



## **Don't Miss the Bus: Including Electrification of School Buses and Other Fleets in State Implement Plans under the Clean Air Act**

To: Edison Electric Institute (EEI)

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After a relatively slow start, several recent events should lead to many more students in the United States riding electric school buses – and breathing cleaner air – in the coming years. Similar advancements are coming for other medium- and heavy-duty fleet vehicles, such as public transit buses and waste collection trucks. The Infrastructure Investment and Jobs Act of 2021 included a large incentive for school bus electrification, providing \$5 billion over five years for the replacement of existing diesel school buses with lower emitting options, with at least half of that funding specifically designated for zero emission vehicles such as electric buses.<sup>1</sup> EPA issued its first awards under the program in the fall of 2022, distributing almost \$1 billion to school districts across the nation and prioritizing zero emission electric school buses for funding in each state.<sup>2</sup> Likewise, the Inflation Reduction Act of 2022 included a \$1 billion program to accelerate the adoption of zero emission medium- and heavy-duty fleet vehicles.<sup>3</sup> In addition to federal funding, many states receiving settlement funds from the emissions fraud case against Volkswagen have designated significant portions of those funds to school bus and fleet vehicle electrification projects.<sup>4</sup> Other states have taken steps to bring more electric school buses and other fleet vehicles to their communities.<sup>5</sup> And some electric companies, including EEI members, are partnering with school districts to bring more electric school buses to students and school districts in their service areas.<sup>6</sup>

Many of these programs focus on the health benefits to school children that come from riding cleaner vehicles to school and the positive climate impacts of transitioning away from diesel fueling of school buses and other fleets of medium- and heavy-duty vehicles (hereinafter, “fleet vehicles”).<sup>7</sup> However, there is another benefit of electrification of school buses and other diesel fleet vehicles that is often overlooked – overall improvement in the ambient air quality of the areas served by these vehicles. Replacing existing diesel vehicles with electric models can result in improved air quality, and some of those pollution reductions may be used to fulfill state air planning requirements under the Clean Air Act (“CAA” or “Act”), especially in areas designated as having poor air quality. As school bus and other fleet electrification efforts increase across the country, school districts, communities, and air planning officials should be aware of the air quality improvements these vehicles can bring and coordinate with one another to ensure these potential benefits can be maximized. As explained below, state and local air agencies should be able to help quantify the specific emissions reductions resulting

from a well-designed fleet electrification program and may be able to use those reductions to improve local air quality and meet certain CAA requirements.

This paper examines the available opportunities to include school bus and other fleet vehicle electrification programs in state implementation plans (“SIPs”) required under the Act. It explains the role of SIPs in attaining and maintaining air quality standards and how the emission benefits of electric school bus and fleet programs could be utilized to fulfill SIP requirements. It identifies the types of SIPs that could include the emission reductions attributable to such electrification, summarizes similar SIP actions that relied upon diesel emission reduction programs, and discusses relevant EPA guidance, while recognizing some unique qualities of school bus and other fleet vehicle electrification that may require additional EPA guidance and input. Finally, it highlights upcoming opportunities to include emission reductions from such programs in SIPs that communities and air agencies can consider when designing their electrification programs.

### Overview of Clean Air Act SIP Requirements for Ambient Air Quality

Ambient air quality in the United States is measured under the Clean Air Act through national ambient air quality standards (“NAAQS”). The Act requires the Environmental Protection Agency (“EPA”) to set NAAQS for certain pollutants and then designate air quality in every area of the country as meeting or not meeting those standards.<sup>8</sup> States are then responsible for attaining, maintaining, and enforcing the NAAQS within their borders through state implementation plans, or SIPs, which are collections of state-specific laws and regulations addressing air pollution.<sup>9</sup> While some basic SIP requirements are the same for all states, the specific requirements that a state must fulfill in its SIP depend primarily on whether its air quality has been designated as NAAQS attainment (*i.e.*, meeting) or nonattainment (*i.e.*, not meeting).<sup>10</sup>

The CAA sets specific deadlines for nonattainment areas to attain the NAAQS and requires states with these nonattainment areas to submit SIPs detailing how they will improve air quality in those areas.<sup>11</sup> SIPs in these nonattainment areas are generally required to include a variety of rules and programs to control emissions of NAAQS pollutants (and their precursors) and to provide air quality modeling showing that those controls will lead to NAAQS attainment in the area by the required deadline. EPA then determines whether each SIP meets the requirements of the Act and, after collecting resulting air quality data, whether each nonattainment area attained the NAAQS by those deadlines.<sup>12</sup>

Ongoing SIP obligations depend on that resulting air quality. Areas that attain the NAAQS can submit a SIP with the requirements necessary to maintain that good air quality and be redesignated to attainment; areas that do not attain the NAAQS must submit a new SIP with additional pollution controls to attain the standard.<sup>13</sup> Accordingly, under the CAA, there are a number of different types of SIPs that states may develop to attain, maintain, and enforce the NAAQS – general SIPs to address pollution throughout a state, attainment planning SIPs to improve air quality in nonattainment areas not meeting the NAAQS, and maintenance plan SIPs

to ensure that improved air quality will continue in former nonattainment areas.<sup>14</sup> As explained below, replacement of older school buses and other fleet vehicles with zero-emission electric options will result in emission reductions that could potentially be used to address many CAA SIP requirements.

#### History of Relying on School Bus and Other Fleet Vehicle Emission Reductions Under the CAA

Many school buses and other fleet vehicles are powered with diesel engines that produce emissions that can raise ozone and particulate matter (“PM”) NAAQS pollution levels, as well as other toxic and climate-damaging emissions. For more than 15 years, EPA has awarded rebates to school districts and other organizations to help replace older diesel school buses and fleet vehicles or retro-fit them with newer engines, recognizing that the use of newer, lower-emitting vehicles and engines will reduce pollution inside and outside buses.<sup>15</sup> At this time, it does not appear that EPA has taken action on a SIP including emission reduction credits from a school bus or other fleet electrification program,<sup>16</sup> but there is an established history of EPA approving SIPs that include emission reductions from the retrofit or replacement of older diesel school buses and other fleet vehicles with lower-emitting diesel options. Given the complexity of the SIP program, these emission reduction programs have been identified in several different types of SIPs to meet a variety of CAA requirements. For example, EPA has approved many different types of SIPs containing school bus emission reduction programs:

- In 2010, EPA approved inclusion of the Texas Clean School Bus Program as a general emission reduction measure in the state’s **general SIP**. The Texas Clean School Bus Program was an economic incentive program that combined federal, state, and local funds to retrofit more than 7,000 and replace more than 700 older diesel school buses in the state, focusing on buses that would transport students in and near ozone nonattainment areas.<sup>17</sup>
- In 2010, EPA approved inclusion of the School Bus Fleets Rule as a specific NOx control requirement in the **ozone attainment planning SIP** for San Joaquin Valley, California. The rule required replacement or retrofit of all school buses operating in the area that were manufactured before 1978.<sup>18</sup>
- In 2018, EPA approved the **PM2.5 attainment planning SIP** for Oakridge, Oregon, that included a school bus diesel retrofit program in a suite of measures to fulfill the CAA’s reasonably available control measure requirement.<sup>19</sup>
- In 2007, EPA approved an **ozone maintenance plan SIP** in West Virginia that included a school bus diesel retrofit program to fulfill the contingency measure requirements of the CAA.<sup>20</sup>
- In 2021, EPA approved a revision to the existing **ozone maintenance plan SIP** for Atlanta, Georgia that removed some existing control measures by relying on equivalent

emissions reductions resulting from a program to replace 85 older school buses with 2018 models.<sup>21</sup>

Similar emission reduction programs for other diesel fleet vehicles have also been approved into SIPs.<sup>22</sup> As replacement of existing diesel school buses and fleet vehicles with electric models would also lead to decreases in ozone and PM pollution, especially in areas with older fleets or relatively high levels of fleet vehicle use, there is a similar opportunity to include school bus and fleet vehicle electrification programs in SIPs and rely on their emission reductions to fulfill CAA obligations.

### Considerations for Including School Bus and Fleet Vehicle Electrification Programs in SIPs

EPA does not appear to have specifically addressed how the replacement of diesel school buses and other fleet vehicles with electric models should be accounted for in SIPs, but the approved SIPs including diesel retrofit and replacement programs described above provide a useful template for inclusion of school bus and other fleet vehicle electrification programs in SIPs. In addition to these specific SIP actions, EPA has also issued guidance to assist states in quantifying emission reductions from diesel retrofit and replacement programs and including them in SIPs.<sup>23</sup> This guidance explains how state air quality planners can use the EPA's MOVES model to quantify the emissions reductions that would occur from such programs.<sup>24</sup> For a state to take credit for emission reductions in a SIP, EPA requires the reductions to meet four criteria:

- 1) Quantifiable – measured in a reliable manner that can be replicated,
- 2) Surplus – not already relied upon in that SIP to meet CAA emission reduction requirements,
- 3) Federally Enforceable – EPA, the state, or citizens must be able to bring action against specific parties if the emission reductions do not occur, and
- 4) Permanent – emissions must be controlled throughout the time period covered by the relevant SIP.<sup>25</sup>

Each element of the creditable emission reduction demonstration and modeling analysis requires specific information, and such information can be built into the design and implementation of a successful diesel school bus or fleet vehicle replacement project if its designers are aware of the need to meet these requirements.

EPA has also issued guidance to help states determine the most cost-effective emission reductions from energy efficiency and renewable energy programs and how to incorporate such programs in SIPs.<sup>26</sup> While school bus and other fleet vehicle electrification are not directly addressed in this guidance, it may also be helpful in designing programs that meet SIP inclusion requirements. For example, its planning flowcharts and suggested emission reduction analyses could be helpful in designing the specific elements of a fleet electrification project to maximize air quality impacts, such as comparing various vehicle model, battery, and charging implementation scenarios or assessing different funding opportunities. In addition, EPA's guidance regarding inclusion of emission reductions from innovative and voluntary programs in

SIPs may be useful when designing school bus and fleet electrification programs, especially if aspects of those programs do not align well with the assumptions and requirements of the diesel retrofit and replacement guidance discussed above.<sup>27</sup> State and local air agencies should have the technical information and expertise needed to model and quantify potential emission reductions from a school bus and other fleet vehicle electrification program, and they are best equipped to understand the analysis and documentation needed to include such a program in a SIP. Involvement of state and local air agencies in these type of electrification programs should help maximize the ambient air benefits of such programs and utilize them to fulfill CAA SIP requirements, as necessary.

While school districts, legislatures, power companies, and other proponents of school bus electrification programs may design their specific programs with an eye toward their particular health and/or climate goals, designing and implementing programs that result in creditable emission reductions for CAA purposes is essential for relying on those reductions in state and local air planning.<sup>28</sup> For example, designing a electrification program with specific information on the quantity, type, and schedule for bus replacement will be important to quantifying the emissions, while including appropriate implementation mechanisms will likely be necessary to demonstrate its enforceability. Inclusion of an electric school bus or other fleet vehicle program in a SIP also means that the program must be carried out – if a SIP relies on the projected emission reductions from the program, but the program proponents do not adequately fund or implement it, the state would likely have to revise its SIP to control emissions from other sources – a time-consuming process that states want to avoid.<sup>29</sup> Involving air planning experts in school bus and fleet vehicle electrification efforts can maximize the health, climate, *and* air quality benefits of these programs.

In addition to including state and local air planning experts in these electrification projects, it may also be necessary to seek assistance from EPA experts. While the EPA guidance and SIP actions described above should provide a good starting point for developing an electric school bus or fleet vehicle program that can be incorporated in a SIP, it is likely that they will need to be adjusted given some of the unique aspects of electrification programs. For example, EPA's diesel retrofit and replacement guidance specifies that states may only take credit for emission reductions occurring between the time of the replacement/retrofit project and the remaining useful life of the existing vehicle, since the MOVES model already assumes that school buses and other fleet vehicles will be replaced by new, lower-emitting diesel at the end of their useful life as a part of normal fleet turnover.<sup>30</sup> However, bus and fleet vehicle electrification will result in lower emissions than both the existing vehicles they replace *and* the new diesel vehicles that would normally be used after fleet turnover. Likewise, electrification projects – especially for school buses – could include a variety of different funding sources (grants, direct funding, partnerships, etc.) and responsible parties (state grant agencies, school districts, power companies, etc.), and EPA could help assess the impact of differing program designs on their enforceability under the Act.<sup>31</sup>

Discussing these and other factors unique to electric school bus and other fleet vehicle programs with EPA should help ensure their inclusion in SIPs can be approved as easily as

possible, and state and local air planning experts will be in the best position to reach out to the appropriate experts in the EPA Regional and Headquarters offices. Given the variety of SIPs that could include emissions reductions from school bus and other fleet vehicle electrification programs and the specific analyses and demonstrations required for SIP inclusion, including state and local air agencies in the development and/or implementation of such programs is an essential piece of ensuring that the air pollution benefits resulting from them are identified and utilized as efficiently as possible.

#### Upcoming SIP Obligations that May Benefit from Electric School Bus Projects

While the interest in and funding for electric school bus programs appears to be increasing throughout the country, different areas will have different CAA obligations that could impact whether and how the emission reductions from electrification are included in SIPs. As noted above, the national ozone and PM air quality standards are most impacted by emissions from diesel school buses and other medium- and heavy-duty fleet vehicles. EPA is under a statutory obligation to determine whether areas across the country currently classified as nonattainment for the ozone and PM NAAQS are meeting those standards, and the Agency recently finalized a number of those determinations.<sup>32</sup> As explained previously, if EPA determines that any areas are still not attaining the relevant ozone and PM NAAQS, the Act requires those nonattainment areas to develop new attainment planning SIPs, often with additional and more stringent emission control requirements.<sup>33</sup> If electric school bus and fleet vehicle programs are implemented in such areas, the resulting emission reductions might be included in the state's plan to attain the NAAQS. On the other hand, if EPA determines that certain areas have attained the ozone or PM NAAQS, the state may be able to request redesignation to attainment and include a these electrification program in its maintenance plan SIP to show that improved air quality will continue based, in part, on the on-going emission reductions resulting from that program,<sup>34</sup> or include expansion of the program as a contingency measure if air quality deteriorated in the future.<sup>35</sup>

Even states without current or upcoming CAA requirements to include additional emission reductions in their SIPs may benefit from inclusion of school bus and fleet vehicle electrification programs in their air plans. For example, states with existing nonattainment areas could consider the option of including the programs in their general SIP now and taking credit for those reductions in a future SIP. EPA has recognized that this approach can allow for development and inclusion of an emission reduction program in a SIP when there is adequate interest and funding, even if the reductions will not be relied upon until some future period.<sup>36</sup> And given EPA's continual obligation to review and update NAAQS levels, all states may be able to benefit from electric school bus programs that reduce ozone and PM pollution and thus potentially avoid nonattainment designations – and their resulting SIP control requirements – in the future.<sup>37</sup>

## Conclusion

Regardless of whether school bus and medium- and heavy-duty fleet vehicle electrification programs are included in SIPs, their resulting emission reductions are real and will benefit the health of the children riding in those buses and the communities in which these fleet vehicles operate, while also addressing climate change. Mindful deployment of these programs can also help address the disparate racial and economic impacts of higher-emitting diesel buses and air pollution generally.<sup>38</sup> Highlighting the real and immediate impacts on ambient air quality of fleet electrification programs may also increase interest in and funding for such programs, especially if the programs have the additional benefit of fulfilling Clean Air Act requirements. As electric school bus and fleet vehicle programs increase throughout the country, school districts, communities, and air planning officials should work together to maximize the air quality benefits of these programs while also addressing Clean Air Act requirements as needed.

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<sup>1</sup> Public Law 117-58 (Nov. 15, 2021) at Title XI, *Clean School Buses and Ferries* (<https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf>).

<sup>2</sup> EPA Clean School Bus Funding (<https://www.epa.gov/cleanschoolbus/school-bus-rebates-clean-school-bus-program>); 2022 Awards (<https://www.epa.gov/cleanschoolbus/awarded-clean-school-bus-program-rebates>); 2022 Clean School Bus (CSB) Rebates Program Guide (EPA-420-22-025; May 2022) (<https://www.epa.gov/system/files/documents/2022-05/420b22025.pdf>).

<sup>3</sup> Public Law 117-169 (Aug. 16, 2022) at Title VI (<https://www.congress.gov/117/bills/hr5376/BILLS-117hr5376enr.pdf>).

<sup>4</sup> See, for example, Connecticut (\$12.7 Million for electric School Buses; <https://portal.ct.gov/DEEP/News-Releases/News-Releases---2021/DEEP-Announces-Award-of-over-12M-in-VW-Settlement-For-43-Electric-School-Buses-in-EJ-Communities>), Illinois (Up to \$9 Million for electric school buses; <https://www2.illinois.gov/epa/topics/air-quality/driving-a-cleaner-illinois/Pages/default.aspx>), North Carolina (\$11 million to clean heavy duty vehicle programs, <https://deq.nc.gov/news/press-releases/2022/11/09/daq-awards-11m-clean-heavy-duty-vehicle-projects-final-volkswagen-settlement-grants>).

<sup>5</sup> See, for example, New York (requiring a fully electric school bus fleet by 2035, financed with a pending \$500 Million bond measure; <https://www.timesunion.com/news/article/New-York-schools-have-five-years-to-begin-17072485.php>); California (\$130 million for zero-emitting school buses in rural areas; <https://californiahvip.org/news/hvip-fy21-22-policy-changes-11-22-2021/>); more than 15 states and the District of Columbia (agreeing to phase out fossil fuel-burning medium- to heavy-duty vehicle sales by 2050, <https://www.nescaum.org/documents/mhdv-zev-mou-20220329.pdf>).

<sup>6</sup> See, for example, Dominion Energy (<https://www.dominionenergy.com/our-stories/electric-school-buses>); PGE (<https://portlandgeneral.com/energy-choices/electric-vehicles-charging/pge-electric-school-bus-fund>).

<sup>7</sup> See, for example, <https://www.epa.gov/cleanschoolbus> and <https://electricschoolbuses4kids.org/our-work/> (noting that traditional diesel buses produce a wide variety of pollutants that can negatively impact the developing brains and bodies of the children riding those buses, and that transitioning the U.S. school bus fleet to electric could also reduce greenhouse gas emissions by millions of tons each year, respectively).

<sup>8</sup> CAA §§ 109 and 107, respectively.

<sup>9</sup> This paper uses the general terms “state” and “air agency” to refer to the state, local, and/or tribal authorities responsible for carrying out CAA-related duties in a particular area.

<sup>10</sup> Compare CAA § 110 (including general SIP requirements applicable to all areas) with CAA §§ 171-192 (providing specific SIP requirements for NAAQS nonattainment areas).

<sup>11</sup> CAA §§ 171-192.

<sup>12</sup> See <https://www.epa.gov/criteria-air-pollutants/how-epa-works-states-sips>.

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<sup>13</sup> CAA §§ 107(d)(3) (redesignation), 175A (maintenance plans), and 179 (consequences of failure to attain).

<sup>14</sup> While CAA § 110(a)(2)(D)(i)(I) requires states to submit “good neighbor” SIPs with any controls necessary to ensure that emissions from sources within it do not impact NAAQS attainment in other states, these “good neighbor” plans are not included in this paper as historically their requirements have not been met using controls to reduce emissions from mobile sources. See, generally, EPA’s Cross-State Air Pollution Rules from 2011 (76 Fed. Reg. 48208), 2016 (81 Fed. Reg. 74504), and 2021 (86 Fed. Reg. 23054), all of which only addressed emission controls for select stationary sources.

<sup>15</sup> See, generally, <https://www.epa.gov/dera>.

<sup>16</sup> In February 2023, EPA approved a California SIP adopting the Innovative Clean Transit (ICT) regulation, which was intended to reduce emissions of PM and NO<sub>x</sub> (an ozone precursor) by transitioning public transit bus fleets to zero-emission technologies by 2040, but the Agency specifically explained that it was “not approving a specific numerical credit for the ICT regulation in this rulemaking.” 88 FR 10049 (2/16/23) at 10052.

<sup>17</sup> 75 Fed. Reg. 18061 (4/9/10).

<sup>18</sup> 75 Fed. Reg. 10420 (3/8/10); see also 75 Fed. Reg. 17863 (4/8/10; approving inclusion of the Brandywine School Districts Clean School Bus USA grant in the ozone attainment planning SIP for Delaware).

<sup>19</sup> 83 Fed. Reg. 5537 (2/8/18); see proposed rule at 82 Fed. Reg. 52683, 52693 (11/14/17) for bus program details.

<sup>20</sup> 72 Fed. Reg. 27060 (5/14/07); see proposed rule at 71 Fed. Reg. 57905, 57913 (10/2/06) for bus program details.

<sup>21</sup> 86 Fed. Reg. 13191 (3/8/21).

<sup>22</sup> See, for example, 70 Fed. Reg. 48647 (8/19/05) (approving Texas program to reduce ozone-forming emissions in nonattainment areas, including from the retrofit and replacement of heavy-duty diesel trucks); 76 Fed. Reg. 71455 (11/18/11) (approving a North Carolina PM<sub>2.5</sub> maintenance plan SIP that relied, in part, on enforceable emission reductions from a diesel retrofit program for county fleet trucks used for solid waste pickup and included continuation of that program as a potential contingency measure), see proposed rule at 76 Fed. Reg. 59345, 58218 and 58222 (9/26/11) for details.

<sup>23</sup> *Diesel Retrofit and Replacement Projects: Quantifying and Using Their Emission Benefits in SIPs and Conformity* (EPA-420-B-18-017, March 2018; <https://downloads.regulations.gov/EPA-R09-OAR-2019-0318-0061/content.pdf>) (hereinafter, “2018 Guidance”). In addition to the CAA’s SIP requirements, this guidance also addresses transportation plans and related transportation conformity determinations required under the CAA for certain areas. These transportation plans do not undergo the formal EPA approval process required for SIP finalization, so it is difficult to assess exactly how many such plans may have included emission reductions from retrofit or replacement of school bus and other fleet vehicles. While use of electric school bus and other fleet emission reductions in transportation plans is not discussed in this paper, the 2018 guidance addresses use of diesel retrofit and replacement programs in such plans, and states may also be able to rely upon emission reductions from electrification programs in their transportation planning process.

<sup>24</sup> 2018 Guidance at 14-19.

<sup>25</sup> 2018 Guidance at 27-29.

<sup>26</sup> *Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs into State and Tribal Implementation Plans* (EPA-456/D-12-001a, July 2012; [https://www.epa.gov/sites/default/files/2017-06/documents/eeremanual\\_0\\_0.pdf](https://www.epa.gov/sites/default/files/2017-06/documents/eeremanual_0_0.pdf)).

<sup>27</sup> See available guidance at <https://www.epa.gov/state-and-local-transportation/general-guidance-innovative-and-voluntary-air-pollution-control>.

<sup>28</sup> For example, EPA only approved inclusion of the Texas Clean School Bus Program in the SIP after the state provided a detailed analysis showing that the emission reductions from the program were creditable (i.e., quantifiable, permanent, enforceable, and surplus). 75 Fed. Reg. at 18063.

<sup>29</sup> After EPA approved an ozone attainment planning SIP for Colorado Springs that included emission reductions from a Clean [Transit] Bus Acquisition Program (48 Fed. Reg. 55284, 12/12/83), the state could not acquire the necessary funding to finalize the program and had to submit a SIP revision substituting other emissions reductions for the bus program (64 Fed. Reg. 17102, 4/8/19).

<sup>30</sup> 2018 guidance at 20, 28.

<sup>31</sup> For example, EPA advises that given potential federal and state restrictions on requirements to replace vehicles, air agencies should consult with EPA “before commencing any state or local legal mechanisms (e.g. regulations, programs, contracts, etc.) that require” such programs in SIPs. 2018 guidance at 12.



<sup>32</sup> See Determinations of Attainment for 2008 ozone NAAQS Moderate nonattainment areas (84 Fed. Reg. 44238, 8/26/22), Determinations of Attainment for 2015 ozone NAAQS Marginal nonattainment areas (87 Fed. Reg. 60897, 10/7/22). See also Fine Particulate NAAQS Implementation Milestones (<https://www.epa.gov/pm-pollution/fine-particulate-naaqs-implementation-milestones>; noting the December 2021 attainment date for 2012 PM2.5 NAAQS Moderate nonattainment areas).

<sup>33</sup> See, generally, CAA §§ 181-182 (SIP requirements for ozone nonattainment areas) and 188-89 (SIP requirements for PM nonattainment areas).

<sup>34</sup> CAA §§ 107(d)(3) and 175A; see also 78 Fed. Reg. 44494, 44508 (7/24/13) (explaining that EPA's proposed approval of a redesignation request and accompanying maintenance plan for Sacramento, California, is based on part on continued emission reductions from "cleaner fuels, tighter emission standards, and fleet turnover in the mobile source sector").

<sup>35</sup> See footnote 19 and accompanying text, *supra*, discussing 2007 West Virginia maintenance plan SIP approval.

<sup>36</sup> 2018 Guidance at 31; see also footnote 16 and accompanying text, *supra*, discussing 2010 Texas general SIP approval.

<sup>37</sup> See, for example, the EPA Advance Program (<https://www.epa.gov/advance/benefits>), which helps states take actions to address ozone and PM pollution in attainment areas, noting that the cost of such actions taken to remain in attainment "is less than cost of meeting nonattainment/maintenance area requirements."

<sup>38</sup> Research shows that low-income students are more likely to ride the bus to school (<https://www.bts.gov/topics/passenger-travel/back-school-2019>), and that racially and economically disadvantaged communities are more likely to live in areas with poor ambient air quality (<https://www.lung.org/blog/environmental-justice-air-pollution>).