Transforming Transportation Advisory Committee

Meeting Minutes | October 17, 2024

Overview

The Transforming Transportation Advisory Committee (TTAC) held its second meeting virtually via Zoom. In accordance with Federal Advisory Committee Act (FACA) requirements, the full meeting was open to the public via livestream. Ben Levine, Designated Federal Officer (DFO), called the meeting to order at 11:00 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
- 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)
- Kelly Funkhouser, Associate Director of Vehicle Technology, Consumer Reports
- Andrei Greenwalt, Chief Policy Officer, Via
- Kim Lucas, Director of Mobility and Infrastructure, City of Pittsburgh, Pennsylvania
- Gregory Nadeau, Founder and Chairman, *Infrastructure Ventures*
- 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 Technology (Special Government Employee)
- Cole Scandaglia, Senior Legislative Representative and Policy Advisor, International Brotherhood
- Steven 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
- Carol Tyson, Government Affairs Liaison, Disability Rights Education and Defense Fund
- Jeffrey Tumlin, Director of Transportation, San Francisco Municipal Transportation Agency
- Eileen Vélez-Vega, Secretary, Puerto Rico Department of Public Works and Transportation
- Pam Wood, Director of Human Rights, Hewlett Packard

TTAC Committee Member Representatives

- Julia Friedlander, Senior Manager for Automated Driving Policy, San Francisco Municipal Transportation Agency on behalf of Jeffrey Tumlin, Director of Transportation, San Francisco Municipal Transportation Agency
- David Quinalty, Head of Federal Policy & Government Affairs, Waymo on behalf of Tekedra Mawakana, Co-Chief Executive Officer, Waymo

United States Department of Transportation

- Christopher Coes, Acting Under Secretary of Transportation for Policy
- Scott Goldstein, Deputy Assistant Secretary for Transportation Policy
- Dr. Robert Hampshire, Principal Deputy Assistant Secretary for Research and Technology
- Mike Horton, Acting Chief Artificial Intelligence Officer
- Ben Levine, Deputy Assistant Secretary for Research and Technology/TTAC Designed Federal Officer
- Cordell Schacter, Chief Information Officer
- Cynthia Maloney, Director, Project Delivery Center of Excellence
- Sophie Shulman, Deputy Administrator, National Highway Traffic Safety Administration
- Polly Trottenberg, Deputy Secretary of Transportation
- Kristin White, Acting Administrator, Federal Highway Administration
- Vinn White, Deputy Administrator, Motor Carrier Safety Administration

Call to Order, Meeting Logistics, Welcome Remarks

Ben Levine, TTAC Designated Federal Officer, called the meeting to order and provided an overview of the agenda. He informed members that the meeting would include reports from the four subcommittees. The two original subcommittees, Automated Driving Systems (ADS) and Artificial Intelligence (AI) Impacts on Transportation, would be sharing their draft recommendations, and the two new subcommittees, Project Delivery and Emerging, Overlooked, and Underleveraged Innovation for Safety, would provide an overview of their preliminary work.

Ben Levine then invited the three new TTAC members, Pam Wood, Andrei Greenwalt, and Greg Nadeau, to introduce themselves. This was followed by brief remarks from Deputy Secretary Polly Trottenberg and Acting Under Secretary of Transportation for Policy Christopher Coes, who thanked TTAC members for their time and expertise and shared how the TTAC's work would contribute to the Department's ongoing efforts on artificial intelligence, project delivery, and innovative technologies. They also noted that several representatives from the Office of the Secretary of Transportation, the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA) would be participating in the meeting.

Mayor Kate Gallego and Bryant Walker Smith then welcomed the members and audience to the meeting, highlighted the significance of positive transformations in transportation, and provided an overview of the committee's voting rules. Mayor Gallego then turned the floor back to Ben Levine to introduce the first subcommittee update.

Subcommittee Update: Automated Driving Systems (ADS)

Before the ADS subcommittee presentation, Ben Levine invited Sophie Shulman, Deputy Administrator of the National Highway Traffic Safety Administration (NHTSA), Vinn White, Deputy Administrator of the Federal Motor Carrier Safety Administration (FMCSA), and Scott Goldstein, Deputy Assistant Secretary of Transportation for Policy to provide remarks. They reiterated their appreciation for the committee members and expressed gratitude for the variety of perspectives they provided. They also welcomed the new members and shared their eagerness to hear from TTAC.

Bernard Soriano then introduced the work of the ADS subcommittee and its three working groups: Data Collection, First Responders, and Workforce Impacts. He shared that the group had been meeting approximately weekly for several months and thanked the members for their work. He also explained that each working group would share their preliminary recommendations and then take an informal vote to gauge overall support from the full committee. Finally, he noted that the draft recommendations had been circulated to the committee in advance of the meeting and thanked those who had already provided their feedback.

Automated Driving Systems (ADS) – Data Collection

Steven Shladover noted that the data working included representatives from a wide range of organizations and stakeholder groups. He then presented the draft recommendations and associated problem statements, which included 1) federal collaboration to support state and local agencies, 2) new analysis methods, 3) existing human driving date, 4) ADS data collection, 5) data confidentiality and access, and 6) burdens associated with ADS data. He also shared the subcommittee's recommended actions, including:

- Facilitate consistent and comprehensive learning about early ADS deployments
- Support training and professional capacity building for public agencies
- Establish a technical assistance program for state and local agencies

- Convene state and local stakeholders to participate in defining ADS impact assessment and data collection approaches
- Support the development of analysis methods to apply to ADS impact assessments
- Fund and conduct ADS impact research and analysis
- Support ADS data collection and dissemination
- Seek applicable lessons from other modes
- Reexamine and update current data collection and disclosure practices developed in the content of human drivers
- Create more easily accessible data dissemination platforms
- Accelerate USDOT information sharing by removing impediments to rapid dissemination of findings
- Update the NHTSA Standing General Order (SGO)
- Facilitate improved public understanding of SGO crash data

Steven Shladover also emphasized that the subcommittee discussed the need to inform the public without revealing sensitive information, as well as the need for improved accuracy in data reporting and communication. He concluded by opening the floor for questions and comments.

Catherine Ross asked if the subcommittee considered prioritizing the recommendations as a starting point for moving the conversation toward implementation. Steven Shladover responded that it had been discussed, but members had different priorities. He also noted that the group wanted to highlight early opportunities, such as sharing lessons from early deployments and establishing training and capacity building efforts. Bernard Soriano agreed with Steven Shladover's response while noting that some members believed that work on the SGO could also begin quickly.

Bryan Reimer commended the group's work and posed two questions. First, he asked if there had been a discussion about including language regarding when to select a baseline. His second question was, with regard to SGO data, whether there had been any discussion on level of confidentiality tied to the type and severity of incidents. Steven Shladover responded to the first question by sharing that Carol Flannagan had been doing research in this area and that the group talked about making fair comparisons and the challenges of finding relevant baseline data. He also shared that the recommendation on baseline data collection addressed this comparison. Carol Flannagan added that the recommendation to develop analysis methods also addressed this point. Bernard Soriano then responded to the second question, saying the group had much discussion on this matter. Bryan Reimer indicated that he was satisfied with both answers as they demonstrated that both items had been considered.

Pam Wood thanked the group for the recommendations and noted that she was pleased to see the inclusion of personally identifiable information (PII) concerns. She also discussed the broader need to establish standards for data handling beyond securing personal data, such as standards for responsibly sourcing and anonymizing training data. She emphasized that the full breadth of privacy concerns should be integrated into the recommendations.

Kim Lucas noted that in addition to measuring ADS performance, it would be helpful to leverage the capabilities of ADS to get more information about roadway safety. For example, additional information about minor incidents that aren't included in state-run databases would help inform decision making and planning. She also mentioned that it would be highly beneficial for cities to have improved access to

certain ADS data, especially in instances and locations where there are not reporting requirements for operators.

Bernard Soriano called for an informal vote in principle to indicate the extent to which TTAC members generally agreed with the recommendations, recognizing that outstanding comments could still be addressed. Bryant Walker Smith took the lead the straw poll of members. This informal poll showed that there was general agreement with the draft recommendations. Following a question from David Quinalty, Bryant Walker Smith clarified that the formal vote would happen in December. Bernard Soriano concluded the discussion by sharing that the working group would incorporate feedback from the committee members and develop an updated document in approximately one month. He then passed the floor to the next working group.

ADS Public Safety and First Responder Working Group Updates

Chief Thomas Dwiggins began by acknowledging the contributions of Nat Beuse, David Quinalty, and Julia Friedlander. He then recounted the community outreach that happened via a listening tour with first responders in nearly every jurisdiction in which ADS had been deployed, including officials in San Francisco, Los Angeles, Santa Monica, Phoenix, and Austin. He expressed that while subcommittee's problem statements reflected the primary challenges faced by the first responder community, most interactions have been positive. Chief Dwiggins continued by sharing the subcommittee's problem statements on the following topics:

- ADS interference with first responder operations, such as running over equipment or blocking emergency vehicle movements
- ADS interactions with human traffic control (e.g., hand signals) and response to traffic control equipment
- Communication challenges when needing a vehicle to move

To address these issues, the subcommittee envisioned TTAC recommending that U.S. DOT work with stakeholders to develop a workplan that would address:

- Data collection and measurement of first responder interactions
- Equipment and procedures necessary for timely and effective communication between fleet operated AV and public safety workers
- Training and performance standards for industry staff
- Ongoing forums for first responders and developers to discuss challenges

Following the presentation, Bernard Soriano noted that most of the feedback pertained to urban and suburban environments, as that is where most interactions have occurred to date, and that additional use cases and operational design domains would need to be considered in the future.

After the committee members were asked for their feedback, Catherine Ross called for more education and re-education for those entering complex situations involving ADS or AI.

Eileen Vélez-Vega then shared that revisions to strategic highways safety plans (SHSPs) must be submitted periodically and that emergency response is one of the four pillars of traffic safety. She suggested that it would be helpful to coordinate the recommendations with the SHSP process.

Finally, David Quinalty suggested that more detail and background could be provided in the recommendations to emphasize that most ADS interactions with first responders are positive and that ADS companies are actively involved in training first responders and law enforcement officers. He also shared that sharing these positive notes would provide a more complete picture to U.S. DOT and the public.

Bernard Soriano turned to Bryant Walker Smith to hold an informal vote to assess agreement with the draft recommendations. The majority of committee members expressed their agreement via raised hands, and no significant concerns were noted. Bernard Soriano then passed the floor to the final ADS subcommittee working group.

Automated Driving Systems (ADS) – Workforce and Economic Impact

Cole Scandaglia began by thanking the members of the working group. He then provided an overview of the subcommittee's problem statements and associated recommendations. These include:

- Prioritizing the identification of stakeholders to improve awareness of specific equities or expertise related to workforce and economic impacts of ADS
- Producing and monitoring research on the impacts of ADAS and ADS deployment on the transportation workforce
- Using existing tools to address the impacts of ADS deployment
- Improving interagency cooperation
- Producing a comprehensive workforce development initiative to support the transportation workforce of the future

Following the presentation, Cole Scandaglia shared that the working group had already received proposed edits from Bryant Walker Smith, which the working group would consider for the next iteration of the recommendations. Bernard Soriano then opened the floor for comments from the committee.

Nat Beuse provided commentary directed to U.S. DOT, stating that deployments are often happening at the local level, and it would help to learn from the states that have the earliest deployments to inform a national approach.

Bryant Walker Smith then asked members to indicate who has made comments and who plans to make comments, then gauged support for the document. The members demonstrated support for the draft recommendations.

This session concluded with remarks from Bryant Walker Smith, who thanked the subcommittee for their work before passing the floor to Ben Levine to introduce the next subcommittee.

Subcommittee Update: Artificial Intelligence (AI) Impacts on Transportation

Ben Levine introduced Dr. Robert Hampshire, Deputy Assistant Secretary for Research and Technology, Cordell Schacter, Chief Information Officer, and Mike Horton, Acting Chief Artificial Intelligence Officer to say a few words on the importance of AI to U.S. DOT. They shared their appreciation for the committee's work and their support in meeting the goals of the Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. They also noted the importance of balancing risks with benefits, with the ultimate goal of reducing transportation-related fatalities and serious injuries.

Following the opening remarks, Steve Dellenback acknowledged the subcommittee document's length and thanked those who had already shared feedback. He noted that the goal of the discussion was to identify what is good, what is missing, and what needs work in the recommendations. He also reiterated the subcommittee's four tasks, which include:

- Identify applications of AI to transportation that U.S. DOT should be monitoring most closely
- Identify transportation-specific needs for guidance on the application of AI
- Identify transportation-specific risks from AI that U.S. DOT should monitor
- Identify transportation-specific benefits from AI that U.S. DOT should embrace (added by TTAC)

Steve Dellenback also shared that the subcommittee had nine active participants and had met 23 times over the past 7 months. He also noted that the recommendations included four areas – connected vehicles, infrastructure, transit, and freight – each of which comprised difference subsets of information and recommendations for U.S. DOT. Additionally, he reiterated that AI is a very broad topic, and areas where the subcommittee did not have expertise may not be adequately represented. Finally, he shared that the subcommittee had solicited input from experts outside of the committee and that those individuals are acknowledged in the recommendations document.

Before opening the floor to comments, Steve Dellenback noted that the subcommittee had already received some written feedback but encouraged members to share that feedback again during the meeting for the full committee's benefit. He also shared that even within the subcommittee, uncertainty remains regarding privacy and monitoring and that it may be best to consider those issues separately to avoid slowing progress on the other topics.

Carol Flannagan noted that many of the recommendations said, "U.S. DOT should develop X," and that there wasn't a prioritization of recommendations or an explanation of why U.S. DOT is the best entity to encourage development. Carol recommended adjusting the phrasing and sharing a list of technologies for U.S. DOT to evaluate. She also noted that there was a strong industry voice throughout the document (e.g., references to "hindering innovation"). Additionally, she suggested that rather than promoting consumer acceptance, U.S. DOT's scope should be limited to providing information.

Cole Scandaglia supported Carol's comments. He felt that the recommendations leaned too heavily on the deregulatory approach. While there are instances where new technology doesn't fit into regulation and regulation can be flexible, he was concerned with the breadth and scope of technology that this approach was suggested for. Additionally, he noted there wasn't much coverage for the aviation and maritime industries. While some recommendations may be appropriate for all modes, AI applications often look different between modes.

Steven Shladover noted that the scope of recommendations appeared to encompass anything that deals with computers and software. He encouraged bounding the scope to a smaller subset. Steve Dellenback responded that this was not intentional, and that the subcommittee will address it.

Nat Beuse noted that the document could be better organized around themes and felt that the document tried to cover too broad of a scope, while also omitting freight. He suggested framing recommendations around themes, particularly safety. Additionally, he suggested that the document could include ways that the U.S. DOT could help State DOTs. Nat expressed concerns about intellectual property and suggested finding someone with relevant expertise to provide insight.

Laura Chace clarified that the regulation recommendations were meant to encourage use of U.S. DOT's existing tools, including sandbox programs and pilots, to test impacts of AI. She added that the goal was to highlight positive impacts of AI as well as the risks.

Pam Wood noted that there was a heavy emphasis on risk of AI use, but a lack of focus on the risks associated with testing and the rest of the lifecycle. She encouraged the group to broaden the risk profile and include concerns such as privacy, equitable access, and reducing bias. She recommended including high level recommendations on how U.S. DOT can best govern AI.

David Quinalty noted that the breadth of topics covered is "a mile wide and an inch deep." The large scope may result in difficulty getting alignment on everything. He suggested breaking the recommendations up to achieve consensus. Additionally, he felt that the ADS section did not feel specific to AI and encouraged improved scope and definitions. He suggested adding a clause that clarifies that silence on a topic does not indicate that the topic is not an area of interest.

Members continued to share reflections from subcommittee participation thus far. Bryan Reimer noted that getting a collective opinion out of the subcommittee was very difficult, as there are still a lot of unknowns about AI. He emphasized that AI changes rapidly and is already different than when this group started their work nine months ago. Bryant Walker Smith noted that it is impossible to catalogue everything. One of the aims was to tell stories and to provide examples of instances where technology raised a specific risk or opportunity. Catherine Ross noted that much of the evolution and implementation is being driven by the private sector, and she would like to hear from U.S. DOT.

Ben Levine responded that the U.S. DOT will discuss internally and provide input on important points and domain areas.

Julia Friedlander noted that the breadth of the document makes providing comments challenging. She suggested that the U.S. DOT role be to effectively manage, oversee, and monitor the development of AI tools. Julia also noted that currently there is a tone of promoting technology instead of providing information.

Steve Dellenback asked the subcommittee what changes need to be made to get this document to the finish line. Nat Beuse noted Laura Chace's comment in the chat that requested Robert Hampshire's opinion. Ben Levine noted that Robert Hampshire had to leave but he will reach out for feedback.

Bryant Walker Smith asked TTAC for members to raise their hands if they are uncomfortable with the document as it currently is. Some members raised their hands. He asked them to explain why they answered as they did.

Steven Shladover noted that he would like to see specific actionable recommendations to U.S. DOT which deal with issues that are specific to AI software. Kim Lucas noted that the bias issue is a large concern at the local level. Jurisdictions would like information on who is programming AI and what impact that may have on communities. She would like to see more specificity around what U.S. DOT can do on this issue. Kelly Funkhouser noted that the document is quite broad and would rather see narrowing in on finer points than maintaining a high-level view. Additionally, she noted that there is a heavy industry voice, and she would like to see more of the consumer voice included. Nat Beuse noted that freight needs to be better integrated. Additionally, he would like prioritization of the recommendations to help U.S. DOT focus on the ones that matter the most. Bryant Walker Smith noted that he would like to see the group address difficult questions such as:

- Who will AI empower/disempower?

- What early warning systems and feedback loops should U.S.DOT have in place?
- What does regulatory flexibility actually mean?

He added that we need a better term for driver monitoring and occupant monitoring, as applying the term "monitoring" to only these important safety features incorrectly suggests both that these features necessarily intrude on privacy and that other features do not intrude on privacy. David Quinalty noted that it seems ambitious to address all these comments in the next two months. He suggested identifying the most consensus items which could be approved quickly. Steven Shladover requested more details on David's suggestion.

Laura Chace requested that U.S. DOT provide its top three priorities for the group to focus on.

Pam Wood noted that this is an impossible task because AI is so new and so broad. The mitigations and safeguards are not articulated so it feels backwards to give specific recommendations at this point instead of identifying emerging best practices guidance. Laura Chace noted that AI is not new in transportation. The committee needs a baseline understanding of AI uses in freight, transit, and traffic management. Triny Willerton suggested that the group look at the standards being used in other countries.

Bryant Walker Smith concluded the discussion by thanking the subcommittee for its work and passing the floor back to Ben Levine to transition to the break.

Subcommittee Update: Role of Emerging Technology in Improving Transportation Project Delivery

Following the break, Ben Levine introduced Cynthia Maloney, Director of the U.S. DOT Project Delivery Center of Excellence to provide opening remarks. She expressed her gratitude to the committee members and noted that she was looking forward to hearing their recommendations. Kim Lucas then provided an update on the subcommittee's initial accomplishments, nothing that it had doubled in size due to non-TTAC participants who represent the National Association of City Transportation Officials (NACTO), the American Association of State Highway and Transportation Officials (AASHTO), and other entities. Kim thanked co-chair Triny Willerton, Secretary Velez Vega, and Greg Nadeau for their contributions to the subcommittee's presentation.

Kim Lucas shared that the subcommittee had identified and built out pillars of improvement and was now looking for feedback from the full committee. She noted that many project delivery resources are currently available, yet those responsible for project implementation are often not aware of them. She emphasized the importance of addressing knowledge and financial barriers to help deliver projects quickly, efficiently, and safely. She also recommended learning from examples of expedited project delivery, such as a bridge that collapsed in Pittsburgh in January 2022 and was replaced by December 2022. Lessons learned from this experience could lead to recommendations for expediting processes in non-emergency situations.

Kim Lucas then presented the six pillars of improvement that the subcommittee identified:

1. Grant application process;
2. Environmental/Right-of-way (ROW) review process;
3. Procurement process;
4. Communication pipeline between U.S. DOT and project delivery team;
5. Workforce development; and

6. Technology support

Triny Willerton provided an overview of Pillar 1: Grant Application Process. She shared that the subcommittee had received feedback at multiple levels of government and found that the grant application process is very lengthy, resulting in significant time between the application deadline, award notification, and grant finalizations. She also noted that marginalized or underserved communities may not have the staffing or capacity to apply for grants and that funding match requirements were a significant barrier. She then shared preliminary recommendations, including:

- Develop a common application for grants
- Provide proactive support to underrepresented communities
- Build staffing capacity to aid the grant administration process
- Optimize web search for U.S. DOT support resources
- Continue to reevaluate match requirements

Before the discussion moved to the second pillar, Ben Levine introduced Kristin White, Acting Administrator of the Federal Highway Administration, to provide brief remarks. She shared that there was a renewed sense of importance related to project delivery topics and that she was looking forward to learning more about how technology and innovation could be used to advance project delivery. She shared details about the timeline for developing a grant and the number of requirements under Title 23 of the Code of Federal Regulations. She also highlighted existing programs that are encouraging innovation in project delivery, including the Advanced Digital Construction Management Systems program.

Kim Lucas then provided an overview of Pillar 2: Environmental/ROW Review Process, emphasizing that many of the required processes require significant financial and time resources but may not yield improved outcomes. She detailed the subcommittee's initial recommendations as follows:

- Identify new and less labor-intensive methods for identifying environmental and property impacts of projects (e.g. adopting emergency procedures as the standard procedures)
- Develop a new model programmatic agreement and programmatic categorical exclusions (PCEs) for adoptions by state and municipal DOTs
- Develop a program to provide preemptive categorical exclusion (CE) or NEPA approval at time of grant award
- Consider expanding partnerships with private sector companies, particularly in areas such as digital construction technologies (e.g. BIM, AI, and machine learning), which could help the EDC program leverage cutting-edge advancements

Kim Lucas also provided an overview of Pillar 3: Procurement Process. She shared that the procurement process varies from government to government but is universally time-consuming. Additionally, it can be challenging to get diverse businesses into the pipeline for federally funded projects. She then shared the subcommittee's initial recommendations for this pillar:

- Develop universal procurement software, which consists of a universal DBE program and incentives for use, as well as a centralized database of vendors who have previously used federal funding successfully
- Create master agreements which use boilerplate language that can be used for every project
- Promote knowledge sharing through a fast, real-time system for connecting new ideas with people who have done similar projects
- Enable advanced procurement for materials with long lead times upon grant award

- Increase local governments' ability to be direct recipients

Triny Willerton presented Pillar 4: Communication between U.S. DOT and Project Delivery Teams, highlighting that there is often inconsistent communication on procedures, updates and resources. She also shared that the lack of a structured feedback system results in inefficiencies. The subcommittee's initial recommendations for this pillar include:

- Offer proactive support during grant agreements and project delivery
- Improve consistency in guidance and communications
- Expand technical assistance and educational opportunities

Eileen Velez-Vega presented Pillar 5: Workforce Development, noting that in some places, there aren't enough people to manage and construct projects. This often results in a reliance on consultants that does not improve organizational capacity. The subcommittee's initial recommendations for this pillar include:

- Enhance workforce capacity by increasing funding for specialized training and hiring programs, cross-training, mobile training camps, and flexible workforce solutions
- Include funding for workforce development initiatives in existing and future grant programs
- Adopting advanced technologies like automation, AI, and project management software to improve forecasting and monitoring, project planning and management, productivity and risk management, and identifying training needs
- Create centralized job descriptions and provide support to recent graduates
- Where possible, adopt flexible workforce solutions and use an appropriate mix of staff types to adapt to changing workforce needs

Eileen Velez-Vega noted that a labor market analysis would be beneficial to understanding pillar 5– where do we need to have investments, do training, recruitment initiatives, etc.

Greg Nadeau presented Pillar 6: Technology Support, which focused on technology that is available or could be made available to improve project delivery. Greg noted that the transition to digital project delivery frameworks is going to be an interesting challenge and is closely linked to the workforce issues previously noted. The subcommittee's initial recommendations included:

- Use federal funding and leadership to transition to open standards
- Use States as catalysts to adopt digital infrastructure platforms. This requires a strong connection between States and localities
- Accelerate digital transformation via federal incentives
- Facilitate a digital partnership with ARPA-I as a means of improving collaboration between U.S. DOT, industry, AASHTO, TRB, and other entities

Following the presentation, Kim Lucas and Bryant Walker Smith presented 3 key questions for discussion:

- Are these the right pillars?
- Is this the right survey design?
- Who or what are we missing?

Laura Chace asked how informal outreach to the broader community could be facilitated. Kim Lucas responded that the subcommittee is working with NACTO, AASHTO, AAMPO, etc. and can share questions with the full TTAC group for further discussion.

Mark Chung asked if the subcommittee is looking to prioritize the pillars. Eileen Velez-Vega responded that this would be a good idea and that it would be helpful to see how everyone prioritizes the pillars. Kim Lucas agreed that sharing with U.S. DOT what the highest priority issues are would be helpful.

Nat Beuse asked how the fraud question is being considered, or how complaints about being left out the bidding process are being addressed. Triny Willerton responded that when there is an emergency response, these questions are not overlooked, but the process is condensed. Triny noted that this is a good issue to keep in mind.

Mayor Gallego thanked the subcommittee and turned the floor to Ben Levine to introduce the final subcommittee.

Subcommittee Update: Emerging, Overlooked, and Underleveraged Innovation for Safety

Kelly Funkhouser thanked Bryant Walker Smith for spearheading and U.S. DOT for supporting the creation of the subcommittee, and she specifically acknowledged the contributions of Laura Chace. She shared that since its inception, the subcommittee had established a set of overarching goals and milestones, which then informed a set of themes and problem areas. Problem statements were then developed within the identified areas, and the subcommittee is working to brainstorm potential solutions and short-, medium-, and long-term recommendations. The subcommittee has focused on a smaller subset of items in order to be able to develop recommendations by December.

Kelly Funkhouser noted that the subcommittee had identified "Increasing Safety for all Roadway Users" as the overarching theme. She also noted that the subcommittee considered both technology and non-technology solutions and was prioritizing short-term actionable items. She then shared additional details about the three problem areas:

- **Vehicles**: Vehicle-based technology is capable of protecting vehicle occupants and other roadway users by mitigating and preventing crashes and enabling safer driving behaviors.
    - Problem 1: Pedestrian Safety – There is an imbalance in focus on vehicle occupant safety rather than vulnerable road user safety. Recommendations include NHTSA amending the recent rulemaking on adaptive driving beam headlights and adopting the EU standard (short-term) and incorporating V2X communications into the New Car Assessment Program (NCAP) and creating an if-equipped standard (long-term).
    - Problems 2-7 for future consideration include speeding, distracted driving, occupant safety, alcohol and other substance impairment, vehicle size, and vehicle crashes/vulnerable road user safety.
- **Infrastructure:** Vulnerable road user fatalities have risen at alarming rates. Under the safe system approach, fatalities are unacceptable. Currently there are underleveraged and overlooked innovations that can be used to improve safety and mobility. Infrastructure needs to be modernized to implement known solutions and enable new technologies that can improve safety.
    - Problem 1: Vulnerable Road User Safety and Accessibility – There is a need for up-to-date information and infrastructure data to inform safety interventions The recommendation is for U.S. DOT to update their Complete Streets Guidance and definition to consider the incorporation of smart/digital infrastructure elements to

improve safety and facilitate multimodal mobility, such as sensors, connected vehicles, leading pedestrian intervals, digital curbs, and intelligent traffic management systems.
    - Problems 2-3 for future consideration include speeding and outdated and un-networked signalized intersections.
- **Education/Policy**: There is a need to change the culture of transportation safety and encourage long-term, sustained solutions. There are underleveraged resources and advocates that could be engaged to begin a transformational shift in safety culture.
    - Problem 1: Dangerous Drivers – Dangerous driving behaviors such as speeding, aggressive driving, unbelted occupants, and distracted driving need to be addressed. The recommendation is to provide additional grants for increased high-visibility enforcement (short-term) and automated enforcement (mid-term).
    - Problems 2-5 for future consideration include teen drivers/older adults, educational materials, drunk driving, and digital mapping.

The subcommittee shared that it is planning to circulate a draft by Thanksgiving and asked for the committee members to provide as much feedback as they could as soon as possible.

Triny Willerton thanked the subcommittee and offered to help moving forward.

Bryant Walker Smith expressed his appreciation for how much the subcommittee had accomplished and emphasized that other countries have been able to make their roads much safer than the U.S. He also mentioned that many of the proposed solutions could be relevant to vehicle retrofits in addition to new vehicles.

Kelly Funkhouser agreed with the point about retrofits and noted that the subcommittee was working to determine if that would be in U.S. DOT's purview.

Kim Lucas shared her appreciation and expressed a desire for the recommendations to help influence the work of the other subcommittees by prioritizing roadway safety.

Nat Beuse posed three questions on the following topics: 1) heavy focus on light vehicles and limited focus on commercial vehicles, 2) tools other than rulemaking that can be used to accelerate safety improvements, and 3) education for drivers on new vehicle technology.

Kelly Funkhouser responded that the subcommittee is trying to keep the scope tight due to the accelerated timeline, but that commercial vehicles should be incorporated in the future. She agreed that education on new features could be beneficial for all drivers, not just teens and older adults.

Bernard Soriano seconded Nat's comments and highlighted the issue of reckless driving culture. He expressed an interest in leveraging state-level work on driver education.

Greg Nadeau shared that there is a post-pandemic speed epidemic and cautioned that a significant political commitment is needed to adopt automated speed enforcement.

Kelly Funkhouser agreed that speed enforcement is not popular and that a U.S. DOT requirement for speed-limiting technology would be needed.

Mayor Gallego noted that many of the proposed technologies had been debated in the Arizona State Legislature and they may not all have political support. She also noted that some legislatures have outlawed certain technologies.

Bryan Reimer emphasized the importance of education but acknowledged that it is a very complex topic and that a sandboxing approach may be needed.

Kelly Funkhouser agreed and reiterated that the subcommittee's goal was to develop targeted and tangible recommendations as soon as possible

Triny Willerton noted that all elements need to be integrated to be successful and offered to help as much as possible

Carol Tyson highlighted the importance of education for drivers and the public and encouraged the committee to acknowledge the concerns that have been raised by civil and disability rights advocates about enforcement. They recommended ensuring that a diverse range of voices is included in these discussions.

Mayor Gallego thanked Kelly Funkhouser, Laura Chace, and the other subcommittee members. She then transitioned to the wrap-up discussion.

Recap Meeting Progress and Review Next Steps

Mayor Gallego reminded the committee that the next meeting would be on December 13th and acknowledged the challenge the subcommittees would face to incorporate the committee's feedback quickly. She then turned the floor to Bryant Walker Smith, who gave a final request for feedback and provided a reminder about the member directory before turning the floor to Ben Levine.

Ben Levine thanked all participants and attendees and noted that the public could provide input by emailing ttac@dot.gov. He shared that the recording and meeting summary would be posted publicly and that additional notices about public meetings would be posted as soon as possible.

Kate Gallego

Mayor Kate Gallego
Chair, TTAC

Benjamin Levine

Ben Levine
Designated Federal Officer, TTAC