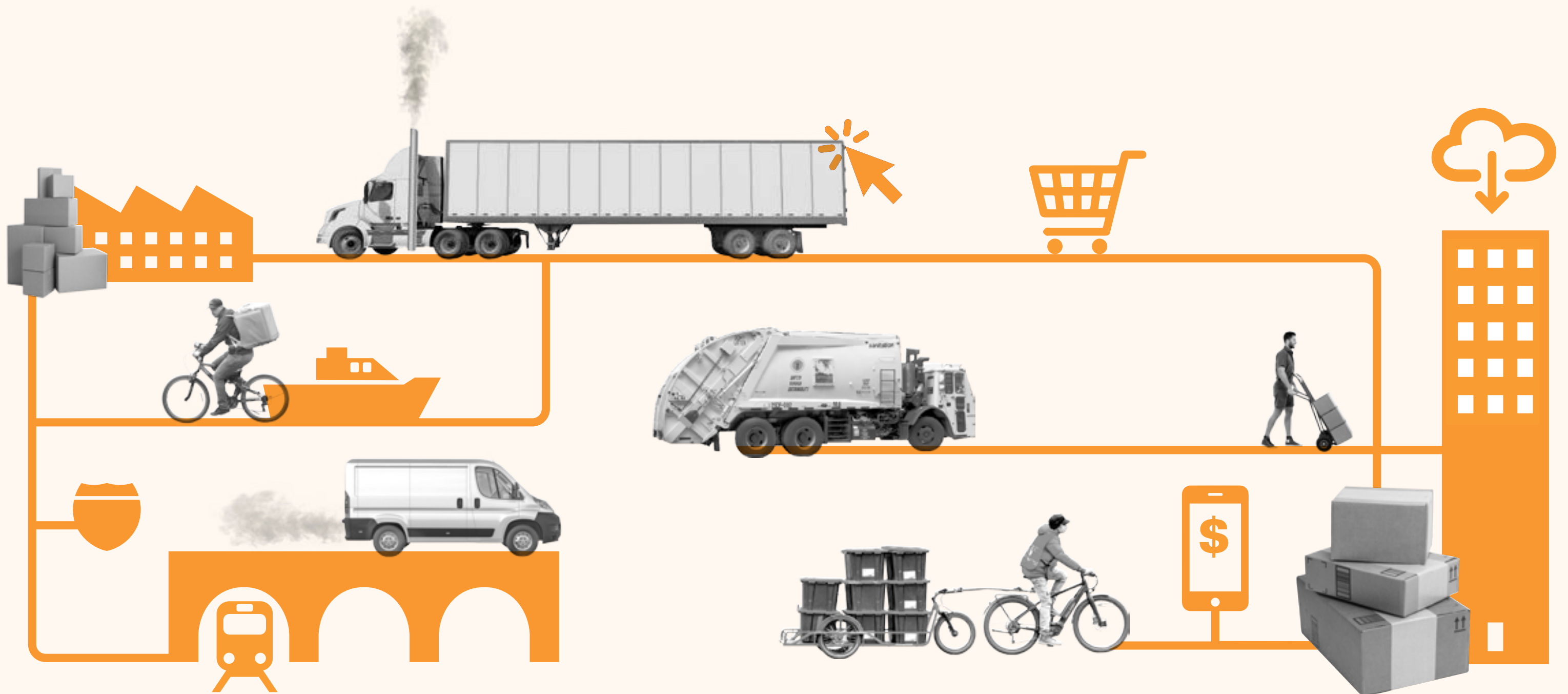


Summary document

DELIVERING THE GOODS:

NYC Urban Freight in the Age of E-Commerce

Complete document available at: aiany.org/urbanfreight



About Delivering the Goods: NYC Urban Freight in the Age of E-Commerce

The Goal | The goal of AIA New York’s Freight and Logistics Initiative is to advance freight policy in New York City by advocating for more efficient, equitable, and sustainable goods movement. By focusing on the middle-mile to last-mile segments of the supply chain with four existing delivery scenarios and offering alternative prototypes to the current state of goods movement, we see opportunities for improvements that will benefit the entire city.

The Situation: Impacts of Urban Freight | Each year, 365 million tons of freight moves through the New York City area. It is a flow of goods that brings the benefits of prosperous business but also gives rise to a set of complex challenges, especially in the final stage of freight delivery, the Last Mile.

As freight moves through city neighborhoods so do its impacts, often in ways that are distributed unevenly. In many cases, the weight of freight falls disproportionately on disadvantaged and vulnerable communities. Typical impacts include vehicle emissions (CO2 and particulates), congestion (streets, sidewalks, curbs), waste issues (inefficient material flows, uncontainerized refuse), and safety risks (crashes, injuries, and deaths).

On the supply side, freight delivery has its own challenges, particularly in New York City, where the geographic configuration of the five boroughs limits and concentrates access. Optimal sites for distribution facilities that are close to the final destination—consumers—often compete with other land uses.

These existing conditions are overlaid with surging downstream freight activity due to increased e-commerce and app use prompted by the COVID-19 pandemic. As consumers demand faster, more reliable, and more convenient goods deliveries and negative impacts continue to intensify, the need for a coordinated, forward thinking, and well-calibrated solution set becomes even more imperative.

Stakeholders | The primary stakeholders in the middle-mile/last-mile segments of this complex freight delivery ecosystem are:

- **Consumers**, who generate demand for products to support their basic needs as well as lifestyle choices
- **Local communities**, which experience the greatest impacts—both positive and negative—from close proximity to freight delivery routes and distribution warehouses along the supply chain
- **Local businesses**, which rely on the supply chain to get products they manufacture to consumer
- **The general public**, which benefits from orderly commercial activity
- **The goods movement industry** with its three main subsets:
 - **Freight haulers**, who deliver goods from point A to point B along the supply chain
 - **The real estate industry**, which develops physical distribution spaces where goods are transferred, stored, and sorted for eventual delivery
 - **Logistics operators**, who are the linchpin in the commercial process of supplying the products that consumers purchase
- **Labor**, which provides the skills to run industry
- **Government agencies**, which manage freight policies, build and maintain transportation networks, and regulate land use

Approach | The initiative developed from a multi-committee task force within the American Institute of Architects New York Chapter and expanded to include experts from academia, urban design, and traffic engineering fields. We began by immersing ourselves in previous research on the subject. We then interviewed various stakeholders affected by goods movement and held three listening sessions with experts in the field, each with a separate focus: best practices from comparable cities, community perspectives, industry perspectives, and agency perspectives. From here, we documented representative local goods movement scenarios in New York City and developed a series of future prototypes illustrating opportunities to improve land use and street/curb conflicts. This analysis resulted in a series of recommendations—some short-term and easier to implement, some longer-term and more visionary— that offer a framework for discussion about how to shape goods movement in the city over the coming decades.

Through this document, key challenges in four categories are called out and identified with the following icons:

-  **Community**
-  **Industry**
-  **Policy**
-  **Design**

Principles / About Our Values

At its core, this initiative is centered on building and strengthening livable communities—neighborhoods that are healthy and economically vibrant, where goods movement, fresh food networks, and safe, clean streets are all part of every New Yorker’s everyday experience. We envision a post-COVID urban realm transformed by innovative approaches to long-standing problems.

Essential to making that vision a reality is recognizing the importance of freight movement as well as the negative impacts that freight operations impose on communities—and using that understanding as a basis for new thinking around actionable solutions.

This project examines key challenges across the system scale and the site scale and proposes opportunities that, when organized as part of an overall strategic approach, can begin to reduce negative impacts and help shape a built environment that embodies our guiding principles.

Equitable Planning

Establishing just outcomes for all, especially vulnerable and marginalized communities.

Neighborhood quality of life is directly impacted by increased street traffic. Resolving the challenges related to goods movement requires robust, authentic, dialogue between all stakeholders: government, industry, and local residents. It is particularly important to engage with vulnerable and historically marginalized groups because much of the infrastructure for goods movement, especially highways, truck routes, and distribution facilities - are located in or are adjacent to neighborhoods where these communities reside.

Environmental Sustainability

Mitigating negative impacts to climate and building a circular material economy.

The competition over speed of delivery, fueled by consumer expectations for instant gratification, has spawned an explosion of polluting vehicles that crowd our streets, as well as an explosion in waste packaging. The current climate crisis and overall degradation of the environment demand new strategies for reducing the numbers of vehicle trips, a shift to less polluting modes, and the transformation of waste streams into opportunities through the implementation of a “circular economy.”

Balanced Goods Movement

Reconciling supply and demand sides for productive, people-centered urban freight.

In planning for New York’s streets, buildings, and public spaces, design processes do not always account for the needs of freight, resulting in conditions that force delivery workers to navigate challenging conditions. In addition, the facilities themselves are too often out of scale with neighboring communities and create intimidating streetscape conditions.

To prepare for a new future for freight it is critical to integrate freight networks and facilities into the urban fabric in a way that balances neighborhood needs for available and accessible goods with the actual systems of delivery. This includes ensuring the type of livable streets and high quality-of-life standards that are essential for communities to thrive and contribute to the city’s success.

PRIORITY RECOMMENDATIONS

Adopt Participatory Planning Approaches

- Create an institutional platform to enable cooperative planning across all stakeholders
- Promote stakeholder data collection and open data access
- Actively cultivate engagement and knowledge sharing

Recalibrate zoning and land use tools to reflect changes in manufacturing, distribution, and warehousing

- Employ the Special Permit process for distribution facilities based on impact criteria
- Implement more nuanced as-of-right regulations in Manufacturing Districts
- Support community-led neighborhood planning and re-zoning initiatives

Provide Guidance on Facility Siting and Design

- Develop design guidelines for off-street parking, loading, and storage that protect the character of the streetscape
- Respond to orientation, changes at the edges of neighborhoods, the location of parking and loading, and special conditions such as waterfront access
- Modulate the scale of large buildings by articulations of the facade, changes in massing, increased transparency, and the expression of different uses
- Promote mixed-use and flexible use where appropriate

Make Goods Movement an Essential Part of Street Design

- Adopt street design guidelines that balance goods movement with other street activities and facilitate deliveries by micro-delivery modes such as cargo bikes
- Develop flexible curb use management strategies and regulations
- Design street-scale infrastructure to support goods delivery

Create Distributed Networks for Goods Movement

- Advance infrastructure improvements for rail and maritime freight networks
- Develop micro-distribution hubs
- Introduce package lockers as part of the street design

Identify Opportunities for Freight Consolidation

- Develop strategies for adapting consolidation models to the New York City context
- Develop siting criteria for consolidation hubs coordinated with last-mile delivery routes
- Make recommendations for types of goods that can be consolidated based on concentrations of similar destination types
- Develop consolidation sites for construction materials commonly used from site to site

Diversify, Adapt, and Transform Modes Used to Move Goods

- Incentivize the transition to electric vehicles and deploy charging infrastructure
- Support the development of a viable local maritime goods movement network
- Reactivate and improve existing freight rail infrastructure
- Support micro-delivery modes such as cargo bikes

Create a Circular Economy for Products and Waste

- Provide for smaller, distributed neighborhood facilities for waste collection and processing
- Require a central room within buildings where goods can be borrowed and returned, and discarded packaging and waste can be separated into multiple reusable and recyclable streams
- Design delivery centers and goods infrastructure to accommodate reverse logistics and reusable packaging