

6. FREIGHT TRANSPORT SYSTEM

The movement of goods plays an important role in economic growth that is often not fully appreciated. This lack of understanding is especially true in Connecticut where primary industries such as agriculture and mining play a small role, and secondary economic activities such as manufacturing play a decreasing role. The importance of freight transport is more obvious in economies dominated by primary and secondary industries that ship massive quantities of heavy and/or bulky materials. But even in economies dominated by the financial, insurance, and service industries, efficient movement of goods is still important. Freight transport is required for the import of the finished products and basic commodities used by both businesses and consumers, and for the export of some of the specialized products produced within the region. While different modes may be better for different types of goods, the need to move these goods in and out of the Region exists regardless of mode.

The Capitol Region Council of Governments (CRCOG), in cooperation with the Central Connecticut Regional Planning Agency (CCRPA), the Midstate Regional Planning Agency (Midstate), and the Pioneer Valley Planning Commission (PVPC), has undertaken a freight planning effort. In 2005, CRCOG, along with its partners, commissioned Global Insight to do a basic analysis of freight movement in and through the Hartford Metropolitan region (a multi-county region which included central and western Connecticut plus western Massachusetts.) The findings of that report have informed this section of the Regional Transportation Plan, which outlines the nature of freight movement in the region. It also identifies issues and opportunities, and possible next steps.

Key Characteristics of Freight in the Region

There are three primary characteristics of freight flow in the Capitol Region. They are the dominance of trucks, a high volume of through traffic, and an imbalance of flows in and out of the Region.

- *Truck Dominance.* According to the Global Insight study, trucks carry 98 percent of the freight moving in, out and through the region. This is much higher than the national average of 79 percent. This large volume of truck traffic contributes to congestion on the Region's highways, and increases the cost of maintaining roads and bridges.
- *Large Through Volume.* A very large proportion of truck traffic in the Capitol Region involves trucks that pass through the Region without stopping. About 40 percent of truck traffic is through traffic. This compounds the adverse effects of truck traffic. While through traffic adds to congestion and maintenance costs, it contributes little or nothing to the Region's economy.
- *In/Out Flow Imbalance.* There is a large imbalance of freight flows between freight flowing into the Region and freight flowing out. Inbound freight exceeds outbound freight by a more than a 2:1 margin. This reflects a consumer economy rather than a producer economy. It also drives up the cost of shipping since trucks and rail cars must be sent back empty.

CRCOG's Role in Freight Transport Planning

Still Developing Freight Planning Program. In the last 50 years, the public sector, and metropolitan planning organizations in particular, have had little direct role in the development or operation of freight transportation systems. It has been left largely to the private sector to maintain freight railroads, operate truck terminals, develop overnight package delivery systems, build pipelines, and develop the truck fleets and supporting business and logistics systems to manage the complex truck delivery systems that account for most of the goods movement in the nation. However, within the past decade there has been an increasing awareness that the public sector needs to play some role in helping develop more efficient delivery systems if the United States is to stay economically strong in the face of an increasingly competitive world economy. To this end, the US DOT, which funds the transportation planning function

at metropolitan planning organizations like CRCOG, has asked MPOs to begin addressing goods movement issues in their regions. CRCOG started examining freight issues by commissioning the Global Insight report. We are now looking to build on the knowledge gained from that study.

Limited Ability to Influence Freight Industry. It should also be understood that CRCOG's ability to directly influence freight transport systems is much more limited than our ability to shape traditional highway and transit systems. We have no direct authority (regulatory or financial) over most elements of the freight transport system. Rail and air transport systems are regulated by federal agencies (Federal Rail Administration and Federal Aviation Administration) that have no formal or official relationships with MPOs like CRCOG. Therefore, the plans and policies that we develop in this program are likely to be purely advisory in nature. The exception will be in those areas where freight planning and traditional highway and transit planning overlap. Examples include the planning for improved ground access to cargo facilities at Bradley Airport, and the use of ITS (Intelligent Transportation Systems) to improve monitoring of truck safety on highways.

Truck Freight

Much of our national economic development and our quality of life have been based upon the ability to move goods by truck safely and efficiently across the country. But, this ability is being threatened by increasing reliance on trucking and increasing congestion on highways. The American Association of State Highway and Transportation Officials (AASHTO) issued a report, *Transportation Invest in America - Freight Rail Bottom Line Report*, that outlines the potential problem. The report warns that by 2030 our nation's roads will not be able to handle the increases in truck traffic projected. The projected increase in congestion threatens to stall the nation's economic growth. This is particularly relevant to the Capitol Region, since we are so dependent on trucking for the movement of goods.

Most of the Region's freight is delivered by truck. According to the Global Insight study, freight traffic represents 98% of the traffic moving in, out and through the region. This number is decidedly high relative to the national average of 79%. 37,000 freight trucks travel in the region every day. The region's over-reliance on trucks to move goods has negative effects on the economy and the environment. And while the high percentage of trucks has a role in the existence of congestion, that very congestion threatens the viability of freight movement, especially in satisfying the 'just in time' delivery demands of many receivers.

Given the Region's heavy dependence on truck freight, we will be pursuing two courses of action. First, we need to consider options to reduce our dependence on trucking. Second, we should be pursuing means to better manage our existing resources to assure that trucking can continue to efficiently serve our Region's economy.

Diversion from Truck to Rail Intermodal.

These problems could be reduced if some goods were diverted to other modes of transport. Generally bulky items, such as lumber, paper, and fuel oil, are more likely to be shipped via train, barge, or even pipeline. Rail is also able to capture other markets through intermodal service (trailer on flat car and container on flat car) under certain conditions. Generally, rail intermodal is viable only for freight shipments of 750 miles or longer in trucking corridors with relatively high demand or annual volume. The Global Insight report estimated that the maximum volume of truck traffic we could divert to rail intermodal was about 12 percent or about 96,000 truckloads.

Improving Truck Operations.

While some actions can be taken to divert goods to alternative modes, trucking will likely remain the dominant mode of freight transport, and more should be done to improve efficiency and safety for this mode. Actions to improve truck safety and efficiency include better travel information, better truck stops, better locations for freight facilities, and seeking backhaul opportunities.

Travel Information. Much has been done in the way of improving travel information technology in the past few years. ConnDOT's freeway traffic management system, Regional Traffic Management System (RTMS), is an important tool for travel information and incident management. Coordination with ConnDOT on allowing freight companies access to RTMS information would help trucking companies make better routing decisions and reduce shipping delays.

Truck Stops. There continues to be a shortage of truck stops in the region. We need to create more truck stops, and enhance the functionality at existing stops. Having travel information available at stops and electrification to stop diesel idling through the use of heating and cooling hook-ups/cable hook-ups would improve the efficiency and environmental affect of trucks on our roads.

Locating Freight Facilities. To avoid the negative impacts of trucks once they reach their destinations, thought needs to be given to the location of freight facilities. To the extent possible, freight activities should be separate from non-compatible land uses. In areas where separation is impossible, thought could be given to performance-based zoning which might regulate the time-of-day for deliveries. In concentrated service centers, plans for consolidating frequent pickup and delivery could be made.

Seeking Backhaul Opportunities. Inbound freight into the Capitol Region exceeds outbound freight by more than a 2:1 margin reflecting a consumer economy rather than a producer economy. This increases costs for goods shipped to our area, since trucks must return empty. This provides some opportunities that might be exploited. If a market can be found for backhaul trips, the cost would be very low. Also, rail intermodal might benefit from the imbalance, providing low cost repositioning to motor carriers.

Water Transport

According to the Global Insight report, the largest volume of freight in the region is water/truck movement of petroleum products into the region from New York and Boston Harbors to storage facilities in Southern Connecticut. The water-based portion of these trips is outside of the Hartford region.

While no major ports are located within the Capitol Region, CRCOG recognizes that economic benefits can be realized here when improvements are made at the State's coastline ports. The cost of shipping goods to and from the Capitol Region might be significantly reduced, if at least a portion of the trip is made by water. The Transportation Strategy Board has recommended that up to \$1.5 million in State funds be used to start feeder barge service at the Port of Bridgeport. This feeder barge service will include accommodations for ship-to-truck transfers. In addition, the Port of New Haven has a plan to improve its container shipping capabilities.

There may also be some opportunities to divert freight from truck to water transport. Winter freezing of the Connecticut River prevents river shipments from being a year-round option. But coastal barges may be used to divert through shipments of petroleum relieving truck traffic on I-91, I-95 and I-84.

Pipeline Transport

The highest freight flows in the region are petroleum (inbound and through), non-metallic minerals, and secondary traffic (retail.) Another alternative to divert petroleum shipment is pipeline. Over 7,000 miles of natural gas and hazardous liquid pipelines exist in Connecticut, some of which feed fuel to Bradley Airport; altogether there are 9 privately owned facilities with 12 terminals between Middletown and Enfield. A pipeline owned and operated by different companies runs continuously between the Port of New Haven and into Massachusetts. This pipeline is used to ship various petroleum products. In the winter, it runs at capacity with heating oil shipments, but it does not run at capacity during the warmer months.

While it is possible that more product could be shipped via pipeline, there are limitations as to how much flow can be diverted to pipeline. For example, motor vehicle fuel used in Massachusetts, because it has MTBE, cannot be shipped via pipeline. And while the pipeline has capacity in the summer, capital

investments would be needed to increase winter capacity. The pipeline is privately owned and operated and there are no current plans to expand capacity.

Rail Freight

Relieving congestion on highways and improving air quality are significant benefits of rail freight transport. In a recent report (*Freight Bottom Line Report*), the American Association of State Highway and Transportation Officials (AASHTO) stated the importance of examining our nation's freight capacity – particularly our rail freight capacity – to assure that in the coming 20 years the overall system will be able to keep pace with a growing national and global economy. Rail is an important mode of transport for bulky goods that are being shipped over long distances. Since rail freight tends to be a slow method of shipment, the goods being shipped usually are not needed for any time-sensitive business process.



The Hartford region is served by several short line and regional railroads. There are no Class 1 or national railroads in Connecticut. Our link to the national rail network is via the CSX Railroad, which is a Class 1 railroad with a terminal and intermodal facility in West Springfield, MA. The West Springfield intermodal facility has the potential to help the Region by diverting some truck traffic to rail intermodal service.

Rail intermodal services include Trailer on Flat Car (TOFC) and Container on Flat Car (COFC), and they are a steadily growing freight alternative. This form of transport utilizes rail and truck by transporting goods in containers and trailers on flat rail cars to rail yards where the switch is made to truck. Nationally the TOFC/COFC business is the most readily susceptible to traffic diversion from (and to) the highway. The Global freight study found that the Region's use of intermodal rail is about one-tenth of what might be expected, based upon national averages.

The CSX intermodal terminal in West Springfield is not currently used to its full capacity. This rail yard's existence reflects an opportunity close to the Capitol Region where the development of TOFC/COFC could help to significantly reduce through traffic. But a shift to greater use of intermodal rail is dependent in large part upon actions taken by private rail companies to expand terminal and train capacity.

Air Freight

Bradley International Airport has a significant air cargo business and there is potential for increasing that business. Nationally, Bradley has a higher ranking for the volume of freight moved than for the number of passengers served. Its air cargo business benefits from excellent ground access and uncongested airport facilities. This easy-in/easy-out feature also gives it a competitive advantage over New York and Boston for certain types of goods.

Having fast and convenient air cargo service available within the Region gives the Hartford-Springfield area a competitive advantage in attracting and retaining businesses that use or produce low bulk – high volume goods, or those that are dependent on fast delivery over long distances.

Despite Bradley's air cargo advantages, most air freight will continue to arrive in the Hartford metropolitan area via truck from New York, Newark, and Boston airports. This is due to the freight capacity offered by wide-body passenger service in New York and Boston. It is also due to the large economies of scale offered by the freight consolidation possible at major international airports like Kennedy Airport in New York. Attracting more freight to Bradley would require targeting specific commodities (creating a niche market) rather than pursuing general freight.

Conclusions

Over the last three years CRCOG has completed a comprehensive study of the nature and extent of goods movements affecting the Capitol Region. The study identified the region's heavy reliance on truck transport, the high volume of through traffic, and the strong imbalance of flows into the region as compared to flows out of the region.

To be effective at addressing these issues the Region must work with other regional and state agencies, and with private sector groups since the problems tend to be multi-state and national in scale, and often the solutions require private industry participation.

RECOMMENDATIONS:

- 1. Develop freight-planning program.** CRCOG should continue to develop its freight-planning program.
 - The program should focus on issues identified in the Global Insight Study.
 - The program should include a strong educational component that highlights the importance that freight plays in keeping the Region's economy strong and growing.
- 2. Collaborate with other organizations on freight issues.** Continue to work with other regional organizations and freight industry representatives on freight issues affecting the Hartford-Springfield area.
 - Partners should include at least the following: Central CT RPA, Midstate RPA, Pioneer Valley Planning Commission, the Bradley Development League, the MetroHartford Alliance, the Hartford-Springfield Economic Partnership, and others.