

Federal Advisory Committee Act
Clean Air Act Advisory Committee

Mobile Sources Technical Review Subcommittee

Virtual Meeting
May 25, 2022

Welcome & Opening Remarks

Due to health and safety concerns regarding the coronavirus, this Mobile Sources Technical Review Subcommittee (MSTRS) meeting was held remotely via Microsoft Teams. Ms. Julia Burch, the Designated Federal Officer (DFO), opened the meeting and noted that the meeting is open to the public and that there will be time later in the day for public comment. Previous meeting minutes as well as materials associated with this virtual meeting are available online on EPA's MSTRS website (<https://www.epa.gov/caaac/mobile-sources-technical-review-subcommittee-mstrs-caaac>). Ms. Burch also noted that the reports that were recently approved by the Clean Air Act Advisory Committee (CAAAC) are also being uploaded to the website. A list of attendees is provided in Attachment 1.

Virtual Meeting Agenda

10:30 - 10:45 am	Welcome and Opening Remarks	Julia Burch Rich Kassel
10:45 - 11:15 am	Introductions of MSTRS Members	
11:15 - 11:35 am	Remarks from OTAQ Office Director (With Q&A)	Sarah Dunham
11:35 am - 12:00 pm	Clean School Bus Program Update	Karl Simon
12:00 - 1:00 pm	Lunch	
1:00 - 1:30 pm	Update on DOE's Transportation Decarbonization Plans and Infrastructure Law Implementation	Michael Berube
1:30 - 2:00 pm	Regulatory Update	Bill Charmley
2:00 - 2:45 pm	Environmental Justice (EJ) Updates: EPA's EJ Policy Frameworks and Priorities and OTAQ's Approaches to Integrating EJ Into Our Work	Ale Nunez Courtney Herbolsheimer
2:45 - 3:00 pm	Break	
3:00 - 4:30 pm	Brainstorming Session: Exploring MSTRS's New Focus Area	Rich Kassel
4:30 - 4:45 pm	Public Comment	
4:45 - 5:00 pm	Final Remarks and Close Out	

Introductions of MSTRS Members

As this was the first meeting after adding new members to the committee, MSTRS Chair Rich Kassel asked each member in turn to introduce themselves and describe their particular interest or expertise in the mobile sources area.

Remarks from OTAQ Office Director

Ms. Sarah Dunham, the Director of the Office of Transportation and Air Quality (OTAQ), began by acknowledging the collective grief being felt over two recent mass shootings in Buffalo, NY and Uvalde, TX. She then thanked the MSTRS members for their valuable service, welcomed the new members, and provided an overview of what OTAQ has been doing since the last MSTRS meeting.

She noted that OTAQ is currently working on an unprecedented number of simultaneous high-profile and technically complex regulatory programs and rulemakings. A few highlights include:

- In December, EPA finalized the strongest light-duty greenhouse gas (GHG) standards in history, covering model years (MY) 2023-2026, and are now working on a follow-on rule that will establish multi-pollutant emission standards for MY 2027 and later light- and medium-duty vehicles (LDVs and MDVs).
- On the heavy-duty front, EPA proposed a rule for vehicles and engines a few months ago for MY 2027 and beyond, and are working on finalizing that rule now.
- The heavy-duty team is also working on another rulemaking that will establish more stringent GHG standards for heavy-duty vehicles (HDVs) starting as soon as MY 2030.

OTAQ is also working to address non-road emissions. Regarding aircraft, in February, EPA proposed new aircraft emission standards and test procedures for particulate matter (PM), which match the standards adopted by the UN International Civil Aviation Organization (ICAO) in 2017 and 2020. EPA is also working on an endangerment finding for lead emissions from piston engine aircraft. They plan to issue a proposal on this topic in 2022 and a final action on any potential endangerment finding in 2023. They are also working with international, federal, state, and local partners to understand and identify opportunities to reduce emissions from the locomotive, marine, and other non-road sectors.

On fuels and the Renewable Fuel Standard (RFS), EPA proposed and is now working to finalize the volume standards they are obligated to issue annually. They are subject to a consent decree for the rulemaking with a finalization date of June 3. They are also working on the “Set” Rule, as it is called internally, which will establish the renewable fuel obligations for 2023 and beyond. A new aspect of that rulemaking will be the establishment of a regulatory framework for “eRINs” – Renewable Identification Numbers (RINs), which are the renewable credits for the RFS program, that can be assigned to electricity used in the transportation sector. This will be a novel aspect of the RFS program, and EPA expects it will receive a significant amount of attention when the Set Rule is proposed, hopefully later this year.

Ms. Dunham also discussed work being done on voluntary and incentive programs at OTAQ. One program is the Clean School Bus (CSB) program, for which the agency received \$5 billion from the Bipartisan Infrastructure Law (BIL) to fund those efforts. She acknowledged that this scale of funding is practically unheard-of at EPA, and the agency is responding accordingly. The first funding opportunity, a \$500 million rebate program, was launched last week. Other programs that continue to receive attention are the SmartWay program, the Ports Initiative, and

the Diesel Emissions Reduction Act (DERA) program, which will support a tribal program and the National Grants program later in the year.

Ms. Dunham then discussed what OTAQ has done so far with the Future of Mobility Report, which was presented by the MSTRS to the CAAAC last fall, and adopted by the CAAAC in February of this year. Given that the report is nearly 200 pages and contains many recommendations, it has taken some time to review and digest the contents, but they are working on doing so. Ms. Dunham sees it as a regular agenda item going forward for EPA to report out to the MSTRS on how they are using the report. She noted that it has been shared widely across OTAQ, and each division of OTAQ is committed to taking on two recommendations to implement as a first phase.

In response to a question about whether anyone at EPA outside OTAQ has looked at the Future of Mobility Report, Ms. Dunham stated that the members and organizers of the CAAAC were very excited and impressed by it, and she and others in many other areas have referenced the report in meetings several times. She noted that the CAAAC is also looking at the report to see how it can inform that committee's conversations and work as well.

Discussion

One MSTRS member asked about the RFS Set Rule, pointing out that there were recommendations in the Future of Mobility report about ways to make it more effective at incentivizing carbon reduction. Ms. Dunham responded that there are a lot of good ideas out there regarding incentives for low GHG fuels, which is one of the core features of the RFS program, and the Set Rule would allow for a greater degree of flexibility to do this.

Another member asked whether folks at EPA are still working on clarifying or improving the way that electric vehicles (EVs) are handled by the Motor Vehicles Emission Simulator (MOVES) model. Ms. Dunham stated that other EPA staff would be able to give a more detailed explanation, but at a high level, the MOVES model is never done, and they are constantly working on updating and improving it. Ms. Burch added that they could take that question back to those staff and share their input with the MSTRS members later.

Clean School Bus Program Update

Mr. Simon, the Transportation and Climate Division Director at OTAQ, discussed the CSB program and the first funding opportunity.

He noted that the BIL provides \$5 billion over five years for the replacement of existing school buses with clean school buses and zero-emission school buses. The first funding opportunity under this program is the 2022 Clean School Bus Rebates. He noted that half of the \$5 billion is dedicated to zero-emission school buses and the other half is dedicated to zero-emission and "clean" school buses, which can include buses that use propane and/or compressed natural gas (CNG). EPA will fund applying school districts to replace up to 25 buses per district.

As permitted by the BIL, EPA will prioritize school districts that meet certain criteria, and they will be offered more funding per bus. These criteria are: low income areas with 20% or more of students living in poverty; school districts located in the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands; rural school districts; and Tribal school districts.

Only certain buses will be eligible for replacement. To be eligible, they must be 2010 or older diesel-powered school buses; have a gross vehicle rating of 10,001 lbs or more; be operational at the time of application; have provided bus service for at least three days/week during the 2021/2022 school year; and must be scrapped when replaced. The new replacement buses must have a battery electric, CNG, or propane drivetrain; be a MY 2021 or newer EPA certified vehicle; have a GVWR of 10,001 lbs. or more; not be ordered prior to receiving official notification of selection for EPA funding; and must be purchased rather than leased or leased-to-own. The maximum rebate amount per bus is dependent on the bus fuel type, size, and whether the school district served by the bus meets one or more prioritization criteria, with the rebate per bus ranging from \$15,000 to \$375,000. In addition, charging infrastructure funding, with some restrictions on the types of types of equipment that is eligible, for Class 3+ zero emission vehicles is available for districts that meet one or more prioritization criteria up to \$20,000 per bus, and up to \$13,000 per bus for other eligible school districts.

More information about the CSB program is available at <https://www.epa.gov/cleanschoolbus>.

Discussion

An MSTRS member asked about the two funding categories and whether it is possible for EPA to prioritize zero-emission buses over low-emission ones with the second pot of money. Mr. Simon stated that the structure of the Act doesn't give them a lot of leeway, but there may be more flexibility to do that type or prioritization with the grants program rather than the rebate program.

In response to a question about whether a state agency could apply on behalf of the priority school districts, Mr. Simon clarified that states can provide assistance, but the application needs to come from the school district itself. He noted that they strove to make the application as easy and short as possible to ensure the typical barriers would not be an issue for applicants. The website is also available to help applicants with the process.

Another MSTRS member asked whether EPA could add additional prioritization criteria, such as nonattainment status of the school district's locale, to take factors like air quality into consideration. Mr. Simon stated that they have some degree of freedom in the statutory structure to do things like that, but for the rebate program, their mantra was "simple, fast, and accessible." He stated that they could do things like that in the future based on conversations with stakeholders, but for now, they have a strict cutoff to make the process simple for everyone. The reason they went with the lottery approach is because it's a new program and they didn't want some districts to have an advantage due to their resources or past experience.

Update on DOE's Transportation Decarbonization Plans and Infrastructure Law Implementation

Mr. Michael Berube, Deputy Assistant Secretary for Sustainable Transportations in the Department of Energy's Office of Energy Efficiency and Renewable Energy, gave an overview of the work that's been done over the past year and a half by members of EPA, DOE, and the Department of Housing and Urban Development (HUD) to lay out a strategy for transportation decarbonization. Mr. Berube explained that transportation represents 50% of all energy expenditures in America and affects every part of the economy, so any policy strategy has to be extremely thoughtful, and there has to be a plan to address every source of transportation emissions, not just the largest sources.

Mr. Berube explained that the most dominant factors that will enable decarbonization are going to be fuel switching and vehicle and system level efficiencies. Reducing emissions requires a decrease in one or more of the following factors: the amount of activity, the energy intensity, and the carbon intensity.

Mr. Berube described electrification as the most important factor when it comes to LDVs, with hydrogen and biofuels playing a supporting role in other sectors. He cautioned against putting too much faith in a single technology or relying on old technologies for too long.

Solutions are urgent but incremental and should start being implemented now so they can grow over time. For example, sustainable aviation fuels are already being used, and the blend can be increased gradually but quickly. Mr. Berube noted that they did consider the full life cycle, and a separate group is considering the transformation of the energy grid as a whole, which will be necessary for decarbonization even after fleets are electrified.

Mr. Berube then provided a quick account of programs that will advance the decarbonization of the transportation sector:

- In 2021, DOE launched the Federal Consortium for Advanced Batteries, which laid out a full industrial strategy on batteries, and as part of the BIL, \$7 billion in funding was allocated to build out the US domestic battery supply chain
- The US automotive industry has agreed to a target of 50% of vehicles being ZEVs by 2030
- Hydrogen will be important for long-distance heavy-duty trucks, maritime, and supporting energy storage on the grid, and as part of the BIL, \$8 billion in funding was allocated to build four regional clean hydrogen hubs
- A multi-agency renewable fuels group announced the goal of producing 3 billion gallons of sustainable aviation fuel by 2030, which amounts to about 10% of consumption; this increased production will likely spill over and help other sectors that use biofuels

Mr. Berube emphasized that this transportation decarbonization will require a whole-of-government approach, and they are working closely with EPA and DOT as well as looking into other ways to formalize those connections and collaborations. Mr. Berube concluded by stating

that decarbonization is part of a broader effort to ensure a transportation approach that reliable, affordable, and environmentally friendly.

Discussion

An MSTRS member brought up the topic of transportation mode shifting towards public transit and walkability rather than increasing road capacity, which will require a new way of thinking about infrastructure planning. Mr. Berube agreed that this is a key part of achieving system change, and they recognize that their approach needs to be one of dialogue and communication to avoid overreach and being heavy-handed. The MSTRS member encouraged the DOE to consider the ways in which planning tools and resources can shape decision-making by providing accurate information, even when it goes against the common perceptions of these problems and solutions.

In response to a question about the affordability and emissions of hydrogen production, Mr. Berube acknowledged that in the BIL, Congress laid out a maximum standard of 2kg of CO₂ per kg of hydrogen, which is what those funding opportunities will target. He noted that there are questions about the global warming potential of hydrogen itself, and this needs to be studied now to avoid the mistakes that were made on gases like methane. He also agreed that affordability is a concern, noting that it will not be cost equivalent to EV LDV prices until hydrogen hits the equivalent of \$2/gal.

Another MSTRS member asked about the prospects for incorporating hydrogen into the RFS Set rule. Mr. Bill Charmley replied that in the long-term, EPA is paying attention to hydrogen, but in the short- and medium-term they want to be careful about how the hydrogen is produced before incorporating it into something like the eRIN system. Mr. Simon added that there are a few specific hydrogen-related pathways under the RFS program EPA is considering.

Regulatory Update

Mr. Bill Charmley discussed regulatory efforts at EPA related to mobile sources.

Highlights of the Final LDV 2023-2026 Rule published on December 30, 2021, include that it is predicted to result in more than 3 billion tons of avoided GHG emissions through 2050, and compliance with the MY 2026 standards can be achieved with a battery EV and plug-in hybrid penetration rate of 17%. The projected net benefits are \$190 billion, which are a result of improved public health, reduced climate impacts, and consumer fuel savings. From a consumer perspective, over the lifetime of a MY 2026 vehicle, the reduction in fuel costs will outweigh the increase in vehicle costs by about \$1,080.

For the Highway Heavy-Duty Engines and Vehicles 2027+ proposed rule, the standards are set by heavy-duty regulatory categories. Phase 1 vehicle standards were implemented in 2014-2018, and the Phase 2 program started in MY 2021 and will be fully phased-in by MY 2027. When designing the Phase 2 program in 2016, EPA considered the evolving EV market and projected

EV production levels in the heavy-duty market based on known and projected EV product offerings, including school buses, urban buses, local delivery trucks, and regional haul tractors. EPA proposed adjusting the Phase 2 GHG standards by sales-weighting the projected EV production levels of these four vehicle types and increasing the stringency of the MY 2027 standards. The also proposed to increase the stringency of the MY 2027 standards for 17 vehicle categories to capture the projected market penetration of ZEVs in those vehicle categories and requested comment on the potential for progressively more stringent CO₂ standards across MYs 2027, 2028, and 2029. According to EPA's Environmental Justice analysis, the most significant impacts of this rule would be reducing the impacts of heavy-duty trucks on regional ozone and PM_{2.5}.

For heavy-duty highway vehicles, EPA is developing multiple heavy-duty rules under the Clean Truck Plan, consistent with EO 14037 ("Strengthening American Leadership in Clean Cars and Trucks"). This includes setting more stringent NO_x standards for heavy duty engines and vehicles beginning in MY 2027; tightening the Phase 2 GHG emissions for MY 2027 and beyond; and setting Phase 3 GHG standards beginning as soon as MY 2030 that are significantly stronger than the MY 2027 GHG standards.

EPA is also setting more stringent emission standards for MDVs for MY 2027 and beyond, which will be proposed in combination with new standards for LDVs for MY 2027 and beyond. The standards for LDVs and MDVs are multipollutant, meaning that they cover both GHGs and criteria pollutants, and they consider the significant opportunity provided by ZEVs. These standards will be proposed in March 2023 and ideally finalized in March 2024.

EPA has also been working on standards for aircraft emissions. In February 2022, EPA proposed to adopt the international PM limits agreed to by the ICAO and is currently working on the development of the final rule. Mr. Charmley added that ICAO has also decided to undertake the development of more stringent aircraft CO₂ standards as well as technical work which could be used to support a future effort for new engine NO_x and PM standards. Independent of the ICAO, EPA also plans to issue a proposed determination regarding whether lead emissions from piston engine aircraft endanger public health or welfare this year and will finalize any determination in 2023.

Regarding renewable fuels, the RFS volume rules for 2020-2022 are being finalized, and the RFS "Set Rule" is in progress, which will introduce eRINs. In the last few weeks, EPA issued an emergency fuel waiver allowing E15 to be sold in many areas of the country, largely in response to the war in Ukraine and the effect that it has had on domestic and global fuel supplies.

Discussion

In response to a question about the RFS and whether EPA would start considering low-carbon fuels, Mr. Charmley stated that right now, the focus for the RFS program is on the statutorily mandated part of the program. The Clean Air Act (CAA) requires that EPA establish standards for MY 2023 and later, which is a huge effort, and there is not extra bandwidth available to make the program more expansive at the moment.

Regarding a question about ocean-going vessels, from a regulatory development standpoint, Mr. Charmley explained that they rely on the International Maritime Organization (IMO) to have a broader impact than what they could do under the CAA. The vast majority of ocean-going vessels in US ports do not sail under an American flag, but through the IMO they are able to accomplish some big changes for the marine and global fuels industries. Their goal is for the US delegation from EPA, the State Department, and the US Coast Guard to encourage a growing focus on climate at the IMO, with a number of GHG requirements already established and an understanding that more needs to be done.

An MSTRS member asked about whether any fuel changes are being considered for the next iteration of LDV standards, particularly around octane. Mr. Charmley noted that it is too soon to tell, and while they are not limited to the contents of the President's EO, it does call out several non-fuel areas as needing particular attention and focus.

Environmental Justice Updates

EPA's EJ Policy Frameworks and Priorities

Ms. Ale Nunez, the Deputy Assistant Administrator for Mobile Sources at the Office of Air and Radiation (OAR), provided updates on how EJ is being incorporated into the work being done on transportation at OAR. She explained that many low-income communities of color have suffered from high levels of air pollution for decades, and it is important to address these disparities. Ms. Nunez also noted that EJ and mobility justice were prominent themes in the Future of Mobility Report.

Ms. Nunez also discussed the many tools available at the agency to achieve pollution reductions. These include enhanced pollution monitoring and enforcement, updating standards and regulations, and promoting actions through partnership programs. They are working to incorporate EJ considerations into every aspect of their work, which is centered around community engagement and stakeholder partnerships. They have been working on enhancing their collaboration with the public, including listening to concerns both more often and earlier in the rulemaking process and involving both staff and senior leadership. They are having regular conversations with leaders and organizations as well as hosting listening sessions and meetings during the regulatory and program development process. For major actions, EPA is being proactive about outreach; for example, conducting community trainings to help people understand and participate in the public comment process.

Additionally, EPA is factoring EJ considerations into permitting, and Administrator Regan has indicated that he would like to see the same thing being done at the state, Tribal, and local levels. This includes working with permitting organizations.

OAR has also been trying to develop better data and analytical tools. On the mobile sources side, OTAQ is currently working with the Office of Research and Development (ORD) to assess the demographics of populations that live very close to truck routes, ports, railyards, rail lines, and airports.

Turning to emissions reduction efforts, Ms. Nunez explained that last August, President Biden issued an Executive Order (EO) related to the domestic automotive market. It called for clear standards, expanding EV infrastructure, expanding innovation, and investing in American auto workers. It sets the goal of 50% of all new vehicles sold in 2030 being ZEVs, including battery-electric, plug-in hybrids, and fuel cell EVs. In response to this EO, EPA announced the Clean Trucks Plan in March 2022. This is a series of regulations to reduce emissions from trucks and buses and enhance improvements in vehicle technologies. It is estimated that 72 million people live near truck routes in America, and they are more likely to be people of color and lower income, so reducing emissions from these sources is an EJ priority. As part of the Clean Trucks Plan, EPA proposed new standards in March 2022 for HDVs and engines starting in MY 2027. Ms. Nunez emphasized that this proposed action would reduce NO_x emissions from trucks by as much as 60% in 2045 and would result in widespread air quality improvements, especially in areas that are already overburdened by air pollution and diesel emissions.

Ms. Nunez also discussed EPA actions to reduce emissions from LDVs, including the finalization of new GHG standards in December 2021 for MY 2023-2026. They are also working on a follow-up rule for MY 2027 and beyond.

Another area of work is evaluating endangerment from lead from piston engine aircraft, which use leaded fuel and is currently the largest source of lead emissions. At OTAQ, they have been investigating the impacts near airports and evaluating whether piston engine aircraft emissions endanger public health and welfare, also known as an endangerment finding. They are planning to issue a proposed lead endangerment finding for public comment this year, and following evaluation of those comments, they will issue a final finding in 2023.

Ms. Nunez also pointed to new sources of funding for clean transportation. The BIL provided \$5 billion from 2022 to 2026 for the CSB program and allowed for the prioritization of high-need, disadvantaged school districts. In 2021, DERA was allocated \$7 million from the American Rescue Plan (ARP) to replace old diesel buses with new, zero-emission electric school buses. This rebate program focuses on school districts in underserved communities and Tribal schools. Additionally, the BIL also allocated \$7.5 billion for EV charging and related programs, with the target of having 500,000 public charging stations by 2030. Funding was also set aside for battery manufacturing and recycling efforts.

OTAQ's Approaches to Integrating EJ Into Our Work

Ms. Courtney Herbolsheimer continued to discuss more specific ways that OTAQ is integrating EJ into its various programs. She explained that EJ is embedded in the leadership structure at EPA, with an EJ Advisor who works with the Administrator, an entire dedicated staff at OEJ, National and Regional EJ Coordinators and Managers, the OTAQ EJ Advisory Group and Workgroup, and the National EJ Advisory Council (NEJAC). Outside of EPA, there is also the White House EJ Advisory Council (WHEJAC), which provides input across the Executive branch.

Ms. Herbolsheimer then reviewed two major EOs issued by President Biden in 2021. First there is the “Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government,” which calls for an equity assessment and action plans to address unequal barriers to opportunity in agency policies and programs; equitable allocation of federal resources to empower and invest in communities of color and other underserved communities; engagement with communities who have been historically underrepresented, underserved, and harmed by federal policies; and creates the Equitable Data Working Group. The other is “Executive Order on Tackling the Climate Crisis at Home and Abroad,” which created the White House EJ Interagency Council as well as the WHEJAC, called for a new climate and economic justice screening tool; and established the Justice40 Initiative, wherein 40% of relevant federal benefits flow to disadvantaged communities.

In addition, Ms. Herbolsheimer explained that EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” issued in 1994 directs Federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations; develop a strategy for implementing environmental justice; promote nondiscrimination in federal programs that affect human health and the environment; and provide minority and low-income communities access to public information and public participation.

Ms. Herbolsheimer illustrated how these EOs are implemented by looking at the recent heavy-duty proposal for MY 2027. The process for developing the proposal involved meaningful engagement with EJ stakeholders, including leadership and staff meetings with EJ stakeholders and frontline communities early and often during the rulemaking development process; post-proposal outreach and engagement to encourage EJ input on the rulemaking; and the development of an analysis of the effects of the rule on potential EJ communities.

Discussion

One member encouraged EPA to be more aggressive with its proposal for the Clean Trucks Rule, particularly the proposed Option 2. Ms. Nunez noted that the OTAQ team is currently reviewing the comments on the Clean Trucks Rule, and they have heard a lot from states and community organizations on this issue.

In response to a question about consideration of fuel regulations beyond the RFS for specific pollutants, Ms. Nunez stated that part of the reason they have been so focused on the volume rules were timing issues, but they are listening and want to hear from stakeholders about different ideas and issues.

Another member asked about themes that EPA observed when meeting with EJ groups and whether there were common threads in the feedback they heard. Ms. Nunez acknowledged that EJ groups are not a monolith but noted that they frequently heard that emissions need to be reduced; more work is needed on moving industries towards zero emissions, particularly in the heavy-duty sector; and EPA should encourage electrification. They also heard about the need to

substantially reduce criteria pollution due to the impacts on public health. Another theme was concern that funding from the CSB program or other initiatives would not result in concrete benefits for underserved communities.

Regarding a comment about EJ analyses and how EPA includes cumulative health impacts, Ms. Nunez explained that OAR is working with other EPA offices to improve their analyses and is also engaging with communities on this topic.

One member commented on the importance of finding a balance between long-term zero-emission goals and strategies and near-term emission reductions. For example, a challenge in New York is that they have a statutory commitment to electrification of buses by 2035 and 2040, which is great, but in the short term, there are currently health problems caused by pollution that aren't being addressed by those goals.

Brainstorming Session: Exploring MSTRS's New Focus Area

Mr. Kassel facilitated an open discussion among the MSTRS members about the different priorities and subject areas that would be useful and productive for the committee to dive into at the upcoming fall meeting now that the Future of Mobility Report has been adopted and the group is ready for a new charge from EPA.

The following ideas and topics were brought up by the members:

- Alternative approaches to the RFS and strategies for incentivizing fleet decarbonization
 - Applying standards to fleets as a whole rather than individual engines
 - Reshaping the RFS into a low carbon fuel standard
 - Fleet turnover and legacy vehicles
 - Allowing flexibility with incentive programs and mechanisms to target the vehicles that produce the most pollution rather than just the oldest vehicles
 - Facilitate sharing older but cleaner than the oldest technology as part of incentive programs
 - Considering which sectors tend to have the oldest vehicles, such as ports
 - Considering how to decarbonize the fuels sector even after a majority of new vehicle sales are EVs (ex. adopting more alternative fuels/biofuels), building on the ideas discussed in the Future Mobility Report
 - More broadly, coming up with approaches that can be applied across the transportation system rather than being limited to certain types of vehicles
- Considering actions that EPA can take quickly rather than going through the standard, lengthy rulemaking process
 - Considering which EPA programs and tools might be under-utilized currently and generating ideas and strategies for making better use of them; relatedly, identifying areas where EPA isn't currently devoting a lot of resources and effort and generating some recommendations for how to be more active and involved (ex. Ocean-going vessels, where EPA is currently engaged through international rather than domestic avenues)

- Balancing short-term and long-term priorities related to emissions, pollution, and electrification
- Balancing small-scale, regional, statewide, national, and international impacts of various policies (e.g. climate impacts vs localized pollution)
- Making sure that the MSTRS itself is producing timely and useful recommendations to EPA through CAAAC, while being cognizant of the work currently being done by the agency to avoid producing a report that is already outdated by the time it's finalized
- Considering the trajectory of long-term planning for Tier 5 standards to ensure that they're in line with the timelines for other rulemakings and the trajectory of the transportation sector as a whole
- Improvements to EPA screening and analysis tools and maps as well as emissions monitoring
 - Reflecting pollutant levels and spatial distributions more accurately and with more nuance, including for EJSCREEN and the permitting process
 - Reconsidering which metrics are used, where data come from, and how measurements are taken to get the most accurate and useful results
 - Encouraging greater use of life-cycle analyses
 - Developing useful tools and practices for State Implementation Plans (SIPs), such as for transit and ride sharing
 - Addressing the proliferation of tools from so many different offices and agencies to encourage some consistency, ensure that the number of options isn't overwhelming, redundant, or confusing, and make it easier to work with multiple different agencies without having to learn a different tool for each one
 - Generating recommendations and resources related to community monitoring and how EPA can support these activities with guidance, trainings, equipment, funding, or other resources
 - Considering tampering and defeat devices as they relate to regulatory compliance as well as modeling
 - Exploring the use of remote sensing to measure vehicle emissions
- Improvements to consumer engagement and communication
 - Working with DOT and DOE to launch a campaign around transportation emissions reductions
 - Workforce development training around new technologies
 - Considering the non-technical aspects of proposed solutions, such as public understanding and opinion, to ensure that they can be effectively implemented (e.g. HOV lanes that are effective in theory but were not popular in practice due to lack of buy-in and public support)
 - Addressing the reasons why many communities may have negative or adversarial relationships and attitudes towards EPA to move towards more productive dialogue and partnerships
 - Expanding and improving EPA verification schemes, certifications, testing, and guidance for providers of products or technologies that promise environmental benefits, emissions, or pollution reductions as well as improving communication around these products for consumers

- Develop a digestible soundbite like “reduce, reuse, recycle” for transportation and air quality
- Continuing to center EJ on all issues that are considered
 - Recruiting more community representatives and EJ experts to join the MSTRS as well as give presentations to the members on different topics while also being accommodating of limited time, energy, and resources of those individuals and organizations (such as exploring avenues for soliciting input and feedback that don’t require the investment of a full committee member)
 - Improving accessibility of new technologies and vehicles to disadvantaged communities
 - The results of tools such as EJScreen do not seem to match real-world conditions
 - There are too many EJ tools – there needs to be condensing and consolidation across federal agencies
- Combatting the silos within EPA and in the federal government to encourage collaboration
 - Additionally, improving partnerships with state and local agencies and other non-governmental partners
- Translating the themes and suggestions from the Future of Mobility Report into concrete actions and steps that EPA can take
- Considering new areas not discussed in the Future of Mobility Report
 - The maritime industry and ocean-going vessels
 - Expanding the scope of the committee to consider decarbonization of the entire energy sector as vehicle fleets become electrified

A few members also expressed interest in hearing presentations about various EPA tools, including EJSCREEN and the tools related to the Justice40 initiative.

In response to suggestions related to recruiting more community, Tribal, and EJ voices to the MSTRS, Ms. Burch noted that there is currently an open membership round and encouraged the attendees to spread the word and nominate qualified individuals to join the committee; she added that she would be happy to be a point of contact if any potential members wanted to know more. The Federal Register notice can be found at <https://www.federalregister.gov/documents/2022/05/11/2022-10126/request-for-nominations-for-mobile-sources-technical-review-subcommittee>. She also promoted the NEJAC as a potential partner to avoid duplicating efforts and take advantage of the broad and specialized knowledge and experience of its members.

Public Comment and Closing Remarks

An opportunity was given for members of the public to speak, and there were no volunteers. After a final reminder to consider nominating new MSTRS members, the meeting was adjourned.

Attachment 1

MSTRS Virtual Meeting Attendance List¹	
Name	Organization
Robert Anderson	Chevron Global
Matt Barth	Institute of Electrical and Electronics Engineers
Michael Berube	U.S. Department of Energy
Chris Bliley	Growth Energy
Lori Pampell Clark	North Central Texas Council of Governments
Michael Cleveland	Association of American Railroads
Dave Cooke	Union of Concerned Scientists
Elena Craft	Environmental Defense Fund
Raquel Garcia	Southwest Detroit Environmental Vision
Michael Geller	Manufacturers of Emission Controls Association
Megan Green	Mecklenburg County Government
Rich Kassel	Tri-State Transportation Campaign
George Lin	Caterpillar
Elaine O'Grady	Northeast States for Coordinated Air Use Management
Joanne Rotondi	Hogan Lovell
Matt Rudnick	General Motors Company
Craig Segall	California Air Resources Board
Matthew Spears	Cummins Inc.
Erik White	National Association of Clean Air Agencies
Other Attendees	
Julia Burch	
William Charmley	
Dominic DiCicco	
Sandra Franco	
Sarah Froman	
Doug Greenhaus	
Gil Grodzinsky	
Courtney Herbolsheimer	
John Kinsman	
David Lax	
Tyler Lazenby	
Rakesh Malhotra	
Stuart Parker	
Kara Podkaminer	
Sarah Roberts	
Kathryn Sargeant	
Karl Simon	
Margaret Zawacki	
Contractor Support	
Lesley Stobert	
Margaret Overton	

¹ This list of meeting attendees is not comprehensive due to a number of unidentified call-in participants.

