CH 1: Introduction

CH 2: Freight and the Economy

CH 3: Freight Network

CH 4: Performance and Trends

CH 5: Needs and Opportunities

CH 6: Freight Investment Plan

CH 7: Freight Strategic Plan

Background…
covered during the 2021 Delmarva Winter Freight Meeting (12.07.2021)

Proposed Actions…
being compiled as part of the overall draft plan due Summer/Fall 2022
CH 1: Introduction

What are the plan’s purpose, context, and requirements?
## Purpose

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2015-17</td>
<td><strong>Delmarva Freight Plan and related FAST Act Compliancy Update</strong></td>
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<tr>
<td>2019</td>
<td><strong>Innovation in Motion: The Delaware Long Range Transportation Plan</strong></td>
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<tr>
<td>2020</td>
<td><strong>National Freight Strategic Plan</strong></td>
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<tr>
<td>2021</td>
<td><strong>Infrastructure Investment and Jobs Act</strong></td>
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</tbody>
</table>
Introduction

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

(49 U.S.C. §70202)
Safety and Security
Ensure the safe and secure movement of people and goods while limiting the potential for incidents that may cause harm or disrupt the network operations.

Economic Vitality
Promote and strengthen the economic vitality of Delaware with an excellent multimodal freight transportation network that meets the needs of a diverse and growing economy.

Freight Connectivity, Accessibility, and Mobility
Improve freight network connections, accessibility, and mobility to increase options for the movement of freight and enhance the integration of the state’s multimodal transportation systems.

System Management, Operations, and Maintenance
Preserve and enhance the state’s multimodal freight transportation systems to support freight travel and commerce while adapting to the future’s changing needs and integrating innovative strategies and technology that increase efficiency and safety during both normal and emergency situations.

Resilience, Sustainability, and Environmental Stewardship
Provide resilient and reliable freight transportation systems while protecting and enhancing the environment through sustainable best practices, integration of environmental considerations into planning and design, and responsible energy consumption.
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)
~ 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, …*
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
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
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.
Network

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

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

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

<table>
<thead>
<tr>
<th>IIJA Emphasis Areas</th>
<th>EXAMPLES:</th>
</tr>
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<tbody>
<tr>
<td>Performance measurement</td>
<td>2021 Delaware Statewide Truck Parking Study</td>
</tr>
<tr>
<td>Innovative technologies and operational programs</td>
<td>2022 Port of Wilmington Area Alternatives Study</td>
</tr>
<tr>
<td>Asset preservation and improvement programs</td>
<td>2023 Dover Air Force Base Compatible Use Study</td>
</tr>
<tr>
<td>Freight congestion and mitigation</td>
<td></td>
</tr>
<tr>
<td>Truck parking facilities</td>
<td></td>
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<tr>
<td>Supply chain cargo flows</td>
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<tr>
<td>Commercial ports</td>
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<tr>
<td>Multi-state freight coordination</td>
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<tr>
<td>E-commerce considerations</td>
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<tr>
<td>Military freight considerations</td>
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<tr>
<td>Freight resilience and environmental impacts</td>
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</tbody>
</table>
EXAMPLE CONCERNS: truck bottlenecks and undesignated truck parking cluster data per DelDOT / WILMAPCO

- C-9 – Truck parking
- C-11 – Truck bottlenecks

EXAMPLE OPORTUNITIES: 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
Example scenarios with considerable uncertainty…

<table>
<thead>
<tr>
<th>Scenario Implications</th>
<th>Freight Implications</th>
<th>Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>e-commerce and tourism impacts</td>
<td>local consolidation centers, first/final mile enhancements, seasonal bottleneck reduction</td>
</tr>
<tr>
<td>Technology</td>
<td>CAV, platooning, drones, automation</td>
<td>mapping, data, cybersecurity, driver training, legislation and regulations</td>
</tr>
<tr>
<td>Global Disruption</td>
<td>vulnerable networks and supply chains</td>
<td>resilience and redundancy, multimodal systems, supply chain studies</td>
</tr>
</tbody>
</table>
What actions – including projects, strategies, and specific planning tasks – are important?
Freight Investment Plan

- **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:**

<table>
<thead>
<tr>
<th>Prior study?</th>
<th>First/final mile route?</th>
<th>SLR 4-ft inundation?</th>
</tr>
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<tbody>
<tr>
<td>NHFN?</td>
<td>DE state strategy level?</td>
<td>Project key focus type?</td>
</tr>
<tr>
<td>STRAHA-NET?</td>
<td>CTP or MPO LRTP status?</td>
<td>Regional impact?</td>
</tr>
<tr>
<td>DE TOMP hotspot?</td>
<td>EJ minority/low income?</td>
<td>IIJA program eligibility?</td>
</tr>
<tr>
<td>DE truck bottleneck?</td>
<td>EJ diesel particulates?</td>
<td>Project cost range?</td>
</tr>
</tbody>
</table>
Freight Investment Plan

- National Highway Freight Program (NHFP)
- IIJA 5-year formula funding through DelDOT 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

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

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/last 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
**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*)
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 (*DelDOT 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*)
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

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

NOTE: Additional guidance required from General Assembly and bi-state working group
Thank You!

**DelDOT Freight Website:**
http://freight.deldot.gov

**DelDOT Freight Contact:**
Cooper Bowers
Cooper.Bowers@delaware.gov
ADDRESAL REFERENCE

Areas of Concern (complete list)

Areas of Opportunity (complete list)
# Needs and Opportunities

<table>
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<tr>
<th>Areas of Concern</th>
<th>Description</th>
</tr>
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<tr>
<td>C-1</td>
<td>Rail crossing safety</td>
</tr>
<tr>
<td>C-2</td>
<td>Indian River rail markets</td>
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<tr>
<td>C-3</td>
<td>Southern DE rail markets</td>
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<tr>
<td>C-4</td>
<td>Class I rail access</td>
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<td>C-5</td>
<td>Rail preservation</td>
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<tr>
<td>C-6</td>
<td>Rail system resilience</td>
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<td>C-7</td>
<td>Port traffic impacts</td>
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<td>C-8</td>
<td>Dredging</td>
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<td>Truck parking</td>
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<td>C-12</td>
<td>Truck routing</td>
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<td>C-13</td>
<td>Highway resilience</td>
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<td>C-14</td>
<td>Air cargo access</td>
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<td>C-15</td>
<td>Cybersecurity</td>
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<td>C-16</td>
<td>Fuel &amp; shipping costs</td>
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<td>C-17</td>
<td>Warehousing &amp; dist.</td>
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<tr>
<td>C-18</td>
<td>Land use planning</td>
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*Areas of Concern*
### Needs and Opportunities

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<th>Areas of Opportunity</th>
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<td><strong>O-1</strong> – short line rail markets</td>
<td><strong>O-10</strong> – UAV technology</td>
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<tr>
<td><strong>O-2</strong> – rail accessible property</td>
<td><strong>O-11</strong> – air cargo operations</td>
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<tr>
<td><strong>O-3</strong> – Port expansion</td>
<td><strong>O-12</strong> – oil/shale markets</td>
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<tr>
<td><strong>O-4</strong> – Port specialty freight</td>
<td><strong>O-13</strong> – warehousing &amp; dist.</td>
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