

# Planning for Freight-Related Development

## The Importance of Freight-Related Facilities

Modern supply chains rely on complex networks of warehouses and distribution centers (DCs) to support the efficient, fast, and affordable movement of freight. In particular, some DC development has been driven by the growing importance of online shopping, and consumers' desire for quick shipping times. The rapid expansion of Amazon DCs is a good example of this trend, as a wide network of DCs is needed to support the company's next-day and same-day shipping options. At the same time, many manufacturing firms also increasingly rely on remote warehouses and DCs to support "just in time" inventory practices, which help reduce costs associated with holding extra items in inventory.

Business practices and market forces like these have driven significant development of warehouses and DCs across the country, and in 2020 the United States added 264.7 million square feet of warehouse space, a 9.5% increase over the amount of space constructed in 2019.<sup>1</sup> Many communities have sought to attract freight-related facilities like warehouses, DCs, and manufacturing plants because these types of projects may help communities realize economic development goals such as providing employment, or increasing tax revenue.

However, freight-related development can also have some negative transportation and land use impacts. Communities can avoid or mitigate some of these negative impacts through proper planning practices, and this guide illustrates some common impacts that community planners may need to anticipate when freight facility development is undertaken.

## Impacts of Freight-Related Facilities

Most freight-related facilities, particularly warehouses and DCs, are primarily served by trucks. The development of new freight facilities generates additional truck traffic on nearby streets and roads, and this additional truck traffic is the source of many negative impacts associated with freight facilities. These truck-related impacts include:

**Truck parking on local streets and roads.** Many warehouses and DCs assign truck drivers scheduled drop-off or pick-up times. Therefore, truckers often require short-term parking near these facilities while they wait for their time, or long-term parking for rest breaks. If sufficient truck parking is not available, trucks may park on local streets and roads, potentially creating congestion, hazards for other drivers, and disruptions for local residents. Some communities have addressed these issues by prohibiting parking in residential areas, or requiring that warehouse and DC developers construct additional truck parking as part of new facilities.



**Increased congestion on routes serving freight facilities.** New freight facilities are associated with new concentrated truck traffic, especially around facility access points. At these points, lines of trucks waiting to enter facilities can spill onto local streets and impede traffic. Furthermore, trucks are relatively slow to stop, accelerate, and turn relative to passenger vehicles. Therefore, roads and intersections that are not designed to accommodate high levels of truck activity may experience increased congestion, unreliable travel times, and decreased roadway safety. Additional traffic congestion may be created by the large volumes of workers employed at freight facilities, especially if shift changes are focused around 2-3 specific times each day. Communities have sought to address these issues by requiring



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<sup>1</sup> Mongelluzzo, Bill. "Record US warehousing demand to continue through 2021." *Journal of Commerce*. March 10, 2021.

developers to fund portions of transportation improvements serving new facilities, designating new truck routes, and re-timing traffic lights.

Other planning-related impacts associated with new freight facility development include:

- Incompatible transportation uses on freight corridors, such as the placement of bike lanes on truck routes, which can slow down freight movements and create safety hazards.
- Congestion or infrastructure damage associated with poor road and street design such as tight turns or narrow streets on routes used by trucks.

In addition to these transportation-related concerns, freight facility operations and their corresponding truck traffic can also have negative impacts on adjacent land uses. In particular, air emissions from heavy truck traffic will have a negative impact on local air quality, and the light and noise associated with 24/7 operation of freight facilities can disrupt nearby residents. Ultimately, land use impacts like these means that freight facility development can have a negative impact on nearby residents' health and well-being and may result in reduced land values. Conflicts like these can be reduced or eliminated by keeping freight-related development separated from residential development and minimizing truck routing through residential areas whenever practical.

## Planning Considerations for Freight-Related Development

The checklist below will help you determine what general types of freight and land use impacts may need to be considered in your local planning or economic development work. It is important to note that this checklist is not intended to be a comprehensive planning resource, rather, it should be used as a list of "things to consider" when communities wish to plan for freight-related developments.

Yes	No	N/A	
			Is the facility adjacent to an existing freight route identified in the Delaware Freight Hierarchy or First/Final mile freight network? If not, what is the likely route trucks will take to reach major highway corridors?
			Do the likely truck routes have sharp turns, low clearance restrictions, or other truck obstructions?
			Do the likely truck routes run through residential areas, or other sensitive areas such as school zones?
			Are the likely truck routes designated as bicycle or pedestrian routes?
			Are there existing congestion problems on the likely truck routes?
			If infrastructure improvements are needed for the truck route, will the freight facility developer or tenant help fund these improvements?
			Is truck parking available nearby, or will the developer provide parking?
			Is the facility located adjacent or near to existing or planned residential development, or other sensitive land uses such as schools?

### For Further Information:



CONTACT NAME  
 CONTACT TITLE AND ORGANIZATION  
 EMAIL  
 PHONE

### Additional Resources:

[Link to additional resources from IPA, DelDOT, etc...](#)

[NCFRP Report 13: Freight Facility Location Selection – A Guide for Public Officials](#)