Last-Mile Warehouse Special Permit Requirements
LR Item 3: Description of Proposal
TEXT AMENDMENT

September 7, 2022

1. Introduction

Alexa Avilés and Assemblymember Marcela Mitaynes join with Eddie Bautista, New York City Environmental Justice Alliance, UPROSE, El Puente, Red Hook Initiative and THE POINT CDC to respectfully submit this Zoning Resolution text amendment application due to their concerns about the rapid proliferation of last-mile warehouses and related impacts on their members and constituents. Truck traffic arising from last-mile warehouse activity creates adverse environmental, health, noise, and safety impacts on nearby residential communities, which already experience high levels of diesel truck pollution and congestion.

New York City's Zoning Resolution permits "warehouses" in all manufacturing districts and C8 commercial districts as-of-right, and as a result, the City has no opportunity to plan for the installation of these facilities.

The operations and impacts of last-mile warehouses—which receive a high volume of goods and sort them for direct delivery to consumers—are fundamentally different in scale from traditional warehouse uses due to the high volume of product loading and unloading and product flow velocity, involving a massive increase in truck trips to and from the facility compared to traditional warehouses. However, the Zoning Resolution does not distinguish between last-mile and traditional warehouses. Amending the text of the Zoning Resolution to require special permits for last-mile warehouses would provide opportunities for the City to plan for the expansion of this new industry, prevent clustering of facilities and undue road congestion, and mitigate the negative impacts of last-mile warehouses.

2. Background

The increase in online shopping in recent years, and particularly during the COVID-19 pandemic, has led to the rapid proliferation of e-commerce facilities to meet consumer demand for expedited and same-day delivery, and a corresponding uptick in truck traffic. As more consumers receive goods through e-commerce, and as retailers and shippers compete to reduce fulfillment times, e-commerce warehouses are increasingly located close to or in urban centers, creating novel patterns of land use and vehicle trip generation. Over two million packages are delivered in New York City every day, and trucking and goods movement activity in the New York City region is expected to increase in the next 25-30 years.[1] Some estimate a 67% increase

[1] N.Y. Metro. Transp. Council, *Regional Freight Plan 2018-2045* 2-24 tbl.2.3 (2017), https://www.nymtc.org/Portals/0/Pdf/RTP/Plan%202045%20Final%20Documents/Plan%202045%20Individual%20Appendices/Appendix%208_Regional%20Freight%20Plan.pdf.

in truck volume by 2045,[2] which without mitigation could add up to 75,000 trucks to City streets each day.[3] Nationwide, delivery trucks account for 7% of traffic but 28% of congestion.[4]

Last-mile facilities tend to be much larger than traditional warehouses, and often have multiple levels with many more loading bays – many of the new last-mile facilities constructed or planned in New York City have involved new construction rather than re-use of existing warehouse space in order to meet the demands of the industry. Additionally, unlike traditional warehouses, last-mile facilities often operate on a 24-hour basis and have a much higher rate of products flowing in and out, resulting in greater truck traffic and resulting safety, environmental, and public health impacts. Heavy-duty diesel vehicles are responsible for approximately half of on-road tailpipe emissions in the City, have a disproportionate impact on environmental justice communities, and emit greenhouse gases.[5] Heavy-duty vehicles emit dangerous pollutants, including particulate matter and nitrogen oxides, a precursor to ozone.[6] Ozone can cause inflammation of the lungs, damage to the airways, and more severe and frequent asthma attacks.[7] Particulate matter can prompt asthma attacks, heart attacks, and strokes, and can cause lung cancer.[8]

New York City already suffers from persistently poor air quality, and is part of a federally designated multi-state non-attainment area for ozone. Vehicle emissions are a significant contributor to existing ozone levels and are a main driver of the neighborhood-level variation in air quality, which concentrates adverse health impacts like ozone in low-income communities and communities of color. Minimizing pollution from freight is identified as a critical strategy to improve air quality and achieve City and State emission reduction goals.[9]

Rapid last-mile warehouse development without any review or systematic planning is leading to clusters of these facilities, which is likely to generate increased congestion both on local streets and on highways throughout the City. For example, eight last-mile warehouses are

---

[2] *Id*.
[3] *See* N.Y.C. Dep't of Transp., *Request for Proposals for Consultant/Program Management Services in Connection with the NYC DOT Off-Hour Deliveries Program* at 5 (2022), https://passport.cityofnewyork.us/bare.aspx/en/fil/download_public/1BC6D969-0C18-40AF-8F1E-6DB112199EA4.
[4] Edward Humes, *Online Shopping was Supposed to Keep People Out of Traffic. It Only Made Things Worse*, TIME (Dec. 18, 2018), https://time.com/5481981/online-shopping-amazon-free-shipping-traffic-jams/.
[5] *See* N.Y.C. Dep't of Transp., *Delivering Green: A Vision for a Sustainable Freight Network Serving New York City*, 1 (Dec. 2021), https://www1.nyc.gov/html/dot/downloads/pdf/freight-vision-plan-delivering-green.pdf.
[6] Margaret Zawacki, et al., *Mobile Source Contributions to Ambient Ozone and Particulate Matter in 2025*, 188 Atmospheric Env't. 129 (2018).
[7] *Health Effects of Ozone Pollution*, U.S. Env't Prot. Agency, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution (last visited Sept. 1, 2022).
[8] *Summary: Diesel Particulate Matter Health Impacts*, Cal. Air Res. Bd., https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts (last visited Mar. 30, 2022); *see also Nearly Half of U.S. Breathing Unhealthy Air; Record-breaking Air Pollution in Nine Western Cities*, Am. Lung Ass'n, (April 21, 2020), https://www.lung.org/media/press-releases/state-of-the-air-2020.
[9] *See supra* note 3; N.Y. ECL § 75-0103(13)(f).

currently in development between the Red Hook and Sunset Park neighborhoods of Brooklyn, with an estimated total of 3.5 million square feet.[10] Because these facilities are permitted as-of-right, the City does not engage in any planning process or have the opportunity to evaluate and mitigate the impacts of related truck traffic. At least 16.3 million square feet of e-commerce warehouses have been planned or developed in New York City, by our estimate.[11] A single one of these facilities can generate more than 1,000 vehicle trips each day.[12] Eight newly constructed last-mile facilities within two adjacent neighborhoods could result in 8,000 new daily vehicle trips all feeding into the same roads. This unprecedented level of new traffic in a small area necessarily has impacts on congestion, air quality, noise, and aging infrastructure.

It is generally agreed that e-commerce warehouses create a distinct set of impacts and novel land use patterns when compared to traditional warehouses. According to the Metropolitan Area Planning Council, "[a]s e-commerce warehouse and distribution facilities are designed to prioritize goods movement and/or short-term goods storage, they require more loading docks, more space for parking, and higher ceiling heights than do traditional warehouses."[13] An article published by the American Planning Association found that "the novelty of the last-mile operations model means traditional trip generation forecasting methods do not apply."[14] Whereas a traditional 1 million square foot warehouse would be expected to generate 1,740 trips, a modern, high-cube warehouse used for e-commerce of the same floor area could generate 8,180 trips a day – a 370% increase.[15]

This application seeks to address these facilities in particular, which are increasingly being sited closer to consumers, in already congested urban areas.[16] Multi-story logistics facilities for last-mile deliveries in New York City are a new land use. While five years ago there were no multi-story logistics facilities in the New York City development pipeline, as of April 2022, six such projects were under construction and at least 15 more were in planning stages.[17]

Numerous expert analyses point to the need to differentiate between traditional and e-commerce warehouses.[18] For example, the New Jersey State Planning Commission recently

---

[10] *See* Map 1. Square footage data compiled from MWPVL and various news sources. *See* MWVPL Int'l, Inc., *Amazon Global Supply Chain and Fulfillment Center Network*, https://www.mwpvl.com/html/amazon_com html (last visited Feb. 17, 2022).
[11] *See supra* note 8.
[12] Metro. Area Plan. Council, *Hidden and In Plain Sight: Impacts of E-Commerce in Massachusetts* (2021), https://www.mapc.org/wp-content/uploads/2021/02/Feb2021-Ecommerce-Report.pdf.
[13] *Id*.
[14] Alison L. Felix & Travis Pollack, *What to Do When an E-Commerce Warehouse Comes to Town*, Am. Plan. Ass'n (Nov. 18, 2021), https://www.planning.org/planning/2021/fall/what-to-do-when-an-e-commerce-warehouse-comes-to-town/.
[15] N.J. State Planning Comm'n, *Draft Warehouse Siting Guidance* (2002), https://nj.gov/state/planning/assets/pdf/spc-warehouse-guidance.zip.
[16] *See supra* note 12.
[17] Patricia Kirk, *Multi-Story Warehouses Are Still a Rarity in the U.S. But That Is Changing*, Wealth Mgmt. (Apr. 28, 2022), https://www.wealthmanagement.com/industrial/multi-story-warehouses-are-still-rarity-us-changing.
[18] *See supra* note 12, 14, 15; Lehigh Valley Planning Comm'n, High Cube and Automated Warehousing at 13 (updated 2021), https://lvpc.org/pdf/2020/High%20Cube/High%20Cube%20Warehouse.pdf.

issued draft siting guidelines for warehouses that note the "profound[]" variation while calling for municipalities to update zoning policies to "differentiate among warehouse use types."[19] Several state or local zoning authorities around the country and in New York State where similar e-commerce warehouse booms have occurred have already taken steps to regulate these facilities through zoning updates that define and in some instances restrict e-commerce warehouse use.[20] There appears to be near unanimity among practitioners that have examined this issue that:

i. warehouses used in e-commerce generate more traffic, and more truck traffic in particular;
ii. these impacts tend to fall disproportionately on neighborhoods already overburdened with transportation infrastructure and are exposed to more air pollution; and
iii. these distinct impacts should be managed from a land use perspective to minimize adverse impacts on sensitive receptors and to manage conflicts between these uses and other uses (e.g., residential, schools).

In densely populated New York City where M-1 and C-8 zones can be directly adjacent to residential uses, last-mile warehouses are often located close to residential areas, resulting in inappropriate volumes of truck traffic on local streets and near sensitive receptors like parks. Last-mile warehouses are also concentrated in communities of color and low-income communities that are already experiencing truck congestion and pollution, compounding existing environmental injustice.[21] For example, Red Hook is home to the largest public housing development in Brooklyn, with about 6,000 residents, and has been identified by the New York City Environmental Justice Advisory Board as an environmental justice area.[22]

Currently, communities of color and low-income communities in New York State breathe dirtier air than white and affluent New Yorkers, and health outcomes reflect this disparity. For instance, Black and Hispanic New Yorkers are 7 and 4 times more likely, respectively, to visit the emergency department for asthma than white New Yorkers, and 3–4 times more likely to die from asthma.[23] Ozone-attributable asthma hospitalization rates and emergency department visits

---

[19] N.J. State Planning Comm'n, *Draft Warehouse Siting Guidance*, Chapter 2: Considerations for Types of Uses (2002), https://nj.gov/state/planning/assets/pdf/spc-warehouse-guidance.zip.

[20] Some examples include the New Jersey State Planning Commission, the California Attorney General's office, Howell Township in New Jersey, and the Town of Montgomery in New York. Planning commissions like the Lehigh Valley Planning Commission in Pennsylvania and the Metropolitan Area Planning Commission in Massachusetts have also endorsed the notion of zoning changes to address these novel uses. While we are not endorsing the specific parameters of any of these other zoning materials, we provide them as evidence that existing land use policy is inadequate for managing the impacts and land use patterns e-commerce warehouses produce. These documents are attached in relevant part as Exhibit 1.

[21] *See* Map 2 siting Potential Environmental Justice Areas in New York City using data from DEC. *See* N.Y. Dep't of Env't Conservation, *Maps & Geospatial Information System (GIS) Tools for Environmental Justice*, https://www.dec ny.gov/public/911.html (last visited Sept. 1, 2022).

[22] *MyNYCHA Developments*, N.Y.C. Housing Auth., https://my nycha.info/DevPortal/Portal; N.Y.C. Env't Justice Bd., *Environmental Justice Areas*, https://nycdohmh.maps.arcgis.com/apps/instant/lookup/index html?appid=fc9a0dc8b7564148b4079d294498a3cf (last visited Feb. 8, 2022).

[23] N.Y. Dep't of Health, *New York State Asthma Surveillance Summary Report* 18, 20 (2013), https://www.health.ny.gov/statistics/ny_asthma/pdf/2013_asthma_surveillance_summary_report.pdf.

vary based on a neighborhood's relative poverty rate, with ozone-attributable asthma hospitalization rates 4 times higher in high-poverty neighborhoods compared to low-poverty neighborhoods.[24] A study of the contribution of motor vehicles to particulate matter concentrations in New York City found that on-road mobile sources "contribute to hundreds of preventable [particulate matter]-attributable deaths, hospitalizations, and emergency department visits among residents of NYC, with disproportionate impacts in high poverty neighborhoods."[25] The study authors noted that their findings indicated "increased policy efforts should focus on the most polluting vehicles in these [high poverty] neighborhoods."[26]

Requiring review, evaluation, and regulation of this new industry would be consistent with New York City's climate and environmental justice policy goals. In announcing the creation of his Office of Climate and Environmental Justice, Mayor Eric Adams affirmed his administration's "commit[ment] to transforming the city's quality of life and fighting for environmental justice for all New Yorkers.[27] The City has begun the process of developing an environmental justice report and a citywide environmental justice plan, and has committed to studying the impacts of "warehousing, distribution, and other logistics centers" in the report.[28] New York's OneNYC 2050 plan articulates the goals of achieving carbon neutrality and addressing the health needs of all communities.[29] As discussed further below, a text amendment to require special permits for last-mile facilities would allow the City to address greenhouse gases, other vehicle pollution, and environmental disparities by promoting vehicle electrification and ensuring that already overburdened communities do not bear the brunt of truck traffic impacts.

Additionally, New York's OneNYC 2050 plan includes the goals of ensuring New York City's streets are safe and accessible, and reducing congestion and emissions.[30] A text amendment that allows the City to plan for last-mile warehouses, taking into account potential traffic and safety impacts, would serve these goals.

---

[24] *See* N.Y.C. Dep't of Health & Mental Hygiene, *Air Pollution and the Health of New Yorkers: The Impact of Fine Particles and Ozone* 30 figs.24 & 25 (2011) ("NYCDOHMH Air Quality Report"), https://www1.nyc.gov/assets/doh/downloads/pdf/eode/eode-air-quality-impact.pdf.
[25] Iyad Kheirbeck et al., *The Contribution of Motor Vehicle Emissions to Ambient Fine Particulate Matter Public Health Impacts in New York City: A Health Burden Assessment*, 15 Env't Health 89 (2016).
[26] *Id*.
[27] New York City Office of the Mayor, *Mayor Adams Announces Appointments of Climate Leadership Team, Streamlines Multiple City Environmental Agencies Into One* (Jan. 31, 2022), https://www1.nyc.gov/office-of-the-mayor/news/053-22/mayor-adams-appointments-climate-leadership-team-streamlines-multiple-city#/0.
[28] *See* N.Y.C. Mayor's Office of Climate and Sustainability, *Addressing Climate and Environmental Justice Concerns*, https://www1 nyc.gov/site/sustainability/our-programs/environmental-justice.page (last visited Sept. 1, 2022); Environmental Justice Interagency Working Group, *New York City's Environmental Justice for All Report, Scope of Work* 14 (Dec. 2021), https://www1.nyc.gov/assets/sustainability/downloads/pdf/EJ-Report-Scope.pdf.
[29] OneNYC 2050, Vol. 7, *A Livable Climate* 3, https://bit.ly/3HJX3xq.
[30] OneNYC 2050, Vol. 8, *Efficient Mobility* 3, https://bit.ly/3Lg8pey.

The proposed text amendment would also advance statewide policy objectives as set forth in the Climate Leadership and Community Protection Act ("CLCPA"). The CLCPA requires steep cuts in New York's greenhouse gas emissions, including a 40% reduction in emissions from 1990 levels by 2030, and an 85% reduction from 1990 levels by 2050.[31] The CLCPA further instructs the State to prioritize reductions of non-greenhouse gas pollutants in "disadvantaged communities," defined as:

> communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high concentrations of low- and moderate-income households.[32]

By promoting vehicle electrification and other measures to reduce greenhouse gases, and curbing emissions of other pollutants such as particulate matter and precursors to ozone, the proposed text amendment would make a meaningful contribution to meeting these statewide goals.

3. Description of the Surrounding Area

The proposed text amendment would affect C8, M1, M2, and M3 Districts. A number of manufacturing zoned areas are adjacent to residential districts, including potential environmental justice areas, as shown in Figures 1 and 2 below.

4. Description of the Proposed Project Area

As discussed, the proposed text amendment would apply citywide and affect C8, M1, M2, and M3 Districts.

5. Description of Proposed Development Site (if different than the Project Area)

Not applicable.

6. Description of the Proposed Development

Not applicable.

7. Actions Necessary to Facilitate the Project

An amendment to the Zoning Resolution is necessary to protect communities from unfettered expansion of truck traffic caused by last-mile warehouse proliferation. Requiring a special permit for last-mile warehouses would allow the City to study and mitigate the effects of such facilities

[31] N.Y. ECL § 75-0107(1).
[32] CLCPA § 7(3), S.B. 6599, 242d Sess. (N.Y. 2019).

by providing for facility-by-facility review, including by mandating studies on traffic and pollution impacts and annual reporting from facility operators. Additionally, the proposed text amendment would provide much-needed public health protections by requiring modest setbacks from sensitive receptors such as schools and nursing homes, and a finding from the Commission that a proposed facility would not increase air pollution in any disadvantaged or nearby community. Crucially, the proposed text amendment would also prevent the clustering of last-mile warehouses that has exacerbated the City's environmental injustices by requiring that such facilities be a certain distance from each other.

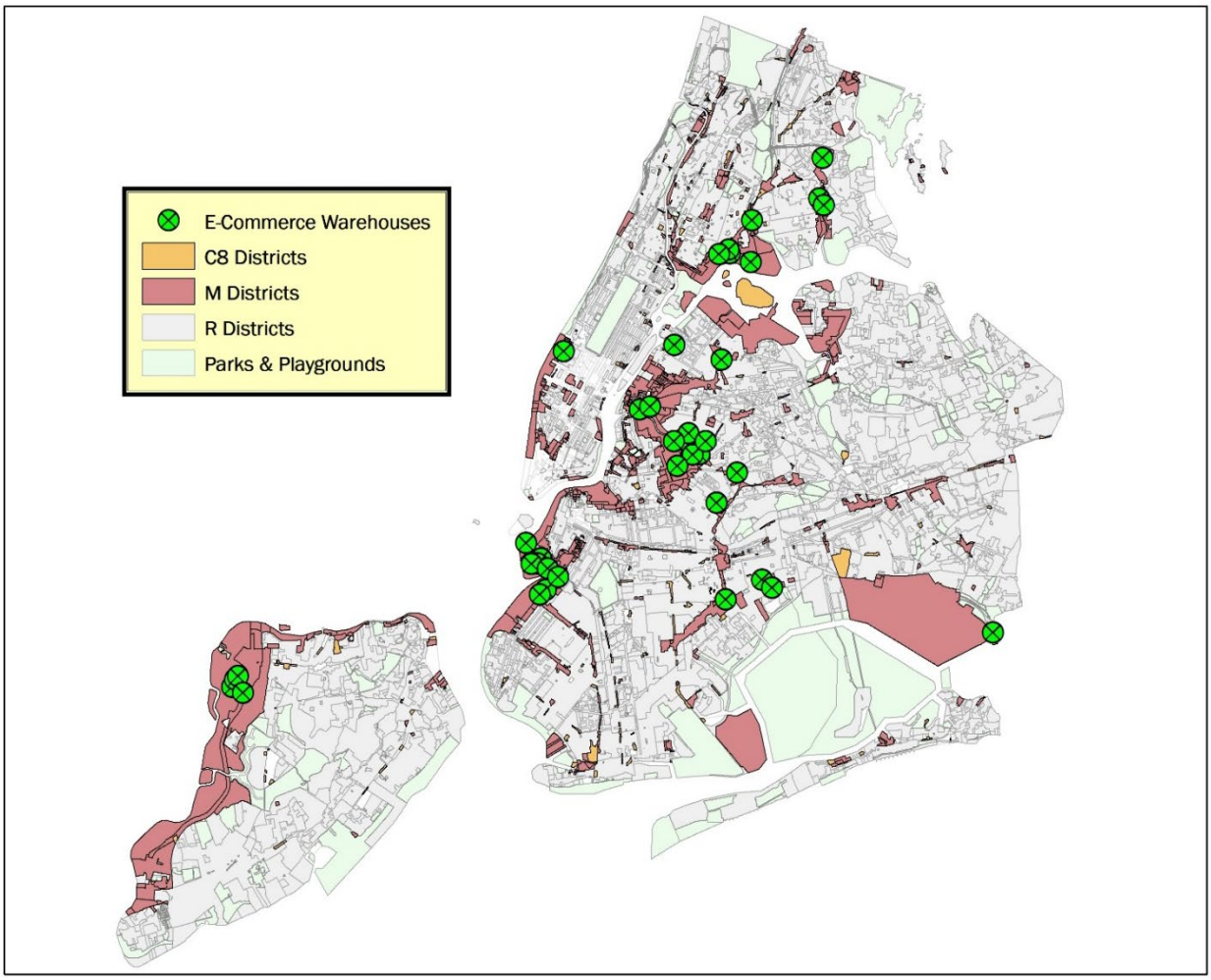
The proposal would also advance New York City's climate objectives by promoting truck electrification, the use of alternative transportation modes such as bicycles and marine transport, the installation of solar panels, and other measures to mitigate greenhouse gases from trucks. Furthermore, requiring special permits for last-mile warehouses would be consistent with the City's vision for a sustainable freight network, which includes the goals of "greening" the last mile, transitioning to zero-emission truck fleets, and shifting goods from trucks to marine transport.[33]

8. Conclusion

New York City must address a new industry that has fundamentally different impacts, particularly in immediate surrounding neighborhoods, from the "warehouses" that have for decades been allowed as-of-right. Other cities experiencing rapid growth in last-mile warehouses have used their zoning authority to address the issue and provide for meaningful planning.[34] To live up to New York City's environmental justice and climate promises, the City Planning Commission must enact the proposed citywide text amendment.

[33] *See supra* note 5 at 5–13.
[34] *See, e.g.*, Contra Costa County, CA, Ordinance No. 2021-43, *Urgency Interim Ordinance Prohibiting Heavy Distribution Land Use Development in the North Richmond Area*, (2021), http://64.166.146.245/docs/2021/BOS/20211214_1828/47910_Ordinance%20No.%202021-43%20North%20Richmond%20Urgency%20Ordinance%20re%20Heavy%20Distribution....pdf.

Map 1: E-Commerce Warehouses in New York City, 2022



Map 2: E-Commerce Warehouses by Potential EJ Area in NYC, 2022