areas of Opportunity

Reflect business and industry issues or other economic development trends. Opportunities also capture places where improvements to the transportation network can foster this growth while balancing other needs or concerns.

Rail		Motor Freight <i>(Continued)</i>	
O-1	Short Line Rail Markets Facilitate continued growth in businesses using rail along the Delmarva Secondary, with potential benefits including reduced truck volumes, less congestion, lower road maintenance costs, and system redundancy	O-9	Real-Time Information Systems Continue planning and application of DelDOT's Truck Parking Information and Work Zone & Incident Communications Systems to provide drivers information in a safe and non-intrusive manner
O-2	Rail Accessible Property Leverage the 2018 <i>Rail Freight Zoning Study</i> and its inventory of properties with zoning suitable for future commercial, manufacturing, or industrial sites that could promote/support economic growth	Air Cargo	
Ports and Waterways		O-10	UAV Technology Prepare for emergence of unmanned aerial vehicles (UAVs or drones), including collaboration with logistic companies and key Delaware industries (e.g. pharmaceuticals) to move low-weight/high-value deliveries
O-3	Port Expansion Leverage expansion of the Port of Wilmington in Edgemoor (first phase of operation planned for 2023)	O-11	Air Cargo Operations Leverage recommendations, truck connections, and opportunities from the <i>Dover Air Cargo Freight Access Study</i> to support growth at Garrison Oak and the Central Delaware Aviation Complex (CDAC)
O-4	Port Specialty Freight Consider use of Big Stone Anchorage to support offshore wind development component staging, assembly, and float-out capabilities	Pipeline	
Motor Freight		O-12	Oil/Shale Markets Leverage the potential for export of oil/shale products domestically or internationally via expanded regional refinery and pipeline operations
O-5	Truck Parking Expansion Advance truck parking facilities recommended in the 2021 <i>Delaware Statewide Truck Parking Study</i>	General Opportunities	
O-6	CAV Technology Plan for connected and automated vehicle (CAV) technology, including infrastructure development to facilitate Level 4 autonomy (i.e., trucks operating without a human driver under limited conditions)	O-13	Warehouse and Distribution Expansion Leverage potential regional hubs for warehouse/distribution expansion, such as Seaford, DE
O-7	East/West Connectivity Leverage ongoing studies to improve east/west connections between Kent County, DE, and US 301 in Maryland (e.g. Routes 300, 8, 44, 11, 42, and/or 14)	O-14	Specialty Industry Sectors Leverage opportunities related to specialty industry sectors such as space/aerospace and related technology influences linked with NASA Wallops Flight Facility
O-8	Port Access Improvements Advance recommendations from the <i>Truck Access Improvements in the Port of Wilmington Area</i> study	O-15	Connectivity for Freight Intensive Sectors Emphasize freight connectivity for areas/industries in Freight Intensive Sectors (FIS) (40% of all employment in Delaware) that are highly dependent on goods movement for marketplace competitiveness