



CPRG-I FREIGHT 2030:
Facilitating Regional Equity by Implementing Green Healthy Transportation

Workplan

In support of the New York City Department of Transportation's Climate Pollution
Reduction Program Grant Application

April 2024

NOTE: USE OF THIS EXAMPLE COVER PAGE IS OPTIONAL. IF THIS INFORMATION IS PROVIDED IN A DIFFERENT FORMAT, EPA WILL NOT REVIEW AN APPLICATION UNFAVORABLY.

CPRG IMPLEMENTATION GRANTS COMPETITION COVER PAGE FOR APPLICATION

APPLICANT INFORMATION

Organization	<input type="text" value="New York City Department of Transportation"/>
Primary Contact Name	<input type="text" value="Yogesh Sanghvi"/>
Phone Number	<input type="text" value="-"/>
Email Address	<input type="text" value="ysanghvi@dot.nyc.gov"/>

TYPE OF APPLICATION ☐ Individual Applicant ☒ Lead Applicant for a Coalition

If lead applicant for a coalition, provide a list of the coalition members below.

New York City Economic Development Corporation
Port Authority of New York and New Jersey

FUNDING REQUESTED: *Provide total EPA CPRG Implementation Grant funding requested.*

\$500,000,000

APPLICATION TITLE: *Provide the title of your proposed project.*

FREIGHT30: Facing Regional Equity Challenges by Implementing Green Healthy Transportation

BRIEF DESCRIPTION OF GHG MEASURES: *Describe each GHG reduction measure contained in the application (1-2 sentences each).*

Commercial Cargo Bike Incentive Program - The Commercial Cargo Bike Incentive Program will provide a 50% rebate to businesses towards the purchase of 2,000 new e-cargo bikes.

Microhub Expansion - The Microhub Expansion will select and construct five new off-street microhubs locations. Microhubs are small logistics facilities where goods are transferred from larger freight vehicles to lower-emission, electric or human-powered modes like cargo bikes.

Blue Highways - Blue Highways allocates funding towards marine landing modernization, new services, cargo handling equipment charging infrastructure, and other equipment electrification.

Truck Electrification & Parking - Truck Electrification & Parking will construct 13 charging hubs featuring 156 Level 3/Megacharger ports and 180 Level 2 chargers.

SECTORS: *Identify the sector(s) associated with the GHG reduction measures included in the application.*

- | | |
|--|--|
| <input type="checkbox"/> Industry | <input type="checkbox"/> Commercial and Residential Buildings |
| <input type="checkbox"/> Electricity Generation | <input type="checkbox"/> Agriculture/Natural and Working Lands |
| <input checked="" type="checkbox"/> Transportation | <input type="checkbox"/> Waste and Materials Management |
| <input type="checkbox"/> Other (please describe) | <input type="text"/> |

EXPECTED TOTAL CUMULATIVE GHG EMISSION REDUCTIONS

For all proposed measures combined, provide the estimated cumulative GHG reductions:

Estimated cumulative GHG reductions for 2025-2030 (in metric tons)

780,833 MTCO₂e

Estimated cumulative GHG reductions from 2025-2050 (in metric tons)

6,961,682 MTCO₂e

LOCATIONS: *List the primary location(s) where the proposed measures will be implemented*

City

State; Territory; Federally recognized Tribe

APPLICABLE PRIORITY CLIMATE ACTION PLAN(S) (PCAP) ON WHICH MEASURES ARE BASED

PCAP Lead Organization(s):

PCAP Title(s):

PCAP Website link(s) (if applicable):

List of GHG reduction measures and PCAP page reference for each measure:

Commercial Cargo Bike Incentive Program - pg. 55

Microhub Expansion - pg. 55

Blue Highway Development - pg. 55

Truck Electrification & Parking - 53

WORKPLAN

1. OVERALL PROJECT SUMMARY AND APPROACH

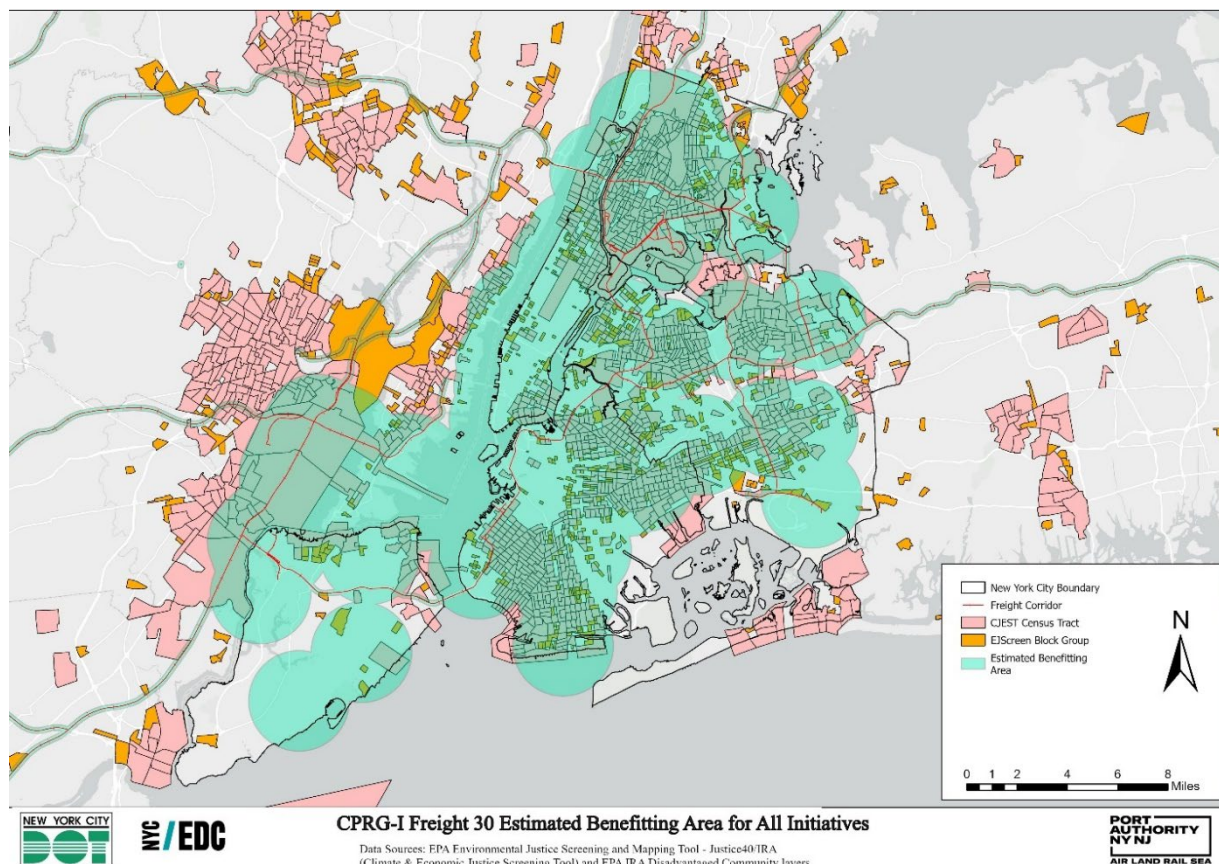
The New York City Department of Transportation (NYC DOT) and its coalition are proposing a series of measures under the umbrella of *FREIGHT 2030: Facilitating Regional Equity by Implementing Green Healthy Transportation* to take polluting trucks off the road and replace them, as well as associated freight equipment, with low to zero emissions (ZE) mobility options. With United States Environmental Protection Agency's (EPA) Climate Pollution Reduction Grant Implementation (CPRG-I) funding, this coalition can advance transformative GHG reduction strategies that improve health outcomes in low income and disadvantaged communities (LIDACs) (Section 4a), enhance the overall quality of life in underserved communities (Section 4b), and provide LIDAC residents with green job opportunities and education (Section 5). Once implemented, 46% of benefits from these measures will go to LIDACs, as demonstrated in the map to follow (Page 2).

Transportation is the second largest contributor to GHG emissions in the NY-NJ Metro after buildings and, while passenger vehicles make up the most VMTs today, truck traffic is increasing at almost double the rate of overall traffic volume (Smart Truck Management Plan, 2015-2018 data). At the same time, most trucks emit diesel, responsible for over 70% of on-road PM 2.5 emissions, leading to health issues, especially in high-poverty areas where levels are 50% higher. With freight traffic in and out of NYC expected to surge by 68% in the next two decades, pollution and health risks in LIDACs will worsen. Moreover, congestion and safety risks will increase, with crashes involving trucks and pedestrians or cyclists leading to twice as many pedestrians or cyclists being killed or severely injured.

To address these challenges, NYC DOT along with coalition members New York City Economic Development Corporation (NYCEDC) and Port Authority of New York and New Jersey (PANYNJ), are requesting \$500 million in CPRG-I funds to advance the following a bold set of *FREIGHT 2030* measures:

1. Commercial Cargo Bike Incentive Program: **Shift** freight to zero emission cargo bikes.
2. Microhubs Expansion: **Facilitate** efficient net zero micromobility for last mile deliveries.
3. Blue Highways: **Reactivate** regional waterways for freight movement and reduce GHG impacts of equipment at Ports and Rail facilities.
4. Truck Electrification and Parking: **Accelerate** electrification of medium/heavy duty trucks.

These measures will eliminate 74.6 million VMTs and reduce 780,833 MTCO_{2e} (metric tons CO₂ equivalent) of GHG by 2030, and by 2050, these numbers will increase to 689.7 million VMTs and 6,961,682 MTCO_{2e} of GHG. According to the US EPA GHG Equivalencies Calculator, these emissions reductions are equivalent to the emissions from 1.9 billion miles driven in an average gasoline-powered passenger vehicle, two natural gas fired power plants burning for one year, or the carbon sequestered by 12.9 million trees grown for 10 years. By 2050, these numbers increase to 17.8 billion miles, 18 gas fired power plants, or 115 million trees. *FREIGHT 2030* will also result in significant air quality improvements and associated public health benefits with a reduction of 23,594 pounds of annual Particulate Matter 2.5 (PM 2.5) by 2030 alone. This is particularly impactful to LIDACs, 1,196 LIDAC census tracts will benefit from *FREIGHT 2030*. These measures will also benefit 316 additional LIDAC census block groups. The figure below shows the broad geographic reach of *FREIGHT 2030*, as well as the intersection with LIDACs.



Public investment is crucial to accelerating progress in reducing freight emissions, especially as emerging technologies may struggle to compete in the market. With public funding, solutions and technologies can be tested and replicated, leading to economies of scale, and increased private investment in net-zero freight mobility. This \$500 million grant has the potential to generate over \$1 billion in private sector investments in electric trucks and port equipment to utilize new charging infrastructure, marine vessels to operate Blue Highway services, and facilities and critical amenities at Blue Highway sites and truck charging hubs. Long-term, the return on this investment will only increase. Together, these measures address first- middle- and last-mile freight – providing benefits across the logistics-chain.

These measures are both scalable and comprehensive. The NY-NJ Priority Climate Action Plan (PCAP) set the goal of shifting 25% of last-mile freight deliveries from trucks to small, sustainable delivery methods by 2040. This cannot be achieved without the measures in this plan, which holistically address the challenges of freight emissions in the NY-NJ Metro. These measures include key infrastructure strategies proposed for reducing freight emissions in the PCAP:

- **Zero Emissions Bus & Truck Adoption**
 - Electrify freight trucks, including provisions for supporting infrastructure (Page 53)
- **Alternative Freight Modes**
 - Expand the use of commercial cargo bikes for last-mile delivery (Page 55)
 - Provide additional resources to sustain and expand the Blue Highways Initiative (Page 55)
- **Maritime & Air Travel Emissions**
 - Electrify ground support and shore equipment, including provisions for charging infrastructure Cross-jurisdiction (Page 62)

Further, the PCAP analysis included a deep look at communities of concern (defined similarly to LIDACs), focusing recommendations not only on reducing GHG, but also maximizing impact to the most overburdened communities. This analysis identified multiple freight corridors running through the NY-NJ Metro as priorities. The recent Biden administration *National Zero-Emission Freight Corridor Strategy* (Strategy) released in March 2024, also identified the NY-NJ Metro as a critical first mover in implementing Zero-Emission Freight (ZEF) corridors and ZEF hubs (including rail, marine facilities, and intermodal facilities). Multiple freight corridors (e.g., I-278, I-95) and sites in NY and NJ are highlighted as key freight hubs for Phase 1, with additional sites targeted for subsequent Phases 2-4. This proposal aligns with the measures and geographies the federal interagency partners identified to build out a nationwide net zero freight strategy and prioritizes areas that bear a disproportionate environmental and air quality burden from medium and heavy-duty vehicle emissions. The GHG reduction measures proposed as a part of *FREIGHT 2030* have been highlighted consistently as priorities over the past three years, throughout multiple plans and studies published by NYC agencies, the New York Metropolitan Transportation Council (NYMTC), and the North Jersey Transportation Planning Authority (NJTPA), including: [NY-NJ MSA PCAP](#), 2024; [PlaNYC: Getting Sustainability Done](#), NYC Office of the Mayor, 2023; [Clean Freight Corridors Study](#), NYMTC, 2022; Governor Kathy Hochul and Mayor Eric Adams, 2022; [Delivering New York: A Smart Truck Management Plan for New York City](#), NYC DOT, 2021; NYC DOT and NYCEDC, 2021; and [FreightNYC: Goods for the Good of the City](#), PortNYC and NYCEDC, 2018. They also reinforce the PANYNJ's 2023 *Net Zero Roadmap* and will help meet New York State's requirement for all new vehicles purchased to be ZE by 2035.

While these ideas are not new, there has been limited funding to scale them to date, with an investment of \$5.6 million from the United States Maritime Administration (MARAD) for pilot Blue Highways sites. The Commercial Cargo Bicycles Pilot Program removed barriers to cargo bike adoption and demonstrated the latent demand and viability of increasing cargo bike use for last mile delivery but does not have additional funding to scale up. The implementation of the Central Business District Tolling Program, which charges trucks up to \$36 to enter Manhattan's Central Business District, coupled with projected increases in regional freight activity, will enhance the viability of Blue Highways operations by allowing deliveries to bypass traffic congestion and associated charges and enabling final deliveries via micromobility unaffected by tolling fees. This proposal brings together extensive analysis and testing, collaboration with private industry, and a market-informed approach to ensure this funding goes to resilient freight operational improvements with high GHG reduction potential. Funding for *Freight 2030* will complement city, state, federal, and private-sector investments to transition to electric fleets and provide supporting infrastructure.

NYC DOT has successfully implemented \$4 billion in federal grants and has the demonstrated capacity to deliver *FREIGHT 2030* and meet CPRG-I program requirements. NYC DOT, NYCEDC and PANYNJ have a long history of successful cooperation and project implementation. Each coalition member will contribute expertise, resources, and oversight critical to the success of the project. As the Lead Applicant for this coalition, NYC DOT will submit an MOA signed by all coalition members by July 1, 2024. Coalition members will adhere to EPA rules, regulations, and grant-specific terms while completing the project within the designated period. They will also comply with relevant federal, state, and local regulations. Please find signed Letters of Intent from each coalition member attached to this application affirming each member's enthusiastic intent to sign the MOA. Roles and responsibilities of the coalition members will be as follows:

The NYC Department of Transportation (NYC DOT) will oversee the CPRG-I award, managing finances, subawards, and ensuring compliance with regulations. They will manage project delivery, procurement, monitoring, and budget for the Commercial Cargo Bike Incentive Program, Microhubs Expansion, and Truck Electrification and Parking. For the Blue Highways initiative, NYC DOT will provide consultation on

project delivery, procurement, and performance evaluations. They will also lead progress reporting and community engagement efforts across all measures.

NYC Economic Development Corporation (NYCEDC) will be a Coalition Member and subrecipient of the CPRG-I award. They will manage finances and ensure compliance for the Blue Highways site activation, overseeing procurement and project delivery, supporting community engagement, and reporting progress. For Truck Electrification and Parking, NYCEDC will consult on project delivery and procurement, utilizing its extensive experience and successful track records in working across the public and private sector to reduce emissions and invest in NYC's green economy from [South Brooklyn Marine Terminal Offshore Wind](#) to [Sims Municipal Recycling](#) and [Pier 94 Film Studio](#).

The Port Authority of New York and New Jersey (PANYNJ) will be a Coalition Member and subrecipient of the CPRG-I award. They will manage their allocated subaward, ensuring compliance, overseeing procurement, supporting community engagement, and handling project delivery for Blue Highways Cargo Handling Equipment (CHE) Charging Infrastructure and electrification measures at NYNJ Rail Facilities.

a. Description of GHG Reduction Measures

Commercial Cargo Bike Incentive Program

Cargo bikes are recognized as one of the cleanest and most efficient modes for last-mile delivery, especially for small businesses. Twenty cargo bike miles per day replace 20 van or box truck miles, resulting in a per bike CO₂ savings of approximately seven tons per year, equivalent to 15,436 passenger car miles traveled. The Commercial Cargo Bike Incentive Program would provide businesses with a 50% rebate for the purchase of 2,000 new cargo bikes.

NYC's initiative builds on the success of its Commercial Cargo Bicycle Pilot Program, allowing commercial cargo bikes to load and unload in locations allowed for commercial vehicles and at designated cargo bike corrals. Major operators like UPS, DHL, and Amazon participated, leading to a 109% increase in cargo bike deliveries from May 2020 to January 2021, including over 45,000 cargo bike deliveries made in January 2021 alone. In 2022, cargo bikes delivered over five million packages, reducing over 650,000 metric tons of CO₂ emissions. Cargo bike rebates, popular in European countries, such as France, England, Germany, and Italy, follow a refund approach, like NYC DOT's proposed program.

Operational safety and efficiency are crucial for logistics carriers. This measure leverages Mayor Adams's \$900 million infrastructure investment to enhance safety for cyclists, drivers, and pedestrians. The *NYC Streets Plan* includes building new bike lanes and intersection improvements, fostering a cargo bike-friendly environment. The Commercial Cargo Bike Incentive Program, Microhubs Expansion, and Blue Highways synergize to reshape the freight ecosystem, with cargo bikes supporting a multimodal delivery network. These efforts position cargo bikes as the preferred option for small businesses, Minority and Women-owned Business Enterprises (MWBEs), and large logistics operators.

A competitively awarded third-party contractor will administer the rebates as modeled after NYC DOT's recent and highly successful NYC Clean Trucks Program, which incentivizes local commercial fleet operators to transition from diesel and to clean trucks and technologies. Similarly, cargo bike rebates would be distributed to participants after the cargo bike is purchased and delivered. The key tasks and milestones will involve contracting a third-party (early 2025) to manage outreach and engagement (mid 2025-2027), rebate distribution (mid 2025-2027), capacity building and business support (mid 2025-2027), and monitoring and evaluation of the program (early 2026-onward). NYC DOT will be responsible for implementing this measure, as discussed in detail in Section 3.c.

Microhubs Expansion

The second proposed measure is the expansion of microhubs, which serve as small logistics facilities to transfer goods from larger freight vehicles to zero or low-emission electric or human-powered modes (i.e., cargo bikes, handcarts). The CPRG-I grant would fund five (5) new, off-street microhubs plus accessory e-cargo bike and electric truck charging infrastructure. The microhubs will be located off-street to provide weather protection and improved safety for workers. Potential amenities include lighting, restrooms, secure cargo device and storage and charging infrastructure, and bike maintenance facilities. This measure will result in fewer trucks on roadways, reduced congestion, improved air quality, increased public safety, job creation, and enhanced access to essential services in LIDACs. The microhubs will meet CPRG-I goals by reducing GHG emissions and pollutants to LIDACs and through scalability, replicability, and complementing already planned, city-funded microhubs.

Microhubs reduce VMTs and associated GHG emissions in two important ways—first, by substituting trucks and vans with low to zero emission micromobility options and second, by transporting consolidated freight to the microhubs. A single EV box truck can transport the same freight load as four smaller last-mile vans, resulting in a 75% reduction in VMTs between a last-mile warehouse and delivery area. With high volumes of deliveries transported across boroughs and river crossings this will lead to significant benefits across the metro area. The measure will be scalable once the City establishes a process and shares best practices, allowing other regional agencies and cities nationwide to replicate the model. Other U.S. cities, such as Seattle, have explored microhubs, demonstrating promising results. In Seattle, trucks drop off parcels at microhubs and electric-assist cargo tricycles deliver the packages or individuals pick up their packages at on-site lockers. The pilot reported a 30% reduction in CO₂ emissions per package delivered, highlighting the environmental benefits of microhubs.

The City has identified target NYC geographies for microhubs in Williamsburg, Clinton Hill, Morningside Heights and Long Island City and is also considering additional geographies in coordination with Blue Highways including Red Hook/Gowanus, Hunts Point, Lower Manhattan, and Sunset Park. The city will select final sites post-award, using the following site selection criteria: within or in close proximity to Priority Investment Areas (which map very closely to LIDACs) as defined in the [NYC Streets Plan](#), access to high-density, mixed-use areas, proximity to truck routes, bike network and public transit, sufficient room and operating conditions for trucks and other modes, and underutilized space in need of activation.

The key tasks and milestones will involve site selection (late 2025), identifying and securing operating partners (early 2026), issuing an RFP for design (early 2026), beginning design (mid 2026), issuing an RFP for construction (mid 2026), beginning construction (late 2026), and opening five new microhubs (late 2027-early 2028). NYC DOT will be responsible for implementing this measure, as discussed in detail in Section 3.c.

Blue Highways

The NY-NJ Metro region benefits from plentiful access to waterways and are committed to making better use of them through creation of Blue Highways for freight transport and modernization of marine infrastructure. The city is proposing to develop four new Blue Highway sites at various locations across the city and to upgrade to net zero equipment at critical port and rail facilities that PANYNJ manages.

Blue Highways: Site Activation

This measure is a “hub-and-spoke” model in which operators use barges to move shipping containers or palletized cargo across the harbor to various points along the city’s waterfront, thereby removing trucks from roadways, and reducing bottleneck congestion and pollution. This measure will decrease reliance on traditional trucking methods and provide critical resiliency by reducing freight dependence on the two river crossings that bring most freight into and out of the city.

River crossings in and out of the metro area are bottlenecks for freight traffic and lead to increased truck idling and pollution. In 2024, the American Transportation Research Institute named the I-95/SR 4 intersection on the approach to the George Washington Bridge the worst freight bottleneck in the country for the sixth year running. This measure will relieve the congestion by replacing on-road river-crossings with a “maritime bridge” that will increase the efficiency of freight movement in the region. Blue Highways will support the other proposed implementation measures to advance a complete, decarbonized freight system. From the Blue Highways, freight is transloaded onto cargo bikes or other modes or transloaded to electric box trucks and cargo vans. Electric vans or trucks used to move goods from Blue Highway sites will be able to utilize charging hubs provided by the Truck Electrification and Parking measure. The shift to moving freight by water could also benefit regional markets and producers by offering more efficient transportation of goods and packages for last-mile delivery. Cities around the world have recognized this as an essential shift. [In Paris](#), for example, Ikea barges utilize the Seine River to transport its goods before delivering them to its customers via a fleet of 12 electric trucks, which cover the last few miles. [In Berlin](#), since October 2022, DHL has been operating a solar water vessel to transport parcels. The small vessel transports around 300 parcels per day and then the parcels are distributed via e-cargo bikes nearby districts. NYC DOT and the coalition share this type of commitment to utilizing Blue Highways with this grant funding.

NYC DOT is requesting grant funds for marine landing modernization with on-site logistics facilities. This includes upgrades to existing landing platforms and barges, installation of gangways to connect landing barges to upland locations, electrical upgrades, cleats and mooring points, and the addition of fenders and piles to aid in docking. The scope also includes construction of microhub facilities on-site, to enable arriving freight to be transloaded to EVs and micromobility. On-site Level 3 DC fast chargers will also provide on-site charging for electric trucks and vans.

Site selection will maximize economic and environmental benefits using a market-informed approach. The City solicited interest by private cargo companies and maritime operators to serve local customers by water through a Blue Highway RFEI in 2023. The RFEI showed significant private interest with over 20 responses from operators and logistics companies seeking to expand maritime freight access. This RFEI also yielded feedback about locations, services, and operating models that will ensure Blue Highways reflects the needs of freight operators and local businesses, leading to long-term sustained success. The City has selected one site to advance (Pier 92) and will select up to five additional sites post-award in the following target geographies: Southwest Brooklyn, Lower Manhattan/South Street Seaport, and Midtown East. Selected sites must have the capacity to receive containers and micro-freight and demonstrate the use of passenger ferry terminals to serve both passengers and last-mile deliveries.

This measure will also complement the existing Blue Highways funding from the MARAD’s America’s Marine Highway FY2022 Program. Through this funding, NYC is already advancing the buildout of the marine highway network by activating six waterfront sites by 2025. These sites represent the origin and destination nodes on an emerging marine highway that connects distribution areas to consumption areas within the city but lack the capacity to scale to manage the freight volume that these new sites will. The additional four sites proposed for CPRG-I funding will enable the marine highway network to scale commensurate with anticipated demand and the urgency of the moment from climate and congestion perspectives. A larger network may open additional opportunities for shorter freight hops within the network, and longer trips with freight originating beyond the New York-New Jersey harbor, along the eastern seaboard and even beyond. The New Jersey to New York trip is modelled as the foundation of today’s marine highway demand – once infrastructure is in place, more diverse uses may emerge, though they are not relied upon in the modelling of this proposal.

The key tasks and milestones for the Pier 92 Blue Highway site activation will be to release a design RFP (mid 2024), release an RFP for site operator/micro-hub developer (early 2025), begin design (early

2026), start construction (late 2026), open the site for operation (early 2030). For the other new Blue Highway site activation, the key tasks and milestones are to release an RFP for design (early 2025), begin design (mid 2025), begin construction procurement (early 2027), release an operator RFP (early 2026), and open sites for service (early 2029). Tasks and milestones are discussed in detail in Section 3.c.

Blue Highways: Cargo Handling Equipment (CHE) Charging Infrastructure

A second component of the Blue Highways program would advance the significant challenge of enabling the phase out of cargo handling equipment (CHE) at existing port facilities. NYC DOT and its coalition members are requesting grant funding to subsidize private sector port operators for investments in infrastructure to enable electrification of cargo handling equipment. In 2022, PANYNJ introduced emissions standards for new equipment, phase out requirements for old equipment, and zero emission (ZE) requirements for equipment where commercially available and operationally feasible. However, the cost of upgrading infrastructure to support electrified CHE remains a significant barrier to private port operators' purchase and deployment of this equipment. This measure would award subsidies on a competitive basis to PANYNJ tenants for electrification-enabling infrastructure projects including extension or upgrades of electrical service lines, switchgear and meters, shore power for port-related harborcraft and other vessels, battery energy storage and associated systems for load management, DC fast chargers for heavy-duty equipment, and resiliency measures to protect equipment from coastal storms. These investments will enable port terminal operators to accelerate their electrification of terminal tractors, forklifts, gantry cranes, and other ancillary landside equipment, as well as potentially tugs and tows that operate in the harbor. This will enable them to decommission equipment that relies on diesel, LNG, or propane fuel. The measure will fund 90% of eligible project costs, up to \$20M per site.

CHE infrastructure subsidies upgrades will be considered at the following port facilities: Red Hook Container Terminal at the Brooklyn-Port Authority Marine Terminal; Red Hook Barge Terminal at Port Newark; Port Liberty New York at Howland Hook Marine Terminal on Staten Island; APM Terminal at the Elizabeth-Port Authority Marine Terminal; Maher Terminal at the Elizabeth-Port Authority Marine Terminal; Port Newark Container Terminal (PNCT) at Port Newark; Port Liberty Bayonne at the Port Jersey-Port Authority Marine Terminal; and at the Brooklyn-Port Authority Marine Terminal. In consultation with NYC DOT, PANYNJ will issue a Request for Proposals that will specify criteria consistent with EPA terms and conditions for this grant. PANYNJ will evaluate tenant proposals based on criteria including project readiness and feasibility of completion within the grant performance period, utility confirmation that it will be able to provide the required service, environmental benefits, cost-effectiveness, and compliance with grant requirements.

Blue Highways: Electrification measures at NYNJ Rail Facilities

A third component of Blue Highways funding will be allocated to advance electrification of NYNJ Rail, a PANYNJ subsidiary. NYNJ Rail is a rail float bridge operation that moves railcars between Greenville Yard in Jersey City, NJ and the 65th Street Yard in Brooklyn, NY, providing a critical link connecting Brooklyn and Long Island to the national railway network. In 2023, NYNJ Rail moved 4,970 railcars across New York Harbor, each of which removed 3-4 truck trips from the region's roadways. NYNJ Rail also provides last-mile service to waterfront warehouses in New Jersey. CPRG-I funds would enable the PANYNJ to electrify locomotives (new or retrofitted), purchase high-capacity electric forklifts for transload operations, and develop electrical infrastructure needed to charge this equipment. The replacement of conventional diesel fueled equipment with battery electric switcher locomotives and forklifts will lead to a significant reduction in air pollutants. These sites will also receive infrastructure upgrades, scoped by PANYNJ Engineering, to support electric equipment.

The major tasks and milestones for Cross Harbor Rail Electrification include the issuing of an RFP for equipment manufacturing and on-site infrastructure upgrades (early 2025), start design (early 2026),

and completion of construction and delivery of electric switcher locomotives and forklifts (early 2027). More details can be found in Section 3.c.

Truck Electrification and Parking

FREIGHT 2030 aims to create a greener freight network and address urban congestion and climate change challenges in the fourth and final measure, Truck Electrification and Parking, which will establish charging depots and parking areas for electric vehicles. NYC DOT will use grant funds to develop and operate 13 charging hubs through public-private partnerships and establish a Regional Fleet Advisory Services (RFAS) Program.

As charging is a significant barrier to EV operations, this measure is a priority. It will target the needs of last mile delivery and local commercial vehicles that principally operate within NYC and provide support for charging and parking larger trucks up to Class 8 tractor trailers. Truck Electrification and Parking will support electric trucks transporting freight to and from microhubs or Blue Highways and reduce emissions at every stage of the delivery chain. NYC DOT will choose charging locations in Industrial Business Zones and proximate to designated truck routes. The freight routes that will be prioritized for this measure will align with NYMTC's work in the *Clean Freight Corridors Study*. This study prioritized clean freight corridors by calculating a readiness score for EV infrastructure drawn from three weighted variables: fuel station coverage, proximity to freight demand clusters, and existing truck volume. NYC DOT will also consider each corridor's need for clean fueling infrastructure and air quality in census tracts adjacent to the segment, based on diesel particulate emissions. NYMTC's recommended corridors align with the key freight corridors that will benefit from reduced truck traffic and pollution once *FREIGHT 2030* is implemented. Site selection for Truck Electrification and Parking will also consider factors such as proximity to the airport, waterborne transport facilities and/or freight rail stations; black carbon, particulate matter, and Nitric oxide levels; 100-year floodplain; general accessibility and connectivity; lane miles of truck routes, proximity to truck stops, highway rest areas, and/or truck gas stations, and the capacity of electrical grid connections.

The measure proposes a total of 120 Level 3 (DC fast) and/or Megacharger ports and 168 Level 2 (AC) chargers. Level 2 (AC) chargers can "top up" range or fully charge trucks during extended parking sessions while high-powered Level 3 (DC fast) chargers and Megachargers (for Class 8 trucks) can fully recharge trucks in under an hour. From a development standpoint, sites with Level 3 chargers cost more and may require utility upgrades while Level 2 chargers draw less power and cost less, making them well suited to larger hubs that also provide truck parking. The coalition developed three different charging hub concepts to maximize flexibility and provide operators with options: Fast-Charging Hubs with 12-16 Level 3 (DC Fast) chargers and possibly Megachargers, Parking-Charging Hubs of several dozen parking spaces and a Level 2 (AC) charger in each space, and Hybrid Charging Hubs which blend the first two concepts. As the project progresses, NYC DOT and NYCEDC will select and apply these concepts based upon site suitability. The hubs may incorporate amenities like restrooms or convenience stores to improve the driver experience and generate revenue for private-sector development partners. A past example of a successful public-private partnership similar to what is proposed is the [City of Portland's partnership](#) with Daimler Trucks North America (DTNA) and Portland General Electric (PGE) to advance public charging stations for medium and heavy-duty electric commercial trucks. This is a collaborative project driving innovation between a private enterprise and the local utility provider. The first site opened in 2021 with eight charging stations.

NYC DOT will also use grant funds to establish a Regional Fleet Advisory Services (RFAS) program, delivering personalized fleet electrification education and consulting support to fleet operators. RFAS will help operators transition to EV trucks, which can utilize the Parking-Charging hubs. The consultant will utilize a multi-faceted approach, including targeted communications, workshops, and partnerships with industry associations to engage fleet operators. Complementary to the NYC Clean Truck Program,

the consultant will provide guidance on infrastructure selection and installation, sharing lessons learned and best practices to build upon and expand the existing program. The measure will also support workforce development by offering driver training and educational resources.

Key tasks and milestones for the truck charging and parking measure include site selection (early 2025), begin design (mid 2025), begin construction (late 2026), and opening the charging depots (mid 2027-early 2029). After procuring the RFAS consultant (early 2025), NYC DOT will advance outreach and stakeholder engagement (mid 2025) to inform the development of program services, and initiate fleet enrollment, program evaluation, and monitoring on a rolling basis (2026-2030). NYC DOT will be responsible for implementing this measure, as discussed in detail in Section 3.c.

Overall Assumptions, Risks, and Mitigation

NYC DOT has identified the following potential risks to project implementation and strategies for mitigating them. Any of these risks could impact the project timeline, leading to delays in achieving GHG emissions reduction targets, providing benefits to LIDACs, and achieving other project objectives.

Technical Risks. Unforeseen technical issues or limitations could result in delays or setbacks in project implementation. Most of the technologies included in this proposal are proven and established. However, as high-capacity Megachargers for Class 8 EV trucks are an emergent technology, the ability to include these types of chargers will be studied further during the design process to mitigate any potential risks. There is also a risk that electric utilities may not be able to provide sufficient power at specific sites. To address this risk, the City and PANYNJ are already working with relevant electric utilities to alert them to growing electrical capacity needs at the Port and other key sites and will provide them with early details of the specific demand loads associated with proposed projects as early as possible in the implementation process. Utility needs will be a critical components of site section and furthermore, where appropriate, projects will include peak management strategies like on-site battery storage capacity.

Financial Risks. Potential risks include final costs that exceed budgets as well as delays that lead to increased costs. The City will mitigate these risks through extensive planning and inclusion of contingency costs in project budgets. Further, when selecting final sites, costs will be a critical component of the criteria and the project budget will drive design decisions. NYC DOT has experience managing a multi-billion-dollar budget and will work to mitigate any financial risks to the project with effective and proactive project management.

Regulatory Risks. Changes in regulations or policies at the local, regional, or national levels could affect the feasibility or viability of certain project activities, leading to delays or modifications in implementation plans. Potential constraints on cargo bikes include the City's new cargo bike regulations that would allow wider bikes with four wheels, but also impose a 10-foot length limit. This is shorter than many of the cargo bike and trailer combos that Amazon and UPS currently use. While it remains to be seen whether the city will modify or enact the proposed regulation, NYC DOT participates in these conversations and will ensure that any new laws consider this measure and the investments of time and money that are going toward its success.

Climate and Weather-Related Risks. Extreme weather events, such as floods, storms, or heatwaves, could disrupt project activities, damage infrastructure, or impact project sites, leading to delays in implementation or during operation and affecting the GHG emissions reduction timeline. NYCDOT and its coalition members will address these factors by partnering with NYC Mayor's Office of Climate and Environmental Justice (MOCEJ) and leveraging their expertise on climate-related risks and mitigation strategies. MOCEJ will function as an advisor on this subject matter and make sure the coalition is following best practices for timely implementation.

Organizational Risks. Potential resistance from local communities or stakeholders could impede project progress, leading to delays in obtaining necessary approvals, permits, or cooperation for implementing measures. Community feedback is an important aspect of any physical infrastructure project. The coalition is also going into this with extensive feedback from the PCAP, which informed the development of these projects, and communities impacted by these projects will play a significant role in shaping them through design and construction.

Operational Risks. The sustainable freight measures all involve partnership with the private sector. These operating partners (non-coalition entities) who will utilize cargo bikes, microhubs, Blue Highways, and truck charging depots could pose a risk to swift and effective implementation. Freight operators and other businesses need to make decisions to utilize these facilities funded by this grant. Commercial pressures arising from evolving business demand, cost structures, competition, and the labor market all pose risks to the utilization of these measures and associated GHG reductions. The coalition has been taking action to mitigate this risk. The City has piloted successful programs to implement cargo bikes and microhubs. The DockNYC (2020) and NYC Blue Highways (2023) RFEIs have also captured industry feedback that the City is integrating into the design and implementation of the Blue Highways measure. Additionally, the City is incorporating industry best practices, such as experience from other charging hub installations in site layout and incorporation of features such as solar panels.

b. Demonstration of Funding Need

NYC DOT is actively pursuing resources to fund the decarbonization of the metropolitan freight network; however, the need, scale, and complexity of the project significantly exceed the amount of available funding. The City and PANYNJ have thoroughly explored the availability of other federal and state grants, tax incentives, and funding sources to implement these measures and can affirm that these alternative sources are not sufficient to meet the project needs. The City actively monitors federal and non-federal funding sources that could support this project and have pursued the following funding:

Bipartisan Infrastructure Bill Funding

NYC DOT has applied for over \$1.2 billion in federal funding and secured over \$81 million through competitive grants authorized by the BIL and IRA. However, most of the funding will go toward maintaining and improving the City's vast network of transportation infrastructure. In support of freight related emissions reduction, NYC DOT has pursued the following:

- USDOT RAISE: NYC DOT re-requested \$5.6 million in FY24 for Urban Freight Mobility Collaborative to explore and address challenges to decarbonizing freight.
- USDOT Charging & Fueling Infrastructure: NYC DOT and NYCEDC received a partial award for Urban Area Strategies to Electrify Micro/Light to Heavy Duty Mobility.
- USDOT ATTAIN: NYC DOT re-applied for \$5.4 million for Advancing Freight Efficiency with Innovative Sensors to implement an automated roadway inspections program.
- USDOT Marine Highway Program: NYCEDC received \$5.6 million in MARAD funds for site upgrades.
- In addition, NYCEDC and NYC DOT have applied for planning grants through USDOT Reduction of Truck Emissions at Ports, USDOT Marine Highways, and USDOT Port Infrastructure Development Program.

Inflation Reduction Act

The City is actively exploring IRA funding opportunities, including elective pay credits. However, tax credits and currently available funding opportunities are not applicable to the scope of this project. NYCEDC and PANYNJ intend to pursue funding through the EPA Clean Ports Program future IRA related funding, for EV infrastructure and shore power. These funds will cover separate needs than the CPRG-I funding; funding for these measures at this scale is not currently available by any other federal or non-federal funding sources. For CHE Charging Infrastructure, the only source of funding currently available

is from the private sector—for example, from the port marine terminal operators themselves. It is of note that NYSDOT's [Truck Voucher Incentive Program](#) subsidizes the cost of purchasing electric trucks, buses, and port cargo handling equipment, which could incentivize private operators to purchase equipment that will utilize Blue Highways and Truck Electrification and Parking facilities, leveraging the requested CPRG-I funding.

Despite efforts to secure funding from other sources, *FREIGHT 2030* lacks a suitable source of funding. The City of New York and PANYNJ do not have the resources to implement these measures at the transformative scale proposed given limited capital funding, competing priorities, budget constraints and cuts due to economic fluctuations and unforeseen expenses. The City and State's climate goals require regional collaboration and shared responsibility. A federal investment of \$500 million will provide NYC DOT and its coalition an opportunity to leverage this funding and deliver a transformative and impactful project that will yield generational benefits.

c. Transformative Impact

The NYC-Newark-Jersey City MSA is a critical economic engine, with the largest gross domestic product of any metro in the nation – contributing \$1.5 trillion annually to the US economy (FreightNYC). Despite the area's economic strength and ambitious net zero goals, the regional freight network has historically relied on rail and an aging highway network with minimal redundancy. Over the next two decades, freight tonnages are anticipated to increase from 360 to 540 million tons entering, leaving, or passing through NYC each year, thereby increasing stress on the bridge, tunnel, and highway network that was not designed to deliver goods at this scale (Clean Corridors). Today, 89% of goods destined for NYC arrive on trucks, most of which are diesel powered. (Delivering New York) This contrasts with the national average for goods delivery on trucks which is closer to 70% (Delivering New York). Further, the delivery of goods shifted during the COVID-19 pandemic – before the pandemic, 60% of deliveries went to commercial customers and 40% went to residential customers. Since the pandemic, this has shifted to 80% of goods delivered directly to residential customers, with over 1.5 million packages delivered to NYC residents daily (Delivering New York). The impact of this is more delivery vehicles on smaller residential streets. *FREIGHT 2030* has the potential to create transformative impacts that can lead to significant GHG emissions reduction and benefits for LIDACs. The impact of these measures will have transformative, far-reaching benefits as described below.

A Major Infrastructure Initiative that puts LIDACs first

Due to the significant percentage of freight tonnage that moves through the metro area that has its origin or destination outside of the metro area, improving net zero freight opportunities in NYC directly benefits downwind communities along major highways and freight hubs. The LIDACs located near freight networks will benefit from cleaner air, improved public health, safer roads and increased job and training opportunities linked to these measures.

Reduce GHG Emissions to Create a More Resilient NYC

These measures will reduce GHG emissions in the region, while also reducing particulate matter and other pollutants, which will lead to significant public health benefits. Emissions from fuel combustion causes many cities to have high concentrations of fine particulate matter (PM2.5). PM2.5 has been extensively researched and is known to contribute to serious illnesses and death, especially from lung and heart diseases, at concentrations prevailing in New York City today. The NYC Health Department estimates that each year, PM2.5 pollution in New York City causes more than 3,000 deaths, 2,000 hospital admissions for lung and heart conditions, and approximately 6,000 emergency department visits for asthma in children and adults. These consequences disproportionately affect communities of color and LIDACs that bear the burden of higher rates of asthma, respiratory disease, and heart disease. The four proposed measures will also generate high-quality jobs, which will create long-term benefits

for the green jobs sector that goes well beyond the scope of this application. Building a skilled workforce in green sectors will continue to benefit the region well into the future.

Cracks the Code for Reducing Congestion with a Replicable and Scalable Solution

Given the scale of economic impact and amount of goods movement in this region, *FREIGHT 2030* can have vast and transformational impacts on this interconnected freight network and the communities that live adjacent to significant truck traffic and freight activity. Removing trucks from roads will also mitigate congestion in NYC and throughout the region, with potential to improve trip times and reduce GHG emissions associated to other road users. These benefits are not currently captured in the GHG emissions reduction estimates, as data was not available. Beyond these direct impacts, these measures are also replicable and will create new economies of scale for efficient future expansion in the region and beyond.

A Feasible Solution for GHG Emission Reductions from Hard-to-Abate Sectors

Revitalizing New York City's waterways for modern freight needs will pioneer a sustainable maritime freight model that reduces truck dependency and related congestion in the region, supports economic development, and sets a precedent for regional waterway collaboration. Over the road trucking is a hard-to-abate sector that is directly targeted through this measure. Taking trucks off the road will also mitigate congestion in NYC and throughout the region, with potential to improve trip times and reduce GHG emissions created by cascading congestion on other road users. Furthermore, Blue Highways can reduce GHG emissions beyond the scope and timeframe of grant-funded activities by acting as a catalyst for private sector investment. The expanded maritime infrastructure will provide capacity to support new services and vessel types that may be developed by the private sector in response to evolving market demands and over time provide the opportunity for all freight carriers to shift their logistics model to include Blue Highways. The sites will also have capacity to absorb higher freight volumes than proposed if demand exceeds current projections. Eventually, as the marine sector decarbonizes, these sites can expect to host deeper GHG and pollutant reductions. Emergent technologies such as hydrogen, ammonia, and battery electric boat propulsion show promise, although the precise timeline of technological and economic feasibility remains unknown. Furthermore, the electric CHE charging infrastructure upgrades and electrification of locomotives and forklifts can spur widespread adoption of battery electric technologies and make it more cost-effective in the long-term.

Accelerates the Deployment of Emerging Freight Technology from Concept to Practice

With the Commercial Cargo Bike Incentive Program, the NY-NJ Metro will be a national pioneer in the adoption of cargo bikes as a mode of urban freight delivery, creating a replicable model for other US metros. Businesses that participate in the program will also set an example for other local businesses – leading to wider-spread adoption that will spur innovation in cargo bike design and ancillary technologies, support green economy transition, promote an environmentally conscious image of city businesses, and improve the working environment for delivery workers. Microhubs expansion will highlight the effectiveness of a decentralized delivery model and pave the way for further adoption in the NY-NJ Metro and other cities. Enabling micromobility to replace last mile vehicles also addresses significant community concerns about safety, congestion, and pollution, particularly in residential neighborhoods. The Truck Electrification and Parking depots and RFAS program will incentivize all sectors to accelerate their transition to EVs and catalyze private sector investment in electric trucks. The expanding US electric truck and battery manufacturing industries will also benefit from increased sales this measure enables. The measure's fleet advisory services will increase the likelihood of successful and cost-effective low and zero-emissions vehicle deployment by ensuring that fleet participants are well-prepared to integrate these vehicles and associated infrastructure into their operations.

Improves the Economics of Freight Distribution

Reducing VMTs and reliance upon diesel trucks are not only beneficial for the environment and community health. These also reduce operating and maintenance costs, improving the economic resilience of businesses that move freight. Fewer VMTs mean lower fuel and maintenance costs. Electric vehicles and micromobility also have fewer moving components, which reduce maintenance burdens. The Argonne National Laboratory AFLEET tool estimates an EV box truck operating 20,000 annual miles in New York State will have 17.8% lower maintenance cost and 53.0% lower fuel cost than a comparable diesel truck. These economic benefits help to ensure the longevity and permanence of GHG reductions.

2. IMPACT OF GHG REDUCTION MEASURES

a. Magnitude of GHG Reductions from 2025 through 2030

These measures reduce GHG through several key mechanisms, including VMT Reduction and electrification, with the following benefits from each program:

- **VMT Reductions:** Commercial Cargo Bike Incentive Program incentivizes a modal shift to cargo bikes; Microhubs Expansion facilitates a modal shift to micromobility; Blue Highways incentivizes a modal shift to maritime and micromobility.
- **Electrification:** Microhubs Expansion and Truck Electrification and Parking enable electric trucks; Blue Highways enables the purchasing of electric port equipment and electric trucks.

The following table summarizes GHG reductions in the 2025-2030 timeframe. See the Technical Appendix for further details of the underlying calculations.

(MTCO ₂ e)	Commercial Cargo Bike Incentive Program	Microhubs Expansion	Blue Highways	Truck Electrification and Parking	Total GHG Emission Reduction
2025-2030	46,449	2,602	100,692	631,090	780,833

b. Magnitude of GHG Reductions from 2025 through 2050

The following table summarizes GHG reductions over an expanded 2025-2050 timeframe. With design and construction spanning most of the 2025 to 2029 timeframe, GHG benefits will be limited until projects become operational. Over the 2030-2050 timeframe, projects are operating and accruing significant GHG benefits each year. See the Technical Appendix for further details of the underlying calculations.

MTCO ₂ e)	Commercial Cargo Bike Incentive Program	Microhubs Expansion	Blue Highways	Truck Electrification and Parking	Total GHG Emission Reduction
2025-2050	252,888	17,203	1,451,492	5,240,099	6,961,682

c. Cost Effectiveness of GHG Reductions

The viability and cost effectiveness of these solutions is driven by the experience of this coalition implementing similar measures, multiple data-driven planning studies, and market research to develop and prioritize solutions that will maximize the impact of every dollar spent while benefitting underserved communities. The cost-effectiveness of these projects is especially evident considering the high construction costs in NYC compared to the rest of the U.S. Installation costs in NYC are 74% higher than they are in 30 other major cities, and NYC remains the highest cost of construction market in the

country partly due to high material and labor costs. Despite these barriers, the total cost effectiveness of this measure compares favorably with many [benchmarks published, including by the IMF](#).

\$/MTCO ₂ e	Commercial Cargo Bike Incentive Program	Microhubs Expansion	Blue Highways	Truck Electrification and Parking	Total Cost Effectiveness
2030	539	7,597	3,673	135	640

d. Documentation of GHG Reduction Assumptions – See *Technical Appendix*.

3. ENVIRONMENTAL RESULTS: OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

FREIGHT 2030 will benefit the region and create a path towards a more sustainable future. The activities, outputs and outcomes noted below help to support the EPA’s 2022-2026 Strategic Plan Goal 1, “Tackle the Climate Crisis” and Objective 1.1, “Reduce Emissions that Cause Climate Change.” A description of the expected outputs and outcomes from each measure follows.

The Commercial Cargo Bike Incentive Program provides an incentive for businesses and service providers to purchase commercial cargo bikes, by subsidizing the up-front cost of purchasing cargo bikes. The outputs will be the number of commercial cargo bikes purchased and the number of trips completed via cargo bike. The primary outcome will be the cumulative reduction of 46,449 MT of GHG emissions by 2030, and 252,888 MT by 2050. By 2030, it will also result in the annual reduction of 255 lbs of PM_{2.5}, 38,371 lbs of CO, 1,150 lbs of NO_x, 1,108 lbs of PM₁₀, 4173 lbs of VOC, and 109 lbs of SO_x. This will result in improved ambient air quality, especially in neighborhoods near the highway network and heavy freight activity. Another activity, community engagement, would result in outputs including the number of participating stakeholders and residents and the number of engagement events, with the outcome of established networks to engage stakeholders, particularly those in LIDACs. The adoption of cargo bike deliveries will also lead to the timely creation of infrastructure to facilitate the use of e-cargo bikes and a variety of quality-of-life improvements. Quality-of-life improvements include more dedicated space for pedestrians and cyclists, lower noise levels, and improved air quality, especially in disadvantaged communities.

The Microhubs Expansion activities will include siting, design, and construction. The outputs would include the number of microhubs built and the number of deliveries made through the net zero micromobility instead of GHG emitting vehicles. The outcome would be GHG reductions through this mode shift, which would in turn contribute to other beneficial outcomes including the achievement of community benefits and job creation. By 2030, the establishment of microhubs and associated activities will lead to 2,602 MTCO₂e of cumulative GHG reduction by 2030 and 17,203 MTCO₂e by 2050. By 2030, it will also result in the annual reduction of 15 lbs of PM_{2.5}, 3,062 lbs of CO, 92 lbs of NO_x, 49 lbs of PM₁₀, 333 lbs of VOC, and 9 lbs of SO_x.

Blue Highways will see the activation of new marine freight sites. The primary activities would include siting, design, and construction and new Blue Highway sites. Outputs include new maritime freight site activations, the replacement of 100 conventional diesel operated Terminal Tractors with ZE Battery Electric Terminal Tractors, and the replacement of conventional diesel fueled switcher locomotives and forklifts with battery electric switcher locomotives and forklifts at sites operate by PANYNJ. The outcomes would include 100,692 MTCO₂e of cumulative GHG reduction by 2030 and 1,451,492 MTCO₂e

by 2050. By 2030, it will also result in the annual reduction of 16,827 lbs of PM_{2.5}, 117,422 lbs of CO and 378,373 lbs of NO_x, 18,267 lbs of PM₁₀, 30,383 lbs of VOC and 2,809 lbs of SO_x. A key outcome would be reduced exposure to hazardous air pollution for residents in areas that currently experience unhealthy ambient air quality. Shifting to maritime freight and taking large trucks off the road reduce traffic congestion and increase logistical resilience by diversifying delivery modes. This shift would also improve safety and work towards Vision Zero goals. In 2019, of the traffic crashes that killed 1,490 people in NY and NJ, 74.6% of the crashes involved large trucks.

The Truck Electrification and Parking measure will help eliminate barriers to EV charging. The primary activity would be site selection, planning, development, and construction of truck charging hub locations. Outputs would include the number of hubs constructed, the number of deliveries by electric trucks vs. diesel, and the amount of GHG reduction from 2025 through 2030 and from 2025 through 2050. These would all contribute to the outcome of GHG emission reductions and reduced exposure to hazardous air pollution for residents in areas that currently experience unhealthy ambient air quality. Building new electric truck charging depots will lead to 631,090 MTCO_{2e} of GHG reduction by 2030 and 5,240,099 MTCO_{2e} by 2050. It will also result in the annual reduction of 6,498 lbs of PM_{2.5}, 408,244 lbs of CO, 430,147 lbs of NO_x, 27,610 lbs of PM₁₀, 30,383 lbs of VOC, and 2,809 lbs of SO_x. New charging depots will see an increase in electric truck usage, thereby providing the benefits of reduced particulate matter, reduced noise pollution, and reduced urban heat island effect, particularly for the residents of neighborhoods adjacent to highway infrastructure.

b. Performance Measures and Plans

NYC DOT and the coalition will continue to assess, quantify, and report benefits through existing mechanisms that measure metrics like air pollution and its health impacts, daytime surface temperatures, and transportation-related injuries. These tools are continually updated and published in the Environment and Health Data Portal and include city-wide, borough, and neighborhood numbers. The NYC Community Air Survey takes air pollution measurements at about 100 city locations during each season and tracks pollutants surface level including nitrogen dioxide (NO₂), fine particulate matter (PM_{2.5}), nitric oxide (NO) and winter average for sulfur dioxide (SO₂), which align with CPRG-I requirements. The location of these monitoring stations in proximity to our targeted implementation measures can provide valuable insight on the air quality impact and public health benefits to the surrounding community, particularly in LIDACs.

The New York City Department of Environmental Protection (NYCDEP), in alignment with *PlaNYC*, is also developing a new, responsive, adjustable air monitoring program to assess localized air quality impacts and improve regulations and rules. This monitoring program will provide insight into effective mitigation efforts to address hyper-local sources and will provide valuable data on performance outcomes for air quality in LIDACs. Outside of New York City, New York State Department of Environmental Conservation (NYSDEC) measures levels of outdoor air pollution at more than 50 sites across the State. DEC reports these measurements to EPA's Air Quality System (AQS) and publishes an annual Ambient Air Quality Report. New Jersey's Bureau of Evaluation and Planning continually measures and compiles inventories that consist of air emissions for criteria pollutants (i.e., VOC, NO_x, CO, and PM_{2.5}), which will be used to evaluate the benefits of *FREIGHT 2030*. The New Jersey Department of Environmental Protection also operates 29 monitoring stations throughout the state including at locations near the Port in Elizabeth, Jersey City, and Bayonne. PANYNJ is collaborating closely with community leaders in these LIDACs near the Port and will track and monitor the impacts of *FREIGHT 2030* in these geographies.

The City will rigorously evaluate the performance of the Commercial Cargo Bike Incentive Program in reducing GHG emissions, increasing the number of cargo bike deliveries, reducing congestion, and achieving parallel outcomes as described elsewhere in this application. Metrics tracked for this

implementation measure will include average daily miles per bike, 6/12/18 month cargo bike retention, vehicle type replaced, and vehicle replacement ratio.

NYC DOT will be rigorously evaluating Microhubs Expansion on its performance in reducing VMT and GHG emissions and achieving parallel outcomes as described elsewhere in this application such as facilitating a higher volume of deliveries through microhubs and creating new employment opportunities. Metrics tracked for this implementation measure will include daily package volume per microhub, daily truck arrivals per microhub, and daily micromobility departures per microhub. This performance evaluation will equip NYC DOT with the knowledge of what works best about the microhubs model and scale it up, ensuring continued success and significant GHG reduction.

NYC DOT and its partners will rigorously evaluate Blue Highways activities on their performance in replacing conventional diesel fueled equipment, reducing VMT and GHG emissions and achieving parallel outcomes as described elsewhere in this application such as improving safety by taking trucks off the road, increasing capacity, and creating new employment opportunities. Metrics tracked for this implementation measure will include volume of freight transported on maritime modes, daily route count, average mileage of each route, and average barge/boat utilization (% of full capacity used). Emissions at port facilities selected for CHE charging and locomotive electrification will also be measured by PANYNJ's Multi-Facility Emissions Inventory to ensure that criteria pollutants are reduced.

NYC DOT and its partners will also rigorously evaluate Truck Electrification and Parking on their performance in increasing the number of truck charging depots, reducing GHG emissions, and achieving parallel outcomes as described elsewhere in this application. Metrics tracked for this implementation measure will include % of charger uptime, % of charger utilization, total energy charged, daily number of charging events, average duration of charging events, and overall increase in electric truck usage (x # of trucks electrified) by 2030.

All these performance metrics will be tracked as a whole, as well as targeted to specific geographies to understand LIDAC impacts wherever feasible.

c. Authorities, Implementation Timeline, and Milestones

For all four measures, Task 1 to Task 3 will be the same, as follows:

Task 1: Project Management (60 months): Ensure the project is completed on time, within budget, according to goals and objectives, and in compliance with EPA grant requirements. *Milestones:* Project kickoff and orientation, project management plan development and maintenance, file management, and progress reporting (e.g., weekly calls, monthly, quarterly progress reports).

Task 2: Grant Management (60 months): Manage grant activities to meet EPA requirements, including progress reporting, requests for reimbursement, grant award and closeout, and coordination on grant award monitoring and oversight. *Milestones:* Manage receipt and disbursement of grant award, report on progress (including benefits and avoided disbenefits in LIDACs) for semi-annual and final report to EPA, and closeout grant award.

Task 3: Community Engagement (60 months): Implementation of a community engagement strategy, expected to include coordination and meetings with community members. *Milestones:* Confirm engagement strategy, Develop/open channels to receive feedback, Develop materials for sharing project information with LIDACs and other stakeholders, Organize and conduct community meetings, and stakeholder updates on progress.

Commercial Cargo Bike Incentive Program

NYC DOT will lead this measure and has the current authority to conduct this measure. Partners will include community-based organizations in nearby LIDACs that this measure would impact.

Task 4: Manage Public Procurement Process (6 months): Conduct public Request for Proposals (RFP) process to select third-party to manage incentives. *Milestones:* Develop RFP, issue RFP, and select qualified respondent and secure contract (early 2025).

Task 5: Target Geographies (6 months): Identify communities that would most benefit from cargo bike adoption. Identify commercial activities and businesses within these communities that may be best suited to cargo bikes adoption. *Milestones:* Develop list of target LIDACs and other communities, identify business activities best suited to cargo bikes, develop list of businesses for outreach (mid 2025-late 2025).

Task 6: Business Outreach (30 months): Develop marketing materials and conduct meetings and outreach with businesses that align to the target criteria. *Milestones:* Develop marketing & educational materials, conduct meetings with businesses that could participate in the program, and secure participation commitments from businesses (mid 2025-2027).

Task 7: Rebate Distribution for 2,000 bikes (30 months): Disburse funds to participating businesses through third-party once validation and proof of purchase are received. *Milestones:* Develop system for rebate distribution, develop mechanism for cargo bike purchase verification, and administer and disburse funds (mid 2025-2027).

Task 8: Capacity Building and Business Support (36 months): Conduct meetings and coordinate with participating businesses, helping to ensure that cargo bikes are used effectively. Capture feedback and share best practices. *Milestones:* Conduct meetings with potential participants, develop best practice materials, share feedback with stakeholders and track corresponding actions (mid 2025-2027).

Task 9: Close-out (2 months): Project close-out at end of performance period. *Milestones:* Document lessons learned to inform future cargo bike expansion measures (2028).

Task 10: Measurement and Verification (12 months): Report on performance metrics and monitor project over a year. This data will help inform future bike infrastructure planning and enhancements. *Milestones:* Review and report on project metrics and GHG emissions reduction (2026-onward).

Microhubs Expansion

NYC DOT will lead this measure, with assistance from coalition members NYCEDC and PANYNJ. As the implementing authority, NYC DOT has the current authority to carry out this measure. Partners will include community-based organizations working in nearby LIDACs that this measure would affect. For microhubs developed on public land, NYC DOT can administer the design and construction and grant concessions to private operators to operate and maintain the facilities.

Task 4: Site Selection (6 months): Apply site selection criteria to identify the best locations for constructing new microhubs. Site selection will ensure that local benefits such as improved air quality and decreased noise pollution will focus in the city's Priority Investment Areas which map very closely to LIDACs. *Milestones:* Select five off-street sites to develop (late 2024).

Task 5: Operating Partner Selection (12 months): Select businesses to operate public microhub sites. Secure commercial terms for microhub operations. *Milestones:* Develop RFP, issue RFP, and select partners and secure contracts (early 2025).

Task 6: Design Partner RFP (6 months): (Public sites) Issue public RFP for microhub design. *Milestones:* Develop RFP, issue RFP, select partners and secure contracts (early 2026).

Task 7: Design (18 months): Oversee design of microhubs in an iterative, consultative process. Incorporate feedback from operating partners into design process. Scope design to meet available budget. *Milestones:* 30% design, 60% design, 90% design, 100% design (early 2026-mid 2027).

Task 8: Environmental Survey (4 months): Undertake necessary environmental surveys. *Milestones:* conduct surveys and validate conditions to proceed.

Task 9: Contractor Procurement (6 months): Competitively select contractors to construct new microhub sites. *Milestones:* Develop RFP, issue RFP, and select partners and secure contracts.

Task 10: Permitting (4 months): Apply for necessary construction permits. *Milestones:* Secure permits.

Task 11: Construction (18 months): Oversee construction of microhubs. During the construction phase partnerships will be developed to encourage freight carriers to fully utilize the microhubs *Milestones:* Complete site demolition/preparation and groundbreaking /ready for commissioning (late 2026-early 2028).

Task 12: Commissioning and Operational Launch (2 months): Launch microhub operations, in partnership with operating partners. *Milestones:* First packages delivered and the end of operational ramp-up period (early 2028).

Task 13: Close-out (2 months): Project close-out at end of performance period. Document lessons learned and best practices to inform future microhub expansion measures (late 2028).

Task 14: Measurement and Verification (12 months): Collect implementation metrics by monitoring over a year and review project performance and GHG savings. This performance evaluation will equip NYC DOT with knowledge of what works best and scale the microhubs model, ensuring continued success and significant GHG reduction. (2028-onward)

Blue Highways

NYCEDC and PANYNJ will lead their respective elements of this measure with oversight from NYC DOT. As the implementing authorities, NYCEDC and PANYNJ have the current authority to carry out this measure. Partners will include community-based organizations working in nearby LIDACs that this measure would affect.

Blue Highways: Site Activation

Task 4: Site and Service Selection (6 months): Incorporate RFEI feedback and site and service selection criteria to finalize locations for new Blue Highway facilities and propose new Blue Highway services to be operated. Conduct outreach to industry partners. *Milestones:* Finalize three new Blue Highway facilities and define types of services provided at each, and propose new Blue Highway services to be operated (i.e., O/D pairs, frequencies) (late 2024)

Task 5: Partner RFP (6 months): Competitively select businesses to develop and operate (Pier 92) or operate (other sites) new Blue Highway freight facilities and maritime services. Secure commercial terms for Blue Highway operations. *Milestones:* Develop RFP, issue RFP, select partners and secure contracts (Pier 92: early 2025; other sites: early 2026).

Task 6: Design Partner RFP (6 months): Issue public RFP for design of new Blue Highways freight facilities. *Milestones:* Develop RFPs, issue RFPs, select contractors and secure contracts. RFPs will be phased for different sites (Pier 92 demo: mid 2024; other sites: early 2025).

Task 7: Design (18 months): Design Blue Highways facilities in an iterative process, incorporating feedback from operating partners. Scope design to meet available budget and phase designs by site. *Milestones:* 30% design, 60% design, 90% design, 100% design (Pier 92: late 2024-early 2027; other sites: early 2025-late 2026).

Task 8: Environmental Survey (4 months): Undertake necessary environmental surveys. *Milestones:* conduct surveys and validate conditions to proceed (Pier 92: early 2025; other sites: early 2026).

Task 9: Contractor Procurement (6 months): Competitively select contractors to construct new Blue Highways freight facilities. *Milestones:* develop RFP, issue RFP, and select partners and secure contracts (Pier 92 demo: early 2026; other sites: early 2027).

Task 10: Permitting (4 months): Apply for necessary construction permits. *Milestones:* Apply for and secure permits (Pier 92 demo: early 2025; Pier 92 facilities: early 2027; other sites: early 2026).

Task 11: Construction (40 months): Oversee construction of Blue Highways freight facilities. Construction will be phased by site. *Milestones:* Complete site demolition/preparation and groundbreaking (Pier 92 demo: late 2026-early 2027; Pier 92 facilities: mid 2027-late 2029; other sites: late 2027-early 2029).

Task 12: Commissioning and Operational Launch (2 months): Launch Blue Highway operations, in partnership with operating partners. *Milestones:* First freight transported and the end of operational ramp-up period (late 2028-early 2030).

Task 13: Close-out (2 months): Project close-out at the end of the performance period (2030).

Task 14: Measurement and Verification (12 months): Track implementation metrics with monitoring over a year and review project metrics and GHG savings (2029-onward).

Task 15: Periodic Service Review and Adjustment (Ongoing): Periodically review Blue Highways services with operating partners and stakeholders at contractually defined intervals. Adjust Blue Highways services (i.e., routings, frequencies, vessel types,) as needed to meet evolving freight demand and maximize utilization (2029-onward).

Blue Highways: CHE Charging Infrastructure

Task 4: PANYNJ issues call for proposals (6 Months): Competitively select tenants with ready projects to design and construct new CHE infrastructure. *Milestones:* Issue call for proposals that define projects, provide conceptual designs and cost estimates, and commit to deployment of electric CHE by 2030, PANYNJ selects winning proposals (early 2025).

Task 5: Design (12 Months): Awardees will design CHE Charging Infrastructure. *Milestones:* Approved tenants begin coordination with utility companies, tenants submit drawings to utility and start Port Authority Tenant Alteration Application (TAA) Process, TAA process approved (mid 2025–mid 2026).

Task 6: Construction (12 Months): Awardees will construct CHE Charging Infrastructure. *Milestones:* Complete site demolition/preparation, groundbreaking and construction (early 2027-mid 2028).

Task 7: Reimbursement (2 Months): When the project is complete, documentation of eligible costs is provided to the Port Authority and the tenant is reimbursed. *Milestones:* Documentation of eligible costs is provided to the PANYNJ; upon PANYNJ approval, documentation is provided to the NYC DOT, and NYC DOT accesses USEPA grant funds and reimburses awardee (early 2029).

Task 13: Close-out (2 months): Project close-out at the end of the performance period (late 2029).

Task 14: Measurement and Verification (12 months): Collect implementation metrics by monitoring over a year and review project performance and GHG savings. (2029-onward).

Blue Highways: Electrification measures at NYNJ Rail Facilities

Task 4: Equipment/Construction RFP (12 Months): PANYNJ issues RFP for procuring switcher locomotives and ZE forklifts. *Milestones:* Issue RFP, scope supporting electrical infrastructure upgrade, evaluate proposals and pick OEM for project, and secure a contract (early 2025-early 2026).

Task 5: Construction for infrastructure project (12 Months): PANYNJ internal infrastructure project to support new equipment kicks off. *Milestones:* Align infrastructure project timeline with delivery timeline for ZE Switcher locomotive and/or ZE forklift and begin construction (early 2026-early 2027).

Task 6: Complete Infrastructure project (1 Month): Complete of infrastructure project and charging station for ZE forklift and ZE switcher locomotives (early 2027)

Task 7: Delivery of ZE Equipment (2 Months): ZE forklift and ZE switcher locomotives arrive on site for testing and completion (late 2027).

Task 13: Close-out (2 months): Project close-out at the end of the performance period (early 2028).

Task 14: Measurement and Verification (12 months): Including implementation metrics, monitoring over a year, reviewing project metrics, and GHG savings (2028-onward).

Truck Electrification and Parking

NYC DOT will lead this measure, with assistance from coalition partner NYCEDC. As the implementing authority, NYC DOT has the current authority to carry out this measure. Partners will include community-based organizations working in nearby LIDACs that this measure would affect. For charging hubs developed on public land, NYC DOT can administer contracts for design and construction and grant concessions to private operators to operate and maintain the facilities. For charging hubs developed on private land, NYC DOT can select private partners who would then take responsibility for design, construction, and ongoing operations.

Task 4: Site Selection (6 months): Apply site selection criteria to identify best locations for constructing truck charging hubs based on the selection criteria and identifying which charging hub concept is best suited to each site. *Milestones:* Select final sites for development (early 2025).

Task 5: ConEd Coordination (36 months): Coordinate with ConEd across all key stages of this to facilitate utility upgrades and connections. *Milestones:* Establish project plan in collaboration with ConEd to enable project delivery (early 2025).

Task 6: Partner RFP (12 months): Competitively select businesses to operate (public site) *or* develop and operate (private site) hubs. Scope may include convenience retail, charger maintenance, and parking reservations. *Milestones:* Develop RFP, issue RFP, select partners, and secure contracts (early 2025-early 2026).

Task 7: Design Partner RFP (6 months): (Public sites) Competitively select partners to design charging hubs. *Milestones:* Develop RFP, issue RFP, select partners, and secure contracts (early 2025-mid 2025).

Task 8: RFAS Consultant RFP (6 months): Competitively select consultant to manage RFAS. *Milestones:* Develop RFP, issue RFP, select consultant (early 2025-mid 2025)

Task 9: Design (18 months): Design truck charging hubs in an iterative, consultative process. Incorporating feedback from operating partners into the design process. Scope design to meet available budget. *Milestones:* 30% design, 60% design, 90% design, 100% design (mid 2025-late 2026).

Task 10: Environmental Survey (4 months): Undertake necessary environmental surveys. *Milestones:* Conduct surveys and validate conditions to proceed.

Task 11: Contractor Procurement (6 months): (Public sites) Competitively select contractors to construct charging hubs. *Milestones:* Develop RFP, issue RFP, select partners and secure contracts (mid 2026-late 2026).

Task 12: Permitting (4 months): Apply for necessary construction permits. *Milestones:* Apply for and secure permits.

Task 13: Construction (18 months): Oversee construction of truck charging hubs. *Milestones:* Complete site demolition/preparation and groundbreaking (late 2026-mid 2028)

Task 14: Commissioning and Operational Launch (2 months): Launch hubs, with operating partners. *Milestones:* First vehicles charged, end of operational ramp-up period (mid 2027-late 2028)

Task 15: Close-out (2 months): Project close-out at the end of the performance period (early 2029).

Task 16: Measurement and Verification (12 months): Collect implementation metrics by monitoring over a year and review project performance and GHG savings (2029-onward).

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES (LIDACs)

The project emphasizes the importance of addressing the needs of Low Income and Disadvantaged Communities (LIDACs) within the city. This section describes the comprehensive approach proposed to ensure that the benefits of the project extend to all residents, with specific emphasis on LIDACs.

a. Community Benefits

FREIGHT 2030 aligns with CPRG-I's objective of achieving substantial community benefits in LIDACs. For this project, all implementation measures will have benefits ranging from local to area-wide and regional in scale. The freight distribution network touches all parts of the proposed project area; therefore, reducing the overall GHG footprint is a benefit to all LIDACs in NYC and the region, many of which are adjacent to congested highways. Per EPA guidance, LIDACs are defined as Census tracts that CEJST designates as disadvantaged; and/or any census block group that is at or above the 90th percentile for any of EJScreen's Supplemental Indexes. A complete list of identified LIDACs with Census Tract/Block Group ID is provided as an attachment in Excel format. The measures will benefit a total of 1,196 LIDAC census tracts (CEJST), which make up 46% of total census tracts. The measures will also benefit 316 additional LIDAC census block groups (EJScreen). The Commercial Cargo Bike Incentive Program will benefit 1,132 LIDAC tracts and 276 additional LIDAC block groups. Microhubs Expansion will benefit 227 LIDAC tracts and 93 additional LIDAC block groups. Blue Highways will benefit 200 LIDAC tracts and 120 additional LIDAC block groups. Truck Electrification and Parking will benefit 557 LIDAC tracts and 116 additional LIDAC block groups.

Improved Air Quality and Public Health. These proposed measures can address long-standing inequities by significantly improving air quality and public health in underserved and marginalized communities. As in most American cities, overlaying a map of the regional highway network onto the EPA's Environmental Justice map demonstrates a direct correlation between the location of high-volume roads and LIDACs. The NYMTC *Clean Freight Corridors Planning Study* mapped intensities of diesel particulate matter and proximity to Communities of Concern – with New York City and the Newark-Jersey City waterfronts holding both the highest concentration of diesel particulate matter in the region as well as the strongest alignment with communities of concern. Communities of Concern are defined by two variables – percent population below poverty and percent minority population--which are closely in line with EPA's definition of LIDACs.

This proposal aims to address the stress, health, and economic impacts of the freight network on residents, particularly in disadvantaged communities. By reducing diesel truck traffic, the initiative will lower levels of particulate matter in the air, known to contribute to serious health issues illnesses and death at concentrations prevalent in disadvantaged communities (PlaNYC). Locally, freight activity accounted for 15% of the City's GHG transportation emissions in 2022, emitting 70.5% of PM 2.5 from the transportation sector (NYC GHG Inventories). PM2.5 levels from trucks and buses are higher in high-poverty neighborhoods, leading to more hospitalizations and emergency department visits related to traffic pollution (NYC Mayor's Office of Climate and Environmental Justice). Implementing cargo bikes and microhubs in or near LIDACs will reduce heavy-duty truck usage, minimizing air and noise pollution and urban heat island effects.

Safer Streets. Fewer trucks on the city's roads may result in a mode shift toward more bicycling and walking, as streets become safer and less congested. This aligns with the City's *Vision Zero* initiative to eliminate all fatalities and serious injuries from traffic crashes. Current truck volumes on city streets

pose a safety risk for pedestrians and bicyclists, who are more likely to be killed and seriously injured in a truck-involved crash than if hit by a smaller vehicle. Between January 2017 and January 2023, 68% (117) of truck-involved crashes that resulted in a fatality involved the death of a pedestrian or a cyclist (NYC DOT). Reducing overall Vehicle Miles Traveled (VMTs) is critical for easing congestion, reducing the level of strain on the regional transportation infrastructure, and improving transportation safety.

Quality of Life Improvements. From a quality-of-life perspective, the adoption of cargo bike deliveries will also occur simultaneously with the creation of infrastructure to facilitate the use of e-cargo bikes. Quality-of-life community benefits would include more dedicated space for pedestrians and cyclists, lower noise levels, and improvement of air quality, especially in LIDACs.

New Green Jobs and Training Opportunities. With this investment will also come quality job creation in LIDACs. Through programs like HireNYC and the Precision Employment Initiative, the hiring and development of workers from low-income zip codes most affected by climate change will be prioritized (see more in Section 5).

Expected Disbenefits and Mitigation Strategies. The Microhubs Expansion, Blue Highways, and Truck Electrification and Parking measures all entail construction of new infrastructure. During construction, surrounding areas may be subject to increased levels of noise, traffic, or road and sidewalk closures. Each of the projects will mitigate these impacts through community engagement and outreach. These efforts will focus on messaging how projects benefit host communities and proactively communicating construction disruptions well in advance. The newly constructed freight infrastructure will also bring lasting changes, arising from new facilities and associated traffic flows. The design processes for each of the projects will incorporate community feedback and technical analysis, to aid integration within the existing communities and streets network. Anticipated approaches include building materials and design elements that harmonize with surroundings, landscaping which can also double as an urban heat island reduction measure, and traffic calming features along surrounding streets.

Plan to Assess and Analyze Community Benefits. The coalition members are committed to maintaining full transparency, ensuring benefits, and avoiding disbenefits for LIDACs throughout and beyond the CPRG-I performance period. Each member will collaborate with certified engineering consultants to monitor and verify the performance of each measure, utilizing locally and/or internationally recognized protocols. This includes the strategies detailed in Section 3.b. The community engagement plans detailed in Section 4.b will facilitate effective communication of project progress, changes, and outputs to LIDAC residents, while also assessing qualitative community benefits through gathering resident feedback. The coalition members will use this feedback to make necessary adjustments during implementation and engagement.

b. Community Engagement

Community engagement began during the NY-NJ MSA PCAP planning process, with input from organizations serving LIDACs in the project area. Feedback from community presentations, meetings, and the 311 system shaped the proposed measures. Public meetings on the Cross Bronx Expressway and Brooklyn-Queens Expressway redesigns also influenced the solutions, with support for truck reduction and zero-emission vehicles. In February 2023, the team conducted two weeks of on-the-ground outreach in LIDACs, led by local specialists, engaging participants in multiple languages to educate them about CPRG-I and its potential impacts.

Engagement for *FREIGHT 2030* will continue with a local community-partnership model, involving advisors from key nonprofits and local trade associations. This approach enables targeted engagement and local validation. The coalition will also collaborate with small business associations, universities, and workforce training programs to gather feedback. PANYNJ partners with nearby educational institutions to promote maritime investment and workforce development. They also participate in the Workforce

Development Committee for the Council on Port Performance, coordinating with stakeholders to enhance port efficiency. As sites prepare to open, community outreach will highlight job opportunities for LIDAC residents.

NYC DOT and its partners will draw on successful engagement models, like the Brooklyn-Queens Expressway Engagement Plan. Outreach will cover public education on topics such as GHG emissions and public health, along with workforce education sessions on commercial cargo bike laws and safety, or truck charging equipment demos. The strategy will include on-street and community events with community-based organizations to engage diverse populations. NYC DOT's Street Ambassador team, skilled in engaging residents and stakeholders in neighborhood spaces, will play a key role in sharing information and gathering feedback throughout *FREIGHT 2030*.

NYC DOT and its coalition partners have established connections with community groups, nonprofits, and industry stakeholders across the NY-NJ Metro area, facilitating engagement efforts. For example, the Freight Advisory Committee (FAC) provides valuable industry feedback. The Waterfront Alliance, with its experience in community input, is another engagement channel. NYC DOT has successfully collaborated with them on past projects. These partnerships will help NYC DOT to share and collect information throughout design and construction as well as to share program discoveries to stakeholders and the public. Grant-related reports will be accessible in multiple formats and languages, based on demographic data and accessibility standards, as well as feedback from community partners.

5. JOB QUALITY

FREIGHT 2030 will generate high-quality jobs that support “high road” labor practices. The jobs this project creates in the transportation and shipping sectors will be a long-term benefit extending beyond the grant period. NYCEDC estimates that the proposed activities will create up to 698 new jobs, between grant administration and the four implementation measures, with a focus on creating green jobs and training opportunities for LIDAC residents. The coalition will conduct regular reviews of labor standards throughout the project duration to ensure continuous adherence to these job quality commitments.

The City of New York’s Office of Workforce Development recommends community hiring practices and policies to ensure equity in overall project delivery and implementation. Through the HireNYC program, the City will implement Community hiring through project labor agreements and encourage hiring residents from LIDACs. Participating unions will prioritize the referral of workers from zip codes with high poverty rates or public housing. Other initiatives such as the city’s MWBEs and Disadvantaged Business Enterprises (DBEs) hiring goals, the Precision Employment Initiative, Civilian Climate Corps will help connect LIDAC business owners and residents to clean energy apprenticeships and opportunities. PANYNJ is committed to being a regional workforce development partner and promoting equitable access to job and wealth creation opportunities. PANYNJ has a strong history of proactive workforce development with nearby communities in NY and NJ. For this project, coalition partners will enforce fair labor standards. NYC DOT will procure any contractors utilizing grants funds with the Brooks Act method via a request for proposals (RFP) and will competitively bid the project per federal procurement requirements. Procurement and construction activity associated with the proposed measures will implement all relevant and applicable Build America, Buy America requirements, all of which will flow down to all subawards and contracts.

NYCEDC estimates that the Commercial Cargo Bike Incentive Program will create up to 113 new jobs in manufacturing, assembly, and maintenance of cargo bikes. Cargo bike deliveries also provide benefits for workers; a study in London found that 85% of businesses that had converted to bicycle deliveries reported improved staff satisfaction and well-being (Just Economics UK). Cargo bike operators do not require a CDL, helping to lower the barrier to entry for logistics-industry jobs that have better benefits

than gig economy bike delivery jobs. NYCEDC estimates the Microhub Expansion will create up to 35 new high-quality jobs during the construction of the facilities and throughout the operation. Microhubs will improve worker safety by creating off-street locations that are safer for freight operations and provide seating, device charging areas, and other amenities. NYCEDC estimates that Blue Highways will support the development of up to 330 new high-quality jobs in maritime industries, where the average wage is \$62,000, between construction and landside and marine operations (FreightNYC). The electrification of CHE and other landside equipment will lead to a less polluted and healthier work environment for maritime employees. Blue Highways has the potential to mitigate delivery worker stress by avoiding truck trips along congested roadways. Finally, NYCEDC estimates that Truck Electrification and Parking will create up to 208 new, high-quality jobs in manufacturing, installation, and maintenance of electric truck infrastructure. RFAS will provide training on electrified trucks, which are quieter and less polluting than diesel trucks, and typically integrate advanced safety systems to protect drivers and other road users.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance

NYC DOT, as the lead applicant, will manage all administrative tasks. With a proven record of administering over \$4 billion in federal funding, the agency possesses the technical expertise to comply with grant requirements and execute complex projects across multiple sites. They have successfully implemented projects akin to those in the CPRG-I program, utilizing both in-house staff and contractors. Members of NYC DOT leadership have all been involved in the grant administration process. Further, key NYC DOT leaders bring extensive grant administration experience with skilled staff familiar with federal grants and similar projects, ensuring project success. Four funding assistance agreements that NYC DOT has performed in the last three years with relevant information include:

1. Resiliency - SI Ferries & EDC Landings

- *Key Information* – Federal Award ID: NY-2016-035; Agency: Federal Transit Administration; Point-of-Contact: Darreyl Davis, Phone: (212) 668-2182, E-mail: darreyl.davis@dot.gov
- *Summary* – Funds awarded to NYC DOT for its *New York City Comprehensive Ferry Transit Resilience Project*, as listed on page 65764 of the Federal Register of November 5, 2014. It includes two projects intended to increase NYC's resiliency in the event of a transportation emergency. One is the purchase of two new Staten Island Ferry boats and other is the upgrading of ferry landings to increase capacity and resilience to extreme weather.

2. Sandy Recovery 3 and Local Priority Resiliency

- *Key Information* – Federal Award ID: NY-2018-068; Agency: Federal Transit Administration; Point-of-Contact: Darreyl Davis, Phone: (212) 668-2182, E-mail: darreyl.davis@dot.gov
- *Summary* – NYC DOT is requesting obligation of \$1,494,900 (\$1,661,000 including local match) of Federal Transit Administration (FTA) Section 5324: Public Transportation Emergency Relief Funds to help ongoing recovery and resiliency efforts in the aftermath of Hurricane Sandy. Specifically, this grant application is for an Emergency Generator at the Staten Island Ferry's Ferry Maintenance Facility using Section 5324 Locally Prioritized Resiliency funds (Discretionary ID: D2013-SAND-025) in the amount of \$1,494,900.

3. NYC DOT 5307(h) Passenger Ferry Competitive Grant: Staten Island Ferry Improvements

- *Key Information* – Federal Award ID: NY-2021-033; Agency: Federal Transit Administration; Point-of-Contact: Darreyl Davis, Phone: (212) 668-2182, E-mail: darreyl.davis@dot.gov
- *Summary* – This grant is comprised of FTA Section 5307(h) competitive Passenger Ferry grant funding. The funds will be broken out among the following three projects: \$4,180,982 (\$5,226,228

with matching funds, Discretionary ID: D2020-PFGP-011) in FFY20 5307(h) funds for the St. George Terminal Roof Repair project; \$3,903,200 (\$4,879,000 with matching funds; Discretionary ID: D2018-PFGP-012) in FFY17 5307(h) funds for the Staten Island Ferry Environmental Compliance Upgrades project, and \$2,400,000 (\$3,000,000 with matching funds; Discretionary ID: D2018-PFGP-012) in FFY17 5307(h) funds for the Staten Island Ferry Gangways Replacement/Upgrades project.

4. NYC DOT FY 2020 BBF So. Bronx Bx6 Select Bus Service, FY 2020 & Flex FBP St. George Roof Repair

- *Key Information* – Federal Award ID: NY-2023-056; Agency: Federal Transit Administration; Point-of-Contact: Darreyl Davis, Phone: (212) 668-2182, E-mail: darreyl.davis@dot.gov
- *Summary* – This grant includes funding for the following two projects: \$10,000,000 in FY 2020 5339(b) funds competitively awarded with Discretionary ID D2020-BUSC-163, or \$12,500,000 with state and local matching funds for the South Bronx Bx6 Select Bus Service (SBS) project and \$1,037,147 in flexed FHWA ferryboat program funds, or \$1,296,434 with state and local matching funds, with Discretionary ID D2020-PFGP-011 to repair and modernize the St. George Ferry Terminal Roof.

b. Reporting Requirements

NYC DOT has submitted on-time quarterly progress reports on all the projects listed above, providing updates on all milestones of the grant and regularly draws down funds to demonstrate progress. NYC DOT already reports quarterly on progress to FTA and has adequately and in a timely manner reported on progress towards expected outcomes and outputs under the above agreements, per all grant requirements. NYC DOT's experience reporting in compliance with a variety of federal grantors demonstrates that it will successfully comply with the reporting requirements and terms and conditions of this grant, including progress reporting, performance reporting, overall program evaluation.

c. Staff Expertise

NYC DOT has experience managing regional projects like *FREIGHT 2030*. With 5,500 employees overseeing a complex transportation network, including 6,000 miles of streets and highways managing 365 tons of freight annually, they manage a \$1.3 billion annual operating budget and a ten-year \$28 billion capital program. Professional licensed engineers, planners, and construction managers on staff, led by experienced individuals Charles Ukegbu, Ed.D. - Assistant Commissioner, Regional & Strategic Planning; Jeffrey L. Otto - Regional Planning Program Coordinator; Diniece Mendes, EIT – Director, Freight Mobility; Huma Husain - Deputy Director, Freight Mobility; Catherine Ponte – Freight Planner and Yogesh Sanghvi – Associate Commissioner, Grants and Fiscal Management, will oversee project implementation. They possess expertise in project management, public engagement, coalition building, intergovernmental collaboration, and third-party contract management. Supported by the NYC DOT Grants Administration Section, this team ensures compliance with regulations and effective grant administration.

7. BUDGET – See Budget Spreadsheet and Budget Narrative attachments.