

10 Best Practices in Freight Movement

10A Freight Mobility

Best Practices Freight Mobility

Managing Freight Effectively from the City and Shipper Perspective

Managing freight traffic effectively and efficiently may have different implications for shippers than for the city as a whole. From the shipper's perspective, the most effective system will minimize total logistics costs without adversely affecting customer service and inventory policies. The city's concerns include optimizing capacity and safety of streets for all users while maintaining economic health. In a city like Seattle, where the Port plays such an important role in overall economic vitality, these perspectives must come together to create a system that satisfies those involved in moving goods, and everyone who uses the transportation network.

The "best practices" summarized below provide information about innovative techniques being used elsewhere in the U.S. and abroad to optimize freight movement while also optimizing mobility for all users. These include policies related to restrictions on delivery hours; incentives for off-peak deliveries; and shipment consolidation.

How can shippers and businesses minimize logistics costs?

The total costs associated with shipping items from Point A to Point B involve more than just the cost of the truck and driver. It also includes the cost of the facilities needed for distribution and the cost of inventory, which may need to be inflated to address unpredictable delivery schedules. Various measures that companies might use to minimize costs include:

- Locating distribution facilities to minimize travel distance and travel time.
- Aggregating shipments into larger vehicles.
- Consolidating shipments along a set route.

Freight Traffic is an Essential Component of Downtown Mobility



Source: istockphoto

Shipper and business strategies

- Select distribution facility locations that maximize access to pick up and delivery destinations
- Utilize larger vehicles
- Consolidate shipments from multiple origins and along shared routes
- Co-load with multiple shippers or receivers
- Schedule deliveries outside of peak congestion periods



Source: istockphoto

How can the City manage freight to optimize street operations and safety?

Policies and practices that optimize the capacity and safety of streets with truck mobility needs include:

1. Prohibiting trucks larger than 30 feet in length from the downtown core between 6:00 A.M. and 7:00 P.M. on weekdays.
2. Reserving some on-street parking for “commercial vehicles.”
3. Requiring permits for all over-dimension (over size and over weight) trucks.
4. Requiring new developments to provide off-street loading areas for trucks.
5. Retaining its alleys for truck deliveries and garbage/recycling collection.
6. Providing signage for truck drivers to note truck prohibitions and appropriate routes.
7. Providing businesses information about construction closures and detours with enough lead time that the business can change operations or delivery schedules if needed.
8. Provide real-time information about incidents that disrupt normal traffic operations.

- Pooling shipments from multiple origins at a cross-dock facility.
- Co-loading, which may involve aggregating, consolidating and pooling among multiple shippers and/or receivers.
- Scheduling deliveries to occur at less congested times.

How have European cities managed urban freight mobility?

North American cities have historically given less attention to how trucks operate within the city than their European peers, though the matter is receiving increasing attention domestically. Cultural, political, and economic differences may affect the applicability of some of these innovations in a U.S. city like Seattle and additional analysis would be required prior to implementation. Such innovative policies and practices for structuring and facilitating urban freight mobility include:

- **Low emission zones.** (Sweden; Amsterdam; London in 2008) Vehicles can only enter a designated LEZ if they meet specific emissions criteria set by the local government (OECD, 2003).
- **Combined Use Lanes.** Lanes can be designated for different uses throughout the day (for example, for peak period through-traffic, mid-day temporary truck loading stops, or night and weekend on-street parking). Barcelona uses variable message signs (VMS) to indicate lane use by time of day on the Balmes Street arterial.
- **Preferential zoning or property tax relief for properties used in urban goods movement** empower municipalities to plan for and organize future truck mobility. This is done in several Canadian cities, providing incentives to incorporate goods movement into new development plans.
- **Unattended delivery systems** allow deliveries to be made when offices are closed or recipients are not at home, so trucks do not need to return goods to the depot for later re-delivery. Such systems include electronic drop boxes and banks of boxes, and designated off-site collection locations such as post offices or convenience stores.

- **Retail Delivery Stations** in Brussels are micro-warehouses with dedicated delivery zones or off-street delivery bays dispersed in commercial cores. Large trucks deliver shipments for multiple nearby destinations to these stations, and goods are later transported to individual businesses by pallet truck, small carts, or wheeled stands. This reduces the number of truck trips and allows large trucks to make deliveries outside of restricted or peak hours, while businesses still receive goods throughout the workday.
- **Freight Villages** are essentially planned unit developments for freight transfer. They allow freight companies to achieve greater efficiencies by co-locating with supporting services within a secured perimeter and near transportation connections. Approximately 40 Freight Villages exist in Europe.

Restricted Delivery Hours

Research found several cities that have restricted delivery times in their downtown core areas. Restriction of truck activity on highways may have to be reconciled with federal prohibitions on restricting truck traffic except in certain circumstances. Cities that have implemented time of day restrictions on truck deliveries include, but are not limited to:

- **Atlanta, GA.** During the Olympics, Atlanta mandated night deliveries in certain areas. A survey conducted after the Olympics indicated that distributors were generally willing to consider off peak or night deliveries, but receivers were much less open to the idea.
- **Boston, MA.** The city prohibits vehicles with commercial plates from using certain downtown streets within the Downtown Crossing area except between 6:00 PM and 11:00 AM. Operators of commercial vehicles can apply for a Downtown Crossing Permit, allowing short term access to respond to an emergency or for a one day special event. Certain companies are allowed into the restricted area after 2:00 PM, including Brinks, Wells Fargo, the U.S. Postal Service, and major local newspapers. Utility companies are allowed access at anytime to respond to an emergency.
- **Cambridge, MA.** In March 2003, Cambridge enacted a truck ordinance restricting deliveries between 11:00 PM and 6:00 AM except for specified truck routes. Enforcement was suspended in April 2003 due to potential state/federal legal action.
- **Toronto, Ontario.** Is currently discussing restricting deliveries during peak hours.

Incentives for Off-Peak Deliveries

- **Ports of Los Angeles and Long Beach.** The “PierPASS OffPeak” program was enacted at the Ports of Los Angeles and Long Beach in July 2005. This program was intended to create incentives to shift traffic to off-peak hours. Under the OffPeak program, all international container terminals in the two adjacent ports established five new shifts per week (Monday through Thursday from 6:00 PM to 3:00 AM and Saturday from 8:00 AM to 6:00 PM). As an incentive to use the new night-time and weekend shifts, a Traffic Mitigation Fee (TMF) is now required for most cargo movement during peak hours (Monday through Friday, 3:00 AM to 6:00 PM). The TMF is a financial assessment administered through PierPASS to finance the labor and operational costs of the additional night-time gates. Between 30% and 35% of a typical day’s container cargo at the ports has shifted to the off-peak hours since the start of the program.
- **Restaurants in Manhattan.** No programs to incentivize local deliveries yet exist. However, the USDOT is exploring tax incentives for businesses to accept off-peak deliveries in Manhattan. Rensselaer Polytechnic Institute has been awarded a \$1.2 million USDOT grant to explore combining tax incentives for businesses with technological assistance for delivery companies. RPI will spend up to 18 months conducting surveys and preparing for the pilot program, which is expected to reduce daytime truck deliveries up to 20% within the studied industry segment. The pilot will include approximately 300 businesses from a single sector (most likely restaurants) and around 50 freight carriers.

Delivery Consolidation for Downtown Area

The practice that may provide the greatest reduction in overall truck activity in the downtown core is co-loading. High-end restaurants, as an example, may receive dozens of deliveries each day from specialty food and beverage companies. If those deliveries could be consolidated at a remote distribution center, the number of stops that all trucks need to make in the downtown core could be reduced.

Examples of where this practice is being used include:

- **Atlanta, GA.** During the Olympics, a distribution company started a consolidation program in which it accepted multiple food vendors' deliveries destined to the same restaurant, and then made a single consolidated delivery to that restaurant. This reduced the number of truck trips. The drawback to this system is the fact that restaurant delivery drivers are also salesmen who work to maintain relationships with their restaurants, and risk losing sales if delivering to a consolidation point, rather than directly to the restaurant.
- **Cities in Germany.** Germany extensively tested "City-Logistik" projects, a service consolidating shipments outside the city center. In 1999, these projects were operating in about 80 German cities. The municipality and the chamber of commerce initiated meetings with interested parties, including large haulers. A new company was set up to operate a trans-shipment facility to consolidate the deliveries and started by serving the inner city. Though the majority of these pilot projects were discontinued, several consolidation centers remain, including those in Aachen, Bremen, Essen, Frankfurt, Nuremberg, and Regensburg. Project evaluations note that it is crucial to involve participants at an early stage in the process and educate all users on the advantages of consolidation.
- **Bristol, UK.** The Bristol Freight Quality Partnership (BFQP) was established in 2003 as a joint effort of the Bristol City Council, three other public agencies, and 17 private entities. The BFQP developed a strategic plan to reduce truck delivery trips to Broadmead, the core retail area including approximately 325 stores. The BFQP established a freight consolidation center in an industrial park on the urban fringe, with good access to the local road network and approximately 25 minutes away from Broadmead. During the initial trial phase, the center served 17 retailers using one 7.5 ton truck. Over time, a second 17.5 ton truck was added, and participation has increased to 46 retailers. The consolidation scheme was very well received by the retailers and the transport industry, and improved service and delivery times. Amongst participating retailers, the consolidation resulted in a 73% reduction in delivery movements; vehicle mileage was reduced by 65%. The pilot phase of the service was provided to retailers at no cost, with funding provided by European

Community START (Short Term Actions to Reorganize Transport of Goods). The consolidation scheme's long term financial feasibility is unclear.

Have other cities created freight-exclusive lanes?

In the United States, there are few examples of traffic lanes dedicated to trucks alone. No long-distance truck-only facilities yet exist, though several locations, including Florida and Georgia, are exploring their potential. Freight-exclusive lanes that do exist are generally associated with moving truck traffic onto an interstate from a port facility or at international border crossings.

- **New Orleans: Tchoupitoulas Roadway.** The Port of New Orleans developed the Tchoupitoulas Roadway (also called the Clarence Henry Truckway) to decrease port traffic overflowing into local neighborhoods, especially the historic Garden District. The 3.5 mile project includes two lanes for general traffic and two lanes dedicated to port traffic. There is no toll, and the roadway can be accessed at four points, two of which operate 24-hours.
- **Boston: South Boston Haul Road.** The Massachusetts Turnpike Authority built the South Boston Haul Road to provide mobility for commercial vehicles during the development of the Central Artery/Tunnel project. The haul road was built upon a four-track rail line and now accommodates commercial vehicles and transit. The facility is 1.5 miles long, ending at the Ted Williams Tunnel. Construction of another truck facility is under consideration in East Boston.
- **Laredo, TX: World Trade Bridge.** Laredo, Texas is a major point of entry for Mexican goods entering the United States. The eight-lane, commercial traffic-only World Trade Bridge was built in response to increased truck traffic resulting from NAFTA. The United States and Mexico share ownership of the bridge, with the U.S. collecting southbound tolls and Mexico receiving northbound tolls. It operates between 8:00 AM and midnight and enables trucks to bypass the city of Laredo, entering and exiting I-35 five miles north of downtown. The toll facility uses both weigh-in-motion and automatic vehicle identification technology for payment.

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