



August 2, 2022

Michael S. Regan, Administrator  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

Connecticut  
Delaware  
District of Columbia  
Maine  
Maryland  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Rhode Island  
Vermont  
Virginia

Re: *California State Motor Vehicle Pollution Control Standards; Advanced Clean Trucks, Zero Emission Airport Shuttle, Zero-Emission Power Train Certification, Request for Waiver of Preemption,<sup>1</sup> Docket ID No. EPA-HQ-OAR-2022-0331; HD Warranty Amendments, Request for Waiver of Preemption,<sup>2</sup> Docket ID No. EPA-HQ-OAR-2022-0330; and California's Omnibus Low NOx Regulation, Request for Waiver of Preemption,<sup>3</sup> Docket ID No. EPA-HQ-OAR-2022-0332*

Dear Administrator Regan:

The Ozone Transport Commission (OTC) offers the following comments in support of California's request, pursuant to Section 209(b) of the Clean Air Act (CAA), for waiver of federal preemption for its Advanced Clean Trucks (ACT); Omnibus Low NOx; Warranty Amendments; Zero Emission Airport Shuttle; and Zero-Emission Power Train Certification, in the above-referenced dockets.

In the 1990 Clean Air Act Amendments, Congress established the OTC in order to address regional ozone pollution affecting the OTC member jurisdictions. The OTC members are Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia. In addressing their collective regional ozone problem, the OTC members are responsible for developing and implementing initiatives to reduce nitrogen oxides (NOx) and volatile organic compounds (VOCs), the emitted precursor air pollutants that contribute to the formation of ground-level ozone pollution.

As discussed below, OTC strongly supports EPA's consideration of California's waiver requests.

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<sup>1</sup> 87 Fed. Reg. 35768 (June 13, 2022).

<sup>2</sup> 87 Fed. Reg. 35765 (June 13, 2022).

<sup>3</sup> 87 Fed. Reg. 35760 (June 13, 2022).

## I. The Need for NO<sub>x</sub> Reductions in the Ozone Transport Region

NO<sub>x</sub> emissions are the major drivers of surface ozone concentrations at the regional scale in the eastern United States. Epidemiological studies provide strong evidence that ozone is associated with respiratory effects, including increased asthma attacks, as well as increased hospital admissions and emergency room visits for people suffering from respiratory diseases. High ozone concentrations can compromise the health and welfare of people living in the Ozone Transport Region (OTR). People of color and those with lower household incomes are often impacted by disproportionate amounts of diesel exhaust emissions and worsened health burdens due to poor air quality in US cities.<sup>4</sup> Ozone can cause chronic obstructive pulmonary disease (COPD), and long-term exposure may result in permanent lung damage, such as abnormal lung development in children. There is also consistent evidence that short-term exposure to ozone increases the risk of death from respiratory causes.<sup>5</sup> Furthermore, recent studies show that ozone concentrations below the current National Ambient Air Quality Standards (NAAQS) continue to contribute to the risk of premature death in sensitive populations, such as the elderly.<sup>6</sup>

Millions of OTR residents live in areas that violate the ozone NAAQS. Many areas of the OTR are designated as in nonattainment with the 2015 8-hour average ozone NAAQS of 70 parts per billion (ppb). These nonattainment areas are struggling to achieve the 2015 ozone NAAQS, and on April 13, 2022, EPA proposed reclassifying a number of them from “marginal” to “moderate” nonattainment status for the 2015 ozone NAAQS, including Baltimore, MD; Greater Connecticut; Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE; and Washington, DC-MD-VA.<sup>7</sup> These areas failed to attain the 2015 ozone NAAQS by August 3, 2021, as required for “marginal” classifications, and will need additional pollution reductions, particularly for NO<sub>x</sub>, in order to meet the 2015 ozone NAAQS.

The OTR also includes the New York City (NYC) Combined Statistical Area (CSA). With over 20 million people, it is the largest CSA by population in the United States. It not only violates the 2015 ozone NAAQS, but also the less stringent 2008 8-hour ozone NAAQS of 75 ppb. On April 13, 2022, EPA proposed to reclassify the New York City/Long Island-Northern New Jersey-Southwest Connecticut area from “serious” to “severe” nonattainment because it failed to meet its “serious” attainment deadline of July 20, 2021.<sup>8</sup> This large metropolitan area will need additional pollution reductions to achieve both the 2008 and 2015 ozone NAAQS levels.

While ozone is largely a summertime issue in the OTR, NO<sub>x</sub> emissions are a year-round problem, due to its role in producing secondary PM<sub>2.5</sub> in the colder seasons. PM<sub>2.5</sub> exposure is associated with a variety of health effects, including reduced lung function, irregular heartbeat,

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<sup>4</sup> Demetillo, M.A.G.; Harkins, C.; McDonald, B.C.; Chodrow, P.S.; Sun, K.; Pusede, S. E. “Space-Based Observational Constraints on NO<sub>2</sub> Air Pollution Inequality From Diesel Traffic in Major US Cities,” *Geophys. Res. Lett.* 48: e2021GL094333 (2021). DOI: 10.1029/2021GL094333, see <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GL094333>.

<sup>5</sup> U.S. EPA, “Health Effects of Ozone Pollution,” <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>, last updated June 14, 2022 (accessed August 2, 2022).

<sup>6</sup> Di, Q., *et al.* “Air pollution and mortality in the Medicare population.” *New England Journal of Medicine* 376.26 (2017): 2513-2522. DOI: 10.1056/NEJMoa1702747; Di, Q., *et al.* “Association of short-term exposure to air pollution with mortality in older adults.” *JAMA* 318.24 (2017): 2446-2456. DOI: 10.1001/jama.2017.17923.

<sup>7</sup> 87 Fed. Reg. 21842 (April 13, 2022).

<sup>8</sup> 87 Fed. Reg. 21825 (April 13, 2022).

asthma attacks, heart attacks, and premature death in people with heart or lung disease.<sup>9</sup> In addition, NOx emissions contribute to acid deposition, eutrophication, and visibility impairment in the OTR region. The public health and environmental impacts of NOx are summarized in Table 1.

*Table 1: Adverse Public Health and Environmental Impacts of NOx in the OTR.*

Ozone and PM <sub>2.5</sub>	<ul style="list-style-type: none"> <li>• Reduces lung function, aggravates asthma and other chronic lung diseases</li> <li>• Repeated exposure can cause permanent lung damage</li> <li>• Contributes to premature death</li> <li>• Disproportionate impact on Overburdened Communities</li> </ul>
Acid deposition	<ul style="list-style-type: none"> <li>• Damages forests</li> <li>• Damages aquatic ecosystems, e.g., Adirondacks and Great Northern Woods</li> <li>• Erodes manmade structures</li> </ul>
Coastal and Marine Eutrophication	<ul style="list-style-type: none"> <li>• Depletes oxygen in the water, which suffocates fish and other aquatic life in bays and estuaries, e.g., Chesapeake Bay, Narragansett Bay, and Long Island Sound</li> </ul>
Visibility Impairment	<ul style="list-style-type: none"> <li>• Contributes to regional haze that mars vistas and views in wilderness and urban areas</li> </ul>

As discussed above, parts of the OTR continue to experience persistently high ozone levels affecting tens of millions of people. While air pollution levels have dropped over the years across much of the United States, the portions of the OTR listed in Table 2 continue to persistently exceed both past and recently revised federal health-based air quality standards for ground-level ozone.

*Table 2: Areas Exceeding the National Ambient Air Quality Standards for Ozone in the Northeast and Mid-Atlantic.*

Nonattainment Area	Population	2020 Design Value (ppm) <sup>10</sup>	2015 NAAQS Status	2008 NAAQS Status
Greater Connecticut, CT	1,629,115	0.073	Marginal <sup>a</sup>	Serious
New York City, NY-NJ-CT	20,217,137	0.082	Moderate	Serious <sup>b</sup>
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE	7,437,135	0.074	Marginal <sup>a</sup>	Marginal
Baltimore, MD	2,662,691	0.072	Marginal <sup>a</sup>	Moderate
Washington, DC-MD-VA	5,136,216	0.071	Marginal <sup>a</sup>	Maintenance

<sup>a</sup> On April 13, 2022, EPA proposed reclassifying to “Moderate” nonattainment status for the 2015 ozone NAAQS.

<sup>b</sup> On April 13, 2022, EPA proposed reclassifying to “Severe” nonattainment status for the 2008 ozone NAAQS.

<sup>9</sup> U.S. EPA, “Health and Environmental Effects of Particulate Matter (PM),” see <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>, last updated July 18, 2022 (accessed August 2, 2022).

<sup>10</sup> EPA Air Quality Design Values, <https://www.epa.gov/air-trends/air-quality-design-values#report> (accessed April 25, 2022).

Another significant obstacle hindering OTC states from meeting federal ozone NAAQS is the I-95 corridor, which runs almost the entire length of the OTR. I-95 is a major highway thoroughfare used extensively by heavy-duty trucks that supply goods to many concentrated population centers along its route. Some of the highest and most persistent monitored ozone concentrations in the country occur along the I-95 corridor. Most of the monitors on which EPA based their plan to reclassify OTR areas' nonattainment status are located within a few miles of the highway. This is one more reason for EPA to issue a waiver for federal preemption for California's heavy-duty diesel vehicle programs: to give OTR states a necessary tool to lower ozone-forming emissions.

In addition, urban residents can be exposed to higher levels of health-damaging PM<sub>2.5</sub> and toxic air pollutants concentrated at "hot-spots" near high-density traffic arteries. Freight transportation relies on trucks, trains, and ships operating within communities in the Northeast and mid-Atlantic to move goods. This activity generates a significant amount of localized air pollution in communities already overburdened by diesel exhaust pollution. Local emissions contribute to an ongoing health crisis in these communities.

To address the region's persistent air quality problems, reducing NO<sub>x</sub> from heavy-duty trucks is of the utmost importance due to its role in local and regional ground-level ozone formation, as well as its contributions to PM<sub>2.5</sub>, and winter-time visibility impairment at Class 1 areas. The year-round benefits of measures that reduce heavy-duty vehicle NO<sub>x</sub> emissions are substantial. An OTC analysis found that onroad diesel vehicles, including heavy-duty vehicles (HDVs), are projected to be the third largest NO<sub>x</sub> emissions source in the OTR in 2023.<sup>11</sup> Emissions from highway trucks are estimated to comprise 20 percent of the region's total NO<sub>x</sub> emissions. Moreover, the modeled NO<sub>x</sub> contribution from HDVs is potentially underestimated because the mobile source model used in developing the inventory does not account for high emitting heavy-duty trucks, such as glider vehicles and HDVs with tampered emission control systems. In-use testing data suggest that real-world NO<sub>x</sub> emissions are higher than modeled estimates, underscoring the need to achieve substantial NO<sub>x</sub> emission reductions from the heavy-duty diesel truck sector.<sup>12</sup>

To estimate the impact of onroad diesel emissions – the lion's share of which is emitted by HDVs – the OTC modeled the contribution (ppb) of onroad diesel to 8-hour maximum ozone concentrations at monitors in the OTR.<sup>13</sup> Table 3 lists the percent contribution to total ozone from onroad diesel emissions at additional monitors in the OTR. Onroad diesel emissions are projected to contribute up to 10 ppb to total ozone and the projected contribution makes up between 10 and 17 percent of controllable ozone contributions on these days. Table 3 also shows

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<sup>11</sup> National Emissions Inventory Collaborative (2019). 2016v1 Emissions Modeling Platform. Retrieved from <http://views.cira.colostate.edu/wiki/wiki/10202>.

<sup>12</sup> Tan, *et al.*, "On-Board Sensor-Based NO<sub>x</sub> Emissions from Heavy-Duty Diesel Vehicles," *Environmental Science and Technology*, 53: 5504-5511 (2019). DOI: 10.1021/acs.est.8b07048.

<sup>13</sup> Ozone Transport Commission "Ozone Transport Commission/Mid Atlantic Northeastern Visibility Union 2011 Based Modeling Platform Support Document – October 2018 Update," 2<sup>nd</sup> Version, October 18, 2018, *see* <https://otcair.org/upload/Documents/Reports/OTC%20MANE-VU%202011%20Based%20Modeling%20Platform%20Support%20Document%20October%202018%20-%20Final.pdf>. The modeling evaluated the 8-hour maximum ozone on the 4<sup>th</sup> highest day, which is the metric EPA uses to evaluate compliance with the ozone NAAQS.

the onroad diesel category’s ranking in terms of the top emissions sectors that contribute total ozone at these monitors. Onroad diesel emissions are consistently projected to be the second, third, or fourth largest contributing sector to ozone, typically only behind area/nonpoint, onroad gasoline vehicles, and in some cases, electric generating units.

*Table 3: Projected Ozone Contribution from Onroad Diesel Emissions at Selected Monitors (2023).*

<b>Monitor Location</b>	<b>State</b>	<b>Contribution (ppb)</b>	<b>Percentage Contribution to Total Controllable Ozone</b>	<b>Onroad Diesel Rank</b>
Greenwich Point Park	CT	4.4	11.1 %	3
Bellevue State Park	DE	4.6	12.5 %	3
McMillan Reservoir	DC	5.8	14.2 %	2
Edgewood	MD	6.6	14.5 %	3
Ancora State Hospital	NJ	5	13.0 %	3
Susan Wagner HS	NY	4.7	12.2 %	4
NEA	PA	5.1	13.4 %	4
AJ	RI	3.8	10.4 %	4
Aurora Hills	VA	5.3	13.1 %	4

Absent adoption of stringent new engine NOx standards, emissions from HDVs will increase in future years as truck ton-miles increase. The Federal Highway Administration (FHWA) projects that HDV ton-miles travelled will increase by more than 30 percent over the next 25 years.<sup>14</sup> This growth, if not counteracted by increased stringency of new engine emissions standards, will result in a significant increase in heavy-duty truck emissions.

Because of the importance of HDVs to air quality and public health in the OTR, in 2019, the OTC requested that EPA make the Cleaner Trucks Initiative one of its most urgent priorities.<sup>15</sup> In February of 2020, the OTC and MANE-VU provided comments on EPA’s Advanced Notice of Proposed Rulemaking calling on EPA to set emission standards for heavy-duty vehicles at 90 percent below the current standard and to harmonize with the California Omnibus program.<sup>16</sup> In June of 2020, the OTC sent a letter to EPA calling on the Agency to expeditiously propose a heavy-duty engine NOx standard 90 percent below current levels.<sup>17</sup> And in October of 2021, the

<sup>14</sup> Oak Ridge National Laboratory, Center for Transportation Analysis, “Freight Analysis Framework Data Tabulation Tool (FAF5),” [https://faf.ornl.gov/faf5/dtt\\_total.aspx](https://faf.ornl.gov/faf5/dtt_total.aspx) (accessed August 2, 2022).

<sup>15</sup> OTC letter to A. Wheeler, EPA Administrator, re: Cleaner Trucks Initiative, August 28, 2019, *see* <https://otcair.org/upload/Documents/Correspondence/EPA%20NOx%20Letter.pdf>.

<sup>16</sup> OTC comments to EPA on its Advance Notice of Proposed Rulemaking entitled “Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine Standards,” February 20, 2020, *see* <https://otcair.org/upload/Documents/Correspondence/OTC-MANEVU CTI ANPR comments 20200220 final.pdf>.

<sup>17</sup> OTC letter to A. Wheeler, EPA Administrator, re: expeditious development of NPRM, June 3, 2020, *see* <https://otcair.org/upload/Documents/Correspondence/20200603 OTC Letter to EPA MHDV NOx.pdf>.

OTC Mobile Sources Committee wrote to the EPA Administrator and to the Council on Environmental Quality asking EPA to act expeditiously to set stronger standards for heavy-duty engines and vehicles.<sup>18</sup> In May of 2022, the OTC and the Mid-Atlantic/Northeast Visibility Union (MANE-VU) submitted comments on the Agency's proposed Heavy-Duty Engine and Vehicle Standards requesting EPA finalize NOx emission limits equivalent to those in the CARB Heavy-Duty Omnibus Regulation.<sup>19</sup>

The OTR had been making progress for over a decade at addressing its regional ozone problem, with ozone levels trending downward due to the adoption of measures that reduce emissions of ozone precursors. In recent years, however, air quality monitoring data no longer show a declining trend. After significant improvements in the earlier years, the number of high ozone days in a number of OTC states have remained level or have slightly increased since 2011.

## **II. EPA Must Grant Waiver if California Program is at Least as Stringent as the Federal Program**

Congress has granted to California special and broad latitude to undertake motor vehicle emissions controls and has recognized the authority of other states to align their standards with California.<sup>20</sup> This approach acknowledges California's leadership and capabilities in establishing motor vehicle emissions controls, as well as its unique air quality challenges, and has consistently guided EPA's review and approval of the state's waiver applications under the highly permissive and narrow tests set forth in Section 209(b) of the CAA. EPA is required to grant California's requests for waivers of preemption for motor vehicle emissions standards where the agency finds that the state has a compelling and extraordinary need for such standards and that its approach is at least as stringent as the federal one, so long as the state has not been arbitrary and capricious.

In its action, EPA invited comment on whether (a) California's determination that its motor vehicle emission standards are, in the aggregate, at least as protective of public health and welfare as applicable Federal standards is arbitrary and capricious, (b) California needs such standards to meet compelling and extraordinary conditions, and (c) California's standards and accompanying enforcement procedures are consistent with section 202(a) of the Clean Air Act. With regard to section 209(b)(1)(B), EPA must grant a waiver request unless the Agency finds that California "does not need such State standards to meet compelling and extraordinary conditions." The California Air Resources Board (CARB) in its submittal to EPA has done a systematic job of outlining and responding to those criteria in the current waiver request as well as in numerous past requests.

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<sup>18</sup> OTC letter to M. Regan, EPA Administrator, and A. Brown, CEQ Senior Director for Transportation Emissions, October 22, 2021, *see* <https://otcair.org/upload/Documents/Correspondence/OTC%20letter%20to%20EPA%20CEQ%20re%20HDV%20NOx%20standards%2020211022.pdf>.

<sup>19</sup> OTC letter to M. Regan, EPA Administrator, May 16, 2022, *see* [20220516 OTC-MANEVU HD Standards NPRM comments final.pdf](#).

<sup>20</sup> "Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's Advanced Clean Car Program," 78 Fed. Reg. 2112-2115 (January 9, 2013).

### **III. The California Standards are More Protective of Public Health than Current EPA Standards**

California's and the Section 177 states' heavy-duty engine and vehicle regulations have a direct impact on air quality by lowering or altogether eliminating tailpipe emissions of smog-forming pollutants. California's and other states' ability to set emissions standards under the CAA is the single most important tool the states have to mitigate ozone forming emissions from transportation and is a critical component of their air quality strategies. The standards are also critically important to states' efforts to reduce the air pollution burden on environmental justice communities and to meet state climate goals.

Because of the current air quality problems in the OTR, states in the region need NO<sub>x</sub> reductions that go beyond the federal government's requirements for heavy-duty vehicles and engines. In 2021, the OTC modeled the emissions benefits of adopting the California ACT and Omnibus regulations in the OTR using EPA's MOVES3 model. The analysis showed that the two California regulations would reduce a cumulative amount of NO<sub>x</sub> pollution by as much as 700,000 tons between 2025 and 2050 from current federal standards.<sup>21,22</sup>

### **IV. The OTC Members Have a Long History Supporting Adoption and Implementation of California Vehicle Emissions Standards in States outside of California**

The OTC has previously taken the position that the Clean Air Act allows California to establish and enforce its own vehicle emissions standards, and states have the right to adopt and enforce the California vehicle emissions standards if they so choose.<sup>23</sup> Seventeen states and the District of Columbia have previously exercised their authority under section 177 to adopt California motor vehicle emission standards in lieu of the federal standards. Together with California, they represent over 140 million people and 40% of new light-duty vehicle sales.

The OTC has also recognized the need to accelerate the introduction of medium- and heavy-duty zero emission vehicles to address the region's persistent pollution problems.<sup>24</sup> Many of the OTC members are among the 17 states, DC, and Quebec that have committed, through a Multi-State Medium and Heavy-Duty Zero Emission Vehicle (ZEV) Memorandum of Understanding (MOU), to achieve 30 percent of sales of new medium- and heavy-duty vehicles ZEVs by 2030, and 100 percent of sales of ZEVs by no later than 2050.<sup>25</sup> State adoption of California's

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<sup>21</sup> ICCT, "Benefits of State-Level Adoption of California Medium- and Heavy-Duty Vehicle Regulations," October 2021, *see* <https://theicct.org/publication/benefits-of-state-level-adoption-of-california-medium-and-heavy-duty-vehicle-regulations/>.

<sup>22</sup> ICCT, "Benefits of Adopting California Medium- and Heavy-Duty Vehicle Regulations in New York State," May 17, 2021, *see* <https://theicct.org/publication/benefits-of-adopting-california-medium-and-heavy-duty-vehicle-regulations-in-new-york-state/>.

<sup>23</sup> Resolution of the Ozone Transport Commission Concerning States' Rights and Vehicle Emissions, adopted June 7, 2018, *see* [https://otcair.org/upload/Documents/Formal%20Actions/Resolution\\_Concerning%20States%20Rights\\_Vehicle%20Emissions.pdf](https://otcair.org/upload/Documents/Formal%20Actions/Resolution_Concerning%20States%20Rights_Vehicle%20Emissions.pdf).

<sup>24</sup> Statement of the Ozone Transport Commission Regarding the Need to Accelerate Electrification of Medium- and Heavy-Duty Vehicles, adopted June 2, 2020, *see* [https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Statement%20on%20MHD%20ZEVs\\_20200602.pdf](https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Statement%20on%20MHD%20ZEVs_20200602.pdf).

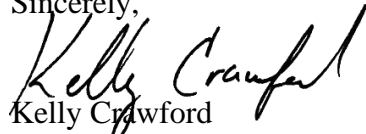
<sup>25</sup> Multi-State Medium- and Heavy-Duty Zero Emission Vehicle Memorandum of Understanding (updated March 29, 2022); available at <https://www.nescaum.org/documents/mhdv-zev-mou-20220329.pdf>.

programs provides the market certainty needed to drive investments in zero-emission technologies and is a key strategy for states to achieve these goals.

Three states in the OTR – Massachusetts, New Jersey, and New York – have adopted the California ACT regulation. One state – Massachusetts – has adopted the Omnibus regulation. More states will follow, given the superior NOx reductions provided by the California program as compared to the federal program.

For all of these reasons, the OTC strongly supports California’s waiver requests and respectfully urges EPA to grant the waivers.

Sincerely,

A handwritten signature in black ink that reads "Kelly Crawford". The signature is written in a cursive style with a large, prominent "K" and "C".

Kelly Crawford  
Chair OTC Mobile Sources Committee  
District of Columbia Department of Energy & Environment

cc: OTC Directors  
EPA Regions 1, 2, 3