

# **DRAFT** Regional Freight Issues

## Freight System Preservation and Maintenance

| <b>Issue</b>   | <b>Description</b>  |
|--|---|
| Pavement condition on the regional freight network                 | Poor pavement condition can damage trucks and cargo and/or impede freight movement.   |
| Bridge condition on the regional freight network                   | Weight restrictions on bridges along the regional freight network can cause truck traffic to be rerouted onto less efficient routes. Pavements and bridges on these alternate routes are then subject to increased stress and fatigue from the resulting increase in truck traffic. Because the alternate routes are often more circuitous than the primary routes, increases in logistics costs and changes in congestion patterns may also occur. |
| Rail infrastructure condition on the regional freight rail network | A well maintained freight rail network allows for efficient movement of rail cargo with minimal disruption to vehicle traffic over at-grade crossings. Rail infrastructure in good condition facilitates safe operations by reducing the likelihood of derailments and other incidents.   |

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## Freight System Congestion

| Issue   | Description  |
|---|--|
| Competition for space on regional roadways                        | Freight-carrying commercial vehicles compete for limited roadway space with passenger vehicles, buses, bicycles and pedestrians. Due to vehicle size and operating characteristics, trucks contribute more to congestion on a per-vehicle basis than automobiles do.   |
| Bottlenecks on the regional freight network                       | Bottlenecks on the regional freight network delay freight deliveries and reduce reliability. This results in lower efficiency and higher logistics costs.  |
| Incorrect truck routing   | Truck traffic along inappropriate roadways can cause safety problems and contribute to congestion. Commercial vehicle drivers that use inappropriate GPS systems contribute to this issue and have been blamed for the growing number of bridge strikes across the nation.   |
| Rail capacity constraints   | As the regional freight rail system approaches capacity, it becomes increasingly difficult to maintain its current mode share. As freight demand grows, there is less ability to accommodate it on a rail system that is operating at or near capacity. This can result in more freight shifting to trucks and exacerbating highway congestion. A lack of available rail capacity also lessens the ability to accommodate maintenance work and recover from incidents. |
| Freight / passenger conflicts on the regional freight rail system | As the number of trains (freight and passenger) operating over the regional freight rail system continues to increase, less capacity is available to reliably accommodate additional trains. At a certain point additional capacity will be required to accommodate the increasing passenger and freight demand. As rail capacity is reached, the additional passengers and freight that would otherwise be transported by rail will shift to other modes.             |

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## Freight Safety

| <b>Issue</b>   | <b>Description</b>  |
|--|---|
| Truck driver fatigue   | AASHTO identifies the primary truck-related safety issue as driver fatigue. Lack of adequate truck parking and rest facilities within and around the National Capital Region compounds this issue making it more difficult than it should be for drivers to meet federal hours of service requirements.                                   |
| Public knowledge about safely sharing the road with trucks                 | Most of the fatalities resulting from crashes involving trucks occur to occupants of other vehicles, pedestrians, and bicyclists. In crashes involving a truck and a passenger vehicle, the principal culpability often lies with the driver of the other vehicle (source: AASHTO Strategic Highway Safety Plan).                         |
| Truck maintenance  | Trucks are expensive capital investments and therefore are heavily utilized and generally accumulate high mileage. In-depth inspections of trucks involved in fatal crashes reveal that about one-third of them would have been removed from service if inspected just prior to the crash (source: AASHTO Strategic Highway Safety Plan). |
| Roadway and operational characteristics along the regional freight network | Some roadway design elements are particularly important for safe truck operations. These include horizontal curves on roadways and expressway ramps, curb return radii for right turns at intersections, and intersection sight distances, among others.  |
| Vehicle-train crashes  | Over the past 10 years 77 accidents have occurred at the region's 196 at-grade rail crossings, resulting in 32 injuries and 1 fatality.   |

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## Freight, Land Use, and the Environment

| Issue   | Description   |
|---|---|
| Freight and air quality                                 | “Diesel exhaust from freight vehicles is a primary source of PM2.5, air toxic contaminants, and NOx emissions (one precursor to ozone), all of which have potential health implications. Freight emissions comprise close to one-third of U.S. transportation greenhouse gas emissions, and have grown by more than 50 percent since 1990.” <sup>1</sup>  |
| Truck noise   | “Heavy trucks are significant contributors to overall traffic noise levels. At highway speeds, the noise caused by trucks is about 10 dB greater than that of light vehicles. As a result, every heavy truck in the traffic flow contributes the same amount to the average noise level values as 10 light vehicles.” <sup>2</sup>  |
| Incidents involving hazardous materials                 | Transportation incidents involving trucks, trains, pipelines, or barges carrying hazardous cargo can potentially harm the public and the environment. High-profile incidents involving explosions of rail cars transporting crude oil, combined with the recent growth in the quantity of crude oil transported by rail, has highlighted this issue and caused concern among both the general public and elected officials. While this issue has focused on rail transport, shifting to trucks would change the magnitudes, frequencies, and locations of such incidents. |
| Land use and zoning conflicts - freight vs. residential | While freight operations provide benefits such as jobs, tax revenue, and (in the case of truck parking) safer roads to the region, they also come with perceived and real negative externalities including reduced air quality, increased noise, and greater wear and tear on local roadways - particularly when such operations are concentrated within a small area. These externalities are the underlying causes of freight-related land use and zoning conflicts.  |

<sup>1</sup> Freight and Air Quality Handbook, Federal Highway Administration 2010, pg. 1

<sup>2</sup> NCHRP Report 635 Acoustic Beamforming: Mapping Sources of Truck Noise, Transportation Research Board 2009, pg. 1.

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## Accommodating Freight Growth

| Issue   | Description   |
|---|---|
| Freight volume growth across modes  | <p>Projected increases in freight demand across all modes will likely place additional burdens on an already congested regional transportation system.</p> <p>Note: Long term forecasts of freight demand and volumes by mode are challenging because of the difficulty in foreseeing possible supply chain and e-commerce transformations, far reaching changes in vehicle technologies, future geopolitical shocks, etc.</p>  |
| Accommodating freight in the National Capital Region's activity centers   | <p>By concentrating development within Activity Centers, the National Capital Region will realize benefits such as additional transportation options for residents, greater access to employment centers, and reduced vehicle emissions. However, while people can often choose what mode of transportation they will use for a given trip, goods and materials for retail establishments and other businesses within Activity Centers are very likely to be delivered by truck for the foreseeable future.</p> |
| Multimodal freight connectivity within the National Capital Region  | <p>Rail-truck, pipeline-truck, air-truck, and to a much smaller extent, marine-truck multimodal connections are made every day in and around the National Capital Region and are important to efficient freight transportation.</p>   |
| Potential increases in the numbers of heavier trucks – especially in the rural and suburban area of the National Capital Region | <p>Trucks hauling agricultural commodities and forest products have some flexibility with respect to axle and gross vehicle weight limits in certain parts of Maryland and Virginia. Growth in agricultural output could therefore result in additional heavier trucks, particularly in the more rural areas of the Region.</p>   |

# DRAFT Regional Freight Issues

## Freight Planning and Coordination

| Issue  | Description   |
|--|---|
| The economic forces that drive goods movement are global in nature and not limited to the geographic boundaries of any given state | Because freight movements are driven by economic forces that are global in nature while states operate within defined geographic limits, some mechanism to plan for goods movement that transcends individual state boundaries is indicated.  |
| Freight planning coordination with non-transportation planning functions   | Facilitating efficient goods movement, providing employment opportunities, improving highway safety, responding to incidents and emergency situations, managing noise and air pollution, etc. are often competing priorities that affect both transportation and non-transportation planning functions. |
| Time required to obtain construction permits   | Complex and lengthy review processes involving multiple federal, state, and local agencies can delay needed freight transportation infrastructure projects and significantly increase their costs.  |
| Low profile for freight within local planning processes  | Unlike issues related to land development, transit service changes, bike/ped improvements, etc. (which are likely to enter the planning process from the bottom up), freight transportation issues do not typically generate a high level of interest among the general public.                         |

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## Other Issues

| <b>Issue</b>                | <b>Description</b>   |
|-----------------------------|--|
| Limited financial resources | Funding for needed freight transportation maintenance and improvement projects is constrained. |