

Summary of the Mobile Sources Technical Review Subcommittee's Future of Mobility Report

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MSTRS Future of Mobility: Report Overview

Background:

EPA has been assessing how emerging transportation and mobility trends will impact air pollution, climate change, and other related issues

Examples of these trends include:

- Accelerating electrification of light-duty passenger cars and certain segments of the medium-duty and heavy-duty truck and bus market
- Increasing use of renewable, alternative fuel, and/or other low-carbon fuels in today's vehicles and future vehicles that will continue to operate on liquid fuels
- Changes in personal mobility that stem from the emergence of micro-mobility and the intersection of transit, land use, and community development
- Shifts in last-mile goods movement as retail goods increasingly are bought and sold online, a trend that has accelerated during the Covid-19 pandemic.

MSTRS Future of Mobility Overview (continued)

Objective:

- Given the emerging technologies and trends impacting the transportation sector, EPA sought detailed feedback from the MSTRS about EPA's role with respect to a range of future mobility paradigms

Structure:

- Each of the 35 subcommittee members self-selected into one of four subgroups: Vehicle Technology, Personal Mobility, Fuels, and Goods Movement
- EPA challenged each subgroup with a list of questions to initiate discussion
- From September 2019 through June 2021, the subgroups met and developed reports on their topics, assisted by an EPA moderator and scribe for each subgroup

MSTRS Future of Mobility Overview (continued)

Outcomes and Next Steps:

- Each subgroup produced a report that provided feedback and insights on their topic, including recommendations for EPA's near-, mid-, and long-term work
- Among other topics, each report discussed new approaches that should be considered by EPA to support its mission of reducing emissions, while increasing mobility, accessibility, and equity in years ahead
- The subgroup reports were finalized shortly after the June 2021 MSTRS meeting, and were combined into a single Future of Mobility report, which was approved for presentation to the CAAAC for its approval and submission to EPA at the October 2021 MSTRS meeting

Where We Began: Future of Mobility Scenarios

Subgroup	Scenario
Technology “Zero Emissions”	<i>In a world where the majority of new light-duty and heavy-duty fleets are zero tailpipe emission technologies (e.g., battery electric, hydrogen fuel cell), describe EPA’s work and role in reducing emissions from transportation while maintaining mobility.</i>
Personal Mobility “Share a Ride”	<i>In a world where the majority of people in the U.S. get from Point A to Point B using a transport mode other than a personally-owned vehicle, describe EPA’s work and role in reducing emissions from transportation while maintaining mobility/accessibility.</i>
Fuels “Future Fuels”	<i>In a world where alternative fuels such as electricity and hydrogen are used to meet a significant percentage of the light-duty and heavy-duty onroad fuel demand, describe EPA’s work and role in reducing emissions from the fuel pool.</i>
Goods Movement “I Want My Stuff!”	<i>In a world where goods delivery primarily happens through on-line orders and by direct-to-household-and-business deliveries, describe EPA’s work and role in reducing emissions from transportation options in the supply chain (e.g., between the final distribution site and a household or business).</i>

Questions for Each Subgroup

For each scenario, subgroups were asked to consider the following questions:

- What are the opportunities and challenges that may arise?
- What factors are most important for positive environmental outcomes?
- What type of information would EPA need?
- What tools/skills/authority would EPA need to continue reducing transportation emissions?
- What role would other stakeholders (Tribal, local, state govt, industry, NGO, etc.) play in this evolving landscape?
- What other new concepts are emerging that EPA needs to consider, i.e., what is the next disruptor?

10 Themes from the Future of Mobility Report

- 1) To meet the nation's GHG, criteria pollution, and other Future of Mobility goals, EPA should adopt a comprehensive approach to decarbonizing the entire transportation sector – which will mean accelerating the use of zero-emission vehicles (ZEV), decarbonizing the liquid fuels and the engines that will continue to be used in many applications, and finding ways to move people and goods in as sustainable and equitable a way as possible
- 2) Good data and analysis will be critical to meeting our Future of Mobility goals
- 3) EPA should consider ways to integrate and prioritize principles of social equity, environmental justice, and mobility justice in ways that have never been done before
- 4) EPA will need to identify and pursue ways to increase collaboration across agencies and levels of government
- 5) EPA should consider solutions that are outside its traditional regulatory authority

Future of Mobility Subgroup Highlights

Ten common themes (continued):

- 6) Fuel-neutral, technology-agnostic performance standards will continue to be critical for both fuels and vehicles
- 7) Incentive, public education, and outreach programs will continue to be critical to accelerate deployment
- 8) EPA will need to consider new approaches to solve new problems and old problems (e.g., legacy vehicles that may need to be retrofit or retired), some of which are beyond EPA's traditional role
- 9) EPA should consider additional strategies that will be needed for hard-to-electrify components of the legacy and future fleets
- 10) There is no "silver bullet"

Wrapping Up...

- Since the MSTRS completed its work, the Biden administration released its November report, “The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050”
- The MSTRS Future of Mobility Report is consistent with—and provides additional details that will help EPA implement—the Biden administration’s Long-Term Strategy, as well as the Mobile Source and other related recommendations of the CAAAC report, “The 50th Anniversary of the Clean Air Act”
- We look forward to working with you towards CAAAC approval of this report at the February 2022 CAAAC meeting and its submission to EPA thereafter