



Via Email

July 16, 2021

Scott Wadja-Griffin
New York State Department of Environmental Conservation
Division of Air Resources
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Albany, NY 12233-3251
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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/hdte.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

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%2020200220%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.

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 (NO₂)—which is often used as an indicator for NO_x—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 NO₂ 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

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. Env’tl. 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 Env’tl. 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

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 NO_x 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 NO_x Emissions Reductions, Especially from Trucks and Buses, Will be Needed to Meet the Ozone NAAQS

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

The Draft SIP does not sufficiently address NO_x emissions, which are the “major drivers” of ground-level ozone concentrations across the Northeast.⁴⁵ The OTC has identified NO_x 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 [NO_x] 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 NO_x 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 NO_x Emissions and High Ozone Levels in New York State and Throughout the Region

Generally, mobile source NO_x 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” NO_x 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

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%20ltr-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 Env’t.* 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”),

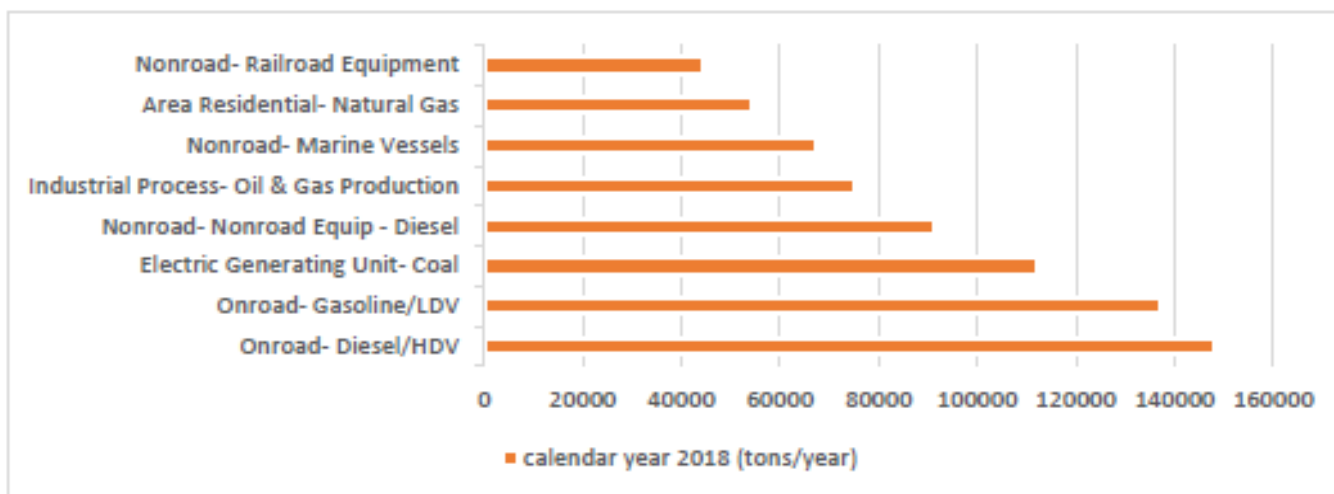
https://www.dec.ny.gov/docs/air_pdf/sipprop2008o3trans.pdf.

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.

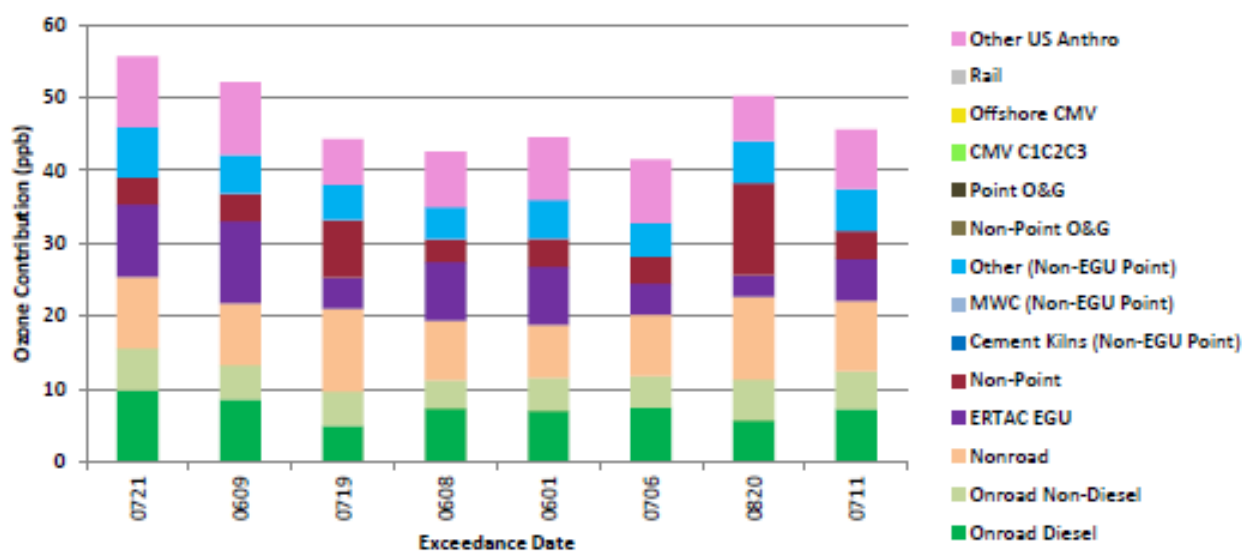
⁵⁶ *Id.*

⁵⁷ *See id.*

⁵⁸ *See id.* at 4.

To measure the impact of heavy-duty vehicle NO_x 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 NO_x 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 NO_x 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

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.

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

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/aqmguidance/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 NO_x 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

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.

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.

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](https://otcair.org/upload/Documents/Model%20Rules/OTC%20Model%20Rule%20Anti%20Idling%20Final.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](https://otcair.org/upload/Documents/Model%20Rules/OTC%20Nonroad%20Idling%20Policy%20Guidance%20Final.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 2021 0218%20update.xlsx](https://otcair.org/upload/Documents/Model%20Rules/OTC%20SAS%20MobileSources%20Rules%20Adoption%20Tracking%202018%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

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 NO_x 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-NO_x heavy-duty engines. Adopting both of these rules in New York State, as permitted under Section 177 of the Act, would reduce annual NO_x 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

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.

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 source¹³³

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

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

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

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 NO_x 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

¹⁴⁵ See *Environmental Justice Areas*, N.Y.C. Env’t Just. Bd., <https://nycdohmh.maps.arcgis.com/apps/lookup/index.html?appid=fc9a0dc8b7564148b4079d294498a3cf> (last visited July 8, 2021).

¹⁴⁶ See *Hunts Point Peninsula*, N.Y.C. Econ. Dev. Corp., <https://edc.nyc.gov/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

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 NO_x 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 NO_x emissions in New York State.¹⁶¹ Transportation emissions account for a greater share of NO_x emissions in New York State than for the OTR as a whole, which has identified reducing NO_x 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

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%2020210413.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.

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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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