

Persistent Urban and Metropolitan Freight Challenges

Executive Brief

Transportation agencies have had a limited ability to see how trucks and freight move in our urban and metropolitan environments. A finer-grained understanding of truck movements down to the level of *last mile* and even lower, the level of final pick-up or delivery – *the final 50 feet* – can help agencies improve how they plan, program, and operate for freight. Improving detailed knowledge of these truck movements is the key to addressing a number of persistent and growing challenges and mobility impediments to truck freight in urban and metropolitan areas.

Truck Observability is the ability to know how, when, where and why trucks are moving. Observability provides insights into the **five challenges** of:

1. Urban Congestion
2. *Last Mile* Access to Freight Facilities
3. The *Final 50 Feet* of Deliveries
4. Land Uses
5. Truck Parking Shortages



Urban Congestion

Highway and street congestion delays freight shipments. This congestion includes intersection and interchange congestion, mainline congestion on roads, or congestion at natural or man-made chokepoints such as rivers, tunnels, or border crossings. The immediate consequence of congestion for freight mobility is **decreased productivity**, because congestion reduces the effective capacity of freight movement.



Last Mile Access to Freight Facilities

The *last mile* refers to miles of arterial roads connecting freight facilities with free-flowing highways. This distance is not limited to a mile, and these local routes can sometimes exceed 10 miles. Truck movement between freight facilities and these mainline transportation links can be inefficient for reasons such as inefficient traffic signal timings, capacity constraints, tight turns, circuitous routing to freight facilities, and incompatible corridor uses (e.g. bicycles lanes on freight corridor). Like congestion, these *last mile* access problems reduce the **effective capacity and safety** of freight movement.

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Image source: NYC DOT

The *Final 50 Feet* of Deliveries

The *final 50 feet* of a trip begins when the truck stops, and the driver must pick up or carry goods the remainder of the distance (often greater than a strict 50 feet). *Final 50 feet* challenges include loading and unloading trucks blocking traffic lanes, and trucks circling blocks looking for parking. Both of these issues exacerbate existing urban **congestion**, and a lack of dedicated space for *final 50 feet* deliveries can reduce the **efficiency** and **safety** of freight movements. This type of challenge is becoming common as urban residents buy more from e-commerce retailers.



Land Uses

In many urban areas, land uses are often not synchronized with freight demand. For example, residential development around formerly outlying freight facilities on the urban fringe results in trucks passing through residential neighborhoods, or using streets not designed for truck traffic. Common results of incompatible freight land use are additional truck miles traveled, urban **congestion**, circuitous or long truck routes, increased **emissions**, increased noise **pollution**, and decreased road **safety**.



Image sources: CPCS Transcom, except where noted

Truck Parking Shortages

Federal requirements for rest breaks mean that many truck drivers must find a place to park and rest. At the same time, truck drivers need staging space to park and wait for scheduled delivery or pickup times at freight facilities. A shortage of truck parking indirectly affects freight movements. Lack of driver knowledge of available parking affects driver choices and behavior near freight facilities. For example, truckers who need to rest may be forced to park in unauthorized areas like highway shoulders, creating **safety** hazards for other road users.