

# **Regional Freight Transportation Study for the Delmarva Peninsula: Conducted for the Maryland Department of Transportation**

## ***Summary Report***



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## **Introduction**

The Regional Freight Transportation Study for the Delmarva Peninsula was intended to be an overview of the current freight transportation systems on the Delmarva Peninsula, as well as a forecast for long-range possible future scenarios. It was conducted for the Maryland Department of Transportation by the Business, Economic, and Community Outreach Network of the Franklin P. Perdue School of Business at Salisbury University (BEACON). The study region encompasses fourteen counties across three states: Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties in Maryland; Sussex, Kent, and New Castle Counties in Delaware, and Accomack and Northampton Counties in Virginia. The project was a collaboration of many agencies; the Maryland Department of Transportation (MDOT), the Salisbury/Wicomico Metropolitan Planning Organization (S/W MPO), the Delaware Department of Transportation (DelDOT), the Virginia Department of Transportation (VDOT), and Virginia Department of Rail and Public Transportation (DRPT). Representatives from the various transportation industries in the region also contributed to the study.

The study describes the current freight system on the Delmarva Peninsula including an inventory of infrastructure, volume and types of freight. It also covers the economic impact of the regional and national freight corridors on Delmarva including freight-dependent and supporting industries and their associated workforce. Growth possibilities are examined, both potential freight generators and projected industry growth in the region over a 5-, 20-, and 25-year time span. The study provides various scenarios based on modeling programs: economic impact, changes in truck congestion, and projected impact on greenhouse gas levels. It also provides analysis of the impact of off-peak shipping and receiving, as well as examines the relationship between the tourism and freight industries. Finally, it identifies policy issues and provides considerations to guide the efforts of the agencies involved. The study outcome is reported in two documents: this Summary Report and a Technical Report that contains details on the data collection, reporting, and analyses.

## **Summary**

The freight network on the Delmarva Peninsula is a balanced system of interdependent transportation options that include rail, truck, air, and water transport . Each of the various modes of transportation provides a significant value to the region. Analysis shows that the freight transportation system on the Peninsula is modal interdependent, and the balance of the entire system is reliant on each modal component. The infrastructure is affected by the unique geography of the Peninsula; three geographic chokepoints exist where extensive congestion in surface transportation may occur during certain peak-hours or seasonal travel patterns. Access to the Peninsula is limited to the William Preston Lane Jr. Memorial Bay Bridge over the Chesapeake Bay to the west, and the Chesapeake Bay Bridge Tunnel and the Bay Coast Railroad Car Float to the south. There are existing gaps between the industrial zoning in the area and the connecting infrastructure, which leads to opportunities to improve transportation efficiencies for goods that are manufactured on the Peninsula.

Projections indicate that, while the number of freight intensive industries will grow in the next 30 years, the number of jobs will decrease slightly. The economic impact of freight moving along major freight corridors from other regions into and out of the Delmarva Peninsula also shows possibilities for growth over the coming years. The study looked specifically at the energy industry, which relies heavily on movement of freight for consumable fuel for power plants. As new sources of energy production are discovered or created, such as wind farms and natural gas, the industry's dependence on freight will be impacted.

A scenario analysis model was developed to determine the impact of certain changes, including economic impact, projected changes in truck congestion, and projected impact on greenhouse gas (GHG) levels. The possible loss of various rail services, barge service, and the rail car float were considered. The effect of fluctuations in fuel prices, the possible benefits of off-peak delivery systems, and the relationship between tourism-related traffic congestion and freight transport issues were also considered through scenario analysis.

## **Issues and Considerations**

### **The Issue: Regional Access**

Access to the Delmarva Peninsula is limited by geography, and will continue to tighten as it continues to be developed and grow in population. To help relieve access limitations and resultant travel delay, alternatives to additional highway lane miles should be explored and implemented. An additional Chesapeake Bay crossing is neither feasible nor advisable. Similarly, a vehicle ferry service extending from the Eastern Shore of Maryland to Virginia has been shown to be financially and logistically impractical. These conditions, as well as continued

### **Consideration**

- 1) Alternatives to the William Preston Lane Jr. Memorial Chesapeake Bay Bridge crossing should be identified and forwarded through the planning process. These potential alternatives include passenger transport options that should help alleviate highway congestion to allow truck mobility. For example, rail service as proposed in the Amtrak 2030 Master Plan; possible charter or transit bus opportunities (i.e. reduced-fare express bus to Ocean City), and marine highway barge service on the surrounding bays and waterways. It is important to note that MDOT and DelDOT are working on a passenger rail plan while also coordinating on freight rail opportunities.
- 2) Intermodal freight opportunities that can help shift more tonnage to rail, thereby reducing truck trips across the bridge, must continue to be encouraged.
- 3) A public-private partnership for the operation of a rail car float should be explored. This option is critical for access redundancy to the region.
- 4) Detailed regional access planning is needed to prepare for continued freight operability and resiliency. Such planning efforts will assist the stakeholders when they seek political support and funding assistance.

### **The Issue: Railroad Maintenance**

The privately owned railroads have indicated that maintaining and improving assets on the Delmarva may not realize a return on the investment. However, there are certain critical regional and national considerations that make this issue important to serving the public's interest.

### **Consideration**

A partnership of federal, state, and local stakeholders should be convened to designate critical rail corridors on the Delmarva Peninsula as common economic assets and create a mechanism for funding the maintenance of these assets. The railroad operators would share in the cost, and a significant portion of the burden would be the responsibility of a wider coalition of stakeholders. The future of freight transportation by rail may depend on the development of a regional solution that separates the ownership and track maintenance responsibility from the operation of the trains. As an example, the DRPT manages the Short Line Railway Preservation and Development Fund, which funds maintenance work on short line railroads in Virginia. The fund awards approximately \$3,000,000 in grants each year statewide. The aim of this fund is to keep short line railroads operating at Federal Railroad Administration Class II track standards, and to enable the businesses reliant on rail transportation to keep that mode option. Bay Coast Railroad recently finished a track maintenance project with monies from this fund and is using the fund to pay for 70 percent of the repairs to the rail car float.

### **The Issue: Seasonal Traffic Congestion**

The Chesapeake Bay, the tidal wetlands, and the Atlantic Ocean make the Delmarva Peninsula an attractive travel destination to millions of residents from the Mid-Atlantic region. With a high-volume season (Memorial Day to Labor Day), and two shoulder seasons (April – May and September – October), freight transportation on the Delmarva Peninsula becomes subject to a series of bottlenecks on major Routes 50, 301, 13, 113, and 1.

### **Consideration**

Variable priced tolling combined with a more pervasive use of E-Z Pass are recommended to help distribute seasonal traffic congestion across off-peak times and dates. While the concept of congestion charges is usually discussed in conjunction with densely populated urban corridors and zones, the impact of seasonal traffic congestion on the limited transport corridors

on the Delmarva Peninsula is similar. This consideration requires supplemental analysis of its impact on all areas of traffic: freight, commuter, and tourist.

### **The Issue: National Security Concerns**

The Delmarva Peninsula is part of one of the most critical political, economic, and demographic area in the United States. In a time of national crisis on the eastern seaboard, any major disruption to the infrastructure on and around the I-95 corridor (Richmond, Washington D.C., Baltimore, Wilmington, Philadelphia, and New York City) will likely cause traffic diversion to the Route 13/Route 1 corridor through Delaware and the Maryland Chesapeake Bay Bridge/Route 50 corridor. The Cape May – Lewes Ferry at the mouth of the Delaware Bay, and the rail car float at the mouth of the Chesapeake Bay will be unable to sustain the increased volumes of bypassing traffic. Freight movement on the Peninsula would be adversely impacted by any such disruption.

### **Consideration**

Consideration should be given to the creation of a Delmarva Transportation – National Security Task Force with broad participation from the stakeholders and policy leadership circles. Many of these issues have been studied and discussed in various forums, but the results and considerations remain segregated. If a unified plan were developed, owned by the majority, and accepted by all of the stakeholders, response to a crisis would be more timely, effective, and equitable.

### **The Issue: Data Collection and Analysis**

Economically, the Delmarva Peninsula operates as a relatively self-contained system. However, because three different states manage the transportation system, policies, practices, and priorities for transportation planning are not consistent. Standards for data sources, data collection procedures, reporting units, report formats, and report frequencies also suffer the same inconsistency.

### **Consideration**

A day-long Delmarva Freight Transportation Data Convention, bringing together all interested parties, can be the beginning of the process. This could be the catalyst for the creation of a study group or coalition, which can provide the oversight for such a project. Such a conference

will provide a forum to discuss the opportunities, limitations, and challenges. Moving forward, under the guidance of the key stakeholders, the coalition can develop a series of data collection, storage, and reporting guidelines for freight transportation on the Delmarva Peninsula. This coalition should identify the most important and actionable data needs, as well as the best approach to developing an appropriate data model and identify the responsible parties for maintaining the model. A follow-up conference would be an appropriate venue to present the project findings and to ratify recommendations for further action at the various state and federal levels.

### **The Issue: GIS and DASHBOARDS**

This study provides a preliminary investigation of how some Delmarva Peninsula-specific freight transportation policy analysis can be facilitated by GIS solutions and related executive dashboards. There is a need for a series of detailed regional GIS models and executive dashboards to facilitate solutions related to data collection and analysis.

#### **Consideration**

Include freight transportation GIS solutions and executive dashboards for the Delmarva Peninsula to the scope of work of the data collection project discussed in the consideration for Data Collection and Analysis.

### **The Issue: Waterway Dredging**

The water transport system depends on recurring dredging to remove silt and keep water depth at usable levels. Waterway dredging decisions are made by the Army Corps of Engineers, and are based on present economic activity, without consideration of future activity. As discussed in this study, the lack of dredging on the Wicomico and Nanticoke Rivers will impact the tonnage that can travel on waterways. This freight will travel on rail or highway, increasing the impact on the surface freight transportation network.

#### **Consideration**

One immediate step would be to hold a regional roundtable meeting with key stakeholders to develop a consensus on the proper definition of the nature and scope of the problem, and to create a small task force to explore potential solution strategies. One potential solution to this problem is the sharing of some of the costs of dredging by local and regional stakeholders, perhaps in the form of a regional authority and/or a regional fee/surcharge system distributed

across a wider range of supply chain and end users. While such cost allocation may be seen as an unsupportable burden for local jurisdictions and supply chain members, the regional benefits and opportunity costs necessitate a different way of approaching the problem.

### **The Issue: Network Preservation**

A viable freight network is critical to the economy of the Delmarva Peninsula. There is very little "wiggle room" in the balance of freight transport modes. Disruption to any piece of the network would affect the network as a whole and negatively impact the region.

### **Consideration**

Develop a process or structure to evaluate the Delmarva Peninsula's freight transportation network as a whole in terms of regional access, land use development, and resiliency, regardless of geographic boundaries. It is especially important to focus on retaining commercial or industrial zoned land in close proximity to the railroads and freight corridors as a means of preserving and expanding the commercial and industrial base, and in the long run, the economic base of the area.

### **Conclusion**

The current freight network on the Delmarva Peninsula is stable. If the balance were to be disrupted by the unavailability of a mode of transport or an access point, the consequences would affect the entire network. There is no room for sudden change in the network. The current transportation mode options must be maintained to maximize economic and environmental impact. This study recommends several ways in which to maintain, improve, and lengthen the life of these freight modal options.

The freight network is not a closed system. Local, regional, and national freight corridors identified in this study greatly impact the Delmarva Peninsula. When making decisions related to the freight network and the industries it serves, it is important to consider other industries such as energy and tourism.

The considerations made in this summary report are supported by the separate Technical Report, Map Book, and Executive Dashboard, which detail the study findings and research methodology.

