Federal Highway Administration

Target Setting Peer Exchange: Summary Report

June 17, 2014
Scottsdale, Arizona

DTFH61-10-D-00006-T-14002

August 15, 2014

Prepared for
Federal Highway Administration

Prepared by
ICF International
1725 Eye Street NW, Suite 1000
Washington, DC 20006

U.S. Department
of Transportation

**Federal Highway
Administration**

Contents

Abbreviations

Term	Definition
AASHTO	American Association of State Highway and Transportation Officials
AMPO	Association of Metropolitan Planning Organizations
APA	American Planning Association
APTA	American Public Transportation Association
ARB	(California) Air Resources Board
DOT	Department of Transportation
DOR	Department of Roads
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FMCSA	Federal Motor Carrier Safety Administration
GHG	Greenhouse gas
LRTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century Act
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NPRM	Notice of Proposed Rule Making
P2P Link	Linking the Long Range Plan and Capital Improvements Program
RTPO	Regional Transportation Planning Agency
SCOP	(AASHTO) Standing Committee on Planning
SCOPM	(AASHTO) Standing Committee on Performance Management
SHRP	Strategic Highway Research Program
SP&R	State Planning and Research
TPM	Transportation Performance Management

Executive Summary

Although transportation agencies have been working to integrate performance management practices into decision making for over a decade, passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) has underscored the need to focus on target setting. On June 17, 2014 the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) held a one-day peer exchange in Scottsdale, Arizona on target setting and monitoring progress toward achievement. The peer exchange was part of a joint meeting of two AASHTO Standing Committees: the Standing Committee on Planning (SCOP) and the Standing Committee on Performance Management (SCOPM). Approximately 85 attendees representing more than 40 states participated in the discussions to share experiences as well as identify support and resources agencies need to successfully implement targets and monitor progress.

AASHTO and FHWA identified three areas of focus for the peer exchange: coordination in setting targets, collaboration with partners and stakeholders, and integration of targets into planning documents. Practitioners made presentations to support each of these focus areas as DOT-MPO teams. Each presentation provided background and experiences, successes achieved, challenges to date, challenges anticipated, and next steps. The three spotlight presentations for the day were:

- **Coordination of Targets: Caltrans and SANDAG –** Katie Benouar of the California Department of Transportation (Caltrans) and Elisa Arias of the San Diego Association of Governments (SANDAG) discussed their experiences with interagency coordination in developing a common vision for performance targets for GHG emissions and how this experience could serve as a model for coordinating to set other transportation-related performance targets.

- **Collaboration in Setting Targets: Arizona DOT and Flagstaff MPO –** Scott Omer from Arizona DOT and Dave Wessel from Flagstaff MPO shared their experience related to setting the transportation vision, developing the statewide long range transportation plan, and linking the plan to the transportation improvement program. Setting standards and performance targets is becoming more commonplace in Arizona in spite of many conflicting priorities in a largely rural state.

- **Integration of Performance Targets into Planning Documents: Texas DOT and Houston-Galveston Area Council –** Marc Williams of Texas DOT and Isaac Ramirez from Houston-Galveston Area Council (HGAC) presented ongoing efforts in Texas to integrate performance management practices through coordination between the DOT and the state MPO association, TEMPO, and other key partners. The development of a set of core principles to guide efforts was identified as one key to success.

In addition to the three presentations and the associated group discussions, the peer exchange included breakout discussions to identify how to develop a target setting implementation framework that will guide agencies through the detailed steps necessary to integrate target setting and performance monitoring into strongly established agency systems and processes. Each breakout group was asked to respond to the question "what will it take?" with respect to individual topic areas. The topics selected were process, data sharing, managing expectations, partnerships, and training/education. An additional breakout group used implementation of the recent safety rulemaking to drill down further into specific guidance in this context. Participants in this additional breakout group were selected in advance to represent agencies with a strong history of implementing performance-based planning.

Outcomes of the peer exchange include identification of specific action items in each of the topic areas for successful implementation of target setting and monitoring. During the breakout group discussions, participants also captured the "noteworthy practices" already happening in transportation agencies that can serve as examples to others. A final outcome was a list of training and education needs as well as opportunities for FHWA/AASHTO to provide assistance to practitioners as they move forward in setting targets. The report appendices capture these outcomes for easy reference.

Introduction and Background

The Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) have been working with transportation agencies to integrate performance management practices in their planning and decision-making for over a decade. One of the most challenging issues many agencies continue to face relates to setting performance targets. Target setting is difficult for many reasons, including limitations in data and tools to forecast expected performance levels, uncertainties due to exogenous factors that may affect performance, concerns about setting targets that are either too ambitious or too modest, and public and elected officials' perceptions, among other issues.

The passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012 and upcoming milestones for implementation of the law per the recently released Notices of Proposed Rulemaking – specifically, requirements that State DOTs, MPOs, and transit agencies establish targets in relation to national performance measures – further underscore the need to address these issues and for FHWA to work with transportation agencies to identify best practices and solutions for effective and collaborative setting of performance targets.

On June 17, 2014, FHWA and AASHTO held a one-day peer exchange on the topic of setting performance targets and monitoring progress toward target achievement in conjunction with the AASHTO Standing Committee on Planning (SCOP) and Standing Committee on Performance Management (SCOPM) joint technical meeting in Scottsdale, Arizona. The peer exchange gathered a diverse group of practitioners to hold productive discussions about effectively moving ahead with setting performance targets. This report details the findings from this event, as well as the state-of-the-practice survey that informed the peer exchange. The peer exchange allowed for the identification of many notable practices as well as research and technical assistance needs to facilitate performance target setting and achievement.

Overview

The purpose of the target setting peer exchange was for participants to share experiences with respect to performance targets and monitoring progress, as well as to explore what it will take to implement target setting and monitoring progress fully as required in the new legislation. A key outcome for the peer exchange was the identification of support and resources state DOTs and MPOs need to successfully implement targets and monitor progress; these are identified in the section on Research, Training, and Education Needs to Implement Target Setting.

Approximately 85 practitioners from over 40 states participated in the peer exchange, bringing a wide range of perspectives and issues to the table in the day's discussions. The agenda included the following key activities and sessions:

- Opening, introductions, peer exchange purpose
  - Harlan Miller, FHWA
  - Matt Hardy, AASHTO
- What's changing? *Group Discussion*
- Coordinating Target Setting Requirements – *Presentation by Caltrans and SANDAG and follow-up discussion*
- Collaborating in Target Setting – *Presentation by Arizona DOT and Flagstaff MPO and follow-up discussion*
- Integrating Targets into Long Range Planning – *Presentation by Texas DOT and HGAC and follow-up discussion*
- Exploring Target Setting and Monitoring Implementation – *Breakout discussions*
- Report out
- Choose Your Own Adventure in Collaboration – *Table discussion*
- Next Steps – *Group discussion*

See **Appendix A** for the full peer exchange agenda.

Pre-Peer Exchange Survey and Webinar

To prepare for the peer exchange, the project team conducted two advance planning activities: a survey of practitioners to collect background on current practice with respect to target setting and a pre-peer exchange webinar to more specifically identify the topics of interest. The survey questions served as a basis for identifying and drilling down on key issues to be discussed during the peer exchange, and supported identification of particular experiences or perspectives that should be presented during the peer exchange. The findings from the survey were a key resource in formulating the peer exchange agenda.

The key findings from the survey were as follows related to target setting generally:

- Most agencies have set performance targets for at least some goals and objectives
- About half of agencies plan to set targets for state- or region-specific priorities
- Many have used or intend to use performance targets to guide discussions with decision makers

With respect to the peer exchange's key topics of coordination of targets, collaboration in setting targets, and integration of targets into planning documents, the survey found:

- Significant intent to set targets related to other agency, State or region specific goals and objectives (both transportation and non-transportation related)
- Addressing differences with planning partners will be essential in establishing effective target-setting practices
- Significant experience in addressing different emphasis among planning partners on performance target topics
- Variety of techniques and approaches supporting implementation, particularly around priority differences

See **Appendix B** for a full list of survey questions and results.

The pre-peer exchange webinar was held on June 4, 2014 and included several of the peer exchange participants as well as representatives from AASHTO and FHWA. The results of the survey were provided to this group along with identification of the three areas of peer exchange focus: coordination in setting targets, collaboration with partners and stakeholders, and integration of targets into planning documents. The outcome of this meeting was a specific list of high-interest topics for the peer exchange and identification of presenters for each of the full group sessions.

"What's Changing?" Exercise and Discussion

The first peer exchange activity following introductions was a group exercise and follow-up discussion that revolved around answering the question "What's changing?" as a direct or indirect result of new target-setting requirements. The purpose of this exercise was to collect information on changes participants were anticipating having to make to set targets. During the pre-peer exchange webinar, practitioners had mentioned a desire to better understand what other practitioners were doing with respect to setting targets, so this exercise kicked off that discussion.

As a result of this discussion, the project team gathered input on the range of changes DOTs expected to face, as well as questions that DOTs would like to be able to answer, in setting and monitoring targets. These responses were classified based on three broad categories of actions that would be part of an implementation plan for target-setting: process, data sharing, and relationships and expectations. Because many participants' responses related to resources, this was included as a final topic area.

Process

- **Practices surrounding the setting of targets** – Many participants said their agencies had limited experience in setting performance targets and thus needed a better understanding of:
  - How to establish a baseline of performance;
  - Best practices or methods in setting targets (including information about reasonable assumptions);
  - Information about appropriate target types (e.g. aspirational, realistic, etc. – this was noted even by practitioners whose agencies had set targets in the past);
  - How to consider and mitigate risk in setting targets;
  - An understanding of how FHWA will use the targets and performance information to evaluate agencies and award funding.
- **Need to incorporate additional layers of reporting to FHWA** – Additional processes will need to be implemented at state DOTs to ensure timely and transparent reporting of performance targets and information to FHWA. Many practitioners would like to learn more about best reporting methods.
- **Better understanding of how to weigh/prioritize performance in various areas** – An existing and continued challenge (only amplified by the need to set targets) at many agencies is prioritizing performance in one area relative to other areas (e.g. congestion mitigation vs. asset condition vs. improving accessibility). Setting performance targets will require more formal or explicit decisions be made about the relative importance of performance in different areas.
- **Better understanding of what agencies can do to influence performance outcomes** – On topics such as congestion, many agencies felt that their ability to control outcomes was limited, and wanted to gain a better understanding of what they could do to ensure target achievement.
- **More information about best practices regarding monitoring performance** – Many practitioners had questions about the appropriate time frames for monitoring performance, and processes to implement to ensure robust collection and tracking of performance data.
- **Improve consistency in definitions and standards** – Many agencies have different methods of tracking performance on similar measures. To the extent that practitioners can set standards for defining and measuring performance, they will be positioned better to share strategies and best practices.
- **Need to incorporate performance targets into long range/regional transportation plans** – Although most if not all agencies track performance in some way, very few agencies have formally incorporated their performance targets into their long range plans and planning processes; doing so will require additional understanding of time frame issues associated with performance targets.
- **Establishment of RTPOs** – The Planning NPRM "gives States the opportunity to designate regional transportation planning organizations (RTPOs) to help address the planning needs of the nonmetropolitan area of the State," and specifies the requirements, duties and privileges of such organizations. Many practitioners are considering how this will affect metropolitan and statewide planning in their jurisdictions.
- **Role of targets in resource allocation** – Because resource allocation will greatly influence target achievement, practitioners are seeking to gain a better understanding of the relationship between resources and performance in different areas, which will help inform the setting of targets.

Data – Sharing, Tools, Capabilities

- **Data sharing** – Collaborative data sharing systems have significant potential to prevent redundancy in purchasing and collecting data. Ensuring data is collected and stored in a consistent format will allow for improved sharing across platforms.
- **Data analysis skills to set performance targets –** To set performance targets, many staff will need additional information and skills regarding data sources and forecasting tools.

- **Data collection processes to monitor progress toward performance targets** – Implementing structured data collection processes will help to ensure data quality and lead to standardization to facilitate communication about data between agencies.
- **Data governance/policy** – Identifying who will collect, store, and monitor data will be important for collaboration on data sharing and analysis. This includes ensuring data's security and transparency about how the data is collected and any assumptions that are made.
- **Ensure investments in data collection and analysis are made wisely –** The potential for collecting data is nearly boundless; thus, it is important to ensure that practitioners think about what data is most important before collecting (or purchasing) data. Practitioners should focus resources on obtaining data that matters for decision-making by asking the question "Why are we collecting this data, and what will we do with it?"
- **Tools for improved forecasting of performance** – Agencies will need to calculate a baseline of performance and forecast expected performance based on that baseline in order to set targets. For many agencies, this will require an understanding of tools that does not currently exist.
- **Need for data on all NHS facilities –** The enhancement of the National Highway System in MAP-21 has led to gaps in data collected for NHS facilities in some states; this will need to be remedied through modification and enhancement of data collection processes.

Relationships and Expectations

- **Interdepartmental communication and collaboration** – At many state DOTs, communication between departments within the organization remains a challenge. There is a need to engage people across departments in target setting processes, to help ensure a common understanding of the importance of achieving performance targets.
- **Improved collaboration and coordination in setting targets** – Transportation agencies and their partners and stakeholders will need to build upon shared interest and existing structures for collaboration and coordination to work together in setting targets. Inclusion of legislators in discussions may be one method for ensuring understanding of new requirements.
- **Manage expectations** – Although target setting has potential to lead to performance-based investment decisions, there is also a need to be realistic in communications with stakeholders and the public about what can be accomplished and the tradeoffs that exist.
- **Inform the public and decision-makers** – Performance monitoring should be done in a way that allows the public and stakeholders to see performance results. In addition, performance information should be communicated in language that is understandable to the public.

Resources

- **Uncertainty** – The uncertainty surrounding transportation funding in many states and regions can contribute to the difficulty of making informed decisions about performance targets. The inability to predict funding available for investments lessens the value of performance targets; as such, practitioners may need additional guidance on how to make decisions in the face of more uncertainty than they may have faced in the past.
- **Flexibility** – The lack of flexibility in how resources can be spent reduces agencies' ability to redirect resources to the areas of greatest need to achieve performance targets. Additional flexibility may be necessary to strengthen agencies' ability to make decisions based on performance.

Practitioner Presentations

Practitioner presentations were used to inform participants about best practices related to target setting and encourage discussion surrounding the three key topic areas: coordination, collaboration, and integration.

FHWA and AASHTO selected these specific topics to structure the peer exchange. Each presentation was given by a team of one state DOT staff member and one MPO staff member. The general structure of each presentation was: background and experiences, successes achieved, challenges to date, challenges anticipated, and next steps.

Coordination of Targets: Caltrans and San Diego Association of Governments

Katie Benouar of the California Department of Transportation (Caltrans) and Elisa Arias of the San Diego Association of Governments (SANDAG) presented on the topic of coordinating to set performance targets.

Background, experiences, and successes

California has formally established performance targets related to greenhouse gas (GHG) emissions. This was done largely as a result of state legislation[1] that required regional GHG reduction targets, which resulted in a statewide effort to identify a set of common performance measures.

As a result of the legislation, the California Air Resources Board (ARB) convened an MPO and state agency working group to talk through the target setting process. An advisory committee of 21 members with representatives from MPOs, housing agencies, ARB, environmental justice groups, and others provided recommendations on how to set targets. It was important to all these agencies that target-setting not be done in a top-down manner. Throughout this process, each MPO conducted modeling to report on the GHG reduction progress it expected to achieve. These ranged from 0 percent in fast-growing areas to 16 percent in some of the larger metro areas. Because SANDAG had relatively sophisticated modeling and forecasting capabilities, the agency was able to look at various pricing strategies and model their expected impacts on GHG reduction targets for cars and trucks.

In addition to the working group's efforts, bi-monthly meetings of planning directors from all MPOs in California kept the momentum going for a collaborative target-setting process, while the executive directors of large MPOs meet quarterly to exchange assumptions and talk through the key issues they are facing. Even though all of the regions have set GHG performance targets at this point in time, the working group continues to meet.

Another impetus for continued progress on preparing to implement MAP-21 requirements was a US DOT/Caltrans-sponsored kick-off workshop in November 2013 with 150 participants from regional agencies, transit operators, and tribal representatives. At the workshop, participating agencies looked at how to ensure procedures were in place for target setting (for other performance measures) for the state.

Agreement on a statewide common goal of reducing GHG emissions and ensuring a common vision for the state flowed through all major policy and planning documents was a big breakthrough for the state. The commitment of MPO executive directors to aligning their visions has been remarkable, from Caltrans' perspective. The various coordination efforts between state agencies and MPO to set GHG targets has positioned Caltrans and California's MPOs to work with structures already in place for strong coordination in setting other performance targets.

Some additional notable practices from California include:

- State funding was used to make data available to all state agencies and MPOs.
- Caltrans has provided rural agencies with funding to work with a consultant to develop performance measures and goals that are appropriate at rural and regional level; this project is already in progress, with Nevada County RTPA heading the initiative.

---

[1] Assembly Bill 32 (AB 32) called for the state to reduce greenhouse gas emissions to 1990 levels by 2020; Senate Bill 375 (SB 375) called for each MPO region to work with state agencies to set emissions reduction targets at the regional level; and Assembly Bill 391 (AB 391) called for the statewide transportation plan to set GHG reduction targets.

- In addition to the working groups mentioned above, transit providers have met with Caltrans' division of mass transportation to coordinate related to targets they will play a role in working toward.
- The California division of FHWA and Caltrans are working with tribal governments to identify appropriate performance measures as well. An additional workshop with tribal governments was sponsored by FHWA, Caltrans and the tribes and held in January 2014 to follow up on the earlier broader workshop.
- Caltrans is trying to use State Planning and Research (SP&R) funding to develop data and set in motion more detailed household travel surveys and a linear referencing system – both of which will provide information to inform target setting.
- MPOs in California have conducted periodic GHG inventories for all emissions sources; this has informed forecasting to predict whether policies and land use changes will result in target achievement.

Challenges to date
Challenges encountered by Caltrans and SANDAG relate in part to California's geographic diversity, with a highly urbanized population in many areas but also many small town and rural areas as well. The issues faced in widely different communities vary in ways that make it hard to set single statewide targets. In addition, limited data availability for some modes presented a challenge in forecasting GHG emissions and setting targets. A third challenge noted by Caltrans and SANDAG has been data governance; for Caltrans, it's a challenge to house and manage data, ensure that it's up to date; improving these data collection and systems for sharing data with partners is a current focus of Caltrans' research division.

Challenges anticipated
California is still in the process of determining whether to set single targets or multiple targets for different regions for other performance measures. In addition, the state and its MPOs are interested in developing more multimodal and active transportation data that could allow for better comparisons across modes; lack of resources is a challenge for this data collection. Developing rural performance targets is similarly challenging. A final anticipated challenge is the incorporation of short-term (annual) performance targets into longer-range strategic planning and investment decisions.

Next steps
Based on successful coordination between Caltrans and the state's MPOs, the California team plans to continue to build on its coordination and collaboration efforts that involve federal, state, and regional agencies, transit operators, and tribal governments. California looks forward to improving its ability to tie investment decisions to performance target achievement to support GHG, sustainability, and active transportation goals.

Lessons learned
One issue the MPOs encountered in the initial phases of GHG target setting was data production; because the working groups collecting data were not sure what data to ask for, they asked for everything. This resulted in collection of data that was difficult to compare across agencies due to different assumptions, so data had to be harmonized. Data production in the future will be more targeted to conserve resources.

Take-aways – Identified in a group discussion following the presentation and Q&A session:
- Importance of early and continuous collaboration and coordination
- The need to redefine and agree upon a vision – aligning around what you want to accomplish
- Agreement on common assumptions and inputs to models (technical inputs)
- Attitude: it can be done!

- Managing policy discussions continues to be a big issue, but framework for discussions helps productive conversations to occur.
- Regular communication (in California's case, 14 meetings in 9 months) ensures that less time passes without discussion. This allows for confirmation that all agencies are still in agreement and headed in the same direction.

In addition to GHG performance measures and targets, SANDAG, in collaboration with Caltrans, led an effort to establish a common set of standardized transportation indicators for all the California MPOs and State Agencies, identification of consistent data sources, and clear methodologies for each indicator. Proposed measures include congestion, infrastructure condition, system reliability, safety, economic vitality, and environmental sustainability. A final report was prepared in June 2013.

Collaboration in Setting Targets: Arizona DOT and Flagstaff MPO

Scott Omer from Arizona DOT and Dave Wessel from Flagstaff MPO presented on the topic of collaboration between agencies in setting performance targets.

Background
Arizona is a largely rural state with a few major metropolitan areas. The enhanced NHS per MAP-21 added 950 miles to the system just in the Phoenix and Tucson metropolitan areas, and increased the entire NHS system in the state by 48 percent. Flagstaff MPO is a smaller MPO with a limited staff covering a region with 85,000 residents. Flagstaff has been recognized as a walk-, bike-, and transit-friendly city.

Successes
In Arizona there is a norm of strong participation by the MPOs in statewide planning and Arizona DOT in regional planning, with state representatives sitting on MPO boards and strong MPO input at Arizona DOT. Over the past decade, a general "migration" to performance-based planning has occurred in Arizona. Arizona DOT's, *Building a Quality Arizona* (BqAZ) set a vision for the state's transportation planning, and the state's long range plan *What Moves You Arizona* (WMYAZ) is built on that vision. The DOT's next step was to link the state's long range plan with its capital program; this was done through Arizona's initiative called *Linking the Long Range Plan and Capital Improvement Program* (P2P Link), which aims to "establish a well-documented, understandable, logical, and defensible means of selecting and prioritizing projects in the capital improvement program that will allow … Arizona … to meet the objectives identified in the Long Range Transportation Plan."[2] The goal of this process is to make system performance the foundation for project selection. Through representation of Maricopa Association of Governments (MAG – the Phoenix area's MPO) and Flagstaff MPO representatives on the Project Management Committee for BqAZ and P2P, collaboration has been strengthened. P2P Link was initiated both out of Arizona DOT's desire to prepare for expected performance-based planning and programming requirements in MAP-21, as well as a sense that the existing process for selecting projects was no longer meeting Arizona DOT's needs (staff often found themselves wondering where specific projects came from). The consultant team that worked with Arizona DOT on P2P Link worked with a team of people who understand both Arizona and national processes, and was encouraged to borrow heavily from others states' effective practices (e.g. Colorado's asset management focus and Utah's GIS and visualization techniques). Although the state's transportation board can still make changes to the program of projects, the P2P Link process is well defined, widely understood, logical, and defensible.

---

[2] For more information, see: https://www.azdot.gov/docs/default-source/planning/p2p-link-wp2-(apr-2013).pdf?sfvrsn=2 or https://www.azdot.gov/planning/CurrentStudies/linking-the-long-range-plan-and-construction-program.

At the regional scale, voters in the City of Flagstaff approved in 2000 additional funding in separate sales taxes to support transit service expansion, pedestrian and bicycle safety and several capital road projects including a railroad overpass. The 0.5 percent sales tax passed in 2000 was estimated to generate approximately $120 million over 20 years. The transit tax was expanded in 2008. Flagstaff MPO's 2009 RTP included standards and performance expectations for different area and place types. To date, the sales tax has allowed Flagstaff MPO, along with its partners, to construct many of the projects that were planned as a result of the revenues, meaning that the agency has delivered on its promises to voters.

Challenges to date
Challenges in Arizona to date are related to conflicting priorities between urban and rural areas. However, the strong existing relationships between various transportation agencies and partners in the state has allowed for frank discussions that have worked to identify common ground wherever possible. In addition, although Arizona DOT has a strong Tribal Consultation Process with which it coordinates with the state's 23 Tribes, this process is not based on speed.

Challenges anticipated
General challenges anticipated raised by the Arizona practitioners were general resistance to change, prioritizing target achievement in different areas, the need to translate data into meaningful information, and potential conflicts between agencies with different missions and emphases (e.g. Arizona DOT's focus on maintaining rural roadways versus urban areas' interest in expending bike/pedestrian facilities and transit). Both Arizona DOT and Flagstaff MPO are still seeking additional guidance on the types of targets they should be setting (e.g. aspirational, realistic (based on trends), or tiered targets; Arizona DOT is leaning toward tiered targets currently).

Next steps
For both agencies, next steps related to target setting will primarily revolve around strengthening coordination and collaboration with planning partners to create a strong framework for target setting.
In addition, Flagstaff MPO is planning to conduct a peer cities comparison to assess its performance relative to other similar-sized cities and will be investing in additional tools for modeling and assessing tradeoffs.

Take-aways – Identified in a group discussion following the presentation and Q&A session:
- Focus on turning data into meaningful information that can be used to influence decision-making.
- Importance of strong relationships to address differences (e.g. conflict between state highway and urban mobility systems) and prepare agencies to accept give-and-take solutions. State DOTs and MPOs are tied together more closely now in terms of influencing each other's success.
- Even if something is impossible to measure consistently, it's helpful to come up with "empiridotal" information about best practices to build on successes from other agencies
- There's an ongoing need to consider the unintended consequences of prioritizing performance in one area over that in another; agencies must proceed thoughtfully by considering possible unintended consequences.
- There's a role for aspirational goals as well as realistic targets; tiered approach acknowledges the need for both.
- Continued thought on how to create the critical link between daily operations and strategic vision will be necessary.

Integration of Performance Targets into Planning Documents: Texas DOT and Houston-Galveston Area Council

Marc Williams of Texas DOT (TxDOT) and Isaac Ramirez from Houston-Galveston Area Council (HGAC) gave the final presentation on the integration of target into planning processes and documents.

Background

In Texas, agencies have been working to integrate transportation performance management practices for a long time in coordination with key partners such as TEMPO (the state's MPO association), the Texas A&M Transportation Institute, and freight and transit providers. The state's large size, rapid growth, significant number of border crossings and ports, successful implementation of public-private partnerships, and energy sector development all influence the transportation landscape in the state. In addition, the decentralized structure of TxDOT itself influences planning in the state and means that the headquarters office is heavily dependent upon accurate reporting from the districts.

Successes

In considering how to implement MAP-21 requirements, TxDOT and TEMPO members worked together to develop a set of core principles to guide their efforts to coordinate and collaborate on target setting and integrate targets into planning documents and processes. These core principles are:

- o Flexibility for calculations and reporting
- o Allowance for diversity of conditions among areas
- o Reasonableness of measures
- o Measurements based on trends
- o Incorporating of existing public involvement efforts
- o Allowance for reassessments and improvement
- o Application to federally funded programs
- o Provision of additional resources
- o Consideration of yet-to-be-developed metrics

In addition, TxDOT and TEMPO collectively assessed their ability to provide meaningful data and analyses for proposed performance measures. They agreed that Texas DOT should provide performance data at the statewide and MPO levels to the extent practicable so as to build consistency statewide and prevent duplicative data collection efforts. (In the case of urban congestion modeling, MPOs were more equipped to analyze data.) TxDOT and TEMPO members also agreed that regional targets would be set in advance of statewide target setting to ensure collaboration on statewide targets for system performance.

Perhaps most notably, TxDOT and TEMPO have collaborated closely with the state's freight industry to integrate performance measures into the state's Freight Mobility Plan, as well as other key documents including the state LRTP, the unified transportation program (10-year horizon), and HGAC's RTP. Collaboration with the freight industry included the establishment of a Freight Advisory Committee that advised TxDOT on the performance measures in the Freight Mobility Plan, which informed the state's LRTP. Working with the Freight Advisory Committee allowed TxDOT to put information in terms that resonated with the industry.

TxDOT is currently using an online Texas Transportation Plan (TTP) 2040 tool to solicit public input on performance measures. In developing its latest LRTP, TxDOT is considering the alignment of its goals with MAP-21 goal areas. In order to more systematically and effectively prioritize projects in the future, TxDOT has continued to work on improving the availability and reliability of project information.

Challenges

Through the process of preparing to set performance targets, TxDOT came to the realization that the focus of district level staff was mainly delivering projects, rather than working to meet performance goals. As a result, TxDOT has invested significant amounts of time and energy into more regular communication with district planning staff (e.g. through monthly web meetings) so that both groups could understand the needs of the other and for the district staff to understand how specific projects fit into the broader planning and performance framework.

Lessons learned

Through these efforts, TxDOT and HGAC have found that it can be difficult to get the public to understand differences between goals, performance measures, and targets. They also found that it can be difficult to maintain objective performance measure and target setting processes when working closely with groups that have specific agendas. For example, the measures and targets requested by some groups conflict with other measures and targets. Some targets would require TxDOT's entire budget to achieve. Helping the public to understand constraints and how projects are actually funded is also important.

In developing its most recent RTP, HGAC also placed an emphasis on ensuring that performance measures and tradeoffs were understandable for all stakeholders. In evaluating expected performance and costs for improving performance, HGAC conducted analysis of the cost of improving state of good repair from 80 percent to 87 percent and found that it was approximately had a cost of $4 billion – a significant sum that could also be put to other uses. Fiscal constraint led HGAC to consider the potential benefits of lowering target performance on State of Good Repair (SGR) to achieve environmental and air quality benefits through other investments. In setting targets, HGAC found value in setting both aspirational and realistic targets, as each serves a valuable policy and planning function.

Next steps

Next steps in setting and integrating performance targets for the Texas agencies include, most importantly, continuing to work collaboratively in developing performance measures and targets to ensure a common Texas response to federal rulemakings. TxDOT and TEMPO members are currently exploring the establishment of working groups, at both the regional and statewide level, to determine how to best establish meaningful and integrated targets.

Take-aways – Identified in a group discussion following the presentation and Q&A session:
- Conveying tradeoffs to the public and stakeholders is very important and helps to get them on board with planning efforts.
- Linking goal areas together and integrating them into a variety of planning documents has been beneficial; for example, freight planning was used as a vehicle to advance stakeholder understanding of target setting.
- Coordination within an agency can be equally important as coordination with other agencies, particularly in ensuring common vision and goals are widely understood and prioritized.
- Composing a joint statement of understanding between the state DOT and MPOs has gotten everyone on the same page surrounding goals, visions, and principles. The expectation for coordinated and collaborative target setting has been set for the state.
- Collaboration and coordination with less traditional stakeholders (e.g. freight and other industry groups) has been beneficial.

Implementation of Target Setting: Breakout Discussions

Breakout discussions were a critical component of the peer exchange. The purpose of the breakout discussions was to explore how coordination and collaboration are part of setting and implementing targets and tracking progress toward those targets. Breakout groups were asked to test the concept of a target setting implementation framework by answering the question "What will it take?" with respect to process, data sharing, managing expectations, partnerships, and training and education.

As a result of the breakout groups, this section of the report identifies:

- Current and under-consideration implementation activities and best practices;

- Gaps in understanding for specific implementation areas; and
- Support that FHWA and/or AASHTO could provide to fill those gaps.

Together, these findings create a preliminary implementation framework that could inform the development of agency-specific implementation plans for setting targets and monitoring performance. The complete list of notable practices and research needs by topic area from the breakout groups are provided for convenient reference in **Appendices C (List of Notable Practices by Topic Area)** and
D (Research and Technical Assistance Needs by Topic Area), respectively. **Appendix E: Participant List** provides name and agency information for participants who may be able to provide additional information about the notable practices discussed in this section.

Process

Processes or process steps that need to be created or modified

- **Identification of roles and responsibilities at each agency level** – This would answer questions related to who within the DOT is responsible for performance measurement data and functions, as well as how to keep all affected offices engaged.
- **Development of internal and external working groups** – to facilitate collaboration and coordination in setting targets, as required by MAP-21. This would also allow for coordination on data collection and/or purchases and consider whether methods for forecasting and data analysis are done consistently across agencies. Diversity of geographies and populations represented in these groups will be important.
- **Establishment of overall structure for stakeholders –** This will address the question of if or when the public should become involved in target setting; there was a general sense that practitioners and agencies should build on existing processes as much as possible (e.g. LRTP public outreach).
- **Process for establishing a baseline of performance** – The baseline is critical to informing projections about future performance, and consistency baseline methodologies is important, particularly within a state, for considering regional targets and using them to inform state level targets.
- **Establish communications plan** – This plan would allow agencies to work together to present a united and cohesive approach to setting performance targets, particularly in conversations with the public, stakeholders, and decision-makers.
- **Establishment of bi- or multi-state collaborative working groups** – Where applicable, this will help MPOs whose regions span across multiple states to prevent unnecessary duplication and identify and address differences in approaches across states. This would also allow for coordination with data collection, so that MPOs do not need to use multiple systems, if possible.
- **Non-motorized mode targets** – Guidance is needed on setting targets related to non-motorized or non-automobile; this is new for some states.

Notable Practices

Agency	Practice
Colorado DOT	CDOT is updating a Policy Directive that provides an overall framework for the transportation planning process through which a multimodal, comprehensive Statewide Transportation Plan will be developed that optimizes the transportation system by balancing preservation and maintenance, efficient operations and management practices, and capacity improvements. This Policy Directive includes performance objectives that guide the distribution of resources for the Statewide Transportation Plan, the Statewide Transportation Improvement Program, and the annual budget.
DC DOT	About 5 years ago, DC DOT calibrated IRI with public perception; to make sure the public's opinion of "good" pavement lines up with technical definitions.

Georgia DOT	Georgia DOT established a performance management office that created a public dashboard with targets and measures. Weekly meetings to discuss one measure/target at a time allowed the office to move forward. There was a need to educate participants on performance measure terminology. Had group meetings with program offices to sort overall agency measures from 40 to 14 global measures that drive decisions or money. Each level of the organization needs a different amount of detail, for instance, less detail needed as discussions go up higher through the organization.
Illinois DOT	Illinois DOT holds regular meetings (every 4 months) with MPOs; each meeting focuses on a specific topic. IDOT is looking at bi-state issues in evolving and emerging areas.
Michigan DOT	Michigan DOT created an asset management council that included MPOs and local agencies; the council produced a dashboard with goals in 1997. This provided a framework for discussions about expansion of the transportation system.
Michigan DOT	Similarly, MDOT also did work to correlate IRI with the public's perception of smoothness, and the perceptions of truck drivers.
Michigan DOT	Michigan DOT uses technology to tell their story – tweets and videos, etc. (www.michigan.gov/mdot/realitycheck)
Michigan DOT	Michigan DOT created tiered, cross-functional teams at all levels of the organization: • Planning and Finance teams meet weekly to discuss and review data and categories of measures • Another level meets monthly to discuss revenue and make decisions • Director level meets biannually or more frequently as needed to review high level data, make decisions and set policy
New Jersey DOT	NJ DOT has had a performance measures and asset management/safety guide since 2008. In New Jersey, quarterly meetings between the state DOT, MPOs, FHWA, and transit agencies cover topics of mutual interest; executive director level personnel attend these meetings. Tasks groups are developed as needed to tackle specific issues, with the broad focus being on improving relationships and communication.
Rhode Island DOT	MAP-21 gave RI DOT a direction. RI DOT started with 300 measures and taking them down one at a time. Meet weekly with MPO to discuss MAP-21 areas and use it as a forum to educate, create a baseline, and decide where to go. Monthly meeting of the Transportation Advisory Committee. Quarterly meetings within RIDOT divisions to discuss measures and what data is available. Need to understand that each level of organization needs a different amount of detail, for instance, less detail needed as discussions go up higher through the organization. In addition, Vermont, New Hampshire, and Maine have a tri-state agreement to look at and compare performance measures.

Challenges
- **Lack of alignment between MAP-21 goal areas and MPOs' (or other agencies') focus areas** – For example, congestion reduction may not be a priority for agencies focused on improving accessibility through a variety of modes and strategies that will not accommodate more vehicles. In other cases, some targets may conflict with each other, or priorities between agencies will vary to such an extent that common vision is not achievable.
- **Need for culture change** – Currently, people at all levels of an agency do not understand the importance of performance information; this will need to change for the DOT or MPO to be effective.
- **System control** – In some cases, responsibility for performance on specific systems may not fall to the agency that controls the system. In these cases, effective target setting and monitoring depends on the responsible agency's ability to gain control agency's support.

- **Lag time in investments' effects on performance** – In many cases, it may take a number of years for a significant investment to produce noticeable improvements in performance; annual targets may create a sense that progress is not occurring, when it is occurring on a different time frame.

Opportunities for FHWA/AASHTO assistance
- **Guidance for bi- and multi-state MPOs and the states that need to collaborate and coordinate with them** – This could be done through peer exchanges or other media.
- **Development of tools to assess and visualize trade-offs** – These would allow the public to see the results of trade-offs; could also be used in communications with legislators.
- **Non-motorized mode targets** – Guidance on setting targets related to non-motorized or non-automobile (including measures that allow for cross-modal comparisons).

Key Take-aways:
- **The need for flexibility in accounting for regional, geographical, and economic differences**
- **Many processes already exist and can be improved upon**

Data Sharing

Data-sharing processes that need to be created or modified
- **Data sharing** – Agencies need to establish agreements for sharing data to, avoiding duplication, ensuring data quality and methodology consistencies.
- **Identification of relevance and importance** – In many cases, agencies invest significant resources in collecting data that is never used to inform decision-making or establish a baseline. There is a need to use resources wisely in data collection.
- **Understanding of differences** – When methodology or assumption differences do exist and cannot be reconciled, there is a need to have a clear understanding of the differences.

Notable Practices

Agency	Practice
Arizona DOT	MPO collects MS 2 Soft traffic data and shares it in a way that allow for remote access.
Caltrans	State funding was used to make data available to all state agencies and MPOs.
Caltrans	Caltrans is trying to use State Planning and Research (SP&R) funding to develop data and set in motion more detailed household travel surveys and a linear referencing system – both of which will provide information to inform target setting.
Caltrans	MPOs in California have conducted periodic GHG inventories for all emissions sources; this has informed forecasting to predict whether policies and land use changes will result in target achievement.
Florida DOT	Through collaboration, agencies in Florida identified that they were purchasing the same data over and over – were able to begin discussions about how to prevent duplication and save money
Florida DOT	Florida DOT has a Source Book of Data it shares with MPOs online. The agency's statistics office also has a metadata database that explains the data.
Illinois DOT	A technical advisory group discusses safety data, disseminates it (on CD) and analyzes it to identify lists of projects; the group met nine times over six months and identified 10 safety measures from agreed-upon data sources; now, the group is working on establishing targets.
Maricopa Association of Governments	MAG is a data leader in collecting socioeconomic data.

(MAG)	
Maryland State Highway Administration	SHA is conducting a vehicle probe project with eight states; the project is measuring and collecting speed and travel time data on a real time basis along I-95. Data collected is being archived with an MPO user group. Currently the data is used in an operations planning tool, and the agency is in the process of developing additional tools to utilize the data set.
Michigan DOT	Need a plan for enhanced NHS when state DOT is not the owner
Minnesota DOT	MnDOT shares its data with MPOs (e.g. safety data)
Texas DOT	TxDOT does travel demand modeling for MPOs; the agency has also purchased inrix data
University of Maryland CATT Lab	The University's CATT Lab owns a regional data warehouse – all agencies that share data can use the data; maintenance is all undertaken by the university.
Utah DOT	Currently the DOT collects all data used by transportation agencies in the state
Virginia DOT	Use of MOU to identify areas of collaboration and data-sharing
Virginia DOT	VDOT shares historical data with MPOs and planning offices; the data is currently on CD but is moving online (to an access database) – information about data and factors is provided

Challenges
- **Ownership and responsibility** – The enhanced NHS includes many roadways not owned by the state; thus, there is a need to improve data sharing, particularly for these facilities.
- **Assumptions** – Agencies sharing data must also share information about assumptions and data collection methodologies. This facilitates repetition of processes and transparency.
- **Sharing with non-traditional partners** – Advanced modeling may require data from local agencies that have jurisdiction over land use.
- **Coordination is required** – In many states, the state DOT has statewide data but MPOs run most sophisticated modeling; sharing these data requires coordination.

Opportunities for FHWA/AASHTO assistance
- **Establish standards** – Standards are needed for data collection methodologies and, in some cases, assumptions. FHWA/AASHTO could even provide guidance for possible data sharing agreements and/or division of responsibilities between state DOTs and MPOs.
- **Information sharing** – FHWA and AASHTO should continue to support peer exchanges and other opportunities that allow for understanding of what other practitioners are doing, how far along agencies should be, etc.
- **Accurate information about costs** – Many states do not have a good understanding of how much it will cost them to implement target setting practices and the expected return on investment; FHWA or AASHTO could collect information on this.
- **Information about accepted practices** – FHWA and AASHTO can work to ensure that division offices are enforcing rulemaking similarly across states and accommodating unique circumstances where necessary. If FHWA supports a specific practice for setting targets, it is helpful for other states to know this and build on accepted practices.
- **Coordination between FHWA and FTA in rulemaking definitions** – Because transit agencies own some bridges on the NHS, for example, it is important that definitions for terms such as "state of good repair", as well as regulations, are consistent.

Knowledge and understanding gaps
- **Non-traditional data sources** – It is helpful for agencies to have information about proprietary data sources (e.g. performance measures they support, general cost estimates, which other agencies have used them (for individual follow-ups), etc.).

- **Timeliness of data** – Information about when new data will be made available, the need to wait for scrubbed data versus use of raw data, etc. (e.g. state crash database versus waiting for FARS data).

Managing Stakeholder and Decision-maker Expectations

Challenges related to managing stakeholder and decision-maker expectations
- **Specialized interests** – Some stakeholders are passionate about specific issues but do not look at transportation system as a whole; thus, need to enhance understanding of tradeoffs and priorities.
- **Lack of understanding** – Many stakeholders and decision-makers do not have a clear understanding of the performance that can be expected under different funding levels; thus, onus is on DOTs and MPOs to communicate this information effectively. In addition, goals may be more intuitive for stakeholders, while measures are less intuitive, making education necessary.
- **Realistic targets** – The use of aspirational targets may hinder efforts to manage expectations; thus, context must be provided to make clear which targets as aspirational and which are realistic, given fiscal constraints.
- **Political considerations** – It is important to understand specific stakeholders' motivations and interests and work with partners to identify opportunities to get message across in an effective way that provides sufficient context.

Notable Practices

Agency	Practice
Arkansas State Highway and Transportation Department	Used level of service discussion to show stakeholders what can be achieved at current level of funding
DC DOT	Management of stakeholders can result in management of decision-makers. Communicating with stakeholders to help them see what they can get through collaboration. Allows for establishment of common ground that can be built upon subsequently.
Florida DOT	Florida DOT is using bridge and pavements success to show stakeholders the results of their investments.
Louisiana DOT	Effective use of questionnaires to identify public priorities
Nebraska DOR	Nebraska Department of Roads communicated to the Governor and the legislature that with current funds they were not able to do much more than preserving the existing assets. The legislature was then able to pass a bill that now diverts some of the revenues from the sales tax to building capital improvement projects.

Ideas for better management of stakeholder and decision-maker expectations
- **Tradeoff discussion** – Use of level of service discussion can help manage expectations.
- **Relate actions taken by DOT back to public input-driven priorities** – Point out that many of DOT's priorities are influenced by input received by the public about the relative importance of different topics.
- **Continuous engagement** – Ensure that stakeholders and decision-makers stay engaged after targets are set, as progress is monitored.
- **Staff training** – Staff can always improve on their ability to guide stakeholders to consensus.
- **Surveys** – Employment of a research firm can help to ensure the DOT obtains opinions from a random sample of residents (rather than those with strongest opinions).

Opportunities for FHWA/AASHTO assistance
- **Updates to laws are needed** – Many state planning laws are many decades old and do not reflect current realities.
- **Stakeholder role** – A better understanding of the appropriate level of stakeholder involvement would be helpful (based on type of process and objectives).
- **Training for staff in how to manage expectations** – Training for staff to guide discussions around expectations and tools that can be employed for this purpose.
- **Visualization tools** – Better tools for visualizing trade-offs in communications with stakeholders and decision-makers.
- **Peer Exchange on Reliability** – Peer exchange on travel time reliability to help better contextualize the topic of congestion in communications with stakeholders and decision-makers.

Knowledge gaps and research needs
- Appropriate level of stakeholder involvement would be helpful (based on type of process and objectives).
- How real time travel information can be used to inform and improve analyses and decision-making.

Partnerships

Partnerships that need to be created or modified
- **Internal partnerships** – Cultivating stronger interdepartmental partnerships within state DOTs is the first step to strengthening partnerships.
- **External partnerships**-Cultivating stronger partnerships between MPOs, between MPOs and State DOTs, and with operators of public transportation.
- **Existing partnerships** – In most cases, important partnerships already exist and just need to be strengthened to meet current needs.
- **Examine measures to identify potential new partners** – While many important partnerships already exist and need to be strengthened, there may also be opportunities to create new partnerships. Reviewing proposed or established performance measures and identifying organizations that have an interest in each one may be an effective technique for identifying new partnership opportunities. Creativity in forming new partnerships may results in unexpected opportunities.
- **Urban-rural partnerships –** While urban/rural differences are often cited as a challenge, identifying ways in which urban interests can align with rural objectives may create opportunities for collaboration around specific issues (e.g. smart growth groups may work with rural interests to preserve open space). Frank discussions about differences may allow for urban and rural interests to come to mutual understandings even in the absence of aligned interests.
- **Engage Federal partners** – Federal agencies can provide resources to local, regional, and state agencies, particularly when there is clear communication about needs.

Notable practices

Agency	Practice
Caltrans	Caltrans has provided rural agencies with funding to work with a consultant to develop performance measures and goals that are appropriate at rural and regional level; this project is already in progress, with Nevada County RTPA heading the initiative.
Caltrans	Transit providers have met with Caltrans' division of mass transportation to coordinate related to targets they will play a role in working toward, while the California division of FHWA and Caltrans have worked with tribal governments to identify appropriate performance measures as well.

Kentucky Transportation Cabinet	KYTC has established interdisciplinary teams for managing performance.
Maricopa Association of Governments	MAG has engaged with Arizona DOT through two formal teams: a data team (working together to learn the network data set) and an operations team (which identifies the impact of specific measures)
Maryland State Highway Administration	MDOT/SHA has a dashboard with state statistics. The agency also involves different states through monthly meetings and develops business plans for each program and modal area. In Maryland, MPOs play a relatively small role and do not program projects.
Mississippi DOT	Began process to educate MPOs on target setting requirements and opportunities for collaboration
Nebraska DOR	Nebraska DOR brought in leadership from the districts and divisions to determine strategic goals, measures, and begin discussions of targets; this formed the agency's annual report.
Wisconsin DOT	Wisconsin DOT uses MAPSS Measures to track performance – this includes multimodal measures and transit measures. Wisconsin DOT is still working to connect this effort with the agency's long range plan.
Wyoming DOT	As asset management program matures, WY DOT is able to show districts the results certain investments will have on performance; this allows for better understanding of trade-offs.

Challenges
- **Differences** – Variations in priorities or agendas between state DOTs, MPOs, and other partners.

Opportunities for FHWA/AASHTO assistance
- **Case studies** – Provide best practice case studies on setting targets that explain context and specific solutions employed.
- **Guidance on comparison** – Be thoughtful about the relevance of state-to-state comparisons, given variations in circumstances and that most states care more about how they are doing relative to their own baseline than about how they are doing relative to other states. Identify appropriate usage of comparisons.
- **Information sharing** – Invest in additional opportunities for agencies to share information on effective partnership-building and –strengthening practices (peer exchanges, web forums, etc.)

Knowledge gaps
- As necessary, clear processes for resolving conflicts between states and MPOs in setting targets and monitoring.

Training and Education

Who will need training and education?
- **Legislature/legislators** – Regarding new requirements
- **The general public** – To explain project prioritization in a TPM framework
- **Financial sector personnel** – Especially with respect to long- and near-term investment strategies for TPM
- **Maintenance personnel** (in both centralized and decentralized states) – Information on project selection that may not seem logical.
- **State agencies** – Economic Development, Business Agencies, and sister agencies to the DOTs
- **Agencies involved in safety efforts** – in all four E's areas

- **Federal Partners** – NHTSA, FMCSA, FTA, and others (within and beyond US DOT).
- **Practitioners** – Regarding the implications of an enhanced NHS

Notable Practices

Very few training and education efforts to assist with MAP-21 implementation were familiar to the participants. Some notable exceptions included:

Agency	Practice
Kansas DOT	Offers a "KDOT 101" course for legislators; the course is generally high level and talks about performance, but not about performance targets (yet)
Nevada DOT	6-8 years ago, NV DOT established 23 performance measures and added 43 more measures after MAP-21 was enacted. FHWA division office assisted with information and data related to the newly formed measures.
New Mexico	NM DOT is developing training manuals for new policy board members unfamiliar with the current performance-based planning and programming landscape.
Oregon DOT	ODOT offers a one-day "Go to College" seminar for the legislature that includes discussion of some transportation performance management issues, with a focus on funding (and relationship of funding to performance).
Pennsylvania DOT	PennDOT provides a statewide system report that contains information about performance metrics.
Vermont DOT	Offered a seminar for the state legislature and regional planning commission on transportation performance management that was not related specifically to MAP-21

Challenges

- **Need for regulations** – It will be difficult to educate groups listed above until rulemaking is final
- **Culture change** – Regulations may change the way state DOTs do business
- **Heightened understanding of trade-offs** – Meeting targets given limited resources will require a lot of training for all groups involved.
- **Understanding of enhanced NHS** – Local governments, which own segments on the NHS system, will have to understand funding and project prioritization to achieve targets in this environment.
- **MPO role** – Some MPOs are used to functioning more independently than may be possible given new requirements. Training for both MPO and state DOT staff on how to work together to accomplish requirements may require significant training, outreach, and education.
- **Lack of understanding of asset management** – Training is needed to enhance the understanding of preservation, as opposed to a "worse first" approach, in a TPM framework.

Opportunities for FHWA/AASHTO assistance

- **Workshops** – Build on previous TPM workshops to additional information from NPRM issuance.
- **State-by-state workshops** – These workshops would build consensus among a variety of partners and stakeholders around collaboration and coordination to set targets.
- **Analysis techniques training** – Similar to the technical assistance NHTSA has provided provide an initial analysis of the performance measures and trend analysis for setting targets.
- **Updated state of practice information** – Information on what States are doing now, particularly with state of good repair targets.
- **Checklist** – Similar to the checklist for performance measures, SCOPM could issue a checklist for targets.
- **Research synthesis** – There is currently more research on TPM than the States know what to do with; a synthesis of this research is needed.

- **Conference** – Partner with AMPO to improve state DOT-MPO target setting coordination and collaboration.
- **Working with tribal governments** – Guidance (e.g. through a conference) for states with large tribal governments on how to collaborate with tribes to set targets

Knowledge and understanding gaps
- Lack of staff with understanding of how to set targets, especially at small MPOs
- Lack of information about final requirements – information is needed to develop training and education materials

Specialized Breakout Discussion: Safety Rulemaking Implementation

During the pre-peer exchange webinar, practitioners emphasized in the discussions that there seemed to be a lack of tangible guidance or an established framework for implementing a target-setting process. In response to these comments, the project team organized one breakout session specifically around the topic of implementing the safety rulemaking, with an objective of creating a framework to inform implementation of the planning rulemaking as well. A group of invited participants from agencies that have a strong history of implementing performance-based planning and programming worked with the lead facilitator to put together this framework. Through a robust conversation, they identified the steps that would need to be taken by an "average" DOT with respect to each of the key implementation areas identified (process, data sharing, managing expectations, partnerships, and training and education), as well as with respect to an additional topic area identified by the group: communication. For each of these topic areas, the group broke down the process into steps for the "average" DOT to take until the group got to the point where the next steps in the process would depend on the agency's specific circumstances. Through their discussion, the participants in this breakout discussion also identified some research needs. Below are the steps in each of the areas; steps are listed generally in chronological order; however, some steps may be cross-cutting (such that, by the time the step is reached, it has already been addressed) or occur simultaneously.

Process
- Integrate safety performance requirements and reporting into the SHSP (need to integrate processes)
- Create a "baseline setting" process (use data available or obtainable to figure out practical/pragmatic response)
- Create a "target setting" process
    - Includes identification of appropriate types of targets
    - Determine whether existing targets in HSIP/SHSP will need to be revised/reconsidered
- Create a "tracking and reporting" process
- Find common ground on commitment/accountability despite differences
    - E.g. Identify what the role of MPO should be in cases in which failure to meet targets has consequences mainly or only for the DOT.
- Assign roles and responsibilities (This may be done already throughout steps above)
    - Between partner agencies
    - Within agencies
- Document decision-making processes

Data
- Review current inventory and data sets at various levels of government
    - Identify who provides which data
    - Identify whether available data is adequate to meet requirements of the rule – if not, identify gaps.

- Segment data
- Once all data is obtained, use it to calculate the baseline while creating a collective understanding of assumptions
- Weigh contributions and impacts of indicator – analyze baseline to see what's "moving the needle" now – e.g. types of roadways, types of crashes, etc.

Partnerships/Stakeholders
- Clarify distinction between partnerships and stakeholders, given that participation is required (under MAP-21 and SHSP) of some agencies but not others. Convey this information to both groups.
- Identify appropriate mechanisms and venue for interactions with stakeholders using existing stakeholder involvement processes to the greatest extent possible
- Work with all partners to establish working groups if they do not already exist. Ensure that the right staff and decision-makers are involved, and that representation is obtained from all relevant rural, urban, and tribal interests/constituencies.
- Work with partners to establish common ground on commitment to process and outcomes
- Identify and work through partnership issues, for example in MPO areas local governments that own portions of the NHS are often represented by MPOs. For the safety rule these local agencies will have to commit to implementation of some strategies and provide information so working through the MPOs without the local agencies at the table may not be an efficient or effective process.

Managing expectations/Communication
- Identify consequences of non-attainment for targets and identify appropriate steps to minimize risk.
- Use formal and informal communication to manage expectations of the multiple participants in implementing the safety rule (e.g. partners, stakeholders, decision makers, agency staff)
- Segment the target audience to identify the specific groups that will need to understand the content and implications of the safety rule
- Identify desired communication outcome, messages and communication mechanisms for each segment of the target audience
- Communicate with each audience

Training and education
- Training versus education (distinction):
  - Education is communicating information about what the safety rule is, why it is important and how it will be implemented. Everyone involved needs some level of education, but it is particularly important for any individual or group that will need to "do something different." For example, decision makers who will need to consider the implications of the safety rule as they are allocating funds to programs or projects. Staff may need to make changes to technical processes, methods and/or data collection. The outcome of education is that participants in the safety rule implementation understand the purpose and context of the rule.
  - Training teaches new skills to accomplish key tasks related to implementing the safety rule. For example, training may be necessary to ensure staff has capacity to work with new data and software. The outcome of training is that individuals charged with implementing the rule have the specific skills necessary to support the implementation.
- Assess training needs through identification of whether any needed skillsets do not currently exist on staff; where there are gaps, acquire necessary skillsets.
- Identify education needs, particular for interacting effectively with boards and stakeholders. In particular, educate them on consequences for lack of action or changes in action.

Research needs

- Rules of thumb/standard practices on cost/benefit analyses related to setting targets to help state DOTs and MPOs screen strategies to identify those that might be the most effective in the current context. One possible way would be to review a sample of existing safety data to compare pre/post improvement outcomes, essentially asking the question, did the implemented project achieve the safety outcomes anticipated?
- Practices to support managing expectations of stakeholders and decision makers
- Identification of existing training that is relevant to the transition to safety rule implementation

Choose Your Own Adventure – Collaboration in Setting Performance Targets

The purpose of this exercise was to spur discussion among participants how they might approach addressing differences between regional, state, and national goals and priorities. Participants received the instructions (*it italics*) below and discussed their opinions and approaches at their tables. Then, a wider group discussion including all participants allowed for comparison of ideas between table groups.

Scenario: Your agency is ahead of the game. For several years you have been slowly introducing performance measurement: you have criteria in your project selection process and an agency dashboard to report to the public on what you have accomplished. The problem now is that your focus has been on two things that your agency cares about and your public identified as a highest priority: travel time reliability and greenhouse gas contribution. Neither of these topics is strongly related to the national goals that you must report against. With shrinking funding and baby boomer retirements, you are concerned that more effort toward performance measurement across all potential targets is impossible. What are your choices?

- *Do you simply divert your resources to the national goals and hope the lack of activity on GHG and TTR are unnoticed?*
- *Do you alert the MPOs and important stakeholders about the need for some adjustment?*
- *Are there ways you can leverage your partnerships and resources to keep moving on the areas previously set in motion or help address the national goals?*
- *What is the message that you can deliver to the public and partners?*

Instructions: Within your group discuss how you might adapt and adjust to the new criteria using collaboration as a basis for your action. You may change the items you have been addressing to something that is more consistent with your agency(s). What you must demonstrate by your choices is the impact of competing requirements and expectations of those external to your agency. After the discussion be prepared to answer the following questions:

1. *What were the competing expectations that you identified?*
2. *How did you decide to address both the requirements and the expectations?*
3. *Who did you identify to collaborate with in order to be more successful?*
4. *What was your message to the external audience describing your plan of action?*

Strategy Suggestions from Group Discussion:

- **Communication Plans** are needed to identify who the interested audiences are adapt messaging to resonate with their interests (e.g. focus on project delivery in discussions with city engineers). Identification of areas of mutual interest will allow for more effective communication. For example, one effective strategy may be to recruit someone with the chamber of commerce perspective or ties (and, thus, the governor's ear) to be on your marketing team.
- **Identify benefits that can be achieved through collaboration, as well as indirect "ripple" benefits** – For example, by addressing safety for all modes to appease certain stakeholder groups, you make

the use of alternative modes emphasized by other groups more attractive. Use ripple benefits of specific projects or initiatives to recruit support of groups concerned about related issues.

- **Identify projects that can be supported by different stakeholder groups** – Anticipate which agencies' support is needed and identify projects already in your program that meet their needs and interests. Encourage stakeholders to champion specific projects and work with them to ensure they better understand requirements. Negotiate with them for their support for the general program if specific projects are included.
- **Frame conversations around governor's objectives** – Stakeholder groups will likely be familiar with top executives' objectives and initiatives. Encourage stakeholders to assess how these objectives affect them and identify areas or projects of common interest. Given that governors are typically concerned with strengthening and diversifying the economy, use these arguments to advance projects (see below).
- **Build relationships** – If the governor or executive comes from a specific region, get in touch with officials there to identify what they've been doing to satisfy the governor and build upon it. Build relationships with economic development agencies and identify opportunities to use their existing data (see below).
- **Articulate ties to economic development** – Economic development is important to the majority of stakeholder groups as well. Develop economic indicators to link transportation investments to economic development. Demonstrate to stakeholders that you are acting as responsible stewards of limited resources. Rather than allowing discussions to focus on specific projects upon which no consensus will be reached, frame the discussion around what vision and goals are and how various components align with them.

Research, Training, and Education Needs to Implement Target Setting

Identifying the research, training, and education needs to implement target setting requirements was a key priority of the peer exchange. Through a brainstorming session at the peer exchange, the following needs were identified by peer exchange participants. They have been grouped according to the level of priority assigned to them by participants, and categorized as: (a) topics for research, (b) training events or technical assistance needs (that would best be addressed through courses, webinars, or individualized discussion and instruction), and (c) products (e.g. resources that FHWA, AASHTO, or other groups could provide that would be useful for a wide range of agencies).

Top Priorities[3]

- **Research topic**: Bi- or multi-state collaboration with MPOs to set targets – best practices, recommended processes, etc.
- **Research topic**: transportation performance measures in other countries and the lessons from their experiences regarding effective and ineffective practices
- **Training** or **product**: New requirements, processes, and methodologies for setting targets (e.g. target setting course or guidebook – NHTSA trainings on target-setting in the past may provide useful framework for this). Target-setting guidebook should address details of methodologies related to availability of data how to monitor performance, etc.
- **Training**: Facilitation techniques related to target setting that enable movement of stakeholders and partners toward consensus and facilitation resolution of conflicts
- **Training**: Data management techniques
- **Training** or **product**: How to integrate existing plans (safety, asset management, etc.) – both generally as well as specifically related to the setting of targets

---

[3] Includes those identified in writing by at least three – often more – peer exchange participants.

- **Technical assistance**: Clarification of rules and requirements as needed (e.g. from FHWA division offices, administered consistently across the country in a way that also allows sharing of information from other states)
- **Product**: Mechanism for sharing information between agencies on: (a) which states have established targets and processes they used; and (b) what is considered an "approved" or "acceptable" process or practice (e.g. website, newsletter, or other medium).
- **Product**: Guidance document or presentation that identifies requirements of each agency (type), provide information about penalties for not meeting targets, and other key pieces of information.
- **Product**: Easy-to-understand communication tool(s) for practitioners to use in communicating with the general public and decision makers. This tool would allow for improved understanding of performance measures through the translation of technical measures into terms that matter to a general audience (e.g. the difference between "structurally deficient" versus "functionally obsolete" is rarely well understood). It would also identify how performance goals support multiple outcomes (e.g. economic development, congestion, health, etc.).
- **Product**: Guidance on effective visualization techniques, particularly in communication with the public and stakeholders on performance of the transportation system.

Additional Suggestions for Research, Training, Technical Assistance, and Products

The following lists include areas for future research and/or additional guidance provided in writing by participants at the peer exchange.

Research Topics

- Better communication methods for explaining needs and performance information, particularly to decision-makers
- Best practices related to RTPOs and target setting (in coordination with states and MPOs)
- Appropriate performance measures for reliability
- Relationship between transportation performance measures and quality of life
- Big data's relevance to target setting and compliance with FHWA rulemakings
- Effectiveness of performance management process in influencing investment strategies
- Designing and implementing a collaborative process – and how do you know if it's successful?
- Non-MPO area strategies for data collection and analysis and meeting MAP-21 requirements
- Best practices for monitoring performance, including the processes to have in place
- VMT or VHT per capita – what is considered "good" performance in this area? Which measure is most appropriate? How does an MPO know if it's doing well in this area?

Training Events

- Peer-exchange related to MAP-21 implementation
- Peer exchanges at regional level
- Peer exchange on better linking planning and programming (e.g. providing more details about Arizona DOT's P2P process)
- Peer exchange or training specifically targeted at substantially rural states that must coordinate with urban centers in setting targets
- Statewide workshops on target setting (e.g. coordinated by FHWA division offices) – particularly in states without already-established frameworks for collaborating and coordinating on targets

Technical Assistance Needs

- Standardization of data used to establish performance measures and targets
- Target setting for local agencies (e.g. municipalities)
- Technical assistance or capacity building for small, rural MPOs/RTPOs – particularly those setting targets for the first time
- Data normalization analysis and trending tools
- Cross-modal tradeoff scenario analysis
- Guidance on reconciling various time frames (e.g. annual targets vs. long-term goals)
- Technical assistance on using new data sets

Products

- Synthesis of best practices for DOT performance measures
- Platform for state DOTs, MPOs, and local governments to share data with each other
- Assessment tool for urban and rural areas to identify areas in which more development is needed
- More information about best practices on coordination, collaboration, and integration
- Sample presentation to use at kickoff meeting with partners and stakeholders – outlines responsibilities, current capabilities, important information about the regulations, and notes experiences and potential challenges
- Guidance on linking performance measures to plan goals – addresses nuances
- Guidance on which partners to involve for each topic area ("collaboration guidelines")
- Synthesis of all research (SHRP, NCHRP, etc.) regarding target setting and performance monitoring by states and MPOs

Conclusion

The insights and best practices identified at the peer exchange should assist agencies in moving forward with setting initial performance targets or refining their approach to target setting. The research needs identified provide valuable insight into how FHWA, AASHTO, and other organizations can help agencies both comply with Federal regulations and improve their decision-making processes through the use of performance targets. Identification at the peer exchange of recommended implementation strategies for setting targets have created in initial implementation framework for setting performance targets. FHWA plans to review and consider the research and technical assistance needs discussed in this report to identify ways it can continue provide to help state DOTs and MPOs invest resources to create a fast, safe, efficient, accessible and convenient national transportation system.

Joint FHWA/AASHTO Target Setting Peer Exchange

Tuesday, June 17, 2014
10:00 AM – 5:30 PM

Scottsdale, Arizona

Opening and Introductions   Harlan Miller, FHWA
                                                          Matt Hardy, AASHTO
                                                          Janet D'Ignazio, ICF International

What's changing?
Group Discussion   Janet D'Ignazio, facilitator

Coordinating Target Setting Requirements
- Presentation: Caltrans and San Diego Association   Katie Benouar, Caltrans
  of Governments (SANDAG)   Elisa Arias, SANDAG
- Discussion   Janet D'Ignazio, facilitator

Collaborating in Target Setting
- Presentation: Arizona DOT and Flagstaff MPO   Scott Omer, AZ DOT
                                                          Dave Wessel, Flagstaff MPO
- Discussion   Janet D'Ignazio, facilitator

Lunch

Integrating Targets into Long Range Planning
- Presentation: Texas DOT and Houston-Galveston   Marc Williams, TxDOT
  Area Council (HGAC)   Isaac Ramirez, HGAC
- Discussion   Janet D'Ignazio, facilitator

Exploring Target Setting and Monitoring Implementation
Breakout Group Discussion

Report Out   Janet D'Ignazio, facilitator

Choose Your Own Adventure in Collaboration
Table Discussion   Beverly Bowen, facilitator

Next Steps
Group Discussion   Janet D'Ignazio, facilitator

Appendix B: Survey Findings

The target setting survey of practitioners was conducted for the purpose of both establishing a baseline of the state of the practice and supporting identification of issues ripe for further discussion at the peer exchange.

The survey contained 15 questions. It was disseminated to participants on May 19, 2014 closed on May 30, 2014. In total, 48 (primarily state DOT) practitioners responded to the survey. The results of the survey are below; in some cases, open-ended responses were synthesized and condensed.

Question 1: Which of the following best describes the portion of your agency's long range plan goals and objectives for which your agency has already set performance targets?
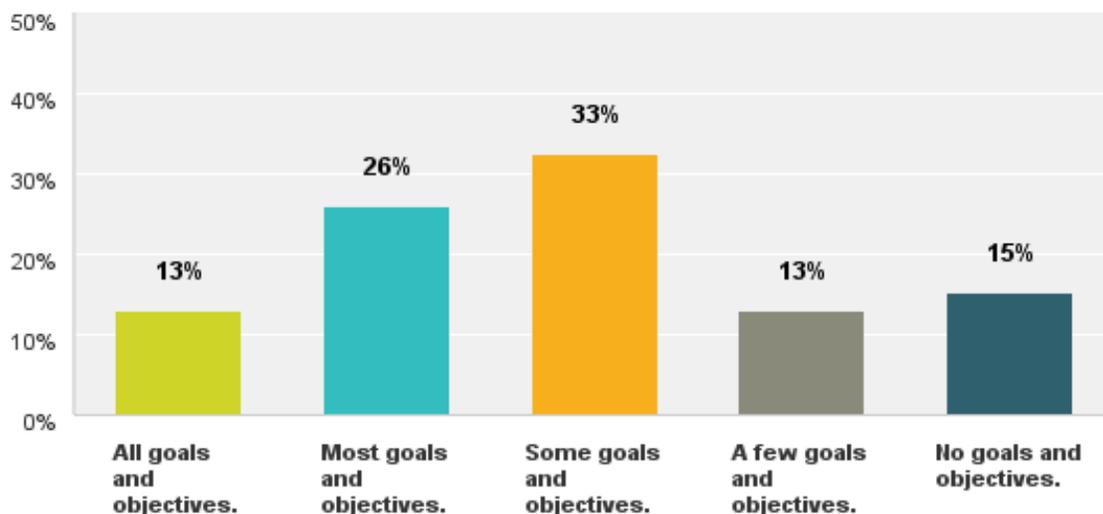
Question 2: For goals and objectives for which your agency hasn't set performance targets, please briefly list or describe the reasons, including challenges you face in target setting.

- Lack of resources/funding uncertainty
- Data limitations
- Lack of consensus or uncertainty (e.g., around what agency is ultimately trying to accomplish, how to measure performance, agency's role)
- Concerns about ability to meet targets
- Need to make assumptions about land-use and economic development
- Some goals and objectives are not SMART
- Waiting for federal guidance
- Still in stakeholder outreach process
- Difficult to quantify environmental goals and objectives
- Prioritization of areas

Question 3: How would you describe your agency's current efforts to collaborate with other agencies and stakeholders in setting performance targets?
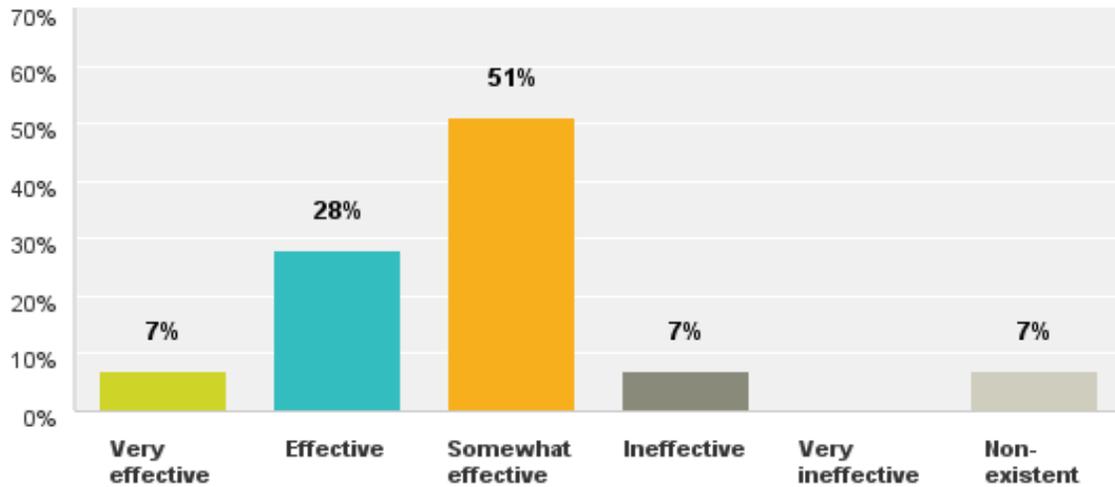
Question 4: Are there any practices you have found to improve the effectiveness of collaboration around performance targets? If so, please describe briefly.

- Starting early on and maintaining continuous collaboration
- Establishing working groups, advisory groups, task forces, and other joint meetings
- Clear presentations with robust data to build consensus
- Having support from and engagement with Commissioner's office
- Recounting summaries/minutes of public workshops where customers describe what's important to them
- Dialogue with all partners at all levels
- Outreach to citizens, stakeholder interest groups, local officials, tribal governments, etc.

Question 5: If your agency has set performance targets in the past, have they been aspirational or realistic?
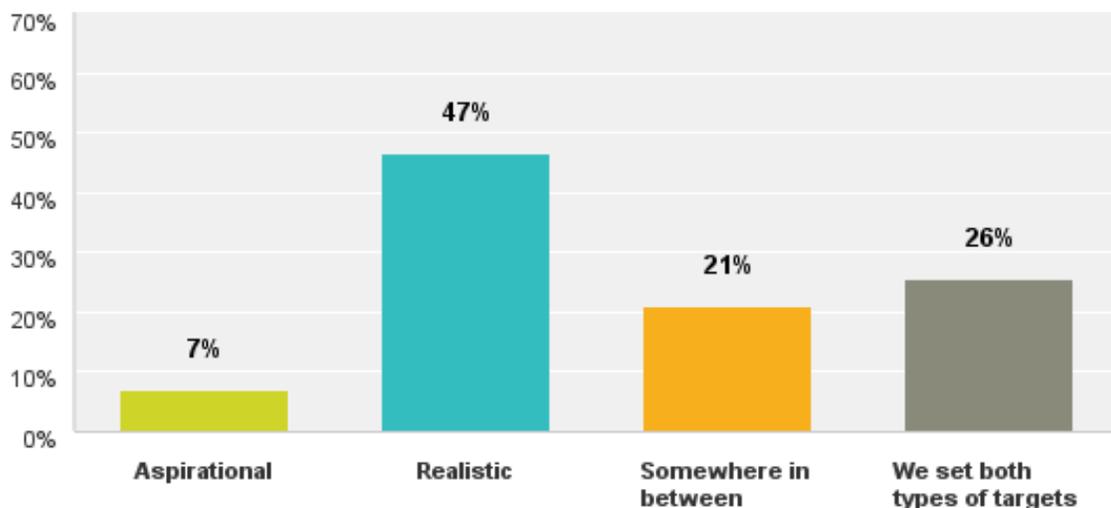
Question 6: In looking at how much progress can be made in specific areas (e.g. safety, pavement condition, accessibility, etc.), how does your agency typically make adjustments throughout the target setting process based on the relative level of priority placed on other areas? Please describe briefly and/or provide an example.

- Based upon past performance trends
- Based upon anticipated funding
- Based upon policy decisions
- Annual activity through investment planning process
- Adjustments are made to ensure that all goals are met
- Different areas get different weights, based upon priority
- Targets have not been adjusted to-date

Question 7: In addition to setting targets related to the national goals and performance measures, does your agency plan to set performance targets related to other agency-, State-, or region-specific goals and objectives?
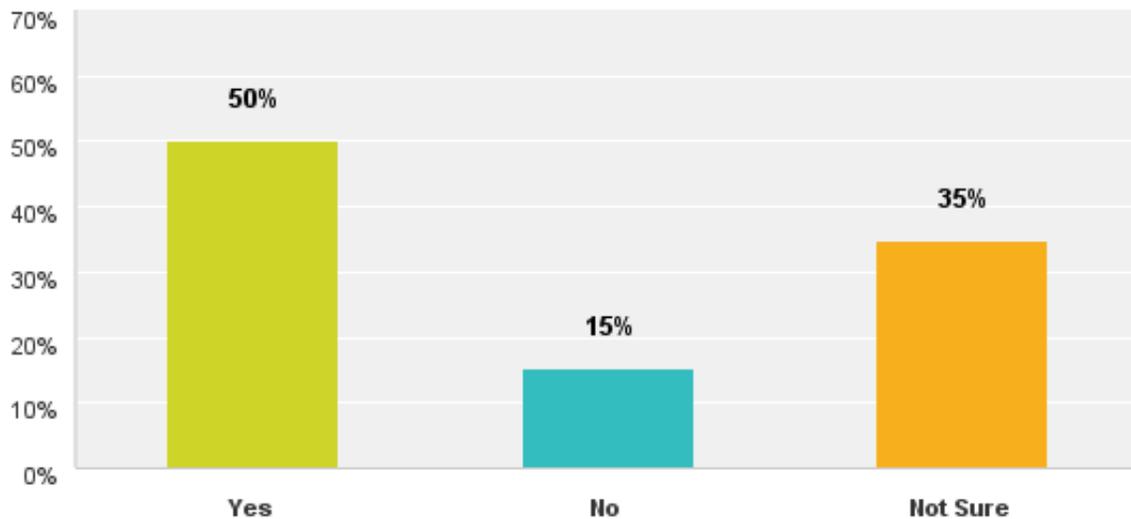

Question 8: To which topic areas will these targets for other agency-, State-, or region-specific goals and objectives relate?

- Asset management
- Non-motorized transportation
- Accessibility
- Customer service
- Employee development
- Safety
- Finance
- Connectivity
- Mobility choice
- GHG reductions
- Mode shift
- Economic growth

- Environmental Health
- Economic development
- Equity
- Operations
- Maintenance
- Project delivery
- Administrative costs
- Traffic signals
- Ridership
- Public satisfaction

Question 9: Because there are significant differences between the level of emphasis my agency puts on specific topics and the level of emphasis our planning partners put on these topics, addressing these differences will be a critical part of coordinating performance targets.
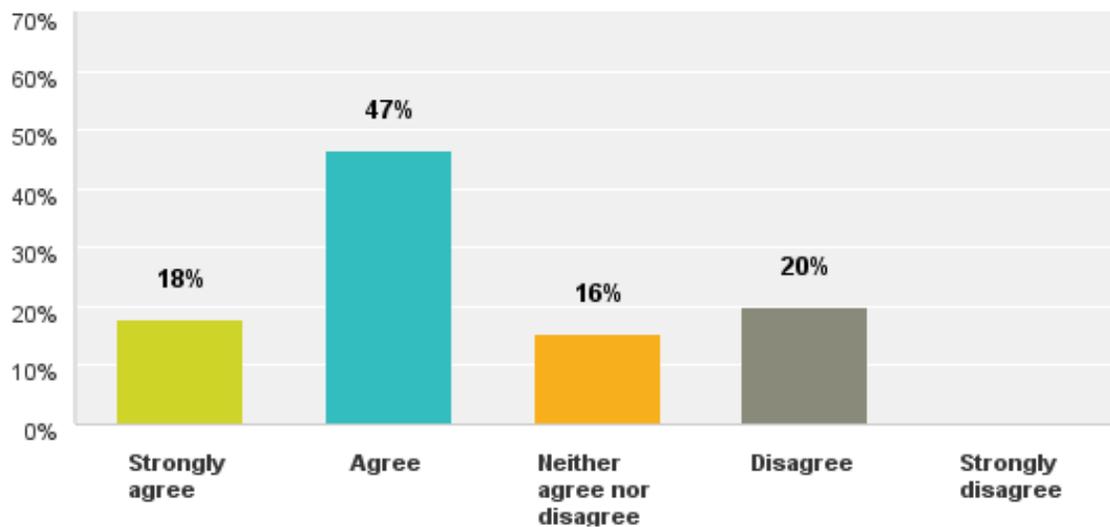
Question 10: How would you describe your agency's efforts to address these differences in the past?
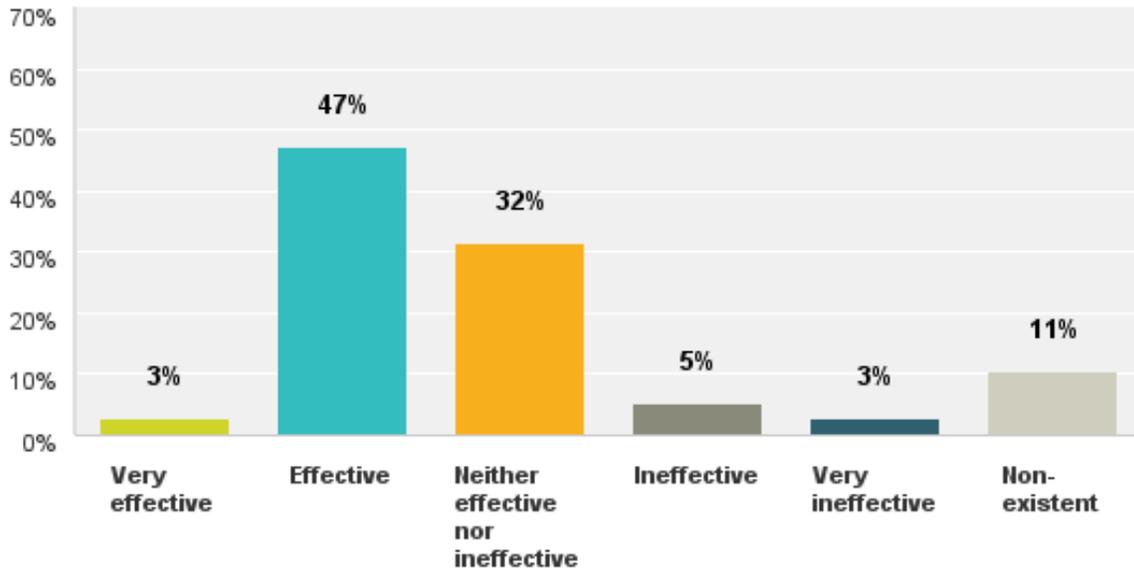
Question 11: What approaches (if any) is your agency currently considering to addressing the differences?

- Separating urban and non-urban facilities for performance measurement
- Advisory committees and task forces
- Establishment of a State Local Transportation Capital Improvement Program to address local and regional needs
- Consolidation of modal administrations into statewide multimodal DOT
- Joint effort in target setting between DOTs and MPOs
- Continuous and open dialogue
- Data sharing
- None at this time

**Question 12**: Do you anticipate using performance targets to guide your communications and discussions with decision makers?
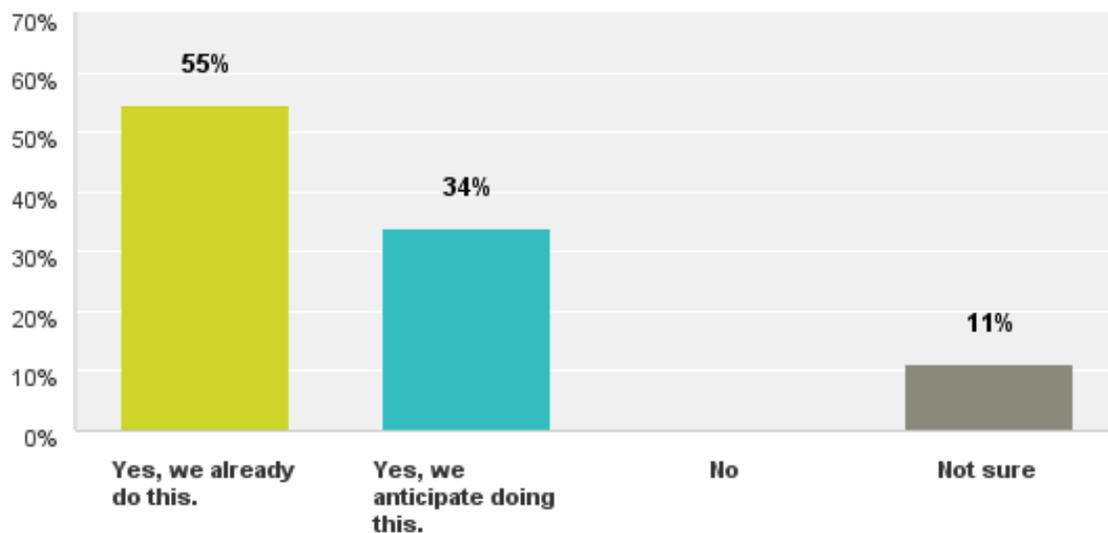
Question 13: Has framing discussions around performance targets facilitated discussions about making stronger links between performance targets and investments? Please explain.

- Yes:
    - The high profile nature of our pavement and bridge performance targets has facilitated the creation of investment programs dedicated to target achievement
    - We have rebalanced program funding to assure better alignment with targets
    - Establishing working groups in each of the national goal areas helped start the conversation and realize investment needs
    - With solid data, stronger arguments can be made for adjusting investment priorities
    - However, funding uncertainty can make this difficult
- No:
    - Not yet, but it has brought an understanding that we will have to review investment scenarios in the future
    - We believe this will happen in the future
    - We were already measuring areas and tying outcomes to our funding plan before it was nationally mandated

Question 14: Will your agency be setting different performance targets for rural and urbanized areas?
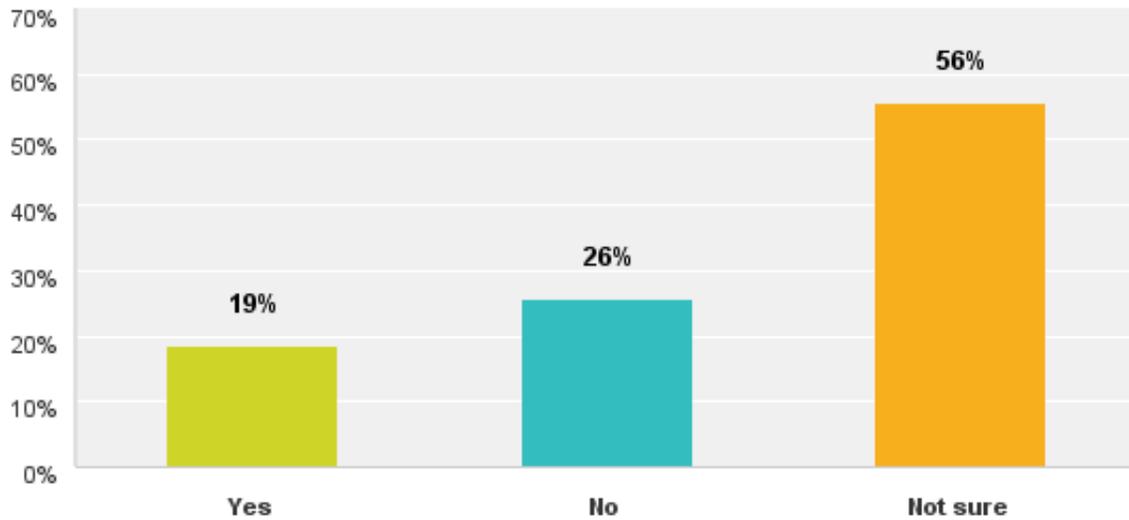
Question 15: If your agency will be setting different targets for rural and urbanized areas, please explain what the key differences are and how you anticipate your agency will approach setting these targets differently.

- Likely to prioritize by strategic plan goals, objectives, and performance targets
- Delay in urbanized areas is allowed to be higher than rural areas
- Standards for level of congestion will be different
- Size and capability of MPOs
- Setting different targets based upon the corridors of highest significance, rather than urban or rural
- State of existing infrastructure is key
- Different targets for different levels of roadway types

Appendix C: List of Notable Practices by Topic Area

The following notable practices were identified during breakout discussions; the complete practices lists below are provided together for convenience.

Process

Agency	Practice
Colorado DOT	CDOT is updating a Policy Directive that provides an overall framework for the transportation planning process through which a multimodal, comprehensive Statewide Transportation Plan will be developed that optimizes the transportation system by balancing preservation and maintenance, efficient operations and management practices, and capacity improvements. This Policy Directive includes performance objectives that guide the distribution of resources for the Statewide Transportation Plan, the Statewide Transportation Improvement Program, and the annual budget.
DC DOT	About 5 years ago, DC DOT calibrated IRI with public perception; to make sure the public's opinion of "good" pavement lines up with technical definitions.
Georgia DOT	Georgia DOT established a performance management office that created a public dashboard with targets and measures. Weekly meetings to discuss one measure/target at a time allowed the office to move forward. There was a need to educate participants on performance measure terminology. Had group meetings with program offices to sort overall agency measures from 40 to 14 global measures that drive decisions or money. Each level of the organization needs a different amount of detail, for instance, less detail needed as discussions go up higher through the organization.
Illinois DOT	Illinois DOT holds regular meetings (every 4 months) with MPOs; each meeting focuses on a specific topic. IDOT is looking at bi-state issues in evolving and emerging areas.
Michigan DOT	Michigan DOT created an asset management council that included MPOs and local agencies; the council produced a dashboard with goals in 1997. This provided a framework for discussions about expansion of the transportation system.
Michigan DOT	Similarly, MDOT also did work to correlate IRI with the public's perception of smoothness, and the perceptions of truck drivers.
Michigan DOT	Michigan DOT uses technology to tell their story – tweets and videos, etc. (www.michigan.gov/mdot/realitycheck)
Michigan DOT	Michigan DOT created tiered, cross-functional teams at all levels of the organization: - Planning and Finance teams meet weekly to discuss and review data and categories of measures - Another level meets monthly to discuss revenue and make decisions - Director level meets biannually or more frequently as needed to review high level data, make decisions and set policy
New Jersey DOT	NJ DOT has had a performance measures and asset management/safety guide since 2008. In New Jersey, quarterly meetings between the state DOT, MPOs, FHWA, and transit agencies cover topics of mutual interest; executive director level personnel attend these meetings. Tasks groups are developed as needed to tackle specific issues, with the broad focus being on improving relationships and communication.
Rhode Island DOT	MAP-21 gave RI DOT a direction. RI DOT started with 300 measures and taking them down one at a time. Meet weekly with MPO to discuss MAP-21 areas and use it as a forum to educate, create a baseline, and decide where to go. Monthly meeting of the Transportation Advisory Committee. Quarterly meetings within RIDOT divisions to discuss measures and

what data is available. Need to understand that each level of organization needs a different amount of detail, for instance, less detail needed as discussions go up higher through the organization. In addition, Vermont, New Hampshire, and Maine have a tri-state agreement to look at and compare performance measures.

Data Sharing

Agency	Practice
Arizona DOT	MPO collects MS 2 Soft traffic data and shares it in a way that allow for remote access.
Caltrans	State funding was used to make data available to all state agencies and MPOs.
Caltrans	Caltrans is trying to use State Planning and Research (SP&R) funding to develop data and set in motion more detailed household travel surveys and a linear referencing system – both of which will provide information to inform target setting.
Caltrans	MPOs in California have conducted periodic GHG inventories for all emissions sources; this has informed forecasting to predict whether policies and land use changes will result in target achievement.
Florida DOT	Through collaboration, agencies in Florida identified that they were purchasing the same data over and over – were able to begin discussions about how to prevent duplication and save money
Florida DOT	Florida DOT has a Source Book of Data it shares with MPOs online. The agency's statistics office also has a metadata database that explains the data.
Illinois DOT	A technical advisory group discusses safety data, disseminates it (on CD) and analyzes it to identify lists of projects; the group met nine times over six months and identified 10 safety measures from agreed-upon data sources; now, the group is working on establishing targets.
Maricopa Association of Governments (MAG)	MAG is a data leader in collecting socioeconomic data.
Maryland State Highway Administration	SHA is conducting a vehicle probe project with eight states; the project is measuring and collecting speed and travel time data on a real time basis along I-95. Data collected is being archived with an MPO user group. Currently the data is used in an operations planning tool, and the agency is in the process of developing additional tools to utilize the data set.
Michigan DOT	Need a plan for enhanced NHS when state DOT is not the owner
Minnesota DOT	MnDOT shares its data with MPOs (e.g. safety data)
Texas DOT	TxDOT does travel demand modeling for MPOs; the agency has also purchased inrix data
University of Maryland CATT Lab	The University's CATT Lab owns a regional data warehouse – all agencies that share data can use the data; maintenance is all undertaken by the university.
Utah DOT	Current the DOT collects all data used by transportation agencies in the state
Virginia DOT	Use of MOU to identify areas of collaboration and data-sharing
Virginia DOT	VDOT shares historical data with MPOs and planning offices; the data is currently on CD but is moving online (to an access database) – information about data and factors is provided

Managing Stakeholder and Decision-Maker Expectations

Agency	Practice

Arkansas State Highway and Transportation Department	Used level of service discussion to show stakeholders what can be achieved at current level of funding
DC DOT	Management of stakeholders can result in management of decision-makers. Communicating with stakeholders to help them see what they can get through collaboration. Allows for establishment of common ground that can be built upon subsequently.
Florida DOT	Florida DOT is using bridge and pavements success to show stakeholders the results of their investments.
Louisiana DOT	Effective use of questionnaires to identify public priorities
Nebraska DOR	Nebraska Department of Roads communicated to the Governor and the legislature that with current funds they were not able to do much more than preserving the existing assets. The legislature was then able to pass a bill that now diverts some of the revenues from the sales tax to building capital improvement projects.

Partnerships

Agency	Practice
Caltrans	Caltrans has provided rural agencies with funding to work with a consultant to develop performance measures and goals that are appropriate at rural and regional level; this project is already in progress, with Nevada County RTPA heading the initiative.
Caltrans	Transit providers have met with Caltrans' division of mass transportation to coordinate related to targets they will play a role in working toward, while the California division of FHWA and Caltrans have worked with tribal governments to identify appropriate performance measures as well.
Kentucky Transportation Cabinet	KYTC has established interdisciplinary teams for managing performance.
Maricopa Association of Governments	MAG has engaged with Arizona DOT through two formal teams: a data team (working together to learn the network data set) and an operations team (which identifies the impact of specific measures)
Maryland State Highway Administration	MDOT/SHA has a dashboard with state statistics. The agency also involves different states through monthly meetings and develops business plans for each program and modal area. In Maryland, MPOs play a relatively small role and do not program projects.
Mississippi DOT	Began process to educate MPOs on target setting requirements and opportunities for collaboration
Nebraska DOR	Nebraska DOR brought in leadership from the districts and divisions to determine strategic goals, measures, and begin discussions of targets; this formed the agency's annual report.
Wisconsin DOT	Wisconsin DOT uses MAPPS Measures to track performance – this includes multimodal measures and transit measures. Wisconsin DOT is still working to connect this effort with the agency's long range plan.
Wyoming DOT	As asset management program matures, WY DOT is able to show districts the results certain investments will have on performance; this allows for better understanding of trade-offs.

Training and Education

Agency	Practice
Kansas DOT	Offers a "KDOT 101" course for legislators; the course is generally high level and talks about performance, but not about performance targets (yet)
Nevada DOT	6-8 years ago, NV DOT established 23 performance measures and added 43 more measures after MAP-21 was enacted. FHWA division office assisted with information and data related to the newly formed measures.
New Mexico	NM DOT is developing training manuals for new policy board members unfamiliar with the current performance-based planning and programming landscape.
Oregon DOT	ODOT offers a one-day "Go to College" seminar for the legislature that includes discussion of some transportation performance management issues, with a focus on funding (and relationship of funding to performance).
Pennsylvania DOT	PennDOT provides a statewide system report that contains information about performance metrics.
Vermont DOT	Offered a seminar for the state legislature and regional planning commission on transportation performance management that was not related specifically to MAP-21

Appendix D: Research and Technical Assistance Needs by Topic Area

The needs listed below were identified during the implementation breakout discussion sessions, in response to a question about how FHWA and AASHTO can assist state DOTs and MPOs in implementing target setting practices. They are provided together here for readers' convenience.

Process

- **Guidance for bi- and multi-state MPOs and the states that need to collaborate and coordinate with them** – This could be done through peer exchanges or other media.
- **Development of tools to assess and visualize trade-offs** – These would allow the public to see the results of trade-offs; could also be used in communications with legislators.

Data Sharing

- **Establish standards** – Standards are needed for data collection methodologies and, in some cases, assumptions. FHWA/AASHTO could even provide guidance for possible data sharing agreements and/or division of responsibilities between state DOTs and MPOs.
- **Information sharing** – FHWA and AASHTO should continue to support peer exchanges and other opportunities that allow for understanding of what other practitioners are doing, how far along agencies should be, etc.
- **Accurate information about costs** – Many states do not have a good understanding of how much it will cost them to implement target setting practices and the expected return on investment; FHWA or AASHTO could collect information on this.
- **Information about accepted practices** – FHWA and AASHTO can work to ensure that division offices are enforcing rulemaking similarly across states and accommodating unique circumstances where necessary. If FHWA supports a specific practice for setting targets, it is helpful for other states to know this and build on accepted practices.
- **Coordination between FHWA and FTA in rulemaking definitions** – Because transit agencies own some bridges on the NHS, for example, it is important that definitions for terms such as "state of good repair", as well as regulations, are consistent.
- **Applicability of real time information** – A better understanding of how real time travel information can be used to inform and improve analyses and decision-making.

Managing Stakeholder and Decision-Maker Expectations

- **Updates to laws are needed** – Many state planning laws are many decades old and do not reflect current realities.
- **Stakeholder role** – A better understanding of the appropriate level of stakeholder involvement would be helpful (based on type of process and objectives).
- **Training for staff in how to manage expectations** – Training for staff to guide discussions around expectations and tools that can be employed for this purpose.
- **Visualization tools** – Better tools for visualizing trade-offs in communications with stakeholders and decision-makers.
- **Peer Exchange on Reliability** – Peer exchange on travel time reliability to help better contextualize the topic of congestion in communications with stakeholders and decision-makers.

Partnerships

- **Case studies** – Provide best practice case studies on setting targets that explain context and specific solutions employed.
- **Guidance on comparison** – Be thoughtful about the relevance of state-to-state comparisons, given variations in circumstances and that most states care more about how they are doing relative to their own baseline than about how they are doing relative to other states. Identify appropriate usage of comparisons.
- **Information sharing** – Invest in additional opportunities for agencies to share information on effective partnership-building and –strengthening practices (peer exchanges, web forums, etc.)
- **Non-motorized mode targets** – Guidance on setting targets related to non-motorized or non-automobile (including measures that allow for cross-modal comparisons). This is new for some states.

Training and Education

- **Workshops** – Build on previous TPM workshops to additional information from NPRM issuance.
- **State-by-state workshops** – These workshops would build consensus among a variety of partners and stakeholders around collaboration and coordination to set targets.
- **Analysis techniques training** – Similar to the technical assistance NHTSA has provided, provide an initial analysis of the performance measures and trend analysis for setting targets.
- **Updated state of practice information** – Information on what States are doing now, particularly with state of good repair targets.
- **Checklist** – Similar to the checklist for performance measures, SCOPM could issue a checklist for targets.
- **Research synthesis** – There is currently more research on TPM than the States know what to do with; a synthesis of this research is needed.
- **Conference** – Partner with AMPO to improve state DOT-MPO target setting coordination and collaboration.
- **Working with tribal governments** – Guidance (e.g. through a conference) for states with large tribal governments on how to collaborate with tribes to set targets

Safety Rulemaking Implementation

- **Guidance on target setting strategies** – Rules of thumb/standard practices on cost/benefit analyses related to setting targets to help state DOTs and MPOs screen strategies to identify those that might be the most effective in the current context. One possible way would be to review a sample of existing safety data to compare pre/post safety outcomes anticipated?
- **Communication tools and strategies** – Practices to support managing expectations of stakeholders and decision makers.
- **Training** – Once top training and education needs are identified, move toward implementation.

Appendix E: Participant List

Name	Agency	Email address
Imad Aleithawe	Mississippi DOT	ialeithawe@mdot.ms.gov
Angela Alexander	Georgia DOT	aalexander@dot.ga.gov
Elisa Arias	San Diego Association of Governments	Elisa.Arias@sandag.org
James Ballinger	Kentucky Transportation Cabinet	JamesE.Ballinger@ky.gov
Deanna Belden	Minnesota DOT	ampbe.belden@state.mn.us
Katie Benouar	Caltrans	ampb.benouar@dot.ca.gov
Jerri Bohard	Oregon DOT	jerri.l.bohard@odot.state.or.us
Daniela Bremmer	Washington DOT	ampbel@wsdot.wa.gov
Peter Calcaterra	Connecticut DOT	peter.calcaterra@ct.gov
Mara Campbell	Missouri DOT	mara.campbell@modot.mo.gov
Jason Coffey	New Mexico DOT	jason.coffey@state.nm.us
Monique de los Rios-	Maricopa Association of Governments	MdelosRios@azmag.gov
Bola Delano	Illinois DOT	bola.delano@illinois.gov
Stephanie Dock	District of Columbia DOT	irginia.dock@dc.gov
Ben Ehreth	North Dakota DOT	behreth@nd.gov
Rachel Falsetti	Caltrans	rachel.falsetti@dot.ca.gov
Marcia Ferril	Kansas DOT	MarciaF@ksdot.org
Marsha Fiol	Virginia DOT	marsha.fiol@vdot.virginia.gov
Kevin Gantt	South Carolina DOT	GanttKL@scdot.org
Tom Greco	Nevada DOT	tgreco@dot.state.nv.us
Jessica Griffin	New Mexico DOT	jessica.griffin@state.nm.us
Ryan Huff	Nebraska Department of Roads	ryan.huff@nebraska.gov
Denise Jackson	Michigan DOT	jacksond15@michigan.gov
Moe Jamshidi	Nebraska Department of Roads	Moe.Jamshidi@nebraska.gov
Jessie Jones	Arkansas State Department of Highways and Transportation	Jessie.Jones@arkansashighways.com
Martin Kidner	Wyoming DOT	martin.kidner@wyo.gov
Dave Kuhn	New Jersey DOT	david.kuhn@dot.state.nj.us
Dave Lee	Florida DOT	david.lee@dot.state.fl.us
Wade Lester	Louisiana DOT	Wade.Lester@la.gov
Dana Majors	Kansas DOT	danam@ksdot.org
Shane Marshall	Utah DOT	smarshall@utah.gov
Brian McLafferty	Minnesota DOT	Brian.Mclafferty@state.mn.us
John Moore	Kentucky Transportation Cabinet	johnw.moore@ky.gov
Tonia Norman	Texas DOT	Tonia.Norman@txdot.gov
Scott Omer	Arizona DOT	somer@azdot.gov
Michael Pack	University of Maryland CATT Lab	packml@umd.edu
Rob Pennington	West Virginia DOT	Robert.Pennington@wv.gov
Tom Prestash	Pennsylvania DOT	tprestash@pa.gov
Isaac Ramirez	Houston Galveston Area Council	Isaac.Ramirez@h-gac.com
Blake Rindlisbacher	Idaho DOT	blake.rindlisbacher@itd.idaho.gov
Jim Ritzman	Pennsylvania DOT	jritzman@pa.gov

Bob Romig	Florida DOT	Bob.Romig@dot.state.fl.us
Kevin Schoeben	Illinois DOT	Kevin.Schoeben@Illinois.gov
Sue Scribner	Vermont DOT	sue.scribner@state.vt.us
Joe Segale	Vermont DOT	Joe.Segale@state.vt.us
Greg Slater	Maryland DOT	gslater@sha.state.md.us
Jeff Sudmeier	Colorado DOT	jeffrey.sudmeier@state.co.us
Aileen Switzer	Wisconsin DOT	Aileen.Switzer@dot.wi.gov
Peggy Thurin	Texas DOT	Peggy.Thurin@txdot.gov
Mark Van Port Fleet	Michigan DOT	vanportfleetm@michigan.gov
Lynn Weiskopf	New York State DOT	lynn.weiskopf@dot.ny.gov
David Wessel	Flagstaff MPO	dwessel@flagstaffaz.gov
Marc Williams	Texas DOT	Marc.Williams@txdot.gov
Mark Wingate	Wyoming DOT	mark.wingate@wyo.gov
Richard Woo	Maryland DOT	rwoo@sha.state.md.us
Jim Wood	Florida DOT	jim.m.wood@dot.state.fl.us
Dave Wresinski	Michigan DOT	wresinskid@michigan.gov
Christos Xenophontos	Rhode Island DOT	christos.xenophontos@dot.ri.gov
Sam Zimbabwe	District of Columbia DOT	sam.zimbabwe@dc.gov