Transforming Transportation Advisory Committee

Meeting Minutes | January 18, 2024

The Transforming Transportation Advisory Committee (TTAC) held its inaugural meeting in person at the United States Department of Transportation's (U.S. DOT) headquarters in Washington, DC. In accordance with Federal Advisory Committee Act (FACA) requirements, the full meeting was open to the public via livestream. Vinn White, Designated Federal Officer (DFO), called the meeting to order at 9:00 AM ET.

The following individuals attended the public meeting:

TTAC Committee Members

- TTAC Chair: Kate Gallego, Mayor, City of Phoenix, Arizona
- TTAC Vice Chair: Bryant Walker Smith, Associate Professor, University of South Carolina School of Law (Special Government Employee)
- Nat Beuse, Chief Safety Officer, Aurora
- John Bozzella, President and CEO, Alliance for Automotive Innovation
- Jim Burg, President and CEO, James Burg Trucking Company
- Laura Chace, President and CEO, ITS America
- Mark Chung, Executive Vice President, Roadway Practice, National Safety Council
- Matthew Colvin, Chief of Staff, Transportation Trades Department, AFL-CIO
- Steve Dellenback, Vice President of Intelligent Systems, Southwest Research Institute (Special Government Employee)
- Thomas Dwiggins, Chief Fire Officer, Chandler, Arizona Fire Department
- Carol Flannagan, Research Professor and Director of the Center for the Management of Information (Special Government Employee)
- Shelley Francis, Co-founder & Managing Partner, EV Noire
- Kelly Funkhouser, Associate Director of Vehicle Technology, Consumer Reports
- Kim Lucas, Director of Mobility and Infrastructure, City of Pittsburgh, Pennsylvania
- Swati Mylavarapu, Co-Founder, Incite
- Raj Rajkumar, Professor of Electrical and Computer Engineering, Carnegie-Mellon University (Special Government Employee)
- Bryan Reimer, Research Scientist, Center for Transportation and Logistics/AgeLab, Massachusetts (Special Government Employee)
- Catherine Ross, Harry West Professor of City and Regional Planning, Georgia Institute of Technol (Special Government Employee)
- Cole Scandaglia, Senior Legislative Representative and Policy Advisor, International Brotherhood
- Steve Shladover, Research Engineer, University of California Berkeley (Special Government Employee)
- Bernard Soriano, Deputy Director, California Department of Motor Vehicles
- Amie Stepanovich, Vice President of U.S. Policy, Future of Privacy Forum
- Maria Trinidad ("Triny") Willerton, President and Founder, It Could Be Me
- Jeffrey Tumlin, Director of Transportation, San Francisco Municipal Transportation Agency
- Carol Tyson, Government Affairs Liaison, Disability Rights Education and Defense Fund
- Eileen Vélez-Vega, Secretary, Puerto Rico Department of Public Works and Transportation

United States Department of Transportation

- The Honorable Pete Buttigieg, Secretary of Transportation, U.S. DOT
- Vinn White, Senior Advisor for Innovation/TTAC Designed Federal Officer, U.S. DOT
- Christopher Coes, Assistant Secretary for Transportation Policy, U.S. DOT
- Scott Goldstein, Deputy Assistant Secretary for Policy, U.S. DOT
- Robert Hampshire, Deputy Assistance Secretary for Research and Technology/Chief Science Officer, U.S. DOT
- Ann Shikany, Deputy Assistant Secretary for Policy, U.S. DOT

Call to Order, Meeting Logistics, TTAC Overview and Purpose

Vinn White, Senior Advisor for Innovation/TTAC Designed Federal Officer, U.S. DOT, welcomed the TTAC members and meeting attendees. He gave background on the purpose and mission of TTAC, the role of the Committee on advising the Secretary, and the logistics of the inaugural meeting. Mayor Kate Gallego, the Chair of TTAC and the Mayor of the City of Phoenix, Arizona, and Bryant Walker Smith, the Vice Chair of TTAC and a special government employee, were introduced. Both Chair Gallego and Vice Chair Smith gave opening remarks and thanked members for convening.

Vinn White provided a brief overview of the agenda, including the three meeting topics: State and Local Agency Automated Driving System (ADS) Deployment Policy Needs, Anticipating and Addressing Workforce Impacts of ADS, and Artificial Intelligence (AI) Impacts on Transportation. He then led members through introductions before introducing Secretary Pete Buttigieg.

Welcome and Charge from the Secretary of Transportation

Secretary Buttigieg thanked his U.S. DOT colleagues, Chair Gallego and Vice Chair Smith, and the TTAC members for convening to address pressing topics, challenges, and opportunities in the transportation sector. The Secretary spoke about how the pace of change in transportation helps us mark modernity, to the extent that the "establishing shot" in film often uses transportation to indicate the time period. The Secretary noted that transportation has been affected by technology in unpredictable and surprising ways, with slower times and times of more explosive growth, and highlighted that the smartphone has been one of the most transformative transportation technologies of the last decade. He remarked that technology can empower us and that TTAC can help the U.S. DOT meet its mission to build new infrastructure, run systems, and protect people. From preserving civil rights to protecting people on roadways, the Secretary emphasized that protecting people is the core mission of U.S. DOT.

The Secretary also highlighted Executive Order (E.O.) 14110 on *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence* and asked TTAC to provide insights on the Department's approach to AI. The Secretary concluded his remarks by speaking to the roadway safety crisis currently impacting the Nation, noting that a one percent reduction in deaths could save around 400 lives a year. Finally, the Secretary asked the Committee to share the biggest changes they see happening across the transportation sector.

Remarks from Mayor Kate Gallego, Chair and Bryant Walker Smith, Vice Chair

Chair Gallego expressed gratitude to Secretary Buttigieg for providing remarks and posing the question to the Committee. The Chair noted the significant impacts of automation in Phoenix, which along with Chandler, Arizona is one of the largest automated vehicles (AV) test beds in the world. She emphasized the importance of ensuring people with economic challenges or disabilities are included in the design of

AV systems and highlighted additional questions around land use, drone projects, and ongoing labor shortages. Chair Gallego also noted the need to ensure resettlement communities are included in transportation discussions.

Vice Chair Smith noted that both legacy technologies and new technologies pose technical, political, and societal challenges. He also raised the question of opportunities and challenges around enforcement technologies and policies and the associated implications for governmental and corporate power.

Remarks from TTAC Members

Chair Gallego turned to the TTAC members to provide comments on challenges and issues that the Committee should consider. Key themes raised by the members are listed below:

- **Interoperability of Systems:** Laura Chace shared the need for a national framework that will enable interoperable systems while avoiding legacy issues, such as systems that do not share data with each other. She noted that there is an opportunity to modernize systems and create a digital layer to help perform tasks on our roadways through the development of these frameworks.
- **Equitable Safety Features:** Mark Chung noted the national safety crisis and stated that automotive manufacturers should not be competing on safety but rather providing safety features to as many people as possible.
- **Holistically Review Community Needs:** Shelley Francis shared that understanding community needs is important, including both the historical context and current and future transportation needs, education programs, and economic development opportunities.
- **Technology Impacts to Current Workforce:** Cole Scandaglia shared that it is important to consider the impacts of transportation technology changes on the workforce, including new training requirements and who will be impacted by these changes.
- **Workforce Shortages and Transportation Needs:** Secretary Eileen Vélez-Vega shared that Puerto Rico is facing transportation workforce shortages and that while technology is important, it should adapt to the transportation needs that currently exist. There is a need to address and fund basics while also considering innovation.
- **Automated Vehicle Accessibility:** Carol Tyson noted that the promise of AVs will only be realized if they are fully accessible and that having legislation to require accessibility from the beginning is critical.
- **Equitable Technology Adoption:** Nat Beuse asked how the public can be brought along in technology creation and adoption, noting the growing inequity and affordability of technology.
- **Clear Rules for Commercialization:** John Bozzella emphasized a need for clear rules on how technologies move to market, highlighting that ADS technology has moved from research and development to commercialization. He also shared that companies and countries that lead innovation will set the rules for technologies moving to market, and that consumer and safety considerations are necessary.
- **Following the Federal Aviation Administration (FAA) Safety Model:** Steve Dellenback asked if the FAA's model for safety could be replicated for AVs. He noted that there are many technologies that deserve skepticism and need further research to understand the safety implications of wide-scale deployment.
- **Transparency in Safety Data:** Carol Flannagan said the biggest challenge is current data systems that do not have the capability to answer critical safety questions. Public trust in certain technologies has declined due to the lack of transparency, and building a data process that is more transparent could help regain trust.

- **Understanding State of Technologies:** Kelly Funkhouser noted the importance of differentiating between technologies that already exist and those that are coming. Helping consumers understand today's technologies, including providing safety and convenience instead of distraction and confusion, would be beneficial.
- **Collaborative Safety Approach:** Kim Lucas noted that transparency and safety are key, and that improvements to cars do not mean we have solved the safety problem. Collaboration is needed to ensure meaningful safety work is completed.
- **Transformative Changes Needed:** Raj Rajkumar shared that TTAC should address safety, mobility, and climate change challenges, noting that the technical landscape is very challenging and evolving. Learning from regulations and then identifying a set of standards to address these challenges can be a goal of the Committee.
- **Human Behavior:** Bryan Reimer asked how we can bring humans along in safer and more efficient ways as technologies impact humans in unpredictable ways. Leveraging data and understanding consumer needs and choices can help address current technology challenges.
- **National Voice on Safety:** Catherine Ross called for a 24/7 voice on national safety supported through public and private partnerships. Additionally, she identified a need to understand and educate consumers on changing technologies.
- **Assessing Safety Across Systems:** Steve Shladover noted that the attempts by public agencies and private companies to compare the safety of ADSs with the safety of human drivers have been based on divergent assumptions, leading to inconsistent outcomes. There is a need to convene stakeholders from the industry, government and independent transportation safety researchers to seek agreement on a common approach to assessing ADS safety..
- **Public Safety, Data Sharing, and Enforcement:** Bernard Soriano noted that 39 companies are permitted currently in California to test AVs on public roadways, and upwards of 80 individual companies have been permitted for testing at one time in California. Challenges around fostering innovation while balancing public safety exist. Areas of interest include ensuring traffic laws reflect changes and are followed as technologies evolve, data sharing reliability, and assessing driver behavior.
- **Key Performance Indicators:** Jeffrey Tumlin invited members to review transportation technologies in San Francisco to see successes and failures of companies. He also recommended creating key performance indicators around climate, equity, and safety to categorize and understand successes and unintended negative consequences.
- **Addressing Lack of Awareness and Messaging:** Triny Willerton noted the lack of awareness around the safe systems approach and related federal legislation is concerning and stated that consistent messaging would be useful.

State and Local Agency Automated Driving System (ADS) Deployment Policy Needs

Vinn White introduced Ann Shikany, Deputy Assistant Secretary for Policy, U.S. DOT, to provide an overview of the topic. Ann Shikany thanked the TTAC members for convening and encouraged them to share their first-hand experience with ADS deployment. She noted her time at the Portland Bureau of Transportation in shaping ADS policy from the ground up and shared that state and local perspectives are needed to understand how the federal government can serve as a partner for ADS deployment. Past U.S. DOT work, including developing vehicle and trucking safety frameworks with NHTSA and FMCSA, have created a foundation, but an ongoing conversation is needed to understand and reflect on-the-ground experiences. Ann Shikany then asked Chair Gallego for her remarks on this topic.

Chair Gallego noted the learning happening in Phoenix related to ADS deployment, particularly with regard to public safety. The Chair highlighted the work of TTAC member Chief Thomas Dwiggins and the City of Chandler, Arizona on developing lessons learned in understanding ADS technologies as an early adopter. The Chair shared a desire for a national portal to share experiences from ADS deployments to help communities learn from each other and improve standardization. The City of Phoenix would also appreciate a way to see the information that companies are collecting that could have a positive impact on cities. Chair Gallego cited an example of an AV being able to identify when a stop sign is missing before the city does, which could lead to improved operations.

TTAC Member Remarks: State and Local Agency Automated Driving System (ADS) Deployment Policy Needs

TTAC members were asked by Chair Gallego to share their experience and recommendations for state and local ADS deployment policies. The key points of their comments are below:

- **Potential Federal Actions:**
  - Laura Chace noted a need for NHTSA action on ADS safety validation and testing. She stated the position that currently the risk and burden are transferred to state and local governments, which are not as well equipped to assess safety.
  - Matthew Colvin stated that the current Standing General Order (SGO) on Crash Reporting requirements does not capture all incidents (such as near misses). Expanding the SGO Crash Reporting requirements and creating a federal regulatory regime would be useful.
  - Chief Thomas Dwiggins shared the need for a national standard or curriculum for ADS and emergency response, as the inconsistency between software and platforms for each company poses safety risks during emergencies.
  - Nat Beuse highlighted the U.S. DOT's previous work on developing voluntary guidance for state and local agencies, noting the work that went into the development and approval of the policy. TTAC could identify next steps for bringing lessons learned in and evolving from a focus on testing to current-day issues related to deployment. U.S. DOT's ability to convene stakeholders is very valuable.
  - Bernard Soriano noted that the U.S. DOT could help define differences between testing and deployment; identify the role of government in software updates, including critical safety updates; clarify considerations for remote operations; and establish legal boundaries for enforcement.
- **Data Sharing and Privacy:**
  - Laura Chace stated that a national secure exchange of ADS with state and local governments would go a long way towards addressing existing challenges.
  - Amie Stepanovich noted the spectrum between non-personal crash data and personally identifiable information (PII). There is a need for government to protect data, such as by understanding how location data is being used and ensuring that personal data are protected. Additionally, ADS training data should be representative of a variety of users.
- **Building Flexibility into Regulations:**
  - Jim Burg noted that states are competing for technology investments and do not always have a full understanding of what technology deployments in their communities would mean in practice. A working group to determine best practices and ensure technology contracts are designed to be easily understood and revisable would be beneficial.

- Jeffrey Tumlin noted that good regulation is good for industry, but the regulatory process is slow by design. California did not anticipate some of the consequences of ADS, such as vehicles being unable to communicate with other systems when cellular networks went down during natural disasters or major events, therefore rapid adaptability in regulations is needed.
- Swati Mylavarapu shared that regulations are inherently limited because they happen in retrospect and innovations cannot always be anticipated. Therefore, finding ways to incentivize innovations that government wants could be more beneficial than only engaging with technologies once they have been developed by companies.

Vice Chair Smith summarized the comments by acknowledging that safety is essential across each of the themes and that state and local needs can't be addressed without discussing the federal role. The Vice Chair noted that the federal government needs to ensure they are fulfilling their safety requirements to address potential ADS defects that could occur.

Actions and Next Steps: State and Local Agency Automated Driving System (ADS) Deployment Policy Needs

Chair Gallego asked members if they would be interested in joining a Subcommittee on this topic; there was significant interest from the members. DFO Vinn White noted there is a process to invite others to Subcommittees that are not a member of TTAC, and that U.S. DOT would need advance notice if TTAC members decided to move forward with invitations. He also noted that more guidance on Subcommittee cadence will be provided, and timetables could be established with the Chair and Vice Chair at a later date. Committee members will also receive a poll to identify interest in Subcommittee participation and leadership after they have heard the full discussion in today's meeting. Laura Chace noted that being more specific on Subcommittee topics will help the members understand where they can contribute.

Ann Shikany closed the discussion by thanking members and noting the need to incorporate these real-world experiences into the work of TTAC moving forward.

Anticipating and Addressing Workforce Impacts of ADS

DFO Vinn White introduced Scott Goldstein, Deputy Assistant Secretary for Policy, U.S. DOT, to provide an overview of the topic. Scott Goldstein thanked U.S. DOT staff, the Chair, and the Vice Chair for the conversations so far and shared that the Biden-Harris Administration has been working to elevate labor and workforce conversations. New technologies can unlock potential benefits, but they do not occur in a vacuum. ADS has significant potential implications for professional drivers, although the timing, extent, and net impacts are unknown. Scott Goldstein added that job displacement, job creation, changes in job duties, working conditions, and training requirements are possibilities in the case of widespread ADS adoption. He noted that TTAC input can inform U.S. DOT's approach to developing a robust public policy response to guide future action, including work with federal partners. He then invited Chair Gallego and Vice Chair Smith to share their thoughts on anticipating and addressing workforce impacts of ADS and to lead the TTAC members in a discussion.

Vice Chair Smith responded that addressing the workforce impacts of ADS is a difficult topic and questioned how to best advise U.S. DOT given the different roles and expertise across the modes of the agency. TTAC will need an understanding of ongoing efforts, expertise, and authorities for handling the different aspects of labor considerations.

Remarks from TTAC Members

TTAC members were asked by Chair Gallego to share their remarks. A summary of responses is below:

- **Understanding and Communicating Workforce Impacts:**
  - Cole Scandaglia noted that conversations need to begin now to get ahead of job loss and displacement by ADS, and TTAC needs to understand what U.S. DOT can do under current authorities. He noted an interest from Teamster members in bus technologies that can assist operators in guiding the buses closer to the curb at bus stops to facilitate wheelchair access ("precision docking" of buses)..
  - Catherine Ross noted the need to anticipate and address workforce impacts before they happen and to communicate emerging job training opportunities.
  - Matthew Colvin noted that while there is ongoing work at U.S. DOT and the U.S. Department of Labor on workforce impacts of ADS, there is a need for the federal government to better understand and analyze workforce impacts, including impacts to wages and reabsorption rates. There is also a need to understand the workers' perspective on the design and operation of new ADS technologies.
  - Swati Mylavarapu noted that agility is important as technology can rapidly change and will dynamically change the workforce over time. She provided an example of a company in California that is automating tractors and that workers are excited about the new technology.
  - Bernard Soriano noted that workforce changes are part of an entire goods movement ecosystem and that is important to jobs beyond driving (e.g., jobs associated with truck stops, etc.).
- **Ensuring Equitable Representation in the Workforce:**
  - Shelley Francis noted that many underrepresented communities are impacted by mobility gaps and there is a need to include those communities in new job opportunities. There may be opportunities to address these gaps through partnerships with philanthropic organizations, corporation, other federal agencies, or schools to address.
  - Carol Tyson noted that drivers with disabilities need to be considered and that unintended consequences from the private sector should be addressed to ensure that AVs are equitable and accessible.
- **Alleviating Workforce Shortages and Challenges:**
  - Kim Lucas highlighted the potential for ADS to help alleviate some of the current gaps cities are facing in their workforce, such as by automating some aspects of waste management operations. U.S. DOT support in shaping technologies to address workforce shortages could be beneficial.
  - Steve Shladover noted that new technologies can create new jobs, such as remote monitoring positions that will require a license to operate vehicles in case of remote takeover. Other opportunity could be maintaining equipment on vehicles, which may be a suitable option for many workers today. These changes will happen over time.
  - Jim Burg highlighted that the potential changes on a diverse population of workers should not be underestimated; for example, certain ADAS technologies are currently improving truck driver pay and lifecycle. There has been more gain than loss from implementing technologies.
- **Considerations for Retraining Employees:**
  - Secretary Eileen Vélez-Vega noted that changes to the workforce can create questions around how to transfer or retrain employees in new job skills while still meeting

employment requirements. Further changes to vehicles would change vehicle inspection requirements, which currently do not account for ADS.

- Triny Willerton identified the need to prioritize federal support for retraining instead of focusing on funding for new vehicle technologies.
- Laura Chace noted that guidance from U.S. DOT and the U.S. Department of Labor on a holistic look at impacts and timelines as technology advances, instead of the current project-by-project method, is needed on how to address workforce changes, not only for ADS but also systems like Level 2 driving automation on buses. Drivers should understand the systems and what skills are needed today and in the future.
- Amie Stepanovich noted that ADS is a continuous part of transforming cars from machines to computers, and many questions arise around the maintenance and the operation of these systems, including the right to repair. When considering retraining or new job opportunities, all factors, including funding needs and people's ability to take advantage of job opportunities, must be considered.
- Bernard Soriano noted the need to consider heavy duty AVs, light duty AVs, and electric vehicles and the corresponding needs for each, including licensing, inspections, and hours of operation.
- Bryan Reimer noted that there will be significant changes in the nature of jobs, which creates opportunities for scenario planning and raises questions around workforce certification requirements. There is an opportunity for U.S. DOT to engage with national and local stakeholder on these topics.

Scott Goldstein thanked members for their comments and shared the need to reframe the focus from the technology to the people that will be impacted by technological changes, as they are our family, friends, and neighbors. Members then adjourned for a lunch break.

Committee Business: Subcommittee Establishment and Action Items

DFO Vinn White called the meeting back to order after the lunch recess and provided administrative reminders. Chair Gallego recalled a previous statement from Laura Chace on the need to clearly define Subcommittee roles and shared that Subcommittees will be the driving force behind recommendations brought back to TTAC. Vinn White shared that members would receive a poll to express interest in the Subcommittees and that U.S. DOT will act as an administrative and logistics partner to the TTAC Subcommittees, but ultimately the TTAC will be responsible for the organization and recommendations originating from these bodies.

Chair Gallego asked members to reflect on Subcommittees, including which Subcommittees should exist and if there are any areas for consolidation or expansion. Vice Chair Smith noted transformation is bigger than innovation, innovation is bigger than specific technologies, and the Safe Systems Approach shows how innovation can be both intangible and transformative. The proposed Subcommittees, noted by the Chair, include State and Local Agency Automated Driving System (ADS) Deployment Policy Needs, Anticipating and Addressing Workforce Impacts of ADS, Artificial Intelligence (AI) Impact on Transportation, and Technology and Innovation's Role in Improving Transportation Project Delivery.

Several members expressed an interest in emphasizing safety as a central focus of the existing topic areas. Other potential new Subcommittee topics included emerging, overlooked, and underutilized safety technologies, safe systems integration, and defining roles and players in transforming technologies.

Further, some members suggested dividing up current Subcommittee topics into more specific topical areas, such as dividing ADS policy considerations by state, local, and federal levels.

Dr. Robert Hampshire, Deputy Assistant Secretary for Research and Technology/Chief Science Officer, U.S. DOT, provided additional context on the topic of project delivery, noting that the U.S. DOT is actively engaging on this topic and has established a Project Delivery Center of Excellence at the Volpe Center. He notes that a recurring issue is the design of infrastructure projects, including both physical and digital designs. Secretary Eileen Vélez-Vega discussed the Advanced Research Projects Agency for Infrastructure (ARPA-I) as a potential venue for understanding infrastructure, technology, and AI needs.

Artificial Intelligence (AI) Impacts on Transportation

Dr. Robert Hampshire thanked everyone and introduced the next topic. He noted that AI has been emerging quickly over the last several years thanks to advancements in areas like transformer models, affordable computing power, microchip technologies, and data storage. There have also been advancements in speech analysis, image recognition, and the acceleration of generative AI. In the transportation sector, AI has been adopted in areas such as traffic control for aviation. Dr. Hampshire acknowledged the recent Executive Order (E.O.) 14110 on *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence* which identifies a need for TTAC and other U.S. DOT Federal Advisory Committees to provide recommendations on safe and responsible use, opportunities, and challenges of AI. Dr. Hampshire encouraged members to anticipate future needs instead of just reacting to the current situation.

Remarks from TTAC Members

TTAC members were asked by Chair Gallego to share their thoughts on the topic of AI on transportation. Key points of their remarks are below:

- **Data Accuracy and Privacy:**
    - Shelley Francis noted that the data coming out of AI models is only as good as the data going into AI models, and there is bias and discrimination in existing datasets. Understanding the impact on disadvantaged and underrepresented communities is needed in order to not facilitate further inequities in transportation.
    - Jeffrey Tumlin noted that existing data is largely not representative of a variety of people and thus AI does not always recognize all people, for example children and those with mobility devices. He shared that AI models should start with edge cases, not the average, otherwise there will be continued safety challenges.
    - Amie Stepanovich discussed three key issues: AI accuracy, intentional and unintentional discrimination, and privacy considerations around data and information that is shared.
    - Kelly Funkhouser noted that AI relies on machine learning and is trained on user data, so privacy should be a key focus area. Suppliers want a lot of user data, so data consent and monetization should be considered.
    - John Bozzella shared that TTAC should refocus the AI discussion on PII and how consumer privacy can be protected when considering private sector needs.
    - Steve Dellenback noted that AI can solve many problems, but people should not be forced to use AI as the only solution. It is challenging to say if a system is safe if we do not understand why an AI made a certain decision.
    - Raj Rajkumar noted that AI has the potential to process large amounts of data, but it can be wrong and should not be used for life-safety decisions. In addition, road infrastructure

is defined for humans, not computers and camera vision, which can limit the effectiveness of AI in the current built environment.

- **Risk Management:**
  - Bryan Reimer shared a quote Sam Altman, CEO of OpenAI, made during the 2024 World Economic Forum about whether it is appropriate to apply AI in areas that involve life-and-death decisions. He posed that TTAC should also consider this question and the risk management and mitigation approaches needed to address AI in the transportation sector.
  - Swati Mylavarapu noted that AI presents an opportunity to look back at recent transformations (e.g., social media and the gig economy) and consider what could have been done differently. Understanding both public interest and the role of AI developers to understand and mitigate risks is important.
  - Bryan Reimer stated that societal considerations for AI (privacy and life and death decision-making) should be considered separately from applications of AI being leveraged in overlooked and emerging technologies.
  - Vice Chair Smith shared that humans are also nondeterministic systems that can cause irreparable harm and that TTAC has the opportunity to raise the bar for everyone.
- **Policymaking and Definitions:**
  - Laura Chace asked the Committee how trust can be gained from AI without reinventing the wheel, citing the National Institute of Standards and Technology (NIST) AI Risk Management Framework as a potential example of something that could be leveraged. She also noted ongoing Intelligent Transportation Society of America (ITS America) efforts to recommend AI policies and proposed that TTAC and U.S. DOT should consider how to mitigate the risks of deploying new technologies and encourage applications focused on enhancing safety or other positive outcomes, rather than technology for technology's sake.
  - Steve Shladover noted AI can take on many different definitions, so it is important to make sure everyone is discussing the same things, and that guidance is provided from U.S. DOT on ongoing work and definitions. Vinn White and Robert Hampshire noted that current U.S. government public documents, definitions, and information relating to AI can be shared with TTAC members.
  - Jim Burg noted that certain tools, like smart traffic light technologies, are underutilized. Further, drivers need to understand what technologies exist and what standards are being used.
- **Positive Impacts of AI:**
  - John Bozzella commented that AI can be used to accelerate more accessible transportation options into the market and address safety concerns, such as by using AI to ensure children are not left unattended in vehicles. TTAC can help frame what the policy environment around AI in transportation can look like.
  - Triny Willerton noted that AI creates an opportunity to create jobs that will supervise processes and create human accountability for AI-driven decision-making.

Dr. Robert Hampshire thanked members for their perspectives and noted that technology should not just be considered for technology's sake, but for the mission of the U.S. DOT and the public good. He also noted that existing definitions, frameworks, and resources can be shared with TTAC members; that the Office of the Secretary, the Volpe Center, University Transportation Centers, and other U.S. DOT

advisory Committees and councils could be utilized; and that U.S. DOT will be responsive to TTAC about what is can and cannot do from a regulatory perspective.

Secretary Eileen Vélez-Vega asked for a current synthesis of work happening at U.S. DOT, the American Association of State Highway and Transportation Officials (AASHTO), the Strategic Highway Research Program (SHRP), and the Transportation Research Board (TRB) on the topic of AI. Committee members further asked for clarification on potential short-term wins for TTAC and if U.S. DOT would specify areas around AI that TTAC should focus on. DFO Vinn White noted that TTAC members and U.S. DOT are interested in the same areas and that a synthesis of relevant U.S. government and U.S. DOT documents can be circulated.

Recap of Meeting Progress and Review of Next Steps

Vice Chair Smith asked members to share any thoughts on deliverables, Subcommittee topics, and near-term wins for TTAC. Member comments are summarized below:

- **Prioritize Safe Systems Approach:** Triny Willerton noted the focus should be on prioritizing safety and raising awareness to the Safe Systems Approach, with opportunities for TTAC to message and raise awareness.
- **Government Alignment:** John Bozzella suggested that TTAC find opportunities on collective and proactive engagement across government on the topic of AI, which may include TTAC developing a policy framework on promising applications for U.S. DOT.
- **Solutions that Do Not Involve Data:** Amie Stepanovich noted that solutions that do not risk personal data should also be considered, such as ensuring a variety of crash dummies are used in testing and bumper levels.
- **Information Sharing:** Amie Stepanovich shared that states and Congress are moving quickly on legislation involving technology that will impact the transportation sector, so it is important that policymakers are well informed on these topics and do not develop multiple standards.
- **TTAC Charge:** Nat Beuse reminded members that the charge of TTAC is to provide recommendations and advice to U.S. DOT and that opportunities exist to refresh existing guidance instead of relitigating certain decisions.
- **Manageable AV Policy Approach:** Steve Shladover noted that AV policy for state and local government is a large topic and needs to be further refined into manageable pieces, including workforce implications and safety assessment frameworks.
- **Actionable Recommendations:** Vice Chair Smith reflected that the core charge for TTAC is to develop actionable recommendations on U.S. DOT actions.

There will be quick follow-up to ensure that the Committee can move forward with its goal to develop initial deliverables within months, including an online poll for members to firm up ideas. The poll will also solicit interest in an administrative session on an overview of U.S. DOT, its organizational structure, goals, and authorities. DFO Vinn White concluded that momentum should not be lost, and more information will be provided shortly, including requested reference materials.

Kate Gallego

Mayor Kate Gallego
Chair, TTAC

Vinn White
Designated Federal Officer, TTAC