

NYMTC

Freight Land Use Study

FocusGroupIt Activity Guide

April 9, 2022

About This Focus Group

Focus Group Name:

Virtual Focus Group on Regional Freight-Related Land Use

About this focus group:

Welcome to the New York Metropolitan Transportation Council's (NYMTC) and the Metropolitan Area Planning (MAP) Forum's virtual focus group on regional freight-related land use.

This focus group is part of a Regional Freight Land Use Study to collect data on freight-related land uses in the four state New York City metropolitan region, assess freight-related land use trends and potential future freight-related land use scenarios. This assessment has become even more critical due to challenges and changes related to the COVID-19 pandemic, including supply chain issues and evolving business models.

The online focus group, which is being administered to a group of planning officials, public sector freight specialists and representatives of shipping industries from around the metropolitan region has been designed for online participation and collaboration—you can join in when it is convenient and return any time between April 18 and May 10 to add to or complete your input, or to comment on the input of other participants. None of the responses will be connected to identifying information.

Your participation is essential to this regional assessment of freight-related land uses and we are grateful for your time and input.

Welcome:

Thank you for participating in the New York Metropolitan Transportation Council's (NYMTC) and the Metropolitan Area Planning (MAP) Forum's virtual focus group on regional freight-related land use.. This focus group includes two types of activities:

1. You will be asked to comment on scenarios related to five trends that are likely to affect future freight land use demand and/or intensity.
2. You will also be asked to complete an exercise to contribute to the classification (typology) of freight land use types and subtypes that was developed using land use data collected to date.

Throughout the focus group site, we will reference three groups of freight land use:

- 1) Freight-handling: marine terminals, rail yards and terminals, highways and rail lines, air cargo airports, and other facilities, which support the movement of freight through the supply chain.
- 2) Freight-generating: land uses, including warehouses, distribution and fulfillment centers, manufacturing facilities, and agricultural lands, which generate shipments of goods that are transported to other locations
- 3) Freight-receiving: retail stores, office parks, residential areas, and institutional facilities (schools, hospitals, etc.), which receive deliveries of goods. Note, some freight-generating facilities also receive deliveries.

Remember, you can participate at your convenience and return any time between April 18 and May 10 to modify or complete your input, as well as to comment on the input of other participants. Your participation in this survey is completely voluntary and all your responses are anonymous.

If you have any questions or initial thoughts before you begin, please respond to this (optional) topic. When you are ready, click on the first Scenario to begin the focus group. As you answer each topic, you will be able to move to the next scenario.

Scenario A: Growth in E-Commerce

In this exercise, please consider the growth in e-commerce and its relationship to freight land use. We will review two potential growth scenarios and the associated demand for warehousing and will ask for your input on which scenario is most likely and what the impacts might be on freight land use.

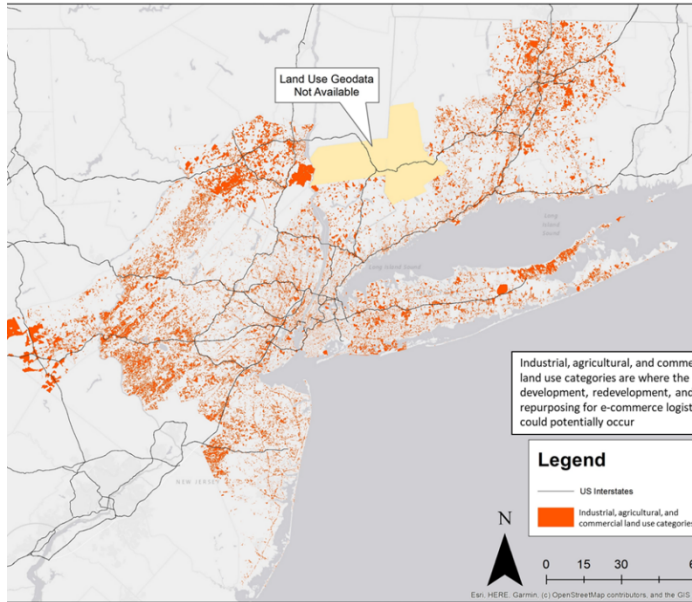
Background

E-commerce has increased its share of retail sales in the past decade, from 5% of retail sales in 2012 to 14% in 2021, impacting supply chains by increasing demand for warehousing and fulfillment center development. This increased demand could further current industrial real estate trends: new industrial buildings could be constructed on industrial and agricultural lands, older industrial buildings could be modernized or redeveloped, and/or commercial spaces could be repurposed to facilitate e-commerce logistics.

The map below illustrates the current distribution of industrial, agricultural, and commercial land uses across the Metropolitan Area Planning (MAP) Forum region in New York, New Jersey, Connecticut, and Pennsylvania.

Growth Scenarios:

- **LOW-GROWTH SCENARIO:** E-commerce sales increase by 350% and represent 30% of total retail sales by 2050, and the corresponding requirement for warehousing space to stage, fulfill, and ship orders increases by 250%.
- **HIGH-GROWTH SCENARIO:** E-commerce sales increase by 900% and represent over 50% of total retail sales by 2050, and the corresponding requirement for warehousing space to stage, fulfill, and ship orders increases by 650%.



Questions:

1. In your opinion, which scenario of these two is the most likely to occur and why?
2. Are there other scenarios that are more likely than the scenarios identified?
3. Are there other potential impacts on freight land use, in addition to those discussed? Please explain.

Scenario B: Distributed Manufacturing

In this exercise, please consider three possible scenarios related to the future of distributed manufacturing in the region. You will be asked to identify which scenario is most likely to occur, if others should be considered, and what other freight land use impacts might arise.

Background

Distributed manufacturing (DM) refers to the potential for three-dimensional (3D) printing to permit efficient goods production near the points of demand, which would lead to the establishment of many small factories located in and serving many local markets. This would contrast with the historical need for factories to achieve economies of scale through mass production, and the location of fewer, larger plants located near raw materials and affordable skilled labor. As a result, shipments to the multi-state New York City metropolitan region of large volumes from some external sites in the U.S. or abroad, might be replaced by local shipments from points of production inside the region.

Change Scenarios for Distributed Manufacturing (DM)

- DM could facilitate onshoring of production (i.e., relocating some manufacturing from overseas to the U.S.) of some goods, particularly replacement parts, healthcare products, and construction materials in industrial zones throughout the region.
- DM could facilitate a cottage industry of "make-at-home" parts and goods (including consumers making their own, or entrepreneurs producing at a small scale) in industrial, commercial, residential, or other locations throughout the region.
- DM could remain a "niche" activity with no measurable impact on production, logistics, and/or land use.

Questions

1. In your opinion, which scenario of these three is most likely to occur and why?
2. Are there other scenarios that are more likely than the scenarios identified?
3. Are there other potential impacts on freight land use, in addition to those discussed? Please explain.

Scenario C: Climate Change

In this exercise, please consider potential mitigations in response to climate change related weather events and flooding. You will be asked to identify which of two scenarios is most likely to occur, and what the impacts might be on freight land use.

Background

Superstorm Sandy in 2012 and the heavy rains associated with the remnants of Hurricane Ida in 2021 demonstrated the severe economic and social burdens that extreme weather can inflict upon the region's freight infrastructure and economy. Rising sea levels may exacerbate storm surge and climate change could increase the severity and frequency of extreme precipitation and temperature events.

Approximately 9% of the freight-generating and freight-handling land and approximately 7% of freight-receiving land in the multi-state New York City metropolitan region is within a Special Flood Hazard Area, as defined by FEMA. Sea levels in those areas could rise by 1 foot by 2050, and by up to 5 feet by 2100.

Percent of Land Area by Freight Land Use Category Affected by 1-Foot and 5-Foot Sea Level Rise

Land Use Category	Sea Level Rise: 1 foot	Sea Level Rise: 5 feet
-------------------	------------------------	------------------------

Freight-Generating Lands (industrial, agricultural)	0.2%	1.2%
Freight-Receiving Lands (commercial, residential, institutional)	1.0%	2.9%
Freight-Handling Lands (marine terminals, rail yards, transportation infrastructure)	0.6%	2.9%
Source: NOAA, analysis by Cambridge Systematics		

Change Scenarios Related to Climate Change Events

- Industrial real estate developers, landowners, and others, invest in constructing flood walls or other preventative measures to protect land and facilities that generate, receive, and/or handle freight, increasing development and real estate costs.
- Freight-generating and freight-handling land uses are relocated to areas less prone to flooding or sea level rise, spurring new development in parts of the region that may not currently have clusters of freight-generating or freight-handling facilities.

Questions:

1. In your opinion, which of these two scenarios is most likely to occur and why?
2. Are there other scenarios that are more likely than the scenarios identified?
3. Are there other potential impacts on freight land use, in addition to those discussed? Please explain.

Scenario D: Population Growth and Distribution

In this exercise, you will be asked to consider three population growth scenarios related to freight demand, distribution and therefore, freight land use. You will be asked which scenario is most likely and what might be the impacts on freight land use.

Background

Population growth drives freight demand. Since 2000, population growth in the multi-state New York City metropolitan region had been greatest in the urban core areas (New York City; Hudson County, NJ; etc.), reversing the trend of suburban sprawl that had occurred through the second half of the 20th

century. However, since 2020, during the COVID-19 pandemic, Census estimates show a shift in population growth toward suburban and rural areas, and to locations outside the region altogether.

Population Growth Scenarios

- **CENTRALIZED POPULATION GROWTH:** The longer-term population growth trend (pre-pandemic) returns, and the urban core continues to see the most population growth. In this scenario, distribution centers may continue being developed in exurban and peripheral areas, many of which may serve regional or national distribution, and/or international trade gateways (ports, airports, etc.). The higher costs of acquiring, developing, or redeveloping land and brownfields may be justified by having access to the large consumer market and being able to offer same-day or next-day delivery service.
- **SUBURBAN POPULATION GROWTH:** The pandemic-induced suburban and rural population growth trend continues with a corresponding increase in widely spread distribution and fulfillment centers to serve a more widely distributed consumer market. There may be less urban development, redevelopment, and brownfield redevelopment as a result.
- **NO CHANGE IN POPULATION GROWTH =:** Population growth in the entire region stalls relative to other regions of the country, with less demand for and development of e-commerce fulfillment and last-mile distribution centers. Demand for facilities that serve mega-regional or national distribution and/or facilitate imports/exports from the region's international gateways to and from consumers in other regions of the country may increase.

Questions:

1. In your opinion, which scenario of these three is most likely to occur and why?
2. Are there other scenarios that are more likely than the scenarios identified?
3. Are there other potential impacts on freight land use, in addition to those discussed? Please explain.

Scenario E: Evolution of Clean Freight

In this exercise, you will be asked to consider two potential scenarios related to the impact of the adoption of clean freight fueling and electric trucks on freight land use. You will be asked which scenario is most likely to occur and what might be the impacts on freight land use.

Background

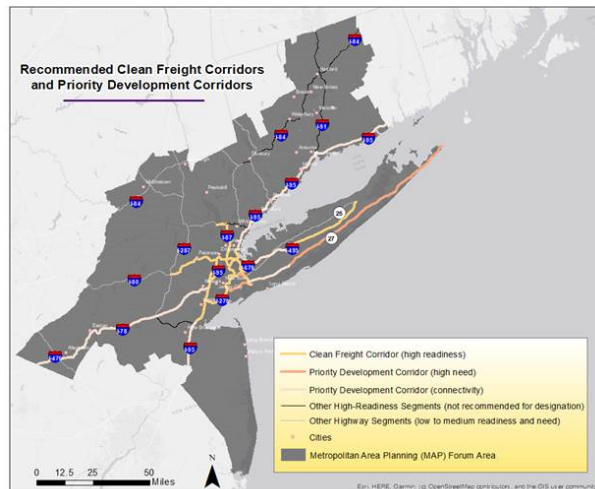
Diesel emissions impact the natural environment through greenhouse gases and the human environment through ground-level ozone and particulate matter. The timing and extent of the

transition from medium-duty and heavy-duty trucks to electric or other alternative fuel sources will be influenced by the relative costs of acquiring, fueling, and maintaining alternative fuel source vehicles.

The map below illustrates highway corridors throughout the multi-state New York City metropolitan region prioritized for needed expansion of alternative fueling and/or electric charging capacity.

Clean Freight Fueling Scenarios

- Very little transition to electric or other alternative fuels occurs with a corresponding low impact on freight land use.
- There is robust growth in electric or other alternative fuel adoption among truck fleets, requiring the addition of alternative fuel and charging capacity at existing truck stops, service plazas, and fueling stations. New facilities may be developed at or adjacent to major terminals (ports, air cargo hubs, industrial clusters) and/or on commercial properties located along major highway corridors.



Questions:

1. In your opinion, which scenario of these two scenarios is most likely to occur and why?
2. Are there other scenarios that are more likely than the scenarios identified?
3. Are there other potential impacts on freight land use, in addition to those discussed? Please explain.

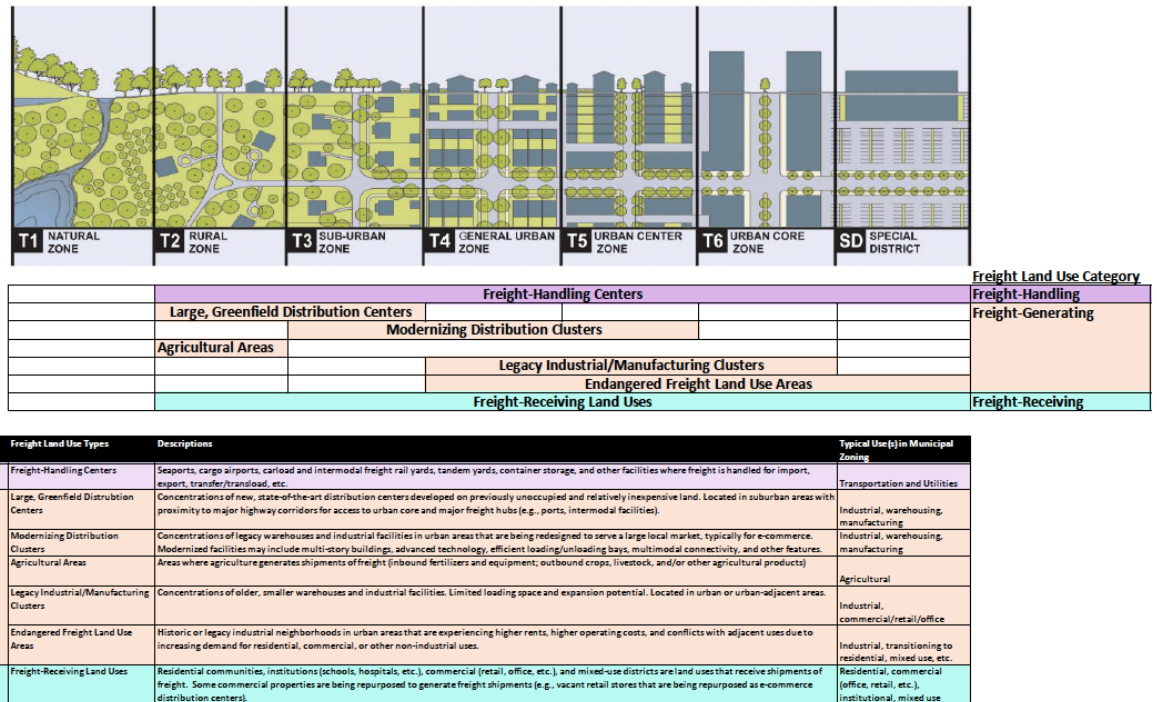
Freight Land Use Typology

Land use classification is important as a standard for land use description and management. Having a consistent typology will be helpful in facilitating discussions and decision-making related to freight land use. In this exercise, you will be asked to provide your input on a typology of three distinct ways land is used related to freight.

Background

The Regional Freight Land Use Study has uncovered a typology of three distinct types that describe the ways that land is used for the movement of freight, and/or for the production or receipt of freight shipments: freight-handling, freight-generating and freight-receiving land uses. Within the freight-generating land use type, there are multiple sub-types.

The figure below describes the types/sub-types, their typical municipal zoning uses and where they appear in the region's rural-urban transect.



Questions

1. Do the land use types and subtypes described below accurately reflect the region's freight patterns and land use trends? If not, what is missing?
2. How have these types and subtypes changed since the beginning of the COVID-19 pandemic?