

Testimony of

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New York City Department of Environmental Protection before the

New York City Council

Committee on Environmental Protection, Resiliency, and Waterfronts

Oversight Hearing

Air Quality and Last Mile Deliveries

February 28, 2025

Introduction

Good morning, Chair Gennaro and members of the Environmental Protection Committee. I am Rohit T. Aggarwala, Commissioner of the New York City Department of Environmental Protection (DEP) and New York City's Chief Climate Officer. I am joined today by Julie Lubin, DEP'S Deputy Commissioner of Environmental Compliance. The bureau she oversees focuses on the agency's air, noise, and asbestos work. I am also joined by Dawn Miller, my Senior Advisor.

I am delighted to have the opportunity testify on legislation that relates to delivery of one of our PlaNYC initiatives: to get polluting trucks off our streets.

Warehouses—especially the large operations that have proliferated with the growth of e-commerce—generate significant truck traffic, with meaningful negative impacts for air quality and health. These impacts are particularly acute in the underserved communities where many of these warehouses cluster.

We believe that New York City can address this source of pollution in a way that does not hamper our ability to move freight around the city. That's the key innovation of a warehouse indirect source rule. It would require large warehouses meet air pollution reduction requirements, while offering a variety options for how to make these reductions.

Developing this policy can be a real partnership between City Council and the Administration. We memorialized our commitment to work together on this legislation in a letter back in May from First Deputy Mayor Maria Torres-Springer to Speaker Adrienne Adams as part of City of Yes for Economic Opportunity. This policy exemplifies how all of us can work together to keep New Yorkers safe from polluted air.

NYC's Progress Improving Air Quality

New York City has made tremendous progress improving air quality. We know this because we have one of the most robust air quality monitoring systems in the country: the NYC Community Air



Survey (NYCCAS), which has been managed by the Department of Health and Mental Hygiene (Health Department) since 2008. NYCCAS uses a network of 85 air quality monitors across the city to measure key air quality indicators, providing neighborhood-specific data tracking neighborhood-level differences and changes over time in air quality within the five boroughs. NYCCAS generates estimates for five pollutants: fine particulate matter or PM2.5, Black Carbon (a specific type of PM2.5), nitric oxide and nitrogen dioxide, ozone, and sulfur dioxide. These data allow us to identify the most impactful pollution contributors in each area, report annually on criteria pollutant levels, and create publicly available data to support programs, policy development, community awareness, and research. We know that the three major emission sources driving local air quality levels and differences by neighborhood are commercial cooking, buildings, and traffic. This information shows us which communities bear the greatest burden of air quality-related health impacts and what interventions would be most impactful.



Locations of monitors in 2022: 78 routine locations and an additional 15 sites in low-income neighborhoods that benefit from additional monitoring to understand potential sources of emissions (EJ sites).

The monitoring locations represent a wide variety of New York City environments - sidewalks, busy streets, parks, and quiet neighborhood roads. Most of the sites (80%) were chosen by the Health Department to ensure representation in all types of neighborhoods, including residential, commercial, and industrial areas. The locations vary in the density of traffic and buildings, as well as other environmental differences. The remaining sites were selected because they are near potentially high-emission locations that were not captured initially.

Source: NYC Community Air Survey
Annual Report

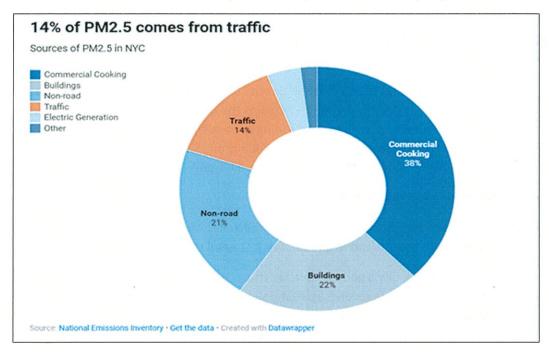
Improvements in New York City's air quality have been driven largely by changes in vehicle and building fuels, as mandated by federal and local legislation. Over the past 20 years, we've seen a 60% decline in the pollutant PM2.5, or fine particulate matter, and a 40% reduction in the pollutant NO2, or nitrogen dioxide. The health impacts of these improvements have been clear: over that period, the number of asthma-related emergency room visits in NYC attributable to pollution have gone down by 50%. These trends are available on the Health Department's Environment and Health Data Portal. Sulfur dioxide levels have plummeted to levels on par with those measured on Whiteface Mountain in the Adirondacks. This success is remarkable.



These improvements didn't happen by accident. We got results when strong but achievable regulations were put in place by government.

With the support of the Council, and your legislation, Chair Gennaro, DEP has been leading efforts to reduce pollution around the city. First, buildings were required to start using natural gas or Number 2 fuel oil instead of the more polluting fuel options. The switch from Number 4 and 6 heating oil to Number 2 reduces fine particle emissions from building heating by 63% and reduces carbon dioxide emissions by about one million metric tons. Since last July, DEP has not issued renewals for boilers that use Number 4 Fuel Oil. By July 2027, there will be no more Number 4 fuel oil use in the city.

Following the data, we have also been focusing on reducing emissions from commercial char broilers and cook stoves. Cooking emissions make up almost 40% of PM2.5 emissions city-wide. Commercial char broilers alone emit about 1,400 tons of particulate matter per year.



As it did with dirty heating oil, the City Council directed DEP to reduce pollution from restaurants. Local Law 38 of 2015, set new standards for new commercial cook stoves and char broilers that have applied to all such equipment installed since 2016. The law also required DEP to mandate limits on pre-existing cookstoves and char broilers. These rules were delayed by the pandemic, but last year, DEP enacted a rule to set these same standards for cook stoves installed before 2016. This year, we are enacting a rule to reduce emissions from certain commercial char broilers that were installed before 2016. In both cases, the rules apply only to small number of establishments and the rules include opportunities for variances for establishments that would genuinely face a hardship in complying.

Gaps in NYC's Progress Improving Air Quality

Despite the dramatic improvements we have seen citywide, our current levels of air pollution still cause asthma, cardiovascular disease, lung disease, and strokes. In New York City, air pollution from all sources still contributes to 2,000 deaths and 5,150 emergency department visits and hospitalizations



for respiratory and cardiovascular disease each year.ⁱ Air pollution from traffic alone contributes to an estimated 320 premature deaths and 870 emergency department visits and hospitalizations each year in New York City.ⁱⁱ

Further, these are increasingly concentrated in a few neighborhoods. Using NYCCAS data, the Health Department has done essential research to identify air quality related health inequities across neighborhoods. They found that the people who suffer the most from air pollution are those who live in neighborhoods such as the South Bronx, Harlem, the North Shore of Staten Island, East New York, and Brownsville. The reality of pre-existing health conditions and reduced access to health care make air pollution a much greater threat in these neighborhoods compared to wealthier parts of the city.

While charbroiling in restaurants remains the largest single local source of particulate matter citywide, truck traffic remains a key culprit in many of these neighborhoods that suffer the most.

Air pollution levels from all traffic sources are about 50% higher in high poverty neighborhoods than in low poverty neighborhoods. The number of hospitalizations and ED visits related to pollution from traffic are highest in the poorest neighborhoods.^{iv}

The Health Department has found that the density of warehouses – a stronger indicator of freight industrial use that generates truck traffic – explains the difference in pollution levels between neighborhoods much more clearly than industrial zoning generally. Areas with a higher density of warehouses, such as Newtown Creek in Queens, near JFK airport, Sunset Park in Brooklyn and Hunts Point in the Bronx, have higher levels of truck-related air pollution.

Techniques for Addressing Air Pollution from Freight

As concerned as we are about the impacts of large warehouses and the traffic they generate, freight is not the enemy. We need to move goods – we just need to move them smarter.

About 90% of New York City's goods move via trucks – far higher than the national average of 70%. More than 80% of New Yorkers receive at least one package at home each week; 18% receive packages on four or more days per week. By 2045, New York is expected to accommodate a 43% increase in freight – 430 million tons, up from 300 million today.

This highlights the importance of New York City's strong commitment to mitigating and reversing the negative impacts of the growth in freight deliveries, especially in environmental justice communities. Our strategic climate plan, PlaNYC: Getting Sustainability Done underscores this dedication with a suite of five initiatives to explicitly "get dirty trucks off our streets," including expanding zero-emission delivery methods, installing truck charging infrastructure, and strengthening policies to reduce idling.

PlaNYC builds off existing commitments to green the movement of goods made by both the NYC Department of Transportation (DOT) and the NYC Economic Development Corporation. <u>Delivering Green</u>, <u>Freight NYC</u>, and <u>Delivering New York</u> all articulate the importance of reducing emissions from the freight industry. Key commitments related to advancing low and zero emission vehicles from this suite of reports include shifting last-mile freight deliveries from trucks to small, sustainable delivery methods and expanding the Clean Trucks Program. The Clean Trucks Program is a federally funded \$30



million rebate incentive program designed to accelerate the deployment of cleaner trucks in industrial business zones located near environmental justice communities that have been historically subjected to disproportionate amounts of diesel exhaust emissions.

We've been delivering on these plans, making significant strides in promoting safer, more sustainable, and efficient freight systems. Through the Clean Trucks Program (NYCCTP), up to 702 trucks have been funded, 672 of them as replacements, and DOT has expanded the program to Industrial Business Zone fleets citywide. Starting this March, NYCCTP will be using the remaining USEPA-VW Settlement funding to support zero emission vehicles exclusively.

Last year, NYC DOT created new rules to make it easier for delivery companies to adopt electric cargo bikes, a less-polluting alternative to large delivery trucks. New York City has the largest cargo bike program in the country. In 2022, cargo bikes made more than 130,000 trips and reduced over 650,000 metric tons of CO2 emissions. NYC DOT is also working with the private sector to establish delivery hubs called microhubs, which provide dedicated spaces for truck operators to transfer deliveries onto smaller, more sustainable modes of transportation, including e-cargo bikes, handcarts, and smaller electric sprinter vans. The initial microhub pilot program will include up to 36 locations, with the first five locations launching this year on the Upper West Side, under the BQE in Clinton Hill, and in Greenpoint, Brooklyn.

DOT also launched the LockerNYC Pilot, which centralizes delivery points to reduce truck traffic and package theft. They have expanded efforts to shift more deliveries to overnight hours, when trucks can spend less time sitting in traffic, announcing new financial incentives as part of the Off-Hour Deliveries Program. This program has over 1,000 locations so far, and DOT recently launched a \$6 million incentive program to provide small businesses with tools and technologies to allow for overnight deliveries. The program aims to add 5,000 off-hour delivery locations by 2040, shifting 62,000 trucks away from peak hours.

The New York City Economic Development Corporation and NYC DOT also continue to work on a Blue Highways program to reactivate marine infrastructure, helping to shift deliveries from larger trucks to our waterways. Today, only 8% of our freight moves by water. The City and its partners in the federal and state governments are investing \$368 million to modernize and electrify the Brooklyn Marine Terminal, reimagining the 122-acre site as a key node in our Blue Highway Network. From Hunts Point to Lower Manhattan, the City is working to better accommodate freight arrivals on our piers and reimagining how our waterfront assets can be used in the future, including adding capacity to our Downtown Manhattan Heliport and passenger ferry landings so they can double as maritime and last-mile hubs. The City is working with the private sector through the Blue Highway RFEI to identify opportunities to reactivate waterways, including pilots to test how we can use our existing passenger ferry network and infrastructure to move goods up and down the East and Hudson River.

There are also opportunities to reduce pollution by shifting more freight to rail. New York City's freight network includes over 90 miles of rail freight lines and nine rail yards. These assets provide significant environmental, efficiency, and safety potential. However, efforts to shift back towards rail face challenges. The trend has been away from rail and towards trucks over the past several decades. In 1972, Brooklyn and Queens moved 73,000 carloads per year. In 2017, just 17,000 carloads were



delivered to Brooklyn and Queens. Although much of this network is controlled by non-City entities, such as New York State or the Port Authority, the City owns three freight rail facilities: the Brooklyn Waterfront Rail System in Sunset Park, the Staten Island Rail Right of Way on the north and west short of Staten Island, and the rail facility in Hunts Point Food Market. These freight rail facilities are operated by private rail operators. The main freight line linking the City and Long Island is through the Bay Ridge Freight Line, which is owned by the State of New York.

Most rail freight infrastructure in New York City was developed in the early 20th century. Therefore, a big focus of the City's is maintaining our facilities in a state of good repair. Rail can be an environmentally and fiscally efficient way to reduce polluting truck trips, and the City's own actions demonstrate its potential: the Department of Sanitation is the biggest user of freight rail in New York City, using it to export waste via rail. To support business' use of freight rail, the City is continuing to invest in our rail terminals: the 65th Street Rail Yard/1st Avenue Rail and the Arthur Kill Lift Bridge. The Arthur Kill Lift Bridge, which is part of the Staten Island Rail Right of Way, was recently awarded a \$17.2 million Federal Railroad Administration grant for capital upgrades on this more than 60-year-old bridge.

There has been significant recent focus by the City on the Blue Highways program. The waterfront land the City controls, and can therefore program, supports marine transport. As a city of islands, it's no surprise marine transport is an area in which the private sector sees opportunities. There is potential for synergy between freight rail and the Blue Highways program, and the City is exploring potential connections at City-owned rail assets in Sunset Park, Staten Island, and Hunts Point.

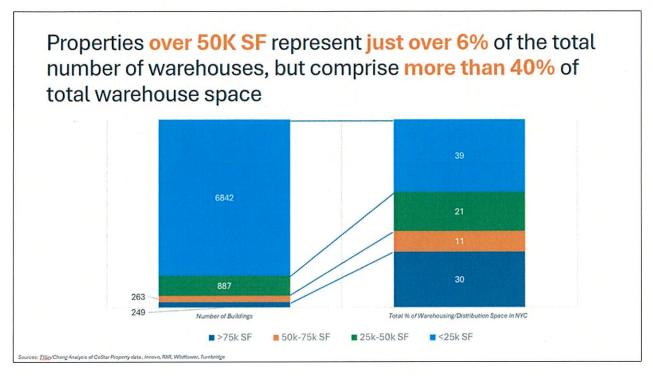
We know shifting trips away from trucks altogether, to other modes like freight rail, is a big focus of yours, Chair Gennaro. Policies like an indirect source rule support this important shift. When there are regulations requiring warehouses to reduce their pollution, the freight system has added motivation to explore alternatives like freight rail and marine transport.

Warehouse Industry Overview

Because of the relationship between the warehouse industry, freight traffic generation, and air pollution, we have done a deep analysis of the NYC warehousing industry.

NYC has over 8,000 warehouses. Most NYC warehouses are relatively small - 6,800, or about 85%, are under 25,000 square feet. A subset are large - about 500 warehouses are over 50,000 square feet. While just 6% of the total number of warehouses, these large warehouses comprise more than 40% of total warehouse space. This means a policy focused on the largest players could make a big impact on our air quality.

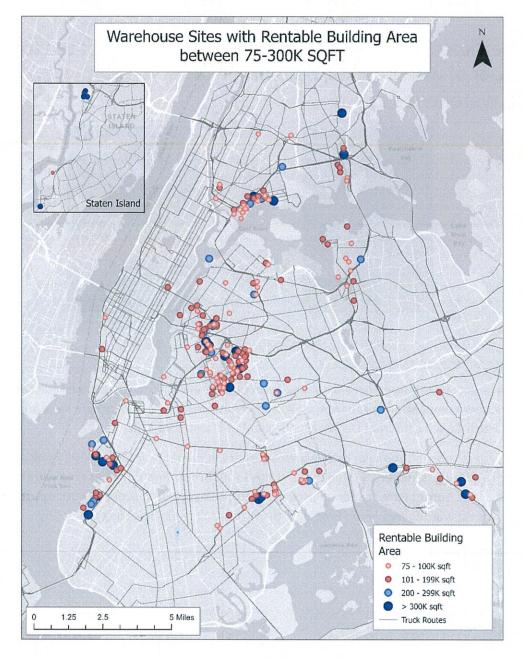




NYC's largest warehouse operators range from parcel delivery companies like Fedex and UPS to direct-to-consumer companies like Amazon, IKEA, and FreshDirect. They also include large suppliers to retailers, like Pepsi-Cola, Restaurant Depot, Manhattan Beer, and Coca-Cola.

The biggest concentrations of large warehouses are in Brooklyn, including Red Hook and Sunset Park, Maspeth and Long Island City in Queens, and the South Bronx. Red Hook has nine warehouses over 100,000 square feet. Sunset Park has ten. Maspeth has 20, and the South Bronx has 13. Approximately 75% of these largest warehouses are in Brooklyn, the Bronx, Maspeth, and Long Island City.

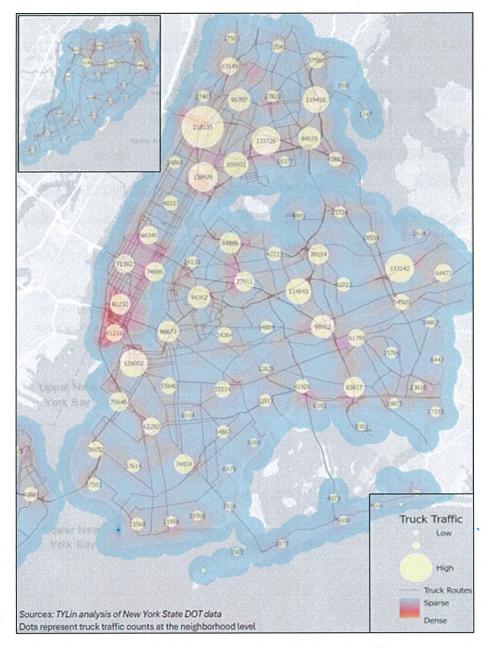




We also know warehouses are generating a large number of truck trips. National data estimates a 75,000-square foot warehouse generates approximately 45 truck trips per day. Over the course of a year, this adds up to an estimated 11,700 truck trips from just one warehouse this size. We could expect these numbers to be higher in New York City, where many of our warehouses are used intensively. With large warehouses clustering as much as they do, these trips and their impacts really add up.

Some of the highest densities of freight traffic in NYC are in Lower Manhattan, the South Bronx, Washington Heights, and Downtown Brooklyn. Patterns align with the highway network, concentrations of warehouses, and concentrations of commercial and residential recipients of goods.

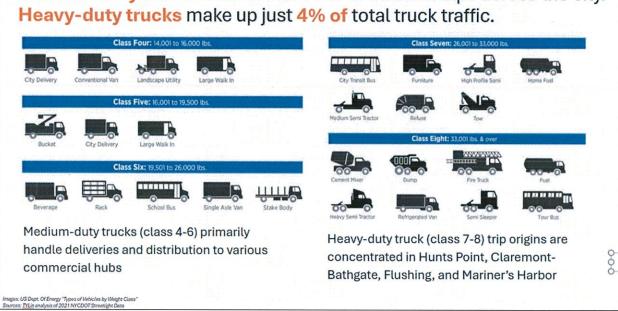




The largest, heavy-duty trucks are only about 4% of truck traffic. However, these are some of the highest-polluting vehicles, and their traffic concentrates near some of our most vulnerable neighborhoods. Ninety-six percent of trucks driving around NYC are medium-duty. This creates a real opportunity – because medium-duty trucks have relatively low energy needs, many of them can complete their routes without charging and get all the charge they need overnight, while parked.







The Frito Lay warehouse in Ridgewood, Queens is a great example of a New York City operation that is leading the way in electrifying its fleets using a combination of level 2 and fast charging.



Our research has also confirmed what many New Yorkers have been feeling: The most significant trend in New York City's industrial real estate market during the past ten years has been the construction of large-scale distribution centers developed in response to the rise in e-commerce. In the



past 10 years, 35 traditional warehouses and distribution centers over 75,000 square feet were either newly constructed or completely renovated in New York City. Of these, 20 were very large, tallying at least 250,000 square feet. This more than doubled the number of buildings of that size in operation in the five boroughs. This includes several warehouse facilities with multiple stories – a concept that did not exist in the U.S. until 2018.

NYC's warehouse industry is diverse in terms of operating arrangements. While some warehouse operators own their buildings, many operators lease. Some producers operate their own fleets, and others outsource to "third party logistics" providers like C.H. Robinson, J.B. Hunt, and Ryder. Some of the largest companies, like FedEx and UPS, often control most aspects of the supply chain.

This is important because it means a one-size-fits all policy would be difficult to effectively design. A policy that gives operators choice for how to reduce their pollution is most likely to yield the best results.

There are a variety of ways in which NYC presents a unique warehousing environment. As we all know, land costs are high. In 2024, warehouse space in New York City averaged \$28.21 per square foot. Nationwide, it averaged \$8.31. Labor costs here are also high, averaging \$22.43 per square foot of warehouse space in New York City as compared to \$16.95 nationwide. Operators nevertheless locate here, for their proximity to millions of customers and vibrant, diverse and qualified workforce. In contrast to New Jersey or Pennsylvania, both of which host significant warehousing, warehousing in NYC is more directly focused on serving the needs of local residents and businesses.

Understanding these factors is important for designing an indirect source rule because they help us project how the warehousing industry might respond to additional regulations. Without a doubt, we want to avoid unintended consequences that could undermine these environmental benefits. So, understanding industry incentives and potential responses will help us calibrate the indirect source rule to achieve desired impacts.

A Warehouse Indirect Source Rule: A New Tool to Address Air Pollution

A warehouse indirect source rule is a strong policy tool the City can use to address air pollution from freight movement. It's neatly at the intersection of the longstanding need to green our freight industry and the more recent growth and recognition of acute impacts in neighborhoods with concentrations of warehouses.

An indirect source rule also isn't exactly a kitchen table term, so it needs some explanation. At a high level, an indirect source rule reflects the fact that a facility generates pollution both directly and indirectly. For example, the *direct* air pollution from a warehouse might come from the systems that heat and cool the warehouse building. The *indirect* air pollution from a warehouse comes from the vans and trucks that are attracted to the facility – and therefore the warehouse is indirectly generating the pollution leaving these trucks' tailpipes.

The most significant indirect source rule in place today is Southern California's 2021 warehouse indirect source rule. In that program, warehouses are assigned a number of points they must earn that are proportionate to how much the vehicles visiting them pollute. Each year they must earn points equal to their compliance obligation. They have a menu of options for earning points. Items on the California



menu include buying zero emissions or near zero emissions trucks, doing trips in these less-polluting vehicles, and installing EV charging.

Developing a New York City version of an indirect source rule presents a unique opportunity to clean our air. Federal law prevents cities, including New York City, from acting unilaterally to set fuel economy standards. However, an indirect source rule is something New York City can put in place through our own independent authority via the Air Code enforced by DEP.

An important element of an indirect source rule is that it could apply to both new and existing large warehouses. There is also a separate, but related, proposal that the Department of City Planning is advancing: a last-mile facility zoning special permit. This would apply to new last-mile warehouses. That special permit would focus on the siting and opening of new last-mile warehouses. In contrast, the indirect source rule proposal could be broader in scope, impacting existing and future large warehouses and the pollution they create each year.

Our Vision for a New York City Warehouse ISR

As I mentioned earlier, creating a warehouse indirect source rule would be a realization of a PlaNYC goal to get polluting trucks off our streets. We were proud to join Council in committing to advance this policy when we passed City of Yes for Economic Opportunity last year. We are therefore very pleased to be having this hearing today. We look forward to working with Council to develop this policy.

We envision a warehouse indirect source rule in which the City's largest warehouses are required to earn a number of points each year that is proportionate to the number of vehicle trips made to their warehouse. Trips made in heavy-duty trucks, which pollute the most, would be weighted more heavily than trips made in smaller vehicles. All motor vehicles making deliveries would count towards a warehouse's compliance obligation.

Large warehouse operators would have a menu of options they could mix and match to meet their compliance obligation. This would include points for both acquiring and using zero-emission and near zero-emission vehicles, cargo bikes, and EV chargers. It would also include menu items beyond delivery fleet conversion. This could include installing anti-idling technology in existing vehicles, electrifying yard trucks or forklifts, or investments in tree preservation or planting.

We have taken inspiration from the Southern California warehouse indirect source rule, which some of you are familiar with, but we believe a New York City policy should reflect both New York City priorities and assets. One of our assets is density. Density allows many deliveries to be done through cleaner modes like cargo bikes. Another asset is our waterways. Our waterways present a significant opportunity to move large volumes of freight without logging as many truck miles. Our rail network is also an asset we hope the freight industry can leverage even more as an alternative to trucks.

Our indirect source rule policy can align with another PlaNYC initiative: if you've got to drive, drive electric. An indirect source rule can push operators to use boats, rail, and cargo bikes to transport goods. When a truck is needed to get the job done, an indirect source rule can push the operator to use a lower-polluting truck.



As you've heard throughout this testimony, an indirect source rule need not apply to all warehouses to be effective. New York City's 500 largest warehouses account for more than 40% of total warehouse space. As we see it, the rules should focus on large warehouses, which generate the most pollution and likely have the greatest capacity to make investments to reduce their pollution. Facilities that are primarily doing manufacturing but have small spaces used for warehousing also should not be subject to the same rules. We can design the policy to have a large enough impact that we see air quality improvements without burdening small operators or New York City manufacturing.

One helpful feature of this policy is that it naturally scales with the size of the operation. A warehouse that reduces its trips by shifting trips to rail, water, or cargo bicycle, or combines two half-empty loads into a single truckload, would naturally see its compliance obligation decrease.

A diverse points menu is important to providing the diverse set of warehouse operators in NYC with options that work for them, whether they own and operate their own fleets or outsource that function to third parties. It also reflects the fact that some investments take time and planning, so a warehouse owner might choose certain compliance options in early years as it plans for the long term.

We see a lot of promise in the concept of a custom plan. Although we expect most operators would find plenty of options on the points menu, custom plans would provide an opportunity for a warehouse operator to propose pollution reduction measure that are not yet on the points menu. One benefit of welcoming custom plans is providing a venue for innovation or partnerships that can drive major investments. Technology in this industry can evolve quickly, and this policy should credit new, efficient investments. A second benefit is that a custom plan can accommodate unique and site-specific actions that support other City priorities. For example, a warehouse operator making Blue Highways investments could demonstrate the pollution reduction value of those investments and earn points for them. Custom plans could also be used by warehouse operators that want to make investments to support other key initiatives, such as microhub development, off-hour deliveries, or EV fleet resiliency.

Overall, we're interested in developing a policy focused on large warehouse operators, defined broadly. We are considering whether and how an indirect source rule should apply to warehouse operators providing fresh food. This is such a critical resource for New Yorkers. We want to make sure access remains strong and can get stronger.

Intro 1130

Now, turning to the specific bills up for a hearing today. I'll start with Intro 1130, which would direct DEP to promulgate an indirect source rule. We are grateful to Council Members Aviles, Brooks-Powers, and the other bill cosponsors for introducing this legislation and to Chair Gennaro for calling this hearing. As you can tell from my testimony, we are strongly supportive of creating a warehouse indirect source rule and look forward to working with Council on language.

One area in the bill we'd like to discuss is definition of a warehouse. We share a goal of focusing on large warehouse operators. The language in the draft bill seems to be identifying a smaller universe of warehouse operators than we had envisioned this policy would apply to. Of the 512 total warehouses we identified that are over 50,000 square feet, only 80 are distribution centers. A rule limited to distribution centers would likely be significantly less impactful than a rule addressing a larger universe of



large warehouses. We would like to work together to find a warehouse definition that includes all operations whose truck traffic is significantly impacting our air quality, while not including small operators.

I'll also note that this legislation must go through the formal City Environmental Quality Review process, or CEQR, before it can be brought to a vote. CEQR is the process by with City agencies determine what, if any, effect a discretionary action they approve may have on the environment. CEQR considers a variety of technical areas, including socioeconomic conditions, public health, transportation, energy, and air quality. It is a public process. The public is invited to provide input in this process and findings from this analysis are shared with the public. DEP has been funded just under \$2.2 million for CEQR for this policy and is preparing to begin that process in the coming months. This process typically takes at least a year, so we expect it will be completed in 2026. We are looking forward to Council and stakeholder participation in that process.

Intro 107

I'll now turn briefly to Intro. 107, which would require specific air monitoring on heavy-use thoroughfares. The harmful impacts of traffic pollution on air quality and public health are well known and a specific focus of the City's air quality efforts. Traffic-related pollutants, such as PM2.5 and NO2, are associated with negative health effects, including asthma, strokes, and cancer. We appreciate this bill's focus on traffic pollution, and we recommend changes to its approach to the issue.

Intro. 107 would require significant and costly air quality monitoring on almost all city streets (97% of NYC streets meet the 100,000 annual vehicle threshold). We do not think this new monitoring system is necessary or a good use of City resources, because the Health Department and the New York State Department of Environmental Conservation (DEC) already maintain air quality monitoring systems around the city.

As described earlier, the Health Department's New York City Community Air Survey (NYCCAS) is the largest ongoing urban air monitoring program of any U.S. City and has provided us with rich data. NYCCAS data has been the basis for major policy initiatives, led by City Council legislation, such as the phaseout of dirty heating oil and the focus on restaurant emissions. We already know that traffic is a major source of pollutants, and we know where the traffic emissions are concentrated, thanks to traffic data collected by regional partners, including NYCCAS.

Additionally, DEC maintains their own air monitoring systems around the city. Recently, DEC has launched a statewide Community Air Monitoring (CAM) Initiative that has collected street-level pollution data from ten disadvantaged communities around the state. Four of these communities are in New York City: sections of Brooklyn, the Bronx, Manhattan, and Queens.





DEC collected these street-level data for a year and are now using that data to develop air pollution mitigation strategies. They expect to issue a Final Report of Recommended Air Pollution Reduction Strategies later this year. We look forward to the results of their initiative.

Finally, the indirect source rule would require warehouses to track the number and type of trucks that come into their warehouses every day. With that count, we can accurately determine the amount of pollution that the trucking activities introduce to the area.

We strongly believe that we do not need an additional data collection system. We have the information we need to create data-informed policies. At this point, allocating resources toward effective implementation of such policies, like the indirect source rule, and other pollution reduction strategies will be more protective of New Yorkers than collecting more data. We would like to work with the sponsor to revise this legislation with that priority in mind.

Conclusion

In closing, I want to reiterate my and my colleagues' thanks to the committee for your attention to this issue, and for the opportunity to testify about these today. I look forward to your questions.



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[&]quot;https://a816-dohbesp.nyc.gov/IndicatorPublic/data-stories/traffic-and-air-pollution/

iii https://climate.cityofnewyork.us/wp-content/uploads/2024/04/EJNYC_Report_FIN_20240424.pdf

https://a816-dohbesp.nyc.gov/IndicatorPublic/data-stories/traffic-and-air-pollution/

^v NYC Community Air Survey Annual Report



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ANTONIO REYNOSO

Brooklyn Borough President

City Council Committee on Environmental Protection, Resiliency, and Waterfronts Oversight hearing: Air Quality and Last Mile Deliveries (Intros 107 and 1130) February 28, 2025

Good morning Chair Gennaro and members of the committee and thank you for holding this hearing. I am here on behalf of Brooklyn Borough President Antonio Reynoso to express his solidarity with the impacted communities you will hear from today and his full support for Intros 107 and 1130.

Last year, air quality emergencies from wildfires called attention to the negative health impacts of poor air. But for some New Yorkers, especially in low-income communities of color, poor air quality is a concern every day. While City data shows that New York City broadly meets the National Ambient Air Quality Standard for PM_{2.5}, air quality varies widely by type of pollutant, location, and over time. Recent NY State Department of Environmental Conservation (DEC) data shows that the worst annual pollutant levels in Brooklyn occur in the environmental justice communities of Greenpoint, Williamsburg, and Bushwick; along the BQE corridor including Gowanus, Red Hook, and Sunset Park; along the Belt Parkway in Southern Brooklyn; and in Eastern Brooklyn along corridors such as Atlantic Ave. and Linden Blvd. Unsurprisingly, asthma hospitalizations are higher than average in many of these areas.

One major contributing factor to poor air quality is e-commerce. The consumer expectation of quick deliveries has led to the rise of last-mile warehouse facilities, which generate more truck trips per day than other warehouse types. Commercial delivery trucks largely run on diesel engines, which emit higher levels of PM_{2.5} and nitrous oxide (NO_x) than gasoline-powered trucks. This has an outsized impact on communities where these facilities are concentrated, such as Red Hook and Sunset Park, where City data has identified seven active last-mile facilities. DOT's recent preliminary Red Hook Traffic study showed hundreds of trucks per hour on Red Hook's small streets, creating air quality and safety issues for residents, including those who live at the largest public housing development in Brooklyn.

Borough President Reynoso thanks this administration for its commitment to address this pressing issue by creating new programs such as Microdelivery Hubs and Blue Highways, implementing a Zoning Text Amendment to address facility concentration, and drafting Indirect Source Rule legislation to address emissions. Intro 1130 in its current form is only the beginning of what BP Reynoso hopes will be a robust piece of legislation that responds to community concerns. Examples of needed details include:

- Assurance that the bill's final language will not impact active manufacturing businesses;
- Clarification about who is responsible for regulating and reporting on emissions (owners vs. operators);
- A framework and timeline for required emissions reductions and a penalty structure for failing to meet that timeline; and
- Requirements for the frequency and method of reporting.

Additionally, Borough President Reynoso hopes that this Council will develop and pass new legislation to address working conditions associated with last-mile facilities. Previous versions of legislation designed to regulate these warehouses contained both environmental and labor protections, and we must not set these up as competing interests, but rather as companion proposals.

Finally, regarding intro 107, BP Reynoso originally introduced this bill when he was a Councilmember, and it is long past time for it to pass. Consistent and accurate reporting leads to action, and our existing air quality data is insufficient. DOHMH and DEC monitor limited geographies, and community-based organizations have spent too long supplementing this data on their own. This legislation will require the City to conduct consistent monitoring at heavy-use throughfares and adjacent parks and playgrounds citywide, helping us get a more accurate picture of air quality conditions in real time.

Thank you again for holding this hearing today. Borough President Reynoso looks forward to working with the Council and the advocates to finalize polices that will hold polluters accountable and deliver better air quality and safer streets, because everyone deserves clean air to breathe.



REBNY Testimony | February 28, 2025

The Real Estate Board of New York to

The Committee on Environmental Protection, Resiliency, and Waterfronts Regarding Air Quality and Last-Mile Deliveries

The Real Estate Board of New York (REBNY) is the City's leading real estate trade association representing commercial, residential, and institutional property owners, builders, managers, investors, brokers, salespeople, and other organizations and individuals active in New York City real estate. REBNY thanks the committee for the opportunity to provide testimony regarding the proposed bills on air quality and last-mile deliveries.

REBNY understands concerns about pollution and vehicular traffic associated with warehouses in New York City. REBNY agrees that measures should be taken to study, monitor, and reduce adverse impacts of air quality on local communities. Those measures should be carefully calibrated to protect the various uses, jobs, and facilities that underpin how goods move into and around the five boroughs. Taking an overly restrictive approach could stymie the City's industrial sector, which is incredibly important to our local economy in creating jobs for New Yorkers and as a growing source of tax revenue.

BILL: Intro 0107-2024

SUBJECT: This bill would amend the administrative code of the City of New York, in relation to air quality monitoring at designated "heavy use" thoroughfares.

SPONSORS: Council Members Avilés, Cabán, Restler, Gutiérrez, Won, Hanif, Bottcher, Hudson, Nurse, Narcisse, Abreu, Ayala, Brewer, Gennaro, Sanchez, Ossé, Rivera, Hanks, Williams, Menin, Marte, Brannan, Salaam, Farías, Schulman, Krishnan, Joseph, Brooks-Powers, Powers, De La Rosa, Ung, Louis, Salamanca, Banks, Lee, Zhuang, Riley, Moya, Feliz and Dinowitz (by request of the Brooklyn Borough President)

Intro 107 would require the Department of Environmental Protection (DEP) to designate heavy-use thoroughfares in every borough and install street-level air monitors at two or more major intersections and every park or playground adjacent to a heavy-use thoroughfare. The bill would also require DEP to issue a report to the Mayor and Speaker of the Council containing the air quality monitoring results.

New York City's regional air quality has improved significantly over the past 50 years, mainly driven by changes in both vehicle and building fuels, as mandated by federal and local legislation. However, as challenges remain, air quality monitoring will be an important tool for protecting public health and ensuring compliance with environmental regulations. REBNY supports data driven decision-making. However, before additional city resources are expended, it is important to understand if existing air quality monitoring efforts do not already cover the goals of this legislation.

BILL: Intro 1130-2024



SUBJECT: This bill would amend the administrative code of the City of New York, in relation to the regulation of indirect sources of air pollution.

SPONSORS: Council Members Avilés, Brooks-Powers, Restler, Cabán, and Williams (in conjunction with the Brooklyn Borough President)

Intro 1130 would require the DEP Commissioner to promulgate an indirect source rule (ISR) to reduce emissions attributable to the use of indirect sources, such as warehouses and other structures that attract mobile sources of air pollution including vehicles.

Intro 1130 intends to target emissions related to "last-mile" warehouses and other "indirect sources," but there is presently no definition of "last-mile" in the City's Zoning Resolution. Because the Department of City Planning (DCP) has yet to define these facilities, Intro 1130, as written, would apply to all warehouses above 50,000 square feet that provide distribution and fulfillment services, including local food distributors that service schools and small businesses. Similarly, the bill's application to other "indirect sources" is too broad and could capture facilities that fall below the 50,000-square-foot threshold for qualifying warehouses.

It is important to observe that Intro 1130 is being considered at a time when several other City policymaking initiatives are already underway in this space. Specifically, DCP is in the process of studying a special permit for last-mile facilities as a part of the commitments outlined in City of Yes for Economic Opportunity. In addition, DCP is undertaking the NYC Industrial Plan as required under Local Law 172-2023. This effort will explore how the City can best support the development of a modern and growing industrial economy by surveying industrial area stakeholders, collecting land-use data, identifying economic trends, and offering policy and program recommendations to grow the sector.

In addition to working with DEP to refine the legislation, the City Council must closely coordinate with DCP given the significant overlap between Intro 1130 and DCP's ongoing work. Both the special permit analysis and NYC Industrial Plan will include an analysis of modern industrial needs, the physical land use of our city to accommodate those needs, and the importance of this sector in providing local jobs.

Improving air quality in all communities is a laudable goal and REBNY supports granting DEP the authority to regulate and enforce indirect source pollution. However, the definitions in the legislation require further engagement with owners and operators of industrial space to fully understand the City's industrial landscape and ensure vital sites can continue to operate without undue burden. Further, passing Intro 1130 before DCP's analyses conclude could lead to many unintended consequences and preclude the holistic planning the industrial sector requires to continue as a vibrant part of the City's economy.

Thank you for your consideration of these points.

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February 28, 2025

Comments of Zach Miller Vice President of Government Affairs Trucking Association of New York

before the

New York City Council Committee on Environmental Protection, Resiliency, and Waterfronts

Good morning, Chair Gennaro and members of the Environmental Protection, Resiliency, and Waterfronts Committee. My name is Zach Miller, I am the Vice President of Government Affairs for the Trucking Association of New York (TANY). Since 1932, TANY has advocated on behalf of the trucking industry at all levels of government, providing compliance assistance, safety programs, and educational opportunities to our members, and in the process, creating jobs, supporting the economy, driving safety, and delivering a sustainable future.

I testify today regarding Int-1130, which would require the Commissioner of the Department of Environmental Protection (DEP) to promulgate an indirect source rule (ISR). We appreciate the goal of reducing emissions and recognize the importance of crafting a well-balanced ISR that both achieves environmental benefits and ensures the continued efficient movement of goods in New York City. This testimony will cover at length the merits of an indirect source rule (ISR), challenges and opportunities, and the holistic options that will achieve the stated goal of emissions reduction. However, we urge the Committee to reconsider the approach taken in Int-1130 and work toward a more collaborative process that includes all key stakeholders from the outset.

An ISR must be structured in a way that provides flexibility while ensuring practical implementation for all affected parties. It is essential that the rulemaking process reflects the full diversity of the freight industry. Battery electric vehicles (EVs) have shown promise in last-mile delivery and off-road equipment, but the broader industry faces significant challenges in adopting EV technology, including the lack of publicly accessible charging stations for medium- and heavy-duty trucks in New York City. Some of our members have already incorporated EVs into their operations and have flagged infrastructure limitations, routing difficulties, and payload constraints as barriers that must be addressed before widespread adoption can occur. We look forward to working with DEP to ensure these practical realities are accounted for.

Additionally, an ISR must be carefully structured to avoid creating unnecessary conflicts between warehouse operators and logistics providers. Lessons can be drawn from existing programs, such as the Citizen's Air Complaint Program, where the inability to transfer liability has caused disputes between rental and leasing companies and their customers. We appreciate the City Council's



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willingness to step in and address this issue through legislation, and we encourage a proactive approach with ISR to prevent similar concerns from arising. A well-designed ISR should promote collaboration, not contention, among all stakeholders in the supply chain.

To be successful, an ISR must incentivize investment in cleaner technologies in a way that is both feasible and sustainable for businesses of all sizes. The NYC Clean Trucks Program has provided a strong framework, offering a variety of vehicle options – including California-certified clean idle diesel, battery electric, hybrid, and compressed natural gas (CNG) trucks – while delivering significant emissions reductions (97% particulate matter reduction and 89% nitrogen oxide reduction from qualifying trucks). This type of flexibility, menu-based approach should be expanded under ISR to include renewable diesel-powered trucks and other proven technologies. Additionally, fleets should be able to receive credits for participating in initiatives such as off-hour deliveries, micro hubs, and blue highways, all of which contribute to reduced congestion and lower emissions.

It is also critical that ISR accounts for the unique constraints faced by different types of businesses. Many small manufacturers in Industrial Business Zones (IBZs) rely on trucking for receiving materials and shipping products. While large distribution centers may have some capacity to install charging infrastructure, smaller warehouses often do not. Furthermore, private companies face power constraints that must be considered in any future rulemaking. Ensuring that these challenges are addressed will require a collaborative effort involving DEP, the Economic Development Corporation (EDC), and utility providers to develop solutions that work for all stakeholders.

Finally, we encourage coordination between the City and State as they both explore ISR policies. A disjointed regulatory framework could result in unintended consequences, such as supply chain stakeholders facing overlapping regulations or businesses relocating outside of New York City, ultimately increasing vehicle miles traveled rather than reducing them. Aligning efforts at both levels of government will be essential to achieving the intended environmental benefits while maintaining the efficiency of freight operations.

We recognize that developing an effective ISR is a complex task, and we appreciate the opportunity to contribute to this important discussion. The Trucking Association of New York looks forward to ongoing collaboration with the City Council and DEP to ensure that any new regulations are practical, achievable, and beneficial for both the environment and industry.

Thank you for your time and consideration of this testimony.



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Testimony to Committee on Environmental Protection, Resiliency & Waterfronts in support of Int. no 1130

Board of Directors February 11, 2025

Stuart Appelbaum President, Retail Wholesale Department Store Union

Eddie Bautista

Executive Director, NYC

Environmental Justice

Alliance

Henry Garrido

Executive Director,

AFSCME District

Council 37

Lucia Gomez, Political Director, NYC Central Labor Council

Bernadette Kelly, Consortium for Worker Education

Zachary Lerner
Deputy Executive
Director, New York
Communities for
Change

Jose Lopez
Co-Executive Director,
Make the Road NY

Cynthia Travieso Political Director Community Voices Heard Council Member James Gennaro, Chair
New York City Committee on Environmental Protection, Resiliency &
Waterfronts

My name is Julia Corrado, and I am the Researcher and Policy Analyst at ALIGN: The Alliance for a Greater New York. We bring together labor, climate, and community for a more just and sustainable New York, and I am writing as a member of multiple coalitions fighting for better conditions for both our city's warehouse workers and our communities. Thank you to committee chair Council Member Gennaro for the opportunity to submit testimony today.

ALIGN strongly supports Intro 1130 which requires the Department of Environmental Protection (DEP) to promulgate an indirect source rule to reduce emissions attributable to the use of indirect sources, such as last mile warehouses. The proliferation of these under-regulated last mile facilities has resulted in the disproportionate negative effects of such facilities on the low income communities and communities of color in which they are located, including increased truck traffic, pollution, and emissions in already environmentally sensitive neighborhoods. Intro 1130 would help to mitigate the unjust polluting of environmental justice communities while enforcing necessary emissions regulations to maintain our climate goals and hold large corporations accountable.

As it is currently written, Intro 1130 is purposefully limited at the moment to allow for more informed language to be added after a full environmental review process. While we understand and appreciate this commitment to a thoroughly studied piece of legislation, this also means that this hearing possibly represents environmental justice advocates' and community members' only opportunity to share their perspective on policy that has the capacity to greatly affect them. Given this, we encourage continued communication and

opportunities for stakeholder input from both Council and New York City administration throughout the lengthy process this bill faces.

At the state level, a similar version of Intro 1130 (S2127C/A1718) was introduced last session which presents expanded and specified definitions of warehouses, fulfillment centers, modifications, and operators compared to Intro 1130. In the state bill, heavy distribution centers, which Intro 1130 calls "warehouses," is defined as a fulfillment center, parcel hub, or parcel sorting facility, each with their own specific definition. Crucially, when any of these definitions references last mile facilities, it is done so as "last mile facility or similar facility" to disallow for technical loopholes around the term "last mile" itself. Intro 1130 should mirror such attention to detail, as opponents to this bill will certainly search for any legal loophole possible to continue polluting and evade responsibility.

The state indirect source rule bill is an intricately composed and robust piece of legislation which tackles this complex issue well, and we suggest Intro 1130 follow the state bill in both its definitions and body regulatory language to ensure the maximum level of enforcement around indirect sources of emissions from last mile facilities.

Intro 1130 is clearly aimed at regulating the harms perpetrated by large corporations like Amazon, and not small manufacturers who are crucial threads in the fabric of New York City's local economy. Vague language in this kind of legislation can cause small manufacturers to be grouped in with corporate giants and experience unwarranted obstacles to their livelihood as a result. Thus, we applaud the size threshold of 50,000 square feet in this bill's definition of a qualifying warehouse, and we encourage Council to continue to keep small manufacturers in mind as this bill is iterated upon.

As are many environmental issues, the problems surrounding last mile warehouses in New York City are incredibly intersectional. Specifically, one cannot properly consider the environmental problems surrounding last mile warehouses without confronting the massive labor concerns within these facilities. In addition to low wages, poor hours, impossible work quotas, unregulated subcontracting practices, and more, working in last mile facilities is simply dangerous: the U.S. Government Accountability Office found that last mile delivery workers had the highest estimated rate of serious injury among private sector industries in 2024. These are local workers from our New York City communities whom bills like Intro 1130 aim to protect, experiencing injustices day in and day out.

In fact, the abysmal labor standards at last mile facilities directly contributes to the environmental issues discussed today: truck routes are purposefully

¹https://www.gao.gov/blog/online-shopping-increases-so-do-concerns-about-delivery-and-warehouse-workers-safety#:~:text=In%20our%20new%20report%2C%20we,experienced%20serious%20injury%20in%202022.

excessive and inefficient to make the job more difficult for drivers, and due to the high turnover and resulting shortage of last mile workers, employees continue to be sourced from farther and farther away from each facility. These factors cause increased vehicle miles traveled, contributing to one of the main sources of pollution which Intro 1130 aims to tackle.

These two issues are necessarily intertwined, and thus we strongly urge the Council to address both hand-in-hand. If Intro 1130 does not directly incorporate labor provisions in its language, then Council should ensure additional legislation is pursued in conjunction to do so. Both policies should be pushed forth in solidarity. Achieving one without the other risks rendering the desired justice ineffective. Especially given the direct connection between employment practices and environmental effects of last mile facilities, labor should be top of mind at every juncture of this policy making process.

We urge this committee and Council to support the passage of Intro. 1130 with the strongest possible language and enforcement and bring overdue reform to last mile facilities in New York. Thank you.

Julia Corrado

Researcher and Policy Analyst



AIANY Testimony to City Council Committee on Environmental Protection, Resiliency, and Waterfronts on Int 1130-2024, Regulation of Indirect Sources of Air Pollution

February 11, 2025

American Institute of Architects New York (AIANY) writes to express strong support for the need, purpose, and goals of Intro 1130 – to reduce emissions from freight delivery vehicles, still mostly diesel powered medium- and heavy-duty trucks, delivering goods to/from distribution warehouses operating in NYC. AIANY represents more than 5,000 architects and design professionals committed to positively impacting the physical and social qualities of our city. The proposed indirect source rule (ISR), to be administered by NYCDEP, is a tested and effective way to speed up the transition to zero emission vehicles.

By improving air quality in neighborhoods most affected by emissions, local public health outcomes will be improved. And importantly, broader sustainability goals from reducing overall carbon emissions in the transportation sector can be advanced.

Our testimony today focuses on broad principles of the ISR enabling legislation by the City Council. More detailed analysis and recommendations will follow during NYCDEP's rule-making process.

First, we support an 'all agency approach' to creating a more sustainable freight network across NYC. In addition to implementing an ISR, the City has committed to address the impacts of large distribution warehouses on local residential areas with its zoning and land-use tools. Related to this:

- Consistent standards need to be adopted by NYCDCP and referenced in the ISR that clarify relevant zoning use-group definitions for various warehouse types and define clear criteria for floor area calculations in these buildings;
- As NYCDCP moves forward to develop a special permit process for new large distribution warehouses, NYCDEP and NYCDCP need to coordinate terminology and relevant elements of their regulations to avoid conflicts and/or redundancy.

Other agency policies, investments, and subsidies supporting these regulations include:

- NYCDOT should continue its green delivery innovations to support a more sustainable freight network with:
 - o incentives for more efficient truck deliveries like their off-hours delivery program;
 - support for low-impact alternatives to truck deliveries like micro-deliveries and freight consolidation with micro-hubs;
 - o expanded subsidies modeled on their Clean Trucks Program to accelerate the transition to lowand no-emission delivery vehicles (NZE and ZE);
- NYCEDC should lead the development of the city's blue highway network to facilitate a partial mode shift from truck to maritime deliveries with targeted port infrastructure improvements;
- NYC Health should expand its outdoor air monitoring programs to track air quality conditions and progress in and near concentrations of distribution warehouses.

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Second, the ISR should apply to a broad range of warehouse facilities with high-volume vehicle freight traffic, not just the largest fulfillment centers and so-called last-mile distribution facilities. This could include B2B deliveries such as food deliveries from NYCEDC's Hunts Point Food Distribution Center (HPFDC), B2C food delivery services such as FreshDirect, B2C home improvement deliveries such as Home Depot and IKEA, and even B2B construction material deliveries.

Third, the distribution warehouse floor area threshold of 50,000sf that would trigger the ISR seems overly rigid. Extrapolating from NYCDEP's data, exempting warehouses below this threshold would capture only 40% of NYC's warehouse-related vehicle emissions. A stepped threshold starting at 25,000sf tied to delivery vehicle trip volume, with increments up to 1Msf and above would capture more of these delivery vehicles emissions and give NYCDEP a larger arsenal of tools to regulate those emissions.

Incorporating these principles into the enabling legislation will give NYCDEP the flexibility to calibrate the most effective set of regulations and incentives based on local data and results from other jurisdictions that have implemented their own version of an ISR.

Thank you for considering these recommendations.



To: The New York City Council, Committee on Environmental Protection, Resiliency and Waterfronts

Re: Support for Int 1130-2024 - Indirect Source Rule

February 28, 2025

Dear Committee,

On behalf of C40 Cities, a global network of nearly 100 mayors of the world's leading cities that are united in action to confront the climate crisis, I am pleased to provide a letter in support of the regulation of indirect sources of air pollution in New York City (NYC), known as an indirect source rule.

Indirect source rules aim to reduce pollution generated from warehouses and other facilities that attract a significant number of polluting trucks, by incentivising the uptake of zero emission technologies, smaller delivery vehicles and other mitigation strategies, such as renewable energy generation (e.g. installing solar panels) and urban greening (e.g. tree planting). The indirect source rule is an innovative approach that would improve public health for New Yorkers, decrease congestion, and reduce social and racial inequities. The measure would also be a significant step toward meeting NYC's emissions reduction and climate goals, outlined in PlaNYC.

Tackling toxic air is a top global priority for C40 Cities. Traffic is a major source of air pollution around the world and urban freight produces an outsized share of cities' transport-related air pollution and greenhouse gas emissions. Transforming the transport sector is urgent and has the potential to create greener, healthier and more inclusive cities.

C40 supports cities globally with policy tools to promote vehicle electrification, and shift toward walking, cycling and public transport, resulting in improved air quality and health outcomes. C40 identified the City of New York as a leader in North America, with the potential to break down barriers and demonstrate success for other cities facing similar challenges. Over nearly two years, C40 has worked closely with the City to lay the groundwork for an indirect source rule, including undertaking an extensive analysis to better understand the warehouse landscape in the city and the potential impacts of introducing the policy.

NYC would be the first city in the country to implement a city-level warehouse indirect source rule and other cities are looking to NYC for inspiration and evidence of success. A New York City indirect source rule would serve as a model for U.S. cities that want to protect their residents from pollution in and near warehouses.



The harmful impact of urban freight and warehouses

Across the world, urban freight accounts for up to 40% of urban transport-related carbon emissions and is a major contributor of air pollution. In New York City, while heavy-duty diesel vehicles represent a small proportion of total vehicle activity, they are responsible for roughly half of on-road transport nitrogen oxides (NOx) and fine particulate matter (PM2.5) emissions, research from the International Council on Clean Transportation (ICCT) shows. These pollutants are extremely harmful to human health as they penetrate deep into the lungs and are linked to respiratory and cardiovascular morbidity and mortality, even at low concentrations.

Freight vehicles, primarily used for goods movement and commercial purposes, are also rapidly increasing on our city roads. As freight volumes in NYC are predicted to increase by 68% by 2045, urgent action is needed to accelerate the shift to zero emission technologies to protect all communities from harmful pollution.

Reducing pollution from urban freight is an issue of environmental and social justice. In New York City, communities of color are exposed to <u>5% more fine PM2.5</u> from diesel trucks than average, while non-Latino white residents are exposed to 10% less than average. Moreover, in high-poverty neighborhoods in NYC, traffic sources contributed to nearly <u>10x more asthma</u> emergency department visits due to PM2.5 exposure, as compared to low-poverty areas.

E-commerce growth is fueling demand for warehousing and distribution centers. Many of these facilities are opening nearer to residents and other consumers to meet rapid delivery expectations, raising concerns over the impacts of freight traffic and air pollution exposure.

Warehouses are also being built near low-income and communities of color. According to a <u>study</u> by Environmental Defense Fund (EDF), nearly 5 million people in NYC reside within half a mile of a warehouse. Of those, 315,000 are under the age of five and 649,000 are over the age of 64, groups that are more susceptible to the negative health impacts from air pollution. Black, Hispanic/Latino and low-income populations also live near warehouses at rates that are more than 59%, 48% and 42% higher, respectively, than would be expected based on statewide statistics.

Introducing an indirect source rule is a significant opportunity to tackle the outsized impact of warehouses and heavy- and medium-duty trucks on air quality and public health in New York City. EarthJustice highlighted that a similar approach in Southern California has already demonstrated positive results, with South Coast Air Quality Management District ISR actions already delivering a 3% reduction in nitrogen oxide emissions from over 3,000 regulated warehouses —



about two-thirds of a ton less NO_x per day — as well as a cut in diesel particular matter emissions.

As well as the expected local benefits in NYC, this rule would bring additional air quality and health benefits to surrounding regions, which would also be served by the same cleaner vehicles.

The global ambition to reduce urban freight emissions

City policies and regulations are vital to provide certainty and encourage the private sector to invest in zero emission technologies, shifting the market to cleaner, healthier options. Thirty-five global cities have signed <u>C40's Green and Healthy Streets Accelerator</u>, committing to address the primary sources of transport pollution, including through the implementation of a major zero emission area by 2030.

Cities large and small are taking action to create healthier streets and reduce pollution from urban freight. Mexico City provides an incentive – in the form of air quality restriction exemptions – to companies that use electric or hybrid vehicles. In Europe, the Dutch cities of Amsterdam and Rotterdam recently introduced a zero emission zone for city logistics targeting freight and logistics vehicles, allowing only zero emission vans and trucks to circulate in a major area of the city. Several cities around the globe are also exploring the potential of cargo bikes, microhubs and smaller electric vehicles to reduce the public health impact of urban deliveries.

New York City is already an ambitious leader in the United States in addressing the harmful pollution and congestion impact of urban freight. The indirect source rule would become part of a broader package of innovative policy measures to modernize and decarbonize the urban logistics sector, including off-hours deliveries, parcel lockers, microhubs, Blue Highways, Smart Curbs, and the Clean Trucks Program. An indirect source rule would further incentivize the private sector to transition to cleaner modes and contribute to the transformation of the city's streets.

C40 welcomes New York City's introduction of the indirect source rule as a crucial step to improve air quality and public health, accelerate the shift away from fossil fuel trucks, and limit climate change. We encourage you to adopt this important measure to improve the lives of New York City residents.

Kate Johnson

Regional Director for North America C40 Cities Climate Leadership Group



Testimony of The Collective for Community, Culture and Environment, LLC

Collective for Community, Culture and Environment

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Re: CCCE Testimony on Indirect Source Rule (ISR)

The Collective for Community, Culture and Environment (CCCE) is pleased to offer written testimony in favor of Int 1130-2024 which would require the Commissioner of the Department of Environmental Protection (DEP) to promulgate an indirect source rule to reduce emissions attributable to the use of indirect sources, such as warehouses or other structures that attract mobile sources of air pollution, such as vehicles. The indirect source rule would regulate certain large warehouses and any other indirect sources determined by the Commissioner.

CCCE has in the past provided testimony on both the City of Yes Carbon Reduction and City of Yes Economic Development in favor of greater regulation of the last mile ecommerce warehouses that are increasing in numbers, generate significant air emissions and are clustered in environmental justice communities.

The Problem:

Mega-warehouses operate 24/7 and produce greenhouse gas emissions equal in scale to those from power plants and factories. They require hundreds, sometimes thousands, of vehicle trips per day, including a large number of large heavy-duty diesel trucks. In addition, the trucks operating out of the warehouses emit particulate matter, smog-forming nitrogen oxides, and volatile organic compounds that worsen local air quality and increase the risk of asthma, heart attacks, and premature deaths in surrounding neighborhoods. Furthermore, communities living near warehouses are already overburdened with levels of PM2.5, NO2, NO, and black carbon that are highest in industrial areas abutting environmental justice neighborhoods

According to the Environmental Defense Fund's "Warehouse Boom" report, 4.9 million New York residents live within half a mile of a leased warehouse of 50,000 square feet or larger. However, these impacts are not evenly distributed — of the 4.9 million residents living near warehouses, 315,000 are under age five and 649,000 are over age 64. Black, Hispanic/Latino and low-income populations live near warehouses at rates that are more than 59%, 48%, and 42% higher, respectively, than would be expected based on statewide demographics.



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As e-commerce continues to rapidly expand and more NYC consumers purchasing goods online, the number of delivery trucks on the road will increase, leading to an even greater rise in greenhouse gas emissions.

Clearly, without adopting policies that regulate this growing industry, communities will continue to experience the impacts of pollution and New York City is at risk of not achieving its climate goals.

Why a NYC Indirect Source Rule

A Warehouse Indirect Source Rule was first adopted in Southern California in 2021. It is designed to address this growing pollution burden from mega warehouses and is already working. Since the policy was implemented, data shows facilities have acquired 815 new zero-emission trucks and installed 172 new truck charging stations.

Examples include:

- At the Port of Long Beach, the Joint Electric Truck Scaling Initiative deployed 50 all-electric trucks and a charging station powered by solar energy and battery storage.
- The warehouse developer Prologis and the shipping company Maersk have teamed up on their largest electric charging station that is capable of charging up to 86 electric trucks at a time.
- Amazon is also making the shift to electrify. Earlier this year, the e-commerce company making it the company's largest fleet of electric trucks in the country.

Successful ISRs have given operators a menu of choices depending on their circumstances. Options can include actions such as acquiring zero-emissions trucks, installing charging infrastructure, installing solar panels, or taking action to mitigate community health harms from truck emissions such as installing air filtration systems in schools and hospitals.

A NYC Indirect Source Rule would address pollution that is damaging to human health resulting from the fleets of trucks and vehicles that carry goods to and from certain warehouses, with each warehouse an "indirect source" of pollution.

A NYC ISR Bill would be complementary, not duplicative, of the NY State Clean Deliveries Act Bill that is currently being considered.

The Clean Deliveries Act would address the growth of mega warehouses throughout New York State and would require the State to:

 Review emissions from all e-commerce warehouses over 50,000 sq. ft.



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- Create an air emissions reduction and mitigation plan requiring warehouse operators to minimize pollution by implementing one or more of the following:
 - Acquiring zero-emission vehicles & charging infrastructure
 - Installing solar panels and/or batteries on-site
 - Considering alternative transportation modes for incoming or outgoing trips where appropriate
 - Paying additional fees
 - Enact greater protections for warehouses operating in disadvantaged communities or that impact schools and similar facilities
 - Include a permit requirement for new warehouse developments or those proposing significant modifications
 - Enact ongoing reporting requirements related to truck traffic and emissions mitigation measures
 - Develop a zero-emission zones study on the feasibility, benefits, and costs of implementing low and zero emissions designated areas for air pollution and congestion hotspots within New York State

It is important to note that in order to accommodate specific local conditions and needs, the NY State bill has a provision to allow Cities to develop stronger requirements. New York City's ISR bill would do just that.

Recommendations for the NYC ISR

In finalizing a NYC Indirect Source Rule the following should be included:

- While the 50k sq ft threshold is commendable, like NY State, the NYC program should also look to capture operators that own an accumulation of smaller facilities.
- The rule should include a menu of options that warehouse owners and operators can follow to reduce emissions including zero-emission modes of delivery, such as electric vehicles, cargo bikes, and maritime transportation.
- The program should include a point system.



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- The program should push warehouse operators to utilize zero-emission modes of transportation, not near-zeroemission vehicles or alternative fuels.
- The program should also consult with impacted employees (like the state bill)
- Enhanced mitigation measures should be implemented for sensitive receptors, including but not limited to schools, daycares, playgrounds, parks, hospitals, senior centers, nursing homes, public housing, and disadvantaged communities.
- There should be permitting for new and existing facilities.
- Warehouse operators should be required to submit annual data that includes but not limited to:
 - average daily number of inbound and outbound vehicle trips by vehicle weight and class, and by time of day and day of the week;
 - 2. average daily vehicle miles traveled for all vehicles making inbound and outbound trips to and from the qualifying warehouse;
 - average daily vehicle miles traveled and the number of inbound and outbound trips for alternative modes of freight;
 - 4. a heat map of the frequency data for trip destinations;
 - number of jobs at the facility, including drivers and others employed by third-party contractors, with a breakdown of the percentage of parttime and full-time employees, independent contractors, unionized and non-union employees;
 - 6. percentage of vehicles used, specifying on-road vehicles and off-road vehicles as well as weight and vehicle class, that are zero emissions;
 - 7. number of electric charging stations installed and actual usage;
 - 8. number hydrogen fueling stations installed and actual usage;
 - 9. number of on-site renewable energy generation systems that have been installed;



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- 10. number of vehicles used to deliver from the site that are owned by the warehouse operator but leased to a third party, and the proportion of leased vehicles used as compared to vehicles owned by the warehouse operator;
- 11. identity of subcontractors who conduct more than ten percent of total delivery vehicle trips from the site, including the entity name, principal officers, business address and contact information, and the total number of employees; and
- 12. any other information necessary to effectively implement and enforce any rule or regulation.
- There should be air quality monitoring done before the program begins to measure the reduction in air pollution once the warehouse operators begin participating in the program and to hold them accountable.

In conclusion, the Collective for Community, Culture and Environment is very pleased to see champions from our City officials responding to the need to regulate these mega warehouses as indirect sources of air pollution. We strongly support Int 1130-2024.

Thank you for considering our comments.

Eva Hanhardt, Co-Coordinator

Tva Hanhardt

(on behalf of the Collective for Community, Culture & Environment, LLC)



January 24, 2025

The Honorable Alexa Avilés New York City Council 250 Broadway, Suite 1728 New York, NY 10007

Re: Support for Int 1130-2024 - Indirect Source Rule

On behalf of Consumer Reports, we write to express our strong support for Int 1130-2024, which would require the Commissioner of the Department of Environmental Protection (DEP) to promulgate an indirect source rule to reduce greenhouse gas (GHG) emissions attributable to the use of indirect sources, such as warehouses or other structures that attract mobile sources of air pollution.

Consumer Reports is a New York based independent, nonprofit membership organization that works side by side with consumers to create a fairer, safer, and healthier world. For over 80 years, CR has provided evidence-based product testing and ratings, rigorous research, hard-hitting investigative journalism, public education, and steadfast policy action on behalf of consumers' interests. As a member-funded organization that is unconstrained by advertising, CR has exposed landmark public health and safety issues and strives to be a catalyst for pro-consumer changes in the marketplace.

The transportation sector is the second highest source of GHG emissions in New York at 28%.¹ Additionally, exhaust from heavy-duty trucks and other diesel vehicles is an increasingly concerning health hazard for residents all across New York State.² Decades of studies have shown that breathing in particulates from diesel and gasoline exhaust can increase a person's chance of getting asthma and developing cancer,³ while also contributing to preterm births and miscarriages.⁴ Diesel emissions are the main contributor to the persistently poor air quality across large parts of New York State, which fail to meet federal air quality standards for ozone.⁵

¹ New York State Department of Environmental Conservation, *Statewide Greenhouse Gas Emissions Report*. Available at: https://www.dec.ny.gov/energy/99223.html

² Union of Concerned Scientists, Exposure to Diesel Particulate Pollution in New York State, (November 17, 2021). Available at: https://www.ucsusa.org/resources/diesel-pollution-nv#read-online-content

³ Steiner S, Bisig C, Petri-Fink A, Rothen-Rutishauser B. Diesel exhaust: current knowledge of adverse effects and underlying cellular mechanisms. Arch Toxicol (2016).

⁴ Padula, A.M., Huang, H., Baer, R.J. et al. Environmental pollution and social factors as contributors to preterm birth in Fresno County. Environ Health 17, 70 (2018).

⁵ Union of Concerned Scientists, Exposure to Diesel Particulate Pollution in New York State, (November 17, 2021). Available at: https://www.ucsusa.org/resources/diesel-pollution-ny#read-online-content

With the rise of e-commerce across the country and in New York, many companies are causing significant impacts to the communities living around distribution warehouse facilities, contributing to increased air pollution from diesel-based delivery trucks, among other negative impacts.

While all New York City residents are harmed by air pollution, vulnerable communities are most exposed to distribution warehouse traffic and its resulting polluting emissions. In 2021, Consumer Reports (CR) and The Guardian US published an investigative report about the rapid expansion of large Amazon warehouse facilities across the United States, which showed that these warehouse facilities are typically built in neighborhoods with a disproportionately high number of people of color and low-income residents. These communities are already burdened with environmental and health problems linked to decades of heavy commercial and industrial development. The expansion of these warehouses adds to these impacts. Amazon is one of the main corporations locating warehouses in overburdened communities, but this issue is not limited to just Amazon.

Without targeted mitigation, warehouse operations are anticipated to increasingly harm local air quality. Consumer demand for online goods is growing at a massive clip, a decade-long trend that was accelerated during the pandemic. In New York State, consumer e-commerce spending increased 64% between 2019 and 2021 – compared to just 6.6% growth in retail sales overall.⁸ Nationwide, consumer spending on e-commerce hit a record \$1 trillion in 2022.⁹ While the rise of e-commerce has brought on many benefits for consumers, it has also brought unmitigated air quality concerns due to increased shipping demands, particularly for the neighbors of warehouse facilities needed to serve this massive rise in consumer demand.

More recently, on November 20, 2022, CR and The Guardian published additional reporting outlining the lack of publicly available air quality data associated with the operations of Amazon's last-mile delivery facilities, specifically in Brooklyn's Red Hook neighborhood. Residents expressed concern with the increase in noise and dangerous traffic associated with these facilities, as well as fear of additional air quality problems from increased vehicle traffic traveling through their neighborhood. The rise in air pollution associated with the warehouses often remains unquantified, since there is no clear directive for companies to measure, publish, and mitigate air quality in neighborhoods that surround their warehouses.

⁶ Consumer Reports, *When Amazon Expands, These Communities Pay the Price*, (December 9, 2021). Available at: https://www.consumerreports.org/corporate-accountability/when-amazon-expands-these-communities-pay-the-price-a2554249208/

⁷Letter to Chicago Plan Commission. (November 11, 200). Available at:

https://www.chicago.gov/content/dam/city/depts/zlup/Planning_and_Policy/Agendas/cpc_materials/11_2020/Public_Comments/Written_Comments_2420_S_Halsted.pdf

⁸ The Daily Gazette, *Online purchases by Capital Region residents soar but local retail rises as well.* (February 27, 2022). Available at:

https://dailygazette.com/2022/02/27/online-purchases-by-capital-region-residents-soar-but-local-retail-rises-as-well/

United States Census Bureau, *Quarterly Retail E-Commerce Sales*. (February 17, 2023). Available at:

bttps://www.census.gov/retail/ecommerce.html

¹⁰ The Guardian, *Are Amazon delivery hubs making neighbors less healthy and more dangerous?* ((November 20, 2022). Available at:

https://www.theguardian.com/technology/2022/nov/20/amazon-warehouse-new-york-brooklyn-red-hook

An indirect source rule will help manage the unchecked growth of warehouse facilities and advance environmental justice by requiring mitigation measures at the warehouses which generate significant vehicle emissions. The DEP would design and implement the program to track and reduce air pollution associated with these mega-warehouses, including by encouraging a shift towards zero-emission vehicles and clean energy, and allow for consideration of whether other emission reduction technologies are appropriate for a given facility.

Today, many of the e-commerce companies have demonstrated they are on board by making pledges to reduce emissions across supply chains and placing large orders for zero-emission delivery vehicles, but there is no real mechanism in place to ensure that deployments happen where the air quality benefits are needed most urgently. The communities and workers that have to live with and work around massive freight and logistics centers should be first in line for zero-emission technology. An indirect source rule will promote deployment of zero-emission vehicles and other clean energy investments in those communities that are currently breathing the dirtiest air.

Consumer Reports strongly urges you to support Int 1130-2024 and pass an indirect source rule to ensure that communities across New York City are protected from pollution tied to warehouse shipping traffic in their neighborhoods.

Thank you for your consideration,

Dylan Jaff
Policy Analyst, Sustainability Policy
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Downstate New York



Downstate New York ADAPT Website: dnyadapt.com

February 13, 2025

Council Member Selvena N. Brooks-Powers Chair

New York City Council Committee On Transportation And Infrastructure

Sent Online at https://council.nyc.gov/testify/

Emailed to: testimony@council.nyc.gov

Copy emailed to: Julian Martin, Policy Director at jmartin@council.nyc.gov

Re: New York City Council Committee On Transportation and Infrastructure-T2025-3081 - Oversight - TLC: The Status of the Yellow Cab Industry

Dear Chair Brooks-Powers;

We, the undersigned disability organizations, submit these comments in response to the New York City Council's Committee on Transportation and Infrastructure's request for testimony with respect to the oversight hearing concerning the New York City Taxi and Limousine Commission and the status of the yellow cab industry.

New Yorkers with disabilities encounter many obstacles every day traveling around New York City. We need to have taxicabs that will pick us up, drive us safely, and in the case of those passengers who use wheelchairs, be properly secured and provided with a seatbelt and shoulder belt. Further, we need to be able to communicate with the drivers and have the drivers know that they need to come to us, assist us to the taxicab as well as help us embark and disembark. These are issues we experience daily that jeopardize our safety. These critical issues need to be addressed by the City Council's Committee On Transportation and Infrastructure.

Accessible Dispatch Program

We would like to see this Committee support a bill that would require the Taxi and Limousine Commission to continue the Accessible Dispatch Program as it presently operates with a simple structure for reaching an operator to request, in real time by telephone, a taxicab and to be able to call back and reach a real person when guidance is needed to the taxicab as well as follow up on when the taxicab will arrive and other such information. We would also like to see the Accessible Dispatch Program be expanded to include for-hire vehicles. Further, the City Council needs to provide sufficient funds to continue to pay for this very important program that works.

Taxicabs-Training and Operation

We need the schools that are training taxicab drivers to actually demonstrate how to assemble the seatbelt and shoulder belt in the class and make the drivers actually secure a person using a wheelchair and the wheelchair itself during these classes. The taxicab drivers and taxicab owners need to be taught that properly securing all passengers, including those who use wheelchairs and their wheelchairs, is not only the law but also, is to their benefit in an accident if they are sued. Passengers with disabilities who use wheelchairs should not have to request a seatbelt and shoulder belt; they should not have to teach the few drivers that actually can find these seatbelts and shoulder belts how to assembly them and place them on us. So too, passengers with disabilities sitting in seats should not have to struggle to find the head and tail to the combination seatbelt and shoulder belt. These devices need to be easy to reach in the taxicab.

Taxicab owners and drivers need to receive better training on assisting people with disabilities, which includes those with hearing loss. All taxicabs have hearing induction loops. Too often drivers seem to not know that hearing induction loops are available in taxicabs. Taxicab drivers need to realize that by providing these services they are not just promoting good customer relations, but also complying with the law.

With respect to taxicabs refusing to pick up people with disabilities, especially people who use wheelchairs and other mobility devices as well who are accompanied by a service dog, the schools who train the taxicab drivers need to stress that such actions are not acceptable and are illegal in New York City.

Taxicabs should not be allowed to leave a garage without the four wheelchair securements and wheelchair ramp operational and the seatbelt and shoulder belt easily available in the taxicab.

We also urge the Council to push the Taxi and Limousine Commission to explore ways to enforce the law so that people with disabilities are not refused trips when drivers do not have the necessary equipment in their vehicles and when they do not properly assist passengers with disabilities, including education efforts and undercover actions.

Int. 0373-2024

We do not support Int. 0373-2024 because it would extend the time within which taxicabs will become at least 50% accessible under a legally binding agreement made by the City and Taxi and Limousine Commission. For any member of the City Council to propose Int. 0373-2024 and this Committee to entertain it, we see as dismissing the needs of people with disabilities as not important.

We understand that the issues the yellow cab industry is facing are serious but we did not create them and they should not be corrected by violating our civil rights. During the past few years, the Taxi and Limousine Commission, under the City Council's watch, has allowed for-hire vehicles, such as Uber and LYFT, as well as Revel for-hire vehicles that are not wheelchair accessible on the roadways of New York City and flooded the market to the detriment of the yellow cab industry. Significantly, this proposed legislation violates the agreement the City made to provide us with the bare minimum of 50% of the yellow taxicabs wheelchair accessible as well as the federal District Court's recent order that all inaccessible taxicab vehicles scheduled to be replaced now be replaced with wheelchair accessible vehicles until at least 50% of the active medallions are wheelchair accessible. As stated by people who testified at the hearing this Monday, February 10, 2025, we New Yorkers with wheelchairs have waited too long to even have 50% of the taxicabs in operation on the street wheelchair accessible. Thus, the passage of this proposed bill would send the wrong message, that is-discriminating against New Yorkers with disabilities and visitors with disabilities is acceptable and people with disabilities do not count. Please reject Int. 0373-2024. This City Council needs to provide sufficient funds to the Taxi Improvement Fund.

Additionally, we urge the New York City Council's Committee On Transportation and Infrastructure to require that all new taxicabs be wheelchair accessible vehicles until passengers who use wheelchairs have 100% access to all New York City's taxicabs. When 100% of all New York City taxicabs are wheelchair accessible everyone who needs a wheelchair accessible taxicab will be guaranteed to get a wheelchair accessible taxicab and this will allow all New Yorkers to travel easier throughout the five boroughs in New York City.

Int. 0676-2024

With respect to Int. 0676-2024, we agree with other New Yorkers with disabilities that this bill needs to be amended to also require that such a study and report include how we can have electric wheelchair accessible for-hire vehicles as well as charging infrastructure available for vehicles, including motorized wheelchairs, in New York City. Failing to require the study and report on electrical for-hire vehicles to examine and include how to fund and make such vehicles wheelchair accessible would be an inefficient and ineffective use of tax dollars. Accessibility for people with disabilities should automatically be included in any study and/or report issued by this city since accessibility leads to greater and easier use by all New Yorkers and makes New York City more attractive to visitors and businesses. Studies that we, taxpayers with disabilities, fund through our tax dollars need to consider our needs. The needs of people with disabilities should never be an afterthought or worse yet, not considered at all.

Resolution 0080-2024

We submit that Resolution 0080-2024 needs to be changed from funding for the expansion of wheelchair accessible and all electric for-hire vehicles to funding for the expansion of wheelchair accessible for-hire electric vehicles. We would like to see that all future for-hire vehicles that are electric also be accessible. This just makes economic sense.

Finally, we agree with the testimony given in person by Jean Ryan, Michael Ring, Julia Yepez, Eman Rimawi-Doster, Robert Acevedo and Kathleen Collins as well as the written testimonies submitted to this Committee by Anna Humphrey on behalf of the Center for Independence of the Disabled, New York and by Jean Ryan on behalf of Disabled In Action of Metropolitan, New York, Inc. and Kathleen Collins.

Thank you for the opportunity to comment since equal access to all New York City's services, activities and programs is important to all New Yorkers. If you would like additional information or have any questions, please do not hesitate to contact the organizations listed below.

Finally, thank you for your continued work on behalf of all of us.

Sincerely,

Anne-Elizabeth Straub, Marilyn Tucci, Brandon Heinrich and Michael Ring Co-Coordinators Transportation Equity Working Group Downstate New York ADAPT

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Testimony of Andrew Saavedra of Earthjustice New York City Council Committee on Environmental Protection, Resiliency and Waterfronts February 28, 2025

Earthjustice is a national nonprofit law organization and a member of ElectrifyNY and the Last-Mile Coalition. **Earthjustice supports Intro 1130** and applauds the City Council's ongoing efforts to mitigate the environmental, public health, and safety impacts of truck traffic, which disproportionately harm low-income communities and communities of color. When properly designed, Indirect Source Rules (ISR) are robust and important tools that cities can use to reduce air pollution from trucks and other mobile sources associated with warehouses and other high-traffic facilities.

While New York City continues to suffer from persistently poor air quality, thanks to regulatory efforts to reduce emissions from multiple sources, the City has made significant improvements in reducing key pollutants over the past fifteen years. However, these improvements are not reflected evenly throughout the five boroughs. Air pollution from medium- and heavy-duty vehicles remains a significant problem in the City, and the impacts are being felt most acutely in neighborhoods near last-mile warehouses. Last-mile warehouses are being built to accommodate the growth in online commerce, and they generate far more traffic from medium- and heavy-duty vehicles like delivery trucks than similarly-sized traditional warehouses. So when these last-mile warehouses are constructed—almost exclusively in low-income communities and communities of color like Maspeth, the South Bronx, and Red Hook—they bring with them a substantial increase in air pollution caused by delivery trucks, along with other negative impacts like noise pollution, traffic congestion, and pedestrian safety concerns.

Intro. 1130 would address this air pollution by requiring the New York City Department of Environmental Protection (DEP) to regulate facilities like last-mile warehouses that attract mobile sources of pollution.

In writing its regulations, New York City can look to California, which has been able to achieve meaningful reductions in air pollution from truck traffic since 2021. California's South Coast Air Quality Management District ("South Coast") established an ISR for warehouses in 2021, and in two years it has resulted in a reduction of nearly a ton of nitrogen oxide pollution per day. Importantly, the ISR does not simply dictate to warehouse owners and operators what must be done, but instead provides them with a suite of options to choose from. Each of the options earns the warehouse "points" toward a required goal. New York City is smart to look to the South Coast rule as a model.

We believe that this necessary bill, and the ISR that will come out of it, could be improved by providing additional guidance to DEP in the following ways: (1) match the South Coast rule to the closest extent possible, given both its proven success and survival in the face of legal challenges; (2) ensure that New York City's ISR prioritizes the adoption of zero-emission vehicles as opposed to "near-zero" emission vehicles (3) encourage DEP to consider the interests of workers when designing the rule and (4) establish a timeline for promulgating a final rule to ensure expediency.

Earthjustice would also like to note that an ISR exclusively within the City's jurisdiction could impact the siting of future warehouses. The City should therefore work to ensure that this bill does not result in any unintended consequences. We recommend that the City continue to engage with state legislative and regulatory leaders in New York and New Jersey—both of which have proposed similar legislation—to ensure coordination across the state and region.

We look forward to working with the Council on this and future policies to ensure clean air and safe streets for all New Yorkers.



Testimony on Int. 1130 for the New York City Council Committee on Environmental Protection, Resiliency and Waterfronts, February 28, 2025

Good morning, I am Dr. Karla Sosa, representing Environmental Defense Fund as their New York policy manager. Environmental Defense Fund is a leading global environmental organization with 2.5 million members, including over 34 thousand New York City members. For more than 50 years, EDF has worked to develop and implement feasible, durable solutions based on science, economics, and law to address critical environmental problems. Given EDF's longstanding expertise in clean air and the zero-emission medium- and heavy-duty vehicle transition, we strongly support Int. 1130.

EDF analysis has found that 3 million people in the city live within half a mile of a leased warehouse 50,000 square feet or larger. Each day, these warehouses collectively generate hundreds of thousands of diesel truck trips that expose nearby residents and warehouse workers to harmful pollution like nitrogen dioxide and small particulate matter, causing thousands of asthma cases and hundreds of deaths each year. Warehouse neighbors are disproportionately low-income and people of color, who already bear the burden of cumulative impacts on their health.

The Indirect Source Review, or ISR, included in Int. 1130 is a sound policy mechanism because it would achieve local air pollution reductions from truck-attracting facilities through a variety of actions, including fleet electrification. The flexibility that is built into the policy allows operators to incorporate actions as is feasible for their business. We've already seen positive results from Southern California's warehouse ISR, which is well on its way to preventing up to 300 deaths and saving \$2.7 billion in health costs by 2031, with the public health benefits expected to outweigh the costs by a ratio of about 3:1.

In fact, a new study from UNC Chapel Hill, Boston University and EDF – attached – found that electrification of medium- and heavy-duty vehicles across the city by 2040 would result in \$2.4 billion in health costs savings and prevent nearly 250 deaths. Implementing a strong ISR program where the point value of different actions is matched accurately to their pollution reduction - including co-pollutants - would help drive the truck electrification that the city's residents so desperately need. The health benefits of an ISR could also be maximized by requiring more or more rapid pollution reduction from facilities in overburdened census tracts.

There is an urgent need to clean up our trucks so that New Yorkers across the city can breathe the clean air they deserve. EDF urges the council to pass Int. 1130 and implement an Indirect Source Review in the city. Please do not hesitate to contact us if we can provide research or policy details on this important piece of legislation.

ENVIRONMENTAL RESEARCH

HEALTH



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LETTER

Distribution of air quality health benefits of medium and heavy-duty electrification policies in New York City

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Keywords: transportation, air pollution, vehicle electrification, health impacts

Supplementary material for this article is available online

Abstract

Increased electrification of the transportation sector promises to both decrease emissions from the largest sector source of greenhouse gases as well as improve health through better air quality. The objective of this study is to evaluate the distribution of air quality health benefits of Medium- and Heavy-Duty Electric Vehicle (MHDEV) policies in New York City (NYC), quantifying differences across neighborhoods (census tracts) and population subgroups (race, ethnicity). We ran an integrated model for a 2040 baseline/business-as-usual scenario and for two policy scenarios simulating different rates of MHDEV adoption, also for 2040. Changes in air quality (fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂)) and health and economic benefits were calculated for the two policy scenarios. We used a modified version of our previously developed ZIP Code-Level Air Pollution Policy Assessment tool which integrates two reduced form models: the Community Air Quality Tools and the Co-Benefits Risk Assessment Health Impacts Screening and Mapping Tool. Our air quality modeling employed a novel receptor network to capture sharp gradients due to medium- and heavy-duty vehicle (MHDV) emissions in the densely populated NYC region. We find that electrification of MHDVs would have substantial air pollution and health benefits for NYC, with full on-road electrification of MHDVs saving \$2.4 billion in health costs in 2040, including the prevention of 248 deaths and 173 childhood asthma emergency departments visits. We find that NO₂ benefits contributed between 85% and 97% of the total health benefits, emphasizing its importance for on-road health studies. We find that most health benefits would occur in neighborhoods with the highest percentage of historically marginalized populations, including substantial benefits to Hispanic populations.

1. Introduction

In the United States (US), mobile sources, which include on-road emissions (cars, trucks, buses, etc) and off-road emissions (ships, trains, aircraft, and non-road equipment), are responsible for an increasingly large share of health-harming emissions, accounting for 52% of nitrogen oxides (NO_x), 7% of volatile organic compounds (VOCs) and almost 5% of primary fine particulate matter ($PM_{2.5}$) [1]. Within the on-road sector, medium-duty (e.g. school buses, box trucks) and heavy-duty (e.g. transit buses, long-haul trucks) vehicles have been targeted for transition to electric vehicles. Although these vehicle classes comprise less



than 10% of on-road vehicles, they are the largest contributor of NO_x [2]. Nitrogen dioxide (NO_2), a marker of traffic related air pollution, is associated with new cases of asthma [3], asthma emergency room visits [4], and all-cause and cardiovascular mortality [5]. Fine particulate matter ($PM_{2.5}$) is emitted directly by vehicles and can also form secondarily in the atmosphere from traffic-related emissions precursors (e.g. NO_x , VOCs, sulfur oxides (SO_x), and ammonia (NH_3)). $PM_{2.5}$ has been shown to increase mortality risk due to ischemic heart disease, stroke, lung cancer, type 2 diabetes, lower respiratory infections, and chronic obstructive pulmonary disease [6]. Without substantial changes in fleet composition, heavy-duty engines are poised to become the largest contributors to mobile source NO_x emissions nationwide, contributing an estimated 32% of emissions from all mobile sources and 89% from on-road vehicles by 2045 [2]. These alarming projections underscore the urgent need for policies expanding and requiring electrification of medium- and heavy-duty vehicles (MHDVs).

Increased electrification of the transportation sector promises to both decrease the largest sector source of greenhouse gases (GHGs) and improve health through better air quality, though the magnitude of benefits depends on fuel mixes in regional power generation, location of power plants, and other, more complicated factors like time of charging [7, 8]. The objective of this study is to estimate air quality health benefits of Medium- and Heavy-Duty Electric Vehicle (MHDEV) policies in New York City (NYC) and evaluate their distribution quantifying differences across neighborhoods (census tracts) and population subgroups (race and ethnicity). Through modeling the air quality changes from two electrification scenarios of MHDVs, we estimate health improvements attributable to decreases in air pollution.

Given NYC's large population and high traffic density, the health benefits of electrification in the city are likely to be substantial. Prior assessments evaluating the potential health impacts of air quality changes as a result of New York's participation in the Transportation Climate Initiative, a now defunct multi-state effort in the Mid-Atlantic and Northeast of the US to reduce emissions from on-road vehicles, demonstrate that MHDVs comprise a substantial portion of New York State's air pollutant attributable mortality (15% mortality attributable to PM_{2.5} emissions from medium-duty and 20% to heavy-duty vehicle emissions, respectively) [9]. Additionally, while approximately 24% of the US population lived within 500 m of a high-volume roadway in 2020, high volume roadways are disproportionately located near communities with a larger number of non-White and lower income people [10]. Over 226 000 residents in 57 NYC census tracts lived within a half-mile of the Cross Bronx Expressway in 2017 [10].

Emissions reductions in NYC are likely to have the greatest impact in historically marginalized neighborhoods [11, 12] Disparities in air pollution in communities of color are well-documented [13–16], with historically marginalized populations living in closer proximity (<200 m) to roadways than white populations [17]. Additionally, neighborhoods within NYC, such as Northern Manhattan and the Bronx, are home to a larger proportion of historically marginalized populations and higher asthma emergency department (ED) visit rates relative to other neighborhoods within NYC [14]. For example, in the Bronx, the asthma-related ED visits for children aged 5–17 years were more than 5 times higher in neighborhoods with high poverty than low poverty rates in 2016 [18]. Quantification of the health benefits of electrification of MHDVs on a spatial scale relevant to environmental justice will allow for a more accurate characterization of the distributional impacts of transportation policies. Highly resolved spatial estimates of pollutant concentrations are needed to capture the steep spatial decay of traffic-related air pollutants as urban areas are more sensitive to grid resolution. Coarse grid resolution can average clusters of high-density populations [19] including communities of color [20], masking disparities.

Here we address the issue of spatial resolution by characterizing at the census tract level the distribution of annual benefits from air quality improvements resulting from electrification of MHDV by 2040 in NYC. We use four integrated, reduced form models: the University of North Carolina at Chapel Hill's C-TOOLS (Community Air Quality Tools) for industrial sources that were modeled as point and area sources; the US Environmental Protection Agency (EPA's) Research Line-Source Dispersion Model (R-LINE) for on-road emissions; the EPA's Co-Benefits Risk Assessment (COBRA) screening model for transported pollutants from outside the city into the city; and the Benefits Mapping and Analysis Program (BenMAPR) [9, 21], which is based on the EPA's BenMAP-CE [20], for estimating health benefits. We focus on the distribution of benefits across different population subgroups, specifically to see if the health benefits of fleet electrification contribute to improved well-being of the most disadvantaged communities of NYC.

2. Methods

2.1. Modeling scenarios

We developed and ran an integrated model at the census tract level using US Census data from 2019 [21] for a 2040 baseline/business-as-usual (BAU) scenario and then for two policy scenarios simulating different rates of MHDEV adoption, with air quality benefits resulting from the two policy scenarios used to estimate and



monetize health benefits. The two MHDV electrification policy scenarios differ in how quickly on-road MHDV electrification occurs, and, consequently, how quickly the current MHDV fleet turns over. Scenario 1 features 100% sales for zero emission (ZE) transit and school buses by 2030, with a phased-in approach for MHDV sales (30% ZE sales by 2030 and 100% ZE sales by 2040). Scenario 2, the more ambitious scenario, does not phase in ZE MHDV sales but simply requires 100% ZE MHDV by 2040. These two scenarios were selected to estimate the range of air quality and health impacts of potential MHDV emission controls.

2.2. Emissions and air quality modeling

For this study, we refined the ZIP Code-Level Air Pollution Policy Assessment (ZAPPA) tool [11] we developed for previous work to allow for the simulation of health and economic benefits attributable to changes in air pollution at the census tract level. This integrated tool combines R-LINE with the C-TOOLS and the EPA's Co-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA) to calculate air pollutant concentrations. The ZAPPA tool is novel in its ability to estimate high-resolution (zip code tabulation areas or ZCTA-level in the prior work and census tract level for this research) estimates of air pollutants and air pollutant-attributable mortality [11]. ZAPPA uses R-LINE to model on-road transportation sources and C-TOOLS to model all other emissions. R-LINE is a research model that simulates mobile source pollutant dispersion with the goal of characterizing human exposures near roadways [22]. R-LINE features the ability to handle the impact of the number of lanes and road widths, a critical consideration in highly developed areas like NYC. C-TOOLS allows for screening-level, local-scale dispersion modeling of line, area, and point sources and has been used in multiple studies focused on local-scale air quality modeling from various source types [23, 24]. To fully capture all other emissions sources besides on-road vehicles, we used C-TOOLS to model these as area sources using zip code tabulation area (ZCTA) geometries with emission estimates from our previously published work in NYC [11] that incorporated National Emissions Inventory 2016 v1 data and augmented by local-level emissions data when available. These non-road emissions were summed and allocated to NYC ZCTAs using the Spatial Allocator Tool [25]. We next incorporated the COBRA screening model, which allows users to rapidly model the impact that changes in emissions would have on air quality and health at the county-level. Through zero-out simulations for NYC where emissions in NYC counties were removed, COBRA can use its source-receptor matrix to provide county-level estimates of transported pollutants into the city. We include both primary (directly emitted) and secondary (formed due to transformation) PM_{2.5} from locally-produced and transported components as described in the development of ZAPPA [11], and NO2 from on-road emissions was estimated using the approach described in previous work for R-LINE [26]. Our R-LINE modeling calculates emissions for on-network vehicle activity including running exhaust, brake wear, tire wear, and evaporative processes. Contributions from refueling are included in the area source-based C-TOOLS modeling and were not adjusted for the modeling scenarios. Emissions from other vehicle processes like starts and extended idling are not included in our model. Our integrated modeling approach allowed us to compare model concentration outputs with observations to ensure that the results were reasonable and in line with expected ranges.

Our air quality modeling employed a novel receptor network to capture sharp gradients due to truck emissions. We placed modeling receptors near truck heavy (MHDV annual average daily traffic (AADT) \geq 1000) roadways, but not directly on the roadways, to avoid artificially high receptor concentrations. Receptors were also placed throughout populated census tracts [27] based on centroid locations of census tract pieces when split by roads. To ensure that modeling included population centers as well as locations near busy roadways, final census tract concentration values used a weighting system considering distance between receptor and populated census block centroid locations [28]. Within the NYC region, 15 470 receptors were included, accounting for 2124 populated census tracts and more than 35 000 road links. Road link geometries and activity data were provided by the New York Metropolitan Transportation Council (NYMTC) for 2019 and projected to 2045. NYMTC data for a typical summer weekday included activity in the form of AADT for several vehicle types (cars, medium trucks, heavy trucks, buses, and other commercial trucks), road type, number of lanes, and speed by time of day (AM, mid-day, PM, and night), and adjustments were made to activity values based on consultation with NYMTC to ensure appropriate seasonal and weekday versus weekend scaling.

We created crosswalks to map NYMTC vehicle types and road types to US EPA's MOtor Vehicle Emission Simulator (MOVES) classifications [29] using data from EPA's 2016v2 emissions modeling platform for future year projections for 2032 [30]. Our starting point for calculating emissions was baseline 2032 MOVES3 emission factors from the modeling platform. To adjust these factors to 2040, we performed separate MOVES3 runs in inventory mode to calculate 2032 and 2040 emissions, and then we calculated 2032-to-2040 adjustments. At the time this study was conducted, the 2016 v2 modeling platform based on MOVES3 was the only data available with future year projections. We employed default vehicle populations,



levels of activity and emissions and included emissions factors for five pollutants: VOCs (exhaust plus evaporative and refueling), NO_x, ammonia (NH₃), sulfur dioxide (SO₂,), and PM_{2.5} (fine exhaust, brake wear, and tire wear). We used MOVES NYC-area fuel type to vehicle type mappings to allocate fuel types to vehicle types, since fuel types were not included in the NYMTC data, 2016v2 modeling platform reference files were used to allocate activity properly between weekdays and weekends. For our dispersion modeling, we calculate hourly emissions for each link based on roadway type, average speed, hourly temperature, and the mix of sources (vehicle plus fuel) on each roadway link. Other assumptions in our model include that baseline emissions from MOVES3 do not contain any battery electric MHDVs and that tailpipe emissions from BEVs are zero. As such, there are no battery electric MHDVs in the BAU scenario, and the representation of battery electric MHDVs in Scenario 1 and 2 is attained by reducing the emission factors of the internal combustion-powered MHDVs. We also assumed brake wear PM emissions from BEV were 50% of those of conventional vehicles due to regenerative braking [31, 32], and that tire wear PM is similar to tire wear from diesel MHDVs (actual estimates of brake wear and tire wear emissions from BEVs were not available until the release of MOVES4). ZE vehicle cases were developed to include adjustment factors based on zero electric vehicle penetration into the fleet following the methodology used in the state emissions pathway model [33]. For a summary of emissions-related modeling parameters and how they applied to each modeling scenario, please see table S1.

Emission estimates were not adjusted to account for projections of fleet composition from 2032 to 2040 aside from the policy scenarios modeled here, given that the focus of this study is on MHDVs. Estimates of transported pollutants were obtained from the COBRA model based on current year modeling and were identical in all scenarios. COBRA was run by zeroing-out all emissions in the five county NYC domain to obtain county-level transport-only concentrations. All modeling used 2016 meteorology from the LaGuardia (LGA) station processed using the METeorologically weighted Averaging for Risk and Exposure approach [34] which was used in a previous evaluation against NYC observations [11].

2.3. Health benefits modeling

We next estimated the health benefits from changes in air quality as a function of emissions changes due to policy interventions using BenMAPR [9, 21]. Similar to the US EPA's BenMAP [35], BenMAPR uses the R programming language to estimate health outcomes attributable to the air pollution concentration exposures by using a health impact function incorporating: (1) concentration-response functions (CRFs) derived from the epidemiological literature; (2) geospatial data on population and background rates of health outcomes; and (3) air pollution concentrations or changes in concentrations.

For most health impacts, BenMAPR applies a health impact function (equation (1)) where: $y_{h,i,a}$ represents the number of cases of the health outcome (h) for age group (a) attributable to the pollutant for each census tract (i); $m_{h,i,a}$ represents the baseline disease rate for each health endpoint (h), age group (a), and census tract (i); $P_{i,a}$ represents the population count for each grid cell (i) and age group (a); and $\beta_{h,a}\Delta x_i$ represents the attributable fraction, with $\beta_{h,a}$ the relative risk (RR) per x concentration above the baseline (Δx) in each census tract (i), for each health endpoint (h) and age group (a),

$$y_{h,i,a} = m_{h,i,a} \times P_{i,a} \times (\beta_{h,a} \Delta x_i). \tag{1}$$

Our setup of BenMAPR was like previous applications using population data from the 2019 American Community Survey from the US Census Bureau and relying on the same CRFs (table S2) [9, 21]. Our use of BenMAPR improves the spatial resolution of prior analyses by assessing health impacts due to changes in NO_2 and $PM_{2.5}$ exposure at the census tract level, whereas previous applications used a 12 km \times 12 km grid. We accounted for uncertainty by calculating the attributable cases at the 2.5th and 97.5th percentile of the CRF estimates.

In our health impact assessment, we improve upon prior health impact assessments by incorporating updated CRFs from the epidemiological literature. For example, for the relationship between long-term PM_{2.5} exposure and mortality, we chose a robust meta-analysis by Vodonos and colleagues (2018) combining 53 epidemiological studies on air pollution, including 39 in North America, 8 in Europe and 6 from Asia and including mortality causes of all-cause mortality, respiratory, cardiovascular, cardiopulmonary and lung cancer mortality [6]. For the relationship between all-cause mortality and NO₂, we used a meta-analysis of 23 studies including all-cause, respiratory, and cardiovascular mortality and adjusting for PM_{2.5} exposure [36]. The CRFs for all health-pollutant outcome pairs are listed in table S2.

Analysis of the health impacts of air pollutants conducted at fine spatial resolution demonstrate that the magnitude and spatial distribution of air pollutant attributable morbidity and mortality is dependent upon both the reduction in air pollutants and the underlying health of the population [12, 37]. We generated fine scale mortality data by starting with ZCTA level all-cause mortality rates which were derived from US



Medicare Claims data [38]. In order to scale mortality rates to all ages, we used a ratio between county-level all-age mortality rates and county-level mortality rates in people greater than 65 years of age, using CDC WONDER county-level mortality data [39]. For the small number of ZCTAs with missing data (n = 18), we input county mortality rates from CDC WONDER.

Traditionally, health impact assessments of air pollution have focused on quantifying the health impacts due to adult mortality, however; prior analysis of air pollutant attributable health impacts in NYC has shown substantial impacts to pediatric populations, particularly in disadvantaged neighborhoods [12]. Therefore, we include pediatric (5–17 years of age) asthma ED visits, asthma hospitalizations, preterm birth, and infant deaths. Asthma ED visits were obtained from the NYC United Hospital Fund [12]. In 2016, the rate of asthma-related ED visits among children ages 5–18 years was six times higher in high poverty neighborhoods (30% or more of the population living below the federal poverty level (FPL) compared with low poverty neighborhoods (less than 10% of the population living below the FPL; 315 per 10 000 and 56 per 10 000, respectively) [18]. All sources of background health data are included in table S3.

Finally, we assessed the distribution of health benefits of electrification to historically marginalized populations by incorporating sociodemographic data on race and ethnicity. We define racial minority as African American, Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, two or more races, and other races. For ethnicity, we consider Hispanic or Latinos, of any race.

3. Results

3.1. Concentration reductions

We first assessed the reduction in air pollutant concentrations resulting from our two electrification policy scenarios, finding both Scenario 1 and Scenario 2 result in notable decreases in PM_{2.5} precursor emissions from MHDVs (tons per year), particularly NO_x (table 1) which decreased by 97% under the full electrification (Scenario 2). Concentrations of PM_{2.5} and NO₂ are reduced across all five boroughs in both Scenario 1 and Scenario 2 compared to the baseline scenario (table 2). We observe NO₂ concentration reductions are more substantial along major truck routes (figure 1) suggesting that MHDVs are a primary contributor to NO₂ pollution in NYC. We find that 22% of the census tracts in the city would potentially have reductions of over 2 μ g m⁻³ of NO₂ and 0.11 μ g m⁻³ PM_{2.5} due to electrification of all on-road medium and heavy-duty diesel vehicles (MHDDVs) (Scenario 2). In 20% of the census tracts in the city, MHDDV contributes 28%–80% of the total NO₂ and 1%–7% of total PM_{2.5}.

We observe that air quality benefits from reductions in PM_{2.5} and NO₂ are highly spatially heterogeneous (figure 1), owing to non-uniform distribution of traffic throughout the city. For example, 20% of the census tracts have 2–12 times higher PM_{2.5} air quality benefits from MHDV electrification (0.11–0.66 μ g m⁻³ PM_{2.5}) than the median (0.05 μ g m⁻³ PM_{2.5}). Additionally, 40% (n=163) of the census tracts with the worst air pollution would see substantial benefits (at least 30% reduction in total NO₂ air pollution).

3.2. Health benefits

We find that 100% electrification of MHDV new sales by 2040 (Scenario 1) results in over \$1.3 billion in prevented health damages in NYC in 2040. Furthering electrification by establishing 100% on-road electric MHDDV by 2040 (Scenario 2) would prevent over \$2.4 billion in health damages in 2040. These results indicate that 50% of the benefits can be achieved by the less ambitious scenario of 100% MHDV electric new sales. Most avoidable health costs would be achieved through reductions in traffic related air pollutant attributable mortality and pediatric asthma ED visits (figure 2). In Scenario 1, 130 deaths and 91 pediatric asthma ED visits could be avoided, while in Scenario 2, 248 deaths and 173 pediatric ED visits could be avoided (table 3). In addition to avoided asthma ED visits, the reduction of NO₂ concentrations in both Scenarios show substantial impacts on the avoidance of new pediatric asthma cases and pediatric asthma exacerbations. For example, Scenarios 1 and 2 would avoid 95 and 182 new pediatric asthma cases respectively, as well as 27 324 and 52 369 pediatric asthma exacerbations, respectively. Though the impact on pediatric populations is considerable, we did not observe large numbers of avoided premature births, infant deaths, and low birthweights, under either Scenario.

We next examine the distribution of benefits across different racial/ethnic and income groups. We compare the benefits of MHDV electrification between census tracts with the most Hispanic populations (75th percentile) as compared to census tracts with fewer Hispanic populations (25th percentile), as well as census tracts with a higher proportion of non-white populations (75th percentile) and more white populations (25th percentile). Neighborhoods with higher Hispanic populations would see more benefits of MHDV electrification as compared to neighborhoods with fewer Hispanic residents. This finding applied across all examined air pollutant-health outcome pairs (table S4). For example, for pediatric asthma ED visits, 55% of the total health benefits would occur in neighborhoods with the 75th percentile Hispanic



Table 1. Fine particulate matter (PM_{2.5}) precursor emission reduction percentages (%) by medium and heavy-duty vehicle (MHDV) scenario, compared to a 2040 baseline.

	NH_3	NO_x	$PM_{2.5}$	SO_2	VOC
Scenario 1	8.5	50.6	14.6	11.4	13.6
Scenario 2	15.0	97.2	27.4	20.6	24.9

Scenario 1 features 100% sales for zero emission transit and school buses by 2030 with a phased-in approach for medium and heavy-duty vehicle (MHDV) sales. Scenario 2 requires 100% zero emission MHDV by 2040. $NH_3 = ammonia$; $NO_x = nitrogen$ oxides; $PM_{2.5} = fine$ particulate matter;

 SO_2 = sulfur dioxide; VOC = volatile organic compounds.

Table 2. Summary statistics of fine particulate matter (PM_{2.5}) and nitrogen dioxide (NO₂) concentration reductions by New York City borough by medium and heavy-duty vehicle (MHDV) electrification scenario, compared to baseline.

	P	M _{2.5} reductions	NO ₂ reductions				
	Mean μ g m ⁻³ (SD)	Range $\mu \text{g m}^{-3}$	Percentage (%)	Mean ppb (SD)	Range ppb	Percentage (%)	
Scenario 1 Scenario 2	0.046 (0.04) 0.085 (0.08)	0.00-0.37 0.00-0.66	0.2–0.6 0.3–1.2	0.838 (0.80) 1.607 (1.54)	0.00-6.85 0.00-13.39	8.4–10.9 16.2–21.3	

Scenario 1 features 100% sales for zero emission transit and school buses by 2030 with a phased-in approach for medium and heavy-duty vehicle (MHDV) sales. Scenario 2 requires 100% zero emission MHDV by 2040.

populations, and only 11% would occur in those neighborhoods with only the 25th percentile Hispanic populations. We observe similar differences, though lesser in magnitude, between the potential benefits of electrification in mostly white neighborhoods (75th percentile) and neighborhoods with fewer white populations (25th percentile) (table S5). Although for most air pollutant-health benefits pairs we find that less white neighborhoods (25th percentile) would see a larger proportion of the benefits, for both NO₂ and PM_{2.5}, we find that air pollutant attributable mortality would decrease by a larger percentage in mostly white neighborhoods (16% in the 25th percentile white versus 26% in the 75th percentile white for NO₂; 15% in the 25th percentile versus 27% in the 75th percentile for PM_{2.5}).

We next explore the distribution of benefits of our electrification scenarios by NYC county. Examining the spatial patterns of NO_2 attributable health benefits, we find that in every county, census tracts with the 75th percentile Hispanic populations may see 2–4 times higher improvements in pediatric asthma ED visits (Range: 1.8 times higher, New York County (10 per 100 000 versus 18 per 100 000 for the 25th and 75th percentiles, respectively) to 3.7 times higher, Kings County (3 per 100 000 versus 11 per 100 000 for the 25th and 75th percentiles, respectively) (table S4). This trend was also seen in the comparison of median benefits per 100 000 in census tracts with the 25th percentile compared to the 75th percentile White populations, except for Queens (4 per 100 000 versus 5 per 100 000, respectively) (table S6). For other examined health benefits attributable to reductions in NO_2 concentrations, we find that for both Hispanic and non-White populations, median benefits per 100 000 were generally higher in census tracts with the 75th percentile Hispanic and 25th percentile White, apart from New York County. When comparing census tracts in the 25th percentile White versus the 75th percentile, only benefits of pediatric asthma ED visits and pediatric asthma hospitalizations per 100 000 persons would be greater in neighborhoods with the lowest white populations (25th percentile).

4. Discussion

We find that MHDV electrification would have substantial air quality and health benefits for NYC residents. Reducing $PM_{2.5}$ and NO_2 concentrations through full on-road electrification of MHDV in 2040 under the most ambitious scenario (Scenario 2) would save \$2.4 billion in total health care costs by 2040, including the prevention of 248 adult deaths and 173 childhood asthma ED visits. Our less ambitious scenario (Scenario 1), i.e. electrification of new sales of MHDV by 2040, would achieve 50% of these benefits. Though avoided deaths and pediatric asthma ED visits account for the largest portion of cost savings, we observe health benefits across all the air pollutant health outcomes pairs we examined. Our findings demonstrate the importance of including NO_2 in health impact assessments, as direct NO_2 air pollution benefits accounted for 85% of mortality benefits and 97% of asthma ED visit benefits.

Our results lend support to policy initiatives expanding MHDV electrification by demonstrating large health and related economic benefits. California recently adopted its Advanced Clean Trucks regulation, requiring an increasing percentage of sales of ZE trucks beginning with model year 2024 for all classes of



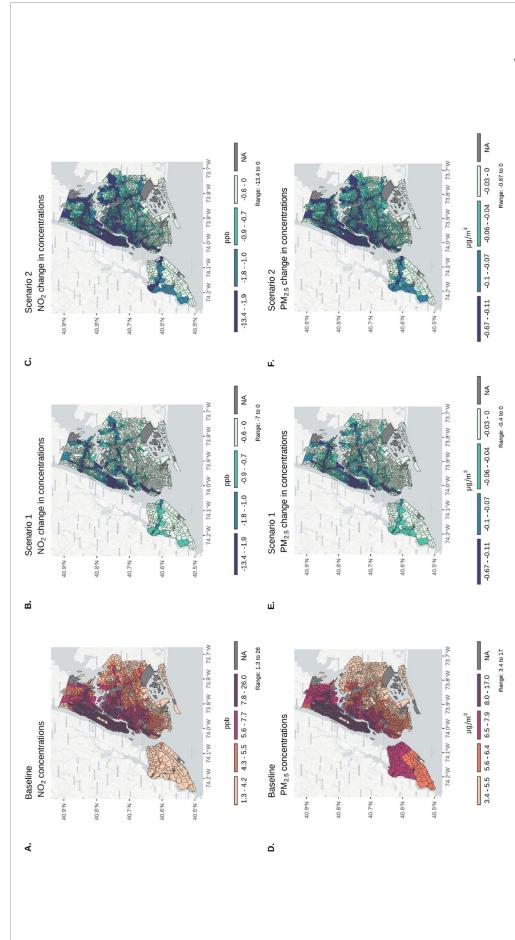


Figure 1. Census tract spatial distribution of nitrogen dioxide (NO₂) concentration estimates (ppb) for baseline (A.), under Scenario 1 (B.) and Scenario 2 (C.) and fine particulate matter (PM_{5.5}) estimates (µg m⁻³) for baseline (D.), Scenario 1 (E.), and Scenario 2 (E.). Scenario 1 features 100% sales for zero emission transit and school buses by 2030 with a phased-in approach for medium and heavy-duty vehicle (MHDV) sales. Scenario 2 requires 100% zero emission MHDV by 2040. Range indicates the minimum to maximum concentrations per plot. The scales of the concentrations are quartiles. For Scenarios 1 and 2, these have been standardized to the quartiles of Scenario 2, which had the largest range.



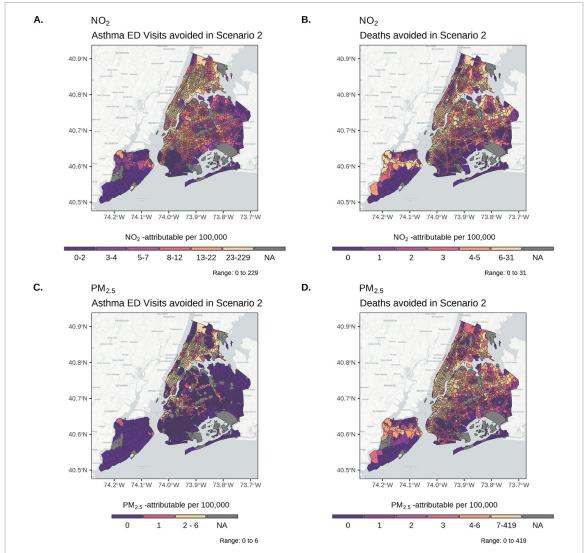


Figure 2. Census tract spatial distribution of nitrogen dioxide (NO_2) attributable health benefits (rate per 100 000) estimates for pediatric asthma emergency department visits (A.), and all-cause mortality (B.) under Scenario 2 (C.) and fine particulate matter ($PM_{2.5}$) attributable health benefits (rate per 100 000) estimates for pediatric asthma emergency department visits (C.) and all-cause mortality (D.) Scenario 2 requires 100% zero emission medium and heavy-duty vehicle by 2040.

trucks from Class 2b-3 (heavy-duty pickups, delivery vans, etc) on up to Class 8 (tractor trailers, dump trucks, etc) [40] Ten additional states (including New York [41]) have adopted California's Advanced Clean Trucks regulation [42]. The EPA, in response to President Biden's Executive Order on Strengthening American Leadership in Clean Cars and Trucks [43], announced its three-part Clean Trucks Plan [44]. The first part of the plan targets criteria pollutant emissions, largely NO_x, from HD engines and vehicles which resulted in the finalization in December 2022 of stronger criteria pollutant standards starting in model year 2027. The second part of the plan was to address criteria and GHG emissions from medium-duty vehicles, Class 2b-3 and the third was addressing GHG emissions from HDVs, Class 4–8 [45]. EPA finalized standards in March 2024 addressing these two pieces of the truck plan. The standards are technology-neutral and performance-based, allowing each manufacturer to choose what set of emissions control technologies is best suited for them and the needs of their customers. For both final rules, manufacturers can use, and are widely expected to use, an increasing application of ZE vehicles to lower their average fleetwide emissions.

We demonstrate a flexible modeling approach using a comprehensive framework for high-resolution air quality and health benefits modeling that can be replicated for virtually any city or municipality. The data and methods used here represent substantial improvement in our ability to discern disparities in policy options than traditional transportation air quality health benefit tools, like COBRA, which do not capture fine scale spatial differences in traffic activity, associated air pollution, health, and vulnerability across neighborhoods of different race, ethnicity, or income. Though we focus on the potential benefits from



Table 3. Health impact estimates of pollutant-attributable cases of various health outcomes for fine particulate matter $(PM_{2.5})$ and nitrogen dioxide (NO_2) by medium and heavy-duty vehicle (MHDV) electrification scenario, compared to baseline. Estimates represent the point estimate with the 95% confidence intervals in parentheses.

		PM _{2.5}		NO ₂				
	Baseline	Avoided in Scenario 1	Avoided in Scenario 2	Baseline	Avoided in Scenario 1	Avoided in Scenario 2		
Description	All sectors	Reduction from 100% sales MHEV	Reduction from 100% on road MHEV	All sectors	Reduction from 100% sales MHEV	Reduction from 100% on road MHEV		
All-cause mortality	3253 (2749–3783)	20 (17–23)	36 (31–42)	909 (454–1363)	110 (55–166)	212 (106–317)		
Pediatric asthma ED visits	448 (0–906)	3 (0–5)	5 (0–10)	759 (19–1508)	88 (2–174)	168 (4–334)		
Pediatric asthma exacerbations	138 286 (0–279 711)	841 (0–1700)	1533 (0–3100)	226 792 (5780–450 376)	27 324 (696–54 261)	52 369 (1335–103 998)		
Asthma hospitalizations	55 (0–112)	0 (0–1)	1 (0–1)	92 (2–183)	11 (0–21)	20 (1–41)		
Pediatric asthma hospitalizations	30 (0–60)	0 (0–0)	0 (0–1)	48 (1–96)	6 (0–12)	11 (0–22)		
New pediatrics asthma cases	2104 (707–3468)	13 (4–21)	23 (8–38)	789 (320–1093)	95 (39–132)	182 (74–252)		
Low birthweights	187 (67–304)	1 (0–2)	2 (1–3)	65 (0–114)	8 (0–14)	15 (0–27)		
Infant deaths	13 (3–23)	0 (0-0)	0 (0-0)	30 (0–88)	4 (0–11)	7 (0–20)		
Premature births	673 (163–1177)	4 (1–7)	7 (2–13)		_	_		

Scenario 1 features 100% sales for zero emission transit and school buses by 2030 with a phased-in approach for medium and heavy-duty vehicle (MHDV) sales. Scenario 2 requires 100% zero emission MHDV by 2040. ED = emergency department. MHEV = medium and heavy-duty electric vehicles.

electrifying the MHDV fleet, this modeling approach can be used to evaluate the air quality and health benefits of many other traffic-related scenarios such as congestion pricing that is being considered in many cities of the world, including NYC. While we leverage NYC-specific emissions data, non-road-based emissions can be estimated from NEI data and modeled at the census tract level across the US. In addition to our demonstration of a flexible modeling approach, our study has several strengths, including our ability to incorporate higher resolution air pollution, population, and background health data. We employed a novel receptor network for capturing sharp gradients due to truck emissions in the densely populated NYC region.

We note several limitations of our study's ability to fully estimate the impacts of MHDV electrification. First, in our modeling approach we combine non-rate-per-distance-emissions, such as truck hoteling, i.e. parked trucks during rest periods often including engine idling, and engine starts, into the area source emissions, which are not adjusted in the Scenarios. Additionally, we are unable to include more domain-specific details about hoteling locations to better simulate overnight idling or hoteling associated with intermodal facilities, warehouses, and ports. We did not include any potential additional emissions from the power generation sector, including local power plants, and it is likely that NYC benefits from electrifying MHDV are offset by disbenefits near or downwind of power plants. Although, a recent study addressed this by quantifying the excess power demand due to policies for the on-road transportation sector and the associated tradeoffs for a larger domain that covered the Northeastern and Mid-Atlantic states in the US [46]. We also did not include other known transportation-related adverse health exposures such as exposure to ozone, ultrafine particles, benzene, toluene, ethylbenzene, xylene emissions, or noise, thereby underestimating the total benefits of electrification. Finally, we conducted this analysis prior to the Biden Clean Truck Plan and EPA MHDV vehicle standards and are therefore unable to determine how such proposed changes would influence our results.



Data availability statements

CDC WONDER county-level mortality data: https://wonder.cdc.gov/.

2016v2 Emissions Inventory Platform: www.epa.gov/air-emissions-modeling/2016v2-platform. Meteorological data for LGA station: www.ncei.noaa.gov/cdo-web/datasets/GHCND/stations/GHCND:USW00014732/detail.

NYC Environment & Health Data Portal: https://a816-dohbesp.nyc.gov/IndicatorPublic/.

New York Metropolitan Transportation Council (NYMTC) New York Best Practice Model (NYBPM) road network: www.nymtc.org/en-us/DATA-AND-MODELING/New-York-Best-Practice-Model/2012-Base-Year

* May be available upon request, but we received special permission to use in our study.

TIGER/Line shapefiles for US census boundaries (census tract, zip code tabulation areas, census block, and county boundaries): www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html.

US Census block population data: https://api.census.gov/data/2010/dec/sf1.html.

US Census tract population data: https://api.census.gov/data/2019/pdb/tract.

All data that support the findings of this study are included within the article (and any supplementary information files).

Code availability

BENMAPR: https://github.com/jjbuonocore/BenMAPR.

CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA): www.epa.gov/cobra.

MOtor Vehicle Emission Simulator (MOVES): www.epa.gov/moves.

R-LINE: www.cmascenter.org/r-line/.

Spatial Allocator: https://github.com/CMASCenter/Spatial-Allocator/tree/master.

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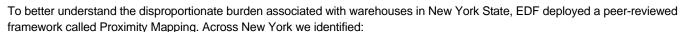


WAREHOUSE BOOM PLACES UNEQUAL HEALTH BURDEN ON NEW YORK COMMUNITIES

Just-in-time delivery has fueled an explosion of warehouses and truck trips in the United States. While this infrastructure has long existed in certain parts of the country — specifically port communities — more warehouses are now located near homes, schools and community centers than ever before. A single warehouse may generate hundreds, if not thousands, of truck trips every day.

While trucks perform an essential role in the goods supply chain, most also contribute to harmful air pollution, noise pollution and traffic and safety concerns. Goods transport is the fastest-growing driver of greenhouse gas emissions and the largest absolute contributor to emissions in many regions.¹

Due to legacies of redlining and other discriminatory policies, new and existing distribution facilities and the roads that serve them are disproportionately located near communities of color and low-income communities. Many residents living near warehouses have been sounding the alarm for some time.²



- 2,421 leased warehouses that are at least 50,000 square feet.
- 4.8 million people living within a half mile of a warehouse. 315,000 are under age five and 649,000 are over age 64.
- Black, Hispanic/Latino and low-income populations live near warehouses at rates that are more than 59%, 48% and 42% higher, respectively, than would be expected based on statewide statistics.
- At least 171,000 truck trips per day service warehouses of at least 100,000 square feet.

The results from the New York analysis mirror findings in the 10 states where EDF conducted Proximity Mapping.³ In those states, some 15 million people live within a half mile of a leased warehouse of at least 100,000 square feet. More than 1 million of those are children under age five. No state distributed the risk from warehouses evenly. Black, Hispanic/Latino, Asian, American Indian and low-income people bear the brunt of the risk from living close to warehouses. In some states like Illinois, Massachusetts and Colorado, the concentration of Black and Hispanic/Latino residents around warehouses is double what would be expected given the state population.

A PUBLIC HEALTH THREAT FROM COAST TO COAST

EDF's warehouse analyses reflect a broader national trend. One in six U.S. residents lives within 300 feet of a major road, airport or railroad.⁴ Some 17,000 schools across the U.S. are located within approximately 800 feet of a heavily traveled road.⁵ A growing body of peer-reviewed research published within the last five years indicates that exposure to traffic-related air pollution (measured by



nitrogen dioxide [NO₂] exposures) increases the risk of childhood asthma. Asthma is a leading cause of missed school days and has been linked to diminished school performance.⁶

While the pollution burden may be variable, the resulting health disparities are clear and consistent – the result of decades of racist land use policies. Across the country, Black children are five times more likely to be hospitalized for asthma and eight times more likely to die from asthma, compared to non-Hispanic white children.⁷

In New York, where state regulators have referred to asthma as an epidemic, the asthma emergency department visit rate had the second highest racial disparity of all major public health issues.^{8,9} Air pollution from trucks is also associated with increased health risks at other stages of life. It raises the risk of preterm birth, low birth weight, dementia, heart disease and stroke.^{10,11,12}

Diesel-fueled freight trucks and buses make up around 10% of the vehicles on U.S. roads, but they are responsible for 50% of the transportation sector's nitrogen oxide emissions.¹³ Diesel trucks also emit a series of other health-harming pollutants, including 57% of direct fine particulate matter (PM_{2.5}) from on-road vehicles, as well as volatile organic compounds, carbon monoxide and sulfur dioxide.¹⁴ Diesel trucks emit serious pollution at start-up, while idling and while traveling at low speeds.¹⁵ Air pollution levels vary by proximity to truck traffic, and impacts for the same level of pollution exposure vary greatly by race and age. This is due to the unequal distribution of other health-harming factors from built, natural and social environments.

METHODOLOGY

EDF's Proximity Mapping framework provides a new way to understand more about the communities living near various types of infrastructure to determine how the pollution-related risks are distributed.

This methodology uses the U.S. Census Bureau's American Community Survey five-year estimates at the census tract level and leased "Warehouse" facilities from a private real estate database compiled by the information firm, CoStar.

The inequities visualized through this tool make it clear that the burdens associated with increased truck traffic are far from equally distributed.

NEW YORK WAREHOUSES AND THEIR IMPACTS

Across New York state, we identified 2,421 leased warehouses that are at least 50,000 square feet in size, covering a collective 304 million square feet – a number that's grown 6% in the last decade (Figure 1). At least 171,000 daily truck trips service warehouses equal to or greater than 100,000 square feet.

AN UNEQUAL BURDEN

The recent e-commerce boom only exacerbated the pollution burden faced by many communities of color and low-income communities. At all levels, warehouses tend to be disproportionately located in Black, Hispanic/Latino and low-income communities.

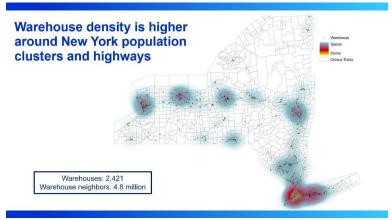


Figure 1

EDF research shows that NO_2 pollution – one of the main pollutants released by diesel-burning trucks – contributes to more than 21,000 new childhood asthma cases every year in the New York City metropolitan region alone (Figure 2). ¹⁶ In areas with worse pollution, NO_2 contributes to more than 30% of new asthma diagnoses.

Developing asthma changes a child's life, impacting physical, emotional and academic growth. Asthma is the leading cause of missed school days each year and has been linked to diminished school performance.¹⁷ Nearly one in two children with asthma miss at least one day of school each year because of their asthma. In New York, approximately 10% of adults and slightly less than 10% of children have asthma, resulting in an average of 299 deaths per year from 2009 to 2019.¹⁸

New York City children suffer health burdens from truck related pollution

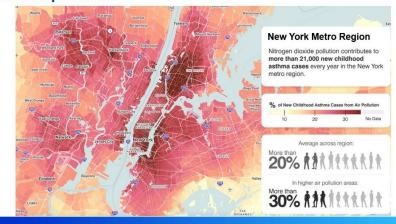


Figure 2

Across the state, Black children are nearly nine times more likely to be hospitalized for asthma and five times more likely to die from asthma compared to non-Hispanic white children.¹⁹ According to the Centers for Disease Control and Prevention (CDC) Chronic Disease Cost Calculator, the estimated medical cost of asthma in the state was \$3.5 billion in 2017.²⁰ The Asthma and Allergy Foundation of America's 2023 report ranked six New York cities within its top 100 for asthma prevalence, emergency department visits for asthma and deaths due to asthma.²¹ Poughkeepsie, Rochester and New York City fall within the top 20 on the list.

PM_{2.5} exposure from on-road mobile sources in the New York City region contributes to 320 deaths and 870 hospitalizations and emergency department visits annually, with trucks and buses – especially pre-2007 engine model year – accounting for the largest share of on-road PM_{2.5}.²² The impacts are not evenly distributed: Low-income neighborhoods experience a larger share of the exposure and health burden than high-income neighborhoods.²³

WAREHOUSES AND NEARBY RESIDENTS BY REGION

The Five Boroughs

In the five boroughs (Figure 3), EDF analysis found:

- 3 million people live within half a mile of a warehouse.
- Black residents are 17% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Hispanic/Latino residents are 13% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Low-income residents are 19% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.

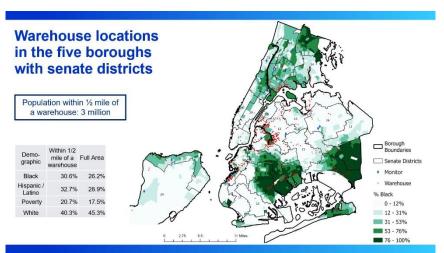


Figure 3

The South Bronx

In the South Bronx (Figure 4), EDF analysis found:

- 233,000 people live within half a mile of a warehouse.
- Black, Hispanic/Latino and low-income residents live within a half mile of these warehouses at rates similar to the area's demographics. The similarity is due to the small size of the area as well the high percentage of Black, Hispanic/Latino and low-income residents living there.
- The asthma-related emergency department visit rates in some South Bronx neighborhoods among children ages five to 17 are three times higher than rates across the five boroughs.²⁴

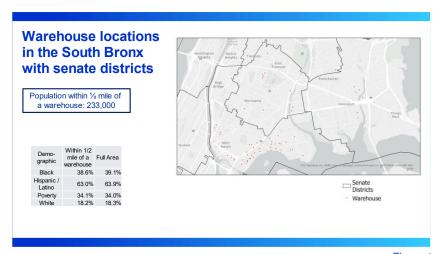


Figure 4

Long Island

In Long Island (Figure 5), EDF analysis found:

- **2.5 million people** live within half a mile of a warehouse.
- Black residents are 30% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Hispanic/Latino residents are 26% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Low-income residents are 29% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.

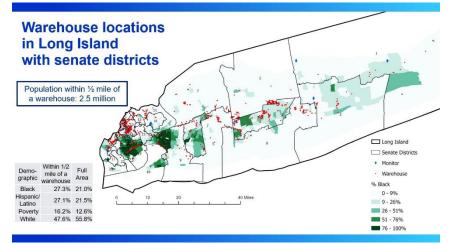


Figure 5

The Hudson Valley

In the Hudson Valley (Figure 6), EDF analysis found:

- 457,000 people live within half a mile of a warehouse.
- Black residents are 101% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Hispanic/Latino residents are 66% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Low-income residents are 54% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.

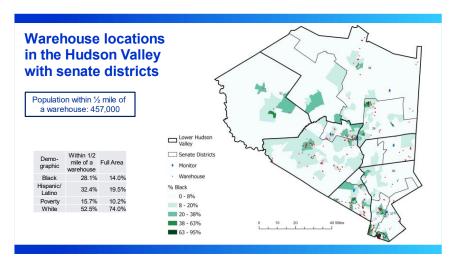


Figure 6

Western and Central New York

In Western and Central New York (Figure 7), EDF analysis found:

- **327,000 people live** within half a mile of a warehouse.
- Black residents are 124% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Hispanic/Latino residents are 115% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.
- Low-income residents are 85% more likely to live within half a mile of a warehouse than would be expected based on the region's demographics.

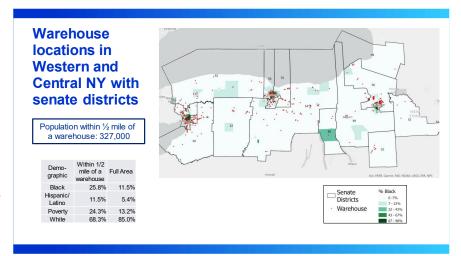


Figure 7

WAREHOUSES AND NEARBY COMMUNITIES BY SENATE AND ASSEMBLY DISTRICT

Warehouses are disproportionately located within a half mile of Black and Hispanic/Latino residents across the state. This trend is also apparent at the senate and assembly district level (Figure 8). Of the districts with the most warehouses across the state (Figure 8), warehouses tend to be disproportionately located within a half mile of Black and Hispanic/Latino residents compared to district demographics. See Table 1 and Table 2 for all senate and assembly district results.

The number of estimated daily truck trips is an underestimate because it only includes trips for warehouses greater than or equal to 100,000 square feet.²⁵ The equation used to estimate truck trips is from the California South Coast Air Quality Management District's equation for warehouses equal to or greater than 100,000 square feet, so truck trips between 50,000 and less than 100,000 square feet cannot currently be calculated.

In Senate District 40 (Figure 9), Hispanic/Latino residents are 95% more likely to live within half a mile of a warehouse than would be expected based on District 40 demographics.

STATEWIDE DATA DISPARATIES

In New York, like the rest of the country, warehouse locations are shrouded in secrecy. While the Energy Information Agency maintains a database of information about polluting facilities like refineries, nothing similar exists for warehouse locations, making it difficult for communities and policymakers alike to learn the identities of owners and operators of these buildings. As a result, organizations must turn to private databases, which are expensive and limited in search capacity and data availability, and communities have no hope of getting access to key data.

Senate and assembly districts notable for warehouse impacts in New York

Senator, party- district number, county or counties represented	leased	warehouse sq ft	Estimated daily truck trips for leased warehouses ≥ 100k sq ft *	Latino %	Latino % in warehouse neighbors	Latino %	% in district	warehouse	Black % in district compared to state %
Monica Martinez, D-4, Suffolk	168	18,703,000	9,600	39%	41%	206%	21%	26%	124%
Michael Gianaris, D-12, Queens	122	13,754,000	6,700	33%	35%	176%	3%	4%	20%
Neil Breslin, D-46, Albany, Montgomery, Schenectady	104	16,372,000	11,700	7%	12%	38%	13%	29%	78%
Timothy M. Kennedy, D-63, Erie	87	11,670,000	6,900	8%	9%	44%	34%	41%	200%
Jeremy Cooney, D-56, Monroe	85	11,665,000	7,000	10%	18%	52%	24%	44%	144%

represented	leased	warehouse sq ft	Estimated daily truck trips for leased warehouses ≥ 100k sq ft *	Latino % in district	Latino % in warehouse	Latino %	% in	warehouse	Black % in district compared to state %
Juan Ardila, D-37, Queens	116	13,101,000	6,300	36%	35%	189%	4%	4%	21%
Michael J. Fitzpatrick, R-8, Suffolk	68	6,066,000	2,000	7%	8%	39%	2%	4%	13%
Kimberly Jean- Pierre, D-11, Nassau, Suffolk	63	6,057,000	2,500	26%	30%	136%	26%	34%	153%
Marcela Mitaynes, D-51, Kings (Brooklyn)	60	11,637,000	8,900	45%	48%	237%	9%	12%	55%
Demond Meeks, D- 137, Monroe	57	7,412,000	4,200	19%	25%	102%	47%	53%	279%

Figure 8

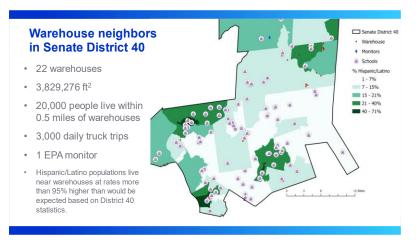


Figure 9

In addition to the lack of transparency about warehouse locations, warehouses are unregulated and can be sited with no environmental review or public process. There is currently no mechanism to ensure compliance with the state's cumulative impacts law or the Climate Leadership and Community Protection Act – a bill that requires an 85% reduction in greenhouse gas emissions by 2050, with an interim target of 40% by 2030.²⁶

Furthermore, warehouses are not required to monitor emissions from activities on site: There are only nine NO₂ and 31 PM_{2.5} monitors across the state.²⁷

Across New York, monitoring of PM_{2.5} is limited to areas with large populations, meaning that near-road hotspots in less populous areas will likely be unmonitored. The PM_{2.5} monitoring disparities can be clearly observed in EDF's analysis of PM_{2.5} attributable mortality in Long Island and the Lower Hudson Valley (Figure 10).

High levels of such mortalities exist in rural areas that are far away from EPA's Federal Reference Method monitors (Figure 10). High levels of PM_{2.5}-attributable mortality are also seen around warehouse clusters, especially just outside of New York City. This analysis shows that policies and monitors are not keeping up with the dangers from PM_{2.5} pollution. Without policy intervention to significantly reduce pollution from truck trips to and from warehouses, Black and Hispanic/Latino communities are expected to continue to bear the brunt of this pollution for the foreseeable future.

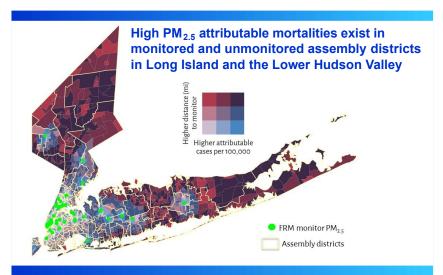


Figure 10

POLICY SOLUTIONS

As e-commerce continues to expand and more consumers purchase goods online, the number of delivery trucks on the road will continue to increase, which leads to a rise in greenhouse gas and health-harming emissions. Without legislation, emissions will continue to disproportionately harm Black, Hispanic/Latino and low-income communities and could thwart the achievement of the Climate Leadership and Community Protection Act. Now, advocates in the ElectrifyNY coalition are pushing for such legislation at the state level, the **Clean Deliveries Act** (S.2127/A.1718).²⁸

The **Clean Deliveries Act** addresses the impacts of warehouses by establishing an **indirect source rule** for warehouses engaged in storage, distribution, redistribution, processing and sorting that exceed 50,000 square feet.²⁹ Key provisions of the bill include:

- An air emissions reduction plan requiring warehouse operators to implement one or more of the following: Acquiring zeroemission vehicles and charging infrastructure, installing solar panels and/or batteries on-site, considering alternative
 transportation modes for incoming or outgoing trips where appropriate and with on-site worker input or paying fees.
- Enhanced protections for warehouses operating in disadvantaged communities or that impact schools and similar facilities.
- A permit requirement for new warehouse developments or those proposing significant modifications.
- Ongoing reporting requirements related to on-site emissions and emissions mitigation measures.
- A zero-emission zones study on the feasibility, benefits and costs of implementing low- and zero-emission designated areas for air pollution and congestion hotspots.

New York has been a clean energy leader, passing the landmark Climate Leadership and Community Protection Act in 2019, adopting the Advanced Clean Trucks Rule in 2021, and enacting the Advanced Clean Cars II Rule and Low NOx Rule in 2022 to reduce emissions economy-wide and advance a just transition towards a zero-emission transportation sector. Passing the Clean Deliveries Act is a critical next step towards achieving New York's climate mandates and ensuring that New Yorkers that are burdened with emissions from fossil fuels are prioritized for zero-emission investments.

For more information about the Clean Deliveries Act contact the following members of ElectrifyNY:

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Kevin Garcia, NYC-EJA kevin@nyc-eja.org

Jaqi Cohen, Tri-State Transportation Campaign, jaqi@tstc.org

Senator, party-district	Number of		Estimated daily		Hispanic/	Hispanic/	Black %	Black % in	Black % ii
number, county or counties represented	leased warehouses ≥ 50,000 sq ft		truck trips for leased warehouses ≥ 100k sq ft *	Latino % in district	Latino % in warehouse neighbors **	Latino % in district compared to state %	in district	warehouse neighbors **	district compared to state %
nthony Palumbo, R-1, uffolk	15	1,827,000	1,000	15%	27%	77%	5%	11%	32%
lario Mattera, R-2, uffolk	80	7,458,000	2,700	10%	18%	51%	4%	6%	21%
ean Murray, R-3, uffolk	24	5,126,000	3,800	18%	21%	96%	8%	10%	49%
lonica Martinez, D-4, uffolk	168	18,703,000	9,600	39%	41%	206%	21%	26%	124%
teven Rhoads, R-5, lassau	44	5,584,000	3,200	11%	12%	59%	3%	4%	18%
(evin Thomas, D-6, lassau	40	3,572,000	1,300	31%	36%	162%	32%	29%	189%
ack Martins, R-7, lassau	55	4,943,000	1,900	10%	14%	55%	3%	3%	18%
llexis Weik, R-8, lassau, Suffolk	46	4,296,000	1,800	12%	15%	61%	4%	6%	25%
atricia Canzoneri- itzpatrick, R-9, Nassau	22	1,878,000	700	18%	22%	95%	18%	9%	103%
ames Sanders Jr., D-10, lueens		2,435,000	900	18%	15%	97%	53%	71%	314%
oby Ann Stavisky, D-11 lueens	•	2,606,000	1,000	19%	29%	101%	11%	9%	67%
lichael Gianaris, D-12, Queens	122	13,754,000	6,700	33%	35%	176%	3%	4%	20%
essica Ramos, D-13, lueens	5	582,000	400	63%	57%	331%	8%	8%	46%
eroy Comrie, D-14, lueens	13	1,425,000	700	17%	20%	87%	51%	61%	300%
oseph Addabbo Jr., D- 5, Queens	10	1,236,000	700	32%	28%	168%	8%	9%	50%
ohn Liu, D-16, Queens wen Chu, D-17, Kings	7	480,000 129,000	100 0	16% 19%	16% 26%	82% 100%	5% 2%	3% 3%	32% 14%
Brooklyn) ulia Salazar, D-18,	57	5,417,000	2,100	45%	43%	238%	18%	17%	107%
Kings (Brooklyn) Roxanne Persaud, D-19,	40	3,884,000	1,200	18%	20%	95%	75%	79%	441%
Kings (Brooklyn) Kellnor Myrie, D-20,	4	262,000	0	12%	12%	61%	53%	56%	314%
Kings (Brooklyn) Kevin Parker, D-21,	11	809,000	100	12%	7%	64%	57%	73%	335%
lings (Brooklyn) limcha Felder, D-22,	1	70,000	0	9%	8%	50%	3%	4%	17%
Kings (Brooklyn) Jessica Scarcella- Spanton, D-23, Kings Brooklyn), Richmond Staten Island)	10	800,000	300	22%	36%	115%	20%	36%	120%
Andrew Lanza, R-24, Richmond (Staten Island)	5	1,824,000	1,600	13%	13%	68%	3%	1%	20%
abari Brisport, D-25, (ing (Brooklyn)	30	3,866,000	2,100	19%	21%	98%	57%	54%	337%
ndrew Gounardes, D- 6, Kings (Brooklyn)	77	13,026,000	9,200	23%	27%	121%	10%	13%	60%
rian P. Kavanagh, D-27, Iew York (Manhattan)		285,000	200	16%	13%	84%	8%	7%	47%
z Krueger, D-28, New ork (Manhattan)	1	119,000	100	9%	8%	48%	3%	4%	20%
osé M. Serrano, D-29, ew York (Manhattan), ronx	46	5,032,000	2,500	56%	66%	295%	35%	38%	203%
ordell Cleare, D-30, ew York (Manhattan)	2	157,000	0	32%	36%	169%	46%	50%	271%
obert Jackson, D-31, ew York (Manhattan), ronx	0	0	0	68%	70%	359%	22%	35%	130%
uis R. Sepúlveda, D-32, Bronx	10	853,000	300	66%	66%	345%	42%	42%	248%

Brown State Brown State Stat										
Nathalla Fernandez, D. 1 1,997,000 1,300 49% 51% 257% 26% 32% 1559 34, Bronx, Westchester 20 1,789,000 1,100 31% 42% 162% 162% 167% 29% 109% 205% 109% 205% 147% 209% 200%		1	353,000	300	60%	66%	314%	23%	25%	136%
Andrea Stewart-Cousins, 36 3,28,000 1,100 31% 42% 162% 19% 29% 1009 1039 1039 1039 1039 1039 1039 1039	Nathalia Fernandez, D-	11	1,997,000	1,300	49%	51%	257%	26%	32%	155%
Bronx, Westchester Shelley Mayer, D-37,	Andrea Stewart-Cousins,	36	3,326,000	1,100	31%	42%	162%	18%	29%	109%
Westchester Bill Weber, R-38, R-55		22	1,789,000	400	26%	28%	137%	65%	64%	380%
Rockland Rocker Rollson, R-39, 59 12,093,000 2,100 17% 32% 90% 16% 28% 93% Duchess, Grange, Peter Mann, D-40, 22 3,829,000 2,600 20% 39% 103% 7% 16% 43% 43% 7% 18% 43		11	939,000	300	21%	45%	113%	8%	13%	46%
Dutchess, Orange, Peter Harckham, D-40,		55	7,145,000	4,200	18%	25%	93%	14%	16%	81%
Peter Harckham, D-40, 22 3,829,000 2,600 20% 39% 103% 7% 16% 43%	Dutchess, Orange,	59	12,093,000	9,100	17%	32%	90%	16%	28%	93%
Columbia, Dutchess, Greene, Uster James Skoufis, D-42, 78 9,059,000 4,800 18% 27% 96% 11% 17% 64% Orange Jake Ashby, R-43, 73 8,379,000 4,100 5% 7% 24% 89% 16% 45% Albary, Rensselaer, Washington Jim Tedisco, R-44, 36 3,729,000 1,500 5% 6% 25% 7% 9% 42% Sarataga, Schemedard, Sarataga, Scheme	Peter Harckham, D-40, Putnam, Rockland,	22	3,829,000	2,600	20%	39%	103%	7%	16%	43%
Drange Jake Ashby, R-43,	Columbia, Dutchess, Greene, Ulster									40%
Albany, Rensselaer, Washington Jim Tedisco, R-44, 36 3,729,000 1,500 5% 6% 25% 7% 9% 42% Saratoga, Schenetady Dan Stee, R-45, Clinton, Essex, Frankin, Saint Lawrence, Warren, Washington Neil Breslin, D-46, Albany, Montgomery, Schenectady Brad Hoylman-Sigal, D-47, May York (Manhattan) Rachel May, D-48, 45 4,935,000 2,500 6% 10% 30% 17% 33% 101% Cayuga, Onondaga Mark Walczyk, R-49, 43 6,890,000 4,600 4% 6% 22% 5% 6% 27% Futton, Hamilton, Herkimer, Jefferson, Lewis, Oswego, St. Lawrence John Mannion, D-50, Onondaga, Oswego Peter Oberacker, R-51, 36 5,417,000 3,400 8% 7% 40% 5% 7% 32% Broome, Chenango, Delaware, Herkimer, Olseago, Schoharie, Sullaware, Sul	Orange									64%
Saratoga, Schenectady Dan Stee, R-45, Clinton, 34 5,165,000 3,200 3% 2% 15% 4% 4% 25% 25% 28% 28% 38% 13% 29% 78% 29% 78% 29% 78% 29% 78% 29% 78% 29% 38% 38% 38% 38% 38% 38% 29% 78% 29% 38%	Albany,	73	8,379,000	4,100	5%	7%	24%	8%	16%	48%
Essex, Franklin, Saint Lawrence, Washington Neil Breslin, D-46, Albany, Montgomery, Schenectady Brad Hoylman-Sigal, D- 47, New York (Manhattan) Rachel May, D-48, Cayuga, Onondaga Mark Walczyk, R-49, Futron, Hamilton, Herkimer, Jefferson, Lowis, Oswego Peter Oberacker, R-81, Broome, Chenango, Delaware, Herkimer, Otsego, Schoharie, Sullivan, Ulster Lea Webb, D-52, Broome, Cordland, Tompkins Joseph Griffo, R-83, Chenango, Madison, Oneida Pam Helming, R-54, Livingston, Monroe, Ordard, R-58, Al 5,920,000 Ag, 000 Ag,		36	3,729,000	1,500	5%	6%	25%	7%	9%	42%
Albany, Montgomery, Schenectady Brad Hoylman-Sigal, D- 6 1,610,000 1,300 14% 18% 75% 7% 8% 42% 42% 47, New York (Manhattan) Rachel May, D-48, 45 4,935,000 2,500 6% 10% 30% 17% 33% 101% Cayuga, Onondaga Mark Walczyk, R-49, 43 6,890,000 4,600 4% 6% 22% 5% 6% 27% Fulton, Hamilton, Herkimer, Jefferson, Lewis, Oswego, St. Lawrence John Mannion, D-50, 84 10,179,000 5,600 3% 4% 16% 4% 5% 7% 32% 7% 13% 26% Onondaga, Oswego Peter Oberacker, R-51, 36 5,417,000 3,400 8% 7% 40% 5% 7% 32% 7% 13% 26% Onondaga, Oswego Peter Oberacker, R-51, 36 5,417,000 3,400 8% 7% 40% 5% 7% 32% 7% 13% 40% 50seo, Schoharie, Sullivan, Ulster Lea Webb, D-52, 40 5,904,000 3,800 4% 6% 23% 7% 13% 40% 50seo, Schoharie, Sullivan, Ulster Lea Webb, D-52, 41 4,853,000 2,400 5% 12% 25% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 25% 5% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, 54 5,592,000 3,600 10% 18% 51% 14% 29% 83% Monroe Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Orego Borrello, R-57, Allegany, Cattaraugus, Chautauqua, Genesse, Wyound Stemus, Cattaraugus, Chautaraugus, Chautaraugus, Chautaraugus, Chautaugua, Genesse, Wyound Stemus, Cattaraugus, Chautauqua, Genesse, Wyound Stemus, Cattaraugus, Chautauqua, Genesse, Wyound Stemus, Cattaraugus, Chautauqua, Genesse, Wyound Stemus, Cattaraugus, Chautaraugus, Chautaraugus, Chautaraugus, Chautaraugus, Chautaraugus, Chautaugus, Chautaraugus, Chautaraugus, Chautaraugus, Chautaraugus, Cha	Essex, Franklin, Saint Lawrence, Warren,	34	5,165,000	3,200	3%	2%	15%	4%	4%	25%
47, New York (Manhattan) Rachel May, D-48,	Albany, Montgomery,	104	16,372,000	11,700	7%	12%	38%	13%	29%	78%
Cayuga, Onondaga Mark Walczyk, R-49,	47, New York	6	1,610,000	1,300	14%	18%	75%	7%	8%	42%
Fulton, Hamilton, Herkimer, Jefferson, Lewis, Oswego, St. Lawrence John Mannion, D-50, 84 10,179,000 5,600 3% 4% 16% 4% 7% 26% Onondaga, Oswego Peter Oberacker, R-51, 36 5,417,000 3,400 8% 7% 40% 5% 7% 32% Broome, Chenango, Delaware, Herkimer, Otsego, Schoharie, Sullivan, Ulster Lea Webb, D-52, 40 5,904,000 3,800 4% 6% 23% 7% 13% 40% Broome, Cortland, Tompkins Joseph Griffo, R-53, 41 4,853,000 2,400 5% 12% 25% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, Livingston, Monroe, Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Samra Brouk, D-55, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chausaugus, Chemung, B-400 10% 10% 12% 12% 12% 12% 12% 14% 14% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Chemung, B-400 10% 10% 12% 12% 12% 12% 12% 12% 12% 12% 12% 12		45	4,935,000	2,500	6%	10%	30%	17%	33%	101%
John Mannion, D-50, 84 10,179,000 5,600 3% 4% 16% 4% 7% 26% Onondaga, Oswego Peter Oberacker, R-51, 36 5,417,000 3,400 8% 7% 40% 5% 7% 32% Broome, Chenango, Delaware, Herkimer, Otsego, Schoharie, Sullivan, Ulster Lea Webb, D-52, Broome, Cortland, Tompkins Joseph Griffo, R-53, 41 4,853,000 2,400 5% 12% 25% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 21% 4% 6% 25% Entring Nonroe, Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chatataugus, Chatataugus, Chatataugus, Chataraugus, Chatataugus, Chataraugus, Chatamaugus, Chemung, Temporation, Chemung, Chemun	Fulton, Hamilton, Herkimer, Jefferson, Lewis, Oswego, St.	43	6,890,000	4,600	4%	6%	22%	5%	6%	27%
Broome, Chenango, Delaware, Herkimer, Otsego, Schoharie, Sullivan, Ulster Lea Webb, D-52, 40 5,904,000 3,800 4% 6% 23% 7% 13% 40% Broome, Cortland, Tompkins Joseph Griffo, R-53, 41 4,853,000 2,400 5% 12% 25% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 21% 4% 6% 25% Livingston, Monroe, Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	John Mannion, D-50, Onondaga, Oswego	84	10,179,000	5,600						26%
Lea Webb, D-52, 40 5,904,000 3,800 4% 6% 23% 7% 13% 40% Broome, Cortland, Tompkins Joseph Griffo, R-53, 41 4,853,000 2,400 5% 12% 25% 6% 17% 36% Chenango, Madison, Oneida Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 21% 4% 6% 25% Character, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Broome, Chenango, Delaware, Herkimer, Otsego, Schoharie,	36	5,417,000	3,400	8%	7%	40%	5%	7%	32%
Chenango, Madison, Oneida Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 21% 4% 6% 25% Livingston, Monroe, Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Broome, Cortland, Tompkins	40	5,904,000	3,800	4%	6%	23%	7%	13%	40%
Pam Helming, R-54, 61 6,619,000 3,300 4% 6% 21% 4% 6% 25% Livingston, Monroe, Ontario, Wayne Samra Brouk, D-55, 43 5,920,000 3,600 10% 18% 51% 14% 29% 83% Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Joseph Griffo, R-53, Chenango, Madison,	41	4,853,000	2,400	5%	12%	25%	6%	17%	36%
Monroe Jeremy Cooney, D-56, 85 11,665,000 7,000 10% 18% 52% 24% 44% 144% Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Livingston, Monroe,		6,619,000	3,300	4%	6%	21%	4%	6%	25%
Monroe George Borrello, R-57, 45 6,546,000 4,200 4% 10% 24% 3% 6% 20% Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,		43	5,920,000	3,600	10%	18%	51%	14%	29%	83%
Allegany, Cattaraugus, Chautauqua, Genesee, Wyoming Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Monroe									144%
Tom O'Mara, R-58, 37 10,177,000 8,400 2% 3% 12% 4% 9% 24% Allegany, Chemung,	Allegany, Cattaraugus, Chautauqua, Genesee,	45	6,546,000	4,200	4%	10%	24%	3%	6%	20%
Steuben, Tioga, Yates	Tom O'Mara, R-58, Allegany, Chemung, Schuyler, Seneca,	37	10,177,000	8,400	2%	3%	12%	4%	9%	24%

Kristen Gonzalez, D-59, Kings (Brooklyn), New York (Manhattan), Queens	62	5,263,000	1,800	18%	23%	94%	8%	10%	49%
Patrick M. Gallivan, R-60, Erie	33	4,769,000	3,000	2%	3%	11%	2%	3%	12%
Sean Ryan, D-61, Erie	45	5,724,000	3,500	7%	12%	34%	10%	17%	61%
Rob Ortt, R-62, Monroe, Niagara, Orleans	39	5,064,000	3,000	4%	4%	19%	8%	14%	45%
Timothy M. Kennedy, D- 63, Erie	87	11,670,000	6,900	8%	9%	44%	34%	41%	200%

^{*} This calculation, which was rounded to two significant figures, only includes truck trips for leased warehouses over 100,000 square feet because the formulae created by California's South Coast Air Quality Management District only include warehouses equal to or greater than 100,000 square feet. As a result, districts with warehouses less than 100,000 square feet will show 0 daily truck trips despite occasionally having more cumulative square footage than districts with a several warehouses equal to or greater than 100,000 square feet.

** Our methodology defines a warehouse neighbor as one who lives within 0.5 miles of at least one warehouse. The buffer picks up warehouses that may be in multiple districts.

districts.

TABLE 2: ASSE	MBLY C	DISTRIC [®]	TS						
		Cumulative warehouse sq ft	Estimated daily truck trips for leased warehouses ≥ 100k sq ft *	Hispanic/ Latino % in district	Hispanic/ Latino % in warehouse neighbors **	Hispanic/ Latino % in district compared to state %	Black % in district	Black % in warehouse neighbors **	Black % in district compared to state %
Fred Thiele, D-1, Suffolk	6	429,000	100	17%	7%	92%	4%	2%	23%
Jodi Giglio, R-2, Suffolk	9	1,370,000	900	13%	28%	70%	7%	14%	42%
Joe DeStefano, R-3, Suffolk	13	4,384,000	3,700	21%	25%	112%	10%	19%	58%
Edward Flood, R-4, Suffolk	1	90,000	0	14%	26%	75%	9%	6%	52%
Douglas M. Smith, R-5, Suffolk	36	3,295,000	1,300	14%	14%	76%	5%	5%	28%
Philip Ramos, D-6, Suffolk	34	4,099,000	2,300	57%	54%	298%	19%	20%	111%
Jarett Gandolfo, R-7, Suffolk	16	1,379,000	500	15%	18%	80%	6%	3%	35%
Michael J. Fitzpatrick, R-8, Suffolk	68	6,066,000	2,000	7%	8%	39%	2%	4%	13%
Michael Durso, R-9, Nassau, Suffolk	3	389,000	300	11%	17%	59%	3%	6%	18%
Steve Stern, D-10, Nassau, Suffolk	42	4,021,000	1,600	15%	24%	79%	7%	8%	40%
Kimberly Jean-Pierre, D- 11, Nassau, Suffolk	63	6,057,000	2,500	26%	30%	136%	26%	34%	153%
Keith Brown, R-12, Suffolk	54	6,817,000	3,900	16%	38%	84%	7%	19%	41%
Charles D. Lavine, D-13, Nassau	37	3,373,000	1,300	18%	28%	97%	11%	19%	64%
David McDonough, R-14, Nassau	5	340,000	100	9%	10%	47%	2%	4%	14%
Jake Blumencranz, R-15, Nassau	34	5,005,000	3,100	9%	10%	47%	2%	2%	14%
Gina Sillitti, D-16, Nassau	14	1,168,000	400	9%	15%	50%	3%	3%	15%
John Mikulin, R-17, Nassau	2	122,000	0	12%	12%	65%	3%	3%	20%
Taylor Darling, D-18, Nassau	14	1,068,000	200	44%	50%	232%	50%	45%	296%
Ed Ra, R-19, Nassau	29	2,602,000	1,100	15%	16%	78%	5%	5%	30%
Eric "Ari" Brown, R-20, Nassau	10	1,093,000	500	15%	29%	79%	6%	8%	35%
Brian F. Curran, R-21, Nassau	4	218,000	0	22%	26%	115%	20%	15%	120%
Michaelle C. Solages, D- 22, Nassau	0	0	0	20%	20%	106%	33%	19%	194%
Stacey Pheffer Amato, D- 23, Queens	2	133,000	0	26%	30%	135%	23%	28%	135%
David Weprin, D-24, Queens	5	554,000	300	24%	32%	124%	16%	13%	93%
Nily Rozic, D-25, Queens	1	65,000	0	15%	14%	77%	7%	2%	40%

Edward Braunstein, D-26, Queens Sam Berger, D-27, Queens Andrew Hevesi, D-28,	2 19 11	109,000	0	13%	16%	66%	4%	1%	21%
Andrew Hevesi, D-28,		1 924 000							
	11	1,324,000	700	23%	33%	122%	8%	3%	45%
Queens		1,307,000	700	20%	27%	105%	5%	3%	29%
Alicia Hyndman, D-29, Queens	10	1,166,000	600	14%	16%	72%	66%	63%	390%
Steven Raga, D-30, Queens	6	342,000	0	29%	30%	151%	3%	3%	16%
Khaleel Anderson, D-31, Queens	18	1,971,000	900	21%	12%	109%	53%	77%	313%
Vivian E. Cook, D-32, Queens	8	570,000	100	19%	23%	99%	63%	58%	368%
Clyde Vanel, D-33, Queens	1	72.000	0	13%	16%	70%	59%	63%	344%
Jessica González-Rojas, D-34, Queens	13	1,427,000	700	50%	41%	264%	5%	5%	28%
Jeffrion L. Aubry, D-35, Queens	3	289,000	200	56%	46%	297%	15%	23%	88%
Zohran Mamdani, D-36, Queens	24	2,208,000	1,000	26%	29%	136%	10%	14%	60%
Juan Ardila, D-37, Queens	116	13,101,000	6,300	36%	35%	189%	4%	4%	21%
Jenifer Rajkumar, D-38, Queens	2	260,000	200	52%	50%	276%	6%	4%	36%
Catalina Cruz, D-39, Queens	2	293,000	200	56%	62%	296%	3%	3%	17%
Ron Kim, D-40, Queens	4	306,000	100	16%	16%	85%	3%	5%	19%
Helene Weinstein, D-41, Kings (Brooklyn)	6	424,000	0	9% 15%	7% 	45%	26% 61%	69%	154% 359%
Rodneyse Bichotte Hermelyn, D-42, Kings (Brooklyn)						80%		6%	
Brian A. Cunningham, D- 43, Kings (Brooklyn)	0	0	0	10%	11%	54%	64%	58%	379%
Robert Carroll, D-44, Kings (Brooklyn)	3	201,000	0	15%	12%	77%	11%	21%	66%
Michael Novakhov, R-45, Kings (Brooklyn)	0	0	0	11%	8%	60%	4%	3%	24%
Alec Brook-Krasny, R-46, Kings (Brooklyn)	1	70,000	0	16%	27%	83%	11%	32%	62%
William Colton, D-47, Kings (Brooklyn)	0	0	0	16%	16%	86%	2%	2%	15%
Simcha Eichenstein, D-48, Kings (Brooklyn)	1	70,000	0	8%	7%	41%	2%	3%	14%
Lester Chang, R-49, Kings (Brooklyn)	2	129,000	0	17%	21%	90%	2%	2%	12%
Emily Gallagher, D-50, Kings (Brooklyn)	35 60	3,010,000	1,000	16% 45%	16% 48%	83%	5% 9%	5% 12%	31% 55%
Marcela Mitaynes, D-51, Kings (Brooklyn)	27	11,637,000	8,900 1,600	12%	13%	237%	12%	13%	73%
Jo Anne Simon, D-52, Kings (Brooklyn)		3,261,000	ŕ			65%			97%
Maritza Davila, D-53, Kings (Brooklyn) Erik Martin Dilan, D-54,	42 3	3,912,000 194,000	1,400	52%	52%	274%	17%	17%	
Kings (Brooklyn) Latrice Walker, D-55,	10	830,000	200	52% 21%	22%	275% 109%	41% 79%	41% 79%	239%
Kings (Brooklyn) Stefani Zinerman, D-56,	3	208,000	0	20%	26%	104%	66%	63%	386%
Kings (Brooklyn) Phara Souffrant Forrest.	17	1,716,000	800	13%	14%	69%	43%	42%	253%
D-57, Kings (Brooklyn) Monique Chandler-	10	1,068,000	400	7%	7%	38%	90%	90%	529%
Waterman, D-58, Kings (Brooklyn)	10	1,000,000	400	7 /0	1 /0	3070	3070	3070	32370
Jaime Williams, D-59, Kings (Brooklyn)	3	175,000	0	9%	9%	46%	59%	56%	346%
Nikki Lucas, D-60, Kings (Brooklyn)	23	2,311,000	800	21%	22%	112%	77%	78%	452%
Charles Fall, D-61, New York (Manhattan), Richmond (Staten Island)	4	236,000	0	27%	43%	143%	24%	32%	141%

Michael Reilly, R-62, Richmond (Staten Island)	3	519,000	400	11%	12%	55%	1%	1%	6%
Sam Pirozzolo, R-63, Richmond (Staten Island)	7	1,799,000	1,500	19%	32%	99%	12%	48%	73%
Michael Tannousis, R-64, Kings (Brooklyn), Richmond (Staten Island)	0	0	0	15%	28%	79%	5%	4%	30%
Grace Lee, D-65, New York (Manhattan)	1	60,000	0	19%	15%	101%	10%	9%	59%
Deborah J. Glick, D-66,	2	225,000	100	8%	8%	44%	5%	4%	29%
New York (Manhattan) Linda Rosenthal, D-67,	5	1,516,000	1,300	13%	19%	67%	6%	9%	35%
New York (Manhattan) Eddie Gibbs, D-68, New York (Manhattan)	0	0	0	42%	36%	219%	34%	59%	198%
Daniel J. O'Donnell, D-69, New York (Manhattan)	0	0	0	21%	27%	109%	13%	21%	75%
Inez Dickens, D-70, New York (Manhattan)	2	157,000	0	25%	34%	134%	56%	54%	332%
Al Taylor, D-71, New York (Manhattan)	0	0	0	49%	48%	260%	36%	48%	209%
Manny De Los Santos, D- 72, New York (Manhattan)	0	0	0	75%	75%	393%	18%	18%	105%
Alex Bores, D-73, New York (Manhattan)	0	0	0	7%	7%	38%	3%	2%	15%
Harvey Epstein, D-74, New York (Manhattan)	0	0	0	16%	53%	86%	9%	23%	53%
Tony Simone, D-75, New York (Manhattan)	1	95,000	0	15%	18%	77%	7%	8%	40%
Rebecca Seawright, D-76, New York (Manhattan)	1	119,000	100	10%	10%	55%	4%	7%	24%
Latoya Joyner, D-77, Bronx	0	0	0	64%	66%	339%	42%	41%	245%
George Alvarez, D-78, Bronx	0	0	0	71%	68%	376%	24%	40%	141%
Chantel Jackson, D-79, Bronx	6	450,000	100	59%	59%	312%	48%	48%	285%
John Zaccaro Jr., D-80, Bronx	2	449,000	300	49%	50%	257%	27%	35%	159%
Jeffrey Dinowitz, D-81, Bronx	0	0	0	40%	25%	213%	25%	71%	144%
Michael Benedetto, D-82, Bronx	3	1,232,000	1,000	42%	51%	221%	31%	25%	182%
Carl Heastie, D-83, Bronx	0	0	0	26%	33%	134%	74%	65%	434%
Amanda Septimo, D-84,	46	5,032,000	2,500	70%	70%	367%	35%	34%	203%
Bronx Kenny Burgos, D-85,	3	340,000	200	64%	68%	338%	38%	35%	225%
Bronx Yudelka Tapia, D-86, Bronx	1	64,000	0	74%	70%	388%	35%	41%	208%
Karines Reyes, D-87, Bronx	5	496,000	200	56%	50%	294%	34%	37%	200%
Amy Paulin, D-88, Westchester	4	306,000	100	15%	38%	77%	11%	27%	64%
J. Gary Pretlow, D-89, Westchester	25	1,993,000	500	31%	28%	163%	51%	58%	298%
Nader Sayegh, D-90, Westchester	10	1,031,000	400	34%	45%	181%	19%	27%	111%
Steven Otis, D-91, Westchester	5	498,000	200	33%	56%	176%	9%	13%	53%
MaryJane Shimsky, D-92, Westchester	22	1,995,000	700	19%	22%	98%	12%	21%	72%
Chris Burdick, D-93, Westchester	6	1,008,000	700	18%	36%	97%	7%	14%	41%
Matt Slater, R-94, Westchester, Putnam	16	2,264,000	1,300	13%	21%	70%	4%	3%	23%
Dana Levenberg, D-95, Westchester, Putnam	4	861,000	600	27%	46%	144%	12%	22%	71%
Kenneth Zebrowski Jr., D- 96, Rockland	17	2,362,000	1,500	24%	38%	126%	15%	18%	89%
John W. McGowan, R-97, Rockland	33	3,498,000	1,700	14%	18%	72%	15%	16%	89%

Karl A. Brabenec, R-98, Orange, Rockland	18	2,971,000	2,000	11%	15%	61%	6%	7%	38%
Chris Eachus, D-99, Orange, Rockland	28	3,480,000	2,100	16%	22%	84%	9%	12%	53%
Aileen Gunther, D-100, Orange, Sullivan	28	2,798,000	1,100	24%	37%	125%	18%	25%	104%
Brian Maher, R-101, Delaware, Oneida, Orange, Otsego, Sullivan, Ulster	28	6,650,000	5,100	14%	19%	75%	8%	13%	47%
Christopher Tague, R-102, Albany, Delaware, Greene, Otsego, Schoharie, Ulster	20	3,938,000	3,100	4%	5%	23%	4%	8%	23%
Sarahana Shrestha, D-103, Dutchess, Ulster	22	2,040,000	700	8%	17%	42%	7%	18%	44%
Jonathan Jacobson, D- 104, Dutchess, Orange, Ulster	27	3,676,000	2,200	23%	39%	123%	24%	34%	141%
Anil Beephan Jr., R-105, Dutchess	13	2,654,000	2,100	12%	16%	66%	8%	7%	48%
Didi Barrett, D-106, Columbia, Dutchess	20	2,161,000	1,000	9%	14%	46%	9%	19%	52%
Scott Bendett, R-107, Albany, Columbia,	9	670,000	100	3%	4%	15%	2%	2%	10%
Rensselaer, Washington John T. McDonald III, D- 108, Albany, Rensselaer, Saratoga	20	2,239,000	1,200	7%	8%	35%	14%	20%	84%
Patricia Fahy, D-109, Albany	40	5,663,000	3,600	8%	11%	45%	26%	52%	154%
Phillip Steck, D-110, Albany, Schenectady	48	5,246,000	2,300	5%	6%	25%	8%	10%	47%
Angelo Santabarbara, D- 111, Montgomery, Schenectady	32	6,034,000	4,900	11%	16%	60%	14%	12%	84%
Mary Beth Walsh, R-112, Fulton, Saratoga, Schenectady	40	4,432,000	2,400	4%	3%	19%	3%	3%	18%
Carrie Woerner, D-113, Saratoga, Warren, Washington	17	1,704,000	600	3%	3%	16%	2%	3%	14%
Matt Simpson, R-114, Essex, Fulton, Saratoga, Warren, Washington	13	1,590,000	800	2%	1%	12%	3%	3%	16%
Billy Jones, D-115, Clinton, Essex, Franklin	19	2,432,000	1,400	3%	3%	18%	6%	5%	33%
Scott Gray, R-116, Jefferson, St. Lawrence	11	4,256,000	3,600	4%	8%	20%	6%	11%	33%
Ken Blankenbush, R-117, Jefferson, Lewis, Oneida, St. Lawrence	7	1,170,000	900	5%	3%	25%	4%	3%	26%
Robert Smullen, R-118, Fulton, Oneida, Hamilton, Herkimer, Montgomery	30	3,458,000	1,900	3%	5%	15%	3%	3%	15%
Marianne Buttenschon, D- 119, Oneida	30	3,553,000	1,700	9%	14%	47%	13%	19%	74%
William A. Barclay, R-120, Jefferson, Oswego, Wayne	11	1,469,000	800	3%	3%	13%	2%	2%	10%
Joe Angelino, R-121, Broome, Chenango, Delaware, Madison, Otsego, Sullivan	26	3,888,000	2,500	3%	4%	15%	2%	4%	13%
Brian Miller, R-122, Herkimer, Madison, Oneida, Otsego	9	849,000	200	3%	3%	15%	3%	3%	16%
Donna Lupardo, D-123, Broome	29	3,510,000	2,000	5%	7%	27%	10%	16%	61%
Christopher S. Friend, R- 124, Broome, Chemung, Tioga	23	5,596,000	4,400	3%	3%	13%	6%	11%	34%
Anna Kelles, D-125, Cortland, Tompkins	10	2,312,000	1,900	5%	4%	25%	5%	5%	30%

John Lemondes Jr., R- 126, Cayuga, Onondaga	11	1,196,000	600	3%	7%	14%	4%	17%	22%
Albert A. Stirpe Jr., D-127, Madison, Onondaga	28	3,017,000	1,400	3%	4%	14%	5%	8%	29%
Pamela Hunter, D-128, Onondaga	47	4,755,000	2,200	6%	9%	34%	22%	38%	132%
William Magnarelli, D-129, Onondaga	30	4,648,000	3,200	7%	9%	38%	21%	26%	123%
Brian Manktelow, R-130, Monroe, Wayne	35	5,034,000	3,100	4%	5%	21%	4%	6%	22%
Jeff Gallahan, R-131, Broome, Cayuga, Chenango, Cortland,	17	2,296,000	1,300	4%	5%	23%	3%	4%	19%
Madison, Ontario, Seneca Phil Palmesano, R-132, Chemung, Schuyler, Seneca, Steuben, Yates	11	3,883,000	3,400	2%	2%	11%	3%	3%	18%
Marjorie Byrnes, R-133, Livingston, Monroe, Ontario, Steuben, Wyoming	17	1,711,000	800	3%	4%	17%	3%	3%	18%
Josh Jensen, R-134, Monroe	7	1,487,000	1,200	6%	5%	30%	8%	7%	47%
Jennifer Lunsford, D-135, Monroe	16	2,083,000	1,200	3%	4%	18%	3%	4%	16%
Sarah Clark, D-136, Monroe	14	1,767,000	1,000	12%	20%	65%	19%	36%	113%
Demond Meeks, D-137, Monroe	57	7,412,000	4,200	19%	25%	102%	47%	53%	279%
Harry Bronson, D-138, Monroe	35	3,540,000	1,700	6%	7%	32%	16%	20%	96%
Stephen Hawley, R-139, Erie, Genesee, Monroe, Orleans	21	2,570,000	1,600	4%	4%	20%	5%	7%	28%
William Conrad III, D-140, Erie, Niagara	28	3,853,000	2,400	5%	9%	28%	8%	12%	45%
Crystal Peoples-Stokes, D-141, Erie	24	2,425,000	900	7%	7%	37%	63%	71%	371%
Patrick B. Burke, D-142, Erie	24	3,445,000	2,400	6%	12%	31%	5%	12%	29%
Monica P. Wallace, D-143, Erie	41	5,526,000	3,200	3%	3%	16%	12%	11%	72%
Michael Norris, R-144, Erie, Niagara	21	2,786,000	1,500	2%	3%	13%	5%	6%	27%
Angelo Morinello, R-145, Erie, Niagara	21	3,323,000	2,300	3%	4%	16%	11%	18%	64%
Karen McMahon, D-146, Erie	9	756,000	300	4%	6%	21%	8%	14%	46%
David DiPietro, R-147, Erie, Wyoming	4	391,000	200	2%	3%	12%	3%	1%	16%
Joseph Giglio, R-148, Allegany, Cattaraugus, Steuben	10	958,000	300	2%	3%	10%	2%	2%	12%
Jonathan Rivera, D-149, Erie	22	3,563,000	2,500	13%	21%	67%	13%	23%	79%
Andy Goodell, R-150, Erie, Chautauqua	22	4,047,000	3,000	7%	14%	39%	4%	6%	21%

^{*} This calculation, which was rounded to two significant figures, only includes truck trips for leased warehouses over 100,000 square feet because the formulae created by California's South Coast Air Quality Management District only include warehouses equal to or greater than 100,000 square feet. As a result, districts with warehouses less than 100,000 square feet will show 0 daily truck trips despite occasionally having more cumulative square footage than districts with a several warehouses equal to or greater than 100,000 square feet.

** Our methodology defines a warehouse neighbor as one who lives within 0.5 miles of at least one warehouse. The buffer picks up warehouses that may be in multiple

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districts.

ENDNOTES

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Fannie Lou Hamer Freedom High School

1021 Jennings Ave Bronx, NY 10460

My name is Jesnelia Hinojosa. I am a fifteen year old high school student at Fannie Lou Hamer Freedom High School. I was born and raised in the Bronx where we have the highest asthma rates in the country. My family and I have been affected by asthma. As a child, I have been in and out of hospitals for asthma. I live and go to school by highways. The air quality in the Bronx is not just bad but harmful to the people who live here. We are breathing in particulate matter, not just pure air. I feel we shouldn't have to leave the Bronx to get fresh air. Air quality in other states is noticeably better due to more green spaces and less truck trips because of less warehouses. The warehouses and their trucks affect youth, elderly, Hispanic/Latino, Black, and low-income communities. We are at risk of increased asthma and heart attacks as well as premature deaths. The ISR (Indirect Source Rule) makes e-commerce warehouses responsible and take accountability for pollution caused by the large number of trucks that go in and out of those facilities. This especially impacts the Bronx since lots of warehouses are located here. One recommendation is to make trucks that go to and from the warehouses electric. Another recommendation is to regulate warehouses and where they are built, how many are built, and how close to each other they are. All in all, we are asking that e-commerce warehouses stop polluting the air with trucks and fix the damage that has already been done. I want this because it would help me and my family's health tremendously.

Fannie Lou Hamer Freedom High School

1021 Jennings Ave Bronx, NY 10460

Hello, my name is Owen Mantuano. I am 15 years old and was born and raised in Ecuador. I immigrated to New York and currently study at Fannie Lou Hamer Freedom High School. Today, I would like to give testimony about what I believe is one of the most important issues today climate justice! We, as a community, can change factors that increase negative environmental issues in our city, especially the issue of poor air quality and pollution. Our current air quality is not the best and impacts our health in numerous ways. We must take action today. We can regulate this air pollution by reducing the number of trucks and warehouses, which are major contributors to this concerning environmental issues. If we start regulating the gas emissions of trucks and warehouses, we can begin to repair the damage that has been caused. We can achieve better air quality and eliminate the risks to our lives. I want the next generation to inherit a good environment and good air quality. The NYC ISR (Indirect Source Rule) aims to reduce the impact of these trucks and warehouses. We want them to be regulated, not closed, because as humans, we also need them. However, we need them to be regulated because we need better air quality. I live in the Bronx, and thousands of trucks pass by everywhere. This affects my future and my life. I want this to be regulated. If other countries and states can do it, why can't we? Don't we deserve better air quality and green spaces? I would like lawmakers to pass the NYC ISR (Indirect Source Rule) with strong enforcement and regulate warehouses, while also prioritizing zero-emission transportation. I want this to be regulated and for more work to be done to achieve better air quality. I want a healthy future, and my whole community and I deserve clean air and a healthy, green community.



New York City Council

Committee on Environmental Protection, Resiliency and Waterfronts

January 28th, 2025 Testimony on indirect source rule

My name is Osagie Afe and I am the Senior Business Assistance Manager at the Long Island City Partnership (LICP), and I appreciate the opportunity to testify today. As the legislation continues to develop, I strongly urge that industrial businesses, advocates, and stakeholder be engaged in the process to ensure that the regulations strike the right balance between sustainability and urban industrial preservation.

LICP's mission is to advocate for economic development that benefits LIC's industrial, commercial, science and technology, cultural, tourism, and residential sectors. We aim to attract new businesses, retain those already here, engage residents and visitors, and promote a vibrant and authentic mixed-use community. We also operate the LIC Business Improvement District and Industrial Business Zone (IBZ).

Industrial businesses in the IBZ play a vital role in NYC's economy as second-largest private-sector employer. provide middle-class jobs that serve as pathways to opportunity for our diverse workforce. These businesses provide middle-class jobs that pay nearly \$20,000 more annually than retail positions and nearly double the wages of the food and beverage industry. These are jobs that offer economic mobility for our city's diverse workforce: 80% are minorities and 50% are immigrants.

However, the Indirect Source Rule threatens to undermine the City's commitment to the IBZs. These zones were established to preserve industrial space, prevent displacement, and ensure that industrial businesses can operate and thrive. The proposed rules could create additional operational challenges, making it harder for them to remain in the city and undermining the promise of the IBZ protection.

This bill could also place yet another burden on businesses that are already grappling with a growing number of costly mandates. For example, Local Law 97 imposes severe fines for missing hard-to-meet emissions targets, while Congestion Pricing adds tolls that further increase the cost of doing business. These are in addition to rising costs associated with minimum wages increases, paid sick leave, and more. Putting the Indirect Source Rule on top of these challenges risks tipping the scales too far, making it unsustainable for industrial businesses to operate in NYC.

Paradoxically, the Indirect Source Rule may hinder the ability for industrial businesses to help the city meet its greenhouse gas emission reduction goal. Transitioning to cleaner operations and reducing greenhouse gas emissions is a shared objective, but it requires significant investment from businesses. If businesses are weighed down by potential fines from this rule, they will struggle to make the investments necessary for adopting sustainable practices. Instead of imposing additional barriers, we should be creating pathways that help businesses transition more easily and affordably.

In conclusion, the proposed Indirect Source Rule must strike a balance between achieving our environmental goals and supporting the industrial businesses that contribute so much to our city's economy and workforce. I urge the Council to carefully consider the implications of this bill and work collaboratively with the industrial community to ensure the proposed rules are practical.

Thank you for your time and consideration.

My name is Damian Contreras, and I am a Business Agent for Teamsters Local 804. I have seen many of you at our UPS rallies as well as at the recent rallies at Amazon facilities in Queens. It is good to be around friends. Me and my members appreciate you.

We support this bill. People deserve to have safe streets, and an environment free of poison and pollution. I am speaking to remind our friends in the city council of two things: first, that these employers will not do the right thing willingly; and that these employers are harming their workers even more severely than they are harming the public.

You've seen how Amazon in particular are liars, cheaters, and lawbreakers when it comes to last mile delivery stations. Please do not be naive enough to believe that they are going to follow this bill just because it becomes law. Do we truly expect them to accurately report how much they are poisoning us? Do we expect members of the public to stand outside of these facilities and count the numbers of trucks going in and out? Do we think government agencies are spending resources on this? The reality is that the public's frontline defense is and will always be working people. Who better to hold employers accountable than their workers? This bill needs an avenue for workers and worker committees to ensure their employers are following the law.

When these companies poison the air, it is the drivers and warehouse workers who breathe the poison in at the source. When they jam up traffic or force work speed-ups, it's their workers who feel the squeeze and see the mess firsthand. All the things this law wants to fix, workers experience up close and they are in the best position to report these conditions.

But we also know that these employers retaliate against those that challenge them. Right now, Amazon is firing workers for asserting their rights to organize. In Queens, they turned a hose on workers in freezing temperatures at a peaceful rally. Make no mistake- when these workers report violations of the law at issue, Amazon will retaliate against them too. We need anti-retaliation measures if we want this law to do what it is supposed to do. Lastly, we need to recognize that the harm being done to those living near these warehouses is felt far more acutely by the people inside the facilities. When we talk about the exhaust being released into the air, we cannot forget about the trucks idling enclosed in the building. We cannot forget about the unsafe and unsanitary conditions. Injury hazards such as belts moving too fast, lack of egress, lack of temperature controls, lack of safety equipment, dangerous production standards, and other abuses and hazards. We cannot ignore the direct harm being caused just because we are making an indirect rule.

Big companies like nothing better than when land use and environmental issues are separated from workplace issues. But nowhere is it more clear that these issues are tied together than when it comes to logistics. Work-speed-ups and dangerous quotas lead directly to traffic slowdown, increased vehicle emissions, and workers having to drive hurt or impaired. And the poor workplace conditions result in high worker turnover. The companies burn through the local labor market, requiring them to recruit from further and further way, adding commute times and vehicle miles from thousands of workers into our system. The workplace and environmental issues are directly connected.

Whether it is through amendments or through a sister bill for this to work we respectfully ask that there be enforcement mechanisms for workers and worker committees, reasonable work rates, anti-retaliation protections, measures to prevent harm and abuse of these workers, and enforcement mechanisms with teeth.

Thank you.



LOCAL 804 - DELIVERY AND WAREHOUSE EMPLOYEES

INTERNATIONAL BROTHERHOOD OF TEAMSTERS

44 SOUTH BAYLES AVENUE, PORT WASHINGTON, NY 11050 -TEL. (718) 786-5700 - FAX # (718) 786-5757

EMAIL: EXECUTIVEBOARD@TEAMSTERSLOCAL804.ORG WWW.TEAMSTERSLOCAL804.ORG

February 28, 2025

Thank you for the opportunity to testify today. My name is Nicholas Kammerer and I am one of the Amazon drivers who led a historic strike in December against unfair labor practices.

We are on the front lines of Amazon's environmental injustice. We live in these communities and we work in these communities. I see the increased traffic in my neighborhood. We spend more time around polluting vans than anyone. We want you to take action.

But please do not forget all the other problems with Amazon. Workers are suffering every day. We are fighting back as a union and we need the City Council to support us.

Amazon refuses to take responsibility for our low pay.

Amazon refuses to take responsibility for our injuries.

Amazon refuses to take responsibility for disrespectful managers.

Amazon has subcontractors that they call our employers. That's so Amazon can keep all the profits and keep all the control, without having any responsibility.

We need the City Council to stand with workers and hold Amazon accountable.

We organized a union and went on the biggest strike in the history of Amazon to show that workers have the power to win what we deserve for our families. Not one box moves without us. Not one dollar is made without us.

New Yorkers have a lot of problems with last mile warehouses. And big problems call for big solutions. Please take action to protect Amazon workers and our communities. Thank you.

LOCAL 804 - DELIVERY AND WAREHOUSE EMPLOYEES



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February 28, 2025

Thank you for the opportunity to share my experience as an Amazon driver and a Teamster. My name is Renzo Ramirez. My coworkers and I organized the largest union of Amazon drivers in history, right here in New York City. Now we need you to join our fight for good jobs at Amazon.

You see us out on the street all the time. We are wearing Amazon uniforms. We are driving Amazon trucks. We are delivering your packages.

But Amazon says none of us are Amazon drivers.

Amazon has created middle-men companies that it controls so it can profit off our blood, sweat, and tears. But then it can point the finger if there is an accident or we ask for more money. You have to put an end to it.

Amazon warehouse workers have more injuries than the rest of the industry, and the injury rates for drivers are even higher.

Driving at union companies like UPS is a career. At Amazon, many drivers don't last a week, and they put us on the van without the training to do the job safely.

We aren't paid nearly enough to support a family here in New York City.

We deserve better. That is why we are organizing. That is why you need to stand with us.

New York City needs to regulate companies like Amazon so they abide by the best interest of our communities. Thank you.





On the ground – and at the table.

New York City Environmental Justice Alliance Testimony to New York City Council Committee on Environmental Protection, Resiliency and Waterfronts on Int 0107-2024 and Int 1130-2024

February 28, 2025

Founded in 1991, the New York City Environmental Justice Alliance (NYC-EJA) is a non-profit, 501(c)3 citywide membership network linking grassroots organizations from low-income communities of color in their struggle for environmental justice. NYC-EJA empowers its member organizations to advocate for improved environmental conditions and against inequitable environmental burdens by coordinating campaigns to inform City and State policies. Through our efforts, member organizations coalesce around specific common issues that threaten the ability of low-income communities of color to thrive.

We are part of the Last-Mile Coalition and the ElectrifyNY coalitions, which work to regulate the siting and operation of last-mile and mega e-commerce warehouses. NYC-EJA has long advocated for reducing vehicle miles traveled, tailpipe emissions, and air pollution. Many of our members' communities are located near industrial business zones, truck routes, and highways, and have been disproportionately burdened by air pollution. Int 0107-2024 and Int 1130-2024 are key pieces of legislation to address some parts of the unregulated e-commerce industry, but companion legislation to protect workers is still necessary.

Int 0107-2024 presents an opportunity to illustrate the impacts of increased truck traffic and protect the health of communities, particularly environmental justice communities. Air pollution from vehicular traffic contributes to an array of respiratory issues, cardiovascular diseases, and other chronic health conditions. Communities that have historically been disproportionately impacted by the placement of polluting infrastructure, including highways, bus depots, and e-commerce warehouses, should be prioritized for mitigation efforts after the reports are issued. By identifying heavy-use thoroughfares in every borough and installing air quality monitors at key intersections, the bill ensures that the city will be able to take action to reduce air pollution through place-based mitigation and protect communities.

Int 1130-2024 is ambitious in establishing the nation's first citywide indirect source rule to address the emissions associated with e-commerce warehouses. However, the bill needs to address some critical concerns to ensure a comprehensive approach to reducing emissions.

Last-mile e-commerce warehouses differ from traditional warehouses due to the high volume of product loading and unloading and product flow velocity, which results in way more truck trips coming in and out of last-mile e-commerce warehouses compared to traditional warehouses. Last-mile warehouses are clustered near environmental justice communities and pose a public health risk because of increased vehicular congestion and tailpipe emissions.

The definition included in the legislation addresses key concerns raised by communities that live near these warehouses and manufacturing warehouse neighbors. However, the bill should include language to target warehouse operators that own or operate an accumulation of smaller facilities. Currently, operating e-commerce warehouses with a building footprint smaller than fifty thousand square feet do not fall under this definition. Furthermore, omitting this language could lead warehouse developers and operators to construct facilities that bypass this square footage threshold. By adding language that addresses this potential threat, the City can regulate smaller facilities and networks of facilities.

The legislation should require air quality monitoring between six and twelve months before warehouse operators must comply with reducing emissions. This will allow DEP to track warehouse operators' efforts to reduce emissions after the plans begin. The NYC Community Air Survey indicates that annual average levels of four key pollutants have decreased citywide. However, in recent years, we have seen evidence that areas with a higher density of last-mile warehouses, such as the Newtown Creek area in Queens and Brooklyn, near JFK airport, Sunset Park in Brooklyn, and Hunts Point in the Bronx, have higher pollution levels.

While the legislation requires indirect sources to implement air pollution mitigation plans approved by the commissioner, establishing a point system will provide a structured, flexible, and manageable way to track, assess, and incentivize emissions reductions. This can allow warehouse operators different avenues to reduce emissions and make it easier for the Department of Environmental Protection (DEP) to track emissions reduction. The bill should require warehouse operators to implement an array of options to guarantee emissions reductions. For example, the warehouse operators could be required to implement one or more of the following:

- acquire zero-emission vehicles and charging infrastructure,
- install solar panels and or batteries on-site,
- consider alternative transportation modes for incoming and outgoing trips, where appropriate, only after consulting with affected workers, or
- paying additional fees.

Furthermore, the legislation should require zero-emission vehicles and not allow near-zero-emission vehicles, including, but not limited to, biofuel, renewable diesel, compressed natural gas, or renewable natural gas. By permitting non-zero-emission vehicles at these facilities, New York City will not be able to reach its climate targets, and neighborhoods will continue to experience delayed reductions in air pollution. Lastly, the legislation should require enhanced mitigation measures for qualifying warehouses located near sensitive locations, including but not limited to schools, daycares, playgrounds, parks, hospitals, senior centers, nursing homes, public housing, and disadvantaged communities.

Warehouse operators should also be required to submit annual data to DEP through this legislation. Given our antiquated zoning laws that permit these facilities to be constructed "as-of-right" in manufacturing zones and C8 districts, no comprehensive public database of these facilities exists. Therefore, it is unknown where many of these facilities exist, the number of daily incoming and outgoing trips occur, the types of vehicles used, or the amount of pollution these facilities are causing. Requiring warehouse operators to submit annual reports will allow the City to better plan for e-commerce warehouses and implement new regulations to address the other negative impacts caused by these facilities. Warehouse operators should at least be required to submit the following information:

- 1. the average daily number of inbound and outbound vehicle trips by vehicle weight and class, and by time of day and day of the week;
- 2. the average daily vehicle miles traveled for all vehicles making inbound and outbound trips to and from the qualifying warehouse;
- 3. the average daily vehicle miles traveled and the number of inbound and outbound trips for alternative modes of freight;
- 4. a heat map of the frequency data for trip destinations;
- the number of jobs at the facility, including drivers and others employed by third-party contractors, with a breakdown of the percentage of part-time and full-time employees, independent contractors, unionized and non-union employees;
- 6. the percentage of vehicles used, specifying on-road vehicles and off-road vehicles as well as weight and vehicle class, that are zero emissions;
- 7. the number of electric vehicle charging stations installed and actual usage;
- 8. the number of hydrogen fueling stations installed and actual usage;
- 9. the number of on-site renewable energy generation systems installed;
- 10. the number of vehicles used to deliver from the site that are owned by the warehouse operator but leased to a third party, and the proportion of leased vehicles used as compared to vehicles owned by the warehouse operator;
- 11. the identity of subcontractors who conduct more than ten percent of total delivery vehicle trips from the site, including the entity name, principal officers, business address and contact information, and the total number of employees; and
- 12. any other information necessary to effectively implement and enforce any rule or regulation.

It is encouraging to see that the City Council is tackling the issues of this unregulated industry. These two pieces of legislation are key pieces of the complex puzzle to address the impacts of e-commerce warehouses. Companion legislation to address labor issues and establish worker protections is also necessary. These two bills can help the City reduce the emissions associated with the operation of e-commerce warehouses, push for the adoption of zero-emission vehicles, and create healthy, sustainable communities. To ensure the bills achieve their intended goals, it will be crucial to incorporate stronger provisions throughout the legislation.



Testimony on Intro-1130 (Regulation of indirect sources of air pollution.)

Good morning! My name is Shangtong Li, and I am the Community Engagement Coordinator at Newtown Creek Alliance. We are a community-based organization dedicated to restore, reveal, and revitalize Newtown Creek — an industrial waterway that borders the Industrial Business Zones of North Brooklyn, Long Island City, and Maspeth.

The city identified the warehouse industry as a growing burden on our communities. Assembly District 37, covering much of Newtown Creek's Queens side (including Councilmember Holden's district), has the most large warehouses in the state. And with these warehouses, comes trucks, a lot of them.

If you walk around in this district, you will see trucks coming and going from these warehouses, one after another. Most of the delivery trucks run on diesel, which is known to be deadly, causing asthma, cancer, miscarriage, heart attack, and premature death. Newtown Creek's surrounding areas—largely disadvantaged communities—sees the highest truck volume citywide.

It is hard to breathe and unbearably hot in the summer in these areas, nearly 40 degrees hotter than the rest of the city in 2023. And the combination of heat and air pollution is <u>a lot more lethal</u> than either high heat or high air pollution alone.

Currently, there are 16 last-mile facilities along the 3.8 mile Newtown Creek watershed, and a lot more are projected to come. We need strong regulations to address the adverse environmental and health impacts that these facilities bring to our neighborhoods.

As a member of the Last Mile Coalition, we support the coalition's recommendations and the implementation of Intro-1130. Specifically, we urge the city to:

- 1. **Implement zero-emission transportation**: Invest in zero-emission trucks and charging infrastructure.
- 2. **Mandate mitigation plans**: Require warehouse operators to install air filtration systems and green buffers with trees and vegetation for sensitive receptors such as schools and hospitals.

Strong regulation and mitigation strategies are essential to protect the health of our communities. Thank you all for your time and consideration.

Testimony of Hayden Brockett before the Committee on Environmental Protection, Resiliency, and Waterfronts – February 28, 2025

Thank you to Councilmember Aviles for your leadership on improving New York's Air Quality and Chair Gennaro for holding today's hearing. My name is Hayden Brockett. I am a founding member of the New York Clean Air Collective (NYCAC), and a father and husband who lives in Manhattan and participates in the Citizens Air Complaint Program (CACP). We share the goal of getting more polluting trucks off of our streets!

I am here to support the Committee's good work on clean air legislation, in particular Intro. 107, which will require an important study of air quality in our city. I am pleased to see that so many members of the Council support Intro. 107. And I urge the Council to pass Intro. 107.

We suffer from terribly poor air quality in New York, which unfortunately kills 3,000 New Yorkers each year. As a participant in the Citizens Air Complaint Program, I experience first hand every day how air pollution at local point sources around schools and parks is poisoning our citizens.

Let me just address some incorrect information that Commissioner Aggarwala gave the Committee today about the impact of the Citizens Air Complaint Program in the context of warehouses. As set forth further in my written testimony, the data show that this highly successful program absolutely helps lower emissions in Environmental Justice and Disadvantaged Communities. This is crucial for the Committee's "last mile" efforts—we stop idling BOTH at the warehouses and ALSO at the point of delivery. And Councilmember Holden, if you want to stop illegal 53's tomorrow, all you need to do is empower these citizen enforcers to report these trucks in the city. I see them every day, I saw three this morning. And you can start issuing tickets if you give citizens the power to report these illegal trucks.

Intro. 107 is a step in the right direction. Unfortunately, I have serious concerns with the language of Intro. 1130 as it is currently drafted. In its present form, Intro. 1130 is little more than a blank check written by the Legislative Branch to the Executive Branch. That is not good policy at any time—the City Council should be writing laws, not ceding its legislative authority to the Executive Branch to just write any rule it pleases. But it is especially troubling now, in 2025, for the City Council to make a gigantic and unchecked grant of power to this mayoral

administration. Now is not the time for the Adams Administration, compromised as it is, to be handed a new area of law to run amok in.

As DEP Commissioner Aggarwala recognized, there has been no environmental review of Intro. 1130. While I am glad to hear that DEP plans to conduct such a review over the next year, I am confused how a SEQRA review of Intro. 1130 can even take place, given that it does not have any meaningful text to study. At minimum, the Council itself must conduct a SEQRA review for Intro. 1130 and hold a hearing to consider what it shows, when that review is complete, before passage of Intro. 1130.

Furthermore, I am not aware of any study of Intro. 1130's effects on the City's budget. Again, the fact that there has not been such a published report is in some ways unsurprising—how can the Council conduct a review of a bill that effectively just says "DEP shall write a rule," and ends there?

In addition, because Commissioner Aggarwala mentioned it in his testimony, he wants this Committee to pass a separate bill, Intro. 941, that will gut the most successful part of Air Code enforcement in the city, namely, the Citizens Air Complaint Program. This is a bad idea, and a bad bill, which will worsen New York's air quality. The Citizens Air Complaint Program already puts hundreds of air quality enforcers on the ground every day in New York City, helping address air pollution caused by idling trucks and buses. We should be strengthening this program, not attacking citizen enforcers or burdening participation in the program, both of which Intro. 941 would do.

While I am concerned about Intro. 1130's effects on the balance of powers in our city. I am grateful today for the work of Chair Gennaro and Councilmember Aviles. Please just take Intro 1130 back to the drawing board, and do not let a runaway executive branch usurp the City Council's legislative authority.



The Citizens Air Complaint Program (CACP)
Protects EVERY New Yorker









3 minutes

Time trucks and buses permitted to idle. 1 minute by Schools and Parks.



\$350

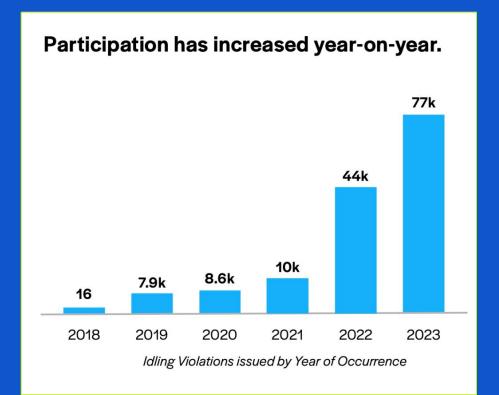
First offense penalty



2 years average

Up to 5 years for citizens to receive an award. Many awards are never conferred.





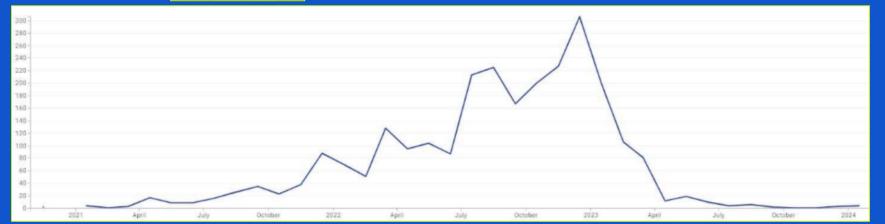
The Citizen Air Complaint Program is more thorough than agency enforcement.

	Idling Summonses (Citizen)	Idling Summonses (Noncitizen)			
2018	16	1,588			
2019	7,954	1,278			
2020	8,687	284			
2021	10,437	383			
2022	44,900	445			
2023	77,193	210			

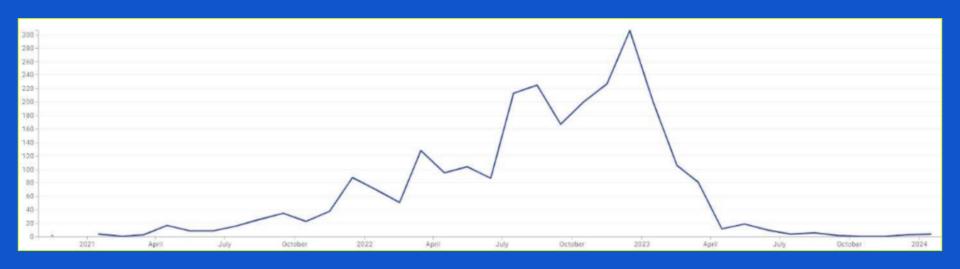






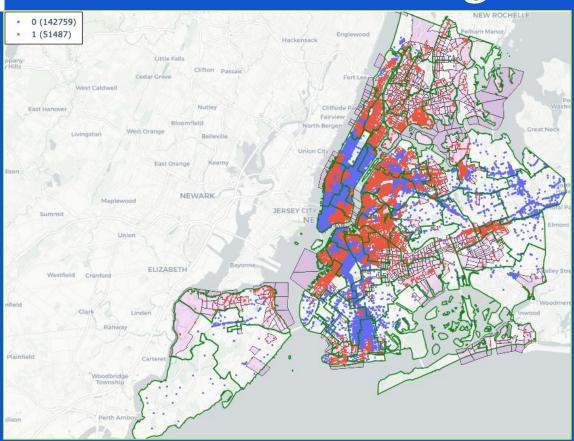




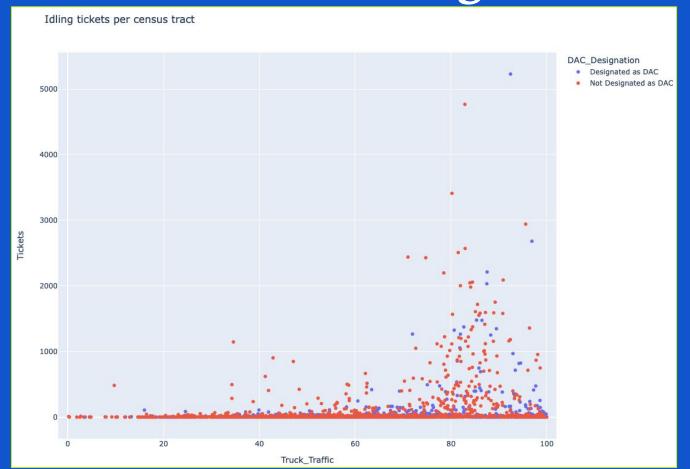


Merchants Fleet shut off overnight, thanks solely to citizen reporting.

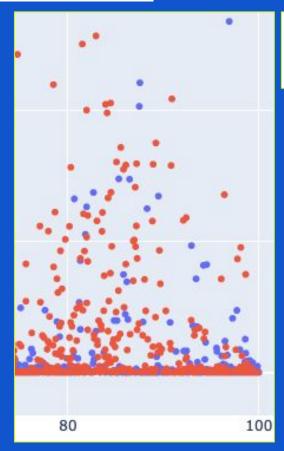












DAC_Designation

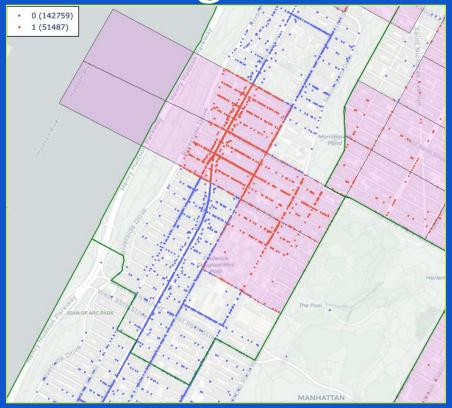
- Designated as DAC
- Not Designated as DAC

As truck traffic increases, so do number of reports, regardless of DAC.

In other words, violations follow truck traffic.



Even Coverage in UWS



Disadvantaged Communities protected in Manhattan.



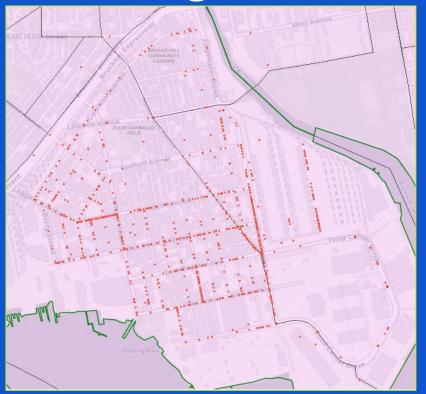
Balanced Coverage in LES



Disadvantaged Communities protected in Manhattan.



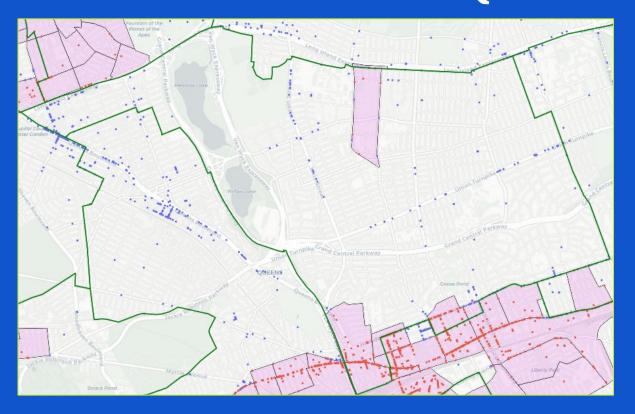
High Coverage in Hunts Point



NYCAC training helped Bronx residents protect their homes.



Violations Issued in Queens DACS



In low-density Queens, citizen idling tickets protect Disadvantaged Communities.



Violations Issued in Queens DACS



In low-density Queens, citizen idling tickets protect Disadvantaged Communities.



Testimony of Alia Soomro, Deputy Director for New York City Policy New York League of Conservation Voters City Council Committee on Environmental Protection Oversight Hearing on Air Quality and Last Mile Deliveries January 28, 2025

My name is Alia Soomro and I am the Deputy Director for New York City Policy at the New York League of Conservation Voters (NYLCV). NYLCV is a statewide environmental advocacy organization representing over 30,000 members in New York City. Thank you, Chair Gennaro and members of the Committee on Environmental Protection for the opportunity to comment.

Last mile facilities, such as large distribution warehouses and storage locations, are critical components of the modern supply chain. These distribution centers range from at least 50,000 square feet to well over 100,000 square feet. Yet, the proliferation of last mile facilities for rapid delivery of goods are disproportionately located in environmental justice communities and have resulted in unsustainable levels of truck traffic, contributing to traffic congestion, poor air quality, and public health and safety concerns.

According to NYC DOT, today, one in every five New Yorkers receives packages on four or more days per week, leading to an increase in delivery vehicles on city streets. Nearly 90% of goods in New York City are delivered by trucks and, with the growth of e-commerce and demand for frequent home deliveries, the amount of goods that move through NYC is expected to grow by nearly 70% in the next 20 years. Since many low income and communities of color are located near industrial areas in New York City due to environmental racism and residential redlining, environmental justice communities are bearing the brunt of last mile facilities and large commercial vehicles that constantly circulate nearby, especially as consumer demand has increased since the COVID-19 pandemic.

NYLCV supports both bills being considered today and we appreciate the Council, Administration, and advocates working together to decrease pollution in New York City.

Intro 1130 of 2024

NYLCV supports Intro 1130 of 2024, sponsored by Council Member Avilés, which would require the Commissioner of the NYC Department of Environmental Protection (DEP) to promulgate an indirect source rule to reduce emissions attributable to the use of indirect sources, such as warehouses or other structures that attract mobile sources of air pollution, such as vehicles. The indirect source rule would regulate certain large warehouses and any other indirect sources determined by the Commissioner. In order for this program to be effective in regulating indirect sources, we recommend that this bill includes more specifics, such as:

- Consider defining "last mile facility." This term is included in the definition of "warehouse" but we think it should have its own definition.
 - We recommend making the definition of "last mile facility" consistent with the NYC Department of City Planning's (DCP) definition of last mile facility since DCP is developing a <u>last-mile facility zoning text amendment</u> proposal.
 - As DEP testified, consider developing a warehouse definition that includes all operations whose truck traffic is significantly impacting air quality while not impacting small operators.
- Consider defining an "operator" and "owner" of qualifying warehouses in order to distinguish the fact that different entities own and operate many qualifying warehouses in the city.
 - Consider including language defining the differences in NYC warehouse operating and leasing models.
 - Consider capturing warehouse spaces that are private, quasi-public, and public in the definition of "warehouse."
- Consider including language in the definition section for how the program will handle multiple businesses operating in a qualifying warehouse.

When it comes to developing this program's compliance options, we understand the need for flexibility so that the menu of options are practical but effective, however, we recommend making the legislation more specific. Issues to consider in § 24-192(b) include:

- § 24-192(b)(1): In addition to "requiring indirect sources to implement air pollution mitigation plans approved by the commissioner," consider adding regular compliance reporting so the Commissioner can follow through on enforcing the rule.
- § 24-192(b)(2): "Regulating times or methods of delivery to or from indirect sources" should consider incentivizing overnight deliveries since data shows that time period has the least truck activity across all neighborhoods. Methods of delivery should incentivize the use of cargo bikes and zero emission trucks.
- § 24-192(b)(3): "Establishing incentives for indirect sources to take actions specified by the commissioner that mitigate air pollution" could include the use of warehouse micro distribution hubs, cargo bikes, ZEVs, off-hour delivery incentives, rooftop solar and/or energy storage systems (ESS), truck alternative fuel uses, and tree and vegetation planting.

As a general matter, we encourage the drafters of this bill and future rule drafters to offer a menu of compliance options and account for other city programs that decrease direct and indirect emissions sources and air pollution, such as DOT's Microhub Pilot Program and DOT and EDC's Blue Highway Initiative. We hope existing programs such as these work in tandem with an indirect source rule.

In promulgating an indirect source rule, in addition to the DEP Commissioner, we recommend that the legislation require coordination with other city agencies including DOT, DCP, DCAS, and

the Mayor's Office and Climate and Environmental Justice. Lastly, while this is not directly related to the bill language, we encourage the City to continue working with the State and utility companies to improve our city's grid capacity and increase the amount of EV charging infrastructure, especially in areas of the city that experience heavy traffic from last mile facilities.

Intro 107 of 2024

NYLCV supports the passage of Intro 107 of 2024, sponsored by Council Member Avilés. This bill would require the Department of Environmental Protection (DEP) to designate heavy-use thoroughfares in every borough, and install street level air monitors at a minimum at two major intersections on every designated heavy use thoroughfare and at every park or playground adjacent to a heavy use thoroughfare. This bill has been on our 2022, 2023, and 2024 NYC Council Environmental Scorecard — we hope this bill will finally move forward this year.

NYLCV supports Intro 107 because it will provide data and shed light on the heavy air pollution burden that low income and communities of color disproportionately bear due to environmental racism. It is aligned with *PlaNYC*'s goal of developing a new air quality monitoring program by 2024. Poor air quality leads to poor health outcomes such as respiratory and cardiovascular diseases, especially for vulnerable populations like seniors and children. According to the NYC Environment & Health Data Portal, long-term exposure to fine particles (PM2.5) contributes to an estimated 2,000 excess deaths from lung and heart disease each year in NYC (1 out of every 25 deaths in NYC), and short-term exposure contributes to asthma incidents severe enough to require a trip to the emergency department, and other health threats. This problem becomes more prevalent near New York City's many major highways where too often, these communities are low-income and communities of color. In addition to installing air monitoring systems and collecting data, Intro 107 will require the City to issue a report on how to mitigate exposure to air pollution.

Comprehensive Solutions

As a general matter, NYLCV supports efforts to reduce traffic congestion and emissions from trucks and indirect sources to improve air quality and decrease greenhouse gas emissions. We encourage the City to continue implementing DOT's Microhubs Pilot Project and increasing the use of e-cargo bikes for last mile deliveries. Additionally, we hope the City prioritizes blue highways to mitigate truck deliveries, explore off-peak hour incentives for residential and commercial deliveries, low emission zones, improved public transit for warehouse workers, and a state-level low carbon fuel standard for on-road vehicles, with priority to environmental justice communities. We also look forward to DCP's proposed last mile facility zoning text amendment, which would require new last mile facilities to apply for a special permit to ensure that these facilities do not create significant conflicts with their surroundings.

We are encouraged by the policies being put forth by the Administration, City Council, and advocates. Thank you for the opportunity to comment.



Testimony on 2/08/25 Committee on Environmental Protection, Resiliency, and Waterfronts

Open Plans writes today regarding the bills discussed at the 2/08/25 hearing of the Committee on Environmental Protection, Resiliency, and Waterfronts. Thank you, Chair Gennaro for holding this hearing, and thank you Councilmember Aviles for your leadership on improving New York City's air quality.

We are pleased to testify in support of the Committee's good work on clean air legislation, particularly, Intro. 107, which requires an essential study of air quality in our city. I am pleased to see that so many members of the Council support Intro. 107.

Many neighborhoods suffer from terribly poor air quality in New York, which unfortunately kills 3,000 New Yorkers each year. In particular, we work closely with schools to help them create Open Streets for students. However, most schools are where our youngest New Yorkers walk next to idling vehicles as they enter and exit their school. This legislation must pass to ensure the New York City DEP and DOT implement proper monitoring and mitigation measures to reduce exposure risks.

We urge the Council to pass Intro. 107 to improve our air quality.

Respectfully,

Jackson Chabot
Director of Advocacy and Organizing, Open Plans
jacksonchabot@openplans.org



Written Testimony of Jeremiah Kane

SVP, Value Added Investments, Prologis
Submitted to the New York City Council via online portal
Committee on Environmental Protection, Resiliency, and Waterfronts
Re: Introduction 1130
February 28, 2025

Good morning, Chair Gennaro and members of the Committee,

My name is Jeremiah Kane, and I am pleased to submit this testimony on behalf of Prologis regarding, Introduction 1130, the proposed Indirect Source Rule.

For those who do not know us, Prologis is the global leader in logistics real estate. We build and lease modern and sustainable logistics facilities to help customers grow their businesses and deliver the goods that people need. With logistics facilities spanning multiple boroughs and a local team of 40 employees, we have been a part of New York's business community for many years.

Prologis shares the City's aspiration to reduce mobile emissions. We strive, in all our developments, to deploy strategies that promote sustainability—whether by investing in maritime transport, fleet electrification for our customers, or micro-distribution solutions.

Given our extensive experience working on logistics real estate projects in New York City and worldwide, we know that achieving sustainability goals calls for a regulatory approach that does not hinder the progress we all wish to see.

While the proposed Indirect Source Rule is well-intentioned, there is a risk that added administrative complexity could slow critical infrastructure investments or potentially push economic activity outside of the City. We have seen how similar programs, such as California's South Coast Air Quality District's ISR, created significant administrative burdens without spurring new investment. Regulations intended to advance fleet electrification must align with the realities of industrial operations in a dense urban environment and should instead facilitate the infrastructure investments that are critical to the City's long-term sustainability objectives

A pragmatic approach to emissions reduction will ensure businesses remain committed to investing in the City rather than seeking alternative locations with fewer operational constraints. Without careful planning, additional administrative burdens could unintentionally push the development of delivery infrastructure and jobs outside New York City. This would not only mean job loss but could also increase vehicle miles traveled, undermining our shared sustainability goals.

Holistic Approach to Sustainable Logistics

We believe the City will be well served by a comprehensive, ecosystem-wide perspective. A carefully coordinated approach will help ensure that well-intentioned efforts to reduce emissions do not create undesired consequences across the broader supply chain.

To that end, we understand the City is currently drafting an Industrial Plan, which will provide a framework to support the development of industrial businesses and jobs in New York. We applaud this



effort and urge the City Council to wait until publication of the Plan before moving forward with new regulation.

Additionally, we invite the City Council to consider alternative paths to emissions reduction. We believe that incentives for maritime transport, permitting relief for electric charging, and zoning adjustments for micro-distribution are effective methods for reaching this goal.

1. Maritime Transport via "Blue Highways"

Shifting freight movement to waterways can significantly reduce congestion on roads
while cutting greenhouse gas emissions. The City has taken steps to maximize the
potential of its Blue Highways, but the price of entry remains high. Additional incentives
would make this mode of transportation and distribution more competitive and
accessible.

2. Fleet Electrification and Permitting Relief

Prologis proactively invests in advanced electric charging solutions at our properties.
 However, the complexity and unpredictability of permitting remain a major bottleneck.
 We encourage the City to streamline the permitting process for EV infrastructure—
 aligning local regulations and utility requirements to eliminate unnecessary delays and costs, thereby reducing barriers to fleet electrification.

3. Micro-Distribution

 Finally, strategically placed micro-distribution facilities cut down on travel distances and utilize lower-carbon delivery methods, reducing congestion and emissions. However, floor area and zoning district limitations reduce the financial feasibility of these facilities. Allowing more ground-level floor area and a broader range of zoning districts would increase the feasibility of micro-distribution.

Conclusion

Prologis is fully aligned with New York City's vision for a sustainable and resilient supply chain. We stand ready to work with City officials, community members, and industry partners to carefully craft policies that create economic opportunity locally and that strengthen—rather than hamper—the City's economy and progress toward emission reduction.

Thank you for reviewing my testimony. I welcome any questions you may have and look forward to continued collaboration with the Committee.

Jeremiah Kane SVP, Value Added Investments jkane@prologis.com



Department of Urban Studies

Natalie Bump Vena Assistant Professor

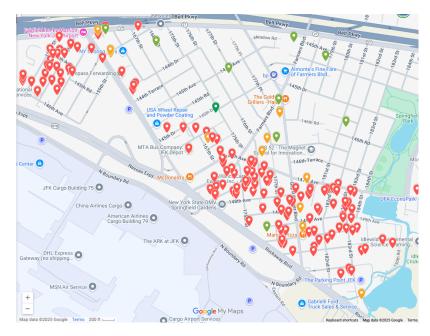
March 3, 2025

Dear Members of the Committee on Environmental Protection, Resiliency and Waterfronts,

I am an assistant professor in Queens College's Department of Urban Studies, and I conduct qualitative research regarding environmental racism and the fight for environmental justice in Southeast Queens. I am writing in support of Int. No. 1130, as this rule would reduce air pollution in Southeast Queens, where many homes abut indirect sources of air pollution, such as waste transfer stations and air cargo warehouses.

I do call on the committee to state in the legislation that waste transfer stations constitute an "indirect source" subject to regulation by the Department of Environmental Protection's commissioner, as these facilities attract large numbers of mobile sources of air pollution, from garbage trucks to long-haul trucks.

I also call on the committee to amend their definition of "qualifying warehouse," which presently means "a warehouse that is 50,000 square feet or greater" (§ 24-191). Instead, I ask that you also direct the commissioner to regulate warehouses smaller than 50,000 square feet. As the New York City region's hub for air cargo, John F. Kennedy International Airport attracts numerous off-airport warehouses, many of which are located within residential neighborhoods. I am enclosing a map prepared by my research assistant, Joe Purtell, who is a PhD student in geography at CUNY Graduate Center. The red icons are air cargo warehouses and logistics firms next to JFK airport.





Many of these air cargo warehouses and logistics firms are smaller than 50,000 square feet. When smaller warehouses are clustered together—as Mr. Purtell's map shows is true in this part of Southeast Queens—they generate enormous amounts of truck traffic and together have the potential to generate more air pollution from mobile sources than a single large warehouse. Mr. Purtell and I are happy to meet with legislative staff to discuss the map further.

Sincerely,

Natalie Bump Vena, J.D., Ph.D.



New York City Council Int-1130 City Indirect Source Rule

The Sierra Club is the country's oldest and largest environmental organization. Together, we are a powerful collective of millions of changemakers dedicated to making a better tomorrow for our families, our friends, and our planet. The Sierra Club's Clean Transportation for All campaign's mission is to decarbonize the transportation sector by 2050. We are working to tackle the climate crisis and clean the air by shifting to clean, pollution-free vehicles and making our communities more walkable, bikeable, and transit friendly. Thank you for the opportunity to comment on INT 1130, a regulation of indirect sources of air pollution, in front of the committee on environmental protection, resiliency, and waterfronts.

New York aims to meet ambitious climate targets, including achieving net-zero greenhouse gas emissions (GHG) by 2050 under the Climate Leadership and Community Protection Act (CLCPA), with at least 35% of state climate and energy funding being invested in disproportionately disadvantaged communities (DACs). Transportation is the second largest source of emissions in the state at 26% of the total greenhouse gases as of 2019, and 59% of emissions in this sector come from on road transportation. Transportation sector emissions in New York are about 16% higher today than they were in 1990, with the sector largely dependent on petroleum-based fuels. Truck pollution is dangerous – killing, sickening, and endangering New Yorkers, especially those who live along highway routes and near ports and warehouses. Medium- Heavy Duty Vehicles (MHDVs) are a significant source of GHG emissions in New York, accounting for around 26% of transportation-related emissions despite being a small portion of vehicles on the road¹.

According to a recent report 1 in 4 New Yorkers live within a half-mile of an e-commerce mega-warehouse², but these warehouses are not equally distributed. Black, Hispanic/Latino, and low-income populations live near warehouses at rates that are more than 59 percent. Black residents in the Five Boroughs are 1.2 times more likely to live near a warehouse. Our most vulnerable New Yorkers, including children and seniors, are more likely to experience elevated rates of asthma, heart disease, and other pollution-related health issues due to their proximity to

https://globalcleanair.org/wp-content/blogs.dir/95/files//EDF-NY-Warehouse-Boom-Report-1-18-23.pdf

¹ U.S. Department of Transportation Federal Highway Administration *New York State Carbon Reduction Strategy* November 2023

https://www.transportation.gov/sites/dot.gov/files/2024-04/NYSDOT%20CR%20Strategy%20FINAL%20with%20ALL%20APPENDICES%20508.pdf

² Environmental Defense Fund WAREHOUSE BOOM PLACES UNEQUAL HEALTH BURDEN ON NEW YORK COMMUNITIES January 2024



warehouses and the diesel trucks servicing them. We need urgent action to address the environmental and health impacts of warehouse-related pollution. As e-commerce continues to grow and more consumers purchase goods online, the number of delivery trucks on the road will continue to increase, which leads to a rise in greenhouse gas and health-harming emissions. Establishing an indirect source rule can address many of these issues if done well. An indirect source rule can address the impacts of warehouses by regulating warehouses engaged in storage, distribution, redistribution, processing and sorting that exceed 50,000 square feet.

The diesel pumped out into neighborhoods by the tailpipes of the goods movement industry is especially damaging to human health, making each warehouse an "indirect source" of pollution. The City bill INT1130 is complementary to the State bill, the Clean Deliveries Act, an important piece of legislation that is being considered during this legislative session. The fact is the growth of mega warehouses isn't just a problem in New York City. It's a problem across the state. From Long Island to the Hudson Valley, unchecked.

To ensure this City rule is done in a way to provide maximum benefits to clean air Sierra Club, and partners at the ElectrifyNY coalition, urge for the following to be included in the law.

- The rule should include a menu of options that warehouse owners and operators can follow to reduce emissions including zero-emission modes of delivery, such as electric vehicles, cargo bikes, and zero-emission maritime transportation.
- The program should include a point system.
- The program should push warehouse operators to utilize zero-emission modes of transportation, not near-zero-emission vehicles or alternative fuels.
 - The program should also consult with impacted employees (similar to the state bill)
- Enhanced mitigation measures should be implemented for sensitive receptors, including but not limited to schools, daycares, playgrounds, parks, hospitals, senior centers, nursing homes, public housing, and disadvantaged communities.
- There should be permitting for new and existing facilities.
- Warehouse operators should be required to submit annual data that includes but not limited to:
 - i. the average daily number of inbound and outbound vehicle trips by vehicle weight and class, and by time of day and day of the week;
 - ii. the average daily vehicle miles traveled for all vehicles making inbound and outbound trips to and from the qualifying warehouse;
 - iii. the average daily vehicle miles traveled and the number of inbound and outbound trips for alternative modes of freight;
 - iv. a heat map of the frequency data for trip destinations;



- v. the number of jobs at the facility, including drivers and others employed by third-party contractors, with a breakdown of the percentage of part-time and full-time employees, independent contractors, unionized and non-union employees;
- vi. the percentage of vehicles used, specifying on-road vehicles and off-road vehicles as well as weight and vehicle class, that are zero emissions;
- vii. the number of electric vehicle charging stations installed and actual usage;
- viii. the number of hydrogen fueling stations installed and actual usage;
- ix. the number of on-site renewable energy generation systems installed;
- x. the number of vehicles used to deliver from the site that are owned by the warehouse operator but leased to a third party, and the proportion of leased vehicles used as compared to vehicles owned by the warehouse operator;
- xi. the identity of subcontractors who conduct more than ten percent of total delivery vehicle trips from the site, including the entity name, principal officers, business address and contact information, and the total number of employees; and
- xii. any other information necessary to effectively implement and enforce any rule or regulation.

Moving an indirect source rule in the New York City Council will benefit everyday New Yorkers by taking a necessary step towards increasingly healthy, and livable communities free of air pollution. It is vital that specific, enforceable solutions are enacted to achieve the state's climate goals, improve public health, and foster sustainable economic growth. The transportation sector remains a significant source of pollution, and electrification is essential to meeting the ambitious targets outlined in the CLCPA. Prioritizing environmental justice communities in the rollout of types of solutions deployed ensures that the benefits —such as cleaner air and reduced health disparities—reach those who need them most.

The Sierra Club looks forward to continued collaboration with the New York City Council, INT 1130 sponsor Councilmember Avilès, partner organizations, and community stakeholders to drive the necessary progress to pass a truly beneficial rule for everyday New Yorkers.

Jessica Enzmann
jessica.enzmann@sierraclub.org
Senior Campaign Organizer
Clean Transportation for All
Sierra Club

Testimony to NY City Council In Support of Intro. 1130 0f 2024

William Scarborough, President Southeast Queens Residents Environmental Justice Coalition February 28, 2025

Good morning Chairman Gennaro and councilmembers. My name is William Scarborough, and I am the president of Southeast Queens Residents Environmental Justice Coalition (SQREJC). I am here today to testify in support of Intro 1130, the Indirect Source Rule. This legislation, sponsored by Councilmember Alexa Avila, would require the commissioner of DEP to promulgate rules regulating and reducing the emissions created by certain large warehouses and "last mile facilities" which attract trucks that pollute the communities surrounding these facilities.

These warehouses of at least 50,000 square feet or more are disproportionately located in black, brown and poor communities. In New York City there are at least 2400 facilities which would fall under this legislation. Nearly 5 million people live within a half mile of a warehouse, and minority residents are 50% more likely to live near a warehouse than the general population. This increased exposure to truck diesel engine fumes and exhausts have had real-world impacts on residents of those communities. Asthma rates and other respiratory conditions are much higher in the communities exposed to these warehouses and the trucks that travel there. Nitrogen oxide, PM 2.5, and volatile organic compounds are prevalent at much higher rates in these communities. Studies have shown that diesel-fueled trucks make up 10% of the vehicles on the road, but are responsible for 50% of the transportation sector's nitrogen oxide emissions.

My community of Jamaica, Queens has an over-proliferation of large warehouses and the impacts are clear. Studies have shown increased prevalences of PM 2.5, black carbon and negative chemical compounds in our community, and higher instances of respiratory illnesses. We urge the committee and the council to pass this legislation. Our communities deserve protection from the negative effects of these warehouses in our midst, and the air- polluting trucks that they bring into our vulnerable neighborhoods. Thank you very much.









Feb 28, 2025

NYC Committee on Environmental Protection, Resiliency and Waterfronts Supply Chain Federation Testimony

Good morning, Chair Gennaro and members of the Environmental Protection, Resiliency, and Waterfronts Committee. My name is Sarah Wiltfong, and I serve as the Chief Advocacy and Public Policy Officer of the Supply Chain Federation. Established last year in the New York Metropolitan area, we are a national, non-partisan association of business, labor, and public sector leaders dedicated to collaboration and protecting the supply chain. We are here today to express our concerns regarding Int-1130 - which would require the Commissioner of the Department of Environmental Protection (DEP) to establish an indirect source rule.

An indirect source rule is very well intentioned -- lowering emissions for the greater good of the community is something we all support and strive for. However, we question whether an indirect source rule is the correct path to get there.

The supply chain is vital to economic stability, consumer access, affordability, and the creation of good-paying jobs. It is a complex and intricately connected system - and when even small disruptions occur, their effects are often felt quickly across a broad range of sectors, communities, and residents. Therefore, it is essential that any proposed regulation considers the broader impacts on the supply chain.

As currently drafted, Int. 1130 would require the DEP to establish an indirect source rule, which could impose strict zero-emission (ZE) requirements and high mitigation fees that are often unrealistic, disproportionately impacting small warehouse owners and operators. These costs provide no clear environmental or economic benefits and ultimately lead to higher consumer prices. Many small operators, unable to absorb these expenses, may be forced out of business or relocate, merely shifting truck emissions to other regions rather than reducing them. While we fully support emissions reduction efforts, the focus should be on providing assistance and incentives for a smooth transition—not adding regulatory burdens.

We understand that New York City is finalizing its NYC Industrial Plan in the coming months, and we urge you to delay the development of an Indirect Source Rule until the plan is complete. Additionally, we encourage collaboration with stakeholders to explore proven solutions that reduce emissions without harming the economy. As a key voice in the supply chain, we are eager to contribute our insights and help shape effective policies. Please consider us a resource in this process.

The supply chain plays a vital role in affordability, and any disruption could have significant unintended economic impacts on local residents and the entire region. We urge you to consider this carefully before adopting any new regulations. Thank you.



TESTIMONY OF ANDREA SCARBOROUGH ADDISLEIGH PARK NY 11434

HEARING ON AIR QUALITY MONITORING AT DESIGNATED "HEAVY USE" INTRODUCTION THOROUGHFARES

Good-morning members of the Environmental Protection, Resiliency and Waterfronts Committee. My name is Andrea Scarborough, I am a former president of my civic, Addisleigh Park Civic Organization, a Board Member of the Queens Solid Waste Advisory Board as well as a Board Member of the recently formed Southeast Queens Residents Environmental Justice Coalition (SQREJC). SQREJC is an organization that advocates for environmental policy changes and tangible improvements in the Southeast Queens community. I am also a member of the Anthropocene Alliance (A2) national executive board, A2 is a coalition of frontline communities fighting for climate and environmental justice. Today I come before you speaking on behalf of SQREJC as well as a concerned resident of Southeast Queens.

SQREJC is in support of Intro 0107-2024. The legislation will require that air monitors be installed at the street level of every designated heavy use thoroughfare and at every park or playground adjacent to a heavy use thoroughfare. The legislation also requires that mitigation measures be implemented in those areas where the air quality results indicate levels that are above the environmental standards such as EPA standards or specifically should the air quality monitoring indicate levels of any contaminants that are in violation of current existing standards.

Speaking as a resident that lives in proximity to waste transfer stations, numerous auto junk yards and cement manufacturing facilities, a place where eighteen-wheeler diesel trucks frequent our streets and trucks can be seen idling spewing emissions and creating an unhealthy environment, I am delighted that this legislation has been introduced that would allow steps to be taken to monitor the air quality at the street level. SQREJC welcome the opportunity that this legislation offers to implement corrective steps in those instances where the air quality indicators such as particulate matter pm2.5 or black carbon are unsafe.

Our organization asks that the city council define "designate heavy-use thoroughfares" to include all areas where Industrial business activity exists as those businesses may not exist on a major street but their businesses generate heavy truck traffic and air monitoring is necessary.

Lastly SQREJC requests transparency in any reports provided to the mayor and the city council containing the results of any air quality monitoring. The results should be available to the public as residents have a right to know the quality of air they are breathing.

Our organization asks that Intro 0107-2024 be given full consideration and be allowed to come before the full city council body to be voted into law. An environmentally overburdened community such as mine deserves no less.

Thank you for your time.

Andrea Scarborough Board Member SQREJC Committee: Committee on Environmental Protection, Resiliency and Waterfronts

Hearing Date: 2/28/2025

Purpose:

Oversight - Air Quality and Last Mile Deliveries.

intro.nyc/0107-2024 Air quality monitoring at designated "heavy use" thoroughfares.

intro.nyc/1130-2024 Regulation of indirect sources of air pollution.

File #: Int 1130-2024

Name: Regulation of indirect sources of air pollution.

Title: A Local Law to amend the administrative code of the city of New York, in relation to the

regulation of indirect sources of air pollution

My name is Angela Zhou, I am the CUNY Intern at UPROSE, a community-based organization in Sunset Park, and a Master's student of Urban Sustainability at The City College of New York. I'm writing this Testimony in support of the regulation of indirect sources of air pollution in the city of New York (File #: Int 1130-2024). I believe there needs to be more oversight when it comes to e-commerce warehouses opening and operating in disadvantaged and vulnerable communities. Unregulated, these warehouses create air and noise pollution that exacerbate heath impacts related to respiratory illnesses, reproductive issues, and even cancer. These warehouses should require permits instead of popping up overnight without input from community members. E-commerce warehouses larger than 50,000 square feet should also be made to conduct traffic, air quality, and emissions review studies to show the environmental, social, and health implications of said warehouse. Even after this review, there should be ongoing reporting requirements to ensure that these warehouses are minimizing emissions where possible by using transportation alternatives where feasible (blue highways, e-cargo bikes, electric vans, investing in on-site solar energy). I work in the Sunset Park area and the amount of noise and air pollution along 3rd Avenue is almost unbearable, especially in the summer. Much of the truck traffic is made up of commercial trucks and e-commerce trucks. I find myself coughing when I walk along this road instead of along 5th Avenue. There are many elementary schools in this area where many community members walk to work and children are very susceptible to hospitalizations from childhood asthma that could have lifelong repercussions. I implore you to listen to your constituents and consider why there is so little existing oversight when it comes to last mile facilities when online shopping has taken the world by storm. A certain type of person suffers from this lack of regulation and that person looks like the working class people of color who keep this city running and continue to bear the burdens of environmental injustices so that other New Yorkers can consume without the consequences that come with it.

My name is Gloria Boyce-Charles, and my family has resided in the Springfield Gardens/Brookville community since 1975. Because of our co-location with JFK Airport, our community has been plagued by the burdens of airplane noise and air pollution, and increasingly, within the last 10-15 years, with the trucking traffic associated with an evergrowing air-cargo industry.

Although this testimony will focus on air cargo warehouse emissions, Southeast Queens is also home to several waste transfer stations which are sources of harmful trucking activity and emissions; and I believe these facilities should be covered under this legislation as well.

In Southeast Queens, we are beginning to see the infiltration of last mile warehouses. But our situation is unique in that we are currently most challenged by numerous air cargo warehouses. Trucking warehouses within the off-airport business industrial district and those embedded in residential communities wreak havoc on the air quality, safety and quality of life of our residents. What is particularly challenging, frustrating and unfair to our residents is that there is little transparency and accountability regarding these businesses. Who are the owners of these businesses? Who are the operators? Who is monitoring these entities to ensure that the size and weight of the trucks that are moving in/out of these warehouses are in compliance with the law? Who is monitoring to make sure that they are staying on assigned truck routes?

On some streets, it is unsafe for families, and especially for our children, to cross the street to access our schools and local parks, because visibility is impaired by lines of trucks of all sizes that are mostly illegally parked along our local streets. Our streets are in disrepair and our homes rattle under the weight of 18-wheeler tractor trailer trucks that rumble (often illegally) along roads that are ill-equipped to carry their weight. Parked cars are sideswiped and on numerous occasions, residents have been enlisted -- sometimes even awakened in the dead of night -- to assist 18-wheelers as they negotiate turns onto local streets that they often have no legal right to even be traveling on. And one of the most harmful hazards is, of course, the pollution of the air which results from the dust raised by the trucks and the emission of diesel fumes.

In the midst of it all, residents are at a loss for where to turn. The NY DOT says that it promulgates the law, but doesn't enforce it. The NYPD says that it is not sufficiently staffed to adequately enforce truck traffic laws. Residents call 311 to report the potholes in our streets. To DOT's credit, they are repaired, only to reappear in short order under the weight of the heavy trucks. Through it all, our homes continue to rumble, the dust continues to fly, and the diesel fumes continue to pollute our air.

In recent years, I am pleased to see that the New York City Council has begun to address these issues through various pieces of legislation. Intro 1130 is particularly encouraging because it addresses one of the biggest health concerns posed by these warehouses, and that is the harmful emissions from the truck diesel fuels. But this legislation also opens up additional opportunities for communities to address the transparency, public safety and accountability issues outlined above.

By engaging directly with warehouse owners and operators, Intro 1130 can begin to address at least some of these concerns by bringing much needed regulation, transparency and accountability regarding the warehousing interests that have taken over our communities.

We look to this legislation to require regular warehouse reporting that identifies their owners, their operators, and the specifics of the operators' businesses:

- There should be a clear point of contact for each warehouse
- This information should be made publicly available and accessible for all to see, via a designated central website.
- Warehouses should be required to report on their activity: specifically the numbers and sizes of the trucks that are coming in and out of their site, per each operator, and the truck routes that they are using, on a daily basis.
 - these statistics should comply with legally documented truck routes, size and weight requirements; this is one important way that the movement of 53-foot trucks can be monitored and contained
 - o and they should seek to minimize disruption to local communities
- Warehouses should provide an assessment of the amount of emissions that their activity is generating and
 - o most importantly, they should be required to develop a plan for reducing those emissions, per a stated standard that is established by an independent ruling body.
 - this would include plans and timelines for electrification of their fleets.
 Incentives such as grants or low interest loans for electrification and onsite charging stations are certainly good ways to support compliance.

But just as important as establishing incentives and standards, warehouses must be monitored to ensure compliance. As a case in point, rules are already in place to protect the environment and public from some trucking harms, yet because of inadequate interagency monitoring and enforcement, warehouse owners and operators are ignoring

these laws in order to maximize profit.¹ It is naïve to suggest that warehouse owners and operators will abide by Intro 1130 reporting requirements without active third-party monitoring, oversight and meaningful penalty for non-compliance. It will be critical for this legislation to require the establishment of a sound and sustainable infrastructure that would oversee/monitor and hold warehouse owners and operators accountable. Otherwise, this effort is for naught. This initiative could be facilitated by the installation of cameras at warehouse sites and in surrounding communities.

Finally, I think it is a mistake to limit this legislation to warehouses that are 50,000 square feet and larger. In Southeast Queens, clusters of these warehouses abut or are actually embedded within our residential communities. Queens College Professor, Natalie Bump Vena and research assistant, Joe Purcell have created a map of Queens Community Board 13 warehouses. Click here to access this map which graphically demonstrates these clusters and shows their proximity to homes and sensitive sites, such as schools, day care centers, churches and parks. Regardless of their size, the cumulative impact of the emissions that they generate, especially when considered in light of the emissions from low flying airplanes, is profound.

It is important to appreciate the unique concerns of the Southeast Queens communities that are co-located with JFK Airport, one of the busiest air cargo airports in the world. And with that in mind, communities should be actively and formally engaged in identifying warehouses. Their ongoing feedback should be built into the legislative monitoring infrastructure. Organizations such as the Eastern Queens Alliance can be helpful in this regard.

Effective management of truck traffic in New York City involves multiple agencies at City, State and even Federal levels. I urge legislation designers not to work in policy silos:

Find ways to collaborate with adjacent trucking initiatives such as the NY City
Council Intro 708 DOT truck route redesign legislation and the NY State Indirect
Source Rule legislation. I was pleased to see Assembly Member Mitaynes at the
Intro 1130 Press Conference on 2/28.

¹ For example, as alluded to earlier, 53-foot trucks are not allowed to travel within NYC local streets without daily permits. Yet, these oversized vehicles pose some of the biggest issues within our residential communities. They traverse our streets and are parked on our local streets and within warehouse parking bays with impunity. Click here to see a 2023 article on the topic.

- Consider ways that these legislations can work together to complement one another and to execute the complex <u>interagency</u> responsibilities necessary for success across our NYC communities.
- And work with our communities to keep tractor trailer trucks off of our City streets and away from our communities.

Thank you for your time and attention. As a concerned and invested resident, I am ready to support this work, and I look forward to our continued dialogue.

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February 28, 2025

New York City Council Committee on Environmental Protection, Resiliency and Waterfronts

Testimony of Amy Turner in Support of Intro. No. 1130-2024, in relation to the regulation of indirect sources of air pollution

Thank you to the Committee for allowing me to testify today in strong support of Intro. No. 1130-2024 in relation to the regulation of indirect sources of air pollution.

My name is Amy Turner. I work at the <u>Sabin Center for Climate Change Law at Columbia Law School</u>, where I direct our Center's Cities Climate Law Initiative. In that capacity, I work with local governments across the country to craft climate policies that minimize risk of state and federal preemption. My work includes the study of local policies to lessen vehicle greenhouse gas emissions, and I am expert in the legal considerations surrounding warehouse indirect source rules.

In addition to expressing my support for Intro. No. 1130, I am here to share some legal context for a warehouse indirect source rule's legal viability.

Local governments, including New York City's, are constrained in how they may regulate emissions from vehicles, including freight vehicles. Section 209 of the Clean Air Act preempts state and local governments from "adopt[ing] or attempt[ing] to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to" the Act. 1

This broad preemption clause significantly constrains the City's ability to regulate or otherwise set stringent vehicle emissions standards, including for freight trucks and other vehicles that frequently enter and leave last-mile e-commerce warehouses. The City does not have the authority to require that freight vehicles be electric or of another low-emissions technology, as doing so would effectively compel vehicle owners to purchase new vehicles that exceed current Clean Air Act standards. The City does, however, have the authority to regulate the indirect source of those freight vehicle emissions – the stationary e-commerce facilities they serve.²

A warehouse indirect source rule can avoid preemption by the Clean Air Act by offering compliance optionality, the very thing such a rule is designed to do. If Intro No. 1130 is enacted, the New York City Department of Environmental Protection (DEP) will be tasked with setting a greenhouse gas emissions standard for subject warehouse facilities, and will develop a menu of

¹ 42 U.S.C. § 7543(a) (1990).

² N.Y. State Envt'l Ctrl. L. § 19-0709 and N.Y. City Air Pollution Control Code APCC § 24-104.

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compliance options that warehouse operators may choose among in demonstrating their compliance with the rule.

Another warehouse indirect source rule, in effect in the South Coast Air Quality Management District in Southern California, is structured this way.³ Its compliance options include: acquiring or using ZEVs and near-zero emission vehicles (NZEVs); reducing truck visits; installing ZEV charging or fueling infrastructure; using ZEV charging or fueling infrastructure; installing or using onsite solar power; and installing air filtration in homes, schools, hospitals and other offsite spaces. As such, no warehouse operator or freight vehicle owner is ever *required* to purchase a new zero-emissions vehicle – they may choose other selections from the compliance menu.

An indirect source rule promulgated under Intro No. 1130 would work similarly. The compliance options could differ, as DEP will select methods for compliance that meet New York City's unique needs. But the legislation is designed to avoid Clean Air Act preemption in an analogous way. There are few other local policy options for minimizing freight vehicle emissions that can avoid Clean Air Act preemption as neatly as an indirect source rule.

Local efforts to lessen vehicle pollution outside the scope of Clean Air Act preemption are all the more critical as our federal executive branch seeks to roll back requirements that protect our communities. The Trump administration is already reportedly considering rescinding the Endangerment Finding, which serves as the scientific and legal basis for all federal regulation of greenhouse gas emissions from vehicles.⁴

To supplement my testimony, and to address other legal considerations surrounding warehouse indirect source rules, I attach my June 2024 white paper <u>Cities, E-Commerce & Public Health: 3</u> <u>Legal Pathways to Limiting Freight Vehicle Emissions</u>. It discusses Clean Air Act preemption and other considerations for structuring a warehouse indirect source rule in New York City.

In short, I support Intro. No. 1130 both for its environmental and public health benefits and because it offers a uniquely tailored solution to what could otherwise be a threat of preemption by Section 209 of the Clean Air Act. Thank you for the opportunity to share my perspective.

³ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (2021). See also *WAIRE Program*, S. Coast Air Qual. Mgmt. Dist. (last visited Jan. 27, 2025) at http://www.aqmd.gov/home/rules-compliance/compliance/waire-program.

⁴ Jean Chemnick et. al., *EPA moves to ditch finding that greenhouse gases cause* harm, GREENWIRE (Feb. 26, 2025), available at https://subscriber.politicopro.com/article/eenews/2025/02/26/epa-moves-to-ditch-the-endangerment-finding-00204866.

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Cities, E-Commerce & Public Health: 3 Legal Pathways to Limiting Freight Vehicle Emissions

Amy E. Turner

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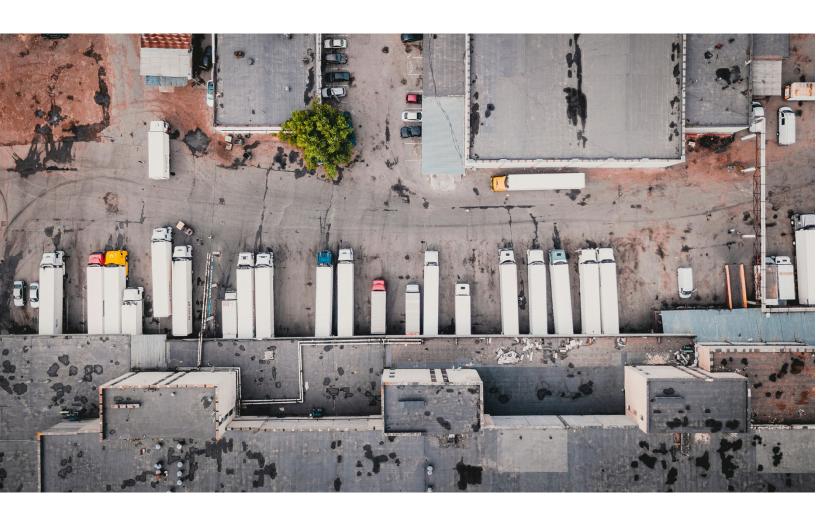


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CITIES, E-COMMERCE & PUBLIC HEALTH

3 LEGAL PATHWAYS TO LIMITING FREIGHT VEHICLE EMISSIONS



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EXECUTIVE SUMMARY

In recent years, cities have become increasingly defined by e-commerce – the sprawling network of goods delivery from central warehouses to neighborhood distribution centers to residents' front doors. This growing network of warehouses and the freight vehicles that serve them contribute significantly to a community's greenhouse gas emissions and exposure to harmful pollutants like nitrogen oxides (NOx), carbon monoxide and particulate matter. Moreover, so-called last-mile delivery warehouses (or distribution centers) are proliferating, largely in low-income communities and communities of color, where residents are exposed to increasing traffic, pollution, and harmful health impacts.

While a handful of cities have pursued approaches to lessening tailpipe emissions from freight vehicles, such as through electric vehicle and cargo bike pilot programs, there is a clear gap in regulating the emissions attributable to e-commerce warehouses and the vehicles that enter and exit them. In part, cities have had difficulty limiting freight vehicle emissions because federal law preempts certain state and local vehicle restrictions. Three federal statutes stand in the way. The Energy Policy & Conservation Act (EPCA) preempts state and local laws and regulations "relating to fuel economy standards or average fuel economy standards for automobiles." The Clean Air Act (CAA) prohibits states and local governments from "adopt[ing] or attempt[ing] to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines." And the Federal Aviation Administration Authorization Act (FAAAA) preempts state and local laws "related to the price, route, or service of any motor carrier... with respect to the transportation of property." This white paper discusses these forms of federal preemption, along with exceptions to preemption for certain state and local actions with respect to freight vehicles.

Three policy approaches are discussed herein: (1) rules for drayage trucks within California's Advanced Clean Fleets rule;⁴ (2) site-based emissions standards for warehouses (also known as indirect source rules); and (3) zero-emissions delivery zones in which zero-emissions vehicles (ZEVs) have priority access to loading and unloading areas. Each of these presents legal complexity, but elements of them can be available to cities looking to control emissions associated with e-commerce delivery.

In April 2023, the California Air Resources Board (CARB) adopted the Advanced Clean Fleets (ACF) rule, 5 which includes rules for drayage trucks operating in the state. The ACF implements Gov. Newsom's Executive Order (EO) N-79-20, which set a goal for 100 percent zero-emission drayage trucks in the State by 2035. The ACF rule requires the registration of all drayage trucks that operate in California in a CARB Online System, and through

¹ 49 U.S.C. § 32919(a) (1994).

² 42 U.S.C. § 7543(a) (1990).

³ 49 U.S.C. § 14501(c)(1) (2015).

⁴ 13 Cal. Code Regs. § 2014 et. seq. (2023).

⁶ Cal. Exec. Order N-79-20 (2020).

2023 allowed only trucks with a model year of 2010 or newer, or trucks with equivalent or better emissions controls, to register. For diesel-fueled trucks registered before 2024, trucks are required to be retired (at least for purposes of use as a drayage truck in California) upon the earlier of when they reach 800,000 miles or when the engine is eighteen years old. The ACF rule has been the subject of several lawsuits alleging preemption by EPCA, the CAA, and the FAAAA, and violation of the dormant Commerce Clause of the U.S. Constitution, 8 none of which has been substantively resolved. California is also currently seeking a CAA preemption waiver from the U.S. Environmental Protection Agency (USEPA); USEPA has not yet ruled on the request and CARB has paused enforcement while the request remains pending. If USEPA grants the requested waiver to CAA preemption, other states would be eligible to adopt the rule. ¹⁰ In the absence of a CAA preemption waiver, cities and states looking to enact a policy similar to ACF's drayage truck rules would be well advised to avoid regulating "emissions from new motor vehicles or new motor vehicle engines" (emphasis added), as preempted by the CAA. 11 The risk of preemption can be mitigated but not fully avoided.

In May 2021, California's South Coast Air Quality Management District adopted Rule 2305, which implemented the Warehouse Actions and Investment to Reduce Emissions (WAIRE) Program, with the goal of reducing NO_x and PM emissions from light- and heavy-duty freight vehicles at warehouse facilities. ¹² Warehouse operators are required to earn a certain number of "WAIRE Points" to meet their obligations under the WAIRE Program through a range of measures including acquiring or using ZEVs, reducing truck visits, installing ZEV charging or fueling infrastructure, and more. 13 Alternatively, a warehouse operator and the SCAQMD may agree to a custom compliance plan or the operator may pay a mitigation fee. ¹⁴ Legislation contemplating a similar program has twice been introduced in New York State. 15 There are two broad approaches a city might take to avoiding preemption of a warehouse indirect source rule like WAIRE. First, working with the state, a warehouse indirect source rule might be incorporated into the state's State Implementation Plan (SIP) as required by Section 110 of the CAA. Inclusion in a SIP would generally insulate a measure from preemption by other aspects of the CAA. Second, a city or other regulating jurisdiction can ensure enough optionality in compliance pathways such that no regulated party is effectively required (including through de facto mandates such as significant pricing differentials among compliance options) to acquire a ZEV.

⁷ 13 Cal. Code Regs. § 2014(a)(1)(C) (2023).

⁸ U.S. CONST. art. I, § 8, cl. 3.

⁹ Clean Air Act § 209(b) Waiver And § 209(e) Authorization Request Support Document Submitted by the California Air Resources Board (Nov. 15, 2023), https://www.epa.gov/system/files/documents/2023-12/ca-waiver-carb-reg-acf-2023-11-15.pdf.

¹⁰ 42 U.S.C. § 7507 (1990).

¹¹ 42 U.S.C. § 7543 (1990).

¹² S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (2021).

¹³ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(3) and Table 3.

¹⁴ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(4) & (5)).

¹⁵ Senate Bill S2127B, THE NEW YORK STATE SENATE, https://www.nysenate.gov/legislation/bills/2023/S2127/amendment/B (last visited June 9, 2024).

Finally, over the last several years, a small number of cities, including Portland, Oregon¹⁶ and Los Angeles¹⁷ and Santa Monica, California, ¹⁸ have advanced policy approaches to limiting the ability of non-ZEV delivery trucks to load or unload in certain areas of the city. Thus far, ZEDZs in the US have been largely voluntary; they offer incentives like priority loading zones and chargers for ZEV delivery vehicles and involve pilot approaches to low-emissions freight transport, but they do not require any particular action on the part of delivery vehicles, nor do they exclude non-ZEVs from driving through the zone. The zones are relatively small – a few city blocks to on the order of a square mile – and non-ZEV trucks can drive through the zones and load or unload just outside of them. The lawfulness of these approaches – which can face preemption questions under the CAA, EPCA and the FAAAA, generally depends on whether the benefits offered to ZEV trucks or the disincentives to non-ZEV trucks can be considered mandates, incentives, or an in-between category of de facto mandates that effectively compel the purchase of ZEVs even if they do not expressly require it. State law can be more permissive here – cities often have authority under state law to pursue ZEDZ or curb management strategies through parking, stopping and standing rules, idling rules, signage rules, and more, though fewer of them have authority to toll (or charge for access to) public roads. The analysis under both federal and state law is factspecific; the particular restrictions, techniques, and route will all play into whether a ZEDZ comports with applicable law.

Despite the relatively recent nature of e-commerce proliferation, last-mile delivery warehouses perpetuate longstanding patterns of environmental injustice, exposing low-income communities and communities of color to significant and harmful truck pollution. And though the federal law landscape can be murky, the CAA, EPCA and the FAAAA allow some room for local governments to place limits or otherwise address pollution and other e-commerce impacts. The legal tools available to address their impacts are necessarily evolving, and they offer significant promise, particularly for jurisdictions willing to calibrate an approach carefully to applicable legal frameworks and to their local context. For many cities, addressing the impacts of e-commerce is a necessity, through one approach or another. Last-mile delivery has once again laid the pollution burden with low-income communities and communities of color. Fortunately, cities have a range of imperfect but promising legal tools to mitigate its harm.

¹⁶ Strengthening Mobility and Revolutionizing Transportation Fiscal Year 2022 Planning and Prototyping Grants by State, U.S. DEP'T OF Transp. (Mar. 2023), https://www.transportation.gov/sites/dot.gov/files/2023-03/FY22%20SMART%20Project%20List.pdf.

¹⁷ Los Angeles Ord. No. 187117 (2021) sec. 1.

¹⁸ Santa Monica Zero Emissions Delivery Zone Pilot, Los Angeles Clean Tech Incubator, https://laincubator.org/zedz/ (last visited June 9, 2024).

I. INTRODUCTION

INTRODUCTION

Over the last several years, two opposing trends have come to shape cities in the United States. On the one hand: the imperative to reduce greenhouse gas (GHG) emissions from vehicles, the first or second largest source of carbon pollution in each major U.S. city, ¹⁹ along with associated tailpipe emission of harmful pollutants of nitrogen oxides (NOx), carbon monoxide, particulate matter (PM) and more, with particularly noxious effects for low-income communities and communities of color.²⁰ On the other hand: increasing reliance on e-commerce with its concomitant rise in warehouses and freight vehicles large and small, which can stymie city GHG-reduction targets for the transportation sector and bring more traffic, pollution, and harmful health impacts to the already overburdened communities where warehouses are often sited. These conflicting realities have led to some local policy innovation in the space, including e-bike delivery pilot projects, voluntary zero-emissions zones, and dedicated charging infrastructure for zero-emissions trucks.²¹

However, many of these city-led policy innovations have sought to address impacts of last-mile delivery near a parcel's end destination, rather than the impacts felt by neighbors living closer to last-mile delivery warehouses. Moreover, they have mostly been without the force of law, in large part due to a lack of clarity around the preemptive scope of federal law, especially preemption by the U.S. Clean Air Act (CAA), the U.S. Energy Policy & Conservation Act (EPCA), and the Federal Aviation Administration Authorization Act (FAAAA). This white paper explores the preemptive scope of these federal laws while positing how city legal and regulatory authority could be leveraged to regulate or otherwise limit emissions of GHGs and other harmful air pollutants from freight delivery vehicles that enter and depart last-mile delivery warehouses. In other words, it seeks to answer the question: What legal tools do local governments have to counteract rising emissions from freight vehicles given federal law limitations?

Following a discussion of the rise in e-commerce, warehouses, and freight vehicles in cities, with particularly harmful impacts to low-income communities and communities of color (Part II), and a discussion of the federal law landscape for regulation of vehicles by local governments (Part III), this white paper explores three legal and regulatory tools that local governments might use to address emissions from freight transportation vehicles, and how each of these approaches interacts with or will need to take into account federal law. (State law issues are also addressed briefly in each instance, but given the nationwide applicability of this publication, a full accounting of state legal issues is out of scope.) The three legal tools discussed below are: "clean fleet" or

¹⁹ See, e.g., Greenhouse gas emissions interactive dashboard, C40 (Feb. 2024), https://www.c40knowledgehub.org/s/article/C40cities-greenhouse-gas-emissions-interactive-dashboard?language=en US.

²⁰ Mary Angelique G. Demetillo et al., Space-Based Observational Constraints on NO2 Air Pollution Inequality From Diesel Traffic in Major US Cities, 48 GEOPHYSICAL RSCH. LETTERS ISSUE 17 (Aug. 25, 2021), https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GL094333.

²¹ See Building healthy cities in the doorstop-delivery era: Sustainable urban freight solutions from around the world, NAT'L ASS'N OF CITY TRANSP. OFF. (NACTO) (June 2021), https://nacto.org/wpcontent/uploads/2021/06/BuildingHealthyCities UrbanFreightReportJune2021.pdf.

drayage truck rules modeled on those enacted in California (Part IV); site-based emissions standards, or "indirect source rules" for warehouses (Part V); and low-emissions freight zones (Part VI). Part VII concludes.

The purpose of this white paper is to frame out for local and state policymakers and the advocates who work at those scales the federal legal landscape that will inform policy approaches to limiting freight vehicle emissions. (Emissions herein refers to both greenhouse gas emissions and harmful local air pollutants like particular matter and NO_x, both of which are caused by diesel freight trucks, though they have different impacts.) Undoubtedly, the legal tools explored in this white paper are not the only ones that a city might use to address the spread of e-commerce warehouses. For example, some cities have explored use of their zoning or land use authority to limit or disallow warehouses in certain areas.²² This paper focuses on the ways that cities can regulate or act to limit emissions from freight vehicles – in particular those entering and exiting lastmile delivery warehouses – in light of broad federal preemption of direct air emissions standards and other limitations on vehicles.

²² See, e.g., María Paula Rubiano A., A 'Warehouse' By Any Other Name, GRIST (May 25, 2022), https://grist.org/buildings/awarehouse-by-any-other-name/.

II. THE PROLIFERATION OF LAST-MILE DELIVERY WAREHOUSES

II. THE PROLIFERATION OF LAST-MILE DELIVERY **WAREHOUSES**

A. The Rise of E-Commerce in Cities

The e-commerce industry – in particular the sale of commercial goods²³ on the internet – has expanded rapidly over the last several years, in part due to the decline of in-store retail shopping during the height of the Covid-19 pandemic, but also due to broader market trends.²⁴ Amazon, which has the largest market share in the ecommerce industry, at 38 percent, 25 saw sales spike 36 percent from 2019 to 2020. 26 The industry's growth is expected to continue, with the World Economic Forum projecting increases in emissions and traffic congestion of 36 percent by 2030 in many world cities.²⁷

When it comes to e-commerce impacts, the warehouses where goods are stored, sorted, and dispatched are a major contributor to emissions of GHGs and dangerous local air pollution, traffic congestion, and harmful health effects, especially in low-income communities and communities of color.²⁸ While a warehouse building can itself be a source of GHG and other pollution, much of a last-mile delivery warehouse's environmental impact is attributable to the trucks and other vehicles that enter and exit the warehouse site, causing air pollution, increased rates of asthma and other health conditions, noise, traffic, and other harmful effects in surrounding neighborhoods.²⁹

While warehouses are critical jump-off points for "last-mile" deliveries, their impacts are distinct from the lastmile delivery vehicles that travel through residential and commercial areas, which can increase traffic and

²³ The sale of services on the internet is also considered e-commerce but is not discussed herein because it does not involve physical delivery.

²⁴ See, e.g., Arielle Feger, How deal-seeking, digital grocery shopping, and other 2023 grocery trends shaped ecommerce in 5 charts, EMARKETER (Dec. 7, 2023), https://www.insiderintelligence.com/content/how-deal-seeking-digital-grocery-shopping-other-2023trends-shaped-ecommerce-5-charts. See also Mohamed Elhawary, Top 6 Ecommerce Trends You Need to Know in 2023, ENTREPRENEUR (Jun. 15, 2023), https://www.entrepreneur.com/growing-a-business/6-ecommerce-trends-you-need-to-know-this-year/452998. ²⁵ Lauren Rosenblatt, Neighborhoods Near Amazon Warehouses Experience More Pollution, Governing (Dec. 20, 2023), https://www.governing.com/climate/neighborhoods-near-amazon-warehouses-experience-more-pollution, citing INSIDER INTELLIGENCE. ²⁶ The Future of the Last Mile Ecosystem: Transition Roadmaps for Public- and Private-Sector Players, World Econ. Forum (Jan. 2020), https://www3.weforum.org/docs/WEF_Future_of_the_last_mile_ecosystem.pdf. ²⁷ Id. at 6.

²⁸ Aileen Nowlan, *Making the Invisible Visible: Shining a Light on Warehouse Truck Air Pollution*, ENVT'L DEF. FUND (Apr. 2023), https://globalcleanair.org/wp-content/blogs.dir/95/files/2023/04/EDF-Proximity-Mapping-2023.pdf.

²⁹ Kaveh Waddell, When Amazon Expands, These Communities Pay the Price, Consumer Reports (Dec. 9, 2021), https://www.consumerreports.org/cars/corporate-accountability/when-amazon-expands-these-communities-pay-the-pricea2554249208/.

emissions but which also have been the subject of electrification efforts and other policy interventions.³⁰ Indeed, many of the city-led and corporate efforts to "green" the e-commerce industry have focused on the actual last-mile delivery rather than on environmentally-harmful warehouses where these trips originate. For example, a handful of U.S. cities have piloted the use of e- cargo bikes for parcel delivery. ³¹ In addition, some cities and organizations within them have sought to augment logistics infrastructure through delivery microhubs (or smaller package consolidation centers located closer to delivery destinations) and parcel lockers where residents can pick up packages.³²

More recently, some policy interventions have targeted freight vehicles entering warehouse sites and the warehouses themselves. New rules in California are set to phase out the sale of diesel-powered drayage trucks, among other medium and heavy-duty vehicles over the 2020s and 2030s.³³ Two ports in California - the Ports of Los Angeles and Long Beach – now assess fees for cargo carried on diesel-fueled drayage trucks, and also have voluntary programs in place to scale up ZEV drayage trucks. And in the South Coast Air Quality Management District (SCAQMD) in southern California, a new regulatory regime requires warehouse operators to reduce emissions through a variety of potential compliance measures applicable to the warehouses, the trucks entering and exiting them, and the broader community. Each of these are discussed in more detail herein.

Though California has innovated in this policy space, other jurisdictions are primed to follow suit. Local governments still face legal questions about measures to limit or mitigate environmental impacts from lastmile warehouses and freight delivery vehicles. An explication of the legal hurdles and how to navigate them is necessary to provide cities the confidence and knowledge they need to develop policies that work in their local contexts. This white paper seeks to fill that knowledge gap.

B. E-Commerce Warehouses Have Especially Harmful Impacts to Low-Income Communities and Communities of Color

E-commerce may have ripple effects across the entirety of the urban fabric, but the most acute impacts are felt in the communities surrounding the industry's warehouses and distribution centers. Often, last-mile distribution warehouses are sited in predominantly low-income communities and communities of color – environmental justice communities that experience higher than average levels of environmental and health

³⁰ See discussion of delivery microhubs, parcel lockers, curbside management tactics, and more in Building healthy cities..., supra

³¹ See, e.g., Mayor Wu Announces "Boston Delivers", an E-Cargo Bike Delivery Pilot Program, CITY OF BOSTON (Aug. 15, 2023), https://www.boston.gov/news/mayor-wu-announces-boston-delivers-e-cargo-bike-delivery-pilot-program, and Cargo E-Bike Delivery Pilot Test in Seattle, URBAN FREIGHT LAB, UNIV. OF WASH. (Aug. 2020), https://urbanfreightlab.com/wp-content/uploads/2023/04/Cargo-E-Bike-Delivery-Report.pdf.

³² Building healthy cities..., supra note 21.

³³ Cal. Advanced Clean Trucks (ACT) Rule, 13 Code Cal. Regs. § 1963 et. seq. (2020).

burden. 34 Similar to the clustering of other harmful land uses such as power plants 35 and highways 36 in or near communities of color and of low-income, the proliferation of last-mile delivery warehouses has followed patterns common in the environmental justice context.³⁷ That is to say, historic practices of interstate highway construction, ³⁸ redlining, and discriminatory land use rules has and continues to attract industrial land uses, such as last-mile delivery warehouses, to areas that have become home to communities of color and lowincome.³⁹ As ever, the harmful environmental and health impacts of these facilities are disproportionately borne by residents who least reap their benefits.⁴⁰

A growing body of research bears out the disparate siting of last-mile delivery warehouses in low-income communities and communities of color (some of these studies use Amazon warehouses as a proxy for ecommerce warehouses⁴¹ given its 38 percent market share of U.S. e-commerce).⁴² A review of U.S. Census Bureau and U.S. Environmental Protection Agency data by Consumer Reports found that most Amazon warehouses – 69 percent – "have a greater share of people of color living within a mile radius than the median, or typical, neighborhood in their metro areas."43 Moreover, 57 percent of Amazon warehouses are located in neighborhoods with more low-income residents than the metro area average. 44 A 2024 report by the Environmental Defense Fund (EDF) found that, in New York State, "Black, Hispanic/Latino and low income populations live near warehouses at rates that are more than 59%, 48% and 42% higher, respectively, than would be expected based on statewide statistics."45 This echoes national research by EDF finding that "[n]o state distributed the risk from warehouse[s] evenly," and that in "Illinois, Massachusetts and Colorado, the concentration of Black and Latino residents around warehouses is double what would be expected, given the

³⁴ Nowlan, *supra note* 28 at 7.

³⁵ Lara J. Cushing et al., Historical red-lining is associated with fossil fuel power plant siting and present-day inequalities in air pollutant emissions, NATURE ENERGY (Dec. 15, 2022), https://www.nature.com/articles/s41560-022-01162-y.

³⁶ Gregory M. Rowangould, A census of the US near-roadway population: Public health and environmental justice considerations, 25 TRANSP. RESEARCH PART D: TRANSPORT & ENV'T 59-67 (Dec. 2013).

³⁷ Travis Fried, Rishi Verma & Anne Goodchild, Ecommerce and environmental justice in metro Seattle, Rsch. IN TRANSP. ECON. (Mar. 2024) at 2, https://doi.org/10.1016/j.retrec.2023.101382.

³⁸ An E-Commerce Warehouse Boom Imperils Communities of Color. Here's How to Protect Them, THE NEW SCH. CTR. FOR N.Y. CITY AFFAIRS (Nov. 30, 2022), https://www.centernyc.org/urban-matters-2/an-e-commerce-warehouse-boom-imperils-communities-of-colorheres-how-to-protect-them.

³⁹ Warehouse Boom Places Unequal Health Burden on New York Communities, Env't Def. Fund (Jan. 2024), https://globalcleanair.org/wp-content/blogs.dir/95/files/EDF-NY1.pdf at 1.

⁴⁰ See, e.g., "...marginalized populations disproportionately bear ecommerce's environmental costs unequally in metropolitan Seattle despite receiving less home deliveries." Fried et. al., supra note 37.

⁴¹ See, e.g., "Although not the only ecommerce player, Amazon's position as the largest online retailer in Western markets presents a microcosm of logistical strategies that have transformed the last-mile delivery space. Amazon's logistical land use and operations are representative of the whole U.S. ecommerce ecosystem." Id. at 3 citing Amazon's Share of US eCommerce Sales Hits All-Time High of 56.7% in 2021, PYMNTS (Mar. 14, 2022), https://www.pymnts.com/news/retail/2022/amazons-share-of-us-ecommerce-sales-hits-alltime-high-of-56-7-in-2021/.

⁴² Rosenblatt, supra note 25.

⁴³ Waddel, supra note 29.

⁴⁵ Warehouse Boom, supra note 39, at 1.

state population.⁴⁶ And in metro Seattle (an area that includes Tacoma, Bellevue, and Everett, Washington), a research team at the University of Washington found that "[census] tracts with majority people of color face the highest median concentration of delivery vehicle activity and emissions despite ordering less packages than white populations."47

In recent years, advocates have pushed back against the disparate siting 48 of last-mile delivery warehouses in cities across the country, from New York (in Sunset Park and Red Hook Brooklyn, the South Bronx, and Queens)⁴⁹ to Chicago (in Bridgeport and Chinatown)⁵⁰ to the far outskirts of Los Angeles (where significant attention has been raised about the proliferation of last-mile warehouses in the area's Inland Empire). In one instance, a dissenting judge on the U.S. Court of Appeals for the Ninth Circuit wrote that the approval of an Amazon warehouse in San Bernardino, California "reek[ed] of environmental racism," 51 but much of the advocacy around these warehouses has stayed out of the courts, focusing instead on administrative,⁵² legislative,⁵³ and public relations efforts.⁵⁴

⁴⁶ Nowlan, supra note 28 at 7.

⁴⁷ Fried et al., supra note 37 at 1.

⁴⁸ Id. at 2.

⁴⁹ See, e.g., An E-Commerce Warehouse Boom..., supra note 38.

⁵⁰ Courtney Cobbs, Racial justice and environmental groups hope to block Amazon warehouse in Bridgeport, CHICAGO STREETSBLOG (Nov. 17, 2020), https://chi.streetsblog.org/2020/11/17/racial-justice-and-environmental-groups-hope-to-block-amazon-warehousein-bridgeport.

⁵¹ Dan Churney, Split appeals panel says Amazon warehouse at San Bernardino airport won't harm air quality; dissenting judge calls out 'environmental racism', S. CAL. Rec. (Feb. 27, 2023), https://socalrecord.com/stories/639882597-split-appeals-panel-says-amazonwarehouse-at-san-bernardino-airport-won-t-harm-air-quality-dissenting-judge-calls-out-environmental-racism.

⁵² Cobbs, supra note 50.

⁵³ N.Y. Assembly Bill A01718/Senate Bill S02127 (2023).

⁵⁴ See, e.g., BREAKING: Amazon's Air Hub at Newark Airport is Cancelled, CLEAN WATER ACTION (Jul. 7, 2022), https://cleanwater.org/releases/breaking-amazons-air-hub-newark-airport-cancelled.

III. U.S. FEDERAL LAWS AND LEGAL FRAMEWORKS APPLICABLE TO FREIGHT TRANSPORTATION

III. U.S. FEDERAL LAWS AND LEGAL FRAMEWORKS APPLICABLE TO FREIGHT TRANSPORTATION

U.S. cities have had difficulty regulating freight vehicles and shipments of goods. First, federal law is broadly preemptive of state and local efforts to regulate vehicle fuel economy; air emissions from vehicle tailpipes; and the transportation of goods by motor carriers like freight vehicles under the Energy Policy and Conservation Act⁵⁵ (EPCA), the Clean Air Act (CAA), and the Federal Aviation Administration Authorization Act (FAAAA),⁵⁶ respectively. Each of these sources of federal law preemption can be quite broad, with the contours delineated in case law. In addition, the dormant Commerce Clause of the U.S. Constitution⁵⁷ can limit how states and local governments may regulate in ways that affect interstate commerce; while local governments retain some latitude, they must be mindful of the guardrails set by federal courts. And federal law also sets the terms of tolling federal highways, with potential implications where state or local strategies may seek to toll or otherwise charge for road use.

In other words, federal law considerations shape state and local options for regulating freight shipments, whether through requirements applicable to warehouses, freight vehicles, or last-mile delivery vehicles. As the body of federal law applicable to vehicles, including freight vehicles, is so comprehensive, this white paper begins with a primer on these legal parameters.

A. U.S. Energy Policy & Conservation Act and U.S. Clean Air Act

Federal law may preempt state or local regulation or pricing of freight deliveries on the basis of vehicle fuel economy or air emissions characteristics. In particular, two federal statutes are relevant: EPCA and the CAA. Local requirements that delivery or freight vehicles be electric, or that the drivers or fleet owners of such vehicles purchase electric vehicles (EVs) would be preempted by EPCA, the CAA, or both. In addition, local requirements, incentives or other policy approaches that change the mix of incentives for EVs and other lowemissions vehicles (LEVs) should be considered through the lens of possible federal preemption. While policies will be upheld where they are viewed as true incentives for EV or LEV use, policies that are viewed by courts as de facto mandates for drivers or fleet owners to purchase EVs or LEVs likely will not be. Despite these two laws' broad preemptive effects, states and local governments do retain significant authority over the emissions characteristics of in-use (i.e., not new) vehicles.

⁵⁵ U.S. Energy Policy & Conservation Act, Publ. L. 94-163, as amended (2022).

⁵⁶ U.S.C. § 14501(c)(1) (2015).

⁵⁷ U.S. CONST. art. I, § 8, cl. 3.

A.1 Local EPCA Preempts State and Local Vehicle Fuel Economy Standards, Including Standards for Vehicle Engine Technology as a Proxy for Fuel Economy

According to Section 509(a) of the EPCA, "a State or political subdivision of a State may not adopt or enforce a law or regulation relating to fuel economy standards or average fuel economy standards for automobiles covered by an average fuel economy standard under this chapter."58 In other words, a city could not require delivery or freight vehicles to achieve a minimum mile-per-gallon standard.

Federal case law makes clear that this limitation bars not only numerical fuel economy minimums, but also state and local laws that require the purchase of new hybrid vehicles. Preemption of such standards has been well-explored with respect to municipal requirements that taxicabs be hybrid vehicles (the cases that follow are referred to collectively as the "taxicab cases"). In Boston, city officials mandated that "[e]very vehicle put into service as a taxi" be a hybrid vehicle, 59 and in New York City, the City set a minimum mile-per-gallon standard for its new taxis. 60 Both were held to be preempted (or likely preempted, depending on the procedural posture of the case). On the other hand, a King County, Washington program set aside 50 taxicab licenses for use by "hybrid electric vehicles 'with a minimum rating of 40 miles per gallon in the city'" was held by a federal district court to be a "voluntary incentive program," and therefore not a preempted standard. 61 In sum, these federal courts – in Massachusetts, New York and Washington – are in clear agreement that local requirements that taxicabs be hybrids or meet minimum mile-per-gallon standards are not permissible. A court would similarly hold that such a requirement with respect to delivery or freight vehicles are not permissible. No courts have yet considered similar requirements that vehicles be electric, but they would attract significant EPCA preemption scrutiny and would very likely be held preempted by a court.

Moreover, the prohibition on local fuel economy mandates, including mandates that vehicles have hybrid engines, extends to standards that are structured as incentives but that leave vehicle "owners with no rational alternative" to purchasing a hybrid and therefore amount in the court's view to a de facto mandate. 62 In Metro. Taxicab Bd. of Trade v. City of New York (Metro. Taxicab II), the U.S. Court of Appeals for the Second Circuit upheld a preliminary injunction barring from going into effect a New York City program establishing pricing differentials in the maximum lease amount taxicab owners could charge to taxicab operators based on whether or not a taxicab was a hybrid or "clean diesel" vehicle. Although the terms "fuel efficiency" and "fuel economy" did not appear in the law, the court explained that the "equivalency of the term 'hybrid' with 'greater fuel efficiency'... is self-evident." 63 The Green Alliance Taxi Cab Ass'n Inc. v. King County (Green Alliance Taxi) court (the federal court in Washington state discussed in the previous paragraph) compares the two cases, making clear why the taxi license program at issue in King County did not constitute a de facto mandate, noting that the rule there did not require a "taxicab owner to do anything – they can choose to enter the

⁵⁸ 49 U.S.C. § 32919(a) (1994).

⁵⁹ Ophir v. City of Boston, 647 F. Supp. 2d 86, 88 (D. Mass. 2009).

⁶⁰ Metro. Taxicab Bd. of Trade v. City of N.Y., 2008 WL 4866021 (S.D.N.Y. Oct. 31, 2008) (Metro. Taxicab I).

⁶¹ Green All. Taxi Cab Ass'n Inc. v. King Cnty., 2010 WL 2643369 (W.D. Wash. June 29, 2010).

⁶² Metro. Taxicab Bd. of Trade v. City of N.Y., 615 F.3d 152, 157 (2d Cir. 2010), cert. denied, 562 U.S. 1264 (2011) (Metro. Taxicab II).

⁶³ Metro. Taxicab II at 157.

program and follow the fuel efficiency rule or refrain from entering the program and not be bound by the rule. Plaintiffs have other means of obtaining taxi licenses, namely purchasing or otherwise transferring them on the open market." The Metro. Taxicab II pricing differential, on the other hand, was significant enough to "amount[] to a mandate." 64

These "taxicab cases" offer important lessons for freight regulation strategies. First, any local requirement that freight or delivery vehicles meet or exceed a fuel economy threshold would be preempted by EPCA. Second, any local requirement that mandates one or more engine-technology types as a proxy for fuel economy would also likely be preempted. Though the existing applicable case law considers requirements for hybrid engines, a requirement that freight or delivery vehicles be electric would, at the very least, attract significant legal scrutiny, and would likely be held preempted by EPCA on the basis of the case law established by the taxicab cases. Third, any incentive aimed at scaling up EVs among delivery or freight vehicles would need to be carefully tailored to not cross the line into a de facto mandate. That is, if the rules of an EV program aimed at such vehicles "effectively mandate[s] the use of fuel efficient vehicles through their economic impact," 65 they will likely be held preempted by EPCA.

A.2 The Clean Air Act Preempts State and Local Vehicle Air Emissions Standards, Including Standards That Use Vehicle Engine Technology as a Proxy for Air Emissions

The CAA preempts state and local standards limiting air pollution from new motor vehicles. While the CAA relates to air emissions and EPCA to fuel economy, the two laws involve a similar legal analysis. The prohibition on relying on an engine technology proxy and the incentive/mandate dichotomy are present in both laws. Therefore, while it is important to consider separately whether any proposed policy is preempted by EPCA or the CAA, courts often reference both statutes in the applicable case law.

The relevant limitation in Section 209 of the CAA is as follows: "[N]o state or political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part."66 Section 209(a) is clear on its face that a local government cannot enact a standard – including one relating only to freight or delivery vehicles – that specifically sets an emissions standard for new vehicles. Moreover, applicable case law has held that standards that rely on vehicle engine technology as a proxy for vehicle air emissions are subject to scrutiny under Section 209(a).⁶⁷

The relevant question in determining whether a local law sets an impermissible vehicle or emissions standard or vehicle technology standard is whether such standard is a "command, accompanied by sanctions" to compel the purchase of new low-emissions vehicles (LEVs) or zero-emissions vehicles (ZEVs).⁶⁸ The U.S. Court of Appeals for the Fifth Circuit applied this test in considering whether a Dallas ordinance allowing compressed

⁶⁴ Green All. Taxi at *4.

⁶⁵ Metro. Taxicab II at 158.

⁶⁶ 42 U.S.C. § 7543(a) (1990).

⁶⁷ See, e.g., Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist., 541 U.S. 246, 255 (2004).

⁶⁸ Engine Mfrs. Ass'n at 255.

natural gas (CNG) taxis to cut to the head of the airport pick-up line was preempted by CAA Section 209(a).⁶⁹ The court held the Dallas ordinance not preempted. Because the Dallas ordinance "alter[ed] the 'shopping decisions' for traditional cab drivers in determining where in the City to operate... [but did not] effectively compel a particular course of action," the Dallas ordinance amounted to an incentive for taxicabs to transition to CNG vehicles, not a mandate. 70 While the court upheld the local Dallas law, its saving was not in its use of CNG technology as a proxy for air emissions, but rather that the local law lacked the element of compelling vehicle purchasing behavior based on emissions characteristics.

The lessons to be drawn from Section 209 of the CAA and the related case law are similar to those from the EPCA analysis. First, any local requirement that freight vehicles stay below a maximum emissions threshold would likely be preempted by the CAA. Second, any local requirement that mandates one or more engine technology types as a proxy for air emissions would likely also be preempted by the CAA. Third, any incentive aimed at scaling up EVs among freight vehicles would need to be carefully tailored not to cross the line into a de facto mandate, thus inviting preemption under the CAA.

A.2.a State and Local Governments DO Retain Some Authority Over Emissions of In-Use (i.e., Not New) Vehicles

Despite the broad preemptive effect of the CAA, states and local governments have some latitude to limit vehicle emissions. In particular, CAA § 209(d) states that, despite the preemption language, "nothing in this part shall preclude or deny to any State or political subdivision thereof the right to control, regulate, or restrict the use, operation, or movement of registered or licensed motor vehicles."⁷¹ As the Fifth Circuit noted in Ass'n of Taxicab Operators, "the longstanding scheme of motor vehicle emissions control has always permitted the states to adopt in-use regulations – such as carpool lanes, restrictions on car use in downtown areas, and programs to control extended idling of vehicles – that are expressly intended to control emissions."72

States and cities therefore retain some authority over local air emissions, particularly through in-use restrictions on vehicles, and a city may want to consider what incentives and in-use restrictions it can offer or enforce for freight vehicles. For example, a designated roadway lane for EVs (on streets where a city has such authority) or access to charging space may have the effect of scaling up electric freight vehicles without mandating a specific engine technology. In addition, it is worth noting that Section 209(a) only states that the CAA preempts state and local standards relating to *new* motor vehicles and motor vehicle engines. Requirements that freight vehicles older than a certain model year be phased out – which in other contexts are used as an imperfect proxy for engine emissions – would not fall under the scope of Section 209(a)

⁶⁹ Ass'n of Taxicab Operators USA v. City of Dallas, 720 F.3d 534 (5th Cir. 2013).

⁷⁰ Ass'n of Taxicab Operators at 542.

⁷¹ 42 U.S.C. § 7543(d) (1990).

⁷² Ass'n of Taxicab Operators at 538 fn. 6.

preemption.⁷³ Similarly, periodic emissions tests for already in-use engines would not be preempted by the CAA (though local authority for this is a question of state law). Despite these allowances, any such in-use restrictions could not be more stringent than federal standards for new vehicles without significant preemption risk.

A.2.b California Waiver to CAA Preemption

Another exception to CAA preemption is for vehicle air emissions standards for which the U.S. Environmental Protection Agency (USEPA) has granted a waiver, an avenue available by statute only to the state of California.⁷⁴ California may set is own vehicle emissions standards more stringent than federal standards and seek a waiver of Clean Air Act preemption from the USEPA under Section 209 of the CAA. Importantly, once California has received such a waiver for one of its standards, any other state with a State Implementation Plan (SIP) in effect under the Clean Air Act for nonattainment areas may adopt the same standard.⁷⁵ Other states who do so do not need USEPA approval. According to CARB, seventeen states (inclusive of California) have adopted one or more of California's standards. 76 This option is not available to local governments directly.

A.2.c CAA & EPCA: Incentives, Mandates, and De Facto Mandates

While the CAA and EPCA preemption provisions, along with the taxicab cases, offer clear guardrails for states or local governments considering, for example, setting a miles-per-gallon or tailpipe emissions standard for newly sold vehicles within their jurisdictions, for the most part the questions states and local governments encounter are less black-and-white.

A key guiding principle in interpreting CAA and EPCA preemption is whether the government action can reasonably be considered an incentive for a driver (or fleet owner or operator) to use low- or zero-emissions vehicles. Mandates are clearly and expressly preempted by the applicable CAA and/or EPCA preemption provisions; incentives will not be. At the same time, if a court finds a measure that a city intends to be an incentive actually amounts to, in its view, a de facto mandate, the measure will be preempted. As discussed above, courts will look to whether the measure leaves vehicle "owners with no rational alternative" to purchasing a ZEV or LEV, 77 and at whether the measure is a "command, accompanied by sanctions" to compel the purchase of new LEVs or ZEVs. 78 Merely "alter[ing] the 'shopping decisions'" for drivers or fleet owners and

⁷³ This white paper does not discuss such an age requirement with respect to <u>all</u> vehicles, which could under some circumstances be held to be a taking. Rather, the discussion addresses the strategy's potential to be used with respect to use of vehicles as freight vehicles in a given area.

⁷⁴ 42 U.S.C. § 7507 (1990).

⁷⁶ States that have Adopted California's Vehicle Regulations, CAL. AIR RES. BD., https://ww2.arb.ca.gov/our-work/programs/advancedclean-cars-program/states-have-adopted-californias-vehicle-regulations (last updated May 2024).

⁷⁷ Metro. Taxicab II at 157.

⁷⁸ Engine Mfrs. Ass'n at 255.

operators is not unlawful,⁷⁹ nor is an optional program that vehicle owners "can choose to enter... and follow the fuel efficiency rule or refrain from entering the program and not be bound by the rule," where other options to use the vehicle for its intended purpose are available. 80 On the other hand, a city measure that is described as an incentive but effectively requires the purchase of a ZEV or LEV would be pre-empted. In Ass'n of Taxicab Owners, it was implicit but presumably important was that taxicabs could still be used as taxicabs, even if they could not cut to the front of the airport line. It would be disingenuous to say that delivery vehicles could be used, for example, as school buses.

As the taxicab cases are the main source of guidance on the mandate/incentive/de facto mandate divide, it is not entirely clear where the lines would be drawn for the policy approaches a city might consider with respect to freight vehicles or warehouses. It will be helpful in any policy to ensure that there are reasonably accessible options available for drivers to use fossil-fueled freight vehicles. For example, a zone in which charging or loading access was offered to ZEV trucks in certain areas, but which fossil-fueled vehicles could still drive through, would likely be viewed as an incentive if reviewed by a court. In addition, and as described below in connection with California's Advanced Clean Fleets Rule, there is some interplay between the CAA's preemption provisions, 81 and California's ability under the CAA to obtain a waiver to CAA preemption and effectively share it with other states.⁸² For some policies, mitigating preemption risk will involve both reliance on the California waiver and balancing the mandate/incentive distinction for policy aspects not subject to the waiver.

B. U.S. Federal Aviation Administration Authorization Act

The Federal Aviation Administration Authorization Act (FAAAA or F4A) is a broadly preemptive statute that could have implications for any state or local law "related to the price, route, or service of any motor carrier... with respect to the transportation of property."83 Any program considered by a city for controlling freight delivery emissions will need to be considered through the lens of FAAAA preemption; almost by definition city policies will "relate[] to the price, route, or service of... motor carrier[s]" transporting property. As a very general matter, a city may seek to mitigate FAAAA preemption concerns by (1) regulating something other than the price, route, or service of motor carriers or (2) in some instances, relying on a waiver to CAA preemption or including a regulation in a SIP, either of which would bolster the case that the requirement or program is enforceable as a matter of federal law. Neither of these will be fully protective from preemption, but may limit preemption scrutiny.

⁷⁹ Ass'n of Taxicab Operators at 542.

⁸⁰ Green All. Taxi at *4.

⁸¹ 42 U.S.C. § 7543 (1990).

^{82 42} U.S.C. § 7543(b) (1990) and 42 U.S.C. § 7507 (1990).

^{83 49} U.S.C. § 14501(c)(1) (2015).

The FAAAA preempts any "State [or local] law, regulation, or other provision having the force or effect of law related to a price, route, or service of any motor carrier... with respect to the transportation of property."84 A "motor carrier" is defined as a "person providing motor vehicle transportation for compensation."85 The FAAAA further preempts any state or local "law, rule, regulation, standard, or other provision having the force and effect of law relating to intrastate rates, intrastate routes, or intrastate services of any freight forwarder or broker."86 In effect, these provisions mean that cities and states are preempted from many direct and indirect requirements with respect to freight carriers. The FAAAA may preempt state and local rules relating to freight transport and deliveries. Importantly, freight vehicles are subject to overlapping legal requirements and preemption limitations in a way that taxicabs are not (taxicabs do not, for the most part – setting aside services like DoorDash or Uber Eats, for which no firm legal analysis is available – engage in the "transportation of property"). State and local requirements for freight trucks may be subject to EPCA, CAA and FAAAA preemption.

Courts have held local requirements with respect to freight vehicles preempted, including where those requirements were ostensibly contractual and were applicable only within a limited port area. For example, the Port of Los Angeles (an arm of the City) began requiring trucking companies operating within the Port to post placards in their trucks and to develop parking plans for their vehicles.⁸⁷ Those who failed to comply could face fines and even – at least per the terms of the contracts – time in prison. The U.S. Supreme Court held that this related to the "price, route, or service of" motor carriers and was therefore preempted by section 14501(c)(1) of the FAAAA.⁸⁸ The fact that the requirements only attached as part of a Port concession agreement did not save them from preemption because the agreement "functions as part and parcel of a governmental program wielding coercive power over private parties, backed by the threat of criminal punishment. That counts as action 'having the force or effect of law' if anything does."89 It appears unlikely that freight decarbonization strategies under consideration by cities and states would involve prison time, but sub-federal jurisdictions will need to consider how "voluntary" their contracts really are.

In another case looking at FAAAA preemption, the Supreme Court struck down a Maine law requiring shippers of tobacco to use a delivery company that would verify the recipients' age and otherwise prohibiting unlicensed tobacco shipments.⁹⁰ More broadly, the Court held that the FAAAA (1) preempts state (and local) actions that have a "connection with" carrier "rates, routes, or services," (2) that preemption may occur even if a state (or local) law has only an "indirect effect on rates, routes, or services," and (3) that preemption occurs

^{84 49} U.S.C. § 14501(c)(1) (2015).

^{85 49} U.S.C. § 113102(14) (2018).

⁸⁶ 49 U.S.C. § 14501(b)(1) (2015). A "freight forwarder" "provide[s] transportation of property for compensation and in the ordinary course of its business – (A) assembles and consolidates, or provides for assembling and consolidating, shipments... (B) assumes responsibility for the transportation from the place of receipt to the place of destination; and (C) uses for any part of the transportation a carrier subject to jurisdiction under this subtitle." 49 U.S.C. § 13102(8) (2008).

⁸⁷ Am. Trucking Ass'ns, Inc. v. City of Los Angeles, 569 U.S. 641 (2013).

⁸⁸ Id.

⁸⁹ Id. at 650-51.

⁹⁰ Rowe v. N.H. Motor Transp. Ass'n, 552 U.S. 364 (2008).

where laws have a "significant impact" on Congress' preemption-related aims. 91 Other cases have similarly held the FAAAA to preempt state and local laws, as when a federal district court struck down a Massachusetts state law setting forth when a person delivering property was an employee or an independent contractor, because "the logical effect of [the state law] would at least force a delivery company to charge higher prices that would allow it to recoup these costs and to alter routes that formerly would begin and end at the courier's own residence."92 The court there further noted that the "Supreme Court has instructed that 'related to' language... is meant to be construed broadly" and that "[n]either the Supreme Court nor the First Circuit has expressed a view as to 'where it would be appropriate to draw the line' between an impact that is 'significant' as opposed to 'tenuous, remote or peripheral."93

On the other hand, the Second Circuit upheld a state law against FAAAA claims, though in a very limited way that does not have precedential value. In Omya, Inc. v. Vermont, the Second Circuit upheld a state permit restriction on the number of daily trips a truck could make to a quarry, holding that it was a land use statute aimed at protecting environmental resources rather than one aimed at economic protectionism. 94 While the Second Circuit is a federal appellate court, court opinions that are "unpublished" – as *Omya* is – may generally not be relied on as precedent, though a court may take such an opinion to have persuasive value. Further, the court's Omya reasoning is not one that appears broadly in case law – it emphasizes that the FAAAA's preemption provisions were meant to "target[] state economic regulation – i.e., regulation designed to regulate competition" based on the court's reading of the FAAAA's legislative history. ⁹⁵ Though *Omya's* value is limited, a city or state may consider whether it wishes to structure a law as a "land use statute intended 'to protect [the state's] environmental resources," where such law[] do[es] "not speak directly to prices, routes, or services of motor carriers."96 Note that this holding is limited – the Supreme Court has held that state and local laws that only indirectly affect prices, routes or services of motor carriers can be preempted by the FAAAA. 97

The FAAAA has a preemption savings clause for state and local size and weight restrictions: the law "shall not restrict... the authority of a State to impose highway route controls or limitations based on the size or weight of the motor vehicle or the hazardous nature of the cargo."98 Courts have upheld restrictions relating to vehicle size and weight on this basis.⁹⁹ This size-and-weight authority means that states and local governments (subject to state law if relevant) can set truck routes, tolls, or other traffic restrictions based on weight. This gives a city some flexibility to regulate deliveries, but relatively little.

⁹² Mass. Delivery Ass'n v. Healey, 177 F. Supp. 3d 86, 92 (2015).

⁹³ Id. at 90, quoting Tobin v. Fed. Express Corp., 775 F.3d 448, 454 (1st Cir. 2014) and Morales v. Trans World Airlines, Inc., 504 U.S. 374 (1992).

⁹⁴ Omya, Inc. v. Vt., 33 Fed. Appx. 581 (2d Cir. 2002).

⁹⁵ Id. at 583.

⁹⁶ Id. at 584.

⁹⁷ Rowe v. N.H. Motor Transp. Ass'n.

⁹⁸ U.S.C. § 14501(c)(2)(A) (2015).

⁹⁹ E.g., California Dump Truck Owners Ass'n v. Davis, 302 F. Supp. 2d 1139 (E.D. Cal. 2002).

The FAAAA represents a significant legal framework that bears on any freight regulation proposals. Each of the three policy approaches discussed below – phasing out fossil-fueled drayage trucks, an indirect source rule targeting warehouses, and, if sufficiently "mandatory," a zero-emissions delivery zone has the potential to "relate[] to the price, route, or service of [a] motor carrier... with respect to the transportation of property." 100 For example, a requirement that a drayage truck be retired earlier than its owner might otherwise choose, and replaced with a zero-emissions truck at a potentially greater cost could run afoul of the "price" aspect of FAAAA preemption under Section 601. Similarly, if a warehouse were to turn certain trucks away in order to comply with an indirect source rule, this could change the "route, or service" of those trucks. In order to defend these rules against FAAAA preemption challenges, the regulating party will need to consider the impacts such rules could have with respect to the price, route, or service of motor carriers. In some instances, framing regulations as size or weight restrictions could be a viable option for avoiding FAAAA preemption, though such restrictions will not exclude fossil-fueled vehicles.

C. Dormant Commerce Clause

The Constitution's Commerce Clause assigns authority to "regulate commerce... among the several states" to the federal government. 101 The flip side of the Commerce Clause is the implied "dormant" Commerce Clause (dCC), which prohibits states (and by extension localities) from discriminating against interstate commerce with "regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors."102 As used in the dCC context, "discrimination' simply means differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the latter." 103 A few points of analysis relevant to the policy approaches discussed in this white paper are below.

C.1 Main dCC Tests: Per Se Invalidity and Pike Balancing

When courts assess whether a state or local law violates the dCC, they conduct a two-part inquiry. First, if a state or local policy discriminates against interstate commerce (as defined above) with more than "incidental" effects on interstate commerce, it will be presumed "per se invalid." For example, in Or. Waste Systems, Inc. v. Department of Envtl. Quality of Or., the Supreme Court found an Oregon surcharge on waste generated outof-state and disposed of in Oregon to be per se invalid. 105 Second, if a law is presumed discriminatory, the presumption of invalidity may be overcome by showing that (1) the law is not related to economic protectionism and (2) there are no nondiscriminatory alternatives available. Where there is no "per se discrimination," but an "evenhanded[]" regulation has incidental effects on interstate commerce, the court will

¹⁰⁰ 49 U.S.C. § 14501(c)(1) (2015).

¹⁰¹ U.S. Const. art. I, § 8, cl.3.

¹⁰² Wyoming v. Oklahoma, 502 U.S. 437, 454 (1992).

¹⁰³ Or. Waste Sys., Inc. v. Dep't. of Env't Quality of Or., 511 U.S. 93, 99 (1994).

¹⁰⁴ Or. Waste Sys. at 99.

¹⁰⁶ Wyoming v. Oklahoma, 502 U.S. at 454.

apply what is termed the "Pike balancing test," sustaining the law "unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."¹⁰⁷ This is the kind of analysis to which many state and local policies are subject. (Notably, if a city were to regulate freight or trucks originating out of state more harshly than local trucks, or to regulate only out-of-state freight or trucks, the less permissive per se invalidity test would likely apply.)

C.2. State or local Government-Imposed User Fees and the dCC: Variation of the Pike Balancing Test

Many types of user fees have been upheld in the face of dCC scrutiny. Road tolls are ubiquitous and usually do not give rise to dCC claims. Where they do, many have been upheld. 108 When assessing the constitutionality of fees, courts apply a version of the Pike balancing test applicable when a state or local government charges for the use of facilities it provides to those engaged in interstate commerce: "a levy is reasonable... if it (1) is based on some fair approximation of the use of the facilities, (2) is not excessive in relation to the benefits conferred, and (3) does not discriminate against interstate commerce." ¹⁰⁹ In light of this case law, any efforts to price freight transportation by out-of-state entities or trucks must be tied to the value provided; that is, a fee should generally compensate a state or local government for the services it provides (e.g., use of the roadway).

An example of a fee that was struck down on the basis that it failed to satisfy prongs (1) and (2) was a fee for passenger trips on a ferry from Bridgeport, Connecticut to Port Jefferson, New York. While the U.S. Court of Appeals for the Second Circuit deemed the ferry trip fee non-discriminatory, it held that because the fee funded other port district activities like harbor dredging, it was both excessive and funded services completely unrelated and unavailable to the fee payers." 110 While a fee should be based on "some fair approximation" of the value of the service provided, it needn't be a perfect match: "so long as the toll is based on some fair approximation of use or privilege for use... it will pass constitutional muster, even though some other formula might reflect more exactly the relative use of the state facilities by individual users."111 For example, the Supreme Court upheld user fees even though they did not perfectly apportion fee amounts among airlines and airport concessionaires. 112 Fees or charges for freight transport could arguably be tied to a "fair approximation" of use" if they internalize freight transportation externalities.

C.3. "Flat" road use taxes subject to different dCC test under American Trucking Ass'ns v. Scheiner

Fees on freight transportation that are not assessed as tolls need to be carefully structured to avoid offending interstate commerce. In particular, courts have taken issue with "flat" taxes – that is, taxes or fees that trucks

¹⁰⁷ Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970).

¹⁰⁸ Cohen v. R.I. Turnpike & Bridge Auth., 775 F. Supp. 2d 439, 447 (D.R.I. 2011); Janes v. Triborough Bridge & Tunnel Auth., 97 F. Supp. 2d 320 (S.D.N.Y. 2013).

¹⁰⁹ Nw. Airlines, Inc. v. Cnty. of Kent, Mich., 510 U.S. 355, 369 (1994); Evansville-Vanderburgh Airport Auth. Dist. v. Delta Airlines, Inc., 405 U.S. 707, 716-17 (1972).

¹¹⁰ Bridgeport & Jefferson Steamboat Co. v. Bridgeport Port Auth., 567 F.3d 86, 88 (2d Cir. 2009).

¹¹¹ Evansville-Vanderburgh Airport, 405 U.S. at 716-17, quoted in Nw. Airlines, 510 U.S. at 362-63.

¹¹² Nw. Airlines.

or other vehicles must pay to access a state's roads. Even where these flat taxes are identical for in-state and out-of-state vehicles, they may violate the dCC because an in-state vehicle, which presumably drives much more on the state's roads, gets more value for the same price (in other words, the flat fee is not tied to the service provided, road usage, because out-of-state vehicles pay more on a per-mile basis). For example, in American Trucking Ass'ns v. Scheiner, the U.S. Supreme Court struck down a marker fee (a sort of registration fee for any truck – registered in Pennsylvania or elsewhere – to drive on Pennsylvania's roads) and a per-axle fee paid annually for each truck that drove through the state. While these charges were facially the same for trucks registered in Pennsylvania and those registered elsewhere, the Court struck them down because the privilege exchanged for the taxes were "several times more valuable to a local business than to its out-of-state competitors."113 The Court also held that the Pennsylvania charges did not pass the "internal consistency test," which considered the impacts on interstate commerce if multiple jurisdictions were to enact the same type of requirement, writing, "[i]f each State imposed flat taxes for the privilege of making commercial entrances into its territory, there is no conceivable doubt that commerce among the States would be deterred."114 The Court's ruling does not disallow flat taxes in all circumstances, noting that they may be imposed "when they are the only practicable means of collecting revenues from users and the use of a more finely gradated user fee schedule would pose genuine administrative burdens." ¹¹⁵ Measuring road usage was not deemed to pose such an administrative burden.

What this "flat" tax case law means for freight pricing is that legal risks might attach to, for example, the charging of an annual fee (beyond perhaps a nominal registration amount) for a truck to access certain warehouses or to deliver freight to a city's streets within a ZEDZ. Doing so would expose a local or state government to legal risk under the dCC because such a fee treats local trucks that make frequent deliveries more favorably than those that are based far away and make use of the Zone's streets only sporadically.

D. U.S. Federal Highway Administration and Road Tolling

Tolls or other projects on federal-aid highways (roads eligible for Federal Highway Administration (FHWA) funding, "other than local road[s] or rural minor collector[s]")116 must comply with U.S.C. Title 23 (Highways). A key question, therefore, is whether any area subject to a planned freight program falls or encompasses all or part of any "federal-aid highway." If this is the case, federal law considerations will become an issue – in particular, with respect to the ability to toll federal roads. Local authority to toll federal-aid highways is limited without express approval from the FHWA, whether or not through a special program like the (no longer funded

¹¹³ Am. Trucking Ass'ns v. Scheiner, 483 U.S. 266, 267 (1987).

¹¹⁴ Id. at 284.

¹¹⁵ Id. at 296.

¹¹⁶ 23 U.S.C. §101(a)(6) defines a "Federal-aid highway" as "a public highway eligible for assistance under this chapter other than a highway functionally classified as a local road or rural minor collector." "Highway" is a broad term that includes roads, streets, parkways, rights-of-way, bridges, tunnels, and more. Id. §101(a)(11). Federal-aid highways comprise approximately one-quarter of public roads in the United States. Federal-Aid Highway Program (FAHP): In Brief R44332, Cong. RSCH SERV. at 1 (Mar. 1, 2021), https://fas.org/sgp/crs/misc/R44332.pdf.

but still operational) Value Pricing Pilot Program¹¹⁷ and other statutory grant programs.¹¹⁸ Otherwise, states may assess tolls on federal-aid highways only allowed upon their construction or reconstruction and only in accordance with federal law. 119

This brief discussion is included because some strategies to regulate freight trucks could involve tolling on federal highways, including those that are technically designated as federal highways but effectively function as city streets. Note that many states also have jurisdiction over road tolling, effectively limiting or preempting local governments from charging for road use. In such a case, the tolling of a city's streets would need state enabling legislation. In all instances the viability of road tolling will need to be assessed through the lens of applicable federal and state laws.

E. Local Authority Under State Law

Where a local government, rather than a state, is the jurisdiction seeking to regulate or limit freight vehicle pollution, questions of legal authority under state law will arise alongside the more universal federal law considerations. Because there are fifty different states' bodies of law, with even more variation among local jurisdictions within each state, this subpart discusses in only very general terms the relevant state law questions.

For one, a local government must determine what authority it has vis-à-vis state law to regulate air pollution. If a state retains all authority over air pollution regulation, localities will likely be unable to regulate the air emissions characteristics of warehouses (though state law should be reviewed carefully to determine if there are pathways forward). Many states, however, delegate some level of authority over air emissions to local governments, or establish (or allow for the establishment of) regional air authorities. Similar questions will arise with respect to whether a local government has authority to impose taxes and fees and whether a state court would view a WAIRE-style mitigation fee as a fee rather than a tax or other charge for which a local government may not have authority. Local governments, along with states, will also need to determine whether their existing law allows them to establish a WAIRE-style program through regulatory action or if legislation will be needed.

¹¹⁷ Value Pricing Pilot Program, U.S. DEP'T OF TRANSP. FED. HIGHWAY ADMIN., https://ops.fhwa.dot.gov/congestionpricing/value_pricing/ (last visited June 6, 2024).

¹¹⁸ See, e.g., the 23 U.S.C. § 133 surface transportation blog grant program and 23 U.S.C. § 149, a congestion mitigation and air quality improvement program.

¹¹⁹ 23 U.S.C. § 129 (2021).

IV. CALIFORNIA'S ADVANCED CLEAN FLEETS (ACF) RULE AND OTHER DRAYAGE TRUCK APPROACHES

IV. CALIFORNIA'S ADVANCED CLEAN FLEETS (ACF) RULE AND OTHER DRAYAGE TRUCK APPROACHES

One category of approaches a state or city might take to reduce the impact of warehouses or e-commerce distribution centers involves reducing GHG and local air pollution from the drayage vehicles that serve these facilities. Drayage trucks are (often) short-haul vehicles that transport freight from its point of arrival at a seaport or railyard to the next phase of its (generally over-road) journey, or vice-versa to its point of departure at such a seaport or railyard following its domestic over-road journey. 120 Generally, local governments will not be the primary regulators for drayage trucks; if California's Advanced Clean Fleets Rule (ACF) rule is granted a waiver from preemption by the USEPA (as discussed below), only states will be able to adopt it under Section 177 of the CAA. A city seeking to have ACF in place within its jurisdiction would have to work with the state to adopt the rule statewide.

This Part looks at part of ACF aimed at phasing out fossil-fueled drayage trucks at ports and railyards in California, along with a few other efforts to limit drayage truck emissions, also in California. These regulatory programs (with the exception of JETSI, described in subpart IV.F, which is purely voluntary) involve transitioning these vehicle fleets from diesel-powered to electric or hydrogen. Such measures may be viewed by courts as a proxy for vehicle emissions and, possibly, fuel economy standards. Accordingly, the potential for preemption by the CAA, EPCA, and the FAAAA must be considered. While federal preemption concerns cannot be ruled out entirely, strategic policy design can mitigate preemption scrutiny. Two aspects of program design that can help mitigate preemption scrutiny include (1) pursuing a Clean Air Act waiver from the USEPA for ACF (which, if granted, may also adopted by other states); and (2) avoiding the regulation of new (as opposed to in-use) vehicles.

A. Advanced Clean Fleets (ACF) Rule for Drayage Trucks

In April 2023, the California Air Resources Board (CARB) adopted the Advanced Clean Fleets (ACF) rule, 121 which includes rules for drayage trucks operating in the state. 122 The ACF implements Gov. Newsom's Executive Order (EO) N-79-20, which set a goal for 100 percent zero-emission drayage trucks in the State by 2035 and ordered CARB to develop "regulations requiring increasing volumes of new zero-emissions trucks... sold and

¹²⁰ See Advanced Clean Fleets Regulation - Drayage Truck Requirements, CAL. AIR RES BD. (Sept. 22, 2023), https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-fleets-regulation-drayage-truck-requirements. ¹²¹ 13 Cal. Code Regs. § 2014 et. seq. (2023).

¹²² The others are (1) requirements for state and local government fleets, 13 Cal. Code Regs. § 2013 (2023); (2) requirements for certain "high-priority fleets," 13 Cal. Code Regs. § 2015 (2023); and (3) a mandate that, as of 2036, medium- and heavy-duty vehicle manufacturers sell only ZEVs, 13 Cal. Code Regs. § 2016 (2023).

operated in the State... [and] for all drayage trucks to be zero-emission by 2035."123 CARB points to the environmental justice benefits of the drayage rules, noting that the affected ports and railyards are "all located within about 1 mile of a disadvantaged community,"124 though this does not appear to have any particular legal significance here.

The ACF rule requires the registration of all drayage trucks that operate in California in a CARB Online System, and through 2023 allowed only trucks with a model year of 2010 or newer, or trucks with equivalent or better emissions controls, to register. Per the terms of the Rule, as of January 1, 2024, only zero-emissions drayage trucks (either battery electric or hydrogen) may be registered as new vehicles in the Online System. 125 (As discussed later, CARB is presently declining to enforce this restriction). 126 For diesel-fueled trucks registered before 2024, trucks are required to be retired (at least for purposes of use as a drayage truck in California) upon the earlier of when they reach 800,000 miles or when the engine is eighteen years old (engines may be used for a minimum of thirteen years of useful life under the CARB system, further establishing that the ACF Rule does not regulate new motor vehicles or motor vehicle engines, as expressly preempted by the CAA). 127 Beginning in 2035, all diesel-fueled trucks will have been phased out of the CARB system and only zeroemission drayage trucks will be permitted. 128 Other requirements include that trucks visit a California railyard or seaport once per year to remain in good stead under the California system. 129 Failure to make one such visit each year results in the removal of the vehicle from the CARB system, such that it can no longer be used at these sites. 130 Certain exceptions apply: vehicles damaged beyond repair in an accident may be replaced by a diesel engine of the same or newer model year and stay in place until the original vehicle would have been retired;¹³¹ limited extensions are available for ZEVs that have been ordered but not yet delivered;¹³² and extensions are available for delays in construction of needed charging infrastructure. 133

B. Legal Challenges and CARB Request for USEPA Waiver

B.1. Litigation and Regulatory Activity with Respect to CAA Preemption in 2023 and 2024

https://ww2.arb.ca.gov/sites/default/files/2023-12/231228acfnotice ADA.pdf.

¹²³ Cal. E.O. N-79-20 (Sept. 23, 2020). This Executive Order also set goals that "100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035" and that "100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible" and directs CARB to develop regulations in accordance with these goals.

¹²⁴ See Advanced Clean Fleets Regulation - Drayage Truck Requirements, supra note 120.

¹²⁵ 13 Cal. Code Regs. § 2014.1(a)(1)(A) (2023).

¹²⁶ Advanced Clean Fleets Regulation: ENFORCEMENT NOTICE, CAL. AIR RES. BD. (Dec. 28, 2023),

¹²⁷ 13 Cal. Code Regs. § 2014.1(a)(1)(C) (2023).

¹²⁸ 13 Cal. Code Regs. § 2014.1(a)(2)(A) (2023).

¹²⁹ 13 Cal. Code Regs. § 2014.1(a)(1)(B) (2023).

¹³¹ 13 Cal. Code Regs. § 2014.1(a)(8)(H) (2023).

¹³² 13 Cal. Code Regs. § 2014.1(a) (2023).

¹³³ 13 Cal. Code Regs. § 2014.2(b) (2023).

The ACF Rule has the potential to be preempted by the CAA or the FAAAA, in whole or in part. The question of federal preemption is playing out before the USEPA and in court. In October 2023, the California Trucking Association (CTA) sued CARB in the U.S. District Court for the Eastern District of California seeking to invalidate ACF. In its complaint, the suit outlines four broad ways in which plaintiffs allege ACF is unlawful: (1) preemption by the CAA; (2) preemption by the FAAAA; (3) violation of the dormant Commerce Clause; and (4) violation of due process rights under the Fifth and Fourteenth Amendments. 135

The following month, November 2023, CARB submitted a request to USEPA to issue a CAA Section 209 waiver for ACF or to clarify that no waiver is needed. 136 While Section 209 preempts a broad swath of state and local standards "relating to the control of emissions from new motor vehicles or new motor vehicle engines," 137 California's unique ability to obtain a waiver from USEPA and share that waiver with other states on an opt-in basis shields standards for which a waiver from preemption has been granted. However, even if the USEPA grants the requested waiver, local governments in states that do not also adopt ACF will not be able to rely on that waiver, and any analogous requirements adopted by local governments in those states could be subject to preemption scrutiny.

For the time period before a waiver is granted (or USEPA determines no waiver is required), CARB appears to be insulating itself from preemption challenges by declining to enforce many aspects of ACF. The agency issued an enforcement notice in the last days of December 2023 stating that it "will not take enforcement action as to the drayage fleet reporting requirements or registration prohibitions until USEPA grants a preemption waiver or determines a waiver is not necessary." 139 Despite this period of non-enforcement, CARB has not suspended the ACF Rule itself and "reserves all of its rights to enforce the ACF regulation in full for any period for which a waiver is granted or for which a waiver is determined to be unnecessary, including (but not limited to) the right to remove non-compliant vehicles added to fleets while the waiver request is pending." ¹⁴⁰ Further, the notice "encourages fleets to voluntarily report and comply while the waiver request is pending" and notes that fleet owners that add new internal combustion engine vehicles to their drayage fleets beginning in 2024 will receive

¹³⁴ See, e.g., Am. Trucking Ass'ns, Inc. v. City of Los Angeles, 569 U.S. 641 (2013).

¹³⁵ COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, Cal. Trucking Ass'n v. Cal. Air Resources Bd., No. 2:23-cv-02333-TLN-CKD (E.D. Cal. Oct. 16, 2023).

¹³⁶ Clean Air Act § 209(b) Waiver And § 209(e) Authorization Request Support Document Submitted by the California Air Resources Board, submitted to U.S. Env't Protection Agency (Nov. 15, 2023) (hereinafter referred to as "CAA § 209(b) Waiver Support Document"), available at https://www.epa.gov/system/files/documents/2023-12/ca-waiver-carb-req-acf-2023-11-15.pdf. CARB's waiver request was accompanied by a request for an authorization under CAA § 209(e) for certain elements of the ACF that are not relevant here, and are therefore not discussed.

¹³⁷ 42 U.S.C. § 7543(b) (1990).

¹³⁸ According to CARB, seventeen states (inclusive of California), plus Washington, D.C., have adopted one or more of California's standards: California, Colorado, Connecticut, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia and Washington. States that have Adopted Cal.'s Vehicle Regs, Cal. Air Resources Bd. (last updated May. 2024), https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/states-haveadopted-californias-vehicle-regulations. Also according to CARB, Colorado, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont and Washington have adopted the most recent of such standards, the ACT Rule. Id. ¹³⁹ Advanced Clean Fleets Regulation: ENFORCEMENT NOTICE, supra note 126. ¹⁴⁰ Id.

a notice stating that such vehicles "may be restricted from performing drayage services once the U.S. Environmental Protection Agency grants California a waiver." 141

CARB appears to rely on two broad theories in defending the lawfulness of ACF. For one, CARB is seeking a waiver for the aspects of ACF that USEPA determines require one. Second, CARB has asserted that it is within its authority to promulgate ACF, and while it is seeking a Section 209 waiver it continues to maintain that elements of ACF – particularly the drayage rules – do not require one. ¹⁴² Thus, CARB is approaching preemption from both sides – insisting that the drayage truck rules are lawful but seeking a Section 209 waiver from USEPA in case the agency or a court disagrees.

In February 2024, CTA had its suit voluntarily dismissed without prejudice. 143 While secondhand reporting on these events is limited, it stands to reason that CTA may challenge ACF once again if USEPA grants the rule a waiver, this time arguing that any such waiver is unlawful. In the meantime, two additional suits have been filed in federal court challenging the ACF rule. In April 2024, the American Free Enterprise Chamber of Commerce sued the CARB administrator in the U.S. District Court for the Eastern District of California alleging that ACF is preempted by the CAA, EPCA (referred to in the complaint by a law that amended EPCA, the Energy Independence and Security Act of 2007¹⁴⁴), and the FAAAA. ¹⁴⁵ The complaint also contends that an EPA waiver "would have no operative effect on the validity of the drayage rule [because the] rule was adopted as a state law without a waiver, and so is void ab initio."146 In May 2024, seventeen states, led by Nebraska, and the Nebraska Trucking Association filed suit – also in the Eastern District of California – against CARB's administrator. This suit alleged preemption by the CAA and FAAAA and violation of the dormant Commerce Clause. Each of these suits are in their very early stages and may evolve as the USEPA reviews CARB's waiver request.147

B.2. Implications of a Potential USEPA Waiver to CAA Section 209 Preemption

A waiver under Section 209(b) of the CAA would mitigate preemption concerns under other federal statues as well. When USEPA grants a waiver to a California standard, the standard takes the effect of federal regulation, meaning that preemption (i.e., the bar on a lower level of law by a higher level of law) is no longer the apposite question. Federal courts that have considered the issue have held that preemption by federal law "is not implicated when federal laws conflict with one another. In such a case courts have a duty to give effect to

¹⁴² CAA § 209(b) Waiver Support Document at 19-20, supra note 136.

¹⁴³ NOTICE OF VOLUNTARY DISMISSAL OF DEFENDANT CAL. AIR RES. BD., Cal. Trucking Ass'n v. Cal. Air Res. Bd. ("CTA v. CARB"), No. 2:23-cv-02333-TLN-CKD (E.D. Cal. Feb. 29, 2024).

¹⁴⁴ 42 U.S.C. ch. 152 § 17001 et seq.

¹⁴⁵ COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, Am. Free Enterprise Chamber of Commerce v. Cliff, 2:24-at-0040 (E.D. Cal. Apr. 1, 2024).

¹⁴⁶ Id. at 50.

¹⁴⁷ COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, Neb. v. Cliff, 2:24-cv-10364-JAM-CKD (E.D. Cal. May 15, 2024).

both provisions, if possible."148 Moreover, "[i]n Massachusetts v. EPA the Supreme Court found overlap but no conflict between EPA's authority to regulate greenhouse gases from new motor vehicles under the CAA... and [the National Highway Traffic Safety Administration (NHTSA)'s] authority under EPCA to promote energy efficiency by setting mileage standards." ¹⁴⁹ While the harmonization of CAA Section 209(b) and FAAAA Section 14501(c)(1) does not appear to have been considered in significant case law, the analysis regarding preemption - that regulations that have obtained Section 209(b) waivers have the effect of federal regulation and therefore should not be preempted by another federal statute – would apply here as well. It is worth noting that the applicability of Section 209(b) waivers and their relation to EPCA Section 509(a) preemption is the subject of litigation presently before multiple federal courts, as described in the next paragraph. For the moment, however, the law remains that a waiver of CAA Section 209 preemption is likely to protect from preemption by at least some other federal laws.

The ACF Rule will likely face future litigation if the USEPA grants the requested waiver. In that case, a different set of claims may result – specifically, parties opposing the ACF Rule would likely challenge the granting of USEPA's waiver. The CTA previewed some of these claims in its 2023 complaint, where it argued that ACF does not meet the requirements for a Section 209 waiver and posited that a waiver for ACF would run afoul of the "major questions doctrine." 150 Similar questions relating to the validity of separate California waivers, for the state's Advanced Clean Cars Rule¹⁵¹ and Advanced Clean Trucks Rule, 152 are at issue in *Ohio v. EPA* 153 and Western States Trucking Ass'n v. EPA, 154 respectively. (Western States Trucking is presently held in abeyance pending Supreme Court decisions in Ohio v. EPA and another case, Texas v. EPA. 155)156 It stands to reason that, if USEPA grants the requested waiver for ACF, a larger number of plaintiffs would join in litigation efforts seeking to invalidate it.

C. Avoiding Preemption by Federal Law in the Absence of an EPA Waiver

C.1. Strategies to Avoid the Regulation of New Trucks

¹⁴⁸ Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 343–44 (D. Vt. 2007), citing U.S. v. Borden Co., 308 U.S. 188, 198 (1939); and Radzanower v. Touche Ross & Co., 426 U.S. 148, 155 (1976).

¹⁴⁹ Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie at 344.

¹⁵⁰ COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, CTA v. CARB (Oct. 16, 2023).

¹⁵¹ California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Notice of Decision, Env't Protection Agency, 87 Fed. Reg. 14332 (Mar. 14, 2022).

¹⁵² Cal. Advanced Clean Trucks (ACT) Rule, 13 Code Cal. Regs. § 1963 et. seq. (2020).

¹⁵³ Ohio v. U.S. Envt. Protection Agency, No. 22-1081. (D.C. Cir. 2022). Opinion issued Apr. 9, 2024.

¹⁵⁴ Western States Trucking Ass'n v. Env't Protection Agency, No. 23-1143 (D.C. Cir. 2023).

¹⁵⁵ State of Tex. v. U.S. Envt. Protection Agency, No. 22-1031, et. al. (D.C. Cir. 2022).

¹⁵⁶ ORDER, Western States Trucking Ass'n v. Env't Protection Agency (Dec. 21, 2023). See also Alex Nieves, *Court pauses suit* challenging Cal. Truck emissions waiver, GREENWIRE (Dec. 22, 2023).

As discussed above, the Clean Air Act preempts state and local standards "relating to the control of emissions from new motor vehicles or new motor vehicle engines" (emphasis added). 157 The ACF Rule's provisions on drayage trucks are careful to, at least facially, regulate only trucks and truck engines already in use. Any drayage truck could have been registered in the CARB system before the December 31, 2023 deadline. Once registered, a truck has between thirteen and eighteen years of useful life. During those years, truck operators are subject to relatively non-substantive requirements like reporting and making one visit to a California port or intermodal railyard each year. The Clean Air Act specifies that its preemption provisions do not "preclude or deny to any State or political subdivision thereof the right otherwise to control, regulate, or restrict the use, operation, or movement of registered or licensed motor vehicles,"158 and the ACF Rule drayage requirements are not unlike other state and local requirements for in-use vehicles like yearly registration and tailpipe emissions tests. Moreover, the ACF Rule has several exceptions to its prohibition on new fossil-fueled trucks and truck engines, including for damage and for delays in vehicle delivery. These exceptions likely do not offer legal protection from preemption claims, but they may ease concerns from the regulated parties.

While the ACF Rule has been somewhat insulated from preemption challenge by primarily regulating and phasing out existing vehicles, one aspect does appear more vulnerable: the prohibition on registering any diesel-fueled drayage trucks in the CARB online system as of 2024. This could be viewed as a "control of emissions from new motor vehicles," as expressly preempted by CAA Section 209. Preemption concerns may be mitigated by the several months' lead time drayage operators of existing diesel-power trucks have to register their trucks in the CARB system, truck owners' ability to use their non-ZEV trucks for activities other than drayage (in other words, the ability to use a truck for drayage purposes could potentially be viewed as an incentive), and by the Rule's overall regulatory focus on in-use trucks rather than new ones, but such concerns cannot be eliminated.

C.2. FAAAA Considerations

The FAAAA jurisprudence can be quite broad, having held preempted even seemingly minor requirements like verifying the age of recipients of tobacco shipments. 159 The fullest form of protection against FAAAA preemption would be to obtain a CAA Section 209 waiver, which would require courts to harmonize the FAAAA with CAA Section 209, if possible, rather than find preemption by the FAAAA. 160 An ACF-style program with respect to drayage trucks could be designed to pass muster under the FAAAA, but the analysis will be factspecific, and potentially subject to significant FAAAA scrutiny. In particular, a 2013 U.S. Supreme Court decision in American Trucking Associations, Inc. v. City of Los Angeles¹⁶¹ is likely to loom large in the event of a challenge. There, the Port of Los Angeles – a division of the city – required trucking companies operating in the

¹⁵⁷ 42 U.S.C. § 7543(a) (1990). "The term 'new motor vehicle' means a motor vehicle the equitable or legal title to which has never been transferred to an ultimate purchaser; and the term 'new motor vehicle engine' means an engine in a new motor vehicle or a motor vehicle engine the equitable or legal title to which has never been transferred to the ultimate purchaser." 42 USC § 7550(3). ¹⁵⁸ 42 U.S.C. § 7543(d) (1990).

¹⁵⁹ Rowe v. N.H. Motor Transp. Ass'n, 552 U.S. 364 (2008).

¹⁶⁰ Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie, 508 F. Supp. 2d 295, 343–44 (D. Vt. 2007).

¹⁶¹ Am. Trucking Ass'ns, Inc. v. City of Los Angeles, 569 U.S. 641 (2013).

Port to post placards in their trucks and to develop parking plans for their vehicles. 162 Though the requirements at issue in American Trucking Associations were contractual, the Court dispensed with any notion that such requirements were voluntary due to the imposition of potential fines and even up to six months in prison for noncompliance. Requirements to post a placard with a contact telephone number and provide a plan for vehicle parking cannot be called anything more than administrative, and yet the Supreme Court held that they related to the "price, route, or service of" motor carriers and were therefore preempted by Section 14501(c)(1) of the FAAAA.¹⁶³ An ACF-style policy enacted at the local level is unlikely to impose prison sentences, but the case highlights that non-voluntary measures for drayage vehicles may fall in the FAAAA's crosshairs.

In the absence of a CAA waiver, the FAAAA demands careful consideration of both how mandatory a policy is and whether it "relate[s] to the price, route, or service of [a] motor carrier... with respect to the transportation of property." 164 For example, a requirement that a drayage truck be retired earlier than its owner might otherwise choose and replaced with a zero-emissions truck at a potentially greater cost could run afoul of the "price" aspect of FAAAA preemption under Section 601. A prohibition on diesel-fueled drayage trucks in certain locations could change the "route, or service" of those trucks. In any instance, the analysis will heavily depend on the facts at hand, and on whether any exceptions to FAAAA preemption (as discussed in Part III.B) apply.

D. Lawsuit in State Court

There have also been challenges to the ACF rule in state court. The Western States Petroleum Association (WSPA) sued CARB in the Superior Court of the State of California, County of Fresno, seeking invalidation of the ACF Rule. 165 The plaintiff's claims are mostly under California state law; the only claim touching on federal law alleges violation of the dormant Commerce Clause because ACF "forces manufacturers to contend with nonuniform standards..., effectively exclude[s] out-of-state-truckers from the California trucking market..., [and] effectuate[s] a nationwide transformation of the trucking industry." ¹⁶⁶ WSPA did not claim preemption by the Clean Air Act or any other federal law. The state law claims assert that the ACF violates a provision of California law that disallows requiring "the retirement [or] replacement... of a self-propelled commercial motor vehicle;"167 violates the California Environmental Quality Act¹⁶⁸ due to inadequate environmental review; fails to consider cost-effectiveness and economic impact as required by California's Health & Safety Code and Administrative Procedures Act; falls outside CARB's authority; and deprives California businesses of vested

¹⁶² Am. Trucking Ass'ns, Inc. v. City of Los Angeles, 569 U.S. 641 (2013).

¹⁶⁴ 49 U.S.C. § 14501(c)(1) (2015).

¹⁶⁵ W. States Petroleum Ass'n v. Cal. Air Res. Bd., Case No. 23CEG02976 (Cal. Super. Ct. July 21, 2023).

¹⁶⁶ FIRST AMENDED VERIFIED PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF ("W. States Petroleum Complaint"), 52, W. States Petroleum Ass'n v. Cal. Air Res. Bd., Case No. 23CEG02976 (Oct. 5, 2023).

¹⁶⁷ Cal. SB-1 § 18.

¹⁶⁸ Cal. Pub. Res. Code §21000 et seq.

rights to continue operating. 169 The case is still in its relatively early stages, and its status should be monitored by cities and other jurisdictions looking to implement ACF-style programs.

E. Fee for Containers on Non-ZEV Drayage Trucks at the Ports of Los Angeles and **Long Beach**

In addition to statewide regulation of drayage trucks, in 2022 the Ports of Los Angeles and Long Beach (both departments of their respective cities) began charging cargo owners a fee of up to \$20 per loaded container to enter the ports.¹⁷⁰ Containers carried on zero-emissions drayage trucks and some low-NOx trucks are exempt from the fee. 171 As discussed earlier in this white paper, the CAA and EPCA (and the incentive vs. de facto mandate distinction) and the FAAAA could all theoretically be at play here. There are two main aspects of the Ports' charge that can help mitigate it from federal preemption challenge. It does not appear that the Ports' charge has been challenged in court; the analysis that follows is intended to guide other jurisdictions who may take a similar approach in the future.

First, a fee of \$20 per container is arguably small enough to amount to an incentive to have cargo hauled on ZEV trucks rather than on diesel-powered vehicles. The argument here is that \$20 does not "effectively compel a particular course of action" with respect to ZEVs, 172 or leave vehicle "owners with no rational alternative" to purchasing lower-emitting or more fuel efficient vehicles. 173 While there is no hard-and-fast rule as to size of fee or mix of factors that would make a fee an incentive as opposed to a de facto mandate, it would appear that the Ports consider the \$20 fee to fall on the incentive side of the spectrum.

Second, the fee is charged to the owner of the cargo, not to the truck owner or operator, nor to a freight hauling company (i.e., a "motor carrier"). This is relevant because it bolsters an argument that the fee does not "relate to the price, route, or service of any motor carrier," as is prohibited by the FAAAA. 174 The overall cost to the cargo owner is increased, but the price of the motor carrier's services is not affected.

For the Ports and any other local or state jurisdiction considering a similar fee, neither of these two arguments is fully protective against preemption; the analysis is fact-dependent and would depend on what impact a \$20 (or another amount) fee had both on the mix of factors that might compel purchasing a ZEV and the impact it had on the "price, route, or service" of motor carriers. Together, though, these two factors – the limited dollar

¹⁶⁹ W. States Petroleum Complaint at 4-6.

¹⁷⁰ Port of Long Beach Launches Clean Truck Fund Rate, PORT OF LONG BEACH (Apr. 1, 2022), https://polb.com/port-info/news-andpress/port-of-long-beach-launches-clean-truck-fund-rate-04-01-2022/ and Clean Truck Program, PORT OF LOS ANGELES, https://www.portoflosangeles.org/environment/air-quality/clean-truck-program (last visited June 9, 2024). ¹⁷¹ Id

¹⁷² Ass'n of Taxicab Operators at 542.

¹⁷³ Metro. Taxicab II at 157.

¹⁷⁴ 49 U.S.C. § 14501(c)(1) (2015).

amount of the fee and that it applies to cargo owners – paint the picture of a relatively minor fee that does not significantly impact the freight industry.

Another legal question relevant to the validity of the fee has to do with the legal parameters within which local government units may assess fees. (The Ports of Los Angeles and Long Beach are both arms of their respective local governments.) This is a question of state law, and local governments will need to consider what charges they are permitted to impose under state law, as well as the line between those for which one does have authority (for example, a fee) and those for which it does not (for example, many states do not allow cities to impose taxes without state authorization).

F. South Coast Air Quality Management District (SCAQMD) Drayage Truck Program at Ports of Los Angeles and Long Beach

Voluntary measures are also helping to scale up non-diesel freight trucks in southern California. In 2021, the SCAQMD announced the Joint Electric Truck Scaling Initiative (JETSI) to deploy 100 battery-electric drayage and short haul trucks largely across two ports—Los Angeles and Long Beach—and nearby distribution centers. 175 SCAQMD states that the "project is poised to reduce five tons of pollutants such as nitrogen oxides (NOx) and particulate matter (PM) annually... as well as eliminate 8,247 metric tons of greenhouse gas emissions."¹⁷⁶

JETSI is grant-funded by CARB with \$14.5 million from California's cap-and-trade program, as well as with \$47 million in funds from SCAQMD and from private project partners. 177 Two fleet operators, NFI and Schneider, will each deploy 50 battery-electric trucks (from Volvo and Daimler) and install DC fast chargers, and NFI will install 1 MWh of solar generation and 5 MWh of battery energy storage. ¹⁷⁸ In addition to trucks and chargers, "ancillary support services such as networking software for charger management, demand response, and fleet uptime and reliability, [and] complete [Battery Electric Truck] maintenance service plans... will enable fleets to utilize these trucks to meet revenue service needs." 179 Press articles about JETSI boast that NFI "will operate the first 100% zero-emission freight logistics fleet in California" at one of its facilities." ¹⁸⁰

¹⁷⁵ South Coast AQMD Leads North America's Largest Deployment of Class 8 Battery-Electric Trucks, S. Coast Air Quality Mgmt. Dist. Press Release (Aug. 31, 2021), http://www.aqmd.gov/docs/default-source/news-archive/2021/JETSI-aug31-2021.pdf.

¹⁷⁷ LCTI: Joint Electric Truck Scaling Initiative (JETSI), Cal. Air. Res. Bd., https://ww2.arb.ca.gov/lcti-joint-electric-truck-scaling-initiativejetsi (last visited June 9, 2024). Project partners include the Port of Los Angeles, the Port of Long Beach, Southern California Edison, National Freight Industries (NFI), Schneider, Daimler, Volvo, CALSTART, the California Energy Commission, and several other academic, nonprofit, and other partners. Id.

¹⁷⁸ Id.

¹⁷⁹ Id.

¹⁸⁰ New project deploys 100 electric Class 8s in California, FLEETOWNER (Aug. 31, 2021), https://www.fleetowner.com/emissionsefficiency/electric-vehicles/article/21173995/new-project-deploys-100-electric-class-8s-in-california.

JETSI is a purely voluntary program, grant-funded by CARB and led by SCAQMD. It contains no mandates and therefore legal issues associated with it are limited to more routine matters of permitting (for chargers) and contracting and funding agreements; it does not involve complex questions of federal law. 181 Given the cost of a program akin to JETSI, it is likely that a city would need to work with a state entity or other funder, but this is a question of funding availability and largely not a legal question.

¹⁸¹ In consultation with the relevant agencies with jurisdiction over sites where chargers or solar panels would be installed, SCAQMD determined JETSI to be exempt from California Environmental Quality Act (CEQA) review. Notice of Exemption From CEQA, S. COAST AIR QUALITY MGMT. DIST. (Feb. 12, 2021), http://www.aqmd.gov/docs/default-source/ceqa/notices/notices-ofexemption/2021/noe_south-coast-aqmd-california-joint-electric-truck-scaling-initiative.pdf?sfvrsn=6. See also Cal. Joint Elec. Scaling Initiative, CAL. ENV'T. QUALITY ACT (Feb. 16, 2021), https://ceganet.opr.ca.gov/2021020278.

V. SITE-BASED EMISISONS STANDARDS: INDIRECT SOURCE RULE FOR WAREHOUSES

V. SITE-BASED EMISSIONS STANDARDS: INDIRECT SOURCE **RULE FOR WAREHOUSES**

This Part V looks at an emerging regulatory ¹⁸² approach that seeks to avoid regulating directly the air emissions or fuel economy characteristics of freight vehicles: air pollution rules for warehouses in their capacity as "indirect sources" of freight vehicle emissions. In other words, warehouse operations necessarily involve the movement of freight vehicles, emissions from those freight vehicles, and emissions from on-site sources. The "indirect source rule" approach allows warehouse operators to choose how to reduce overall emissions attributable to their on- and off-site operations.

This Part reviews California's South Coast Air Quality Management District's (SCAQMD's) Rule 2305, which establishes an indirect source rule called the Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. It also addresses current New York State legislation that would have similar effect. Indirect source rules for warehouses raise the potential for federal preemption under the CAA and the FAAAA. California has submitted a revision to the SCAQMD portion of its State Implementation Plan (SIP) under Section 110 of the CAA;¹⁸³ if USEPA approves the inclusion of WAIRE in California's SIP, WAIRE will become federally enforceable and will therefore not be subject to federal preemption. If USEPA declines to approve California's SIP revision, and for other local or state governments that develop WAIRE-like programs, CAA and FAAAA preemption remain risks. With respect to the CAA, a flexible approach to compliance obligations that incentivizes, but does not require, the deployment of ZEV delivery trucks can mitigate but not eliminate preemption risk. From an FAAAA perspective, the fact that an indirect source rule regulates warehouses, not freight companies, is helpful in mitigating FAAAA preemption claims; for instance, a district court in California held that the indirect source rule in place in southern California was not preempted by the FAAAA. 184 Whether a city would have the authority under state law to pursue major aspects of an indirect source regulation on its own, or if it would require state legislation, is a question of state law.

A. South Coast Air Quality Management District's WAIRE Program

In May 2021, SCAQMD adopted Rule 2305, which aims to reduce NO_x and PM emissions produced by light- and heavy-duty freight vehicles by regulating the indirect sources of those emissions, the warehouse facilities to and from which the trucks travel. 185 Rule 2305 establishes the Warehouse Actions and Investments to Reduce

¹⁸² Depending on applicable law, such regulation may require or benefit from state or local enabling legislation.

¹⁸³ Air Plan Approval; Cal.; S. Coast Air Quality Mgmt. Dist., 88 Fed. Reg. 70,616 (Oct. 11, 2023) (proposed; to be codified at 40 C.F.R. pt. 52).

¹⁸⁴ Cal. Trucking Ass'n v. S. Coast Air. Quality Mgmt. Dist. (CTA v. SCAQMD), No. 2:21-cv-6341 (C.D. Cal. 2021).

¹⁸⁵ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (May 7, 2021), https://www.aqmd.gov/docs/default-source/rulebook/reg-xxiii/r2305.pdf?sfvrsn=15.

Emissions (WAIRE) Program, a multi-faceted set of requirements and compliance pathways intended to reduce emissions that originate t or are attributable to the operations of warehouses. The WAIRE Program applies to "owners and operators of warehouses located in [SCAQMD's] jurisdiction with greater than or equal to 100,000 square feet of indoor floor space in a single building." 186

The overall gist of the WAIRE program is that warehouse operators must earn a certain number of "WAIRE Points" to meet their obligations. 187 These points are calculated based on a formula that multiplies weighted annual truck trips¹⁸⁸ to and from the warehouse times a "stringency" factor of 0.0025 WAIRE Points times an "annual variable" that increases over time. 189 WAIRE points may be earned by a range of measures listed in a "WAIRE Menu," including but not limited to acquiring or using ZEVs and near-zero emission vehicles (NZEVs); reducing truck visits; installing ZEV charging or fueling infrastructure; using ZEV charging or fueling infrastructure; installing or using onsite solar power; and installing air filtration in homes, schools, hospitals and other offsite spaces. 190 Alternatively, a warehouse operator and the SCAQMD may agree to a "Custom" WAIRE Plan" that sets out a more tailored compliance pathway. 191 Adding further flexibility, WAIRE points can effectively be purchased through the payment of a mitigation fee equaling \$1,000 per WAIRE Point, 192 and WAIRE Points may be transferred between warehouses and compliance periods (but not both at once). 193 Warehouse owners are not directly required to earn WAIRE Points (they do have reporting obligations), but they can choose to do so on behalf of their operator tenants if they wish.

B. New York State Indirect Source Bill: The Clean Deliveries Act

A bill – A01718/S02127 – was proposed in January 2023 in New York State that would have directed the New York State Department of Environmental Conservation (NYSDEC) to adopt an approach similar to the WAIRE Program. The bill did not advance out of committee in the 2023 legislative session, and though it was rereferred to the Senate and Assembly committees on environmental conservation in January 2024, the 2024 legislative session ended with the bill having passed only in the Senate. 194 Referred to by advocates as the

¹⁸⁶ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (b).

¹⁸⁷ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (d)(1).

¹⁸⁸ Determined via another formula that weighs vehicle and warehouse size and whether the warehouse has a cold storage area. S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (d)(1)(b).

¹⁸⁹ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (d)(1)(a) and Table 2.

¹⁹⁰ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(3) and Table 3.

¹⁹¹ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(4).

¹⁹² S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(5).

¹⁹³ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305(d)(6).

¹⁹⁴ Senate Bill S2127B, THE NEW YORK STATE SENATE, https://www.nysenate.gov/legislation/bills/2023/S2127/amendment/B (last visited June 9, 2024).

"Clean Deliveries Act," A01718 has been supported by a coalition of local and national environmental and environmental justice groups. 195

The Clean Deliveries Act would "establish[] an indirect source review for certain warehouse operations," 196 and while the bill leaves many of the details to NYSDEC, it specifies that NYSDEC "shall promulgate rules and regulations providing for the... adoption of measures to reduce air pollution associated with emissions relating to qualifying warehouse operations, including mobile source emissions." ¹⁹⁷ In particular, the regulations to be developed by NYSDEC are to "creat[e] a points system in which warehouse operators must gain a certain number of points, based on the amount of truck traffic that results from their operations, [along with] mitigation measures such as acquiring and using zero-emissions vehicles, installing and using on-site electric vehicle charging equipment, using alternatives to truck or van trips... and/or installing solar electric power generation and battery storage systems; and requiring enhanced mitigation measures for warehouses located near sensitive receptors." ¹⁹⁸ In addition, the legislation would direct new warehouse facilities and those undergoing a "major modification" to "obtain a permit demonstrating that any additional traffic resulting from construction and operation will not result in a violation of national ambient air quality standards [(NAAQS)] established by [the USEPA] or... will not exacerbate" an existing NAAQS violation. 199 The bill would also direct NYSDEC to "establish ongoing monitoring and reporting requirements for warehouse operators," including with respect to the "average daily number of inbound and outbound vehicle trips by vehicle weight and class;" the average daily vehicle miles traveled" for those same vehicles; EV charging stations; on-site renewable energy" generation; and more.²⁰⁰ The legislation also would have required fees for registration in the eventual warehouse program and for noncompliance.²⁰¹

In other words, the Clean Deliveries Act would require NYSDEC to adopt a program similar in structure to the WAIRE Program in Southern California, at least as far as the compliance points system, reporting requirements, and fees go. The two programs (one existing, one contemplated) involve similar legal considerations, even though they are at different phases of development.

C. Legal Considerations for WAIRE-Style Programs, Including New York's Clean **Deliveries Act**

¹⁹⁵ Isabel Song Beer, Lawmakers say influx of e-commerce warehouses has spiked greenhouse gas emissions in Red Hook, urge regulation, BROOKLYN PAPER (Nov. 29, 2023), https://www.brooklynpaper.com/lawmakers-e-commerce-regulation-red-hook/. See also Who We Are, ELECTRIFYNY, https://electrifyny.org/about/ (last visited June 9, 2024).

¹⁹⁶N.Y. A01718 at proposed N.Y. Env't Conserv. L. § 74-0105. See https://legiscan.com/NY/bill/A01718/2023.

¹⁹⁷ Id. at proposed N.Y. Env't Conserv. L. § 74-0103(1).

¹⁹⁸ Id. at proposed N.Y. Env't Conserv. L. § 74-0103(2). The bill would also direct NYSDEC to "conduct a study regarding zero emissions zones."

¹⁹⁹ Id. at proposed N.Y. Env't Conserv. L. § 74-0103(3)(a).

²⁰⁰ Id. at proposed N.Y. Env't Conserv. L. § 74-0103(4).

²⁰¹ Id. at proposed N.Y. Env't Conserv. L. § 74-0103(5).

The WAIRE Program is structured to consider and limit exposure to federal preemption challenges, and though risk of legal challenge cannot be reduced to zero, a recent federal district court decision in litigation challenging the WAIRE rule²⁰² helps clarify the legal analysis with respect to the contours of an indirect source rule that conforms to applicable legal parameters. This subpart first discusses that litigation briefly, and then turns to questions of federal (and to a lesser extent state) law, imbuing the discussion throughout with analysis from the district court's decision. The Clean Deliveries Act does not actually develop an emissions-reducing program or enact any requirements for parties other than NYSDEC, and therefore the bill itself would likely not be subject to a ripe legal challenge, but an eventual program developed by NYSDEC could be. Therefore, the following legal analysis focuses mostly on the WAIRE Program; the implications for a New York State or any other state or local program would be similar.

C.1. WAIRE Litigation & District Court Decision

In August 2021, the California Trucking Association (CTA) filed suit against the SCAQMD challenging the lawfulness of Rule 2305 by alleging that the WAIRE Program was preempted by the CAA, the FAAAA, and state law (the litigation is referred to herein as "CTA v. SCAQMD"). 203 The plaintiffs challenged the WAIRE program on several grounds. First, CTA pointed to Section 209(a) of the Clean Air Act, which preempts state and local "standard[s] relating to the control of emissions from new motor vehicles or new motor vehicle engines." 204 CTA argued that "the language of [the CAA] is categorical. There is no exception for the indirect regulation the [SCAQMD] purports to undertake."205 In short, CTA contended that "[t]he only economically viable way to avoid triggering Rule 2305 (the rule through which the WAIRE program is implemented) sanctions is to acquire, and/or mandate that others acquire, ZE or NZE trucks on an accelerated basis."206 CTA further argued that the allowance of indirect source rules in SIPs permit only rules relating to "new or modified indirect source[s]," while the WAIRE program would apply to new and existing warehouses.²⁰⁷

In addition to invoking the CAA, CTA raised claims of FAAAA preemption. In CTA's view, the WAIRE program "will fundamentally redefine the economics of warehouse operation in the South Coast Basin," thus implicating the "price, route, or service" of motor carriers. ²⁰⁸ In particular, CTA asserted, the cost to comply with the WAIRE rule "would impact contractual relationships between motor carriers and good owners/warehouses," "will... drive many warehouses to shut down or move... will interfere with existing contracted routes, distribution channels, and pricing, [and] cost hundreds if not thousands of local jobs... For those who stay, the additional operational costs will be borne by truck owner/operators, who in turn will need to increase freight

²⁰² Cal. Trucking Ass'n v. S. Coast Air. Quality Mgmt. Dist. (CTA v. SCAQMD), No. 2:21-cv-6341 (C.D. Cal. 2021).

²⁰³ Id.

²⁰⁴ COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, 4, CTA v. SCAQMD ("CTA v. SCAQMD Complaint")(Aug. 8,

²⁰⁵ Id. quoting Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist., 541 U.S. 246, 256 (2004). Internal quotation marks and citation omitted.

²⁰⁶ CTA v. SCAQMD Complaint at 28.

²⁰⁷ Id. at 10 citing CAA § 110(a)(5)(C).

²⁰⁸ Id. at 24.

charges."209 The CTA also made arguments relating to the authority delegated by the state of California to SCAQMD to enact (or not) the WAIRE program and alleges that the program's mitigation fees amount to an unlawful tax.210

As defendant, the SCAQMD contested that the WAIRE rule offers flexible options for compliance through the WAIRE Menu, and thus is not preempted by CAA Section 209; that its indirect source rule is further not preempted by CAA Section 110 because Section 110 refers to existing authority within the state and local police power to enact indirect source rules, rather than delegating a limited power to enact such rules relating to new or modified sources only; and that the limited (in its calculation) compliance costs do not reach the threshold for preemption by the FAAAA.²¹¹

In December 2023, the U.S. District Court for the Central District of California dismissed the CTA's complaint, rejecting both the CAA and FAAAA claims. With respect to the CAA, the District Court held that Section 209 does not preempt indirect source rules allowable under Section 110, writing that "a rule that regulates indirect sources, but indirectly affects new motor vehicles and new motor vehicle engines, does not relate to the control of emissions from new motor vehicles or new motor vehicle engines."²¹² The decision also clarified the scope of an indirect source rule permitted by Section 110, writing that a "rule does involve a 'facility-by-facility' review as long as it operates '[b]y measuring emissions by, and requiring emissions reductions from, development sites as a whole,"213 as the WAIRE program does. In response to plaintiffs' FAAAA preemption arguments, the Court wrote that "the Rule contains no express references to... services, rates, or routes;" "it is immaterial that 'a motor carrier must take into account a state regulation when planning services'... unless [the rule] interferes with the relationship between [motor]²¹⁴ carriers and their customers;" and "[r]ather than affecting a motor carrier's relationship with its customers, the Rule regulates the motor carriers' trucks, which are among the economic 'inputs' used by those businesses."215 The decision differentiates between the FAAAA and environmental laws like the CAA, saying plaintiffs could not "support an inference that [the FAAAA] disrupt[s] the balance of federal and state authority over pollution control established in the CAA and other statutes."216 The court's decision sheds light on the lawfulness of a WAIRE-style program, though a decision in the Central District of California is not binding precedent elsewhere in the country, and the matter was not appealed to the U.S. Court of Appeals for the Ninth Circuit. Therefore, the analysis that follows threads the District Court ruling throughout.

²⁰⁹ Id.

²¹⁰ CTA v. SCAQMD Complaint at 29-33.

²¹¹ Joshua Bledsoe, Nick Cox & Jennifer Garlock, US Warehouse Regulation Lawsuit Reaches Critical Stage, LATHAM & WATKINS (Apr. 20, 2023), https://www.globalelr.com/2023/04/us-warehouse-regulation-lawsuit-reaches-critical-stage/.

²¹² CTA v. SCAQMD Decision at p. 23 (Dec. 14, 2023).

²¹³ CTA v. SCAQMD Decision at 28, quoting Nat'l Ass'n of Home Builders v. San Joaquin Valley Unified Air Pollution Control Dist., 627 F.3d 730, 737 (9th Cir. 2010).

²¹⁴ The original quote refers to "air carriers," as the court considers the FAAAA and the ADA in the same analysis.

²¹⁵ CTA v. SCAQMD Decision at 33.

²¹⁶ CTA v. SCAQMD Decision at 34.

C.2. Federal Law Considerations as Applied to a Warehouse Indirect Source Rule

As previewed in the CTA litigation, there are two main aspects of the federal Clean Air Act to consider in developing an indirect source rule that can withstand CAA preemption scrutiny: (1) structuring the overall requirement to avoid mandating any one or more specific actions the requirement of which would itself be preempted by Section 209 of the Clean Air Act; and (2) embedding the rule in the state's State Implementation Plan under Section 110 of the Clean Air Act. Either one of these approaches, if viewed by a court as done appropriately, can insulate an indirect source rule from preemption; both are not required though together they provide an extra layer of protection. SCAQMD has integrated both approaches into buffeting WAIRE from preemption.

C.2.a. Clean Air Act Section 209 Preemption and the Mandate/Incentive Distinction – Using Flexible **Compliance Options**

Simply put, SCAQMD and other state and local jurisdictions would be preempted from requiring that the owners and operators of trucks that enter and leave warehouses be ZEVs – federal laws including the Clean Air Act,²¹⁷ EPCA,²¹⁸ and possibly the FAAAA,²¹⁹ preempt such requirements at the state and local level. While there is no case law directly on point, it is likely that these laws would also preempt an indirect source rule that expressly prohibits warehouse facilities from allowing diesel-fueled trucks onto their premises. What the WAIRE Program does, then, is to offer optionality in how regulated parties comply – they can deploy zeroemissions trucks, but they could also install EV chargers, solar panels, or off-site air filters, or simply pay a mitigation fee.²²⁰ To put it another way, no individual is ever *required* to purchase a new ZEV truck.

Whether or not such an approach would be preempted under CAA Section 209 is fact dependent. Part III.A of this memorandum, above, discusses the mandate/incentive/de facto mandate distinction at length. For example, it would be possible to weight a points system or other flexible approach such that the purchase of ZEVs was effectively mandatory, or at least a very expensive "option" to avoid. A court could view such a system or approach as a de facto mandate to purchase ZEVs. On the other hand, a points system could be designed with sufficient optionality to avoid such a result, as SCAQMD appears to have attempted to do.

California uses flexible approaches to regulation in other areas at risk of federal preemption. In 2018, the state legislature passed S.B. 1014, which established the California Clean Miles Standard and Incentive Program (California Clean Miles) to reduce vehicle emissions from transportation network company (TNC) vehicles.²²¹ Under S.B. 1014, CARB was required to develop "annual targets and goals... for the reduction... of emissions of

²¹⁷ 42 U.S.C. § 7543(a) (1990).

²¹⁸ 49 U.S.C. § 32919(a) (1994).

²¹⁹ 49 U.S.C. § 14501(c)(1) (2015).

²²⁰ S. Coast Air Qual. Mgmt. Dist. Indirect Source Rule, Rule 2305 (d)(3) and Table 3.

²²¹ Cal. S.B. 1014 (2018).

greenhouse gases per passenger-mile driven on behalf of a transportation network company."222 Under the California Clean Miles program, TNCs like Lyft and Uber are required to submit biannual plans for reducing greenhouse gas emissions for approval by CARB. Plans can employ a variety of approaches, including increasing ZEV deployment among TNC drivers' vehicles, increasing ZEV vehicle-miles as a proportion of all vehicle-miles, decreasing gram-per-mile emissions rates and increasing passenger-miles in proportion to vehicle-miles.²²³

Similar to the WAIRE program, California Clean Miles was meant to offer the regulatory flexibility to TNCs such that, arguably and at least for now, no one is required to purchase or deploy ZEVs, even if they choose to do so as part of their plan. TNCs can include in their plans and use as tools for compliance methods such as adopting ZEVs and other more efficient vehicles, increasing ridesharing, and reducing the "deadhead" miles that occur when a driver drives their vehicle without a passenger. They can also earn optional extra credits by investing in sidewalk or bikeway projects or by demonstrating that their trips were used to connect to public transit.²²⁴ Both the WAIRE and the California Clean Miles programs also have an element that involves the regulated party developing its own compliance plan. Under California Clean Miles they are required to do so and under WAIRE a custom plan is one compliance pathway – meaning that if the regulatory framework still doesn't work for them, there is additional flexibility.

There can be no guarantee that a flexible approach similar to WAIRE's and the TNC program will avoid federal preemption or preemption scrutiny under the CAA. The District Court's decision in CTA v. SCAQMD considered an indirect source rule permitted under Section 110 of the CAA (i.e., included in a SIP). However, these programs are structured to, ideally, withstand any such scrutiny. A well-calibrated points-based approach would allow sufficient flexibility for regulated parties to cobble together a compliance plan that works for them.

C.2.b. Inclusion in a State Implementation Plan (SIP) Under the Clean Air Act

Another way to shield an indirect source rule from CAA preemption scrutiny is to make it enforceable under federal law through inclusion in a USEPA-approved state implementation plan (SIP) under Section 110 of the CAA. While a federal statute, the CAA delegates to the states much of the authority for developing a plan to attain standards for six air pollutants, including ozone, fine particulate matter (PM2.5) and NOx.²²⁵ States are required to adopt SIPs that include enforceable emissions limits on the air pollutants for which the state, or areas of it, are deemed in "nonattainment" with federal standards. 226 States submit these plans to the USEPA, including any new rules (or "revisions"), for approval.²²⁷ After an opportunity for USEPA to deem any state

²²² See *R.21-11-014: Clean Miles Standard Phase 1 Supplemental Protocol*, CAL. PUB. UTIL. COMM'N CONSUMER PROT. & ENFORCEMENT DIV. (May 10, 2023), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M508/K571/508571416.PDF.

²²³ Cal. Pub. Utils. Code § 5450(c).

²²⁴ 13 Cal. Code of Regs. § 2490.2 (2022).

²²⁵ 42 U.S.C. § 7407 (1990).

²²⁶ 42 U.S.C. §§ 7401(a)(1), (a)(2)(A); 7502(c)(6) (1990).

²²⁷ 42 U.S.C. § 7401(a)(1) (1990).

submission as "complete" (and therefore ready for review) or "incomplete," the USEPA must act to approve or disapprove (in whole or part) the state's submission within a specified timeframe.²²⁸ If USEPA approves the state's submission, the rules and requirements in the approved SIP become enforceable under federal law, both by the USEPA and through citizen suits.²²⁹ The CAA allows an indirect source rule to be included in a SIP, so long as it is a "facility-by-facility review of indirect sources of air pollution." The District Court in CTA v. SCAQMD held that the WAIRE Program allows for such a "facility-by-facility" review. 231 Thus, a city, working with its state, could include an indirect source rule in a SIP revision with the goal of having it approved by the USEPA.

SCAQMD submitted Rule 2305 (which establishes the WAIRE Program) to the USEPA for approval in the SCAQMD portion of the California SIP. On October 12, 2023, USEPA published notice in the Federal Register that it proposes to approve Rule 2305 as part of California's SIP.²³² The comment period closed on November 13, 2023, but USEPA has yet to make a final determination. 233 Until finalization, Rule 2305 and the WAIRE Program currently remains enforceable only by the SCAQMD as a state-level program, not as a USEPAapproved program backed by federal law.

Having an indirect source rule embedded in an approved SIP would be the gold standard for shielding it from preemption scrutiny. Once it is in an approved SIP, it is federally enforceable and likely not subject to preemption.²³⁴ However, it is not necessary, as a matter of law, to achieve this; any such requirement could be structured as a flexible program (or an incentive) to avoid preemption under the CAA, as discussed previously in subpart a.

C.2.c. FAAAA Preemption

While FAAAA jurisprudence can at times be quite broad, seemingly capturing measures that raise the costs of goods or freight transportation, the District Court in CTA v. SCAQMD held that SCAQMD's WAIRE program was not preempted. The court sited the lack of express references to freight companies' "services, rates, or routes" as a significant factor in its finding of no FAAAA preemption, and generally rejected the notion that state and local regulations that have purposes other than regulating the price, route, or service of motor carriers are meant to be preempted.²³⁵ The District Court further distinguishes between regulating a motor carrier's relationship to its customers, which could be preempted, with regulating "the economic 'inputs' used by those

²²⁸ 42 U.S.C. §7401(k) (1990).

²²⁹ 42 U.S.C. §§ 7413; 7604(a) & (f) (1990)

²³⁰ 42 U.S.C. §§ 7410(a)(5)(A)(i) & 7410(a)(5)(C) (1990).

²³¹ ORDER RE PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT AS TO PLAINTIFF'S COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF, 28, CTA v. SCAQMD ("CTA v. SCAQMD Decision") (Dec. 14, 2023).

²³² Air Plan Approval; Cal.; S. Coast Air Quality Mgmt. Dist., 88 Fed. Reg. 70,616 (Oct. 12, 2023), available at https://www.federalregister.gov/documents/2023/10/12/2023-22518/air-plan-approval-california-south-coast-air-qualitymanagement-district.

²³³ Id.

²³⁴ Id. at p. 23.

²³⁵ Id. at 33.

businesses."236 Essentially, the fact that some of the freight companies' costs might rise due to the WAIRE Program was not sufficient to render it preempted. Notably, the District Court did not tie its holding to inclusion in a SIP.

The District Court decision lends credibility to the notion that a flexible, points-based approach that regulates an indirect, stationary source without placing direct obligations on freight companies or vehicle owners or operators is not the sort of state or local regulation meant to be preempted by the FAAAA. However, it is possible that another court could view the question differently, particularly if an indirect source rule were designed to more directly alter the prices, routes or services of motor carriers. As ever, the details are important; each analysis will be case-specific. For indirect source rules embedded in a state's SIP, a court would likely (and more appropriately) view FAAAA questions as a matter of harmonization with the SIP, rather than a matter of potential preemption of the SIP requirement by the FAAAA.

²³⁶ Id. at 33.

VI. LOW-EMISISONS DELIVERY ZONES

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A third approach to regulating emissions from goods delivery – at least from last-mile delivery trucks and vans if not drayage and other larger freight vehicles – involves incentivizing on-street delivery vehicles towards zeroemissions engines. Because of the preemption provisions in the CAA and EPCA, where local governments have pursued such approaches, they have not fully disallowed fossil-fueled vehicles, but rather taken more positive, proactive approaches to driving ZEVs into an area rather than forcing internal combustion engine vehicles out.

Two U.S. cities – Santa Monica and Portland – have implemented or are in the process of implementing "zero emissions delivery zones," or ZEDZs. Both of these are largely voluntary; they offer incentives like priority loading zones and chargers for ZEV delivery vehicles and involve pilot approaches to low-emissions freight transport, but they do not require any particular action on the part of delivery vehicles, nor do they exclude non-ZEVs from driving through the zone. The zones are relatively small – a few city blocks to on the order of a square mile – and non-ZEV trucks can drive through the zones and load or unload just outside of them. A third city, Los Angeles, has implemented curbside management loading zones, a less comprehensive approach that is effectively piloting limiting certain loading zones to use by ZEV trucks.²³⁷ Cities often have authority under state law to pursue ZEDZ or curb management strategies through parking, stopping and standing, idling, signage, and other rules, though fewer of them have authority to toll (or charge for access to) public roads. If a local government were to consider a mandatory approach to a ZEDZ, it would need to consider the limits of federal preemption under the CAA, EPCA and the FAAAA alongside state law. States would have more latitude vis-à-vis state law but would still need to take federal law limitations into account.

A. Santa Monica, CA

In 2020²³⁸ and 2021,²³⁹ the City of Santa Monica, California and the Los Angeles-affiliated nonprofit organization Los Angeles Cleantech Incubator launched a voluntary Zero-Emissions Delivery Zone (ZEDZ) in a one-square mile area within Santa Monica, including two main commercial districts.²⁴⁰ The primary function of the delivery zone is to "provide priority access to zero-emissions delivery vehicles, including electric vans, ecargo scooters, and remote-controlled small delivery bots, within certain loading zones."241 In addition, the ZEDZ used (or planned to use) technologies such as "micromobility for food and parcel delivery... electric

²³⁷ Los Angeles Ord. No. 187117 (2021).

²³⁸ Chris Teale, Santa Monica, CA to pilot zero emissions delivery zone, SMARTCITIES DIVE (Jun 17, 2020),

https://www.smartcitiesdive.com/news/santa-monica-LACI-pilot-voluntary-zero-emissions-delivery-zone/579937/.

²³⁹ Cailin Crowe, Santa Monica, CA aims to create zero-emissions delivery zone playbook, SMARTCITIES DIVE (Mar. 3, 2021), https://www.smartcitiesdive.com/news/santa-monica-LACI-zero-emission-delivery-zone-cities/595919/.

²⁴⁰ Santa Monica Zero Emissions Delivery Zone Pilot, Los Angeles Clean Tech Incubator, https://laincubator.org/zedz/ (last visited June 9, 2024).

²⁴¹ Crowe, supra note 239.

delivery vehicles; commercial electric vehicle car sharing; [and] mobile charging applications for delivery."242 According to the City of Santa Monica, goals associated with the ZEDZ included "creat[ing] benefits to the local community such as reduced air pollution, GHG emissions, noise and congestion, as well as improved safety" and "offer[ing] economic opportunity to small businesses and individuals through access to zone benefit." 243

Though the Santa Monica ZEDZ was and still is a novel approach to the reduction of air pollution associated with the delivery of goods, it is important to note that the program involved only voluntary measures. Therefore, it did not give rise to the structural legal questions under federal law that a mandatory low emissions zone would. (It could have involved more day-to-day legal questions about permitting for certain aspects of the program, but given the nature of the project it is likely that any such permits, if required, were routine.) However, the Santa Monica program could be considered a precursor to the Portland, Oregon Zero-Emission Delivery Zone pilot, discussed next.

B. Portland, OR

In 2023, Portland, Oregon announced its plans to pilot a Zero-Emission Delivery Zone as part of a nearly \$2 million U.S. Department of Transportation Strengthening Mobility and Revolutionizing Transportation (SMART) grant to the Portland Bureau of Transportation (PBOT).²⁴⁴ The Portland ZEDZ expands slightly upon the structure of the Santa Monica ZEDZ in that there is a regulatory component to it – vehicles parked in areas of the ZEDZ that they are not entitled to use can receive a traffic citation. There are three main aspects to the 16block Portland ZEDZ: (1) three "zero-emission delivery" loading areas located at or near public-sector (city, county, and federal) office buildings; (2) a partnership with a logistics company to designate areas where fossilfueled delivery vehicles can transfer goods to ZEVs for delivery in the zone; and (3) evaluation of the ZEDZ pilot using "data from logistics companies, sensors, and third-party logistics companies." The initial SMART grant period lasts 18 months, and Portland may decide to apply for a Stage Two SMART grant of up to \$15 million. 246 The ZEDZ is not up and running yet; its anticipated launch is in summer or fall of 2024.²⁴⁷ Portland cites a range of climate, air pollution, public health, safety, and curb management rationales for its ZEDZ program.²⁴⁸

²⁴² Santa Monica Zero Emissions Delivery Zone Pilot, Los Angeles Clean Tech Incubator, https://laincubator.org/zedz/ (last visited June 9, 2024). Punctuation and capitalization adapted from original.

²⁴³ Zero Emission Delivery Zone, City of Santa Monica, https://www.santamonica.gov/zero-emission-delivery-zone (last visited June 9, 2024).

²⁴⁴ Other cities to receive SMART grants at the same time were Los Angeles, Minneapolis, Philadelphia, San Francisco, San Jose, Seattle, and Miami-Dade County, for projects including a range of curb management, smart traffic signals, and sensors. Strengthening Mobility and Revolutionizing Transportation Fiscal Year 2022 Planning and Prototyping Grants by State, U.S. DEP'T OF TRANSP. (Mar. 2023), https://www.transportation.gov/sites/dot.gov/files/2023-03/FY22%20SMART%20Project%20List.pdf.

²⁴⁵ About the Zero-Emission Delivery Zone, CITY OF PORTLAND, https://www.portland.gov/transportation/planning/zero-emissiondelivery/zero-emission-delivery-zone (last visited June 9, 2024).

²⁴⁷ Skip Descant, Data in Driver's Seat for Portland, Ore., Zero-Emission Delivery, Gov'т. Тесн. (May 8, 2024), https://www.govtech.com/transportation/data-in-drivers-seat-for-portland-ore-zero-emission-delivery. ²⁴⁸ Id.

Though Portland's ZEDZ "is off-limits to gas-powered vehicles for loading and unloading, with violators subject to a parking citation," 249 the program is otherwise similarly voluntary as Santa Monica's. Vehicles that are not ZEVs, including delivery vehicles, are not banned from the zone; they merely lack access to certain amenities like the loading zones and charging. Therefore, Portland would have needed to consider its authority to use or regulate certain curb spaces (and to issue parking citations), but did not have to consider broader questions of federal preemption. Whether a city has authority to issue parking citations is a question of state law. In some instances, local governments would need to work with their states to allow for the use of parking citations in this manner or at all, whether through enabling legislation or otherwise.

C. Los Angeles, CA

Los Angeles has taken a slightly different approach – one that focuses on specific loading and unloading areas but that is codified in local law. In 2021, the City Council enacted Ordinance No. 187117, which authorized the city's Department of Transportation (LADOT) "to install, operate, and regulate Zero-Emission Vehicle (ZEV) Commercial Loading Zones for the exclusive use and access by zero-emission commercial delivery vehicles" – a category that included both trucks and electric bikes.²⁵⁰ The ordinance further restricted non-ZEVs from using a ZEV commercial loading zone. 251 The law also indicated how curbs at ZEV Commercial Loading Zones should be painted.²⁵² A memo from LADOT indicated that it would identify curbside areas appropriate for the zones enabled by Ord. No . 187117 by prioritizing areas that are "high density; subject to high commercial loading zone demands; disproportionately burdened by air pollution; [and] under LADOT's administrative authority to install, enforce, and monitor." ²⁵³ In implementing the ordinance, the city cited its authority under state law ("The California Vehicle Code (CVC) Section 21458(a) allows municipalities to enact local parking regulations and to demarcate the parking regulations through the use of painted curbsides") and local code ("Los Angeles Municipal Code Section 80.56 authorizes LADOT to establish commercial loading zones"). 254 Despite this legislative authorization, ZEV Commercial Loading Zones have not yet been widely implemented in Los Angeles.

²⁴⁹ Max Garland, Portland, Oregon to pilot zero-emission delivery zone, SUPPLYCHAINDIVE (May 9, 2023),

https://www.supplychaindive.com/news/portland-oregon-launch-zero-emission-delivery-zone-pilot-program/649710/.

²⁵⁰ Los Angeles Ord. No. 187117 (2021) sec. 1.

²⁵¹ Id. at sec. 2.

²⁵² Id. at sec. 3

²⁵³ City of Los Angeles Inter-departmental Correspondence from Seleta J. Reynolds, Gen. Mrg. Los Angeles Dept. of Transp., 2, 2Zero Emission Delivery Zones (CF 21-0147) (Apr. 28, 2021), https://clkrep.lacity.org/onlinedocs/2021/21-0147 rpt dot.pdf. Punctuation and capitalization altered from the original.

²⁵⁴ Id. at 3.

D. Legal Considerations for Low Emissions Delivery Zones (LEDZ) or Zero Emissions **Delivery Zones (ZEDZ)**

While the mostly voluntary nature of the Santa Monica, Portland and Los Angeles delivery zones largely insulates them from federal preemption scrutiny, there are two broad legal issues for state or local policymakers to consider in developing similar programs. First, a city will need to work within the bounds of its state law authority to regulate streets, sidewalks, and other areas. And second, if a jurisdiction opts to pursue a non-voluntary program, or if it uses more aggressive incentives or disincentives, it will need to consider its latitude to do so under the federal CAA and EPCA preemption rubrics. In either instance, FAAAA considerations may come into play as well. This part discusses legal considerations associated with LEDZ and ZEDZ approaches. This Part V does not discuss further the state law questions but rather goes directly to a discussion of the more broadly applicable federal law considerations.

D.1. Mandates & Incentives Within Federal CAA and EPCA Preemption Rubric

Though a city's authority to regulate many aspects of its streets is frequently relatively clear under state law, the city must also abide by federal law limitations on actions that make use of ZEVs less than voluntary, including where any city-offered incentives might amount to a de facto mandate. Part I.A.3 of this memorandum, above, discusses the mandate/incentive/de facto mandate distinction in detail. A city or state enabling a ZEDZ would generally want to ensure that non-ZEVs could still drive through the ZEDZ and that any pricing differentials were not so large as to amount to a de facto mandate. This would be a fact-specific analysis. The jurisdiction would also want to take care that any ZEDZ program avoided regulating the "price, route, or service" of motor carriers transporting property, as is preempted by the FAAAA.²⁵⁵ Presumably, allowing some access to freight trucks to operate on their normal routes would suffice for this purpose.

One likely exception is for activities on a public entity's own property – the land and buildings that it holds for its operations. Many of the federal law considerations outlined in Part I of this memorandum have market participant exceptions that allow governmental entities to use their own property or funds in ways that would be preempted if they were regulatory actions. For example, a city acts in its role as a market participant when it procures ZEVs for its fleet or installs EV chargers for its city buildings. EPCA has a statutory market participant exception, ²⁵⁶ and federal courts have read a market participant exception into the CAA, ²⁵⁷ though these both have to do with procurement of vehicles, not use of property.

D.2. FAAAA Considerations

²⁵⁵ 49 U.S.C. § 14501(c)(1) (2015).

²⁵⁶ 49 U.S.C. § 32919(a) (1994).

²⁵⁷ Engine Mfrs. Ass'n vs. South Coast Air Quality Mgmt. Dist., 498 F.3d 1031, 1040 (2007).

As established above, the FAAAA preempts state and local laws that are "related to the price, route, or service of any motor carrier... with respect to the transportation of property,"258 and can do so even where the relationship is indirect.²⁵⁹ That is to say, local and state laws that have indirect impacts on the price, route, or service of motor carriers can be disallowed by the FAAAA, even if those impacts were not intended. Size and weight restrictions for vehicles (like mapped truck routes) and a state or city's actions as a market participant are carved out from FAAAA preemption.

Without more specificity as to the mechanisms a city might use within a LEDZ or ZEDZ, it is difficult to assess whether those measures would "relate[] to the price, route, or service" of freight-transporting vehicles, but they could. For example, if companies were required to replace delivery vehicles with ZEVs in order to enter a place they needed to access to do business, that could change the price of freight delivery services. If some freight transport or delivery vehicles had to shift their activities to warehouses outside of the LEDZ or ZEDZ, that would by definition change the route of that freight transportation or delivery service. If non-ZEVs had to pay significantly more to enter a LEDZ or ZEDZ, that would "relate[] to the price... of a motor carrier." If, on the other hand, those non-ZEVs could still largely use the LEDZ or ZEDZ, the arguments against FAAAA preemption would be stronger. The size-and-weight carveout from preemption might offer some protection depending on the design of the zone, but would be less useful if a city is still trying to attract larger zero-emissions freight vehicles. All of this is highly detail dependent.

²⁵⁸ 49 U.S.C. § 14501(c)(1) (2015).

²⁵⁹ Rowe v. N.H. Motor Transp. Ass'n, 552 U.S. 364 (2008).

VII. CONCLUSION

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The widespread nature of e-commerce warehouses is a relatively new phenomenon. So, too, is the work by cities to address the truck pollution attributable to these sources. It takes some effort to overlay state and local regulation of e-commerce warehouses with existing federal law, but it can be done. Tools embedded in the CAA itself reflect a federalist approach and allow state (and by extension, some local) controls on air pollution through SIPs and Section 209 implementation waivers. Even where these tools are not available, the CAA, EPCA and the FAAAA allow some room for local governments to place limits or otherwise address pollution and other e-commerce impacts.

In particular, tools that are novel for the purposes of regulating emissions associated with freight transportation but that are well-used features of the Clean Air Act can help both advance approaches to control freight transportation emissions and act as cudgels to preemption by federal law. California's Advanced Clean Fleets Rule, which is poised to allow for significant reductions in emissions from drayage trucks, among other vehicles, may in the coming years be widely available for adoption by states across the country, allowing cities to benefit from its promise in reducing transportation GHG emissions and communities to experience less local tailpipe pollution. Waivers under Section 209 of the CAA have long helped seed ambitious policies to reduce tailpipe pollution across the country, and – pending CARB's waiver request – may yet serve the same purpose here.

Section 110 of the CAA can also offer a pathway for rules to regulate the indirect sources of freight vehicle emissions by placing requirements on last-mile warehouses and distribution centers. The CAA expressly allows indirect source rules as a component of SIPs for states with nonattainment areas, and USEPA appears poised to approve California's inclusion of SCAQMD's indirect source rule as an element of the state's SIP. Local or regional jurisdictions, working with their states, may be able to develop similar approaches for eventual inclusion their states' SIPs as well.

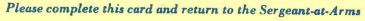
Even where a Section 209 waiver or a SIP approval by USEPA is not available or appropriate, local governments often still have options to advance elements of these policies in carefully tailored ways. An indirect source rule for warehouses, for example, can be crafted to offer sufficient optionality that it does not compel the purchase of ZEVS and thereby invite preemption by the CAA and EPCA, and such that it does not impose significant costs or route or service changes on motor carriers. Similarly, elements of ACF, particularly as relate to registration for the limited purpose of entering certain areas, could be structured to avoid CAA preemption.

In cities where, for reasons legal, political, financial, or otherwise, indirect source rules or drayage truck requirements aren't near-term options, several voluntary or lightly enforced (as through a parking ticket) approaches remain to shape zero-emissions delivery zones. As with all of the approaches covered in this paper, the details are important. What mix of options can shape a ZEDZ without imposing a de facto mandate for drivers or freight companies to purchase EVs (as could be preempted by the CAA or EPCA) depends on what other options remain for them.

Despite the relatively recent nature of e-commerce proliferation, last-mile delivery warehouses perpetuate longstanding patterns of environmental injustice, exposing low-income communities and communities of color to significant and harmful truck pollution. The legal tools available to address their impacts are necessarily evolving, and they offer significant promise, particularly for jurisdictions willing to calibrate an approach carefully to applicable legal frameworks and to their local context. For many cities, addressing the impacts of ecommerce is a necessity, through one approach or another. Last-mile delivery has once again laid the pollution burden with low-income communities and communities of color. Fortunately, many cities have a range of imperfect but promising legal tools to mitigate its harm.



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