Federal Advisory Committee Act

Clean Air Act Advisory Committee

Mobile Sources Technical Review Subcommittee

Virtual Meeting
December 13, 2024

DFO Opening Remarks and Icebreaker

This Mobile Sources Technical Review Subcommittee (MSTRS) meeting was held remotely via Zoom. Clayton Batko, the Designated Federal Officer (DFO), welcomed all members, the press, and the public to the Mobile Sources Technical Review Subcommittee (MSTRS) meeting. Mr. Batko noted that the meeting is open to the public, and there will be time later in the day for public comment. Rachel Muncrief, the MSTRS chair, introduced herself and performed a roll call for MSTRS members. As an icebreaker, Ms. Muncrief asked that the MSTRS members also note their favorite holiday food or drink during the roll call. A list of attendees is included in Attachment 1. Sarah Dunham, the Director of the EPA's Office of Transportation and Air Quality, introduced herself and thanked the subcommittee for their contributions.

Agenda

10:00 – 13:30 am	DFO Opening Remarks and Icebreaker
10:30 – 11:15 am	MSTRS Introductions and Welcome
11:15 – 12:00 pm	Update from Locomotives Work Group Chairs
12:00 – 12:30 pm	Questions, Discussion, and Vote on Locomotives Report
12:30 – 1:30 pm	Lunch
1:30 – 2:00 pm	Update from EV Consumer Information Metrics Work Group
2:00 – 2:30 pm	Discuss Suggestions for EV Work Group Question 1
2:30 – 3:15 pm	Discuss Suggestions for EV Work Group Question 2
3:15 – 3:30 pm	Break
3:30 – 4:00 pm	Discussion on Next MSTRS Charge
4:00 – 4:15 pm	Public Comments
4:15 – 4:30 pm	Final Remarks & Close

Update from Locomotives Work Group Chairs

Lori Clark, one of the Locomotives Working Group chairs, provided a briefing on the working group's draft report, along with Molly Greenberg, Michael Cleveland, Will Carnegie, and Mary Arnold, who participated in the working group as chapter leads for specific sections. The goal of the work group was to inform the EPA on the potential of locomotive technologies related to

emissions reduction. The two work group charge questions are: What factors should the EPA consider when developing emission standards for existing locomotives when they are remanufactured? and What technologies should the EPA consider in setting the next set of emissions standards for newly manufactured locomotives? The workgroup members reviewed the structure of the report and summarized the contents of each section of the report. They also summarized the key points of the report, which included that older rail technology is lingering much longer than expected when the Tier 4 standards were adopted, particularly in the switcher space; 98% of yard engines are Tier 0+ or higher emissions rates; and yard engine emissions are particularly impactful on adjacent communities, due to the concentration of locomotive activity. Additional points noted were that investment in newer technology can deliver more efficient operations to the rail industry while also reducing criteria pollutants; a variety of emissions-reducing strategies are available and should be considered, including technologies focused on exhaust emissions and also overall locomotive operations; the EPA should review and redefine regulatory terms that have created a complicated regulatory environment relative to emissions requirements for locomotives; and the EPA should set stricter emissions standards for newly manufactured, remanufactured, and existing locomotives, prioritizing improvements for communities most heavily impacted by current emissions. The workgroup members noted that since the report was distributed for review, several minor revisions were made. They also noted two substantial changes that were recommended by chapter leads, which include adding a new "key takeaways" section to the executive summary and streamlining references to Executive Orders. The workgroup members suggested that in voting on whether to approve the report, there could be several options, which would be to 1) vote to approve the report with only the non-substantial revisions, 2) approve the report and include both the substantive and non-substantive revisions, and 3) send the report back to the work group to revise and vote on the revised draft at a future meeting.

Discussion

Note: The page numbers referenced below correspond with the draft version of the report shared with the MSTRS members prior to the December 13 meeting.

One MSTRS member expressed concern about the non-technical commentary included in the report, noting that reports from the MSTRS should not include social commentary or discuss executive orders. The member stated that the report should address technical issues that are within the purview of the Clean Air Act.

One MSTRS member noted that in the introduction to railroad operations portion of the report, there was no section on locomotive repair facilities and asked if there was a reason for that exclusion. The chapter lead replied that it was an oversight, and it should have been included.

An MSTRS member pointed out that on page 101, there was an error in the text for examples of locomotives upgraded to Tier 4. Also, on page 102, it was not clear whether the text was about an upgrade from Tier 1 or 0 to Tier 4, or if the discussion was about a re-power. The chapter lead replied that the error on page 101 could be corrected, and on page 102, the discussion was about

a re-power. The MSTRS member noted that it should be clarified that a re-power is being discussed.

An MSTRS member asked if the project mentioned on page 103 could have more details added. Chapter writers replied that they thought the project was an EPA feasibility analysis for the Tier 4 rulemaking, and that more details could be added.

An MSTRS member asked if more information could be added about the manufacturers of new Tier 4 engines, noting that they are primarily Wabtec and Progress Rail. The member also asked why original equipment manufacturers (OEMs) were not included in the compliance section on page 136 for technology providers.

One MSTRS member stated that on page 115 in the discussion about alternative alcohol fuels, it should be noted that E15 is approved from all new vehicles.

One MSTRS member asked if the technical portions of the document could be moved forward, and the non-technical portions of the document be moved to after those sections. One work group member replied that they would not support such a change and remarked that the work group wanted to frontload the environmental justice (EJ) discussion in the report. The MSTRS member stated that previous MSTRS reports are all technical and registered concern about the precedent this report would set. The member stated that it would be a compromise to have the technical portions and recommendations before the EJ discussion rather than not including the EJ discussion at all. One work group member stated that the group wanted to provide context for the report, and it was structured this way to put a focus on EJ. This work group member added that due to capacity constraints on including a discussion on EJ in each chapter, as originally planned, the group decided to include a chapter on it up front to ground the report. This work group member urged the MSTRS to respect the work group's deliberative process. An EPA staff member noted that EPA rulemakings always start with a summary of the rule and the reasons for the rule.

One MSTRS member stated that it seems that the work group has had a lot of discussion about the report structure, which addresses the charge questions. The member registered support for the work group's effort and noted that they would vote in favor of the current structure.

An MSTRS member mentioned that the most important and helpful information, from a lung health perspective, is the "why" of the report, which is about community health sustainability. This MSTRS member would like to keep those sentiments up front and supports the existing structure of the report.

Another MSTRS member supported the existing report order and reminded everyone that the purpose of the EPA is protection, as signified by its middle name. The member stated that elections should not change the direction of where this group is going.

One MSTRS member stated that they would like to see regulatory progress for locomotives and does not want report language to subvert that goal by including packaging or specific wording that would prevent people from reading the report or taking it seriously.

One MSTRS member said that the report highlights a lot of great information, and the member is comfortable with the revisions highlighted in the presentation.

One MSTRS member stated that there should be a reason presented in the report to give context to the technical information, and the order should be kept.

An MSTRS member stated that the technical sections need to balance that technology is available but is generally in the prototype stage, and these technologies need to be able to get through testing faster, like in the SuperTruck program.

One MSTRS member expressed unhappiness at seeing the hydrogen internal combustion engine (ICE) option highlighted the way it is in the report.

One MSTRS member asked where the EPA is in the rulemaking process. An EPA staff member responded that the EPA needs direction from its leadership to move forward with a rulemaking, but staff are continuing with data gathering.

The MSTRS members then voted on the approval of the report. Considering the discussion, the voting options were changed slightly from those included in the presentation to: 1) vote to approve the report with the non-substantive revisions and the specific changes noted on various pages in today's discussion, and 2) vote to send the report back to the work group for revisions, with the work group finishing the revisions by the end of January and holding another vote on the revised version at a future date. The results of the vote were 19 votes for Option 1 and for 7 votes for Option 2.

Update from EV Consumer Information Metrics Work Group

Chris Harto and Cynthia Williams gave a presentation on the status of the work group's efforts to date. The presentation began with a review of the work group's charge questions, which, in summary, were 1) What information is useful to consumers contemplating an electric vehicle (EV) purchase, including what information is not currently available, could be improved, and is needed for understanding efficiency? and 2) What data and testing does the EPA need to collect or conduct to provide consumers with this information, and does all the information need to be derived from testing or can it be collected? To date the work group has identified some high-level themes. One is that the right level of detail is needed at the appropriate place, which includes keeping the vehicle label simple and using QR codes for deeper information from the label. Also, Fueleconomy.gov is a resource for detailed information. Another theme is that there should be a balance between meeting consumer information desires with the burdens it may take for industry to provide that data. A third theme is that there should be an alignment between the EPA and the California Air Resources Board (CARB). There have been several data collection efforts to understand consumer data desires regarding EVs, and categories of information identified as important include efficiency, range, charging speed, fueling cost, and battery information. The work group has had several discussions about each of these data categories. The work group's next steps will be to continue with their data collection efforts and to compile results, focus on answering the key questions identified so far, and further evaluate the second charge question regarding testing needs.

Discussion

One MSTRS member asked why 70 miles per hour (mph) is used for testing vehicles, when that speed exceeds the speed limit in most states. A work group member responded that many states do have 70 mph speed limits, and the manufacturers want to have standardized test protocols.

One MSTRS member asked how much the state of charge impacts charging speed. Work group members replied that this should be tested at different levels of charge to develop an average that could be provided to the public, and the method chosen to do this should be consistent across all vehicles. They added that the charging curve needs to be distilled to a number that is easier to understand.

One MSTRS member asked if the work group had discussed how EVs learn from past drives to estimate range, noting that if the vehicle is typically driven in a city, the range estimates for a highway drive can be wrong. One work group member noted that this had not been discussed by the work group. Another work group member noted that this information would be determined by each manufacturer and would likely be confidential business information (CBI).

One MSTRS member asked how long an EV could power a house. One work group member replied that it is unclear if that information would be on a label, but it should be provided somewhere, like through a QR code.

One MSTRS member noted that having a QR code on the label that linked to Fueleconomy.gov would be good, and it would also be good to have a link to the locations of public chargers.

One MSTRS member stated that on the label, under-promising and over-delivering may be good in some areas and asked which areas this idea would be best suited to. One work group member responded that the label would show data for ideal conditions, which would not be the under-promising idea, but the work group is thinking about this, as well as including disclaimers.

One EPA staff member noted that the EPA would be interested in other data sources that exist, such as OEM applications. This would help the EPA to prioritize areas to work on and not duplicate efforts.

EV Label Discussions

The meeting broke into three breakout groups to discuss separate topics related to EVs. Summaries of the discussion of each group are below.

<u>Breakout Group 1: Efficiency and Range</u>

Questions:

1. Is there value in keeping both MPGe and miles/kWh as efficiency metrics?
2. How important are high and low temperature range estimates to consumers?
3. What is the best approach to using derived factors to estimate high and low temperature range performance?

One work group member noted that there are various EV consumers that should be considered. The member also stated that surveys should include the mainstream consumer, which would be someone who has never driven an EV. In addition, MPGe is a very useful metric for consumers, but it's important they know what it means. The metric can be used to compare the driving range of different vehicles and understand how often charging must occur. If double MPGe doesn't equal double the driving range, consumers need an explanation for why that is. Additionally, it is useful for advertised MPGe's to be calculated for various EVs under the same conditions, such as with the same engine. This reporting will make EV comparisons more informative. The member suggested that MPGe is a more informative metric than equivalent tank size.

One work group member stated that, on the topic of the impact of high and low ambient temperatures on EV range estimates, EVs recalculate driving range estimates during towing or high and low operating temperatures. The work group member asked if EVs should recalculate driving range in real time.

One MSTRS member noted that range under high and low temperatures is useful information for consumers. The member added that it is also useful to know how this range is impacted by factors, such as higher load. The MSTRS member also said that some consumers are switching to an EV from ICE engines, noting that EVs are still in the early adoption phase.

One MSTRS member agreed that range is one of the bigger questions consumers have when making an EV purchase. The MSTRS member also stated that driving range transparency is crucial for new sectors to adopt EVs, such as service vehicles. For those living in extreme temperatures, understanding the temperature range differences allows consumers to make the best decision for them.

Another MSTRS agreed with points made by other MSTRS members about the metrics consumers need. The MSTRS member added that there have been some "scary" recent articles about cold weather and charging that makes consumers apprehensive to make an EV purchase. Consumers need information about range. Additionally, car dealerships can play a major role in educating the public on EVs, including providing information on warm-up time, driving range, and where charging stations are located.

A work group member mentioned that the EPA is working on EV educational campaigns with rental car companies to provide drivers with charge location, driving range, temperature impacts, and other educational materials.

One work group member asked about how natural gas, propane, diesel, or gasoline vehicles react to extreme conditions and whether they are similar to EVs. Another work group member responded that there is likely an impact on ICE vehicles to extreme temperatures and added that the key here is to learn more about the impacts to EVs from extreme temperatures, mass chargers, absorption capacity, fast charge, etc.

One MSTRS member noted that most people are aware that vehicles have difficulties in cold weather, but that diesel vehicles do operate in extreme cold temperatures. A work group member

agreed that while it isn't a showstopper, people will likely use more fuel in extreme temperatures.

One MSTRS member asked whether range estimates are based on new battery conditions and whether consumers should expect charge time and longevity to change over the lifetime of a vehicle. A work group member replied that battery performance diminishes as it ages. However, the battery's performance can be monitored over time, in real-time, using a QR code.

One MSTRS member commented that in a presentation at the MSTRS spring meeting, it was noted that the impact of ambient outdoor temperature on efficiency was dwarfed by the impacts of vehicle climate control during operation.

One work group member stated that driving range is an important metric for consumers, and it is important when comparing vehicles. Most users are more interested in operation in cold temperatures. This member commented that driving ranges will be related to ambient temperature, and ambient range differences will most likely be similar between EVs. Given these assumptions, the member was not sure how useful multiple ranges would be in the comparison of EVs, as it would not likely differentiate vehicles.

Another work group member agreed that when categorizing vehicles, it might be best to group EVs by technology or engine, rather than a vehicle-specific range.

Breakout Group 2: Charging

Questions:

1. What is the best metric for charging speed?
2. Do we need to provide charging speed under alternative conditions?
3. What is the best way to derive time and range-based charging metrics using the SAE/ISO 12906 Standard?

A workgroup member asked how the EPA plans to communicate expectations on charging speed. An MSTRS member replied that expectation setting may not be quantitative and suggested adopting one or two quantitative metrics that go on the label, and a main label (not through QR Code) that has a very concise list of what makes charging slower or faster. The member also commented on the variability in real world conditions versus what is seen on labels. This MSTRS member thinks that the value of the label is really in comparing things like fuel economy, and miles-based metrics may be more helpful than percentage-based metrics to a new EV owner. A work group member responded that it was a good suggestion, and comparability is what has driven a lot of discussion around the miles-based metric and the time-based metric. The work group member also added that the time-based metric varies based on the batteries because two cars can have the same efficiency and charging speed but a car with a bigger battery will have a longer charging time, giving the car owner more miles. The work group member noted that they are still wrestling with deciding what metric makes the most sense. The work group member stated that comparability is what the label is most useful for, and it means having a universal standard metric that you can compare against. The work group member stated that this

is currently missing in the charging speed discourse, and manufacturers are all measuring in their own way.

One MSTRS member stated that people think about their once- or twice-a-year long-distance travel and how long they must stop, but this may be different when two-thirds of the market is saturated with EVs. The rule makers should be flexible and try to anticipate both current and future situations.

One MSTRS member doesn't think there is one metric that is best because different metrics answer different questions. The member asked if the work group is trying to identify one metric to go on the label or if the label can have more than one metric. A work group member responded that it is an open question, and as a group they are allowed to think broadly and have more information for recommendations. They are trying to give people information that is useful without overwhelming them, but this begs the question of where all the information goes. Do the metrics need to be on the label, or should there be a metric on the label and then additional information?

One MSTRS member suggested that some sort of miles per time that varies depending on charger levels (level two, or three etc.) would be good to have on the label.

Regarding Question 2, one MSTRS member says no. People need to err on the side of simplicity, and assumptions and results will vary. If a consumer is concerned about the once-a-year long-haul trip, then it changes the metric used for their Level 3 fast charge because the consumer is thinking about how long they must stop to get back to their full range. The member also noted that it depends on who is a consumer today versus who is a consumer in the future. A work group member suggested that there could be a miles-based metric, depending on how long you need to travel and considering the stop times for charging.

Another MSTRS member also said no for Question 2 and said that current EV owners are focused on that once-a-year trip, but thinking ahead to mass adoption of EVs, it might change what the interest is amongst a broader pool. The MSTRS member also mentioned that there is research available from the Transportation Energy Institute on current trends and what speed chargers are currently being installed.

There were comments about the clarity of Question 3, and one work group member thought the question is asking, “If we take a time-based metric and convert it to a range-based metric, are we converting using a highway range or a combined range?”

One MSTRS member mentioned experience using Chat GPT (AI) to shop for EVs and asked if there is a way to make shopping for EVs more interactive for consumers. Being able to ask specific questions may be helpful.

An EPA staff member mentioned that the information provided now can shape the mental models that people form and help them to meet their other needs, like saving money on operational costs.

<u>Breakout Group 3: Fueling Costs and Battery Information</u>

Questions:

1. Are the current 5-year fuel savings and 1-year fuel cost metrics on the label still the best metrics?
2. Should total or usable or both capacities be presented on the label?
3. Is there anything we can say in a standardized way about battery longevity?
4. Should information about V2x capabilities be standardized and included?

One MSTRS member noted that it might be good to present a range for some metrics. New owners don't know the price paid for charging until much later when they get the bill. Another MSTRS member noted that the National Electric Vehicle Infrastructure (NEVI) program in Austin, Texas gives information on charging costs. Another MSTRS member noted that there doesn't appear to be a good way to put this information on a label.

On Question 1, one MSTRS member felt there should be some information on the label that says the estimated costs are based on residential charging prices. Another MSTRS member agreed and noted that charging speeds have increased much more than expected ten years ago.

One work group member asked if there is information that is better to have on the label, rather than off-label, considering that the label should be readable and have usable information. An MSTRS member responded that including DC fast charging alone would provide unrealistically high cost estimates, but not everyone has access to home chargers in cities. An average of Level 2 and DC fast charging would likely also provide a high cost estimate. One MSTRS member responded that it depends on what is being compared, such as EV to EV or EV to an ICE vehicle. An EPA staff member noted that the information included on the label is determined through rulemaking, and the information on Fueleconomy.gov can change more readily.

One MSTRS member mentioned that total operating cost per year would be a very helpful metric. One MSTRS member responded that there are statistics for that, but they are difficult to determine until the vehicle has been in use for a fairly long time.

One MSTRS member noted that cost is very important, and the cost information provided should be realistic.

One MSTRS member asked whether Question 2 about capacities is asking about range. An MSTRS member replied that it is asking about what should be presented about the battery itself on the label.

One MSTRS member stated that nobody cares about kilowatt-hours itself as a metric.

One MSTRS member noted that it would be helpful to inform consumers about using their EV battery to power other things, like homes. Another MSTRS member added that manufacturers originally thought home powering would reduce battery life, but more research has shown that it does not.

One work group member noted that consumers really want to know about range, so usable capacity is what they want to know rather than total capacity.

One MSTRS member asked if usable capacity information is needed if the range metric is provided. One work group member responded that they didn't think so, unless the batteries are manufactured such that some capacity is reserved for use later in the vehicle's or battery's life.

One MSTRS member asked about the need for battery longevity information. One work group member stated that this information should already be in the warranty statement. The work group member also noted that standardizing this information is already being worked on by CARB and the EPA.

One MSTRS member mentioned that the vast majority of batteries will outlive the vehicle, but this information does not necessarily need to be on a label.

One MSTRS member asked how consumers would know if their EV has the capability to power a house (V2X capability) and noted that consumers need education in this area. Another MSTRS member replied that there are a couple of standards coming out for bi-directional capability. For it to work, both the EV and the battery must have the capability to do this charging, which most don't have yet. An EPA staff member suggested that there could be a logo for this capability on the label.

After the breakout groups finished their discussions, the groups re-convened and reported a summary of their discussions to the larger group.

For Group 1 - Efficiency and Range, the group agreed that there needs to be an understanding of who the audience is. The group also agreed that a majority of consumers may think MPGe (miles per gallon equivalent) is a good metric, but this may still need to be defined. The group also discussed how dealerships could/should provide information. The group also discussed how to derive factors for range under extreme temperatures. In addition, some vehicles have different technologies, which should be acknowledged and adjusted for.

For Group 2 – Charging, one broad point is that the highest value of the label is to present standardized data that can be compared equally for different vehicles, and it should be kept simple. A potential QR code and the information that is online was discussed. There was also a suggestion to have an interactive AI tool be available so that users could ask questions.

For Group 3 – Fueling Costs and Battery Information, several points were made. Fueling costs are important, but so are total costs. Having one number is OK, but there are a lot of assumptions that will go into that one number, and those assumptions need to be clear. There should also be a way to get customized data that is not on the label. Usable capacity is a more relevant metric than total capacity, but range is the metric people really want to know. People are generally unaware of bi-directional battery use capabilities, and this may be a metric to include on a label. Regarding battery longevity, people think this is covered by the warranty statement, and this could be difficult to standardize. During this summary, a work group member commented that regarding battery longevity, the industry knows about battery life, but consumers do not. This work group member added that the label is probably not the right place for this information on battery longevity, but it should be communicated.

Discussion on Next MSTRS Charge

Rachel Muncrief presented a slide that had sample ideas for the basis of a new MSTRS workgroup to be formed as the locomotives work group winds down its activities. Ms. Muncrief and Karl Simon of the EPA noted that the idea for this session is to get information from MSTRS members on the issues they see on the horizon and that are important to the U.S. related to mobile source emissions.

MSTRS members discussed the following topics:

- Alternative fuels for the aviation and marine industry sectors.
- Diesel hot spots, including ports.
- SmartWay for non-road equipment, especially farm equipment.
- Alternative fuels and place-based emissions reduction incentives for clean vehicles.
- Non-tailpipe emissions. Emissions from tires and brakes.
- Alternative fuel certification for propane and natural gas.
- Alternative liquid fuels, which would also include those for rail.
- Warehouses, which have become an increasing area of concern. Intermodal yards. A combination of place-based, alternative fuels, and SmartWay.
- Reactions included: Assess the largest source(s) of particulate matter (PM) emissions, first focusing action on those instead of immediately jumping to light-duty vehicles.
- Find ways to encourage low-carbon, high-octane fuels that result in real-world net emission reductions.
- Airport emissions. Reducing emissions from the in-use fleet.

An EPA staff member mentioned that the MSTRS had done some work on non-road emissions a few years ago, and the current MSTRS members could be refreshed on that work.

Public Comment

Michael Iden commented that the MSTRS developed a “Future of Mobility” report in 2021 and suggested that everyone look at Appendix H to that report about vetting new technologies, especially locomotives. He added that the availability of locomotive prototypes does not mean that these are ready for use.

An EPA staff member mentioned that this report was a great piece of work, which included over 200 recommendations.

Closing remarks

Mr. Batko and Ms. Muncrief thanked everyone for their participation. Mr. Batko noted that the EPA is planning for the next meeting to be a hybrid-style meeting, and there will be efforts made to include a field trip in conjunction with the meeting for those attending in person. He will also let the MSTRS know when the CAAAC meeting, during which there will be a vote on the MSTRS locomotives report, will take place.

Attachment 1

MSTRS Members Attendee List	
Rachel Muncrief	International Council on Clean Transportation
Ellen Mantus	Health Effects Institute
Michael Geller	MECA Clean Mobility
Sydney Vergis	California Air Resources Board
Cynthia Williams	Ford Motor Company
Chris Bliley	Growth Energy
Erik White	National Association of Clean Air Agencies
Matthew Rudnick	General Motors Company
Raquel Garcia	Southwest Detroit Environmental Vision
Lori Pampell Clark	North Central Texas Council of Governments
Megan Green	Mecklenburg County Government
Michael Replogle	Institute for Transportation and Development Policy
Aaron Katzenstein	South Coast Air Quality Management District
John Boesel	CALSTART
Clay Pope	Capitol Access Partners
Lubna Shoaib	East-West Gateway Council of Governments
Tara Ramani	Texas A&M Transportation Institute
Kathryn Zyla	Georgetown Climate Center
Mary Arnold	Civics United for Railroad Environmental Solutions, Inc.
Austin Brown	U.S. Department of Energy
Michael Hartrick	Alliance for Automotive Innovation
Kathleen Harris	Natural Resources Defense Council
Kanok Boriboonsomsin	University of California, Riverside Center for Environmental Research & Technology
Grace Olsen	Union Pacific Railroad
Beth Hinchee	Caterpillar, Inc.
Terry Riesen	Marathon Petroleum Company
William Barrett	American Lung Association
Jennifer Hadayia	Air Alliance Houston
Shakeena Reeves	Harambee House Citizens for Environmental Justice
Daniel Ingber	National Automobile Dealers Association
Other Attendees	
Noelle Baker	
Clayton Batko	
Brian Bennett	
Austin Brown	
Amy Bunker	
Byron Bunker	
Susan Burke	
William Carnegie	
Lance Casimir	
Bill Charmley	

Michael Cleveland
Marc Corrigan
Martin Costello
Daniel Cullen
Jessica Daniels
Sarah Dunham
Tim French
Steve Fritz
Cecilia Garibay
Molly Greenberg
Gil Grodzinsky
Mark Guenther
Chris Harto
Aaron Hula
Michael Iden
Dana Jackman
Brian Kelly
Tammy Klein
Michael Landgraf
Caroline LeFevre
Sonya Lewis-Cheatham
Amy Lilly
Tenylle Lockette
Rema Loutan
Beto Lugo Martinez
Britney McCoy
Chris Nevers
Doug Obey
Charlotte O'Donnell
Matt Payne
Logan Platt
Steven Polunsky
Adebimpe Rasak-Usman
Mariela Ruacho
Sarah Roberts
Bill Robertson
Allen Schaeffer
Greg Schroeder
Meredith Seibold
Jennifer Shea
Jenny Sigelko
Matthew Simon
Aaron Sobel
Lauren Steele
Mikayla Steele

Lesley Stobert
Chris Stoos
Abby Swaine
Sashi Velnati
Jonathan Vicente
Alex Wang
Linda Wilson
Dena Wojtach
Joyce Wong
Ryleigh Wright
Gabrielle Yoes-Favrot
Jason Zimbler