



**2023 Clean Air Northeast
Partners Meeting**



Reimagining NYC's Urban Freight Landscape

**Clean Air Northeast Meeting
October 18, 2023**



Agenda

- Introductions
- Background
- Freight Programs Overview
- Discussion/Q&A

About NYC Department of Transportation

Mission: Provide for the safe, efficient, and environmentally responsible movement of people and goods in the City of New York, and to maintain and enhance the transportation infrastructure crucial to the economic vitality and quality of life of our primary customers, City residents.



Goals:

- Provide safe, efficient, equitable, and environmentally responsible movement of pedestrians, goods, and vehicular traffic on the streets, highways, bridges, and waterways of the City's transportation network
- Improve traffic mobility and reduce congestion throughout the City
- Rehabilitate and maintain the City's infrastructure, including bridges, tunnels, streets, sidewalks, and highways
- Encourage the use of mass transit and sustainable modes of transportation; and
- Conduct traffic safety educational programs

Background



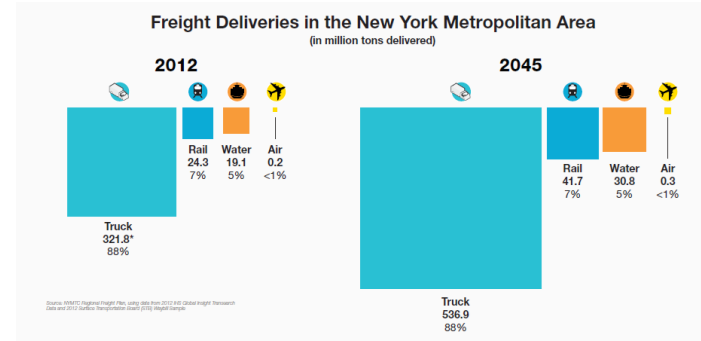
Perspective is important

- The World Economic Forum predicts that an increased demand for e-commerce will result in 26 % more delivery vehicles in inner cities by 2030.
- Without effective action, urban last-mile delivery emissions and traffic congestion are on track to increase by over 30% in the top 100 cities globally.
- With a growing population of 8.8 Million distributed over 300 square miles, and set to increase to 9 million by 2040, NYC is the most densely populated major city in the US (more than double the density of LA).
- We are also the center of the NY metropolitan area gross metropolitan product of \$2.4 trillion (as of 2021), the largest consumer market in the United States. The region's 20 million residents expect and deserve a world class and well-functioning freight transportation system.

NYC Context

Increased population + rapidly changing supply chains = pressure on aging infrastructure + increased negative externalities

- Efficient goods movements leads to lower costs and higher GDP; freight transportation & allied industries support about 300K NYC jobs
- **Estimated increase of freight volume, both commercial and consumer, based on expected population and economic growth rates.**
- Heavy Duty Vehicles (HDV) in NYC responsible for ~ 50% of on-road transport NOx and PM2.5 emissions



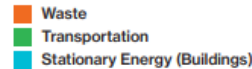
Today, **90% of goods are trucked into NYC**, resulting in congestion that could cost NYC's economy over \$27B over the next 30 years

NYC Climate Goals

Reduce greenhouse gas emissions

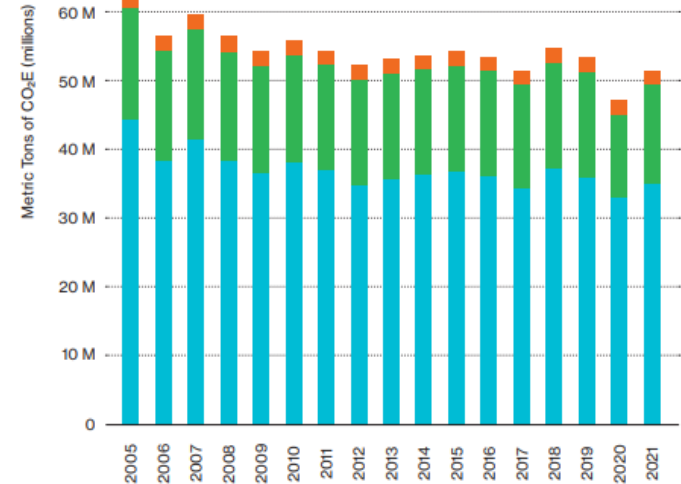
- NYC has set a target of reducing greenhouse gas emissions (GHG) by 80% by 2050.
- The transportation sector is the second highest source of NYC's greenhouse gases.
- Cut transportation emissions in half by 2030 and ensure New York City's streets provide a safe, clean, and livable environment.

NYC CITYWIDE GREENHOUSE GAS INVENTORY



The NYC Citywide Greenhouse Gas Inventory, which uses the Global Protocol for Cities (GPC) methodology, measures emission levels by source and tracks the City's progress in reducing them. Stationary energy, or energy used for buildings, is the largest source of emissions, followed by energy used for transportation, and emissions generated from solid waste and wastewater.

Source: NYC Mayor's Office of Climate & Environmental Justice, 2023.



PlaNYC
Getting
Sustainability
Done



Freight Movement & Livability

Several driving forces shaping demand in NYC



A growing city



Strong economy



Livable Streets



Growing consumer demand



Negative externalities



Consumer & Freight Trends

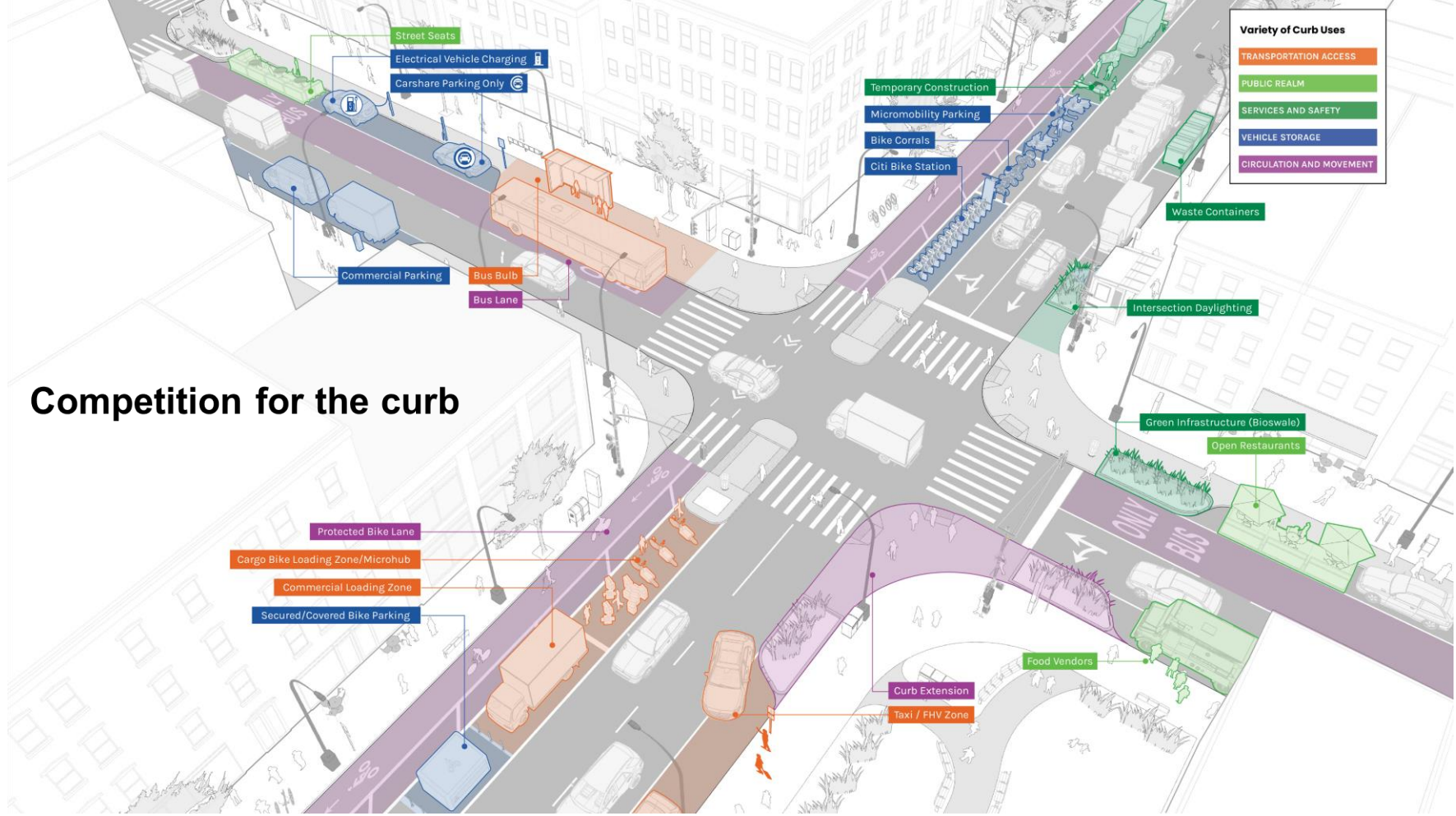
Increasing freight movement is driven by consumer demand.

- Over 80% of New Yorkers received a package at home in the last 7 days, 18% received packages on 4 or more days
- Pre-COVID-19, 60% of the deliveries were made to commercial customers and 40% to residential customers.
- Approximately 80% of deliveries are now going directly to residential customers
- Trucks conduct 90% of freight deliveries in NYC, leading to impacts on air quality, traffic, quality of life, and safety; disproportionately impacting environmental justice communities



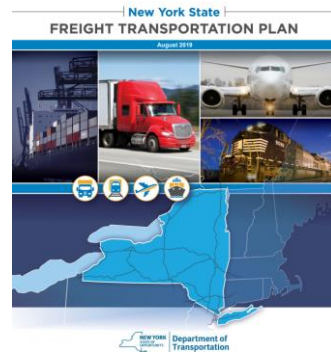
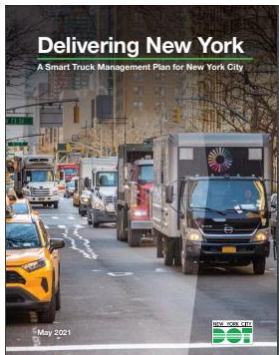
DOT aims to improve infrastructure for the safe, equitable, efficient, and responsible movement of goods.

Competition for the curb



The City's comprehensive freight strategy requires strong regional coordination and industry partnerships

NYC is committed to encouraging greener and more efficient truck deliveries, increasing the share of goods moved by water, rail, and cargo bicycles while supporting innovative practices.



Curb Management Plan

- Released Tuesday (9/12)
- Includes 10 actions to improve the functionality and performance of NYC's curb lanes
- Builds off the vision set forth in *PlaNYC: Getting Sustainability Done* and the “New” New York Panel’s *Making New York Work for Everyone*
- Complements the MTA’s Central Business District Tolling Program (CBDTP)



Freight actions in the plan

- Incentivize off-hour deliveries
- Install loading zones and commercial metered parking
- Pilot new types of loading zones (e.g., reservations, restrictions by time of day or vehicle type)
- Pilot microhubs
- Encourage use of cargo bikes
- Implement “loading only” curb regulation
- Pilot the East Coast’s first low-emission zone








Make deliveries to businesses and homes safer, sustainable, and more efficient

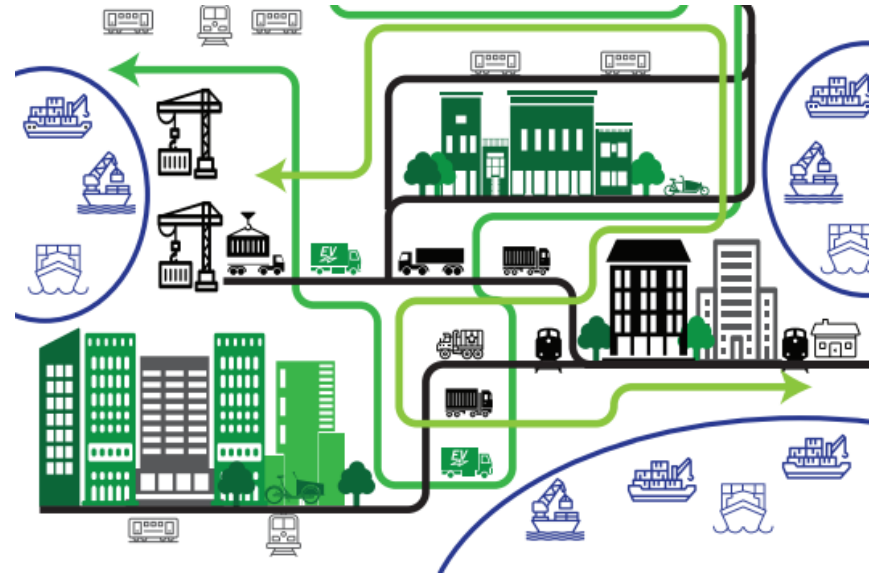
In response to the tremendous growth of e-commerce, NYC DOT is identifying ways to address freight-related safety, congestion, pollution, and quality of life concerns through better curb management. Strategies include policy tools, such as incentivizing off-hour deliveries to reduce demand at the curb during busy times, and physical treatments like loading zones. NYC DOT is installing truck loading zones and commercial metered parking in commercial areas and neighborhood loading zones in residential areas to reduce double parking and improve safety. In 2022 the agency installed roughly 1,800 loading zones.

The agency will also identify and pilot new types of loading zones to develop innovative ways to manage freight, such as zones restricted by time of day, vehicle type, and reservations. NYC DOT will pilot microhubs, which provide accessible space located within the public right of way where goods are transferred from larger freight vehicles to smaller, low-emission, and electric vehicles or human-powered modes (e.g., cargo bikes, hand carts) for final delivery. NYC DOT will encourage the use of cargo bikes and install cargo bike loading zones as part of a goal to shift 25% of last-mile freight deliveries from trucks to small, sustainable delivery methods by 2040.

The City's freight vision has five pillars

Anchored by DOT's Delivering New York and EDC's FreightNYC

-  Shift freight from road to **water**
-  Shift freight from road to **rail**
-  **Green** the last mile
-  Make the last mile more **efficient**
-  Foster a culture of **compliance**



Freight Mobility Toolbox

How We Do it: We have a wide range of expanding strategies, policies, and programs in our toolbox to ensure safe, efficient and sustainable movements of goods

Freight Efficiency



Off-Hour Deliveries



Commercial Cargo Bikes



Shared Use Lockers (LockerNYC)



Microhubs



Truck Electrification



Blue Highways

Sustainable last-mile deliveries

Curb access, truck route network, truck safety



Loading Zones Expansion



Conflict reducing designs



Truck Route Management



Truck Safety Education & Outreach

Off-Hour Deliveries (OHD) Program

Making the last mile more efficient

Forward
Thinking



- **Objectives:** improve efficiency and reliability of deliveries, reduce conflicts to improve safety, mitigate congestion, and reduce GHG emissions
- **Program Overview:**
 - Shift deliveries to the off-hours (7 pm - 6 am) within NYC
 - Currently have 1,100 OHD locations city-wide
- **Goal:** Expand to 5,000 locations by 2040
- **Who We Target:** vertically integrated chains, transporters and receivers of various sizes
- **Our Role:** technical support, tailored implementation guides, matchmaking and curbside access (where feasible), noise mitigation guidance, outreach and marketing, incentives and recognition (in process)



OHD partner making a delivery

www.ohdnyc.com

Commercial Cargo Bikes

2022 Snapshot

Overview: Greening the last mile

- Launched in December 2019, now largest program in the US.
- **Goal:** Enroll a fleet of over 2,500 operating cargo bikes by 2026.
- **Status:**
 - Doubled the number of participants and grew more than 4x the cargo bikes (**now >400 bikes**) since 2019.
 - In August 2023, DOT advanced draft rule to allow larger pedal assist commercial cargo bicycles (up to 48”) including 2, 3 and 4 wheels
 - Developing framework for incentive program to shift 25% of last-mile freight deliveries from trucks
 - Developing educational resources for cargo bike operators



REEF



FedEx

NPD
Logistics

COASTER
CYCLES



LockerNYC Pilot Program



Aimed at cutting down on package thefts and reduce delivery truck trips

- **Overview:** Shared use lockers operate as secure self-service access points where customers can collect packages from multiple carriers
- **Status:**
 - DOT announced pilot program (June 2023)
 - Integrating technology with logistics companies
 - Piloting 15 locations for up to 1 year
 - Lockers placed on sidewalks



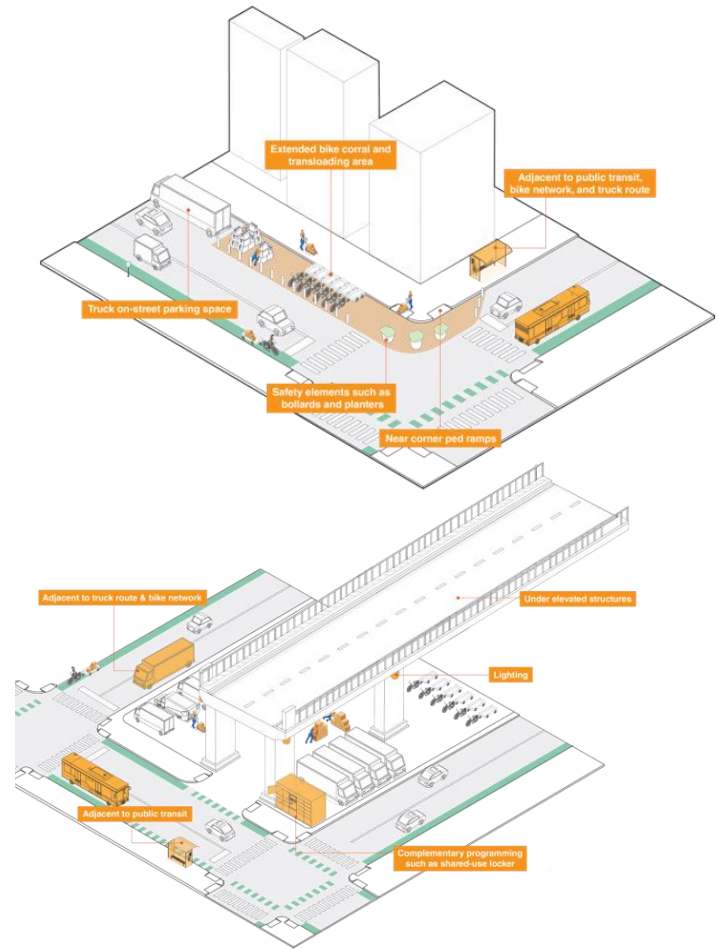
A seamless process is involved in package retrieval from shared use lockers

Microhub Pilot Program

per Local Law 166 of 2021

Reducing the impact of last mile delivery

- **A microhub is** defined as a space located within the public (curbside or off-street) or private right of way (garage) where **goods are transferred from larger freight vehicles to green or human-powered modes** (e.g., cargo cycles, hand carts, small electric vehicles) for final delivery.
- Microhub activations will be piloted for up to 20 on- or off-street locations for the first phase, set to launch late summer/early fall
- Delivery companies will apply for a permit to access dedicated spaces and will be required to transload to a sustainable mode in order to use the space



Note: These conceptual images are included for illustrative purposes only and does not reflect the final design of the microhub.

Truck Electrification

Develop citywide strategy for charging infrastructure

Electrifying medium- and heavy-duty vehicles is important to achieving the City's goal of carbon neutrality by 2050.

NYC DOT and NYCEDC are developing a Citywide Freight Decarbonization and Truck Electrification Strategy to explore the barriers to truck electrification and to develop strategies to address these challenges:

- DOT will develop design plans to install a network of up to 100 truck chargers by 2026
- Support NYCEDC efforts to install EV Chargers at the Hunts Point Food Distribution Center.
- The City intends to seek federal funding to support this initiative.



An electric truck charger at Manhattan Beer Bronx facility

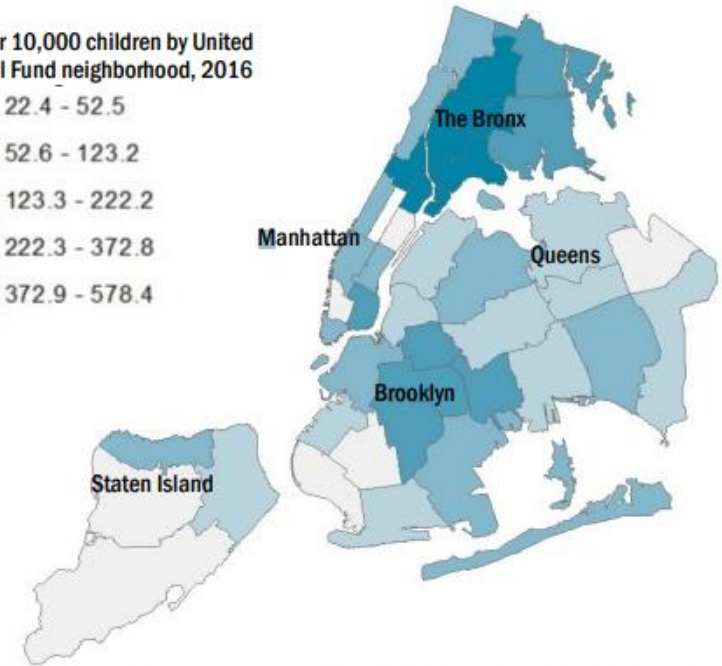
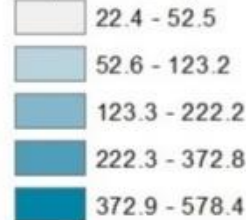
Why Electrify Trucks?

Support City's Goal of Carbon Neutrality by 2050 & Address Disproportionate Burden

- Our reliance on diesel trucks have disproportionate health effects on environmental justice communities,
- The outer boroughs bear the brunt of those negative health impacts
- Children living in the South Bronx have been disproportionately affected by asthma for decades. Asthma related emergency trips in the Bronx are double all other boroughs combined. (336 vs 175 per 10,000 children)*

Asthma-related emergency department visits among children ages 5 to 17 years old were highest in the South Bronx compared with all other New York City neighborhoods

Rate per 10,000 children by United Hospital Fund neighborhood, 2016



Note: Neighborhoods are defined by United Hospital Fund (UHF) which classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.

For more information visit:

<http://www1.nyc.gov/assets/doh/downloads/pdf/ah/zipcodetable.pdf>

Source: SPARCS 2016; NYC DOHMH population estimates, modified from US Census Bureau interpolated intercensal population estimates, vintage 2016. Updated September 2017

*Source: <https://www1.nyc.gov/assets/doh/downloads/pdf/ept/databrief126.pdf>

NYC Clean Truck Program (CTP) Overview



Goal: Replace old polluting trucks serving Industrial Business Zones (IBZs) and increase adoption of clean vehicles and fuels as part of a broader sustainability vision.

1st Milestone: Replace 500 pre-2009 MD/HD diesel trucks with newer trucks that are EPA-certified diesel, natural gas, hybrid or electric trucks to improve air quality in South Bronx.

- CTP launched in 2012, \$29M in replacements from FHWA and ~\$10M from VW settlement. In process of issuing RFP to continue program.
- 5-year commitment; compliance monitored using geofencing. Participants must hit benchmarks to ensure local usage and benefits.

Results:

- 656 total trucks funded
- 97% geofence compliance rate
- 70% of applicants are domiciled in Hunts Point and Port Morris

NYC Clean Truck Program Performance

Emissions Reductions

Amount reduced per year – Commercial Trucks

- Nitrogen Oxide: 407 tons ↓
- Fine Particulate Matter (PM2.5): 23.7 tons ↓
- High Hydrocarbons: 29.5 tons ↓
- Carbon Monoxide: 111 tons ↓
- Fuel: 717,008 gallons ↓

Amount reduced per year – Truck-Trailer Refrigeration Units

- Nitrogen Oxide: 76 tons ↓
- Fine Particulate Matter (PM2.5): 63 tons ↓
- High Hydrocarbons: 15 tons ↓
- Carbon Monoxide: 125 tons ↓
- Fuel: 301,544 gallons ↓



Manhattan Beer heavy-duty electric truck
DC fast charging station

NYC Clean Truck Program Growth

Building on success

DOT is expanding the Clean Trucks Program to all Industrial Business Zones (IBZs) citywide

Goals:

- Expand the program out to 2030 and replace another 1,000 trucks
- Replace dirty truck refrigeration units (TRUs)
- Increase emphasis on ZEV deployments in conjunction with future DCFC/Freight Charging Hub developments

Status: The program is accepting applications from industrial businesses citywide



Blue Highways Program



Joint DOT and EDC effort to activate marine freight highway development

Background:

- NYC's coastline stretches 520 miles, longer than the coastlines of Miami, Boston, Los Angeles, and San Francisco combined.
- NYC historically relied on its waterways for freight transportation, but over time the city's transportation system shifted towards truck-based delivery with almost 90% of goods delivered by truck

Program Goals:

- Activate NYC waterways for the movement of goods.
- Promote safety by decreasing the number of trucks on our streets, reducing traffic congestion and air pollution.
- Pair program with other sustainable last-mile delivery operations (cargo bikes, electric vehicles, etc.)



Thank You!

Visit www.nyc.gov/trucks for more info



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