



Testimony

of

Carolyn Olson

**Assistant Commissioner, Environmental Surveillance and Policy
New York City Department of Health and Mental Hygiene**

before the

New York City Council Committee on Environmental Protection

on

Protecting Health through Improving Air Quality

September 23, 2019

**Committee Room, City Hall
New York City**

Good afternoon Chair Constantinides and members of the Environmental Protection Committee. I am Carolyn Olson, Assistant Commissioner for Environmental Surveillance and Policy at the New York City Department of Health and Mental Hygiene. On behalf of Commissioner Barbot, thank you for the opportunity to join my colleagues from the Department of Environmental Protection (DEP) to testify today on the Health Department's role in air quality surveillance and assessment of related public health impacts.

The Health Department's Air Quality Program aims to bring public health into discussions of equitable, sustainable policies for our city. Air pollution has long been known to have an impact on public health that is disproportionately borne by lower-income communities and communities of color. While the Federal Clean Air Act already provides for surveillance of air quality at the citywide level, we recognized the importance of tracking spatial differences in air quality within the city, and therefore established the New York City Community Air Survey – or NYCCAS – in 2007. NYCCAS is the largest ongoing air monitoring program of any U.S. city. It is designed to track neighborhood-level differences and changes over time in air quality within the five boroughs and provide that information to the public to support program and policy development, community awareness, and research. With enactment of Local Law 103 of 2015, City Council codified NYCCAS and its annual report, which we deliver to the Council and publish every Earth Day. We began collecting data in December of 2008, and now have more than a decade of air quality data for the city.

Briefly, I'd like to explain how NYCCAS works. The Department collaborates with Queens College of the City University of New York to collect two-week air pollution samples at around 90 street-level sites across the five boroughs four times a year. Each site was purposely selected to provide a representative sample of pollution across the variety of natural and built environments and emission sources within the city – ranging from the middle of Claremont Park in the Bronx to Times Square to residential neighborhoods in Queens. We then generate estimates for five pollutants: fine particulate matter or PM_{2.5}, Black Carbon (a specific type of PM_{2.5}), nitric oxide and nitrogen dioxide, ozone, and sulfur dioxide. Each monitoring site contributes to our resulting air pollution models, which include the averages for each pollutant and allow us to

estimate variation in levels across the city.

NYCCAS has documented significant improvements in the city's overall air quality over the past decade, which means better health for all New Yorkers. Annual average levels of PM2.5, nitrogen dioxide, nitric oxide and black carbon have all declined more than 25% and average wintertime levels of sulfur dioxide have plummeted 96%, bringing levels in line with those measured in rural areas. Only ozone has remained unchanged. Ground-level ozone is not emitted directly into the air, but created in the atmosphere, often far downwind from the source.

The Health Department's Air Quality Program also conducts research on the public health burden of air pollution and estimates the health benefits of policies that either directly or indirectly address air quality. Exposures to air pollutants can affect the cardiovascular and respiratory system, increasing risk of hospitalizations, emergency room visits and premature death. A key factor in the city's air quality improvements has been the phase out of the dirtiest heating oils in buildings, already discussed by my DEP colleagues. We conducted a health impact assessment for the improvements in citywide PM2.5 resulting from both the reduced emissions from local heating sources and state actions to clean up the fuel oil supply. The resulting improvement in air quality from these policies alone contributes to approximately 290 fewer premature deaths, 550 fewer emergency department visits and 180 fewer hospitalizations each year.

However, we still have more work to do to ensure that all residents and visitors to New York City can breathe clean air. We estimate that PM2.5 levels in the city contribute to approximately 2,300 deaths and 6,300 emergency department visits and hospitalizations each year. Building boiler and commercial cooking emissions, traffic pollution, and industrial land use, including on-site truck traffic and idling, are the major sources of PM2.5. Neighborhoods where all these sources coincide have significantly higher levels. Also, while serious health problems related to air pollution can be found in all neighborhoods, they disproportionately affect the poorest communities. For example, cardiovascular hospitalizations related to PM2.5 are almost 50% higher in the poorest communities as compared to wealthier neighborhoods in New York City. The Health Department has also partnered with other city agencies to implement the City's Green New Deal – OneNYC – and the Roadmap to 80x50. Through these efforts, we recognize and are

committing to the need for a long-term carbon reduction strategy to preserve our planet and to mitigate the detrimental health effects of poor air quality.

I would like to conclude with acknowledgement of one of the major challenges we face for continuing air quality improvement. Air quality in NYC is impacted not only by local policies and regulations, but also by state and federal regulations that govern the fuel efficiency of the vehicles on NYC roads, the fuel choices of power plants upwind of NYC, and the regulation of the transportation system, among other sectors. In the current political reality of both threatened and actual rollbacks of key environmental protections by the Federal government, the Health Department is committed to documenting neighborhood-level impacts of state and federal air quality regulations on the City's ambitious sustainability plans. We look forward to continuing our work with DEP, the Mayor's Office of Sustainability and the Council to improve the city's air quality and, by extension, the health of all New Yorkers.

Thank you for the opportunity to testify. I would be happy to take questions.



Testimony of

Gerry Kelpin

New York City Department of Environmental Protection

before the

New York City Council

Committee on Environmental Protection

September 23, 2019

Good afternoon Chairman Constantinides and Members. I am Gerry Kelpin, Division Director of Air and Noise Policies & Enforcement at the New York City Department of Environmental Protection (DEP). I am joined today by my colleague Alyssa Preston, Deputy Director of Air & Noise Policies & Regulations, as well as Carolyn Olson and Sarah Johnson of the Department of Health and Mental Hygiene, and Ke Wei from the Mayor's Office of Sustainability. Thank you for the opportunity to testify at today's oversight hearing, "Protecting Health through Improving Air Quality."

As the Members are aware, the federal Environmental Protection Agency sets the National Ambient Air Quality Standards (NAAQS), which all states are required to comply with by implementing State Implementation Plans (SIPs). States use SIPs to demonstrate that local air quality will comply with the NAAQS by the area's attainment date. When the standard is achieved, there is then a process where the State requests designation as being in attainment with the specific NAAQS.

City Efforts

New York City is unique in that, as a city, we enact very strict legislation focused on improving local air quality where we are not pre-empted by Federal law. Our local standards are often stricter than the state SIPs require. The state does not specifically cite local sources of air pollution in their regulations, but the city does. We also regulate some of the same sources that the state does, but we choose to enforce them locally.



New York is delivering on its commitment to be a sustainable City and a leader in environmental stewardship. Sensible regulations have already resulted in a profound improvement in air quality. These improvements are the result of a collection of changes that have occurred at the national, state, and local levels. For example, federal and state regulations and initiatives focusing on on-and-off road diesel vehicle engines have reduced emissions.

Our regulatory paradigm has been recognized by the state as a model to follow. For example, one of the SIPs regulates the emission of small, easily-inhalable particulates, known as PM 2.5. The state has recognized the importance in reducing emissions in fuel oil by enacting ultra-low sulfur heating oil requirements which enabled the city to phase out Number 6 and Number 4 fuel oil. This joint effort by the state and the city is an important element in the SIP in achieving attainment of PM 2.5.

In partnership with the City Council, local actions have also contributed to the dramatic progress towards meeting the City's clean air goals. These initiatives include:

- cleaner heating fuel;
- more hybrid and electric vehicles in the municipal fleet;
- the reduction of emissions from school buses and construction vehicles;
- the requirement that commercial restaurants must have emission control devices for char broilers or coal and wood cook stoves.

Building on these accomplishments we are continuing to create new initiatives such as:

- Per Local Law, all waste hauling vehicles licensed by the Business Integrity Commission will be required to have emission control devices or newer model engines by 2020;
- DEP has reconvened the advisory group to revise cook stove rules to require existing cook stoves have emission controls, as required by the LL 38 of 2015.

I would also like to highlight the work being done by the Department of Transportation to increase electric vehicle charging stations. This initiative directly



aligns with the work DEP does to reduce idling. We look forward to working once again with the Council to develop new regulations that will reduce the use of secondary diesel engine idling. Reducing engine idling will help mitigate the effects of not only PM 2.5 but also ozone and NOx.

Despite all of our work within the city, we cannot address all air quality challenges on our own. New York City is a part of the ozone multi-state non-attainment area, often referenced as New York Metropolitan Area (NYMA). Emissions from out-of-state upwind power plants and other industrial sources come into New York. This blown in pollution has prevented the state from meeting certain ozone standards.

Fuel Oil

Another critical step that the city took to improve air quality was converting boilers from residual fuel to No. 2 fuel oil and/or natural gas.

In 2011, DEP issued regulations requiring residential and commercial buildings to convert from No. 6 and No. 4 heavy heating oils to cleaner fuels. The transition from No. 6 fuel was completed by June 30, 2015. The City's Administrative Code requires that any use of No. 6 fuel oil be ended by 2020 and any use of No. 4 fuel oil by January 1, 2030. Approximately 5,300 buildings have converted to cleaner fuels, and only about 13% of the boilers permitted by DEP operate on Number 4 fuel oil.

Impacts

As a result of all fuel conversions since 2012, greenhouse gas (GHG) emissions in New York City have decreased by 925,000 metric tons of carbon dioxide annually, the equivalent of taking roughly 195,000 cars off the road. PM 2.5 emissions from buildings have also decreased by 1,200 tons on an annual basis.

The regulation of both larger and smaller localized sources has not only reduced particulate matter emissions, but has saved lives, as my colleagues at the Department of Health and Mental Hygiene will explain. These sources are not directly legislated by the State, but by the City.

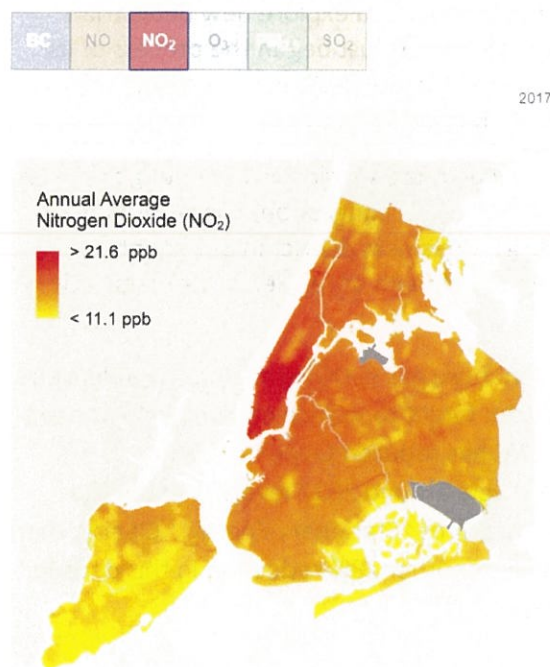
The air pollutants with the greatest public health impact in New York City result mainly from fuel combustion emissions of on-road and off-road vehicles, heating oil, other building sources, and electric power generators. By focusing our efforts



on these areas, we have reduced citywide air pollution levels and also improved the quality of life and the environment that makes for a more sustainable city. There is still a great deal of work to be done and we look forward to working with the Council to continue to improve the city's air quality.

**Testimony of Catherine McVay Hughes before the
The New York City Council Committee on Environmental Protection
Oversight Hearing — Protecting Health through Improving Air Quality
Monday, September 23, 2019 1:15 PM — City Hall, Committee Room**

Good afternoon, Chair Constantinides and Council Members. My name is Catherine McVay Hughes. I served 20 years on Manhattan Community Board One (CB1), half that time as Chair or Vice-Chair. Today I am representing the **Financial District Neighborhood Associationⁱ** (FDNA). FiDi is home to roughly 50,000 residents and is the fourth largest business district in the country. As of yesterday, the text for T2019-5011 was not available on the NYC Council Legislative Calendar website, so I will first focus on air quality hotspots in our community and urgent action items.



Lower Manhattan has some of the city's worst air quality according to latest data available from The New York City Health Department New York City Community Air Survey (NYCCAS)ⁱⁱ despite some improvement over the years as per their **NO₂ Pollutant Map**. The source of NO₂ⁱⁱⁱ emissions are "buses and other vehicles on busy roadways" and is an "indicator of **traffic congestion**."

Note: Lower Manhattan has one bridge (Brooklyn Bridge) and two tunnels (Brooklyn Battery Tunnel and Holland Tunnel) in its dense 1.5 square miles. It also includes numerous ferry terminals including the Staten Island Ferry Terminal, Pier 11 and PANYNJ (Battery Park City) and large tourist boats docked at various locations including The Battery, Pier 15 and Pier 16, and a helicopter pad at Pier 6. The City is tracking dozens of ongoing large construction projects in the area.

Immediate and doable steps to protect our health through improving air quality include:

- Implement Make Way for Lower Manhattan (MW4LM)^{iv} to improve air quality, pedestrian safety, small-business viability and quality of life
- Release 2018 NYCCAS data and City Inventory of Greenhouse Gas Emissions (GHG) immediately
- Add air monitoring stations (only one exists in CB1^v) to monitor impacts of congestion pricing
- Include GHG and air quality indicators in Mayors Management Report^{vi}
- Enforce existing laws including idling, demolition, façade, street/sidewalk or utility work to minimize air pollutants and dust
- Plant new trees in empty tree pits and maintain trees throughout the district.

Each of these is a near-term fix that brings measurable benefits at minimal costs. In the medium term, air quality improvements require that we shift the transportation sector away from petroleum run

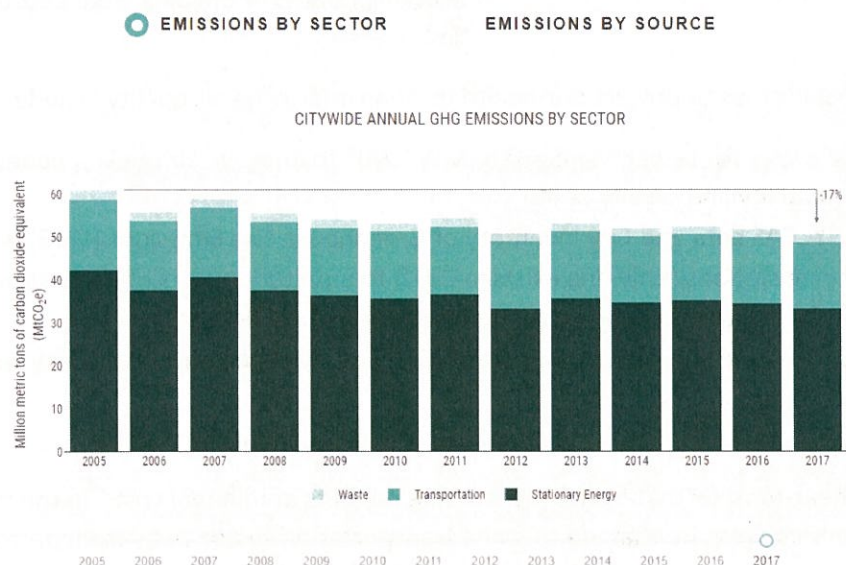
vehicles (buses, shuttles, trucks), ferries and construction equipment to electrification^{vii}/renewable sources — and the same for buildings, a major stationary source.

With your support, we can have a Greener FiDi with the implementation of Make Way for Lower Manhattan, a Shared Streets Project. In March 2019, FDNA released **Make Way for Lower Manhattan** (MW4LM), a vision to make the Financial District greener by making its streets and sidewalks cleaner and safer for the people who live and work there. How did this come about? Ignited by a Bloomberg Administration NYC Department of Transportation (DOT) study of Lower Manhattan congestion called A Street Management Framework for Lower Manhattan: The Downtown of the 21st Century, community residents began a process of advocacy for clean and safe streets in their neighborhood.

Six months ago, this first-of-its-kind study was then incorporated into NYC's Earth Day 2019 announcement "ONENYC: Mayor DeBlasio Announces Transportation Measures to Increase New Yorkers' Mobility: The City has identified locations to implement its "Bus Action Plan" to increase bus speeds 25% by 2020, help more businesses receive off-hour deliveries, and explore new pedestrian zones in Lower Manhattan." The NYC Department of Transportation has just begun the process of its Lower Manhattan Transportation Study which should be completed by June 2020. The geographic reach of the shared streets pilot is a full district from Broadway to Water and Fulton to the Battery.

With the implementation of the *MW4LM Pilot Study*^{viii}, NYC will be one step closer to meeting two 21st century goals: addressing the global climate crisis by reducing vehicular congestion, and returning the public domain to those who live, work and visit the fourth largest business district in our country. Cutting congestion means improving air quality and protecting the health of residents, workers and visitors.

In September 2014, New York City committed to reduce greenhouse gas (GHG) emissions by at least 80 percent by 2050 (80 x 50, Local Law 66 of 2014), with an interim target to reduce emissions 40 percent by 2030 (40 x 30). The graph below shows that since 2005, NYC has reduced Citywide Annual Greenhouse Gas Emissions^{ix} (GHGs) by 17% in 12 years and hovers around 2012 levels. Most of the GHGs may be divided into a third for "Transportation" and two-thirds "Stationary Energy." Clearly, there is much more to do to reach the 2030 goal which would require another 23% reduction in this decade. Please act now. Thank you for the opportunity to testify today.



Affiliations (for purposes of disclosure): Catherine McVay Hughes is a member of the Board of the Battery Park City Authority, CERES Presidents Council, Lower Manhattan Development Corporation, The Trust for Governors Island, South Street Seaport Museum, WTC Scientific Technical Advisory Committee, Princeton Climate Analytics Advisory Board and Storm Surge Working Group. She holds an MBA from the Wharton School of Business and a Bachelor of Science degree in Civil Engineering from Princeton University.

ⁱ <https://www.fidinyork.org/>

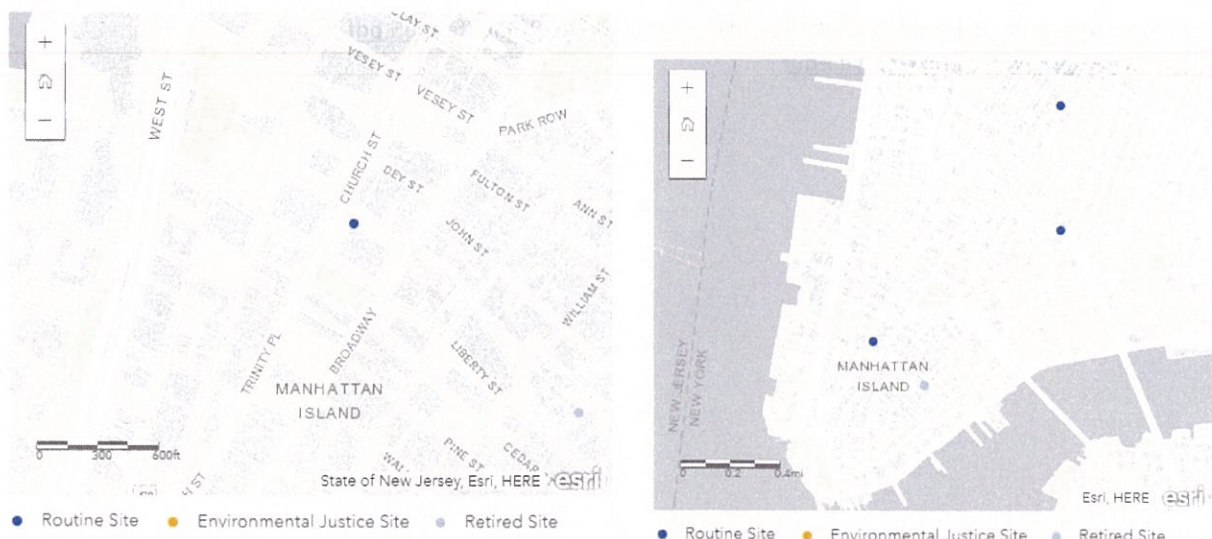
ⁱⁱ <https://nyc-ehs.net/besp-report/web/nyccas>

ⁱⁱⁱ <https://nyc-ehs.net/besp-report/web/nyccas>, "Health Effects and Sources Areas of higher traffic density:

Nitrogen dioxide (NO₂) and nitric oxide (NO) are part of a group of pollutants called "oxides of nitrogen" (NO_x). Exposures to NO_x are linked to increased emergency department visits and hospitalizations for respiratory conditions, particularly asthma. NO_x also reacts with other compounds in the atmosphere to form PM_{2.5} and O₃. A variety of combustion sources produce NO_x in New York City, including motor vehicles, buildings, marine vessels, and construction equipment."

^{iv} <https://www.fidinyork.org/timeline>

^v <https://nyc-ehs.net/besp-report/web/nyccas>, station appears to be at Church/Cortland corner. This location has only two lanes of traffic and is next to the WTC site which is pedestrian, has a glade of trees and water and only block north of Zucotti Park.



^{vi} **Mayor's Management Report (MMR) — the City must track the financial cost of climate change and add indicators to capture sea level rise, energy use and greenhouse gas emissions.** The now 450-page September 2019 MMR which continues to fail to report on the City's targets and goals to meet its C40 Commitment by 2020 and its "80 by 2050" target. Since the MMR also reflects the City's values and priorities, this document needs to be updated to include indexes that are annually measured and publicly shared, so that progress can be monitored and evaluated going forward. Also, Local Law 22 of 2008 requires a 30 percent reduction in citywide greenhouse gas emissions by 2030 and requires annual inventory and analysis of greenhouse gas emissions no later than every September 7th and to post on the City's website a report regarding actions taken. Where is that 2018 data?

^{vii} **Carbon-Cutting Cities Plug In to 'Electrify Everything' Movement, Bloomberg (09/19/19), "The movement isn't just limited to buildings. Utilities that have been suffering for years with flat electricity demand envision a future where farm equipment, cranes and school buses are powered by electricity."** https://www.bloomberg.com/news/articles/2019-09-19/carbon-cutting-cities-plug-in-to-electrify-everything-movement?fbclid=IwAR2zwYAbaNf2fY8UdVQIN3SJwl8OWhssK_906Fs4-pJVgFfnfy3_RF6B-U

SLOW-STREET DISTRICT

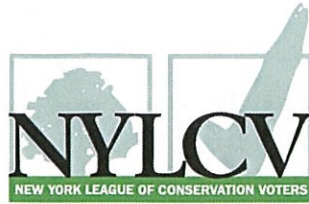
A slow-street district could easily be implemented in F.D.C. extending up to the Seaport and the Brooklyn Bridge. Within it, some streets would have shortened parking and others would not.



viii

https://docs.wixstatic.com/ugd/9e36dc_5d4721ac7f9f4c3da0622f9302feebb5.pdf

ix <https://nyc-ghg-inventory.cusp.nyu.edu/>



**Statement of the New York League of Conservation Voters
Committee on Environmental Protection
Oversight Hearing on Protecting Health through Improving Air Quality
September 23, 2019**

Good morning. My name is Josh Klainberg, Senior Vice-President at the New York League of Conservation Voters (NYLCV). I would like to thank Chair Constantinides for the opportunity to testify before the Committee on Environmental Protection.

NYLCV represents over 30,000 members in New York City and our mission is to fight climate change, conserve land and water, and protect public health through political action. Our policy priorities on clean air, outlined below, also contribute to each of the tenets of our mission.

It has long been understood that poor air quality leads to poor health outcomes, especially for vulnerable populations like seniors and children. Concentrations of particulate matter (PM) and ozone (O₃) are the specific compounds of air pollution most associated with health issues like respiratory and cardiovascular diseases. Air pollution is responsible for both a climate crisis, and a major contributor to a public health crisis. In fact, according to the World Health Organization, indoor and outdoor air pollution is directly responsible for 1 in 9 deaths worldwide. And asthma is the number one source of school absenteeism in New York City.

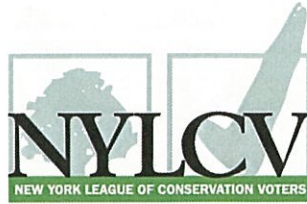
Locally, the NYC Metro area is ranked #6 out of all U.S. cities in annual excess mortality due to poor air quality, with an excess of 188 deaths per year according to the 2019 Health of the Air Report¹ by NYU Marron Institute and ATS. Their data suggests these health outcomes are mostly due to ground level ozone more than particulate matter, as health impacts associated with PM dropped dramatically from 2010-2017 while ozone related impacts have remained stagnant.

Ozone is formed when pollutants emitted from sources like power plants, vehicles, and boilers react with sunlight. The policy priorities outlined below can contribute to the co-benefits of reducing emissions and improving public health. There are many actions the City can take to improve air quality and public health but today we will focus on three main areas: cleaning heavy duty fleets, reducing the use of heating oil and reducing reliance on dirty peaker plants.

Transitioning Heavy Duty Fleets

NYLCV supports a rapid transition to cleaner fuels by heavy duty fleets in New York City, including transit buses, garbage trucks, and school buses. These fleets predominantly run on diesel fuel, which emit much larger amounts of harmful particulate matter and nitrogen oxides (NO_x). Alternative zero emissions technology exists and is quickly evolving, costs are starting to decline and can be deployed now and in the coming years.

¹ <https://healthoftheair.org/city-data/35614-new-york-jersey-city-white-plains-ny-nj>



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In order to maximize climate and health benefits, priority for this transition should be for fleets that are older, those with high vehicle miles traveled, and those traveling in and around environmental justice communities. For these reasons, NYLCV supports Int 0455-2018 by Council Member Dromm to speed up the transition to cleaner, safer zero emissions school buses. According to the American Lung Association, particle pollutant exposure has been linked to the development of asthma in children; increased hospitalization of children for asthma attacks; slowed lung function in children and teenagers; damage to the airways of the lungs; increased risk of death from cardiovascular disease; and increased risk of lower birth weight and infant mortality.² School buses also tend to be older with depots disproportionately sited in low income communities. We also support the MTA's proposal to acquire 500 electric buses under its 2020-2024 Capital Plan and to fully electrify its bus fleet by 2040. NYLCV also strongly believes that any commercial waste zone policy, such as Int 1574-2018 by Council Member Reynoso, must include a plan by waste haulers to reduce emissions from their fleet in any and every way feasible.

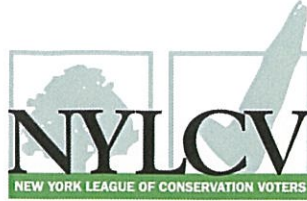
More than electrification or lower emissions vehicles, however, we need policies that reduce congestion. The slower vehicles are creeping through traffic, the more emissions are spewed into the air. Congestion pricing, a long time NYLCV priority, is a historic victory and critical component that must be coupled with bus lanes and micro-mobility options to succeed, but there are other measures the City can take. Heavier incentives for off-peak delivery, green loading zones, neighborhood distribution centers, cargo-bikes for last mile delivery are all worthy examples.

Environmentally Safe Housing

A large portion of indoor and outdoor air pollution comes from the burning of dirty heating oils in our buildings. Although Number 6 home heating oil was phased out of 6,000 buildings by the end of 2015 as part of the NYC Clean Heat program, other buildings all around New York City are still burning Number 4 heating oil, which releases large volumes of fine particulate matter into the air inside and outside of homes. Additionally, Number 4 heating oil combustion disproportionately occurs in neighborhoods of lower socioeconomic status, therefore contributing to environmental injustice in NYC.

The emissions released from burning Number 4 heating oil are correlated with higher frequencies of cardiovascular disease, respiratory illnesses such as asthma and bronchitis, and death. Nitrous

² Retrieved from: <http://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>



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September 23, 2019**

oxides and sulfur dioxide are also emitted from burning Number 4 oil which, when chemically react with sunlight, can become ozone.

The current schedule for phasing out Number 4 heating oil from residential buildings-- January of 2030-- is not aggressive enough: accelerating the deadline to 2025 is a step the city can take to accelerate meeting the air quality goals spelled out in OneNYC as well as providing incentives for new heating technology, beneficial electrification and energy efficiency. Just this five year difference would mean hundreds of deaths and thousands of emergency room visits averted but must be coupled with support to enable a transition to clean heating.

Reducing Peak Demand

In order to improve air quality and public health, we should be doing everything we can to avoid use of old, dirty peaker plants in the City. Many of New York City's old Peaker plants are power plants that typically operate off of noxious fossil fuels and only operate when demand for electricity is highest and the grid is strained. While the State is proposing regulations to reduce emissions from peaker plants, there are other actions the city can and must take, in particular as we move to intermittent renewable energy sources.

Investment in energy efficiency in buildings, participation in demand response programs, and rapid adoption of cleaner technology including battery storage are all strategies towards reducing incidences of peak demand.

NYLCV is proud to have worked with the City Council over the years on policies that improve air quality and public health, and I urge the Committee on Environmental Protection to consider the aforementioned recommendations. Thank you for your time.

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**Testimony of Melissa Iachan at
City Council Committee on Environmental Protection
Oversight Hearing on Protecting Health by Improving Air Quality
September 23, 2018**

Good morning, my name is Melissa Iachan, and I am a Senior Staff Attorney in the Environmental Justice Program at New York Lawyers for the Public Interest (“NYLPI”). NYLPI’s environmental justice program has worked with communities who have shouldered the disproportionate burden of pollution in our City for decades. Thank you Chair Constantinides and Committee members for your efforts to highlight the serious impacts air pollution on public health in our city, and in particular in the neighborhoods where multiple sources of air pollution like trucks and power plants are clustered.

Today in my testimony I’d like to highlight some of the work NYLPI is doing with our community partners to reduce the levels of harmful air pollutants in low income communities and communities of color, and how the Council can take action to improve our air quality as well. First, the Council can pass Intro 1574, adopting Commercial Waste Zones which will reduce the amount of greenhouse gas and PM2.5 emissions from commercial waste trucks by more than 60%. Second, the Council can support efforts to transition the City’s power sources away from fossil fuel burning plants and invest in renewable energy. A step towards doing that is represented in the Renewable Rikers Act, three bills (Intro 1591, 1592, and 1593) introduced a couple of months ago.

Commercial waste zones present an opportunity to make great strides in reducing air pollution and greenhouse gas emissions, while also accomplishing numerous additional goals such as improving street safety, increasing diversion of waste from landfill, and raising labor standards in a notoriously dangerous industry.

As many of you know, residents of communities where waste transfer stations and truck depots are clustered face much higher rates of asthma and respiratory health problems due to the idling diesel-burning trucks congregating around waste transfer stations and criss-crossing their streets. As you can see on the poster, the environmental justice communities in North Brooklyn and the South Bronx have a particular problem with asthma inducing air pollution, and are also the two

neighborhoods who had the most commercial waste truck trips per day according to 2018 data. That is no coincidence. Intro 1574 would greatly reduce the number of vehicles traveling in these communities, and has key provisions to ensure that any company submitting a bid would have to invest in cleaner trucks, which will go a long way to improving air quality and public health in overburdened communities.

The same communities who bear the brunt of our commercial waste processing are also overburdened by our fossil fuel-based power system in the City. Peaker plants – fossil-fuel power plants that fire up during times of peak electricity demand – spew harmful pollutants into our air and are located in many of the same neighborhoods where trucks and other industrial polluting facilities are concentrated.

Many peaker plants in New York City are over 40 years old. They can emit up to 20 times the levels of Nitrogen Oxides (NO_x) as other power plants. When NO_x combines with traffic emissions on hot sunny days – when peaker plants are more likely to be on – it results in dangerous high ozone levels. In New York City, exposure to ozone concentrations above background levels causes more than 400 premature deaths, 850 hospitalizations for asthma and 4,500 emergency department visits for asthma each year. Ozone's health impacts are disproportionately borne by low-income New Yorkers.

New regulations from the state will mitigate NO_x emissions but we can and must do more. We need to phase out peaker plants entirely and replace them with renewable energy and battery storage. The Council should take advantage of opportunities to build renewable infrastructure wherever possible – for example, by transferring Rikers Island to DEP as proposed in the Renewable Rikers Act (Intro 1591, 1592, and 1593).

We look forward to continuing to collaborate with the Council to pass Intro 1574 and the Renewable Rikers Act, to truly bring transformative progress to our air quality and reduce our City's pollution.

Thank you.

Testimony of Jenny Veloz
New York Lawyers for the Public Interest
New York City Council Oversight Hearing on Protecting Health Through Improving Air
Quality
September 23, 2019

Thank you, members of the Committee on Environmental Protection, for the opportunity to speak with you on improving air quality. My name is Jenny Veloz and I am the environmental justice organizer at New York Lawyers for the Public Interest.

We are facing a climate crisis that will only improve if we as a city begin to do our part. And especially in environmental justice communities in our city, the same sources that cause climate change by emitting greenhouse gases also emit air pollutants that contribute to serious health problems like asthma, respiratory and heart disease. We cannot stand by and continue to do nothing as harmful emissions (such as diesel fumes and fine particulate matter) from trucks, buses, and power plants continue to pollute our air and make it increasingly dangerous to breathe.

There are concrete and immediate ways the City Council can take action to improve air quality. One is improving and updating the city's almost 10,000 school bus fleet, which are old and highly polluting. The average age of a New York City school bus is 16 years and emits, on average, 113,850 tons of greenhouse gases per year (resulting in 1.8 million tons of greenhouse gases in a bus's lifetime). The emission of these harmful diesel fumes poses a huge health risk to students. Some students spend more than two hours a day on a school bus (sometimes longer for special education students). It is unimaginable to think that a student with asthma continues to ride a school bus that will worsen his/her medical condition.

The unequal impact of this issue is exacerbated because many school buses depots are located in environmental justice communities, where 1 in 4 children have asthma. Every morning and afternoon hundreds of school buses leave diesel fumes in neighborhoods that also house power plants, truck depots, waste transfer stations, and other polluting sites. School buses also frequently idle in front of schools longer than legally allowed resulting in even more toxic fumes near our children and increasing the likelihood of asthma and other respiratory ailments. For

example, of 105 school buses we observed, 95% idled in front of schools for more than a minute.

We urge the Council to vote Intro 455 into law, which would require the electrification of all school buses by 2040, and would be a long-term solution to reducing the environmental impact of our huge school bus fleet. In the short-term, we can lessen the impact of air pollutants by enforcing existing idling laws.

If we are serious about wanting a cleaner New York, we need to start by easing some of the burdens on environmental justice communities. We can no longer justify housing major causes of air pollution (school bus depots, powerplants, etc.) in these overburdened communities. We are risking the health and well-being of the individuals when we should be ensuring that they live healthy, pollutant-free lives. We all deserve the right to breathe clean air.



New York City Environmental Justice Alliance

166A 22nd Street, Brooklyn, NY 11232 | www.NYC-EJA.org

On the ground – and at the table

September 23, 2019

NYC-EJA Testimony for NYC Council Oversight Hearing: Protecting Health through Improving Air Quality

My name is Dr. Michelle 'Tok' Oyewole, and I am testifying on behalf of the New York City Environmental Justice Alliance (or NYC-EJA). Founded in 1991, NYC-EJA is a non-profit citywide membership network linking grassroots organizations from low-income neighborhoods and communities of color in their fight for environmental justice.

For decades, NYC-EJA has led efforts to improve air quality in New York City, particularly as it relates to disproportionate health burdens in low income communities and communities of color. Our 2018 Climate Justice Agenda highlights our focus on localized air quality data monitoring, an essential tool to understand health burdens on environmental justice communities. Community Air Mapping Project for Environmental Justice, or CAMP-EJ, was born out of the shared concern from our members about air pollution in their neighborhoods. Our members represent environmental justice communities who live alongside the most noxious infrastructure in our city – including diesel-truck intensive waste export facilities, highways, power plants, and other heavy industrial uses. As a result, these communities face higher rates of negative health outcomes linked to PM 2.5 pollution, including asthma, heart disease, and cancer.

As climate change progresses, heat waves are expected to be more frequent and severe, which will worsen air quality and contribute to air quality-related disease and death. Extreme heat is the deadliest climate change risk, and estimates for NYC project that the number of heat waves could triple by 2050. We continue to advocate for an ambitious set of goals for NYC's urban forests and street trees, equitable investments in natural infrastructure, and a robust maintenance plan that creates good jobs, which can help mitigate extreme heat and improve air quality, particularly in the most heat vulnerable communities.

In transportation, we advocate for electrification of vehicles, with an emphasis on NYC's public bus infrastructure. Fossil-fuel dependent buses emit PM 2.5, which most heavily impacts low-income communities and communities of color, who comprise most of MTA ridership and tend to live where MTA bus depots are sited. We also advocate for the use of creative funding streams to improve air quality, such as funds from the 2016 Volkswagen settlement.

We are working to reform the solid waste system in NYC. Truck-dependent transfer stations have been clustered in low-income communities and communities of color for decades, causing higher proportions of health consequences such as asthma, heart disease, and cancer. According to the city's recent draft environmental impact statement, passage of the Commercial Waste Zones bill introduced in June (Intro 1574) would achieve up to 68% reductions in vehicle miles travelled by diesel waste trucks, along with reductions in associated aerial particulate emissions, greenhouse gas emissions, road damage, and noise, by implementing an exclusive zoned waste collection system. Additionally, we are pleased that the bill will require truck compliance with certain environmental laws such as Local Law 145; and that within the bill, DSNY would review contract applications on the basis of a carting company's disposal of waste at transfer stations geographically proximate to the zones, reducing truck burdens in environmental justice communities.

Finally, we advocate for transitions in energy siting and storage. New York City is home to 16 peaker plants, many with multiple generating units, both publicly and privately owned. These highly polluting, fossil fuel power plants known as "peakers" fire up in the South Bronx, Sunset Park, and other communities of color on the hottest days of the year, when air quality is at its worst, and sensitive populations are warned to stay indoors. Peakers then spew even more harmful emissions into neighborhoods already overburdened by pollution, and exacerbate widespread health problems.

Existing and new gas-fired peaker plants could be replaced by renewables and battery storage technologies. Renewables are already cost-competitive with and often cheaper than fossil fuels, while battery storage adds flexibility and control to transform solar and wind into reliable, dispatchable resources that can be operated much like peaker power plants. We need innovative citywide large-scale energy planning projects that center environmental justice. For example, Rikers' Island, long home to a notorious jail with terrible conditions that has held New Yorkers of color, can be a home for large-scale clean energy infrastructure. Renewable and resilient energy systems will advance energy democracy, reduce energy cost burdens, strengthen the resiliency of communities, and improve air quality.

The Climate Leadership and Community Protection Act, which legislated commitments to eliminate fossil fuel emissions in NYS by 2050 – make it imperative for New York City to transition to a renewable energy future. We thank the Committee on Environmental Protection for holding this oversight hearing, and for consideration of our comments. We look forward to working together to improve air quality in the city.

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Testimony of Dr. George D. Thurston, Professor of Environmental Medicine and Population Health, NYU School of Medicine

before

The New York City Council Committee on Environmental Protection

September 23, 2019

Good Afternoon Chairperson Constantinides and all Council Members present. My name is Dr. George D. Thurston and I am a tenured Professor of Environmental Medicine and Population Health at the New York University (NYU) School of Medicine. My scientific research involves investigations of the human health effects of air pollution, and am presently the Director of the Program in Exposure Assessment and Health Effects in my department at the School of Medicine. Thank you for the opportunity to testify today and share my knowledge of the human health impacts of outdoor air pollution, and especially from fine particulate matter ("PM_{2.5}") air pollution, as well as the health benefits to our children that can be achieved by improving the quality of the air we breathe.

The adverse human health consequences of breathing air pollution, even at levels below the current U.S. National Ambient Air Quality Standards (NAAQS), are serious and well documented. These effects include, but are not limited to:

- decreased lung function (a measure of our ability to breathe freely);
- more frequent asthma symptoms;
- increased numbers of asthma attacks;
- more frequent emergency department visits;
- additional hospital admissions, and;
- increased numbers of deaths.

Traffic is a major contributor to air pollution in New York City, and elsewhere in the United States. An increasing body of evidence indicates that traffic-related exposures and residential proximity to vehicular traffic are associated with increased respiratory conditions and symptoms in children, including increased prevalence of asthma, wheezing, recurrent respiratory illnesses, and hospital admissions for asthma. Cars, buses, trucks and other motorized vehicles are amongst the largest sources of air pollution that have been clearly linked to adverse health effects (e.g., see HEI, 2010). Most people are exposed to air pollution from road traffic on a daily basis, whether as a result of residing at homes located near highways, or driving, walking, or standing along busy streets. Vehicle engines are known to produce a number of air pollutants that pose risks to public health. When these engines burn fossil fuels, chemicals such as fine particulate matter, ultrafine particles (UFP), nitrogen oxides, carbon monoxide, volatile organic compounds (VOCs), and elemental carbon (EC) black carbon soot are all emitted.

My own research involving elementary school children in the South Bronx in New York City has shown that there is a statistically significant increase in children's asthma symptoms, as well as a reduction in their lung function, on days with elevated levels of elemental carbon soot (such as that emitted by diesel vehicles) (Spira-Cohen et al, 2011). As shown in the plots below, the impact of diesel traffic related elemental carbon (a marker for diesel pollution in urban areas) was larger and more significant than particles in general (PM_{2.5}).

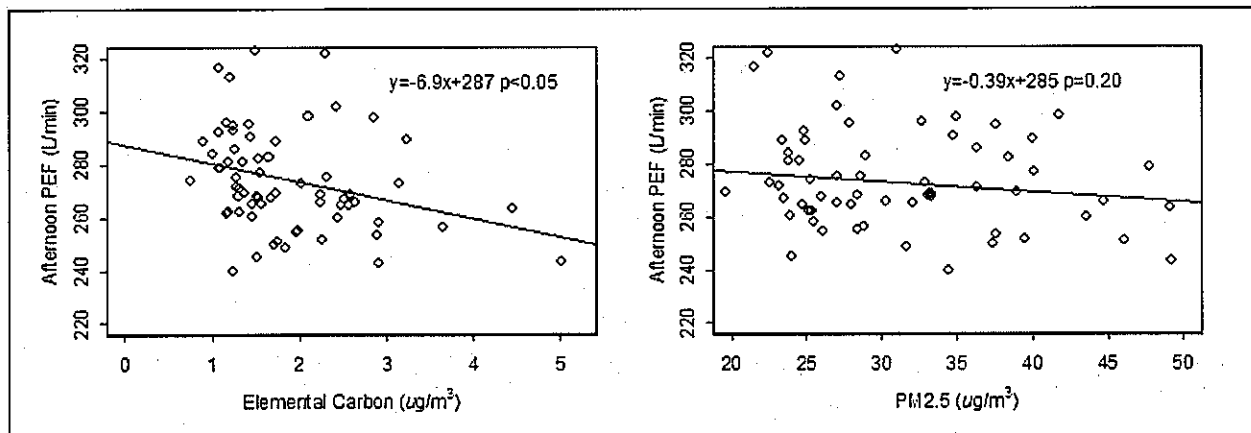


Figure 1. Lung Function in Children Decreases with Increasing Exposure to Traffic Related EC.

Moreover, as shown in Figure 2, the daily counts of shortness of breath and wheezing symptoms were also significantly associated with EC levels. These results document that elemental carbon soot is more strongly associated with adverse asthma symptoms than other PM_{2.5}, in general.

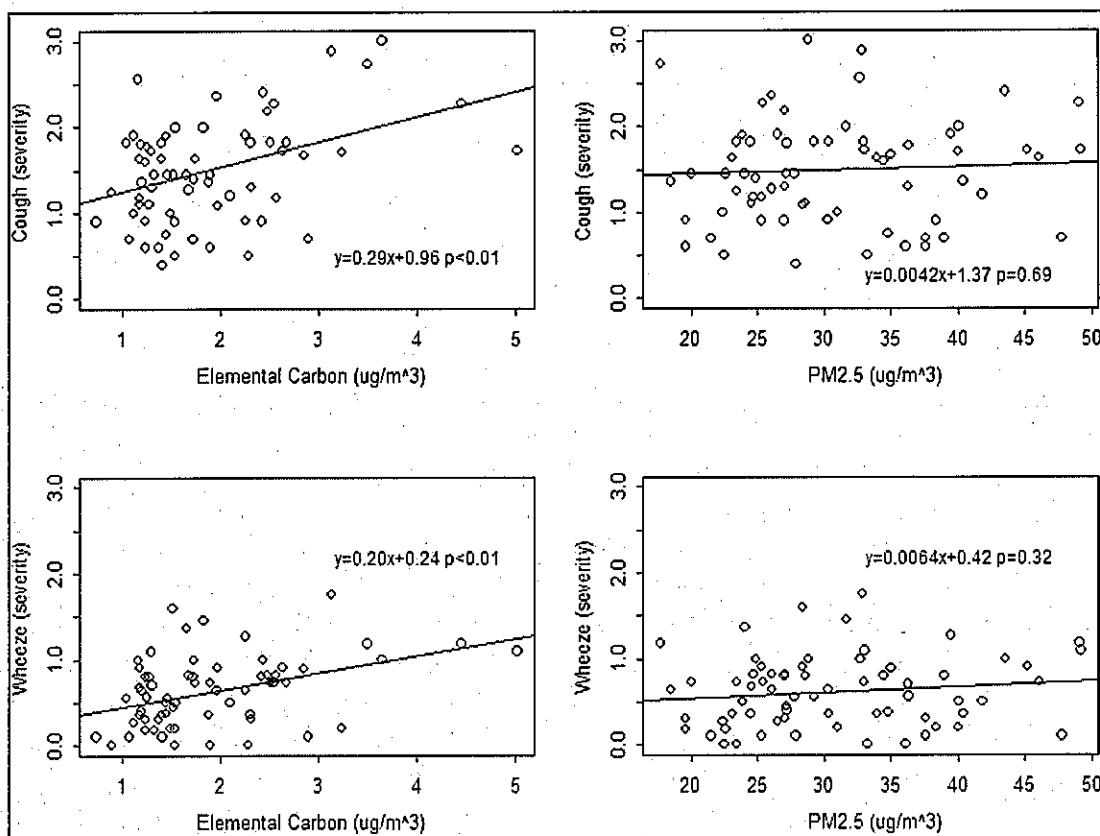


Figure 2. Cough and wheeze symptoms in the 40 children were more closely associated with EC than with PM_{2.5} mass in S. Bronx elementary children with asthma.

This particular research even led to an article on the effects of diesel pollution on children with asthma in the New York Times (October 29, 2006) entitled "A Study Links Trucks' Exhaust to

Schoolchildren's Asthma", and to a subsequent New York Times editorial (11/19/06) entitled "Black Soot and Asthma," in which the editors called upon policymakers to reduce this problem by "declaring war on poisonous diesel fumes." (<https://www.nytimes.com/2006/11/19/opinion/nyregionopinions/black-soot-and-asthma.html>). To my knowledge, insufficient action has been taken on the reforms recommended more than a decade ago for our city's trash handling and commercial traffic burden.

Studies, including my own, have found that the poor and the underserved minorities in our city are the most affected by air pollution and other environmental insults: in part because they are exposed to more pollution, but also because they are more vulnerable to the effects of pollution.

More recently, a variety of studies have shown that air pollution exposure can also lead to an increased risk of a child developing asthma in the first place. *But on a hopeful note*, one recent study, about which I wrote an invited editorial in the Journal of the American Medical Association (JAMA) (Thurston and Rice, 2019), has shown that declining air pollution levels in Southern California over the past decade have led to a 20 percent decrease in the number of children developing asthma (Garcia et al, 2019).

Another problem I have studied in New York City is air pollution in our subways. This pollution is derived from decades of brake wear and diesel emissions from service trains that operate in the subway system (Vilcassim et al., 2014). I've read that the MTA is about to spend billions on upgrading our subway system, but I have not read anything about improvements in the ventilation, or in adding air filtration systems, for our subways.

Thus, urban air pollution, and especially air pollution from diesel-powered vehicles, have been shown to cause children with asthma to have more breathing problems, and to cause children to develop asthma in the first place. Importantly, however, new research has also documented that *improving air quality can reduce the number of children who get asthma*. **It is therefore possible for the City of New York to improve the health of our children, as well as of adults, by acting to achieve cleaner air for us all to breathe.**

Thank you for the opportunity to testify. We welcome any additional questions the Committees may have. (Please contact Konstantine Tettonis, NYU Government Affairs, kt1249@nyu.edu)

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Address: 665 Broadway

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