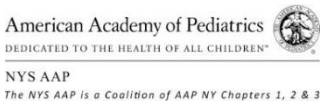
Attachment 1



Via Email

April 1, 2021

New York State Department of Environmental Conservation
Division of Air Resources
625 Broadway
Albany, NY 12233-3255
Email: MHDVZEVPlan.Air@dec.ny.gov

Re: Updated Comments to DEC in Support of Adopting California's Truck Emission Standards

To Whom It May Concern:

Transportation is the largest emitter of greenhouse gas emissions in the United States and in New York. On-road vehicles, especially medium- and heavy-duty vehicles (MHDVs),

are also a significant source of toxic pollutants that are harmful to human health. The transportation sector's detrimental impact on climate, air quality, and health is an urgent crisis that must be addressed immediately. The Empire State must therefore act quickly to create concrete, long-term mechanisms to accelerate transportation electrification. In particular, New York must focus on policies that support zero-emission MHDVs.

Addressing the MHDV sector will not only reduce the state's carbon footprint and improve air quality but will also ensure equitable access to clean transportation and improve health in communities historically overburdened by diesel pollution. For these reasons, the undersigned groups strongly encourage the New York State Department of Environmental Conservation (DEC) to begin a rulemaking process to adopt California's Advanced Clean Trucks (ACT) and Heavy-Duty Omnibus (HDO) regulations. These standards will set New York on a path to a clean and equitable transportation system.

Transitioning to Zero-Emission MHDVs is a Climate and Public Health Imperative.

Emissions from Trucks and Buses are Rising

In New York State, transportation accounts for 36% of statewide GHG emissions, more than any other end-use sector.[1] While emissions from the electric sector have been on a consistent downward trajectory—total GHG emissions from electricity generation are less than half what they were in 1990—emissions from transportation are trending upwards.[2] Total transportation sector GHG emissions have increased by 25% since 1990, "by far" the greatest increase of all in-state energy-related emissions sources.[3] In fact, the transportation sector represents the only major fuel combustion sector that has seen an increase in total GHG emissions over the last three decades.[4]

In 2019, New York State adopted one of the most ambitious climate statutes in the United States–the Climate Leadership and Community Protection Act (CLCPA). The CLCPA sets a goal for New York to fully decarbonize the economy by 2050.[5] It also establishes a binding economy-wide emissions limit, requiring an 85% reduction in greenhouse gas (GHG) emissions by midcentury, with an interim target of a 40% reduction in GHG emissions by the end of the decade.[6] Under the CLCPA, DEC is responsible for "ensur[ing] compliance with the statewide emissions reduction limits" by promulgating regulations to "[e]nsure" aggregate GHG emissions "will not exceed the statewide [GHG] emissions limits"[7] including "measures to reduce emissions from... internal combustion vehicles that burn gasoline or diesel fuel."[8] Moreover, state actions and investments to mitigate emissions must "prioritize the safety and health of disadvantaged communities."[9]

A year after passing the CLCPA, New York joined 15 other states and the District of Columbia to sign a zero-emission MHDV memorandum of understanding (MOU), committing

[1] New York State Energy Research & Development Agency, New York State Greenhouse Gas Inventory: 1990-2016 at S-12 (2019) ("NYSERDA GHG Inventory").
[2] *Id.* at 7 tbl. 2, 19 tbl. 11.
[3] *Id.* at S-10, 19 tbl. 11.
[4] *Id.* at S-10 tbl. S-2.
[5] CLCPA § 1(4).
[6] N.Y. Envtl. Conservation Law ("ECL") § 75-0107(1).
[7] ECL § 75-0109(1), (2).
[8] *Id.* § 75-0109(2)(d).
[9] *Id.* § 1(7).

to 100% zero-emission truck and bus sales by 2050. The MOU declares that "electrification of the transportation sector is essential to achieve" GHG emission reduction targets and to improve air quality.[10] The MOU affirms New York State's commitment to zero-out emissions from all MHDV sales by 2050 and establishes an interim goal that at least 30% of all new MHDV sales be zero-emission by 2030.[11]

Various projections confirm the need for deep decarbonization across all sectors to meet mid-century zero-carbon targets. A New York State Energy Research and Development Authority (NYSERDA) study found that New York State will need to virtually eliminate GHG emissions from on-road vehicles to meet the CLCPA's 2050 targets.[12]

A zero-emissions transportation sector is incompatible with continued reliance on fossil fuels. Decarbonizing the transportation sector at this scale is technologically feasible, but hinges on the "phase-out of internal combustion engine vehicles and replacement with electric drivetrains."[13] Phasing out sales of new combustion vehicles must happen "almost immediately" to reach net-zero emissions by 2050.[14] This is due to the long useful lifetime of vehicles, which can range from two to four decades for MHDVs, and will impede turnover to ZEV fleets.[15] Today, nearly 10 million pre-2007 diesel engines are in use and 1 million are expected to be in 2030.[16] Policies targeting MHDV fleets must be implemented now to overcome the lag between new sales and existing vehicle stocks.

Given the expected lag, to reach net-zero or near-zero emissions by 2050, sales of new combustion MHDVs must be eliminated well before the 2050 target set by the MOU. Especially in light of potential challenges in decarbonizing aviation and other challenging sectors, New York must pursue a strategy to transition the *entire* stock of MHDVs to zero-emission by 2050. The NYSERDA study found that ZEVs must be "normalized" by 2030 – and nearly all new MHDV sales must be ZEVs by 2040.[17] Preliminary modeling conducted for New York State shows that, absent a MHDV ZEV sales mandate, only 7% of sales in the sector will be ZEVs in 2030, increasing to just 27% by 2050 – meaning a large majority of trucks and buses on New York's roads would still burn fossil fuels in 2050, and fail to meet CLCPA targets.[18]

Forecasted increases in truck volumes underscores the urgent need for immediate and transformative policies like the ACT and HDO rules. Trucks are the fastest growing fuel users globally, and the same is true in the U.S. Already class 3-8 trucks, which represent only 4% of the on-road fleet in the U.S., account for 25% of all vehicle fuel use - consuming roughly

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[10] Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding ("MOU") at 2 (July 14, 2020).
[11] MOU at 3–4.
[12] See Energy & Environmental Economics, Pathways to Deep Decarbonization in New York State at 23 tbl. 2 (2020) ("E3 Analysis"). The E3 Analysis found that overall transportation sector GHG emissions must decrease by 86%-97% relative to 2016 levels to achieve the CLCPA's binding 2050 emissions limit. Presumably, the analysis would find that additional transportation sector emissions reductions would be needed to meet the CLCPA's net-zero goal.
[13] Nat'l Academies of Sciences, Engineering, and Medicine, Accelerating Decarbonization of the U.S. Energy System at 48 (2021) ("NAS Decarbonization Report").
[14] Jeffrey Rissman, Energy Innovation, *How to Reach U.S. Net Zero Emissions by 2050: Decarbonizing Transportation*, Forbes, Nov. 11, 2019, https://www.forbes.com/sites/energyinnovation/2019/11/11/how-to-reach-us-net-zero-emissions-by-2050-decarbonizing-transportation/?sh=6b2a72772040.
[15] *Id.*
[16] EPA, DERA Fourth Report to Congress (2019).
[17] E3 Analysis at 12 tbl. 1, 44–45.
[18] New York Climate Action Council, Meeting 8 at slide 18 (Feb. 26, 2021), https://climate.ny.gov/-/media/CLCPA/Files/2021-01-26-CAC-Meeting-presentation.pdf (presentation of preliminary NYSERDA of vehicle sales, stocks, and emissions).

44 billion gallons of fuel in 2015.[19] While GHG emissions from gasoline-powered, mostly light-duty vehicles have shown a modest decline since 1990, this reduction is more than offset by the nearly 70% increase in emissions attributable to diesel-powered vehicles like trucks and buses.[20] The latest data show that the total vehicle miles traveled (VMT) from diesel-powered heavy-duty vehicles nearly doubled from 1990 to 2007, with most of that increase seen in the period since 2002.[21] Through 2050, freight trucks' total VMT is projected to increase by 54%, which would result in a net increase in total emissions even assuming improvements in fuel efficiency.[22] In New York, trucks already account for 88% of all freight movement and truck tonnage is projected to increase 50% over the next two decades.[23] Absent strong electrification mandates, emissions from trucks and buses can be expected to rise.

Considering these challenges, the only way to meet 2030 and 2050 emissions reduction targets is to pursue aggressive strategies to address MHDV emissions that have largely escaped state regulation. Modeling referenced earlier shows that, to have any chance of meeting mid-century decarbonization targets, we will need targeted policies that can bend the curve of MHDV emissions. By jumpstarting electrification in the MHDV sector, the ACT and HDO rules will accomplish just that.

The Significant Public Health Impact of Vehicle Tailpipe Emissions

It is equally critical to curb air pollution from vehicle emissions, which is one of the main drivers of public health disparities. Air pollution is a major public health threat in New York State and across the globe. New research concludes that air pollution "is the leading environmental health risk factor globally."[24] In particular, emissions from fossil fuel combustion have been found to be "the world's most significant threat to children's health" and are "major contributors to global inequality and environmental injustice."[25] Transportation emissions are significant contributors to air pollution. After factoring in the environmental, climate, and health effects of transportation emissions, each gallon of fossil fuel consumed by motor vehicles imposes $3.80 to $4.80 in total damages to society.[26]

The transportation sector is one of the largest end-users of fossil fuels and, consequently, a major source of the health burden caused by air pollution. Motor vehicles directly emit dozens of harmful pollutants, including carbon monoxide (CO), black carbon (BC), NOx, fine and coarse particulate matter (PM2.5 and PM10), as well a range of toxic air substances like benzene and formaldehyde.[27] These emissions also lead to the formation of

[19] 21st Century Truck Partnership, Research Blueprint at 3 (2019), https://www.energy.gov/sites/prod/files/2019/02/f59/21CTPResearchBlueprint2019_FINAL.pdf.
[20] *Id.*
[21] *Id.* at 17 tbl. 10.
[22] *Id.* at 3.
[23] New York State Dep't of Transportation, New York State Freight Transportation Plan, Technical Mem. 5 at 28 and tbl. 6-1 (2017), https://www.dot.ny.gov/content/delivery/Main-Projects/projects/P11618881-Home/P11618881-repository/Tech%20Memo%205_FINAL.pdf.
[24] Susan Anenberg et al., Int'l Council on Clean Transportation, A Global Snapshot of the Air Pollution-Related Health Impacts of Transportation Sector Emissions in 2010 and 2015 at i (2019), https://theicct.org/sites/default/files/publications/Global_health_impacts_transport_emissions_2010-2015_20190226.pdf.
[25] Frederica Perera, *Pollution from Fossil-Fuel Combustion is the Leading Environmental Threat to Global Pediatric Health and Equity: Solutions Exist,*15 Int'l J. Envtl. Res. & Public Health 1, 1 (2018), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5800116/.
[26] Drew T. Shindell, *The Social Cost of Atmospheric Releases*, 130 Climatic Change 313, 321 (2015).
[27] *See* Health Effects Inst., Special Report 17, Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects at vii (2010), https://www.healtheffects.org/system/files/SR17TrafficReview.pdf.

"secondary" pollutants, like ozone, that are not directly emitted but form afterwards through reactions in the atmosphere. Each of these pollutants can cause adverse human health and environmental impacts.

Numerous researchers have sought to quantify the public health toll of vehicle emissions. For example, a recent study looking at the health impacts from two pollutants—ozone and PM2.5—estimated that 385,000 premature deaths could be linked to vehicle emissions globally in 2015.[28] New York City ranked 11th in cities worldwide with the greatest number of transportation-attributable premature deaths with over 1,400 annual deaths linked to vehicle emissions—accounting for more than 6% of all such deaths in the U.S.[29]

There are currently nine counties in the state of New York in "serious" nonattainment of the 75 parts per billion (ppb) ozone standard set in 2008. These counties are also in violation of the stricter 2015 ozone standard of 70 ppb. As a result, over 12 million New Yorkers live in areas currently in violation of the federal air quality standards for ground-level ozone, which is harmful to breathe and can cause immediate and long-term respiratory and cardiovascular health problems.[30] The Clean Air Act requires that states with nonattainment regions implement measures necessary to come into compliance with air quality standards.[31]

The Ozone Transport Commission (OTC), which was formed under the Clean Air Act to address ozone pollution in the Northeast and which New York belongs to, has determined that the state will likely fail to meet the ozone standard by the mandatory deadline.[32] On-road vehicles "emit a substantial portion" of the pollutants that form ozone, and, because of ongoing compliance issues, DEC has found that "[i]t is essential" to "continue to adopt stringent mobile source emissions standards to protect human health and the environment."[33] Previous mobile source regulations have proven to be "highly effective at lowering peak ozone concentrations across the eastern U.S.," but additional reductions will be required to achieve the 2008 and 2015 standards.[34] Moreover, the OTC identifies MHDVs as a "major and growing contributor" of ozone levels and issued a formal statement in support of "accelerat[ing] widespread adoption of zero emission [MHDVs] as a regional air quality strategy."[35]

The science is "[v]ery strong" that NOx is the most significant contributor to high ozone throughout the Northeast.[36] Mobile sources account for nearly two-thirds of statewide NOx emissions. MHDVs have a disproportionate emissions impact as they make up less than

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[28] ICCT 2019, at i.
[29] *Id.* at 38, tbl. A2
[30] *See* American Lung Ass'n, Ozone, https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone (last updated Apr. 20, 2020).
[31] *See* 42 U.S.C. § 7410(2).
[32] *See* Letter from Terrence Gray, Ozone Transport Commission, to Andrew Wheeler, Administrator, U.S. Environmental Protection Agency at 1 (June 5, 2020), https://www.epa.gov/sites/production/files/2020-06/documents/20200605_otc_184c_recommendation_to_epa_w_attachments_and_cvr_lttr-final.pdf (OTC Letter).
[33] Low Emission Vehicle Greenhouse Gas Standards, 41 N.Y. State Register (proposed Jan. 9, 2019) (LEV GHG Proposal), https://bit.ly/38nGSpR.
[34] OTC Letter at 2.
[35] OTC, Statement of the Ozone Transport Commission Regarding the Need to Accelerate Electrification of Medium- and Heavy-Duty Vehicles (adopted June 2, 2020), https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Statement%20on%20MHD%20ZEVs_20200602.pdf.
[36] Tad Aburn, OTC, OTC/MANE-VU Stakeholder Webinar at slide 4 (Mar. 30, 2020), https://otcair.org/upload/Documents/Meeting%20Materials/OTC-MANEVU%20MSC_Stakeholder_Presentation%20Final%2020200330.pdf.

10% of on-road vehicles in New York but are responsible for 29% of mobile source NOx pollution. DEC has acknowledged the "severity of New York's air quality problems" and recognized the need to "maintain compliance with recent improvements in California [mobile source emission] standards in order to achieve the reductions necessary for the attainment of" the ozone standard.[37]

Importantly, air pollution can cause severe public health impacts even in areas that are in compliance with air quality standards. For example, one study estimated that in the U.S. nearly 200,000 premature deaths are caused by exposure to PM2.5 each year, even in areas that meet federal air quality standards.[38] In New York State, which is currently in attainment of the federal PM2.5 standard, the study nevertheless estimates nearly 11,000 premature deaths each year due to PM2.5 exposure.[39] Other studies confirm the impact of air pollution in New York, and the outsize contribution of MHDVs. A health burden assessment found that PM2.5 emissions from all on-road vehicles in the New York City region contributes 320 annual deaths in New York City, which amounts to 0.7% of all deaths in the City each year.[40] Truck and bus emissions account for a majority of that impact, causing 170 premature deaths in New York City each year despite accounting for just 6% of vehicle miles traveled. Acute exposure to PM2.5 emissions from trucks and buses caused an additional 460 hospitalizations and emergency room visits each year, far exceeding the contribution from cars. Moreover, these impacts are not evenly distributed throughout the City, with more of the burden falling on residents in low-income neighborhoods.

Directly exposed communities suffer uniquely from the impact of vehicle tailpipe emissions. For example, a recent review by the federal National Toxicology Program concluded that residing in heavily trafficked areas or near major roads can lead to elevated exposures to PM2.5 and nitrogen dioxide, and that such exposures are hazardous to pregnant women and "may have significant adverse health effects in the developing offspring."[41]

Air pollution levels are highest within a few hundred feet of major roadways or facilities with significant vehicle volumes, like ports and rail yards. People who live, work, or go to school near such areas "have an increased incidence and severity of health problems associated with air pollution exposures related to roadway traffic" like asthma, cardiovascular disease, childhood leukemia, and premature death.[42] The number of trucks at a given location—not total traffic volume—is the biggest influence in localized concentrations of NOx and particulate matter in some urban settings.[43] This finding led to the conclusion that the best way to improve air quality near roadways is through more stringent regulations on heavy-duty vehicles.[44]

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[37] LEV GHG Proposal.
[38] Benjamin Bowe et al., *Burden of Cause-Specific Mortality Associated with PM2.5 Air Pollution in the United States*, 2 JAMA Network Open 1, 1 (2019), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2755672.
[39] *See* Bowe et al. 2019, Supplementary Online Content, https://bit.ly/3qw7drN.
[40] Iyad Kheirbeck et al., *The Contribution of Motor Vehicle Emissions to Ambient Fine Particulate Matter Public Health Impacts in New York City: a Health Burden Assessment*, 15 Envtl. Health 1, 5-8 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5002106/pdf/12940_2016_Article_172.pdf.
[41] Nat'l Toxicology Program, NTP Monograph 07, NTP Monograph on the Systematic Review of Traffic-Related Air Pollution and Hypertensive Disorders of Pregnancy at 75 (2019), https://ntp.niehs.nih.gov/ntp/ohat/trap/mgraph/trap_final_508.pdf.
[42] EPA, Near Roadway Air Pollution and Health: Frequently Asked Questions at 2, https://www.epa.gov/sites/production/files/2015-11/documents/420f14044_0.pdf (2014).
[43] Jonathan M. Wang et al., *Near-Road Air Pollutant Measurements: Accounting for Inter-Site Variability Using Emission Factors*, 52 Env. Sci. Tech. 9495, 9502 (2018).
[44] *Id.*

Given the range of pollutants associated with vehicle tailpipe emissions, it is unsurprising that they are associated with a broad range of adverse health effects. A 2010 comprehensive review concluded that exposure to traffic-related air pollution causes flare ups of asthma symptoms, and is associated with new childhood asthma cases, impaired lung function, and cardiovascular problems.[45] One study found that PM2.5 exposures can increase the risk of death from nine distinct causes, including cardiovascular disease, chronic kidney disease, lung cancer, and pneumonia.[46] PM2.5 can also aggravate asthma symptoms and is associated with several other nonfatal respiratory and cardiovascular issues.[47] Ozone causes numerous health effects, even at relatively low levels, with well-established short-term and long-term effects on the respiratory system such as asthma onset.[48]

The latest data from the U.S. Environmental Protection Agency (EPA) data show that, in 2017, heavy-duty vehicles emitted almost 1,800 tons of PM2.5. New York State meets the current PM2.5 standard, set in 2012, but could be in jeopardy of violating a future, lower standard. In fact, New York State has repeatedly called on EPA to strengthen the current PM2.5 standard, and has even filed a lawsuit challenging EPA's failure to do so.[49] Recent research shows widespread health impacts from PM2.5 even in areas that meet current health standards.[50]

Air Pollution Disproportionately Burdens Communities of Color

Vehicle pollution has an outsized impact on communities of color throughout the country and within New York State. One study found that the burden of PM2.5 pollution is felt disproportionally in Black communities, with the authors concluding that "pollution itself does discriminate."[51] Another analysis found that, despite a significant decrease in air pollution nationally over the last forty years, relative disparities in air quality along racial and income lines have been "notably persistent."[52] Studies have quantified the "pollution burden" faced by Blacks and other people of color, demonstrating the asymmetrical pattern of exposures that remains.[53]

Exposure to vehicle tailpipe emissions are a major reason for this disparity. Due to a long history of racially-motivated zoning, transportation, and land use decisions, people of color are much more likely to live near trucking corridors and major highways. A new study

[45] Health Effects Institute, 2010 at xv.
[46] Bowe et al. 2019.
[47] *See* New York State Dep't of Health, *Fine Particles (PM2.5) Questions and Answers*, https://www.health.ny.gov/environmental/indoors/air/pmq_a.htm (last updated Feb. 2018).
[48] *See* EPA, *Health Effects of Ozone Pollution*, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution (last updated Jan. 14, 2021); Health Effects Inst., *Ozone and Oxidants*, https://www.healtheffects.org/air-pollution/ozone-and-oxidants (last visited Mar. 5, 2021).
[49] *See* Complaint, State of California et al. v. U.S. EPA, Case No. 21-1014 (D.C. Cir. filed Jan. 13, 2021), https://www.epa.gov/sites/production/files/2021-01/documents/states_21-1014_pfr_01132021.pdf Comments of the Attorneys General of New York et al. (Nov. 20, 2020), https://oag.ca.gov/sites/default/files/2020%2011%2020%20PM%20supplemental%20comments%20with%20studies.pdf Letitia James, New York Attorney General, Attorney General James Continues Fight Against Trump Admin For Clean Air (Nov. 13, 2019), https://ag.ny.gov/press-release/2019/attorney-general-james-continues-fight-against-trump-admin-clean-air.
[50] Benjamin Bowe et al., Burden of Cause-Specific Mortality Associated with PM2.5 Air Pollution in the United States, 2 JAMA Network Open 1, 1 (2019), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2755672.
[51] Rosie McCall, *Around 200,000 Americans Die Every Year from Air Pollution that Meets EPA Standard*, Newsweek, Nov. 11, 2019, https://www.newsweek.com/200000-americans-die-every-year-air-pollution-that-meets-epa-standard-1473187.
[52] Jonathan Colmer et al., *Disparities in PM2.5 Air Pollution in the United States*, 369 Science 575, 577 (2020).
[53] Tessum et al., Inequity in consumption of goods and services add to radical ethnic disparities in air pollution exposure, Proceedings of the National Academy of Sciences (2019), https://doi.org/10.1073/pnas.1818859116.

by the New York City Environmental Justice Alliance used hyper-local monitoring for PM2.5 and identified several air pollution "hot spots" mostly near heavily trafficked facilities and corridors in the Bronx and Brooklyn, with some measured levels exceeding those registered at official monitors by a factor of twenty.[54] This finding confirms prior studies showing that the impact of air pollution near Hunts Point in the Bronx "varies across the community as a function of large truck traffic."[55]

According to recent analysis done by the Union of Concerned Scientists, approximately 2.7 million Latino residents, 2 million African American residents, and 1.2 million Asian American residents in New York state experience above-average concentrations of PM2.5 from transportation, representing 74% of the state's Black and Latino residents and 80% of the state's Asian American residents.[56] By contrast, more than two-thirds of white residents live in areas with transportation pollution well below the state average. BIPOC New Yorkers are, on average, exposed to 72%-100% more PM2.5 than white residents.[57] The most polluted census tract in the entire Northeast and Mid-Atlantic region is in the West Bronx, which is home almost entirely to Latino and Black residents.[58]

Diesel Emissions are Especially Hazardous

Out of all sources within the transportation sector, perhaps the greatest health risk comes from diesel exhaust. Many medium-duty (class 2b-3) and nearly all heavy-duty (class 4-8) vehicles on the road today are diesel-powered. Diesel exhaust is a known carcinogen.[59] Thousands of chemicals are present in the gas or particle phases of diesel exhaust. The International Agency for Research on Cancer has identified 35 different components of diesel exhaust emissions that are currently deemed to be known, probably, or possible carcinogens.[60] A study in California found that total cancer risk from toxic air pollution is mostly driven by exposures to diesel particulate matter, which accounts for over 70% of aggregate cancer risk from all air contaminants.[61]

Diesel engines are also responsible for a disproportionate share of the overall health impact from vehicle tailpipe emissions. The ICCT study referenced above broke down the overall impacts from the transportation sector and found that, worldwide, "on-road diesel vehicles were the leading contributor to transportation health damages" in the U.S. and other developed countries.[62] Within the U.S., 43% of traffic-attributable mortality was caused by on-road diesel sources (with another 24% caused by non-road diesel sources).[63] Between

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[54] *See* New York City Environmental Justice Alliance, Community Air Mapping Project for Environmental Justice at 5 (2021), https://www.nyc-eja.org/wp-content/uploads/2021/02/CAMP-EJ-2020-Report-Final-021821-Reduced.pdf.
[55] T. Suvendrini Lena et al., *Elemental Carbon and PM2.5 Levels in an Urban Community Heavily Impacted by Truck Traffic*, 110 Envtl. Health Perspectives 1009, 1009 (2002), https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.021101009.
[56] Pinto de Moura et al., Union of Concerned Scientists, Inequitable Exposure to Air Pollution from Vehicles in the Northeast and Mid-Atlantic (2019), https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles.
[57] *Id.*
[58] *Id.* at 2.
[59] International Agency for Research on Cancer, World Health Organization, IARC: Diesel Engine Exhaust Carcinogenic (June 12, 2012), https://templatelab.com/iarc_press_release_213_E/.
[60] American Public Health Association, Preventing Environmental and Occupational Health Effects of Diesel Exhaust (2014), https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2015/01/28/12/14/preventing-health-effects-of-diesel-exhaust.
[61] Propper et al., *Ambient and Emission Trends of Toxic Air Contaminants in California*, 49 Envtl. Sci. & Tech. 11,329, 11,336 (2015).
[62] ICCT, 2019 at 18.
[63] *Id.* at 19 tbl. 4.

2010 and 2015, mortality associated with on-road diesel emissions increased while mortality from on-road non-diesel emissions fell 9%.[64]

As discussed above, diesel engines produce large amounts of NOx and PM2.5, both of which increase the risk of severe human health impacts, including asthma attacks, heart attacks, lung cancer, and premature deaths. And heavy-duty vehicles in particular make up a large share of that pollution. Despite comprising only about 10 percent of the transportation sector, heavy-duty vehicles are responsible for about 45% of on-road NOx emissions and 57% of on-road PM2.5 emissions nationwide, and an even larger share in some heavily polluted communities.[65] Diesel engines contribute an even larger share of black carbon, which is a strong contributor to climate change and is also linked to adverse cardiovascular health effects. Nationally, 52% of black carbon is emitted by mobile sources, and 93% of that total comes from diesel vehicles.[66]

Eliminating exposure to diesel exhaust would significantly improve public health. Each gallon of diesel fuel burned by vehicles was found to impose $4.80 in total environmental and public health costs - a full dollar higher than that of gasoline, owing largely to the greater black carbon emissions from diesel emissions.[67] Most MHDVs are diesel-powered and nationally, millions of legacy diesel engines from before EPA regulations were phased in are still on the road.[68] Noting "diesel engine and equipment lifetimes of 20 to 30 years and millions of older (pre-2007) diesel engines still in use," the American Public Health Association declared that "the air pollution from these older engines remains a major public health problem."[69]

MHDV Emissions Contribute to New York's Asthma "Epidemic"

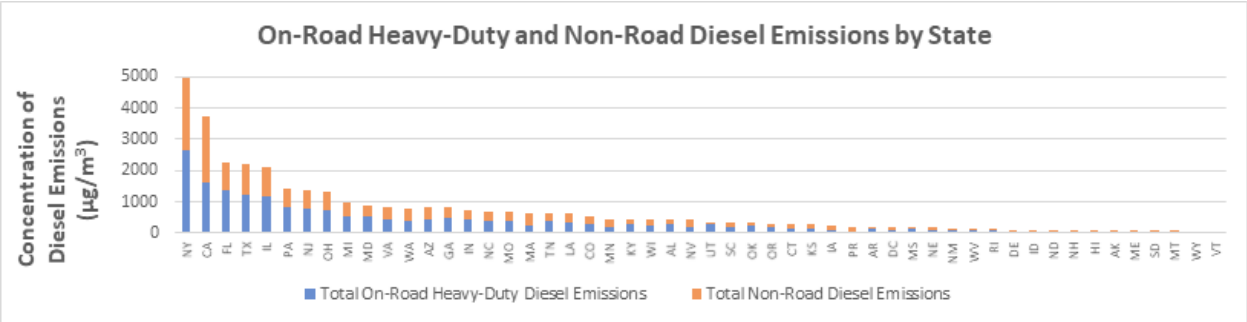
MHDV emissions are linked to increased incidence of asthma and exacerbation of asthma symptoms. The New York State Department of Health has found that asthma rates are actually trending up, and that asthma "remains an epidemic in New York with significant public health and financial consequences."[70] Asthma costs New Yorkers $1.3B each year, based on direct medical costs and lost productivity.[71] Asthma prevalence and hospitalizations exceed national rates across all age groups, show disparities along racial lines, and are on upward trend.[72] The DOH acknowledges the "well documented" link between air pollutants like ozone and PM2.5 and asthma symptoms.[73]

In New York City, exposure to ozone and PM2.5 leads to almost 12,000 asthma emergency department visits per year, including 4,200 ED visits for children under 18. A modest decrement of 10% in ozone levels would avoid nearly 1,000 asthma emergency department visits, while a similar reduction in PM2.5 levels would avoid 1,430 asthma

[64] *Id.* at 16.
[65] Union of Concerned Scientists, Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles (Dec. 2019) at 2, https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf
[66] EPA, Report to Congress on Black Carbon at 1-4, 85 (2012), https://www3.epa.gov/airquality/blackcarbon/2012report/fullreport.pdf.
[67] Shindell, *The Social Cost of Atmospheric Releases* (2015).
[68] EPA, DERA Fourth Report to Congress at 1, 24 (2019), https://www.epa.gov/sites/production/files/2019-07/documents/420r19005.pdf.
[69] American Public Health Association, 2014.
[70] New York State Dep't of Health, New York State Asthma Surveillance Summary Report at 16 (2013).
[71] Thomas P. DiNapoli, New York State Comptroller, The Prevalence and Cost of Asthma in New York State at 1 (2014).
[72] NYSDOH Asthma Surveillance Report at 16-17.
[73] *Id.* at 222-229.

emergency department visits.[74] Previous studies have linked localized air pollution levels within New York City to patterns of truck traffic.[75] In Albany, Department of Health data confirms a substantial discrepancy in asthma hospitalization rates between the South End neighborhood, which experiences "heavy truck and other diesel vehicle traffic, train traffic and activities at the Port of Albany," and similar neighborhoods further from the Port.[76] In Buffalo, asthma rates are four times the national average in neighborhoods adjacent to the Peace Bridge and the huge volumes of traffic that traverse it.[77]

Figure 1: Diesel Emissions from Heavy-Duty and Non-Road Sources by State, 2017[78]



Diesel emissions in particular have an astounding impact in New York State. EPA has found that short-term exposures can exacerbate asthma symptoms and diesel exhaust is a "chronic respiratory hazard to humans."[79] EPA data show that New York State has the most diesel emissions from vehicles and the highest total respiratory hazard associated with diesel exposure nationwide.[80] And the problem affects most New Yorkers. In fact, 87% of New Yorkers live in one of the state's 22 counties that exceed EPA's respiratory hazard index benchmark of 1.0, which EPA uses to conclude that diesel emissions are considered a "regional driver of adverse health effects."[81] Over 17 million New Yorkers are exposed to harmful levels of diesel every day, almost all of which comes from MHDVs. These adverse health effects are evident in the fact that New York's asthma rates are roughly double the levels targeted in the Healthy People 2020 objectives set by the U.S. Department of Health

[74] https://www1.nyc.gov/assets/doh/downloads/pdf/eode/eode-air-quality-impact.pdf
[75] *See* Lena et al., 2002.
[76] New York State Dep't of Health, Information Sheet: Albany South End Community Health Outcome Review (2019), https://health.ny.gov/environmental/investigations/albany_south_end/southend_fact_sheet.pdf.
[77] Dan Telvock, *Asthma Plagues Peace Bridge Neighborhood*, Investigative Post, May 25, 2013, https://www.investigativepost.org/2013/05/25/asthma-epidemic-near-peace-bridge/.
[78] Data is from EPA 2014 National Air Toxics Assessment.
[79] EPA, Health Assessment Document for Diesel Engine Exhaust at 1-4 (2002).
[80] These numbers are based on an analysis of EPA's 2014 National Air Toxics Assessment results for diesel. Data is available at: https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results.
[81] EPA's National Air Toxics Assessment calculates "hazard indices" for health effects associated with mobile sources. When the "hazard index" value for a given pollutant is greater than 1 and where the number of people exposed exceeds 10,000, EPA considers that pollutant a "regional driver of noncancer health effects." EPA, Technical Support Document – EPA's 2014 National Air Toxics Assessment at 136-37 (2018), https://www.epa.gov/sites/production/files/2018-09/documents/2014_nata_technical_support_document.pdf. The hazard index associated with diesel exposure in New York State is over 500.

Table 1: Counties in New York with "Respiratory Hazard Index" Greater Than 1

County	Total Diesel Concentration (µg/m³)	National Rank*	Respiratory Hazard from Diesel Exposures	National Rank*	% of Diesel Emissions from Heavy-Duty On-Road and Non-Road Sources
Kings	1432.595251	2	140.8757356	3	97.7%
Queens	1091.71821	4	108.7096782	4	98.0%
New York	672.9322125	5	64.7981925	5	97.2%
Bronx	633.6271157	7	62.89214918	7	98.1%
Nassau	233.07191	16	24.07416941	15	96.5%
Westchester	176.6038926	28	17.99674338	25	95.7%
Suffolk	161.8138505	33	16.69334562	31	94.6%
Richmond	115.414424	47	11.55965112	46	98.5%
Erie	102.0049479	52	10.59244219	50	98.3%
Monroe	77.27435276	69	7.580984267	69	98.0%
Onondaga	62.20167826	83	6.438173561	80	98.4%
Albany	32.46177863	131	3.363893061	127	95.5%
Rockland	31.71510112	133	3.357176553	128	94.3%
Orange	23.85031333	155	2.490091155	154	95.7%
Dutchess	23.37733339	158	2.343484283	161	95.3%
Oneida	20.77534099	170	2.042689232	174	97.7%
Broome	15.80451056	200	1.682234132	196	97.8%
Schenectady	14.80531902	210	1.527139403	207	97.7%
Niagara	13.18650139	227	1.387972902	222	97.9%
Saratoga	12.31479633	235	1.268468609	234	97.3%
Rensselaer	11.64854975	242	1.240143519	239	96.9%
Ulster	11.39151825	246	1.168478878	247	95.3%

* - Out of 1,881 counties with diesel emissions recorded in EPA's National Air Toxics Assessment

and Human Services, and asthma mortality rates are 2-3 times the target levels.[82]

While almost all New Yorkers are at risk, urban centers in particular are at the greatest risk and suffer the greatest impact from diesel linked to MHDVs. Four of New York City's five boroughs are among the *top six* counties most impacted by diesel emissions from MHDVs in the country, and the city ranks ninth out of all cities in the world with over 500 new childhood asthma cases caused by vehicular traffic each year.[83] Diesel emissions also disproportionately impact environmental justice communities, with 96% of official "potential environmental justice areas" located in the 22 counties where diesel emissions exceed EPA's hazard index of 1. A recent DEC study of one such potential environmental justice area, the South End neighborhood of Albany, found that diesel trucks and buses are the predominant source of local air pollution.[84] Residents and workers in the South End are exposed to six times the volume of truck and bus traffic compared to other parts of the city,[85] and the neighborhood's asthma rates are more than three times the statewide rate and almost four times the rate in Albany County.[86] DEC concluded that reducing diesel truck and bus emissions in the South End "would have the greatest benefit in improving neighborhood air quality,"[87] corroborating the findings of numerous other researchers and underscoring the urgency in adopting the ACT and HDO rules.

New mobile source emission standards would bring New York one step closer to an equitable future, as diesel pollution is overwhelmingly concentrated in low-income communities and communities of color. Zero-emission MHDVs powered by clean energy can help reduce transportation emissions in communities overburdened by toxic air pollution and increase access to clean transportation. Further, new standards will benefit air quality locally and throughout the region.[88] Vehicle emissions in New York "significantly impact" air quality in regions downwind, accounting for several parts per billion of ozone, up to nearly 7% of the 75 ppb standard, in neighboring states.[89] Vehicle emissions are 25% of the state's contribution to neighboring states' ozone pollution.[90] A majority of these emissions come from diesel engines,[91] the bulk of which are MHDVs.

ACT and HDO Rules will Accelerate the Transition to Zero-Emission Truck and Bus Fleets.

The ACT rule will support New York's clean transportation targets by advancing New York's zero-emission truck and bus market and laying the groundwork for future

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[82] New York State Dep't of Health, New York State Asthma Surveillance Summary Report at 16 (2013), https://www.health.ny.gov/statistics/ny_asthma/pdf/2013_asthma_surveillance_summary_report.pdf.
[83] Damian Carrington, *Vehicle Pollution 'Results in 4M Child Asthma Cases a Year,'* The Guardian, Apr. 10, 2019, https://www.theguardian.com/environment/2019/apr/10/vehicle-pollution-results-in-4m-child-asthma-cases-a-year.
[84] DEC, Albany South End Community Air Quality Study Summary (Oct. 2019), https://www.dec.ny.gov/docs/air_pdf/albanysouthendsummary.pdf.
[85] DEC, Albany South End Community Air Quality Study – Traffic-Related Air Pollution (TRAP) Results at 1 (2019), https://www.dec.ny.gov/docs/air_pdf/albanysouthendtrap.pdf.
[86] NYSDOH 2013 at 77, 79.
[87] DEC, Albany South End Community Air Quality Study: High-Emitting Vehicles (HEVs) at 1 (2019), https://www.dec.ny.gov/docs/air_pdf/albanysouthendhev.pdf.
[88] *See* DEC, Proposed New York State Implementation Plan Revision: Transport Supplement for the 2008 Ozone Nat'l Ambient Air Quality Standards at 2 (2018), http://www.dec.ny.gov/docs/air_pdf/sipprop2008o3trans.pdf (DEC 2018 Transport Supplement).
[89] *Id.* at 3 ("Emissions from New York's mobile onroad sector itself significantly impact downwind monitors, with 2023 contributions as high as 4.640 ppb at the Greenwich, CT monitor based on OTC/MDE modeling.").
[90] *See id.*, Apps. B & C.
[91] *Id.* at 3.

policies. Importantly, the rule applies only to manufacturers, and will require that 55% of Class 2b-3 sales, 75% of Class 4-8 sales, and 40% of tractor sales be ZEVs by 2035.[92] Adopting the rule would also increase zero-emission truck availability on the East Coast at a stage where market options are limited, making it easier for fleet owners to transition to ZEVs. The benefits to New Yorkers will be considerable. California's calculations show a net benefit exceeding $11B through 2050 from adopting the ACT rule, in improved health outcomes, climate benefits, and cost savings.[93] Meanwhile, the emission reduction benefits from the HDO rule in California are projected to amount to $36 billion in statewide health benefits from 3,900 avoided premature deaths and 3,150 hospitalizations from 2022 to 2050.[94]

Notably, the technology for MHDV electrification is available, but standards like the ACT are urgently needed to increase vehicle availability and to spur manufacturers to make new models for a wider range of applications. The demand is here; what New York needs is a reliable supply of zero-emission MHDVs. There is a growing consensus that even in the MHDV sector, "the trucking industry's long-term future is zero-emission vehicles."[95] In a recent survey of 300 fleet managers, there was near unanimous agreement that ZEVs were the "inevitable future" of commercial fleets.[96] New York State has been identified as among the regions with the "highest potential for electric truck deployments."[97]

Though the ACT rule is the foundational policy for achieving a zero-emission MHDV sector, the transition to 100% clean trucks won't happen overnight. It's vital to address pollution from combustion trucks in the meantime, especially because diesel pollution – which is linked to respiratory illnesses and premature deaths – is concentrated in communities historically overburdened by transportation pollution. The HDO rule will tighten NOx standards and makes particulate matter controls more stringent to prevent backsliding. The rule is expected to cut NOx emissions for new internal combustion truck engines by as much as 90%. Finally, the HDO rule extends manufacturer warranties, which will save fleet owners money on repairs, and will require cleaner operation throughout various driving conditions. By drastically reducing tailpipe emissions from new internal combustion MHDVs sold before the market is fully electrified, the HDO rule is a critical component of any state's strategy towards a zero-emission transportation sector.

The ACT and HDO Rules are Technologically and Economically Feasible in New York.

Several types of MHDVs are well-suited for electrification today, including regional haul trucking, urban delivery, and certain vehicles used at ports. This relatively widespread suitability is evidenced in a recent report, which recommends that fleets operating regional haul routes in New York State and other high-priority regions "should immediately begin

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[92] *See* California Air Resources Bd., Advanced Clean Trucks: Accelerating Zero-Emission Truck Markets at 1 (2020), https://ww2.arb.ca.gov/sites/default/files/2020-06/200625factsheet_ADA.pdf.

[93] *See* Claire Buysse & Ben Sharpe, Int'l Council on Clean Transportation, California's Advanced Clean Trucks Regulation (2020), https://theicct.org/sites/default/files/publications/CA-HDV-EV-policy-update-jul212020.pdf.

[94] California Air Resources Board, *Public Hearing to Consider the Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, Staff Report - Initial Statement of Reasons,* https://ww3.arb.ca.gov/regact/2020/hdomnibuslownox/isor.pdf

[95] Jessie Lund & Mike Roeth, Rocky Mountain Institute, High-Potential Regions for Electric Truck Deployment at 11 (2020), https://rmi.org/insight/high-potential-regions-for-electric-truck-deployments.

[96] Jim Stinson, *Electric Trucks are the 'Inevitable Future,' Fleets Say*, Utility Dive, May 19, 2020, https://www.utilitydive.com/news/Electric-Class-8-trucks-CARB-2020-coronavirus/578211/?for-guid=63e868fa-1cf5-4fa7-b26b-b327793d1d86.

[97] Lund & Roeth at 9.

planning for electric deployments."[98] In general, applications with relatively low mileage, predictable routes, and that return to a fixed location can be electrified with existing technology. And ZEV technology is advancing quickly, opening up opportunities to electrify even the largest vehicles with the most demanding duty cycles as soon as 2030.[99]

Model availability is expanding for zero-emission trucks and buses across every weight class and duty cycle. In 2022, there will be over 100 zero-emission truck and bus models on the market, covering a wide range of applications. Moreover, the vehicles entering the market will be attractive across a wide range of operational parameters. While total lifetime costs are a significant consideration for commercial fleets, there are a number of attributes that influence purchasing decisions. A study compared ZEV technology with diesel across 22 distinct parameters and found that ZEVs will be competitive for a majority of those parameters by 2025 in class 3 through 6 trucks and by 2030 in class 7 and 8 trucks.[100]

New York has already developed mechanisms to support fleet owners in transitioning to electric trucks, and there are opportunities to develop more. State incentives such as the NY Truck Voucher Incentive Program help shift the economics further in favor of ZEVs for all fleets. We encourage New York to pursue rate design reforms for commercial electricity rates as well, which can further reduce costs and drive deeper cost savings. As an example, San Diego Gas & Electric will soon roll out a new rate designed specifically for MHDV fleets that, by eliminating demand charges, could save fleets as much as 50% on fuel costs compared to diesel.[101]

It has been estimated in California that the savings realized by fleet owners and consumers who choose electric options will be largely reinvested and directed toward local, labor-intensive services, providing a boost to regional economies.[102] Furthermore, the process of building out charging infrastructure is likely to support high-quality jobs—that should include skills training and good wages and benefits—and boost the state's economy. Electric trucks and buses can also act as batteries on wheels when off-duty, unlocking new opportunities for grid stabilization and resiliency. As economic returns and other benefits become evident, demand for MHDV ZEVs is expected to swell, making it crucial that New York ensure that sufficient quantities and types of ZEVs are available.

The economic case for transitioning to ZEVs will only become more favorable. Due to significant fuel and maintenance cost savings some electric trucks are financially appealing today on a total cost of ownership (TCO) basis relative to their fossil fuel counterparts. Many medium-duty vehicles have already achieved TCO parity, and heavy-duty short-haul vehicles are predicted to achieve parity by 2025, without incentives.[103] Multiple studies confirm that most MHDV ZEV segments will reach TCO parity with diesel vehicles by the end of the

[98] *Id.* at 9.
[99] *See* Gabel Assocs., Full Market Electrification in New Jersey (2020) ("NJ Electrification Study"), http://www.chargevc.org/wp-content/uploads/2020/10/ChargEVC-Full-Market-Electrification-Study-FINAL-Oct-7-2020.pdf.
[100] North American Council for Freight Efficiency, Guidance Report: Electric Trucks-Where They Make Sense at 13-14 (2018).
[101] San Diego Gas & Electric, Save Money With SDG&E's Lowest EV Charging Rates (2021), https://www.sdge.com/sites/default/files/documents/SDGE.PYDFF%20-%20EVHP%20Fact%20Sheet%202021.pdf.
[102] David Roland-Holst et al., Exploring Economic Impacts in Long-Term California Energy Scenarios (2018), https://ww2.energy.ca.gov/2018publications/CEC-500-2018-013/CEC-500-2018-013.pdf.
[103] North American Council for Freight Efficiency, Electric Trucks: Where They Make Sense (May 2019) at 13-14, https://nacfe.org/emergingtechnology/electric-trucks/.

decade,[104] particularly as battery prices continue to decline.[105] In the long-term, the cost savings from transitioning to zero-emissions MHDVs are likely to outweigh the incremental cost premium nearly 4 to 1.[106] Factoring in the public health benefits from a drastic reduction in MHDV emissions, and New York could be expected to reap tens of billions in total benefits through 2050.[107]

Moreover, the ACT rule contains numerous provisions to ease compliance, especially in the rule's early years. Fundamentally, the ACT rule works as a credit and deficit accounting system across the different MHDV classes. Manufacturers can apply credits in one class towards deficits in another that might be more challenging to electrify in the near-term.

The ACT rule also includes a one-time reporting requirement for some large MHDV fleet owners, which will provide DEC with critical information about MHDV operating parameters, including VMT, length of ownership, and fueling patterns. Collecting this information will enhance transparency and will provide vital information to inform future decarbonization policies.

Finally, New York's grid will not impede fleet electrification. While transportation electrification increases electric load, the evidence to date indicates that the increased revenue generated far outstrips the cost of serving this new load, putting downward pressure on electric rates to the benefit of all electric customers. Empirical data from 2012 to 2019 for the utility service territories with the nation's highest EV penetrations, Pacific Gas & Electric (PG&E) and Southern California Edison (SCE), found that EV drivers contributed an estimated $800 million in cumulative net revenue—even when including utility expenditures to support EV programs.[108]

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[104] *See* CALSTART & FIER Automotive and Mobility, Moving Zero-Emission Freight Toward Commercialization at 27 (2020), https://globaldrivetozero.org/site/wp-content/uploads/2020/12/Moving-Zero-Emission-Freight-Toward-Commercialization.pdf ICF, Comparison of Medium- and Heavy-Duty Technologies in California, Executive Summary at 4 (2019), https://www.caletc.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf.

[105] Energy Innovation & Environmental Defense Fund, Clean Trucks, Big Bucks at 3 (2020), https://energyinnovation.org/wp-content/uploads/2020/06/Clean-Trucks-Big-Bucks_June_17_2020.pdf/.

[106] *See* NJ Electrification Study at 87.

[107] *See id.* at 87-89 (finding $88B-99B in net benefits from fully electrifying all classes of vehicles in New Jersey).

[108] Synapse Energy Economics, Electric Vehicles Are Driving Electric Rates Down at 3 (2020), https://www.synapse-energy.com/sites/default/files/EV_Impacts_June_2020_18-122.pdf.

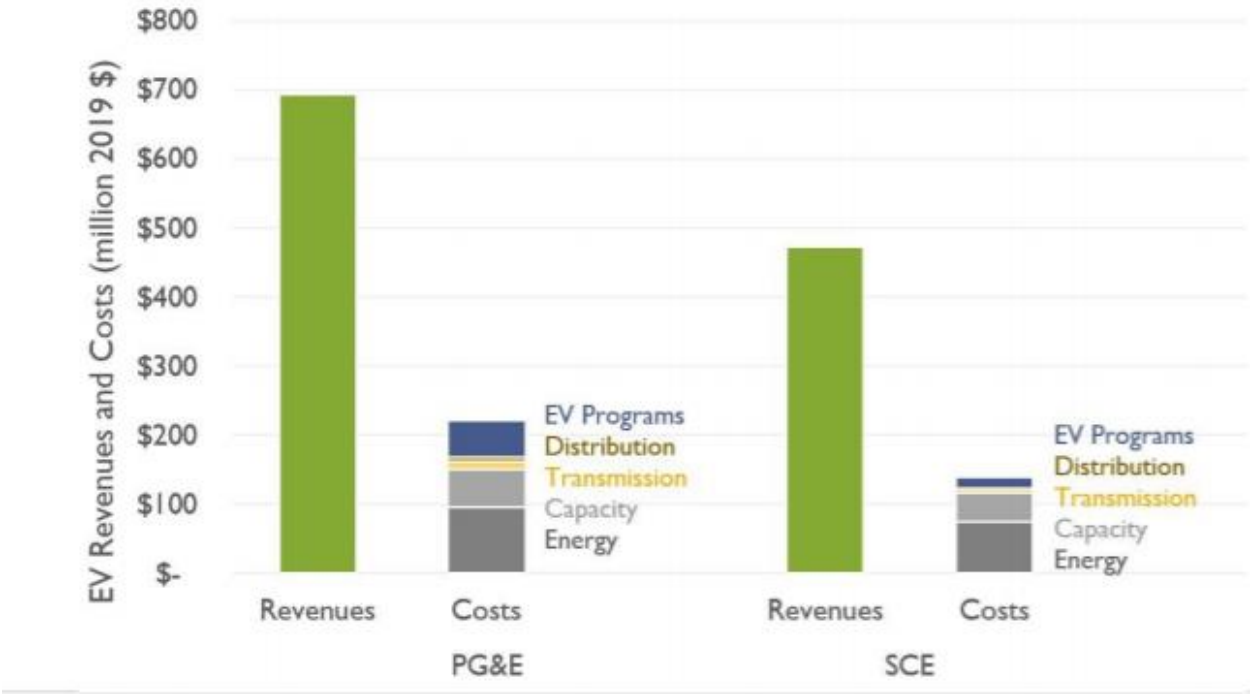

Figure 2: PG&E and SCE Revenues and Costs of EV Charging, 2012-2019[109]

With revenue decoupling and rate designs that encourage EV charging when marginal costs to the utility are low, transportation electrification has resulted in downward pressure on rates for all utility customers in those service areas. These benefits can be maximized and grid upgrades to support EV deployment (e.g., additional transformers and capacity) can be further minimized through effective management of new EV load.[110]

New York Has Clear Authority to Adopt the ACT and HDO Rules and Should Not Delay.

New York can adopt these and other California mobile source standards because it has nonattainment and maintenance plan provisions approved by the U.S. Environmental Protection Agency (EPA). Clean Air Act Part D, Section 177 specifies, "any State *which has plan provisions approved under this part* may adopt and enforce for any model year [California] standards relating to control of emissions from new motor vehicles or new motor vehicle engines."[111] "Plan provisions approved under this part" applies both to nonattainment plan provisions and maintenance plan provisions, both of which EPA approves under Clean Air Act Part D.[112] Because EPA has approved multiple New York

[109] *Id.*
[110] Pamela MacDougall, *Steering EV Integration Forward,* NRDC, June 2019, available at https://www.nrdc.org/experts/pamela-macdougall/steering-ev-integration-forward.
[111] 42 U.S.C. § 7507 (emphasis added).
[112] *See id.* §§ 7502(c), 7505a (concerning nonattainment and maintenance plans, respectively, both under Part D); *see also Am. Auto. Mfrs. Ass'n v. Comm'r, Massachusetts Dep't of Envtl. Prot.*, 31 F.3d 18, 23 n.2 (1st Cir. 1994) (correctly explaining that Section 177 says that "any State which has plan provisions [for the attainment and maintenance of the NAAQS] may adopt and enforce for any model year standards . . ." (paraphrasing in original)).

nonattainment and maintenance plan provisions,[113] New York satisfies the threshold requirement of Section 177 to adopt the California Standards.

Given the urgency of the climate crisis, the need to move forward quickly to reduce emissions, and the acute public health need to reduce pollution from diesel trucks, New York should not delay moving forward with the rulemaking process. The state has built in ample time for a rulemaking process that is finalized by the end of 2021. This would ensure the state meets the two-year lead time requirement under Section 177 for the 2025 model year, which can start as early as January 2, 2024.

Even with the ACT and HDO Rules, Additional Policies are Needed to Achieve State Targets. Such Policies Must Advance Vehicle Electrification Whenever Possible.

To achieve the bold GHG reduction commitments in the CLCPA, it will be necessary to rapidly accelerate the deployment of ZEVs, including MDHVs. Even with the ACT rule and 100% light-duty ZEV sales in place, preliminary modeling shows that GHG emissions from transportation will only be reduced by 55% in 2050 compared to a reference case scenario.[114] Fully implemented, the ACT rule will still allow 25-60% of sales to be combustion engines in certain segments. New York should view adoption of the ACT rule as a necessary first step in achieving the transformative changes necessary to decarbonize the transportation sector, but not the only strategy. We must strive for 100% ZEV sales across MHDVs where feasible, and take bold actions to get there.

One way for New York to start this transformation is to "lead by example," in line with the MHDV ZEV MOU, which affirms the state's commitment to "progressing toward electrification of [its] government and quasi-governmental agency fleets."[115] New York should convert all state MHDV fleets to zero-emission vehicles where feasible, as soon as possible, and work with cities and counties to do the same. Several municipalities will require all vehicle purchases to be electric by 2030, and the state should be able to meet a similar timeline. In addition, once it is finalized, New York should adopt California's forthcoming Advanced Clean Fleets rule, which supports the state's goal of achieving a zero-emission truck and bus fleet by 2045 statewide and serves as a vital complement to the ACT rule.[116]

And while implementing the ACT and HDO rules will lead to a boost in clean energy jobs, the state must ensure that workers in affected industries do not shoulder the short-term costs of transitioning to a zero-emissions transportation sector, and that new workers in the zero-emissions transportation sector can expect good wages and benefits. New York must also continue its efforts to ensure that the new jobs created by this transition offer good, family sustaining wages and benefits.

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[113] EPA, New York Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants (as of March 9, 2021), https://www3.epa.gov/airquality/greenbook/anayo_ny.html.
[114] New York Climate Action Council, *supra* note 18, at slide 20.
[115] MOU at § 5.
[116] Cal. Air Resources Bd., *Advanced Clean Fleets*, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/about (last accessed Mar. 9, 2021).

Prioritizing Emission Reductions in Environmental Justice Communities

As DEC moves forward with these regulations, the state should develop a strategy to accelerate fleet turnover to the maximum extent practical. In particular, DEC should develop a plan to identify where the dirtiest diesel engines are still operating and target incentives and other activities to get those vehicles off the road. Such a policy offers an opportunity to reverse the legacy of environmental injustice in New York State. Additional targeted strategies will be needed to ensure that the communities most harmed by transportation pollution are prioritized in statewide emissions reduction efforts, in line with the CLCPA.

- **Electrifying Ports, Warehouses, Distribution Centers, School Bus Depots, Refuse Truck Depots, and Other Freight Hubs.** New York State should target infrastructure build out, ZEV incentives, and other state policies and resources to accelerate the phase-out of all diesel and fossil fuel-powered vehicles in facilities with significant MHDV volumes. The cumulative impact of emissions from such facilities adversely impact workers, residents, and children who attend school close by. Prioritizing electrification in these locations is one of the most important ways to address the systematic inequities inherent in our current transportation system. DEC should follow the lead of the South Coast Air Quality Management District in California by using authority under the Clean Air Act to establish an "Indirect Source Rule" to limit emissions from such facilities.[117] DEC should also collaborate with stakeholders to develop zero-emissions ports and distribution centers, modeled on the Port of Long Beach's Zero-Emissions Terminal Equipment Transition Project.[118]
- **Low and No-Emission Zones.** DEC should identify areas overburdened with MHDV emissions and develop model rules to create low-emissions or zero-emission zones to encourage rapid ZEV deployment in these areas. Such policies could be modeled after those implemented at the Ports of Los Angeles and Long Beach, which will impose fees on diesel and natural gas trucks accessing the ports, while exempting ZEVs.
- **Adopting Other California Vehicle Emission Standards.** California has adopted or is planning to adopt emission standards for a range of other vehicle segments not covered by their standards for on-road light-duty vehicles and MHDVs. Examples include drayage trucks serving ports and railyards, cargo handling equipment, and transport refrigeration units. These rules could have a significant impact on air quality and public health in some of the most heavily impacted communities in New York State. DEC should join New Jersey, which has already expressed intent to adopt emission standards for some of these segments.

Electrifying the full fleet of MHDV segments presents a significant opportunity to achieve meaningful public health improvements in disadvantaged and heavily impacted communities throughout the state. Doing so would yield billions of dollars in reduced health

[117] *See* 42 U.S.C. § 7410(a)(5); South Coast Air Quality Mgmt. Dist., Draft Staff Report: Proposed Rule 2305 – Warehouse Indirect Source Rule (2021), http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr2305_draft-staff-report_03032021.pdf?sfvrsn=8.
[118] Port of Long Beach, Fact Sheet: Zero-Emissions Terminal Equipment Transition Project (2018), https://sustainableworldports.org/wp-content/uploads/CECZeroEmissionsTerminalEquipmentTransitionFactSheet_8_10_18.pdf.

costs and improved health outcomes.[119] Our groups look forward to working with your agency to develop these additional and supporting policies.

Conclusion

Thank you for the opportunity to provide comments on these important rules. We encourage the state to act quickly. Given the slow rate of vehicle turnover, any delay in moving forward with adopting California's truck emission standards will compound the challenges in achieving New York's landmark climate commitments. Therefore, in order to maximize benefits and ease the transition into the ACT's sales requirements, New York should adopt these regulations by the end of 2021.

Sincerely,

Alliance of Nurses for Healthy Environments
ALIGN
Allergy & Asthma Network
American Lung Association
Asthma and Allergy Foundation of America
AVillage
Concerned Health Professionals of New York
Catskill Mountainkeeper
Earthjustice
Empire Clean Cities Coalition
Environmental Advocates for New York
Environmental Entrepreneurs (E2)
GreenLatinos
Institute for Heath and the Environment, University of Albany
Jobs to Move America
Long Island Progressive Coalition
Mothers Out Front, Tompkins County
Natural Resources Defense Council
New Yorkers for Clean Power
New York City Environmental Justice Alliance
New York Lawyers for the Public Interest
New York Public Interest Research Group
NY Renews
New York State American Academy of Pediatrics (NYS AAP)
New York State Public Health Association
North Brooklyn Neighbors
Partnership for the Public Good
Sierra Club
Tri-State Transportation Campaign
Union of Concerned Scientists

[119] *See* Am. Lung Ass'n, Benefits of a Nationwide Transition to EVs (2020), https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf.

Attachment 2

Via Email

July 16, 2021

Scott Wadja-Griffin
New York State Department of Environmental Conservation
Division of Air Resources
625 Broadway, 11th Floor
Albany, NY 12233-3251
Email: dar.sips@dec.ny.gov

Re: ***Comments on New York State Draft State Implementation Plan Revision for the 2008 Ozone National Ambient Air Quality Standards***

Dear Mr. Wadja-Griffin:

Earthjustice submits the following comments on behalf of itself, Alliance of Nurses for Healthy Environments, Asthma and Allergy Foundation of America, Concerned Health Professionals of NY, EarthKind Energy Consulting, El Puente, Environmental Advocates of New York, GreenLatinos, Long Island Progressive Coalition, New York City Environmental Justice Alliance, New York Lawyers for the Public Interest, New York Public Interest Research Group, New York State Public Health Association, North Brooklyn Neighbors, Mothers Out Front New York, Tri-State Transportation Campaign, Sierra Club, Union of Concerned Scientists, and David O. Carpenter, Director, Institute for Health and the Environment at the University at Albany, in response to New York's Draft State Implementation Plan (SIP) for the 2008 Ozone National Ambient Air Quality Standards (NAAQS), ("Draft SIP"). The undersigned organizations represent a range of environmental, environmental justice, transportation, and health advocates.

Achieving attainment of the 2008 ozone NAAQS in the New York Metropolitan Area (NYMA), which has been in serious nonattainment and now will be reclassified as being in severe nonattainment due to the state's failure to achieve attainment by the July 2021 deadline, is critical for public health, environmental equity, and compliance with the Clean Air Act ("the Act"). Exposure to ozone remains a serious public health issue that, like exposure to other types of air pollution, falls disproportionately on New Yorkers of color.

For New York to meet its obligations under the Act, the state must take more urgent steps to reduce emissions from the transportation sector. Data make clear that nitrogen oxides (NOx) emissions from mobile sources, particularly from medium- and heavy-duty vehicles (MHDVs), are by far the greatest contributor to ozone formation in the state. The failure of the Draft SIP to consider a range of possible measures to reduce transportation emissions shows that New York is not meeting its obligations under the Act to achieve attainment as expeditiously as practicable.

As the Draft SIP demonstrates, the state has implemented numerous policies to reduce emissions of volatile organic compounds (VOCs) as well as new policies regulating stationary sources, like the NOx emissions limits from simple cycle combustion turbines, that will help make continued incremental reductions in ozone levels. But these steps will be insufficient if not accompanied by measures to significantly reduce mobile source emissions within the state. Notably, New York must reform the transportation sector to meet the greenhouse gas reduction mandates in the Climate Leadership and Community Protection Act (CLCPA) which also requires the state to prioritize the reduction of co-pollutant emissions that disproportionately impact communities of color and low-income communities. Among other relevant policies, DEC should adopt measures such as California's Advanced Clean Trucks (ACT) and Heavy-Duty Omnibus (HDO) rules, as well as implement Indirect Source Rules to better regulate air pollution from MHDVs serving warehouses, distribution centers, and ports. These policies, all of which the state has legal authority to adopt, would help achieve attainment of the 2008 ozone NAAQS (not to mention the stricter 2015 NAAQS) through substantial NOx emissions reductions from mobile sources while improving equity and helping achieve the state's CLCPA mandates as well.

I. The Draft SIP Must Reflect the Magnitude of the Public Health Crisis and Must Address Disparities in Exposure to Air Pollution

A. Exposure to Ozone Is a Serious Public Health Issue

In the wake of the COVID-19 pandemic, which was particularly deadly for people with respiratory diseases, it is even more vital that DEC protect public health by ensuring that the state come into compliance with the 2008 standard, as well as the stricter 2015 standard, as soon as possible. Residents of the NYMA currently experience the highest ozone concentrations in the U.S. outside of California,[1] which is notorious for its poor air quality. In all, over 8.2 million New Yorkers live in counties that received an "F" in the American Lung Association's 2021 *State of the Air* report for high ozone days—including more than half of all New Yorkers and

[1] *See 8-Hour Ozone (2008) Designated Area Design Values,* EPA, https://www3.epa.gov/airquality/greenbook/hdtc.html (last updated June 30, 2021).

nearly two-thirds of all New Yorkers of color—with a million more that live in counties that received a "D."[2]

DEC attempts to paint a rosy picture about declining ozone concentrations, but the Ozone Transport Commission (OTC)—which includes New York State—is less sanguine about this region's air quality. Recent modeling demonstrates that, in New York and throughout the region, improvements in air quality have "stalled," ozone levels remain "persistently high," and areas like the NYMA have experienced "unusually high" spikes in ozone concentrations in recent years.[3] The OTC, in a recent letter to the U.S. Environmental Protection Agency (EPA), admits that the region has "lost forward momentum after three decades of improving air quality."[4] In fact, the monitoring data that DEC relies on to downplay the state's ozone problem actually show that design values have flattened or gotten worse at several sites in the NYMA between 2015 and 2020.[5]

Failure to come into compliance with the 2008 ozone NAAQS has widespread public health and economic consequences. Recent research confirms that exposure to ozone is harmful to human health, even at low levels. Emerging evidence indicates that short-term and long-term exposures to ozone are linked to increased mortality from respiratory and cardiovascular diseases.[6] High ozone days are linked to increased school absenteeism, emergency room visits, and hospital admissions.[7] Ozone concentrations increase the risk of premature death in sensitive populations such as the elderly, even at levels below the current NAAQS.[8] In fact, significant adverse health outcomes can result from ozone levels well below current standards, at levels closer to background,[9] with no known threshold for adverse health effects.[10]

The relationship between ozone exposure and asthma is of particular concern in New York State. The New York State Department of Health has found that asthma "remains an

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[2] *See* Am. Lung Ass'n, *State of the Air 2021* 111–12 (2021), https://www.lung.org/getmedia/17c6cb6c-8a38-42a7-a3b0-6744011da370/sota-2021.pdf.

[3] Letter from Shawn M. Garvin, OTC Chair, Del. Dep't of Nat. Res. & Env't Control & Emily Boedecker, MANE-VU Chair, Vt. Dep't. of Env't Conservation, to Andrew Wheeler, Adm'r, EPA 3, 7 (Feb. 20, 2020) ("OTC Comments on EPA ANPR") (on file with Ozone Transport Commission), https://otcair.org/upload/Documents/Correspondence/OTC-MANEVU%20CTI%20ANPR%20comments%20202002 20%20final.pdf.

[4] Letter from Shawn Garvin, OTC Chair, Del. Dep't of Nat. Res. & Env't Control to Andrew Wheeler, Adm'r, EPA 1 (Aug. 28, 2019), https://otcair.org/upload/Documents/Correspondence/EPA%20NOx%20Letter.pdf.

[5] *See* EPA, *2020 Design Values Report* tbl.6 (May 11, 2021) ("O3 2020 Design Values Report"), https://www.epa.gov/sites/production/files/2021-05/o3_designvalues_2018_2020_final_05_11_21.xlsx.

[6] *See* Junfeng Zhang et al., *Ozone Pollution: A Major Health Hazard Worldwide*, 10 Frontiers in Immunology 1, 1 (2019), https://www.ncbi nlm nih.gov/pmc/articles/PMC6834528/pdf/fimmu-10-02518.pdf.

[7] *See* EPA, Fact Sheet: Final Revisions to the National Ambient Air Quality Standards for Ozone, https://www.epa.gov/sites/production/files/2015-08/documents/ozone_fact_sheet.pdf (2015).

[8] *See* OTC Comments on EPA ANPR at 2.

[9] *See* Ozone Transp. Comm'n, *Analysis of the Potential Health Impacts of Reducing Ozone Levels in the OTR Using BenMAP – 2020 Edition* 1 (2020) ("OTC 2020 Health Impact Study"), https://otcair.org/upload/Documents/Reports/OTC%20BenMAP%20Rollback%20Analysis-Data%20to%202019_20200916%20final.pdf..

[10] *See id.* at i.

epidemic" in the state, imposing "significant public health and financial consequences."[11] The Asthma and Allergy Foundation of America, in its annual ranking of "Asthma Capitals," places five cities in New York State among the 50 worst cities in the country in terms of asthma prevalence, asthma emergency department visits, and asthma-related deaths.[12] Air pollutants are known to increase asthma incidences and make symptoms worse. Ozone exposure impairs respiratory function in healthy and asthmatic adults,[13] while children and other vulnerable populations are at increased risk of suffering adverse health effects.[14] Ozone has been identified as a potential cause of new asthma cases and is known to exacerbate asthma symptoms for adults and children.[15]

Put simply, "[e]very year that the [region] is not in attainment of the NAAQS, . . . residents of the region face increased risk of premature death and decreased quality of life due to the health effects of ozone."[16] Data from New York City confirm these findings. Within New York City, exposures to current ozone concentrations during the ozone season leads to 400 premature deaths, 870 asthma hospitalizations, and 4,700 asthma emergency department visits each year.[17] Exposure to ozone accounts for roughly 10% of all asthma emergency department visits citywide.[18] A disproportionate share of these impacts are borne by children and the elderly. For example, nearly 85% of ozone-attributable mortality falls on seniors over the age of 65.[19]

DEC has long acknowledged the "severity of New York State's air quality problems" and the widespread health impacts related to elevated ozone concentrations.[20] As recently as 2019, DEC noted that exposure to ozone can "promote respiratory illness in children and the elderly, … exacerbate pre-existing respiratory illnesses[,] . . . [and] impair lung function in otherwise healthy people."[21] DEC has also acknowledged the "significant hospitalization costs and mortality rates" caused by New York's elevated ozone levels, with both of those indicators exceeding national averages.[22] Yet despite these acknowledgements, the Draft SIP fails to provide for sufficient improvements in the state's air quality.

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[11] N.Y. Dep't of Health, *New York State Asthma Surveillance Summary Report* 16 (2013) ("DOH Asthma Surveillance Report"), https://www.health.ny.gov/statistics/ny_asthma/pdf/2013_asthma_surveillance_summary_report.pdf.
[12] *See* Asthma & Allergy Found. of Am., *Asthma Capitals 2021* 7–9 (2021), https://www.aafa.org/media/3040/aafa-2021-asthma-capitals-report.pdf.
[13] *See* Michael Guarnieri & John R. Balmes, *Outdoor Air Pollution and Asthma*, 383 Lancet 1581, 1584 (2014), *manuscript available at* https://www ncbi nlm nih.gov/pmc/articles/PMC4465283/.
[14] *See* Zhang et al., *supra* note 6, at 5.
[15] Guarnieri & Balmes, *supra* note 13, at 1585.
[16] OTC 2020 Health Impact Study at 23.
[17] *See* N.Y.C. Dep't of Health & Mental Hygiene, *Air Pollution and the Health of New Yorkers: The Impact of Fine Particles and Ozone* 25 tbl.6 (2011) ("NYCDOHMH Air Quality Report"), https://www1.nyc.gov/assets/doh/downloads/pdf/eode/eode-air-quality-impact.pdf.
[18] *See id.*
[19] *See id.* at 25–33.
[20] Greenhouse Gas (GHG) and Zero Emission Vehicle (ZEV) Vehicle Emission Standards, XXXVII N.Y. Reg. (proposed July 08, 2015).
[21] Low Emission Vehicle Greenhouse Gas Standards, XLI N.Y. Reg. (proposed Jan. 09, 2019).
[22] *Id.*

Efforts to improve New York's air quality would save hundreds of lives each year and avoid countless hospital visits, asthma attacks, and other adverse health outcomes.[23] In New York City, a modest—and achievable—10% reduction in ozone levels could prevent 80 premature deaths, and avoid 180 hospital admissions and 970 emergency department visits.[24] By one calculation, achieving compliance with the 2015 ozone NAAQS could generate more than $3B in economic benefits per year in New York State alone.[25] Public health demands that New York State develop a strong, muscular plan that creates a mandatory and enforceable path to clean air for all New Yorkers.

B. Ozone Exposures Disproportionately Burden Communities of Color and Low-Income Communities

Addressing New York State's chronic and severe air quality issues would benefit all New Yorkers and could help ameliorate the state's pronounced disparities in air pollution exposures. Currently, communities of color and low-income communities in New York breathe dirtier air than white and affluent New Yorkers, and health outcomes reflect this disparity. For instance, Black and Hispanic New Yorkers are 7 and 4 times more likely, respectively, to visit the emergency department for asthma than white New Yorkers, and 3–4 times more likely to die from asthma.[26]

Numerous studies document the inequitable patterns of air pollution and exposures that contribute to these divergent health outcomes. Statistical analysis has found that Black individuals in the United States are "much more likely" to live in counties with the worst ozone pollution and overall air quality.[27] This disparity has remained stable despite overall reductions in air pollution as a result of federal and state compliance with the Clean Air Act.[28] For example, between 2000 and 2010, levels of nitrogen dioxide (NO_2)—which is often used as an indicator for NOx—decreased, but relative disparities in exposure between white and non-white populations persisted or even increased.[29] People of color remained 2.5 times more likely than white people to live in communities where NO_2 levels exceed World Health Organization guidelines, leading to potentially thousands of additional deaths.[30]

Regional ozone concentrations exhibit similar racial disparities. As described above, nearly two-thirds of New Yorkers of color live in counties that received an "F" from the

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[23] *See* OTC 2020 Health Impact Study at 21, 24 fig.24.
[24] *See* NYCDOHMH Air Quality Report at 25 tbl.6.
[25] *See* OTC 2020 Health Impact Study at 21–23.
[26] *See* DOH Asthma Surveillance Report at 18, 20.
[27] Marie Lynn Miranda et al., *Making the Environmental Justice Grade: The Relative Burden of Air Pollution Exposure in the United States*, 8 Int'l J. Envtl. Res. & Pub. Health 1755, 1764–68 (2011), https://www ncbi.nlm.nih.gov/pmc/articles/PMC3137995/.
[28] *See* Jonathan Colmer et al., *Disparities in $PM_{2.5}$ Air Pollution in the United States*, 369 Science 575, 576, 578 (2020).
[29] *See* Lara P. Clark et al., *Changes in Transportation-Related Air Pollution Exposures by Race-Ethnicity and Socioeconomic Status: Outdoor Nitrogen Dioxide in the United States in 2000 and 2010*, 125 Envtl. Health Perspectives 097012-1, 097012-8 (2017), https://ehp niehs.nih.gov/doi/pdf/10.1289/EHP959.
[30] *See id.*

American Lung Association for high ozone days.[31] In New York City, ozone-attributable asthma hospitalization rates and emergency department visits vary based on a neighborhood's relative poverty rate, with ozone-attributable asthma hospitalization rates 4 times higher in high-poverty neighborhoods compared to low-poverty neighborhoods.[32]

This evidence points to a broad collective failure to address the sources of pollution that most directly impact New York State's environmental justice communities. In New York City, researchers point to the need to address important local pollution sources like motor vehicle exhaust, buildings, and aging power plants to "reduce the toll from air pollution."[33] Researchers who quantified the change in emissions from the COVID-19 lockdowns found that even a roughly 50% drop in passenger vehicle emissions was insufficient in fully alleviating the unequal impact of air pollution on communities of color, and point to the need for "profound changes" to address these disparities, including traffic rerouting, low-emissions zones, and aggressive electrification of cars, trucks, and buses.[34]

C. Climate Change Will Make Ozone Pollution Worse

As New York State develops a plan to attain the 2008 ozone NAAQS, as well as the stricter 2015 NAAQS, it is important to recognize the impact climate change will have on ozone pollution. By enhancing atmospheric conditions that promote ozone formation, scientists have concluded that climate change "has been and will continue to increase ozone concentrations."[35] Across the U.S., models predict that this will cause more exceedances of existing ozone air quality standards. Moreover, as the climate changes, it is expected that the peak ozone season will be prolonged,[36] leading to more high ozone days and additional public health impacts.

D. Transportation Sector Emissions Contribute Significantly to the Public Health Burden of Ozone

New research highlights that the transportation sector is a major contributor to the global and local public health burdens of ozone. A recent study from the International Council on Clean Transportation quantified the "transportation-attributable factor," (TAF) of air pollution, which measures the proportion of overall air pollution impacts that can be linked to transportation emissions from on-road, non-road, and shipping. The U.S., and the New York City area in particular, were identified as areas with high TAFs for particulate matter and ozone.[37] The study

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[31] *See supra* note 2 and accompanying text.
[32] *See* NYCDOHMH Air Quality Report at 30 figs.24 & 25.
[33] *Id.* at 36.
[34] Gaige H. Kerr et al., *COVID-19 Pandemic Reveals Persistent Disparities in Nitrogen Dioxide Pollution*, Earth & Space Sci. Open Archive (forthcoming 2021) (manuscript at 2), https://www.essoar.org/pdfjs/10.1002/essoar.10504561.3.
[35] Zhang et al., *supra* note 6, at 1.
[36] *See id.* at 3.
[37] *See* Int'l Council on Clean Transp., *A Global Snapshot of the Air Pollution-Related Health Impacts of Transportation Sector Emissions in 2010 and 2015* at 12 (2019), https://theicct.org/sites/default/files/publications/Global_health_impacts_transport_emissions_2010-2015_20190226.pdf. This study calculated approximately 1,430 transportation-attributable deaths in New York City from ozone and particulate matter, accounting for roughly 25% of all air pollution-related deaths. *See id.* at 19 tbl.4,

found that the transportation sector is a "major contributor to the air pollution disease burden globally" and recommended that strategies to reduce transportation emissions be included as a "central element" of air pollution plans.[38]

Within the subset of transportation-attributable health impacts, the same study found the "dominant contribution" was linked to diesel-powered vehicles and engines including trucks and non-road vehicles.[39] Moreover, adopting emission standards and other transportation sector-specific policies led to a meaningful reduction in TAFs from 2010 to 2015.[40] This finding underscores the need for DEC and other air agencies to enhance emission standards, improve compliance and enforcement practices with respect to existing standards, and accelerate fleet turnover of dirty vehicles, especially in urban areas and other concentrated centers of vehicle activity.[41]

A separate analysis by researchers from the University of North Carolina and the Harvard T.H. Chan School of Public Health quantified the public health and economic impact of vehicle emissions by vehicle class, source region, and emissions precursor, looking at the Northeastern U.S. in particular. This analysis found that vehicle emissions from New York State cause over 400 ozone-attributable premature mortalities per year, totaling over $4.2B in economic damages spread throughout the region but concentrated in New York, New Jersey, and Connecticut.[42] Among ozone precursors, the study found that NOx emissions were responsible for 75–80% of the total ozone-attributable impact across vehicle sectors.[43] Based on these findings, the study's authors point to the need to electrify highly polluting vehicle sectors like transit bus fleets that operate in dense urban areas.[44]

II. Significant NOx Emissions Reductions, Especially from Trucks and Buses, Will be Needed to Meet the Ozone NAAQS

A. NOx Is the Main Driver of Elevated Ozone Concentrations Throughout the Northeast

The Draft SIP does not sufficiently address NOx emissions, which are the "major drivers" of ground-level ozone concentrations across the Northeast.[45] The OTC has identified NOx as the "most significant contributor to high ozone" in the region, and characterizes the

38 tbl.A2 (estimating 22,000 transportation-attributable deaths in the U.S. as a whole in 2015, and noting that New York City accounted for 6.5% of those deaths).
[38] *Id.* at iii.
[39] *Id.* at 29.
[40] *See id.* at 12.
[41] *See id.* at 29–30.
[42] *See* Calvin A. Arter et al., *Mortality-Based Damages Per Ton Due to the On-Road Mobile Sector in the Northeastern and Mid-Atlantic U.S. by Region, Vehicle Class and Precursor*, 16 Envtl. Res. Letters, *Supplementary Data* at 35–37 tbls.S21–S25, 41–43 tbls.S29–S33 (2021), https://iopscience.iop.org/article/10.1088/1748-9326/abf60b.
[43] *See id.* at 44 tbl.S34.
[44] *See* Press Release, Univ. N.C. at Chapel Hill, New Study Identifies Leading Source of Health Damages from Vehicle Pollution in 12 States and Washington, D.C. (June 8, 2021), https://ie.unc.edu/2021/06/08/new-study-identifies-leading-source-of-health-damages-from-vehicle-pollution-in-12-states-and-washington-d-c/.
[45] OTC Comments on EPA ANPR at 1.

science on this issue as "[v]ery strong."[46] An extensive body of research shows that "regional reductions of [NOx] emissions are highly effective at lowering peak ozone concentrations across the eastern U.S."[47] The OTC has pointed to evidence that ozone levels have "steeply dropped" following the implementation of NOx emission reduction programs, including mobile source regulations.[48] Given the persistence of elevated ozone levels in New York and across the region, the OTC has stated that "deep additional reductions are needed in order for states to meet the [NAAQS]."[49]

B. Mobile Sources, and MHDVs in Particular, Are the Most Significant Contributors to NOx Emissions and High Ozone Levels in New York State and Throughout the Region

Generally, mobile source NOx emissions contribute more to ambient ozone concentrations than other precursors, with on-road light duty, on-road heavy-duty, and non-road diesel sectors all contributing significantly to modeled ozone in 2025 in large swaths of the U.S.[50] DEC has previously acknowledged the "increasing difficulty of achieving additional" NOx and other ozone precursor emissions reductions, signaling the urgent need to address the MHDV sector, which its current plan all but ignores.[51] Using the "best inventory available," OTC data show that mobile sources are "now the number one contributor to high ozone levels" in the region.[52] In the NYMA specifically, recent contribution modeling projects that mobile sources will account for over 70% of high ozone levels in 2023—a higher percentage than any other nonattainment area in the region.[53]

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[46] Tad Aburn, OTC Mobile Sources Comm., *OTC/MANE-VU Stakeholder Webinar* at slide 4 https://otcair.org/upload/Documents/Meeting%20Materials/OTC-MANEVU%20MSC_Stakeholder_Presentation%20Final%2020200330.pdf (last updated Mar. 30 2020).

[47] Letter from Terrence Gray, Chair, OTC to Andrew Wheeler, Adm'r, EPA at 2 (June 5, 2020) ("OTC Section 184 Recommendation"), https://otcair.org/upload/Documents/Formal%20Actions/20200605%20OTC%20184c%20Recommendation%20to%20EPA%20w%20attachments%20and%20cvr%20lttr-final.pdf.

[48] *Id*.

[49] Mobile Sources Cmte., Ozone Transp. Comm'n, *Annual Report 2020* at 3 (2020) ("OTC Mobile Source Committee 2020 Annual Report"), https://otcair.org/upload/Documents/Reports/OTC_MSC_Annual_Report_2020.pdf.

[50] *See* Margaret Zawacki et al., *Mobile Source Contributions to Ambient Ozone and Particulate Matter in 2025*, 188 Atmospheric Envt. 129, 129, 133, 136 fig.5 (2018), https://www ncbi nlm nih.gov/pmc/articles/PMC4465283/.

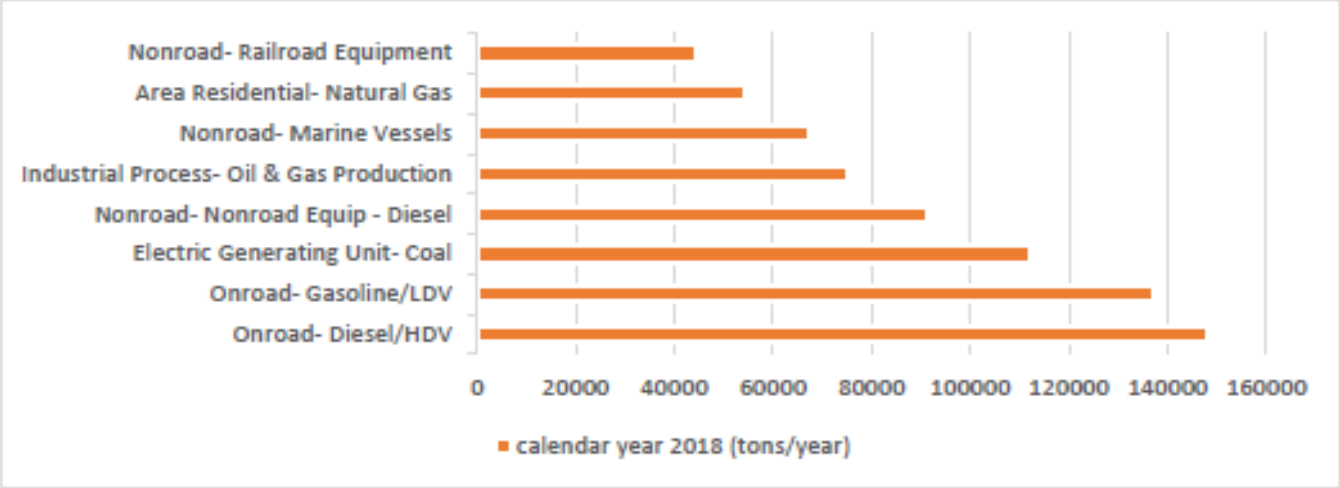
[51] DEC, *Proposed New York State Implementation Plan Revision: Transport Supplement for the 2008 Ozone National Ambient Air Quality Standards* at 1 (2018) ("DEC Proposed 2018 Transport Supplement"), https://www.dec ny.gov/docs/air_pdf/sipprop2008o3trans.pdf.

[52] OTC Mobile Source Committee 2020 Annual Report at 2.

[53] *See id.* at 2 tbl.2.

Projecting out to 2025, a national analysis by EPA found that the contributions from heavy-duty diesel-powered vehicles exceed those of passenger vehicles and other mobile source sectors.[54] The OTC has similarly identified diesel-powered heavy-duty vehicles as the major regional source of NOx emissions and the primary target for emissions reductions needed to bring states into compliance with the NAAQS. Emissions from on-road diesel vehicles, the "lion's share of which is emitted by [heavy-duty vehicles]" are the largest source of NOx emissions in the region, with on-road gasoline vehicles and non-road diesel vehicles ranking second and fourth, respectively.[55] The OTC-wide breakdown for the 2018 calendar year is found in figure 1, below.

Fig. 1 – Top 8 NOx Emitting Sectors in the OTC in 2018



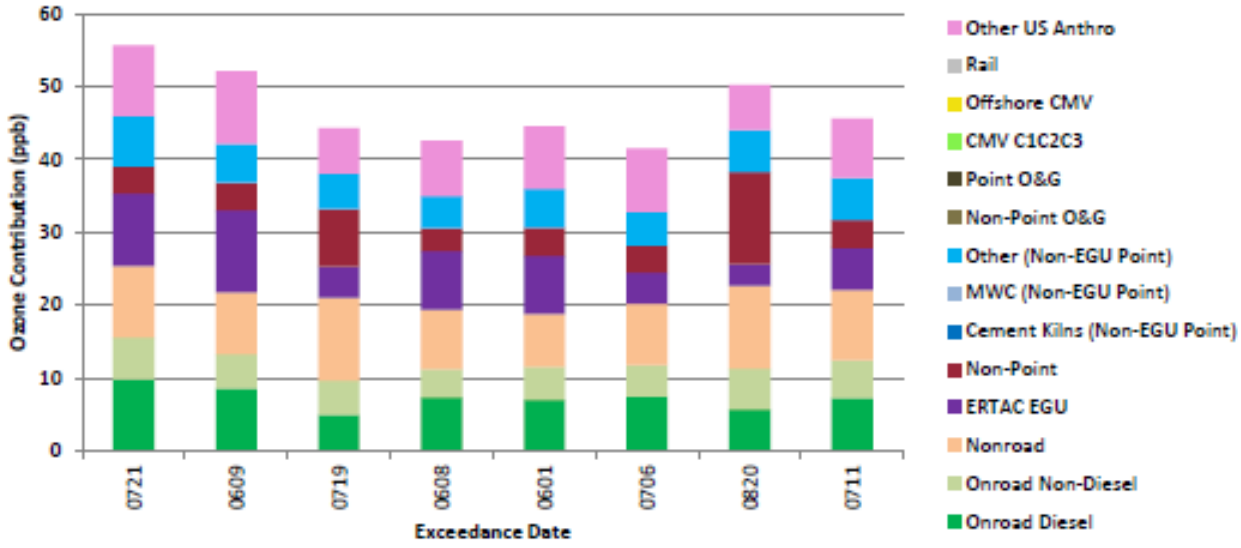
C. Reducing NOx Emissions from Trucks and Buses Is Critical to Meeting the Ozone NAAQS in the NYMA

The OTC has prioritized efforts to reduce heavy-duty vehicle emissions, characterizing these efforts as being "of the utmost importance."[56] Conservatively, highway trucks account for 20% of regional NOx emissions, according to an OTC analysis.[57] And there is reason to believe that current models understate these emissions, based on discrepancies between modeled estimates and real-world performance.[58]

[54] *See* Zawacki et al., *supra* note 50, at 133, 136 fig.5.
[55] OTC Comments on EPA ANPR at 4.
[56] *Id*.
[57] *See id.*
[58] *See id.* at 4.

To measure the impact of heavy-duty vehicle NOx emissions on regional compliance with the ozone NAAQS, the OTC models the contribution of various categories of emissions on 8-hour maximum ozone concentrations at regulatory monitors across the region. The Susan Wagner High School monitor, on Staten Island, has had numerous exceedances of the 2008 and 2015 ozone NAAQS, with design values exceeding the 2008 ozone standard in 5 of the previous 7 years for which design values were reported.[59] Figure 2 below shows the OTC's contribution analysis for this monitor, with unique columns for each projected exceedance of the 2015 ozone NAAQS in 2023, broken up by ozone precursor source category.[60]

Fig. 2 – Contribution to Ozone Exceedance Days in 2023 at the Susan Wagner, NY Monitoring Site, by Sector



This data pinpoints the on-road diesel category (i.e., MHDVs) as the second largest contributor to total ozone concentrations, accounting for an average of 7.34 ppb or nearly 10% of the 2008 ozone standard, and a maximum of nearly 10 ppb.[61] Notably, the only other sector with a higher contribution to ozone exceedances at the monitor was non-road vehicles,[62] another transportation category and a major source of diesel emissions. An analysis for the Babylon, NY monitor on Long Island tells a similar story.[63] On-road diesel emissions contribute an excess of 10 ppb and 16% of ozone concentrations at monitors throughout the region, consistently

[59] *See* O3 2020 Design Values Report at tbl.6.
[60] *See* Ozone Transp. Comm'n, *Ozone Transport Commission/Mid-Atlantic Northeastern Visibility Union 2011 Based Modeling Platform Support Document* 13-142 (2018) ("OTC 2018 Modeling TSD"), https://otcair.org/upload/Documents/Reports/OTC%20MANE-VU%202011%20Based%20Modeling%20Platform%20Support%20Document%20October%202018%20-%20Final.pdf.
[61] *See* OTC Comments on EPA ANPR at 4–5.
[62] *See id.* at 5 fig.3.
[63] *See* OTC 2018 Modeling TSD at 13-143.

projecting to be the second or third largest contributing sector at sites from Virginia to Rhode Island.[64]

Though NOx emissions from ground-level sources such as those in the transportation sector are a major influence on local ozone levels, they can also mix upward into higher altitudes and contribute to downwind ozone concentrations.[65] In this way, MHDV emissions in New York State contribute to the NYMA's continued nonattainment, even if the highest design value is measured outside of the state. At the Westport, CT monitor—which has had the highest design value in the NYMA for most of the past several years—New York State contributed 22.5% to the monitored design value of 83 ppb in 2016, exceeding Connecticut's contribution by a factor of four.[66] Even if Connecticut eliminated its entire contribution, the monitor would still exceed the 2008 ozone NAAQS.[67] All states in the region, including New York State, will need to reduce their contribution to ozone in Connecticut by at least 14% to meet the 2008 ozone NAAQS, and by at least 23% to meet the 2015 NAAQS.[68]

DEC acknowledges that emissions from New York State have been identified as a "significant contributor for the 2008 ozone NAAQS to multiple downwind nonattainment and maintenance sites in the region."[69] The state has provided additional contribution data, with modified modeling inputs, that "confirm significant contributions to downwind monitors."[70] On-road diesel sources account for a sizeable portion of these impacts.[71] By DEC's own admission, New York State's on-road mobile source sector "significantly impact[s] downwind monitors."[72] For example, projections for 2023 demonstrate that on-road mobile sources in New York contribute over 4.6 ppb to ozone exceedances at the Greenwich, CT monitor, which is currently the controlling monitor for the NYMA with a design value of 82 ppb, accounting for over 20% of New York State's total contribution to the monitor and nearly 7% of the total projected design value.[73] Consistent with the discussion above, DEC itself notes that on-road diesel emissions account for a majority of the modeled impact on the Greenwich monitor from the on-road mobile source sector.[74]

Given the magnitude of NOx emissions from MHDVs and other diesel sources on New York and NYMA monitors, any effort to attain the NAAQS must prioritize these critical sources. The Draft SIP fails to provide such measures. While these figures provide an estimation of the *current* impact of MHDV emissions on ozone concentrations, it is important to recognize that

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[64] *See* OTC Comments on EPA ANPR at 5 tbl.2.
[65] *See id.* at 7–8.
[66] *See* Conn. Dep't of Energy & Env't Prot., *8-Hour Ozone Attainment Demonstration for the Connecticut Portion of the New York-Northern New Jersey-Long Island (NY-NJ-CT) Nonattainment Area Technical Support Document* 103 fig.9-2 (2017) ("CT 2017 Attainment Demonstration"), https://portal.ct.gov/-/media/DEEP/air/ozone/ozoneplanningefforts/SouthwestConnecticutAttainmentSIPFINALpdf.pdf .
[67] *Id.*
[68] *Id.* at 108–09 tbls. 9-8 to 9-9.
[69] DEC Proposed 2018 Transport Supplement at 2.
[70] *Id.*
[71] *See id.* at app. C.
[72] *Id.* at 3.
[73] *See* DEC Proposed 2018 Transport Supplement at 3; O3 2020 Design Values Report at tbl.6.
[74] *See* DEC Proposed 2018 Transport Supplement at 3.

changes in consumer patterns are projected to increase truck trips and vehicle miles traveled over the next 25–30 years. The New York Metropolitan Transportation Council notes that the region is "highly dependent on trucks for the movement of the vast majority of freight" and forecasts a 67% increase in truck volumes through 2045.[75] A separate analysis from earlier this year projects the population of MHDVs in New York State to balloon by over 40% through 2050.[76] The largest trucks, those in the 6-8b weight classes, will grow at the fastest rate, swelling by nearly 70% over the next three decades.[77] These trends will lead to "significantly increased" NOx emissions from MHDVs, even assuming some fleet turnover and adoption of newer technology.[78] Such growth is certainly going to impact the NYMA's ability to attain the ozone NAAQS and should prompt DEC to intensify its efforts to control these emissions as part of its SIP.

For these reasons, the OTC has adopted a resolution to "accelerate widespread adoption of zero emission [MHDVs] as a regional air quality strategy."[79] State efforts to promote transportation electrification will be critical to meeting the NAAQS, improve public health, address environmental injustices, and achieve climate targets. Crucially, the OTC identified the necessity of state policies to promote electrification of MHDVs even if the EPA adopts national regulations to limit MHDV emissions.[80]

III. DEC Fails to Consider Additional Available Policies to Limit NOx Emissions from Mobile Sources in the Draft SIP, in Violation of the Clean Air Act

The Clean Air Act requires that state implementation plans "shall provide for attainment" of the NAAQS.[81] The Act requires that states consider "Reasonably Available Control Measures" (RACM) and adopt those measures that can be feasibly implemented, and that would advance the date of attainment "as expeditiously as practicable."[82] Here, DEC fails to consider a range of potential RACM related to transportation or give any justification as to why measures proposed by the OTC or adopted by other states would not be effective or could not be implemented. The Draft SIP's conclusory approach to RACM and failure to include more comprehensive policies to reduce NOx emissions from the transportation sector are inadequate to meet the state's obligations under the Act.

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

[76] *See* Int'l Council on Clean Transp., Working Paper 2021-23, *Benefits of Adopting California Medium- and Heavy-Duty Vehicle Regulations in New York State* at 9, 13 (2021) ("NYS ACT and HDO Analysis"), https://theicct.org/sites/default/files/publications/nys-hdv-regulation-benefits-may2021.pdf.

[77] *See id.* at 9.

[78] OTC Comments on EPA ANPR at 5.

[79] Ozone Transp. Comm'n, *Statement of the Ozone Transport Commission Regarding the Need to Accelerate Electrification of Medium- and Heavy-Duty Vehicles* (adopted June 2, 2020) ("OTC MHDV Electrification Statement"), https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Statement%20on%20MHD%20ZEVs_20200602.pdf.

[80] *See id.*

[81] 42 U.S.C. § 7502(c)(1).

[82] *Id.*

A. The Draft SIP Fails to Consider All Reasonably Available Control Measures

DEC's failure to consider a range of potential RACM in the Draft SIP violates the Clean Air Act. Section 172(c)(1) of the Act requires that states implement "*all* reasonably available control measures as expeditiously as practicable."[83] In guidance issued dating back to 1992, EPA articulated its interpretation that the RACM requirement imposes a duty on states, as part of an attainment demonstration, to "consider all available control measures" and to implement those measures that are found to be "reasonably available for implementation."[84] Because attainment must be achieved "as expeditiously as practicable," states must adopt any measures that could, alone or cumulatively, advance the attainment date by one year.[85]

As part of a RACM analysis, states have an obligation to—at a minimum—address those transportation control measures identified in section 108(f) of the Clean Air Act with an "area-specific" analysis reflecting local conditions.[86] EPA states that this list "should not be viewed as exhaustive."[87] States are also required to "closely review[]" any measure raised during a public comment period.[88] The universe of potential RACM includes measures adopted in other states, and measures identified in EPA guidelines or other documents, in addition to the section 108(f) measures.[89]

States bear the burden of proving why they did not adopt potential RACM. EPA has stated that the RACM analysis in an attainment demonstration must contain "sufficient information" for EPA to determine whether the section 172(c)(1) standard is met.[90] This means states must "provide a justification as to why measures within the arena of potentially reasonable measures have not been adopted[,]" based on technological or economic grounds.[91]

DEC has not met its burden of showing why potential RACM were not adopted on technological or economic grounds. DEC offers no justification in its Draft SIP for why potential RACM were not adopted, merely stating: "DEC confirms that RACM has been met in the NYMA and that no additional measures could be adopted that would advance the attainment date."[92] DEC does not list potential RACM it considered, let alone explain why it declined to

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[83] *Id.* (emphasis added).
[84] General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 13,498, 13,560 (proposed Apr. 16, 1992) ("General Preamble").
[85] Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, 78 Fed. Reg. 34,178, 34,194 (proposed June 6, 2013) (to be codified at 40 C.F.R. pts. 50, 51, 70, 71) ("2013 SIP Requirements Proposed Rule") (citing General Preamble at 13,560).
[86] General Preamble at 13,560.
[87] *Id.*
[88] *Id.*
[89] *See* Memorandum from John S. Seitz, Off. of Air Quality Plan. & Standards Dir., EPA, to the Reg'l Air Div. Dirs. 2 (Nov. 30, 1999) ("1999 RACM Guidance"), https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19991130_seitz_racm_guide_ozone.pdf .
[90] *Id.*
[91] *Id.*; *see also* 2013 SIP Requirements Proposed Rule at 34,194 ("The determination of whether a SIP contains all RACM requires an area-specific analysis that there are no additional economically and technologically feasible control measures (alone or cumulatively) that will advance the attainment date." (citations omitted)).
[92] DEC, *New York State Implementation Plan for the 2008 Ozone National Ambient Air Quality Standards: New York-N. New Jersey-Long Island, NY-NJ-CT Serious Nonattainment Area* § 8 p. 1 (draft June 2021) ("DEC Proposed Attainment Demonstration").

adopt them. DEC thus falls far short of meeting its obligations under the Act to justify its decision to decline to adopt potential reasonably available control measures.

1. The Draft SIP Ignores Section 108(f) Transportation Control Measures in Violation of the Clean Air Act

As mentioned above, the Act imposes a duty on states to address section 108(f) transportation control measures (TCMs) as part of a RACM analysis accompanying an attainment demonstration. The measures set forth in section 108(f) include a range of policies related to public transit, vehicle idling, and traffic demand management. Several of these policies should warrant careful consideration as strategies that could limit NOx and VOC emissions in the NYMA. Yet DEC in the Draft SIP fails to analyze or implement these potential strategies, contrary to EPA's explicit guidance regarding RACM.

The Draft SIP makes no mention of section 108(f) TCMs.[93] By contrast, Connecticut's August 2017 SIP revision for their portion of the NYMA Nonattainment Area evaluates the emission reduction potential of a range of TCMs, including projects funded through the Federal Highway Administration's Congestion Mitigation and Air Quality Program. Connecticut's SIP provides a mobile source-specific RACM analysis that considers a range of measures related to public transit, traffic flow improvements, demand management, alternative vehicles, and other potential TCMs, and includes quantification of the emission benefit from those projects.[94] The South Coast Air Quality Management District (SCAQMD), in its RACM analysis, goes even further, by going through all 16 categories of measures identified in section 108(f), plus an "other" category, and identifies 142 candidate TCMs and, if the measure has not been implemented, provides a justification for why it should not be included in its plan.[95] It also identifies 24 TCMs adopted statewide, and 166 TCMs adopted in Los Angeles, Orange, Riverside, and San Bernardino Counties—which based on their analysis are expected to return $2 in net benefits for every $1 invested.[96]

DEC must revise its plan to evaluate whether any TCMs, individually or bundled together, would advance the attainment date in the NYMA. While all TCMs must be considered, two warrant careful consideration as part of a revised RACM analysis: 1) "programs to control extended idling . . . .", and 2) programs to facilitate mass transit and minimize the use of single-occupancy vehicles.[97] Such TCMs are likely to make sense for the NYMA and are similar to programs implemented in neighboring states. DEC must provide a detailed analysis and justification for why such measures are not included in its proposed SIP. At a minimum, such an analysis should be detailed enough to allow for a determination as to whether any set of TCMs

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[93] *See id.*
[94] *See* CT 2017 Attainment Demonstration at 82–83 tbl.6-2.
[95] *See* S. Coast Air Quality Mgmt. Dist., *Appendix IV-C: Regional Transportation Strategy and Control Measures*, IV-C-23–IV-C-31, IV-C-51–IV-C-108 (2017) ("SCAQMD Transportation Strategy"), http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iv-c.pdf?sfvrsn=4.
[96] *See id.* at IV-C-19, IV-C-29 tbl.6, IV-C-75 to IV-C-108.
[97] 42 U.S.C. § 7408(f)(1)(A).

must be implemented as RACM, including quantification of potential emission benefits and discussion of area-specific considerations regarding technological or economic viability.[98]

Finally, EPA guidance makes clear that the section 108(f) TCMs are meant to be illustrative of potential TCMs and are not designed to be exhaustive.[99] DEC bears the burden of identifying other potential TCMs—other than those listed in section 108(f)—that might accelerate attainment of the ozone NAAQS.

2. DEC's RACM Analysis Omits Consideration of Measures Implemented in Other Nonattainment Areas

Contrary to EPA guidance, DEC's RACM analysis makes no mention of measures adopted in other states. EPA has made clear in numerous documents that any such measures must be included in a state's RACM analysis.[100] DEC must revise its SIP to affirmatively identify and review measures adopted by other states and in other nonattainment areas within the region and throughout the country.

Had DEC conducted an adequate RACM analysis as required by the Clean Air Act and in line with EPA guidance, it would have identified and addressed measures implemented in other states and in nonattainment areas outside the NYMA. One such nonattainment area bears mentioning here. The SCAQMD finalized an air quality management plan in 2017 that identifies 15 mobile source measures that were found to be "commercially available and/or technologically feasible to implement in the next several years" and that would aid in attaining the ozone NAAQS.[101] Generally, these policies were aimed at reducing emissions from the existing vehicle stock through retrofits, replacements, and retirements, and incentivizing deployment of zero-emission or near-zero emission technologies.[102]

Included in the plan are innovative "facility-based mobile source measures" (also known as Indirect Source Rules) at ports, railyards, airports, and warehouses.[103] Such measures are intended to mitigate against expected increases in mobile source emissions related to growth in goods movement activity, which threaten to offset any potential countervailing benefit from new vehicle technologies.[104] Given the projected increase in goods movement activity in the New York City region, and the related 40% increase in truck vehicle populations described in Section II(C) above, DEC must consider, as part of a revised RACM analysis, the viability of facility-based mobile source measures for warehouse distribution centers. Section IV(B) of these comments discusses this potential measure in more detail.

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[98] *See* 1999 RACM Guidance at 2; General Preamble at 13,560–61.
[99] *See* General Preamble at 13,560.
[100] *See* 1999 RACM Guidance; 2013 SIP Requirements Proposed Rule.
[101] S. Coast Air Quality Mgmt. Dist., *Appendix IV-A: SCAQMD'S Stationary and Mobile Source Control Measures*, , IV-A-7 (2017), http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-iv-a.pdf?sfvrsn=4.
[102] *See id.*
[103] *Id.* at IV-A-9.
[104] *See id.*

Moreover, in addition to the SCAQMD's proposed mobile source measures listed above, their 2017 plan also identifies over 20 distinct control measures implemented by the California Air Resources Board (CARB) as part of the state's SIP,[105] and another 20+ TCMs implemented statewide by CARB and other agencies.[106] Taken together, these two lists—which overlap with one another to some extent—identify a handful of regulatory measures addressing on-road light-duty, on-road heavy-duty, and non-road vehicle categories that have been established as viable solutions in California. DEC must consider these as part of its RACM analysis. Two regulatory measures—the Advanced Clean Trucks Rule and the Heavy-Duty Low-NOx Omnibus Rule—would provide the largest benefit in terms of NOx reductions and are addressed further in Section IV(A) below.

Another example is a measure included in New Jersey's SIP that prohibits the idling of passenger vehicles for more than 3 minutes. It is very likely that such a rule would qualify as RACM, given that such a rule has been promulgated in a neighboring state. Moreover, New York City has adopted a similar rule, and New York State has implemented an anti-idling measure for heavy-duty vehicles. DEC should consider the emissions reduction potential and viability of a measure to restrict passenger vehicle idling statewide.

3. DEC's RACM Analysis Must Consider OTC Model Rules Addressing Mobile Source Emissions

DEC must also carefully consider OTC model rules for adoption as part of its RACM analysis. Given the OTC's role in supporting state efforts to achieve compliance with the NAAQS, model rules developed through the OTC should clearly be included in the universe of measures considered as candidate RACM. This is especially true for those addressing mobile sources, and even more urgent for non-road vehicles, which, as mentioned above, are the single largest contributor to high ozone levels at many monitors in New York State and throughout the region. In 2012, the OTC developed a model rule and guidance to address idling of non-road engines,[107] and the rule has since been adopted in some form by Connecticut, Rhode Island, and the District of Columbia.[108] There is no basis for DEC not to consider a similar rule for adoption in New York State, and given the existence of similar rules to address idling of passenger vehicles and heavy-duty vehicles in part or all of the state, it should be presumed that a nonroad idling rule would be feasible based on an area-specific analysis.

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[105] *See* S. Coast Air Quality Mgmt. Dist., *Final 2016 Air Quality Management Plan*, 4-34 to 4-41 tbls.4-5 (2017) ("SCAQMD"), http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15.

[106] *See* SCAQMD Transportation Strategy at IV-C-29 tbl.6.

[107] *See OTC Model Rule: Nonroad Diesel Equipment Anti-Idling*, Ozone Transp. Comm'n, https://otcair.org/upload/Documents/Model%20Rules/OTC_Model_Rule_Anti_Idling_Final.pdf (last updated May 24, 2012); *OTC Model Rule: Guidance for Implementation of Nonroad Idling Rule*, Ozone Transp. Comm'n, https://otcair.org/upload/Documents/Model%20Rules/OTC%20Nonroad_Idling_Policy_Guidance_Final.pdf (last updated May 24, 2012).

[108] *See Status of OTC State Efforts to Promulgate Mobile Sources Regulations Based on OTC Model Rules, Regulatory and Technical Guidelines and June 7, 2006 RACT Resolution*, Ozone Transp. Comm'n tbl.2 https://otcair.org/upload/Documents/Model%20Rules/OTC_SAS_MobileSources_Rules_Adoption_Tracking_20210218%20update.xlsx (updated Feb. 2021).

B. The Draft SIP Fails to Provide for RACM Implementation, and for Attainment of the NAAQS, "As Expeditiously as Practicable"

DEC's exceedingly thin analysis of reasonably available control measures does not honor the urgency with which Congress directed states to pursue attainment of NAAQS. Congress instructs states to act "as expeditiously as practicable" with respect to several state obligations under the Clean Air Act. First, states must achieve attainment with the NAAQS "as expeditiously as practicable, but no later than 5 years from the date such area was designated nonattainment."[109] Second, states must "provide for the implementation of all reasonably available control measures as expeditiously as practicable . . . and shall provide for attainment of the national primary ambient air quality standards."[110]

EPA's guidance documents further clarify that states must prove that they are implementing reasonably available control measures "as expeditiously as practicable." EPA states:

> In order for the EPA to determine whether an area has provided for implementation as expeditiously as practicable, the State must explain why the selected implementation schedule is the earliest schedule based on the specific circumstances of that area. Such claims cannot be general claims that more time is needed but rather *should be specifically grounded in evidence of economic or technologic infeasibility*.[111]

Again, states bear the burden of proving that the chosen implementation schedule is as expeditious as practicable.

Finally, the D.C. Circuit emphasizes that, even in the presence of a statutory deadline to attain NAAQS,[112] the directive that states must act "as expeditiously as possible" has independent meaning. "[The ozone attainment] deadline . . . functions as the ultimate failsafe. By imposing a first-order obligation to attain the NAAQS 'as expeditiously as practicable,' Congress 'made clear that the States could not procrastinate until the deadline approached. Rather, the primary standards had to be met in *less [time] if possible*.'"[113]

DEC has not met its statutory burden—clarified by both EPA and the D.C. Circuit—to act "as expeditiously as practicable" to implement RACM and attain the NAAQS. DEC has not explained that its proposed schedule is the "earliest schedule" it could have chosen, or explained it needs more time due to "economic or technologic infeasibility."[114] In addition to its unsupported assertion that "no additional [RACM] could be adopted that would advance the

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[109] 42 U.S.C. § 7502(a)(2)(A); *see also id.* § 7511(a)(1) ("For each area classified [as nonattainment], the primary standard attainment date for ozone shall be as expeditiously as practicable but not later than the date provided in table 1.").
[110] *Id.* § 7502(c)(1).
[111] 1999 RACM Guidance at 2 (emphasis added).
[112] *See* 42 U.S.C. § 7511(a)(1).
[113] *Wisconsin v. EPA*, 938 F.3d 303, 317 (D.C. Cir. 2019) (emphasis added) (quoting *Union Elec. Co. v. EPA*, 427 U.S. 246, 259–60 (1976)).
[114] 1999 RACM Guidance at 2.

attainment date,"[115] DEC says: "Even when DEC 'immediately' implements all VOC and NOx regulations that are economically and technically feasible, the NYMA is still in nonattainment, and is projected to be in nonattainment beyond the 'serious' nonattainment deadline of July 20, 2021."[116] DEC cannot relieve itself of its continued obligation to make expeditious progress toward attainment by pointing to the failure of the NYMA to sufficiently reduce ozone pollution by the current deadline. Further, DEC must recognize that even *steps* toward attainment have public health benefits, regardless of the attainment/nonattainment designation.

IV. New York Should Implement Key Rules Adopted in California to Reduce Medium- and Heavy-Duty Vehicle NOx Emissions

State plans in other ozone nonattainment areas where mobile sources are the predominant source of NOx emissions have made express commitments to prioritize transportation emissions. California's plans, in particular, provide a roadmap towards attainment of the NAAQS in the NYMA. The SCAQMD, for example, notes the outsize contribution of mobile source emissions to ozone levels and states that "mobile source controls must be a significant part of the control strategy."[117] Pointing to the fact that most other source categories are already well-controlled in California, SCAQMD's plan finds that "attainment of the ozone standards will require broad deployment of zero and near-zero NOx emission technologies," and specifically identifies electrification as a viable measure for many vehicle categories.[118] This explicit prioritization of mobile source emission reduction and transportation electrification contrasts starkly with the Draft SIP. Rather than developing a plan to address transportation sector emissions generally and the MHDV sector in particular, DEC simply asserts that New York State has "some of the most stringent control programs" for ozone precursors.[119]

Looking forward, New York should implement several important rules already adopted or proposed in California targeted to reduce MHDV NOx emissions and help achieve attainment of the 2008 Ozone NAAQS. First, California's Advanced Clean Trucks (ACT) and Heavy-Duty Omnibus (HDO) Rules together are meant to speed up the transition to electrification of MHDVs, resulting in zero tailpipe emissions, and to reduce NOx emissions from truck fleets while the transition to electrification is still in process. In addition, an Indirect Source Rule for ports and warehouse facilities would help curb emissions from the growing number of truck trips associated with e-commerce and goods movement and would target those reductions in the most overburdened communities hosting those facilities, which tend to be communities of color and lower-income communities. Upon adoption of these rules, New York should submit a revised SIP.

[115] DEC Proposed Attainment Demonstration at § 8 p. 1.
[116] *Id.* at § 6 p. 5.
[117] SCAQMD at 4-7.
[118] *Id.* at 4-8.
[119] DEC Proposed Attainment Demonstration at 3.

A. New York Should Move Forward Without Delay in Adopting California's Advanced Clean Trucks and Heavy-Duty Omnibus Rules

Given the magnitude of New York State's air quality problems and the need, repeatedly confirmed by the OTC, to address heavy-duty diesel emissions, DEC must adopt CARB's regulatory measures targeting that sector. The two measures expected to provide the largest benefit in NOx emissions and ozone concentrations are the ACT and HDO Rules, both of which address the MHDV fleet by accelerating deployment of zero-emission trucks and low-NOx heavy-duty engines. Adopting both of these rules in New York State, as permitted under Section 177 of the Act, would reduce annual NOx emissions from the state's MHDV fleet by nearly half by 2050, and would achieve double the emissions reduction compared to a "business as usual" scenario.[120] These measures are necessary to offset the projected increase in truck trips and volumes and to control emission from this high priority sector. Moreover, these policies would lead to direct emission reductions near heavily-trafficked corridors and facilities, which would improve air quality and alleviate health disparities in environmental justice communities.

Given the rapid evolution of technology across MHDV sectors and use cases, and the improving economics of electric trucks compared to combustion alternatives, there is no technological or economic justification for DEC not adopting these rules and incorporating them into its plan as soon as feasible. Data recently presented to the state's Climate Action Council show that many vehicle types can be electrified now and, with concerted policymaking support, almost all vehicle types will be suitable for electrification as the ACT rule's sales targets are phased in.[121] Recent studies support these findings and call into question previous assumptions about heavy-duty trucks being "hard to electrify." A study from the Lawrence Berkeley National Laboratory earlier this year concluded that for class 8 trucks—long considered the hardest vehicle class to electrify—electric models offer a 13% savings over diesel on a total cost of ownership basis with limited reduction in payload capacity today.[122]

Moreover, New York State has already committed to a 100% zero-emission vehicle sales target for MHDVs by 2050, with an interim 30% target by 2030, as part of the Multi-State

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[120] NYS ACT and HDO Analysis at 13.

[121] *See Meeting 8*, N.Y. Climate Action Council at slides 14–15 https://climate ny.gov/-/media/CLCPA/Files/2021-01-26-CAC-Meeting-presentation.pdf (last updated Feb. 26, 2021); *see also* Int'l ZEV All., *Moving Zero-Emission Freight Toward Commercialization* 27–31 (2020), http://www.zevalliance.org/wp-content/uploads/2020/12/Zero-Emission-Freight-Commercialization-dec2020.pdf; Gabel Assocs. Inc., *Full Market Electrification in New Jersey* 29 fig.4.4 (2020), http://www.chargevc.org/wp-content/uploads/2020/10/ChargEVC-Full-Market-Electrification-Study-FINAL-Oct-7-2020.pdf; ICF, *Comparison of Medium- and Heavy-Duty Technologies in California* 17–34 (2019), https://www.caletc.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf; Cal. Air Res. Bd., *Advanced Clean Trucks Total Cost of Ownership Discussion Document* (2019), https://ww3.arb.ca.gov/regact/2019/act2019/apph.pdf; N. Am. Council for Freight Efficiency, *Guidance Report: Electric Trucks-Where They Make Sense* 13–14 (2018), https://nacfe.org/wp-content/uploads/edd/2018/04/NACFE_CBEV_FULL_050118.pdf.

[122] Amol Phadke et al., Lawrence Berkeley Nat'l Lab., *Why Regional and Long-Haul Trucks Are Primed for Electrification Now* (2021), https://eta-publications.lbl.gov/sites/default/files/updated_5_final_ehdv_report_033121.pdf.

Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding,[123] clearly underscoring both the technological and economic viability of such measures.

DEC has already taken the preliminary steps in promulgating new regulations to adopt the ACT and HDO rules, citing NOx emissions reductions as a primary justification.[124] To maximize the emission reduction benefit of these rules, it is critical that these regulations be finalized before the end of this year, and incorporated into the SIP shortly thereafter. In addition, DEC should begin a planning process to adopt emission standards and zero-emission vehicle sales targets for other categories of vehicles regulated in California, such as drayage trucks, airport shuttles, transport refrigeration units, and port equipment.

B. New York Should Adopt an Indirect Source Rule Targeting Transportation Emissions Related to Ports, Warehouses, and Distribution Facilities

Warehouses, distribution centers, and ports pose unique risks for local health because of the associated vehicle traffic. Large trucks generally bring goods to and from the facility and provide a steady stream of traffic during operating hours. Within the fence line these facilities will use smaller vehicles like forklifts, tractors, cranes, and other heavy-duty diesel-fueled equipment. As vehicle traffic to, from, and within warehouse complexes increases, the air pollution into the nearby area necessarily increases as well. One study, by researchers at Columbia University, of truck and vehicle traffic changes after a new warehouse opened in the Bronx found a 10–40% increase in traffic depending upon the time of day.[125]

As mentioned above, the SCAQMD in California recently adopted an Indirect Source Rule (ISR) applicable to warehouses within the district. New York should consider adopting a similar rule as a measure intended to reduce NOx emissions from the many diesel trucks that are associated with warehouses and distribution centers, particularly those within the NYMA. An ISR on warehouses, ports, and distribution centers would help to achieve further emissions reductions not yet realized by current regulations.

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[123] *See* Memorandum of Understanding from Cal., Colo., Conn., D.C., Haw., Me., Md., Mass., N.J., N.Y., N.C., Or., Pa., R.I., Vt., and Wash. on Multi-State Medium- and Heavy-Duty Zero Emission Vehicle 3–4 (July 14, 2020), https://www.state.nj.us/dep/aqes/docs/mhdv-zev-mou-20200714.pdf.

[124] *See Consideration to Revise 6 NYCRR Part 218 to Incorporate California's Advanced Clean Trucks, Heavy-Duty Low NOx Omnibus, and Phase 2 Greenhouse Gas Standards*, Dep't of Env't Conservation at slides 12–13 (last updated Feb. 17, 2021) ("DEC ACT/HDO Webinar").

[125] *See* Jenni A. Shearston et al., *Opening a Large Delivery Service Warehouse in the South Bronx: Impacts on Traffic, Air Pollution, and Noise*, 17 Int'l J. Env't Res. & Pub. Health 3208 (2020).

1. New York Has Authority to Promulgate an Indirect Source Rule Under Federal and State Law

The Clean Air Act authorizes states, including New York, to adopt ISRs to regulate pollution from vehicles.[126] Such regulation is especially important for New York to consider given its serious nonattainment of the 2008 ozone NAAQS.[127]

Section 110 of the Act provides that states can include "indirect source review program[s]" in their SIPs for NAAQS attainment.[128] An "indirect source" is defined as "a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution."[129] "[I]ndirect source review program" is defined as "the facility-by-facility review of indirect sources of air pollution, including such measures as are necessary to assure, or assist in assuring, that a new or modified indirect source will not attract mobile sources of air pollution . . . ."[130] The Clean Air Act grants states discretion to adopt ISRs. More broadly, the Act recognizes that states can "adopt or enforce [] any standard or limitation respecting emissions of air pollutants" and "any requirement respecting control or abatement of air pollution" as long as these standards are not less stringent than federal requirements.[131]

At the state level, the Environmental Conservation Law gives DEC authority to promulgate ISRs without the need for new state legislation. Section 19-0105 outlines the purpose of state air pollution law, which it defines as "safeguard[ing] the air resources of the state from pollution by: (1) controlling or abating air pollution which shall exist when this article shall be enacted and (2) preventing new air pollution . . . ."[132] Section 19-0301 gives the Department the power to "[f]ormulate, adopt and promulgate, amend and repeal codes and rules and regulations for preventing, controlling or prohibiting air pollution in such areas of the state as shall or may be affected by air pollution" and to:

> [i]nclude in any such codes and rules and regulations provisions establishing areas of the state and prescribing for such areas (1) the degree of air pollution or air contamination that may be permitted therein, [and] (2) the extent to which air contaminants may be emitted to the air by any air contamination source . . . .[133]

That section also gives the Department a "duty and responsibility" to "[p]repare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of any new air pollution recognizing varying requirements for different areas of the state" and to "[c]ooperate with the appropriate agencies of the United States

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[126] *See* 42 U.S.C. § 7410(a)(5)(A)(i).
[127] *See* Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards, 84 Fed. Reg. 44,238 (Aug. 23, 2019) (to be codified at 40 C.F.R. pts. 52, 81).
[128] 42 U.S.C. § 7410(a)(5)(A)(i).
[129] *Id.* § 7410(a)(5)(C).
[130] *Id.* § 7410(a)(5)(D).
[131] *Id.* U.S.C. § 7416.
[132] ECL § 19-0105 (McKinney 2018).
[133] *Id.* § 19-0301(1)(a–b) (McKinney 2004).

or other states or any interstate agencies or international agencies with respect to the control of air pollution and air contamination . . . ."[134] Finally, section 19-0303 allows for the differentiation of air pollution controls across different types, conditions, and sources of air pollution, while also mandating a regulatory impact statement for all requirements that are more stringent than the Clean Air Act.[135]

In fact, New York has adopted an ISR in the past. Part 203 of the New York Codes, Rules, and Regulations dealt with new or modified indirect sources of air pollution in Manhattan south of 60th Street.[136] Though the rule has since been repealed for reasons inapplicable here,[137] its existence proves that DEC has authority to adopt ISRs under state law.

2. The Warehouse ISR in the South Coast Air Quality Management District Provides a Model for New York to Adopt

DEC would not have to start from scratch to create an indirect source rule regulating MHDV emissions from vehicles serving warehouses, distribution centers, and ports. The SCAQMD's Indirect Source Rule for Warehouses and Distribution Centers ("the rule" or "Rule 2305")[138] was adopted on May 7, 2021 under California's SIP following extensive research, modeling, and stakeholder engagement. This rule provides an excellent model upon which DEC can build.

Rule 2305 involves three main requirements for all warehouses of 100,000 square feet or more in the district: reporting, emission reductions (which can be substituted with mitigation fees), and recordkeeping. The reporting requirement mandates that warehouse owners disclose their warehouse's size and square footage used for warehousing, the name and contact information for the operator, and the duration of the warehouse lease. Operators must disclose an "Initial Site Information Report," which includes the number of truck trips to and from the warehouse in the past 12-month compliance period and an estimate of the number of trips for the following compliance period.[139] The report also includes data on the fleet, its fueling and charging, and any alternative energy generation systems onsite.

The emission reduction requirement operates through a system of Warehouse Actions and Investments to Reduce Emissions (WAIRE) points. The number of points each facility must earn is determined based on the number and size of the trucks coming to and from the warehouse during each compliance period. Points are accumulated by implementing measures from the

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[134] *Id.* § 19-0301(2)(a), (2)(d).
[135] *See id.* § 19-0303.
[136] *See* N.Y. Comp Codes R. & Regs. tit. 6, § 203.
[137] The reason given for repealing Part 203 (New York's past ISR) was not because of any adverse impacts of the ISR, but rather because DEC considered the regulation to be redundant with Parts 240 and 617 of the New York Codes, Rules, and Regulations and with 40 C.F.R. 93. *See* Indirect Sources of Air Contamination, XXXV N.Y. Reg. (proposed Feb. 06, 2013).
[138] *See* S. Coast Air Quality Mgmt. Dist., *Draft Proposed Rule 2305: Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program* (2021) http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr-2305_4-7-21_clean.pdf?sfvrsn=8.
[139] *See id.* at 13.

WAIRE menu. WAIRE menu actions are geared toward zero- or near-zero-emission truck procurement, but they also include a variety of other options like onsite charging, solar panel installation, and the installation of air filtering systems in homes, schools, childcare centers, medical facilities, and community centers.[140] WAIRE points are generally not transferable, though there are a few exceptions (transferring between facilities overseen by the same operator; transferring to future years for the same facility once the current year's obligations are met; and transferring between the owner and operator on the same site). Compliance can also be achieved through an approved custom plan or by paying a mitigation fee of $1,000 per WAIRE point.[141]

The recordkeeping requirement mandates that all owners/operators validate the accuracy of submitted information and keep the underlying documentation for at least seven years, during which time the information must be made available to the SCAQMD if officials request it.

DEC can benefit from and build upon the extensive work done by the SCAQMD in developing this effective rule. New York suffers from similar ozone nonattainment issues driven in part by emissions from MHDVs serving warehouses, distribution centers, and in New York's case, ports, so the rule provides much of the groundwork for developing an ISR for New York.

3. An ISR Regulating Ports and/or Warehouse Facilities Would Help Reduce Racial Disparities in Exposure to Air Pollution

Warehouses are often located in environmental justice communities. An illustrative study found disparities in the location of warehouses, when comparing them to the locations of low- and middle- income minority communities in the San Francisco and Los Angeles Metro Areas of California.[142] The SCAQMD cited the overlap between warehouse locations and environmental justice communities to justify its Indirect Source Rule regarding vehicle emissions at warehouses.[143]

In the NYMA, comparing the locations of warehouses and cargo terminals for the Port of New York and New Jersey to the locations of environmental justice communities and DEC-designated Potential Environmental Justice Areas shows a significant overlap. For example, the Red Hook terminal and warehouse area is located directly within an area that is identified as an environmental justice and potential environmental justice area.[144] Similarly, the NY Container Terminal and GCT New York Facility are located within an environmental justice area and close

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[140] *See id.* at 20 tbl.3
[141] *See id.* at 10.
[142] *See* Quan Yuan, *Environmental Justice in Warehousing Location: State of the Art*, 33 J. Plan. Literature 287 (2018).
[143] *See Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program; and PR316 – Fees for Rule 2305*, S. Coast Air Quality Mgmt. Dist., https://ceqanet.opr.ca.gov/2020110225/3 (last updated Jan. 26, 2021).
[144] *See Container Terminals*, Port of N.Y. and N.J., https://www.panynj.gov/port/en/our-port/container-terminals.html (last visited July 8, 2021); *Warehousing and Distribution*, Port of N.Y. and N.J., https://www.panynj.gov/port/en/shipping/warehousing-distribution.html (last visited July 8, 2021); *Environmental Justice Areas*, N.Y.C. Env't Just. Bd., https://nycdohmh.maps.arcgis.com/apps/instant/lookup/index html?appid=fc9a0dc8b7564148b4079d294498a3cf (last visited July 8, 2021).

to a potential environmental justice area on Staten Island.[145] The Hunts Point neighborhood in the South Bronx is home to one of the largest wholesale distribution centers in the world, the Hunts Point Food Distribution Center,[146] which generates over 15,000 truck trips each day.[147] More than 98% of the residents are people of color, and studies have linked the neighborhood's "alarmingly high" asthma rates to vehicle pollution.[148] While further mapping of warehouses, distribution centers, and truck routes to and from ports and from these facilities is needed, initial evidence shows that truck-intensive uses are often concentrated in communities of color and low-income communities, and eliminating or drastically reducing emissions associated with these facilities is a targeted way to reduce disparities in air pollution exposures.

C. Measures to Reduce Truck Emissions Will Advance New York's Climate Goals and DEC Should Evaluate their Benefits Using Its Value of Carbon Guidance

Adoption of the ACT rule and a port/warehouse ISR would serve the CLCPA goals of reducing greenhouse gas (GHG) and co-pollutant emissions and benefiting environmental justice communities. The CLCPA sets broad and aggressive targets for greenhouse gas emission reductions in New York. It mandates the reduction of statewide greenhouse gas emissions by 40% of 1990 levels by 2030 and 85% by 2050 (allowing for a maximum of 15% of emissions to be offset to achieve net-zero emissions by 2050.[149] These limits have since been promulgated into DEC regulations establishing a numerical GHG emission limit for the state, which applies to all anthropogenic emission sources including those from the transportation sector.[150]

The CLCPA also requires that state agencies prioritize efforts to eliminate emissions and reduce burdens in environmental justice communities. It mandates that at least 35% of the benefits of investments in emission reductions programs go to "disadvantaged communities," defined in statute as "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households."[151] State agencies have a mandate to "prioritize" reductions of GHGs and co-pollutants like NOx in disadvantaged communities,[152] and all state emission reduction efforts should "prioritize the safety and health" of disadvantaged communities.[153] Finally, the CLCPA mandates that the scoping plan, which will establish the basis for the regulatory measures the state will need to implement to achieve

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[145] *See Environmental Justice Areas*, N.Y.C. Env't Just. Bd., https://nycdohmh.maps.arcgis.com/apps/instant/lookup/index html?appid=fc9a0dc8b7564148b4079d294498a3cf (last visited July 8, 2021).
[146] *See Hunts Point Peninsula*, N.Y.C. Econ. Dev. Corp., https://edc nyc/project/hunts-point-peninsula (last visited July 13, 2021).
[147] *See* N.Y.C. Dep't of Transp., *Delivering New York: A Smart Truck Management Plan for New York City* 31 (2021).
[148] *Asthma Linked to Soot from Diesel Trucks in Bronx*, N.Y. Univ. Med. Ctr. & Sch. of Med., https://www.sciencedaily.com/releases/2006/10/061017084420 htm (last updated Oct. 30, 2006).
[149] *See* ECL § 75-0107(1); *id.* § 75-0109(4).
[150] *See* 6 NYCRR pt. 496.
[151] ECL §§ 75-0101(5), 75-0117.
[152] N.Y. S.B. 5490 § 7(3).
[153] *Id.* § 1(7).

the law's mandatory emissions reductions, identify policies that will "maximize reductions of both [GHGs] and co-pollutants in disadvantaged communities."[154]

There is no question that vehicle electrification and reduction of truck traffic and emissions in overburdened communities will be required to comply with the CLCPA. Such measures are explicitly required by the CLCPA, which mandates the inclusion of policies to promote electrification of freight transport in the scoping plan, along with other transportation planning and land-use policies to reduce vehicle emissions.[155] Once the scoping plan is finalized, DEC is required to adopt regulations that will "ensure" the emissions limits are reached, and these regulations must include measures to reduce emissions from internal combustion engine vehicles.[156] Modeling presented to the Transportation Advisory Panel demonstrates that achieving midcentury decarbonization as mandated by the CLCPA will be all but impossible without aggressive policies to electrify MHDVs and reduce vehicle miles traveled (VMT).[157]

An ISR in particular would advance the environmental justice and equity goals of the CLCPA because such a rule would be geographically targeted to facilities that cause heavy localized truck traffic and local pollution, and which are often located in areas likely to fall under the CLCPA's definition of "disadvantaged communities."[158] An ISR targeting emissions from MHDVs serving warehouses, distribution centers, and ports would reduce greenhouse gas emissions and improve air quality in environmental justice communities in accordance with CLCPA mandates.

To account for the GHG emission benefits of potential SIP measures, DEC should follow its own guidance regarding emission pricing in evaluating measures such as the ACT and HDO Rules and potential ISRs. As mandated by the CLCPA, DEC recently issued guidance that provides monetary prices for carbon dioxide, methane, and nitrous oxide emissions for all state agencies to use in their decision-making. As the guidance suggests,

> The values derived from the damages approach [to pollution pricing, as used in the guidance] can be used to help understand the economic impacts of policies or projects that would result in a change in emissions. Policies or projects that would result in increased emissions would have economic costs, while policies or projects that reduce emissions result in economic benefits. When compared against other costs, such as the capital costs associated with a project, the damages-based value of carbon can help determine if a project or policy provides a net benefit or a net cost to the State.[159]

When considering the implementation of potential control measures for inclusion in subsequent SIP revisions, DEC must consider the economic benefits, as outlined in the guidance's pricing model, of reducing emissions from MHDVs, which disproportionately impact highly populated, pollution-burdened areas. It is likely that regulations mitigating or eliminating

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[154] *Id.* § 75-0103(14)(d).
[155] *See id.* § 75-0103(13)(c), (f).
[156] *Id.* § 75-0109(2).
[157] *See Meeting 13*, Transp. Advisory Panel at slides 22–23 (last updated Apr. 9, 2021). The ACT Rule was modeled to reduce GHGs in 2050 by roughly 20% compared to a "business as usual" scenario.
[158] For more on the potential impact of an ISR on environmental justice communities, see Section IV(B)(3) above.
[159] DEC, *Establishing a Value of Carbon: Guidelines for Use by State Agencies* 12 (rev. June 2021), https://www.dec ny.gov/docs/administration_pdf/vocguidrev.pdf.

these tailpipe emissions would yield significant benefits well in excess of compliance costs and provide net benefits in New York State. In general, this type of an analysis should be used by DEC in considering the economic viability of potential measures as part of its RACM analysis.

V. New York State Should Develop an Integrated, Interagency Framework to Address Transportation Sector Emissions

As referenced above, transportation accounts for nearly two-thirds of NOx emissions in New York State, far exceeding the contributions from the residential, electricity generation, and industrial sectors.[160] Projecting to 2023, transportation will remain the dominant source of NOx emissions in New York State.[161] Transportation emissions account for a greater share of NOx emissions in New York State than for the OTR as a whole, which has identified reducing NOx emissions from heavy-duty diesel trucks as a major priority and has formally adopted a strategy to promote electrification of MHDVs as a means of achieving the ozone NAAQS.[162] These efforts are critical since EPA modeling shows that on-road heavy-duty, on-road light-duty and non-road vehicles will each contribute substantially to ozone concentrations in the Northeast through 2025.[163] Failing to address transportation emissions will jeopardize attainment of the ozone NAAQS by the 2027 deadline for severe areas.

At the same time, the CLCPA requires that the state achieve an 85% reduction in anthropogenic greenhouse gas emissions by 2050, with an interim benchmark of 40% by 2030, and further establishes a goal to achieve net-zero emissions economywide.[164] Transportation accounts for 36% of statewide GHG emissions, more than any other end-use sector, and, unlike other major sectors, emissions are on an upward trend.[165] The state's modeling suggests that achieving these mandatory emission reductions will not be possible without drastic cuts in transportation sector GHG emissions—at least 86% by 2050 and 31% by 2030, compared to 2016 levels.[166] Electrification of personal and freight vehicles is explicitly identified in the statute as a strategy for meeting the CLCPA,[167] and the state-commissioned Pathways Analysis concluded that electric vehicle technologies will need to be normalized by this decade to meet midcentury decarbonization targets.[168] More concretely, the Pathways Analysis shows that nearly all new on-road vehicles sales will need to be zero-emission vehicles by 2040 to comply with the mandates, in addition to a sizeable reduction in vehicle miles traveled.[169] All of this

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[160] *See* DEC ACT/HDO Webinar at slide 12.
[161] *See Modeling Committee Update*, Ozone Transp. Comm'n at slide 8 (last updated Apr. 13, 2021), https://otcair.org/upload/Documents/Meeting%20Materials/OTC%20Modeling%20Committee%20Update%20202102 0413.pdf.
[162] *See* OTC MHDV Electrification Statement.
[163] *See* Zawacki et al., *supra* note 50, at 136 fig.5.
[164] *See* ECL § 75-0107(1); N.Y. S.B. 5490 § 1(4).
[165] *See* N.Y. Energy Rsch. & Dev. Auth., *New York State Greenhouse Gas Inventory: 1990-2016* S-12 (2019), https://www nyserda.ny.gov/-/media/Files/EDPPP/Energy-Prices/Energy-Statistics/greenhouse-gas-inventory.pdf.
[166] *See* Energy & Env't Econs., *Pathways to Deep Decarbonization in New York State* 23 tbl.2 (2020) ("Pathways Analysis"), https://climate ny.gov/-/media/CLCPA/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf.
[167] *See* ECL § 75-0103(13)(f).
[168] *See* Pathways Analysis at 44–45.
[169] *See id.* at 17 fig.7, 22.

must be achieved in a way that maximizes GHG and co-pollutant emission reductions in disadvantaged communities.[170]

Other agencies have established priorities that also implicate air pollutants like ozone and that weigh in favor of regulating MHDV emissions. For example, the state's Department of Health has identified the reduction of air pollution including ozone as a key indicator to drive improvements in asthma rates and public health outcomes throughout the state. The *New York State Prevention Agenda 2019-24* notes the "extensive evidence" linking ozone with respiratory and cardiovascular illness and death, and establishes a goal to "reduce exposure to outdoor air pollutants," with an emphasis on vulnerable groups.[171] One of the interventions specifically identified is to leverage New York State's environmental policies to achieve emissions reductions.[172] As discussed above, reducing emissions from MHDVs in general, and specifically around heavily-trafficked facilities in overburdened communities, will be important to meet the state's public health goals.

Given these interrelated policy mandates, we cannot afford to address transportation sector emissions in a piecemeal, siloed fashion. Achieving these mandates will require actions from a number of state agencies, even after the Climate Action Council adopts formal recommendations for the transportation sector. New York State must develop an integrated framework to deal with mobile sources, akin to CARB's Mobile Source Strategy, to ensure that all policy goals are achieved in full and as efficiently as possible. By necessity, this framework will touch on various sectors, and the planning process needs to be an interagency one.

Conclusion

The Draft SIP represents an important opportunity for DEC to take meaningful steps toward attainment of the 2008 ozone NAAQS. We commend DEC for recently adopting regulations to reduce NOx emissions from important point sources like peaker plants and solid waste incinerators, but significant work remains to reduce NOx emissions from the transportation sector. DEC has a duty under the Clean Air Act to consider all reasonably available control measures, and the Draft SIP reflects DEC's failure to fulfill this obligation. Numerous measures are available that would sharply reduce emissions from MHDVs, which are the major source of NOx emissions in the state. We look forward to reviewing a final SIP that takes much more robust steps toward 2008 ozone NAAQS attainment.

Respectfully submitted,

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EARTHJUSTICE

[170] *See* ECL § 75-0109(3).
[171] N.Y. Dep't of Health, *New York State's Health Improvement Plan: Prevention Agenda 2019–24* 72–73 (updated Feb. 27, 2020), https://www health ny.gov/prevention/prevention_agenda/2019-2024/docs/ship/nys_pa.pdf.
[172] *See id.* at 74.

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Attachment 3

EARTHJUSTICE

Via E-mail

May 27, 2021

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Re: New York's Adoption of California Mobile Source Standards under the Clean Air Act

Earthjustice submits this letter to respond to and clarify the inaccuracies in the March 3, 2021 letter and attached memo of the Truck and Engine Manufacturers Association ("EMA") that seeks to dissuade the New York State Department of Environmental Conservation ("DEC") from moving forward with its proposal to adopt California's Advanced Clean Trucks Rule and Omnibus Low-NOx Rule (together, the "California Standards"). The EMA letter misstates the law and the facts and provides no basis for DEC to withhold or delay swift adoption of these vital pollution-reduction measures. Notably, EMA has made the same arguments in an effort to discourage regulation of highly polluting trucks and buses in New Jersey and Earthjustice has sent a similar letter to regulators in that state, which has since moved forward with publication of a proposed rule adopting the California Standards.

I. THE CLEAN AIR ACT ALLOWS NEW YORK TO ADOPT THE CALIFORNIA STANDARDS.

New York can adopt these and other California mobile source standards because it has nonattainment and maintenance plan provisions approved by the U.S. Environmental Protection Agency ("EPA").

As DEC is no doubt aware, contrary to EMA's representation, New York is *not* in attainment with the 2008 ozone National Ambient Air Quality Standards ("NAAQS").[1] The New York-Northern New Jersey-Long Island Area ("NYMA") was recently redesignated from moderate to serious nonattainment for that NAAQS.[2] The area's most current design value of 82

[1] EPA, *8-Hour Ozone (2008) Nonattainment Areas* (as of Mar. 31, 2021), https://www3.epa.gov/airquality/greenbook/hdtc.html (identifying the "New York-N. New Jersey-Long Island, NY-NJ-CT" area, which includes 9 counties in New York State, as being in serious nonattainment of the 2008 ozone standard).

[2] Determinations of Attainment by the Attainment Date, Extensions of the Attainment Date, and Reclassification of Several Areas Classified as Moderate for the 2008 Ozone National Ambient Air Quality Standards (NAAQS), 84 Fed. Reg. 44,239 (Aug. 23, 2019).

ppb is well above the 75 ppb NAAQS, and is the highest design value outside of California.[3] Meanwhile, the Jamestown, NY Area was designated as marginal nonattainment in 2012 and remains in nonattainment status despite attaining the 2008 ozone standard "because of the ongoing possibility of that area again exceeding the ozone NAAQS."[4] The American Lung Association ranks NYMA as the 14th most ozone-polluted area in the nation, and the 9 NYMA counties plus Chautauqua County all received a D or F for high ozone days.[5]

EMA's argument relies on the assumption that New York will by necessity reach ozone attainment by the regulatory attainment date. *See* EMA Memo at 3–4 (assuming New York will attain the 2015 ozone NAAQS by the 2022 attainment date). Unfortunately, the mere passage of time will not ensure New York's attainment status. With a current design value of 82 ppb, NYMA is far from reaching attainment of either of the ozone NAAQS. Modeling results project continued exceedances of both standards in 2023 and 2028, necessitating likely downgrading to "severe-15" nonattainment for the 2008 NAAQS and "serious" nonattainment for the 2015 NAAQS.[6] The Ozone Transport Commission recently concluded that NYMA "will fail to meet the July 2021 attainment date for the 2008 NAAQS . . . and is not eligible for a 1-year extension," flatly contradicting EMA's claims as to New York's attainment status.[7]

Even if New York were to reach attainment status by 2022, however, the state is still authorized to adopt the California Standards. Clean Air Act ("CAA") Part D, Section 177 specifies, "any State *which has plan provisions approved under this part* may adopt and enforce for any model year [California] standards relating to control of emissions from new motor vehicles or new motor vehicle engines." 42 U.S.C. § 7507 (emphasis added). "Plan provisions approved under this part" applies both to nonattainment plan provisions and maintenance plan provisions for areas formerly in nonattainment, both of which EPA approves under CAA Part D. *See* 42 U.S.C. §§ 7502(c), 7505a (concerning nonattainment and maintenance plans, respectively, both under Part D); *see also Am. Auto. Mfrs. Ass'n v. Comm'r, Mass. Dep't of Env't Prot.*, 31 F.3d 18, 23 n.2 (1st Cir. 1994) (explaining that Section 177 says that "any State which has plan provisions [for the attainment and maintenance of the NAAQS] may adopt and enforce for any model year standards . . ." (paraphrasing in original)). Because EPA has approved

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[3] EPA, *8-Hour Ozone (2008) Designated Area Design Values* (as of Mar. 31, 2021), https://www3.epa.gov/airquality/greenbook/hdtc.html.

[4] Compl. for Declaratory and Injunctive Relief ¶¶ 24, 26, 29, *State of New York v. Wheeler*, S.D.N.Y, Case No. 1:19-cv-3287 (filed Apr. 12, 2019), https://www.epa.gov/sites/production/files/2019-04/documents/stny_complaint_1.19cv3287_04122019.pdf; *see also* EPA, *8-Hour Ozone (2008) Nonattainment Areas* (as of Mar. 31, 2021), https://www3.epa.gov/airquality/greenbook/hdtc.html (identifying the "Jamestown, NY" area, which includes all of Chautauqua County, as being in marginal nonattainment of the 2008 ozone standard).

[5] Am. Lung Ass'n, *State of the Air 2021*, at 12, 112, https://www.lung.org/getmedia/17c6cb6c-8a38-42a7-a3b0-6744011da370/sota-2021.pdf.

[6] Ozone Transp. Comm'n, Modeling Committee Update at slide 5 (Nov. 18, 2020), https://otcair.org/upload/Documents/Meeting%20Materials/ModelingComm%20presentation%20OTC%20Annual%20Mtg%2020201118.pdf.

[7] *Id.* at slide 11.

multiple New York nonattainment and maintenance plan provisions,[8] New York satisfies the threshold requirement of Section 177 to adopt the California Standards.

EMA is incorrect to suggest the California Standards may be adopted only by those States that are *currently* in nonattainment and that show the California Standards are necessary to demonstrate attainment.[9] EMA Memo at 1–3. EMA's reliance on the title of Part D – "Plan Requirements for Nonattainment Areas" – is not dispositive since, as noted above, Part D plainly covers maintenance plans in addition to nonattainment plans, even if the word "maintenance" is not expressly included in the title. *See* 42 U.S.C. § 7505a. Nor is EMA's reliance on the legislative history of unenacted, alternate proposals for Section 177 instructive, since this legislative history does not control the interpretation of the version of Section 177 that Congress *did* adopt.[10] EMA quotes EPA's recent Safer Affordable Fuel-Efficient Vehicles Rule, but the quoted passage explained the prior administration's position that the California waiver is available for criteria pollutant reduction but not greenhouse gas reduction – *not* that Section 177

[8] EPA, *New York Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants* (as of May 24, 2021), https://www3.epa.gov/airquality/greenbook/anayo_ny.html.

[9] EMA is also incorrect when it suggests that the "compelling and extraordinary" language of Clean Air Act Section 209(a) is incorporated into Section 177 and applies to Section 177 States. *See* EMA Memo at 3. The Clean Air Act says nothing that requires other States adopting the California rules to make this showing. The only Clean Air Act section to include the phrase "compelling and extraordinary" is Section 209(a), which allows EPA to deny California a waiver to set its own motor vehicle standards in limited circumstances only, including upon a finding that California "does not need such State standards to meet compelling and extraordinary conditions." 42 U.S.C. § 7543(b)(1)(B). This waiver process applies to California only, and there is no independent need for States like New York to get a waiver in order to adopt a California standard. *See Chamber of Commerce of U.S. v. EPA*, 642 F.3d 192, 196 (D.C. Cir. 2011) (quoting 42 U.S.C. § 7507) ("Congress amended the CAA to permit other states to adopt and enforce standards 'identical to the California standards for which a waiver has been granted,' *without obtaining a separate waiver* . . ." (emphasis added)). This different treatment for California makes sense. Congress' purpose was to allow California to create its own vehicle standards only if it could justify a departure from the federal standards. Once those "second vehicles" exist as a result of an EPA waiver, there are no longer the same reasons for requiring a single national vehicle and precluding other states from choosing which of the two vehicles to demand.

[10] *See* EMA Memo at 2–3 (discussing unenacted proposals for Section 177 that would have tied the ability to adopt California standards to vehicle inspection and maintenance provisions, or would have *required* nonattainment States to adopt California standards – neither of which appear in Section 177 as enacted).

States must show that the California Standards are necessary to reach attainment.[11] And though EMA cites Second Circuit dicta that Congress enacted Section 177 "to assist those states struggling to meet federal pollution standards," the Second Circuit's explanation of Congressional intent does not rewrite Section 177 to add the limiting language that EMA desires. EMA Memo at 2 (quoting *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. N.Y. State Dep't of Env't Conservation*, 17 F.3d 521, 527 (2d Cir. 1994)). Any State that has nonattainment or maintenance plan provisions in its State Implementation Plan can adopt California Standards, no matter that State's current attainment status.

II. DEC MUST NOT DELAY ITS PROPOSED ADOPTION OF THE CALIFORNIA STANDARDS.

DEC should reject EMA's invitation to defer rulemaking to adopt the California Standards until 2022 because, contrary to EMA's assertion, such delay could impede DEC's application of the standards to the 2025 model year. EMA Letter at 2. Section 177 requires New York to "adopt [California] standards at least two years before commencement of [the vehicle] model year (as determined by regulations of the [EPA] Administrator)."[12] Delaying adoption of the California Standards may delay the first model years that New York could address. To ensure New York can implement California Standards beginning with model year 2025 trucks, DEC should adopt the California Standards before 2022.

III. THE NEW YORK STATE ADMINISTRATIVE PROCEDURE ACT DOES NOT PREVENT DEC FROM ADOPTING THE CALIFORNIA STANDARDS.

Finally, EMA suggests that the New York State Administrative Procedure Act ("SAPA") would foreclose DEC from adopting the California Standards because the costs of compliance with the rules would exceed the benefits of the rule to an extent that renders the regulations invalid. EMA Memo at 4–5. But Article 2 of SAPA, which EMA cites, merely requires DEC to produce a "regulatory impact analysis" including statements describing the "benefits derived from the rule" and "detailing projected costs" to state agencies and regulated parties. State Admin. Procedure Act §§ 202(1)(f)(vi), (5)(b), 202-a(3). Nothing that EMA raises suggests that

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[11] *See* The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program, 84 Fed. Reg. 51,310, 51,351 (Sept. 27, 2019) (explaining prior administration's view that "CAA section 177 is in fact intended for NAAQS attainment planning *and not to address global air pollution*." (emphasis added)). Though EMA suggests that EPA will deny a waiver for the Advanced Clean Trucks Rule because it is "principally aimed at reducing [greenhouse gases]," EMA Memo at 4, that is also incorrect. California expressly adopted this rule to broadly "reduce emissions of oxides of nitrogen (NOx), fine particulate matter (PM), toxic air contaminants, greenhouse gases (GHG), and other criteria pollutants generated from on-road mobile sources." Cal. Air Res. Bd., Advanced Clean Trucks Regulation, Final Statement of Reasons at 6 (Mar. 2021), https://ww3.arb.ca.gov/regact/2019/act2019/fsor.pdf.

[12] 42 U.S.C. § 7507; *see also* 40 C.F.R. §§ 85.2302, 85.2303, 85.2304(a) (noting that "model year" can mean the "manufacturer's annual production period," which in turn can start as early as "January 2 of the calendar year preceding the year for which the model year is designated"); https://ww3.arb.ca.gov/regact/2019/act2019/fro2.pdf (Advanced Clean Trucks Rule incorporating the definition of "model year" at Cal. Code Regs. tit. 17, § 95662(a)(16)).

DEC has not considered approaches "designed to avoid undue deleterious economic effects or overly burdensome impacts," as required under SAPA § 202-a(1), or that it would not be able to produce a detailed regulatory impact analysis. Indeed, we understand that DEC is actively engaged in a process to develop precisely the type of data required by SAPA.

Nor does EMA provide adequate support for its assertion that the costs of the California Standards would outweigh their benefits. EMA provides no basis for its claim that the Advanced Clean Trucks Rule would be cost-prohibitive, nor could it, since zero-emission Class 3-6 trucks are already cost-competitive with diesel on a total cost of ownership basis, and zero-emission Class 7-8 trucks will be cost-competitive by 2025, if not already.[13] The California Air Resources Board ("CARB") calculates that this Rule will result in $11.2 billion in net benefits from 2020 to 2040.[14] As for the Heavy-Duty Omnibus Rule, CARB calculates $32.8 in net benefits from that Rule between 2022 and 2050, with benefits outweighing costs 8-to-1.[15] CARB has already explained why it disagrees with the EMA-funded research that EMA cites in its memo and with EMA's calculation of per-vehicle costs that are seven times higher than any of CARB's estimates.[16] In addition, DEC has established a value of carbon, as required by the Climate Leadership and Community Protection Act, as well as guidance for state agencies on how to use that value in various situations including in rulemaking.[17] If, as suspected, EMA has not factored any damages-based or other value of carbon into its calculation of costs or benefits of these rules, that calculation may be incomplete for the purposes of rulemaking by DEC.

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Thus, nothing in the Clean Air Act or the State Administrative Procedure Act prevents DEC from adopting the California Standards. We urge DEC to move forward with its plan to

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[13] N. Am. Council for Freight Efficiency, *Electric Trucks: Where They Make Sense*, at 13-14 (May 2019), https://nacfe.org/emerging-technology/electric-trucks/; Amol Phadke et al., Lawrence Berkeley Nat'l Lab'y, *Why Regional and Long-Haul Trucks are Primed for Electrification Now*, at 3 (2009), https://eta-publications.lbl.gov/sites/default/files/finalfinal_ehdv_report_final_15marforupload.pdf (finding long-haul Class 8 electric trucks already have 13% lower total cost of ownership compared to diesel counterparts, and will have 40% lower total cost of ownership by 2030).

[14] Cal Air Res. Bd., *Attachment C: Updated Costs and Benefits Analysis for the Proposed Advanced Clean Trucks Regulation*, at 23, https://ww3.arb.ca.gov/regact/2019/act2019/30dayattc.pdf.

[15] Cal. Air Res. Bd., *Public Hearing to Consider the Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, Staff Report - Initial Statement of Reasons*, at IX-70, https://ww3.arb.ca.gov/regact/2020/hdomnibuslownox/isor.pdf.

[16] *Id.* at ES-15 to ES-16; California Air Resources Board, *Attachment B: Responses to Comments on the Environmental Analysis for the Proposed Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments*, at 12-15, https://ww3.arb.ca.gov/regact/2020/hdomnibuslownox/res20-23attbrtc.pdf.

[17] *See* N.Y. E.C.L. § 75-0113; DEC, Establishing a Value of Carbon: Guidelines for Use by State Agencies (2020), https://www.dec.ny.gov/docs/administration_pdf/vocfguid.pdf.

finalize a rule adopting these vital standards before the end of 2021 and begin to apply the standards in New York with the 2025 model year.

Sincerely,

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