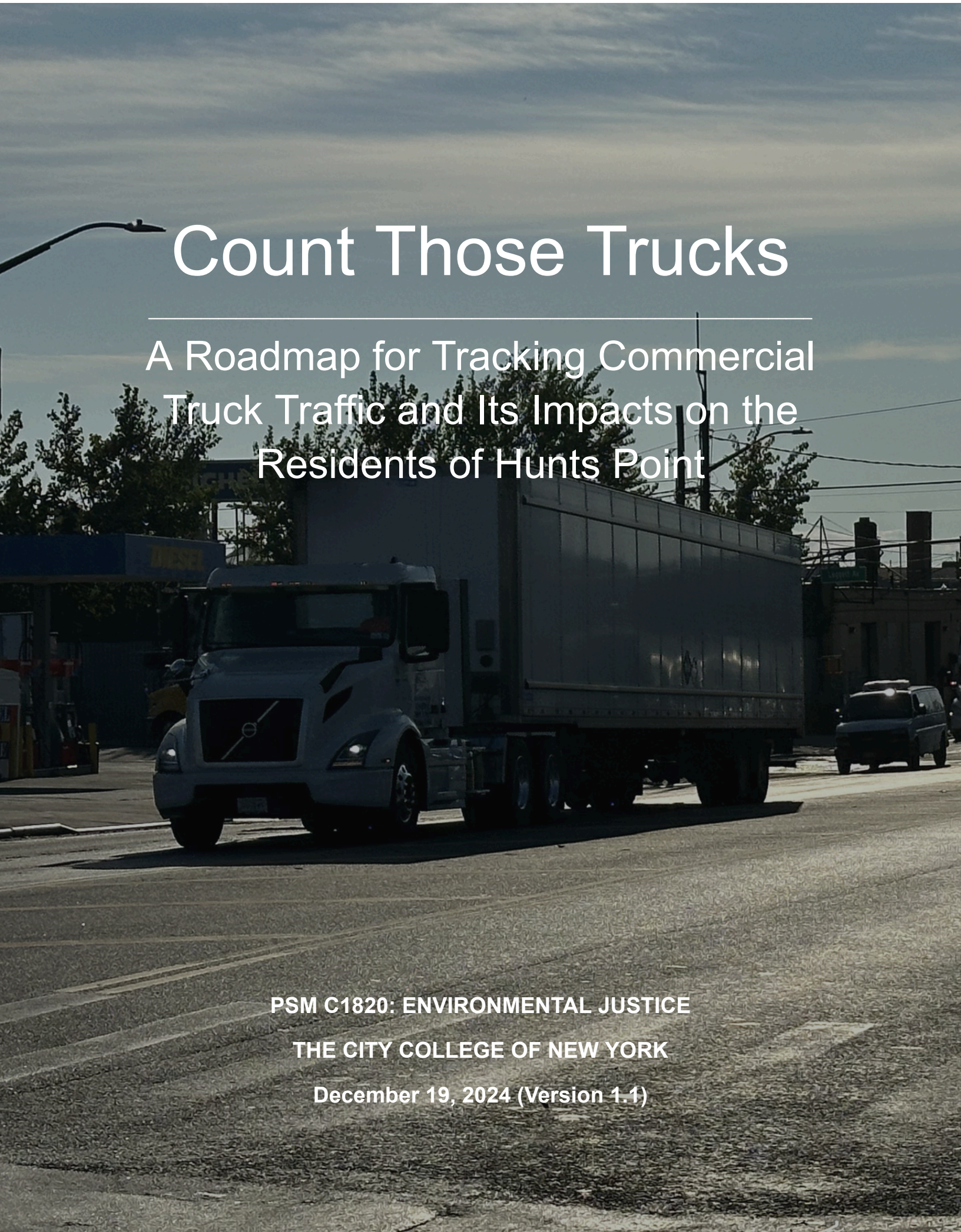

Count Those Trucks

A Roadmap for Tracking Commercial Truck Traffic and Its Impacts on the Residents of Hunts Point

PSM C1820: ENVIRONMENTAL JUSTICE

THE CITY COLLEGE OF NEW YORK

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This report was authored by graduate students at The City College of New York, as part of the course PSM C1820 Environmental Justice: Foundations, Power, & Movements For a Just Future.

Table of Contents

List of Figures

Foreword

Hunts Point has long been burdened by environmental injustices. As the home to the Hunts Point Food Distribution Center since the 1970s, one of the largest food distribution centers in the world, residents of the neighborhood have been exposed to disproportionately high rates of commercial truck traffic for decades. In recent years, the rise of e-commerce has brought an influx of last-mile warehouse facilities to the area, where packages are sorted and then sent out for distribution. The neighborhood is also home to a number of waste transfer stations. Combined, these facilities continue to exacerbate the amount of truck traffic in Hunts Point, bringing a variety of negative outcomes to its 12,000 residents, from poor air quality to noise pollution and hazardous road conditions.

Yet, the NYC Department of Transportation (NYCDOT) has not conducted a comprehensive traffic study in Hunts Point since 2004. This report is meant to draw attention to the need for such a study and to provide the tools and guidance for community scientists to monitor truck traffic in the area, with the goal of collecting updated data to advocate for political action.

This project is the result of a collaboration between graduate students, environmental justice advocates, and residents of the South Bronx neighborhood of Hunts Point in New York City. The students involved in the project were enrolled in PSM C1820 *Environmental Justice: Foundations, Power, & Movements For a Just Future* course at The City College of New York during the Fall of 2024. Throughout the semester, we conducted fieldwork in Hunts Point to develop a system for tracking commercial truck traffic and to understand its impacts on residents. We're deeply indebted to the people who live, work, and go to school in Hunts Point who were kind enough to share their experiences with us.

This work would not have been possible without the guidance and support of community partners and other collaborators. We'd like to thank The Point CDC for inviting us into their wonderful space and teaching us about the environmental justice issues that have, and continue to, affect their community. We'd also like to thank the NYC Environmental Justice Alliance and the Last Mile Coalition for guiding our advocacy work, and for their ongoing efforts to amend the city's zoning laws in order to regulate last-mile warehouse facilities. Numina was essential to providing the tools and training necessary to conduct traffic counting and develop a guide for future data collection. Lastly, we'd like to thank our professor Lauren Wang, who was an invaluable guide and mentor throughout this project, and who taught us the tenets of environmental justice, which we will take with us in all our future endeavors.

Executive Summary

The South Bronx's Hunts Point is a crucial commercial and industrial center that forms the backbone of New York City's flow of goods. The neighborhood deals with a disproportionate amount of environmental injustices brought on by heavy truck traffic associated with last-mile warehouses and longstanding industrial operations. As shown in this study, the primarily low-income and marginalized population has suffered significant social, environmental, and health effects as a result of this truck activity, including increased incidence of respiratory ailments, ongoing noise pollution, and unsafe streets.

KEY FINDING

Based on 21 hours of daytime manual truck counts, estimates show nearly 13,000 daily truck trips in Hunts Point *at 3 intersections alone* as of December 2024.

The scope and effects of commercial truck traffic in Hunts Point are evaluated in this study through quantitative and qualitative methods. Major intersection traffic counts show how heavy truck traffic is during rush hour, which exacerbates dangerous road conditions and bad air quality. The lived realities of locals, employees, and students are revealed through stakeholder interviews and community engagement initiatives, highlighting the pressing need for systemic reform. Outdated zoning regulations and environmental regulations are enabling a runaway increase in last-mile facilities that continues to bring disproportionate traffic and affect everyday health and well-being of residents. While there were only two last-mile facilities in Hunts Point in 2023, the number has more than doubled in 2024.

In order to tackle these issues, the report offers the following recommendations:

LIVED REALITIES

"My sister has severe asthma and when she was young she was in and out of the hospital," said a student who is a resident of Hunts Point. "When growing up she would have random asthma attacks. It hurt to see her in so much pain."

- **Goal #1: Pathways to Clean Air:** Demand NYS and NYC DOT conduct a traffic and air quality study focused on e-commerce impacts, youth health risks and community health impacts.
- **Goal #2: Clean Transportation:** Hold NYCEDC accountable and demand prioritization of the Blue Highways and DockNYC water-based freight initiatives.
- **Goal #3: Sustainable Energy and Building Solutions:** Partner with solar organizations, developers and building owners to advance community-owned solar programs and building retrofits.
- **Goal #4: Safe Streets:** Reclaim streets and establish pedestrian-priority zones through Vision Zero initiatives, implement green space accessibility and promote urban tree planting to foster green canopies and corridors.

Figure 1. Map of Census Tracts Containing Tax Lot Zones where Warehouse Development is permitted in NYC (Tejada 2023).

Call to Action

This study is a call to action for stakeholders, advocates, and legislators to remedy Hunts Point's environmental injustices. We can build a more sustainable, healthy, and equitable future for its residents by addressing the disproportionate effects of commercial truck traffic. Collectively the class and community volunteers manually counted 2,660 trucks and spent over 21 hours in the field, collecting 85 periods of 15 minute count intervals across two data periods from September 20 - 24th and December 2 - 7th.

Utilizing the available NYSDOT TDV data we were able to estimate a total truck traffic volume of 15,750 total truck trips. Yet, there remains a critical gap in the data available for the southbound traffic from Edgewater Ramp into Hunts Point, which this project found to be a peak area for inbound trucks per 15 minute count, with one group counting up to 9 trucks per minute entering Hunts Point. In order to create a full picture of the truck traffic volume, we recommend further studies to investigate the inbound/southbound traffic at Edgewater Ramp into Hunts Point.

Introduction

Hunts Point in the South Bronx is a vital hub for New York City's economy, serving as the location of the city's largest food distribution center and an increasing concentration of last-mile delivery warehouses. While these facilities play a key role in meeting the growing demand for e-commerce, their presence has disproportionately impacted the health and quality of life of Hunts Point's predominantly low-income and marginalized residents. As commercial truck traffic intensifies, the community experiences alarming rates of air pollution, traffic congestion, and respiratory illnesses, making Hunts Point a critical site of environmental justice concern (The Point CDC, 2021). Decades of industrial zoning decisions and urban planning have created a toxic legacy, exposing residents to current systemic environmental injustices.

Photo: The Point CDC

The rise of last-mile delivery warehouses is a major contributor to this issue. E-commerce has driven unprecedented demand for rapid delivery services, resulting in the clustering of these facilities in Hunts Point and similar urban neighborhoods. This clustering

brings an influx of commercial trucks, further straining infrastructure and increasing emissions in already overburdened communities. The South Bronx, often referred to as “asthma alley,” suffers from some of the highest asthma hospitalization rates in the country, a condition linked to persistent truck-related air pollution (Hunts Point Vision Plan, 2021). In addition to health impacts, the influx of trucks has caused increased traffic hazards, noise pollution, and reduced pedestrian safety, placing an undue burden on residents who already face economic and social challenges.

This report is the result of a collaborative effort to address these long-standing environmental injustices. The partnership was facilitated through the NYC Climate Justice Hub, which brought together community-based organizations, research institutions, and advocacy coalitions. The Point CDC, a grassroots organization rooted in Hunts Point, has been a leading voice for community empowerment and environmental justice. Alongside them, the NYC Environmental Justice Alliance (NYC-EJA) played a central role through its Last Mile Coalition, advocating for equitable policies to mitigate the impacts of e-commerce infrastructure across the city (NYC-EJA, 2023). Researchers from the City University of New York (CUNY) contributed essential technical expertise, providing data-driven insights, community engagement support, and actionable policy recommendations.

This study builds on a rich legacy of advocacy in Hunts Point. In 2004, a groundbreaking community-led truck count study, initiated by a CUNY professor, revealed that over 15,000 truck trips passed through Hunts Point daily. The findings from that initiative became a powerful tool for raising awareness and driving policy change, laying the foundation for continued efforts to reduce truck traffic and pollution in the neighborhood (Lipson, 2024). Nearly two decades later, this report serves as a call to action, documenting the ongoing impacts of commercial truck traffic while providing concrete policy solutions to achieve environmental justice for Hunts Point residents.

The purpose of this study is threefold: to document the scale of truck-related impacts, to elevate community voices, and to propose evidence-based recommendations that address the root causes of these environmental injustices. The study identifies actionable pathways for reducing truck emissions, improving pedestrian safety, and fostering sustainable urban development by combining quantitative data analysis, community engagement, and policy research.

This report aims to empower local stakeholders, policymakers, and advocates with the tools to drive systemic change. In the context of Hunts Point’s legacy of community resilience, this work highlights the critical need to confront environmental injustices and pursue a healthier, more equitable future for all residents.

Methods

The main investigative focus of this work is to assess the need for policies that adequately protect the residents of Hunts Point from the adverse social, environmental, and health impacts of commercial truck traffic in their community. To fulfill this goal, a mixed methods approach of collecting both quantitative and qualitative data was utilized. This study involved

collecting and analyzing truck count data; a review of literature supporting the connection between truck traffic and undesirable social, environmental, and health outcomes; a review of current news articles documenting the rise of last-mile warehouse facilities in disadvantaged communities in New York City; an analysis of current New York City zoning laws as they relate to the placement of last-mile facilities; as well interviewing stakeholders who live, work, or go to school in Hunts Point. Together, these various research methodologies shed light on the many burdens that commercial truck traffic brings to the residents of Hunts Point, and how these challenges can be addressed.

Truck Counting

Given their expertise on the neighborhood conditions, resident experience, and policy context, our partners at The Point CDC and NYC-EJA recommended three high-traffic areas of Hunts Point for collecting data on the number of commercial vehicles that are regularly moving through the area. The locations were (1) the intersection of Leggett Avenue and Garrison Avenue (“Blue Bridge” site), (2) the intersection of Barretto Street and Garrison Avenue (“The Point” site), and (3) Edgewater Road in front of a ramp that connects to the Bruckner Expressway (“Edgewater Ramp” site).

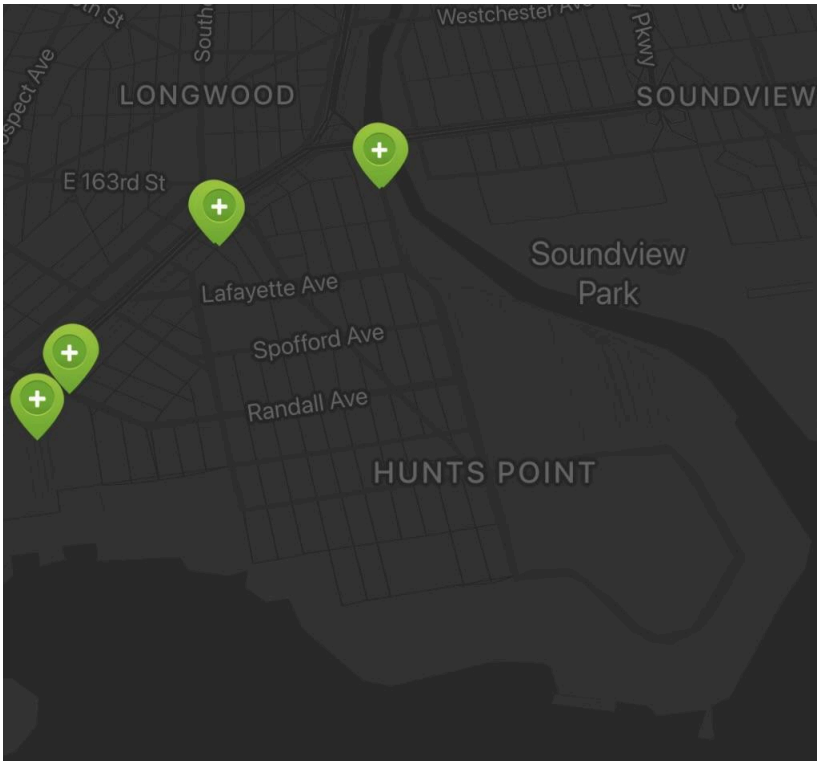

Figure 2. Truck counting locations used in this study, as shown in the CounterPoint app. From left to right: (1) the intersection of Leggett Avenue and Garrison Avenue (“Blue Bridge” site), (2) the intersection of Barretto Street and Garrison Avenue (“The Point” site), and (3) Edgewater Road in front of a ramp that connects to the Bruckner Expressway (“Edgewater Ramp” site).

An open source mobile application called CounterPoint was used to conduct the truck counting. Within CounterPoint, virtual counting lines were created, which intersected the streets where counting was conducted in order to create a clear marker where commercial trucks would have to pass before being counted (Figure 3). For two-way streets, data collectors stood on either side of the counting line and used the app to record every time a commercial vehicle passed by.

Figure 3. Using the CounterPoint application to create counting lines and count commercial vehicles.

Data collectors count vehicles in 15-minute intervals, starting at quarter times (:00, :15, :30, 45) for sessions lasting up to 1 hour. Sessions were conducted on weekdays and Saturdays from 7:30 AM - 8:30 AM, 11:30 AM - 12:30 AM, and 3 PM - 4 PM. These intervals were chosen with the help of representatives from The Point CDC, as they represented AM peak, mid-day off-peak, and PM peak traffic hours. (NOTE: Although traffic volumes in Hunts Point are reported to be greatest at night by local residents given activity at the food distribution hub, counts for this project were limited to daytime hours to account for safety concerns and work

and class schedules. Additionally, our partners advised that peak hours for last-mile warehouse traffic may not match up to the food distribution hub.)

To identify which vehicles to count, data collectors referred to the “Types of Vehicles by Weight Class” diagram created by the US Department of Energy (Figure 2). All readily identifiable commercial vehicles were counted. Omitted were emergency vehicles, such fire trucks and ambulances, and modes of public transit, such as school buses and city transit buses.

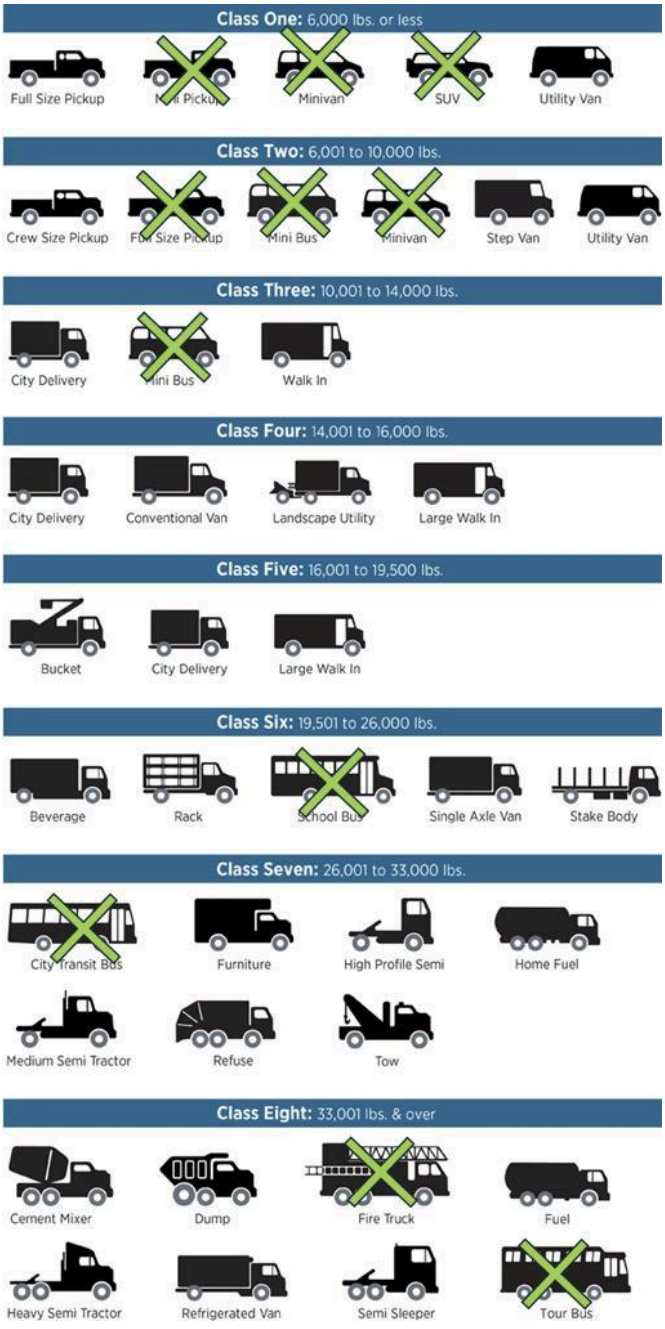

Figure 4. Types of Vehicles by Weight Class. This chart shows typical vehicle types found in the Federal Highway Administration (FHWA) vehicle classes. Vehicles that are crossed out represent the types that were not counted for this study. (U.S. Department of Energy n.d.)

While counting trucks, data collectors also took photographs, sound recordings, and recorded the sensory experiences, such as the smells, noises, and perceived safety of the streets. The combination of the quantitative and qualitative data collected during the truck counts were used to create holistic understanding of the various impacts of high truck traffic in the area. We also created a survey (Appendix A) to gain both qualitative and quantitative insights from future researchers, and to track the progress of their work.

In order to equip future researchers and community advocates interested in the continued monitoring of commercial traffic in Hunts Point, we created a field guide and training video (Appendix B) with step-by-step instructions for using the CounterPoint app to count vehicles. For the second data period, The Point CDC recruited community volunteers and contributed staff time for data collection. Each community volunteer received a $30 debit card as compensation for their contributions to the project.

Literature Review

During the literature review, academic articles, press releases and news media, government reports, policy briefs, case studies, and publications from environmental justice advocacy groups were reviewed and synthesized. Key themes, such as the correlation between traffic density and asthma rates, as well as the tendency to zone last-mile warehouse facilities in disadvantaged communities, were identified. Sources were critically analyzed to understand the intersections of policy, infrastructure, and advocacy in addressing the challenges created by commercial traffic in Hunts Point.

The Hunts Point Vision Plans of 2004 (Hunts Point Task Force City of New York 2004) and 2020 (New York City Economic Development Corporation 2020) were used to understand the history of commercial and industrial activity in the area, and to identify the challenges that the residents of Hunts Point still face.

Other reports provided essential context to environmental justice issues throughout New York City (Mayor's Office of Climate and Environmental Justice 2023), and the relationship between poor air quality and respiratory illness (New York City Environmental Justice Alliance 2024).

Previous traffic and air quality studies were reviewed as a part of this analysis including New York State Department of Transportation 2004, "Hunts Point Truck Study" and "Elemental Carbon and PM2.5 Levels in an Urban Community Heavily Impacted by Truck Traffic", 2002 (Ochieng, L. et al, 2002). In addition to academic reports and government studies, midterm policy briefs prepared by our class offered critical insights into truck traffic density, youth asthma rates, and community impacts, which directly informed this analysis and our subsequent policy recommendations.

Certain New York City databases, such as the Environmental Justice New York City Mapping Tool (Environmental Justice New York City n.d.), were also consulted to identify the proximity of last-mile warehouse facilities to schools and residences in Hunts Point.

Stakeholder Interviews

Over the course of the fall semester, the team met with more than 60 stakeholders for this project. Representatives from The Point CDC and the Last Mile Coalition provided invaluable insight into the proliferation of last-mile warehouse facilities in Hunts Point and the work being done to combat the environmental injustices impacting its residents. Additionally, people who live, work, and go to school in Hunts Point were interviewed in order to understand how truck traffic in the community affects their health, safety, and overall quality of life.

Public Meetings

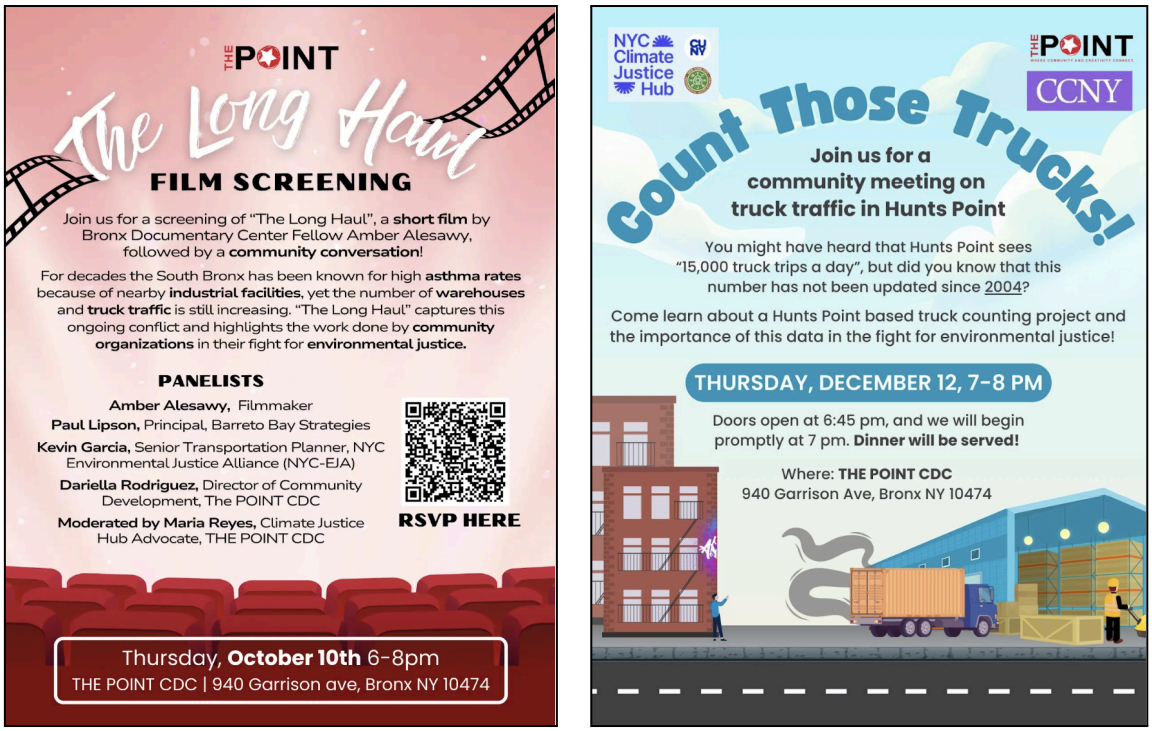

Figure 5. Flyers: "The Long Haul" Film Screening and Panel (left); "Count Those Trucks" Community Meeting (right).

There were two public meetings hosted by The Point CDC about truck congestion in Hunts Point and efforts to mitigate it. Outreach flyers for both meetings are shown in Figure 5.

The first meeting was a screening of "The Long Haul," a film by Bronx Documentary Center Fellow Amber Alesawy. In the film, she interviewed residents of Hunts Point who face environmental justice issues like asthma due to truck pollution and have lost loved ones due to poor air quality in Hunts Point. Following the screening was a panel discussion in which local issues and the history of the neighborhood were explored, and audience questions were answered.

The second meeting was the "Count Those Trucks!" community meeting. This meeting opened up with a brief background knowledge discussion on the e-commerce and truck traffic issues that had been discussed during the first meeting. Next, was a panel comprised of CCNY Professor Lauren Wang and students to discuss the planning and findings of the truck-count research. Then, two students presented policy recommendations based on information from students' midterm reports and a literature review on recent NYC governmental sustainable transportation and energy plans. The meeting concluded with an open discussion in which people involved in the research and audience members shared: thoughts on what they got out of the research, personal experiences of living in Hunts Point, and ideas on how to move forward.

The following "Public Meetings: What We Heard" section details the feedback we gained from both meetings:

Public Meetings: What We Heard

"The Long Haul" Film Screening and Panel

October 10, 2024

It is very common for Hunts Point residents to have or know someone who has asthma and has been hospitalized for it.

~

It is estimated that the amount of trucks traveling back and forth from Hunts Point has significantly increased since they were last counted in 2004.

~

'Band-aid' solutions like establishing more asthma clinics in the area won't solve the problem; long-term, systemic changes must be made.

~

Since 2020, e-commerce warehouses have been popping up in Hunts Point and other environmental justice communities throughout NYC; urban planning policies must be updated to protect nearby residents from increased truck pollution.

"Count Those Trucks" Community Meeting

December 12, 2024

CCNY students felt symptoms of diesel inhalation after conducting truck counts.

~

An audience member from Con Edison says that the company is interested in this kind of research.

~

Young siblings who are Hunts Point residents shared stories of feeling unsafe on their roads and in their parks; and feeling unable to meditate due to the constant traffic noise.

~

A long-term Hunts Point community advocate felt that this data could lead to tangible results.

~

Researchers and audience members agreed that an important next step is getting NYCDOT to see these findings with the goal of having the agency conduct a full study.

~

Students have been asked to present this research at future meetings with The Point CDC and The Climate Justice Hub.

~

The Point CDC members welcome future collaborations with students; community science is important!

Analysis and Discussion

Truck Count Data and Analysis

Collectively the class and community volunteers manually counted 2,660 trucks and spent over 21 hours in the field, collecting 85 periods of 15 minute count intervals across two data periods from September 20 - 24th and December 2 - 7th. Data was captured for both inbound and outbound directions of Hunts Point at each of the three sites. See Appendix A.III. for a full table summary of each count.

Using methodology from the New York State LTAP Center Cornell Local Roads Program (NYSLTAP-CLRP), the total truck traffic volume estimate was calculated using a 15-minute count during the busiest time of day that was collected at each site. In total we estimate that for only the 3 intersections we were able to measure there at 12,780 truck trips into and out of the neighborhood each day (The New York State Local Technical Assistance Program Center n.d.).

Location Description	Day of week	Date	Start	End	Truck Counts	Trucks/ Minute	Peak Estimate
Edgewater Inbound	Tuesday	September 24	8:00 AM	8:15 AM	133	9	4,788
Edgewater Outbound	Tuesday	September 24	8:00 AM	8:15 AM	75	5	2,682
Blue Bridge Inbound	Monday	December 2	11:30 AM	11:45 AM	64	4	2,295
Blue Bridge Outbound	Monday	December 2	11:30 AM	11:45 AM	56	4	2,007
The Point Inbound	Tuesday	December 3	3:30 PM	3:45 PM	11	0.7	396
The Point Outbound	Tuesday	December 3	11:30 AM	11:45 AM	17	1.1	612
						Total Estimate:	**12,780**

Figure 6. Peak 15-minute manual counts and estimated total truck traffic volume.

The data collected was verified against counts conducted and data made available from the New York State Department of Transportation Traffic Data Viewer (NYSDOT TDV). For the Edgewater site an outbound count was conducted in June 2024, the Blue Bridge site has an inbound and outbound count data set available from June 2022, and the Point has a comparable inbound count location conducted in August 2022. Manual data collection was on par with data available through the NYSDOT TDV, with state data often measuring higher peak truck counts. See Appendix A.III for a full table comparison of each count against NYSDOT available data and click here to access NYSDOT TDV.

Class Report NYSDOT_SC 011174			
Class Report NYSDOT_SC 011174			
Site Name		Edgewater Outbound	
Site ID	NYS DOT Count	Sept Class	Dec Class
14:00:00	47		Wednesday PM (Dec)
14:15:00	42		38
14:30:00	46		38
14:45:00	50		38
15:00:00	46		Saturday PM (Dec)
15:15:00	48		15
15:30:00	42	Monday PM (Sept)	38
15:45:00	43	36	22
16:00:00	39	36	
16:15:00	39	31	
16:30:00	33	27	

Figure 7. Checking manual truck counts against NYSDOT TDV data

Utilizing the available NYSDOT TDV data we were able to estimate a total truck traffic volume of 15,750 total truck trips. A critical gap in the data that was available was the southbound data from Edgewater Ramp into Hunts Point. The only count data that is available from the NYSDOT TDV data is outbound traffic. This is also where this project found the peak number of inbound trucks per 15-minute count, with one group counting up to 9 trucks per minute entering Hunts Point. In order to create a full picture of the truck traffic volume, we recommend further studies to investigate the inbound/southbound traffic at Edgewater Ramp into Hunts Point.

There are several limitations of the truck count data collected by our class. This study only had the capacity to conduct manual counts of 3 intersections in and out of Hunts Points. These intersections were chosen to represent 2 major commercial entry points into the neighborhood (Edgewater Ramp and Blue Bridge), where there has also been a significant growth in the siting of last-mile warehouses, including the Amazon Last Mile Delivery station at 511 Barry Street near the Blue Bridge site. The site at The Point was chosen as a representative location for truck traffic entering the residential core of the Hunts Point neighborhood. A comprehensive future study should evaluate all entry/exit routes into Hunts Point.

This study was also limited in the methodology that was used for turning 15-minute manual counts into an Annual Average Daily Traffic (AADT) number. The American Association of State Transportation Officials (AASHTO) method to calculate a formal AADT requires daily volume counts on at least one of each day of the week for each month. The NYSDOT TDV stations also cite significantly more data, up to 72 hours of continuous 15 minute counts. The formula that was utilized from NYSLTAP-CLRP to calculate 12,780 truck trips, from the sample of data this study was able to collect, should be taken as a back of the envelope calculation and a starting point to conduct a formal AADT study.

We recommend that future traffic studies also consider new groupings of vehicle classifications that are arising from the last-mile warehouse industry. Truck traffic studies should explicitly include pickups, panels, and vans that are now being used as commercial vehicles for

freight delivery, instead of their traditional classification as passenger vehicles. These new use cases of multi-model vehicles that e-commerce is bringing into Hunts Point should be evaluated.

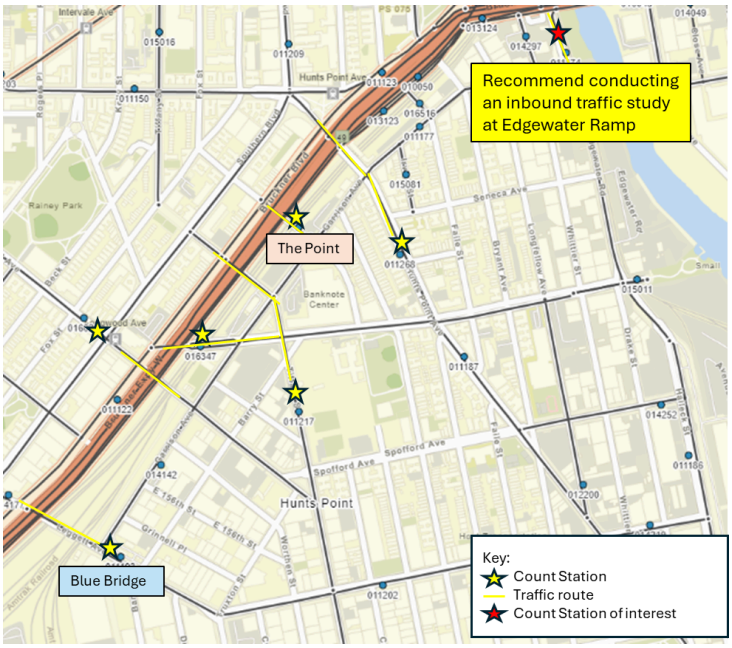

Figure 8. Available NYSDOT TDV count data for routes into and out of Hunts Point

	Station Id: 011193	Station Id: 016021	Station Id: 016347	Station Id: 011217	Station Id: 011102	Station Id: 011268	Station Id: 011174
	Description: LEGGETT AVE from RANDALL AVE to BRUCKNER BLVD	**Description: LONGWOOD AVE from PROSPECT AVE to TIFFANY ST**	**Description: LAFAYETTE AVE from BRUCKNER BLVD to EDGEWATER RD**	**Description: TIFFANY ST from RANDALL AVE to BRUCKNER BLVD**	**Description: BARRETTO ST from BRUCKNER EXPY to GARRISON AVE**	**Description: HUNTS POINT AVE from LAFAYETTE AVE to SOUTHERN BLVD**	**Description: EDGEWATER RD from HALLECK ST to BRUCKNER BLVD**
Count last conducted:	June 2022	February 2024	February 2024	November 2022	June 2022	February 2023	June 2024
3. Pickups, panels, vans	1,629	701	231	897	1,011	477	1,607
5. Single-unit trucks	2,203	248	117	973	239	212	915
6. Single-unit trucks	819	68	56	314	37	56	409
7. Single-unit trucks	22	0	1	11	6	1	3
8. Single-trailer trucks	131	6	2	93	343	5	39
9. Single-trailer trucks	817	6	13	633	2	15	317
10. Single-trailer trucks	28	0	0	13	3	2	19
11. Multi-trailer trucks	0	0	0	0	1	0	0
	5,649	1,029	420	2,934	1,642	768	3,309
					Total truck traffic volume:		**15,750**

Figure 9. Total truck traffic volume from available NYSDOT TDV count data for routes into/out of Hunts Point, this study recommends an investigation of Edgewater Ramp's inbound traffic.

External and Qualitative Data Analysis

Asthma Cases

As reported in the 2022 Community Health Profiles (New York City Department of Health n.d.) by the NYC Department of Health and Mental Hygiene, Bronx Community District 2, which includes Hunts Point, ranks in the 85th percentile for children's visits to emergency departments for asthma. This equates to a rate of 333 visits per 10,000 children aged 5 to 17, which is 70% higher than the NYC rate of 195 visits. These statistics indicate that Hunts Point and its surrounding communities experience a significantly higher rate of asthma cases compared to the rest of New York City.

Air Quality

According to the EPA, $PM_{2.5}$ refers to fine particulate matter with a diameter of 2.5 micrometers or smaller, which is about 30 times smaller than the diameter of a human hair. These tiny particles are a significant air pollutant emitted by trucks, especially those running on diesel engines. $PM_{2.5}$ is a major concern because it can penetrate deep into the lungs and enter the bloodstream, causing a range of health problems.

$PM_{2.5}$ and its negative effects are closely linked to urban heat, as highlighted by the NYC Community Heat and Air Mapping Project for Environmental Justice (NYC CHAMP EJ). Hunts Point, a community dominated by industry and truck traffic, has disproportionately high amounts of asphalt, cement, and other hard, impervious surfaces that effectively retain excess urban heat. During hot, sunny weather, its heat vulnerability increases, contributing to the formation of air pollutants such as ozone and particulate matter. These pollutants are exacerbated by higher electricity demand for cooling, which is often met by "peaker plants"—fossil-fuel-powered facilities that are old, inefficient, dirty, and costly. In NYC, peaker plants are frequently located in environmental justice (EJ) communities like Hunts Point, which also host other polluting infrastructure, compounding the cumulative effects of pollution and respiratory conditions.

As shown in Figures 10 and 11, Hunts Point and its surrounding communities have consistently experienced high levels of $PM_{2.5}$, according to the New York City Community Air Survey (New York City Department of Health, 2022) data in the years 2009 and 2021. The NYC CHAMP EJ report cites the national annual health-based standard for $PM_{2.5}$ as 9.0 $\mu g/m^3$. However, as illustrated in Figures 10 and 11, $PM_{2.5}$ levels in Hunts Point consistently hover above 11.2 $\mu g/m^3$, indicating that residents have been exposed to unhealthy air quality since 2009. Given these persistently high levels, it is crucial to take a closer, more granular look at fluctuations in $PM_{2.5}$ throughout different times of the day—a known limitation of the New York City Community Air Survey. This approach would enable the development of more targeted strategies to mitigate risks associated with extreme heat and poor air quality.

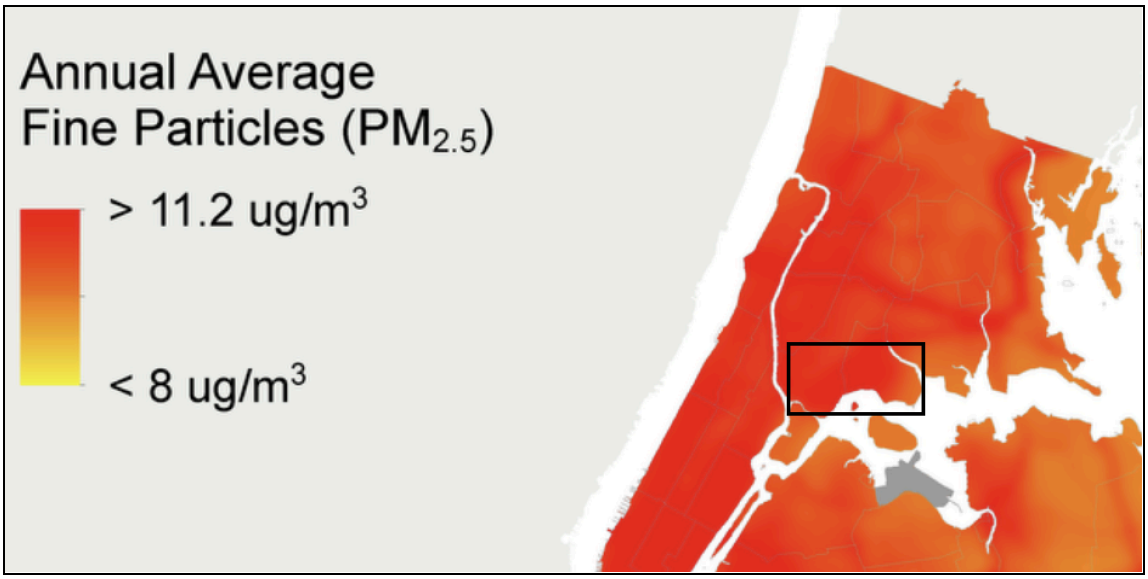

Figure 10. Year 2009 Annual Average Fine Particles ($PM_{2.5}$) in Hunts Points and its surrounding communities as outlined by the rectangle on the map. (New York City Department of Health 2022).

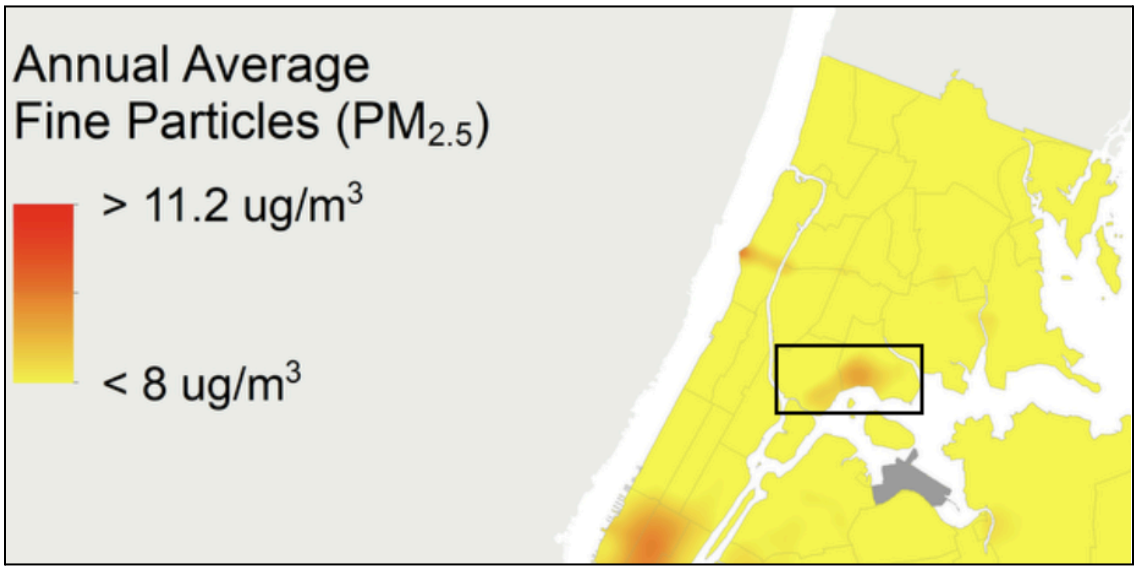

Figure 11. Year 2021 Annual Average Fine Particles ($PM_{2.5}$) in Hunts Points and its surrounding communities as outlined by the rectangle on the map. (New York City Department of Health 2022).

Site Visits

The CCNY Fall 2024 Environmental Justice class conducted site visits and truck counts at three locations: (1) the intersection of Leggett Avenue and Garrison Avenue (“Blue Bridge” site), (2) the intersection of Barretto Street and Garrison Avenue (“The Point” site), and (3) Edgewater Road in front of a ramp that connects to the Bruckner Expressway (“Edgewater Ramp” site), as shown in Figure 12. During and after the truck count activity, the class reported experiencing difficulty breathing, overwhelming noise, foul-smelling air, and a disregard for pedestrian safety by small to large vehicles passing through the selected locations.

Figure 12. Truck Count photos at Edgewater Ramp (one of three truck count sites) in Hunts Point.

Interviews

The Point CDC-CCNY Truck Traffic study revealed several themes from interviews conducted by the CCNY-FALL 2024 Environmental Justice class in Hunts Point. These themes collectively emphasize the interplay between industrial development, community health, and grassroots activism, underscoring the need for equitable urban planning and environmental justice.

1. **Environmental Health and Justice**
    - **Air Pollution and Health Impact:** Truck traffic contributes to poor air quality, causing health problems such as asthma and ear infections, especially in children.
    - **Community Disparities:** Environmental burdens disproportionately affect neighborhoods like Hunts Point and Red Hook, highlighting systemic inequities in urban planning.

COMMUNITY INSIGHTS: ENVIRONMENTAL HEALTH AND JUSTICE
“My sister has severe asthma and when she was young she was in and out of the hospital. When growing up she would have random asthma attacks. It hurts to see her in so much pain,” said a student who is a resident of Hunts Point. (Stern 2024)
“Many people got asthma there. I do remember that when the sky was orange, I had to watch over some of my classmates to make sure they were safe and didn’t get hurt when they went to the bathroom. The air pollution was extra bad during that time. My mom also had difficulties breathing because she smokes and had the windows open. The air pollution made it much harder for some people to deal with the wildfire smoke”, said a Hunts Point community member. (Chakraborty 2024)
Melissa Campbell, a former Red Hook resident and current Parent Coordinator at elementary school PS 15 estimated that 30-40% of students have missed class at some point due to health issues from air pollution, with many students suffering from ear infections. Campbell notes “...with all the trucks it causes a lot of air pollution. The dirt and contamination that’s floating around in the air, and with a lot of the [construction], the big trucks are spreading more dirt into the air. (Zhou 2024)

2. **Safety and Accessibility**
    - **Pedestrian Safety**: Truck behavior creates unsafe conditions for residents, particularly around parks and streets.
    - **Green Space Accessibility:** Industrial zones and heavy traffic hinder safe access to green spaces, affecting community well-being.

COMMUNITY INSIGHTS: SAFETY AND ACCESSIBILITY
“There’s a park near Hunts Point by the highway, and when we walk to the park it’s dangerous, it’s really scary because of all the trucks,” said one student who is a resident of Hunts Point. “It’s like they think they’re cars,” said another student. “They always try to cut other cars off and not wait. They’re big trucks, they should be patient with everybody.” (Stern 2024)
Even at school, the trucks outside find a way to permeate the day. “It throws the whole classroom vibe off,” said a student who goes to school in

Hunts Point. "It can be really good and then we hear a loud truck go by and then it's like everybody is focused on the sound, and we've lost the topic of what we were just talking about. And that's just everybody's human reaction, like we're going to get distracted. But I feel like there's no reason for the trucks to be making that much noise. I've also noticed that it distracts the teachers, and makes it harder to teach, especially if all the kids are distracted from the noise." (Stern 2024)

Jasmine Benitez, a resident from Hunts Point, shared that poor air quality and traffic keep residents out of green space areas, and that most green spaces in the point could not be safely accessed. (Welsh-Huggins 2024)

3. **Urban Infrastructure and Zoning**
    - **Inadequate Planning:** Issues such as poor street design, unregulated warehouse spaces, and lack of community engagement in planning exacerbate the challenges.
    - **Zoning and Regulation:** Efforts to introduce zoning amendments and special permits for last-mile warehouses aim to address these challenges and mitigate environmental impact.

COMMUNITY INSIGHTS: URBAN INFRASTRUCTURE AND ZONING

"I'd like people to feel more comfortable walking the streets [in] Hunts Point. It's just pedestrian safety, accessibility, being able to access parks, being able to live here," said Joanna, a Hunts Point resident. "I was one of those people where the goal is to move out of Hunts Point. Regardless of all the issues we're having here, it'd be nice to keep our residents in so that we can make that change together and …continue pushing for a better Hunts Point." (Undag 2024)

4. **Community Advocacy and Grassroots Efforts**
    - **Youth Voices:** Students actively identify issues and stakeholders responsible for change, demonstrating local engagement.
    - **Nonprofit and Union Advocacy:** Organizations like The Point CDC and Local 202 advocate for sustainable practices, better employment conditions, and infrastructure improvements.
    - **Sustainable Practices:** Advocacy for transitioning from diesel trucks to electric vehicles addresses long-term environmental sustainability.

COMMUNITY INSIGHTS:
COMMUNITY ADVOCACY AND GRASSROOTS EFFORTS

Local 202 wants to stop using about 1,000 diesel trucks idling on site every day (because they are refrigeration trucks) due to the warehouse facilities they use to store produce not being large enough to keep up with modern-day food demand. (Perez 2024)

5. **Corporate and Government Accountability**
    - **Last-Mile Warehouses:** The growth of e-commerce facilities like Amazon warehouses has intensified truck-related pollution and traffic, prompting calls for stricter regulations.
    - **Government Commitments:** Recent city-level commitments to regulate warehouse operations and emissions mark progress in addressing community concerns.

COMMUNITY INSIGHTS:
CORPORATE AND GOVERNMENT ACCOUNTABILITY

Kevin Garcia from NYC EJA, shared that the City Planning Commission now knows every single one of the names involved in the Last Mile Coalition. And that the coalition has been working with local council members — making it known that warehouse operations and emissions are really important to their constituents — to get attention from the NYC Department of City Planning for a special permit before a last mile warehouse can start its operation.

Policy Recommendations

This section offers policy strategies for The Point CDC (TPCDC) and may be useful for other Environmental Justice or Disadvantaged Communities facing commercial truck traffic and air quality issues. Based on TPCDC's priorities, including residents' right to clean air, healthy young people and schools, and safer, accessible streets, we have assembled the following four goals with policy recommendations and strategies for consideration (see Figure 13 for an overview).

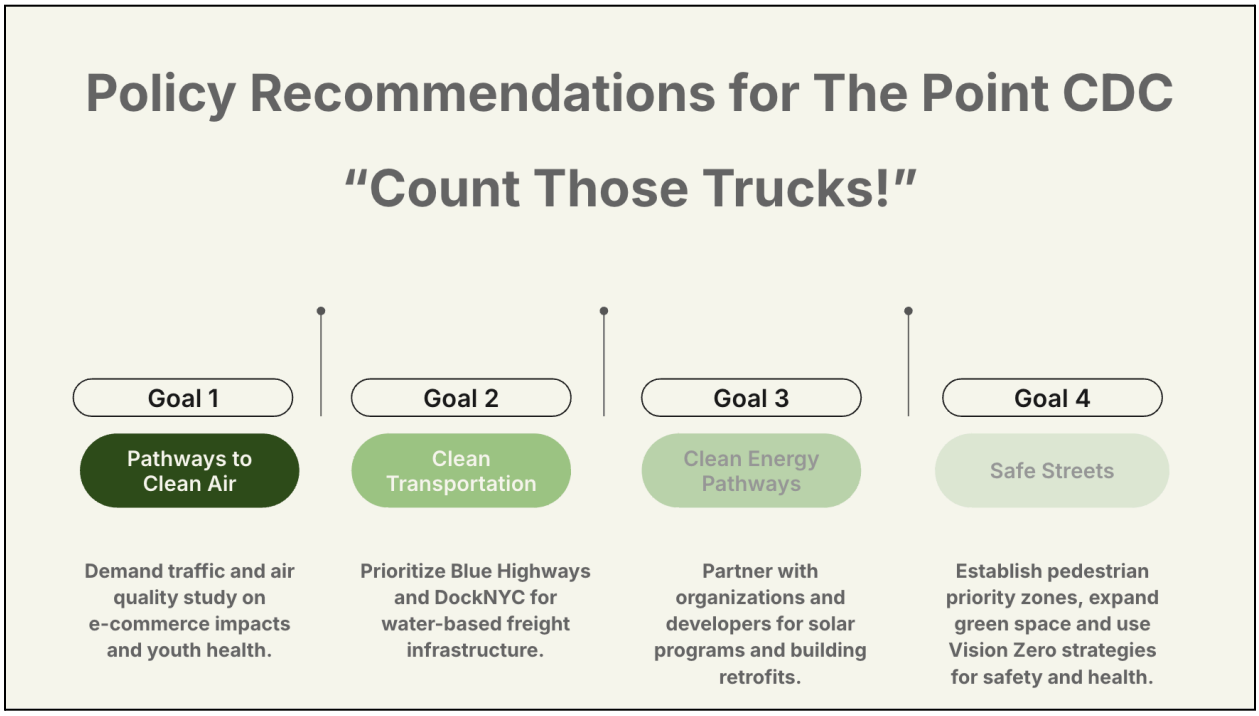

Figure 13. Overview of the Four Goals Supporting Policy Recommendations.

Goal #1: Pathways to Clean Air

Demand NYS and NYC DOT conduct a traffic and air quality study focused on e-commerce impacts, youth health risks and community health impacts.

The most recent traffic studies performed in Hunts Point were conducted in 1999 (Ochieng et. al. 2002) and in 2004. (New York State Department of Transportation 2004) While these were useful tools at the time, the transportation and shipping industry has significantly changed. In addition to the increased volume of traffic, noise levels have also elevated and pedestrian safety is further at risk, which negatively impacts residents' daily lives. (Galindo Lozano 2024) Respiratory health is further exacerbated and has resulted in increased asthma rates and emergency room visits for youth in particular, including a visit rate of 333 out of 10,000 youth between ages 5-17 (NYC Department of Health and Mental Hygiene 2022).

Recommendations include:

1. **Build a coalition to create a campaign demanding action from NYS and NYC DOT to conduct a comprehensive traffic and air quality study.** Based on 21 hours of daytime manual truck counts conducted by this study's data collectors at 3 intersections alone, our estimates show nearly 13,000 daily truck trips in Hunts Point as of December 2024. Additionally, when compared to current publically available count data, a critical gap in data that is available through current NYS State conducted counts is the southbound data from Edgewater Ramp into Hunts Point. This is also where this project found the peak number of inbound trucks per 15 minute count, with one group counting up to 9 trucks per minute entering Hunts Point. We recommend particular attention is paid within the comprehensive traffic study to the inbound/southbound traffic at Edgewater Ramp into Hunts Point.

   The campaign could engage TPCDC's youth leadership council, local parent teacher associations and council members to raise awareness and achieve additional support. Explore the possibility of collaboration between the Last Mile Coalition and Teamsters Local 202 to advocate for a traffic study as well as electric delivery truck standards (Goal #2). Union members include both Hunts Point and local area residents and have a shared investment in advocating for improved air quality. This strategy would leverage the power of the union and also is in alignment with the Jemez principles, including inclusivity, bottom-up organizing, working together in solidarity and mutuality, and building a just relationship between the two organizations (Perez 2024).

   The coalition could then launch, perform a press release and engage DOT and provide the content created by our class, including the report, truck count data and methodology.

   The coalition should build upon the midterm papers cited, including Arrif Asavaviriyakul, Gabrielle Perez, Joseph Rochez, Mateo Galino Lozano, David Stern and Thom Welsh-Huggins and incorporate impactful narratives such as a youth leader's testimony provided during an interview.

   These lived experiences further emphasize the urgency of addressing truck traffic and its health consequences. The campaign's goals would be to achieve a commitment from DOT to conduct a comprehensive traffic and air quality study focusing on the health impacts of e-commerce traffic and diesel truck emissions, particularly on youth. DOT should commit to performing this work in partnership with the community within the next six months and provide a plan of action, including solutions and a timeline for implementation.

2. **Immediately engage and provide strategies with Bronx Borough President Vanessa Gibson for air pollution** as identified by the NYSDEC Community Air

Monitoring (CAM) initiative, who is the co-convener for the local Community Advisory Committee. This initiative was identified and sourced from NYC-EJA's "Community Heat and Air Mapping Project for Environmental Justice" report June 2024.

3. The **NYSDEC CAM initiative is requesting community surveys** to collect air pollution concerns until December 31, 2024. Create a social media post for the survey, and consider adding a barcode directly to the link: https://survey123.arcgis.com/share/391cbab334bb40dfa67a1b4ffdbac965

Goal #2: Clean Transportation

Hold NYCEDC accountable and demand prioritization of the Blue Highways and DockNYC water-based freight initiatives.

Water-based freight is a significant pathway to reduce roadway use and related trucking emissions. According to a research report dated January 2022 by the Texas A&M Transportation Institute, waterborne freight via barge is substantially more fuel efficient and emissions are significantly lower than tractor-trailers. The standard cargo capacity of barges is 70 times larger than tractor trailers, 1,750 tons versus 25 tons respectively. Transportation output is measured in ton-miles which is defined as one ton of freight (weight) shipped across one mile (distance). Barges can travel 675 ton-miles per gallon of fuel versus 151 ton-miles per gallon for tractor trailers. Therefore, barges are nearly 4.5 times more fuel-efficient. Emission levels also demonstrate a significant difference between the two modes, where barges emit 15.1 metric tons of GHG per million-ton miles ($MT/10^6$ ton-mile) and truck freight emits 140.7 $MT/10^6$ ton-mile. We identified two water-freight programs where Hunts Point has been identified as a site (Texas A&M Transportation Institute 2022).

Recommendations include:

1. **The NYCEDC plans to begin renovations in the Bronx in late 2025**, as part of the Blue Highways initiative. This project, supported by over $5 million in federal funding, aims to shift freight transport from trucks to waterways. To enhance the initiative's impact, **NYCEDC should prioritize redeveloping the NYC-owned maritime infrastructure along Hunts Point's waterfront to accommodate ship transport and delivery**. Additionally, facilitating the development of micro hubs would enable the transfer of packages to human-powered cargo bikes for last-mile e-commerce deliveries, further reducing truck traffic and associated emissions. (Duggan 2024)

2. **Call upon NYCEDC to prioritize upgrades to dock infrastructure** as outlined in "DockNYC" to transition freight to waterways (DockNYC 2020) in Hunts Point.

3. **The New York State Energy Research and Development Authority (NYSERDA) Clean Transportation Program offers funding for the electrification of delivery trucks and expanding EV charging infrastructure**. This support would be beneficial

for transitioning Hunts Point's transportation systems to cleaner alternatives. Additionally, it provides opportunities for businesses in Hunts Point to adopt low-carbon technologies and pilot innovative clean transportation solutions. (NYSERDA 2024)

Goal #3: Sustainable Energy and Building Solutions

Partner with solar organizations, developers and building owners to advance community-owned solar programs and building retrofits.

Limited access to renewable energy and outdated building infrastructure can contribute to high energy costs, poor indoor air quality, and energy inequities. Community-scale solar energy systems and building retrofits provide cost-saving opportunities while improving indoor air quality health.

Recommendations include:

1. **Reach out to solar organizations and developers to explore possible solar options, establish initiatives and develop outreach strategies to engage residents and promote participation**. The Marcus Garvey Microgrid in Brooklyn, New York, is an example of how community-scale energy systems can address energy inequities (NYS Climate Impacts Assessment n.d.). There are also a variety of options to integrate solar energy on a smaller scale, including through individual electricity users by choosing renewable energy as an energy source, which may be helpful to explore.

2. **Consider encouraging building owners in Hunts Point to collaborate with the NYC Accelerator program.** This partnership can help building owners navigate the requirements of NYC Local Law 97 (LL97) and identify funding opportunities such as the Weatherization Assistance Program (WAP) and New York State Energy Research Development Authority's initiatives (Asavaviriyakul 2024). These programs can support retrofits like improving insulation, ventilation systems, and energy efficiency measures to enhance indoor air quality. By facilitating workshops or informational sessions, The Point CDC can act as a bridge between property owners and these resources. This approach will ensure that retrofits are implemented in compliance with LL97 while addressing critical health concerns related to poor air quality in residential and commercial buildings.

Goal #4: Safe Streets

Reclaim streets and establish pedestrian-priority zones through Vision Zero initiatives, implement green space accessibility and promote urban tree planting to foster green canopies and corridors.

Improving access to green spaces and safer streets can increase public health and quality of life in Hunts Point. Limited pedestrian infrastructure, increased truck traffic, and industrial zoning have restricted community access to safe streets and green spaces. Residents face elevated

risks due to insufficient traffic calming measures, unsafe crossings, and poor connectivity to nearby parks and schools (Welsh-Huggins 2024). Urban tree canopies and small green corridors have been shown to reduce air pollution and improve mental and physical well-being, especially for children and older adults (Welsh-Huggins 2024).

Recommendations include:

1. **Reclaim public space and establish pedestrian-priority zones in designated areas** such as near schools and residential areas, including the Leaders in Our Neighborhood Charter School.

2. **Incorporate Vision Zero strategies to improve pedestrian safety** by adding traffic calming measures, crossing guards, and safer street designs (NYC DOT 2024).

3. **To improve green space and accessibility,** identify and prioritize areas near existing green spaces for infrastructure improvements, such as safer crossings and reduced industrial traffic, making green spaces more accessible for residents (Welsh-Huggins 2024).

4. **Promote urban tree canopies or small green corridors** near schools and residential areas to enhance resident health and mental well-being.

5. **For community health and well-being, encourage policies and community-driven campaigns that link green space** improvements with broader goals of environmental and social equity, supporting community ownership and participation in these spaces (Welsh-Huggins 2024).

Conclusion

To address the environmental inequities that the Hunts Point faces, structural changes are urgently needed. This study highlights the detrimental effects of commercial truck traffic on Hunts Point inhabitants' social, environmental, and health through a thorough examination of truck counts, air quality, stakeholder interviews, and policy gaps.

Additionally, by offering resources for tracking and promoting change, this project acts as a model for community advocates and community scientists, with the goal of advocating for the New York City Department of Transportation (NYC DOT) to initiate a comprehensive traffic and air quality study to address the health impacts of diesel truck emissions, particularly on Hunts Point's youth and vulnerable populations. We can lessen the negative impacts of industrial operations and advance a healthier, more just future for Hunts Point by enacting legislative changes, making investments in environmentally friendly infrastructure, and giving community members more influence. This effort urges local stakeholders, advocacy organizations, and legislators to work together to build an equitable and sustainable urban environment for everybody.

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Appendix

This appendix is meant to provide additional resources to community scientists and researchers interested in conducting their own commercial truck tracking. The **Data Management** tools offer examples on how quantitative and qualitative data was collected and coded for this project. The **Field Guide and Training** includes a step-by-step tutorial on how to conduct truck counting in the field using the CounterPoint app.

a. Data Management

i. **Data Dictionary:** A collection of key terms and definitions to assist with traffic data analysis and provide consistency across future studies.
ii. **CounterPoint Guide:** Step-by-step instructions on how to download and prepare CounterPoint data for analysis.
iii. **Counterpoint Data and Analysis:** This document contains all of the raw truck count data that the class collected this semester, clean tables of all count totals from each 15 minute section for September and December, and the analysis done on the resulting data (Comparison to NYSDOT TDV Counts, Cornell calculation).
iv. **Qualitative Survey:** This survey is meant to be completed after conducting a truck traffic count in order to capture qualitative data, such as date, time, and number of trucks.
v. **Truck Counting Photos and Videos:** This folder includes selected photos and videos captured by our team during truck counting, and can serve as a repository for photos and videos taken during future counts.
vi. **Anecdotal Data Package:** Personal accounts about the truck counting experience provided by members of our research team. This can also serve as a repository for future anecdotal data collected during truck counting.

b. Field Guide and Training

i. **Truck Counting Field Guide:** A step-by-step tutorial on how to conduct truck counting in the field using the CounterPoint app. This is meant to help community volunteers and community scientists in the continued collection of traffic data to help advocate for a formal air quality and health impact study.
ii. **Field Guide Recording:** Members of our class recorded a walkthrough of the Truck Counting Field Guide. Passcode: wy4EEB4$