Delmarva Freight Plan

Chapter 1

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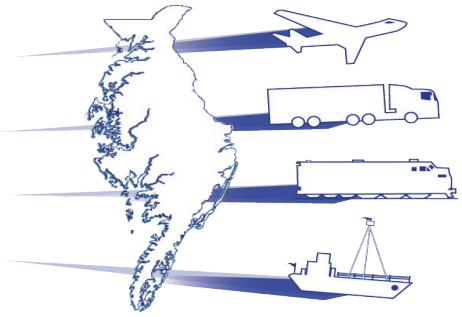
The *Delmarva Freight Plan* summarizes current and future freight planning and transportation needs to enhance freight and goods movement and related economic opportunities on the Delmarva Peninsula. Undertaken by the Delaware Department of Transportation (DelDOT) in collaboration with the Maryland Department of Transportation (MDOT) and the Virginia Department of Transportation (VDOT), the plan supports a regional perspective of freight flows to, from, through, and within the project area. In further coordination with the Wilmington Area Planning Council (WILMAPCO), the Dover/Kent County Metropolitan Planning Organization (Dover/Kent MPO), the Salisbury/Wicomico MPO (S/WMPO), and coupled with extensive stakeholder outreach, the plan also supports consistency with other area planning efforts while targeting specific freight-related issues relevant to the local and regional economies.



1.1 Purpose

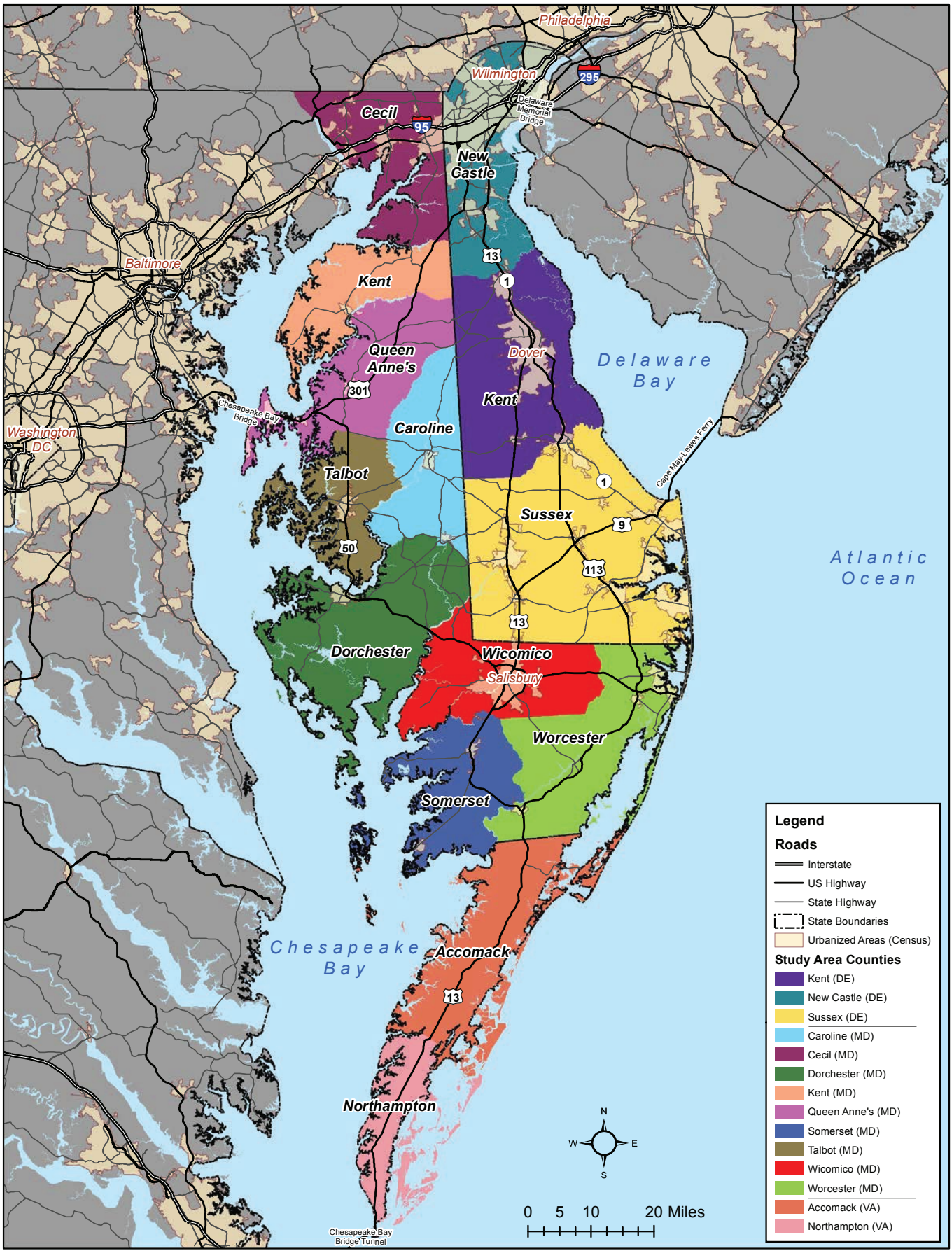
The overall purpose of the *Delmarva Freight Plan* is to provide relevant information that will assist the state DOTs, area MPOs, and other stakeholders in making well-informed decisions on freight infrastructure investments and freight-related policies. To accomplish this task, the study aimed to:

- Better understand existing and anticipated freight flows, issues, and concerns within the project area and to/from the surrounding areas
- Comprehensively evaluate the multimodal/intermodal freight transportation system while encompassing commodity flows via truck, rail, water, air, and pipeline
- Explore and analyze future freight-planning scenarios through year 2040 with an emphasis on a performance-driven approach
- Identify relevant infrastructure, policies and regulation changes or other investments that seek to enhance the safety, performance, and efficiency of freight travel in the region, as well as related environmental impacts and economic opportunities

1.2 Project Area

The *Delmarva Freight Plan* fulfills statewide freight plan requirements for the state of Delaware, while also spanning boundaries to provide additional support for existing freight plans in Maryland and Virginia. The plan's primary geographic focus is the entirety of the Delmarva Peninsula, referred to as "the peninsula", bound by the Chesapeake Bay, Delaware Bay, and Atlantic Ocean (*Exhibit 1.1*). This area encompasses all three counties in the state of Delaware (New Castle, Kent, and Sussex); nine counties on Maryland's Eastern Shore (Cecil, Kent, Queen Anne's, Caroline, Talbot, Dorchester, Wicomico, Somerset, and Worcester); and two counties in Virginia at the peninsula's southern tip (Accomack and Northampton).

Exhibit 1.1 – Delmarva Freight Study Project Area



1.3 Multi-Jurisdictional Plan Perspective

It is crucial to recognize that the Delmarva Freight Plan embraces a multistate/multi-jurisdictional and multimodal freight planning perspective that stretches beyond the identified project area. Supply chains and freight flows vary by commodity, industry, supply and demand, and origins and destinations and are rarely limited to a single jurisdiction. Transportation freight plans are best approached by a multi-faceted perspective of trade lanes, key commodities, or key industries in the U.S. and neighboring trade partners (i.e. Latin America and Canada), rather than simply from within a state's geography.

DelDOT, MDOT, VDOT, and their MPO planning partners, for example, are critical components of the freight movement system in the I-95 Corridor. As international markets continue to emerge for imports and exports, and with expansions of the Panama and Suez Canals, the port-airport-rail-highway system in the I-95 Corridor will remain one of the most critical components of the United States' freight network.

The broader I-95 Corridor encompasses a region of 16 States (from Maine to Florida) generating 41% of the Nation's Gross Domestic Product and representing 40% of the Nation's population. Within this essential region are:

- 41 Ports, and Coastal Shipping Lanes in the Atlantic, and the Intercoastal and Inland Waterways
- 106+ Airports
- 907,000 miles of Highway
- 30,495 miles of Freight Railroad Track, with 1,111 heavy-rail directional route miles (70% of the national total)

Comprehensive freight planning must address the systems within individual political jurisdictions or state boundaries while recognizing the multi-state economic corridor that comprises the trip of a particular mode. Assistance for addressing the growing needs of the industry will come from the USDOT national freight strategic plan guidance, with its national freight framework built upon multistate corridors.

States understand that economic corridor planning is comprehensive, not simply mode specific. Ensuring robust connectivity to state and regional airports, rail, and seaports is key to a competitive regional economy and comprehensive State Freight Plan. Through implementation and utilization of more efficient economic corridors, managed lanes, and strategic improvements, states can optimize the network for more reliable freight flows as well as better commute times for its end users.

This combined individual and multi-jurisdictional perspective allows better identification of vital freight improvement projects, sustaining an economically robust freight system for supply chains moving within Delaware, Maryland, Virginia, and beyond. In the development of this freight plan, the planning agencies recognize and support the need for collaboration in freight planning within regional jurisdictions and across economic corridors, enhancing mobility at the local, state, multi-state, and national level.

1.4 Plan Highlights

Critical background information or unique components that have been woven throughout this plan include:

Federal Freight Planning Compliance: The Moving Ahead for Progress in the 21st Century act (MAP-21) was signed into law by the President on July 6, 2012. MAP-21 sections 1115 through 1118 outline new details for a National Freight Policy, the prioritization of projects to improve freight movements, the establishment of state freight advisory committees, and related requirements for state freight plans. The Delmarva Freight Plan fulfills these requirements while also incorporating related interim guidance from the U.S. Department of Transportation (USDOT), as well as established freight planning practices from the Federal Highway Administration (FHWA).

MAP-21 Section 1118 requires that a State Freight Plan developed pursuant to Section 1118 include, at a minimum, the following elements:

- An identification of significant freight system trends, needs, and issues with respect to the state;
- A description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions of the state;
- A description of how the plan will improve the ability of the state to meet the national freight goals established under section 167 of title 23, United States Code;
- Evidence of consideration of innovative technologies and operational strategies, including intelligent transportation systems, that improve the safety and efficiency of freight movement;
- A description of improvements that may be required to reduce or impede roadway deterioration in the case of routes on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate the condition of roadways;
- An inventory of facilities with freight mobility issues, such as truck bottlenecks, within the state, and a description of the strategies the state is employing to address those freight mobility issues.

Extensive Document Review: To ensure consistency with existing plans and the current state-of-the-practice, the Delmarva Freight Plan commenced with an extensive document review effort. In addition to building upon or supporting previous freight-plans in Delaware, Maryland, and Virginia, such research helps this plan to reflect intra-regional, inter-regional, and national trends in freight movement and planning.

Robust Stakeholder Outreach: One of the best ways to determine existing conditions, bottlenecks, needs, and forecasted growth is through an active stakeholder outreach program. To accomplish this, the study team conducted a series of outreach activities to explore the unique, but overlapping, perspectives of various stakeholder agencies, shippers and carriers, businesses, and industries. Outreach mechanisms included project advisory meetings, stakeholder interviews, and an online survey. In addition, plan development coincided with and benefitted from ongoing efforts being spearheaded by WILMAPCO, DelDOT, and MDOT to conduct a regularly-scheduled freight forum focusing on the needs and interests of the Delmarva Peninsula. An annual freight summit (June 2012/2013/2014) was modeled on past successes of the Delmarva Rail Summit, but with an expansion to address all modes of freight and goods movement. Subsequent efforts beyond the annual summit also include periodic meetings of the Delmarva Freight & Goods Movement Working Group.

MAP-21 Section 1117 and related interim guidance specify that State Freight Advisory Committees should be charged with:

- Advising the state on freight-related priorities, issues, projects, and funding needs;
- Serving as a forum for discussion of state decisions affecting freight transportation;
- Communicating and coordinating regional priorities with other organizations;
- Promoting the sharing of information between the private and public sectors on freight issues; and
- Participating in the development of the state's freight plan.

Detailed Commodity Flow Investigations: To better understand the types, volumes, origins, destinations, and related details of freight within the project area, a number of commodity flow sources were referenced. FHWA's Federal Analysis Framework Version 3 (FAF3) data provided a general overview; the Surface Transportation Board's (STB) rail waybill samples supported a review of rail commodities; and IHS Global Insight's Transearch data provided more extensive detail for project-specific investigation. Combined, such details helped to paint a more accurate picture of specific commodity flows and related needs, while also supporting model development tasks and performance-based emphases throughout the study.

Commodity Flow Model Development: A major component of this project was the development and customization of a Commodity Flow model using the Cube Voyager software platform, coupled with the expansion and refinement of DelDOT's existing statewide travel demand model (i.e. the Peninsula Model). This model is a powerful software tool with the capability to forecast current and future freight movements on the peninsula by commodity group and mode of travel; to accurately capture intermodal transfer of goods and freight system performance; and to test the impacts of decisions such as infrastructure investments, changes in regulations, and modal enhancements. Use of the model was not only key to investigating freight scenarios for this project, but also establishes the software tool as an efficient means for DelDOT to help support ongoing or future freight planning efforts.

Performance-Based Scenario Planning: Incorporating each of the highlighted components above, this plan culminates in the development and evaluation of future freight planning scenarios. Each scenario represents an alternate future based on some combination of various assumptions (e.g. loss of barges and rails, significant increase in water freight, status quo). Scenario planning combines stakeholder guidance with general study insights, commodity details, and the Commodity Flow model to conduct a transparent qualitative/quantitative review of how the freight transportation system might perform under each scenario. The performance outcomes help describe a future to which the DOTs, MPOs, and other stakeholders can better prepare to react, ultimately fostering more informed decision-making and the development of effective infrastructure plans and policy guidance.

Project Screening and Prioritization: Approximately 200 project candidates were identified by the freight plan and assessed using a two-stage screening and prioritization methodology. This approach helped to evaluate projects having the most potential to influence the freight system, while also providing data-oriented elements that may be used to help pursue freight-related funding options. Such insights will work in concert with the plan's freight policy perspectives and next steps for managing, implementing, or enhancing the freight plan; and will ultimately help to support the region's freight planning efforts well into the future.

1.5 Strategic Goals

MAP-21 requirements specify that a state freight plan must improve the ability of the state to meet the national freight goals established under 23 U.S.C. 167 and included as part of the National Freight Policy, while also highlighting and/or expanding on the most important strategic goals for the state. To that end, the *Delmarva Freight Plan* categorizes a set of strategic freight goals that support the broader multimodal goals established in the various long range transportation plans for Delaware, Maryland, and Virginia as follows :

- Economic Vitality
- Freight Connectivity, Mobility & Accessibility
- Safety & Security
- System Management, Operations & Maintenance
- Sustainability & Environmental Stewardship

Economic Vitality

- **National Freight Policy:** Improve the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness
- **Delmarva Focus:** Support efforts to preserve existing multimodal freight-transportation infrastructure to ensure mode choice and competition between modes
- **Delmarva Focus:** Support efforts to preserve land use compatibility adjacent to freight infrastructure throughout the peninsula
- **Delmarva Focus:** Support strategically-located or planned improvements that recognize the existing and projected population concentrations, employment and development, and related secondary traffic/population-based freight patterns
- **Delmarva Focus:** Support efforts that address changes in economic activities (local, regional, national, or global) or growth in targeted industries
- **Delmarva Focus:** Support efforts to enhance access to and from major regional ports and international shipping opportunities in multiple surrounding states

Freight Connectivity, Mobility & Accessibility

- **National Freight Policy:** Reduce congestion on the freight transportation system
- **Delmarva Focus:** Enhance freight mobility through broader transportation improvements that recognize the unique seasonal or tourist-based congestion aspects of travel to, from, and within the Delmarva Peninsula
- **Delmarva Focus:** Enhance freight network connectivity with an emphasis on the unique needs and constraints related to serving the Delmarva Peninsula's limited geographical points of access
- **Delmarva Focus:** Enhance opportunities for accessing and utilizing the freight transportation network on the peninsula through strategic multimodal infrastructure improvements

Safety & Security

- **National Freight Policy:** Improve the safety, security, and resilience of the freight transportation system
- **Delmarva Focus:** Support improvements that recognize the criticality and regional/national freight significance of I-95 and the Northeast Corridor
- **Delmarva Focus:** Support improvements that enhance system redundancy with respect to I-95 and the Northeast Corridor and with respect to the geographical point of access limitations of the peninsula
- **Delmarva Focus:** Support improvements that recognize the presence and unique needs of the region's governmental, military, or international shipping communities

System Management, Operations & Maintenance

- **National Freight Policy:** Improve the state of good repair of the freight transportation system
- **National Freight Policy:** Use advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system
- **Delmarva Focus:** Enhance policies and opportunities related to truck parking and rest areas, weight limits, taxes, tolls, or other motor freight issues
- **Delmarva Focus:** Support efforts to address physical improvements on secondary roads and bridges critical to motor freight access throughout the peninsula
- **Delmarva Focus:** Support efforts to maintain or enhance dredging operations and the identification and preservation of adequate disposal sites for excess dredge materials

Sustainability & Environmental Stewardship

- **National Freight Policy:** Reduce adverse environmental and community impacts of the freight transportation system
- **Delmarva Focus:** Support improvements that recognize the unique relationships between consumer demand and commodity flows on the peninsula with respect to seasonal or tourist-based variability and quality of life
- **Delmarva Focus:** Support efforts to improve the flexibility and resiliency of the freight transportation system to meet changing global energy demands or sources