

# CEO Peer Exchange Workshop

NCHRP 20-24 (108)

## Summary Report

Sunday, April 3 – Tuesday, April 5, 2016

McNamara Alumni Center  
A. I. Johnson Room  
University of Minnesota  
Minneapolis, Minnesota

*Sponsored by*  
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# WORKSHOP OVERVIEW

The state department of transportation (DOT) Chief Executive Officer (CEO) Peer Exchange Workshop was requested by the American Association of State Highway and Transportation Officials (AASHTO), and conducted as part of National Cooperative Highway Research Program (NCHRP) Project 20-24. NCHRP Project 20-24 provides funds for research studies intended to address specific needs of chief executive officers (CEOs) and other top managers of DOTs.

The objective of this research was to organize, provide intellectual and logistical support, and document a workshop with new and more experienced CEOs to discuss leadership challenges and engage with senior AASHTO and Federal Highway Administration (FHWA) officials. The workshop itself was the most recent of a series of such gatherings AASHTO and NCHRP have sponsored for nearly two decades.

The research was conducted by a consultant team lead by WSP | Parsons Brinckerhoff, in collaboration with the University of Minnesota Center for Transportation Studies, Tom Warne & Associates, LLP and Thomas DeCoster. The consultant team coordinated closely with senior management from AASHTO to identify candidate topics for the workshop technical sessions and vet them with current DOT CEOs. This vetting process yielded the topics included in the 2016 Workshop. The workshop was structured to maximize the time available for open discussion and encourage interaction among the CEOs, allowing them to learn from their shared yet varying experiences as the leaders of state DOTs across the United States.

## WORKSHOP STRUCTURE

The CEO Peer Exchange Workshop was held at the University of Minnesota in Minneapolis Sunday, April 3 through Tuesday, April 5, 2016. The CEO Peer Exchange Workshop included seven hour-long, facilitated discussions of current and emerging technical topics. The workshop also included a roundtable discussion and a final synthesis session. The technical sessions included brief 15-minute technical presentations, followed by 45-minute facilitated discussions. The intent of the workshop was to create a forum for information exchange and open discussion and to provide the CEOs with the opportunity to build relationships with their peers.

Following welcoming remarks by AASHTO, the Minnesota Department of Transportation and the consulting team, the workshop began with a session on Working with Washington during which the CEOs heard the perspectives of senior AASHTO and US DOT leadership on the interaction of state DOTs with their agencies. This session was followed by a dinner providing the CEOs and other workshop participants with the opportunity for informal exchange.

The following day the peer exchange workshop continued with six technical sessions on the following topics, most of which were selected by DOT CEOs:

- § Are State DOTs Ready for the Technology Transformation?
- § Leading Changes: Implementing New Practices and Innovations at State DOTs

- § Getting the Work Done: Managing the Changing Role and Workforce of the State DOT
- § The Buck Stops Here: The Art and Practice of Using Performance Management and Communications to Build Agency Credibility
- § Where Do We Get the Money: Funding Transportation Investment When Budgets Are Slim
- § What Keeps the CEO Awake at Night: Disaster Recovery and System Resiliency

The technical sessions were punctuated by lunch and periodic breaks. The day's events concluded with a dinner, affording the CEOs with additional opportunities for interchange and discussion.

The workshop concluded with three sessions the following morning:

- § Round Table Discussion: Ask the Experts – Learn How Your Peers and Predecessors Have Dealt With Similar Issues
- § Partnering for Results” Building and Sustaining Relationships
- § Workshop Summary

The round table discussion gave the CEOs the opportunity to ask questions of one another on topics of their own choice and share their experiences on those issues. The workshop adjourned on Tuesday afternoon shortly before lunch, enabling the CEOs to return to their homes the same day.

## WORKSHOP PARTICIPANTS

The following DOT CEOs participated in the Workshop:

- § Malcolm Dougherty            California Department of Transportation
- § Leif Dormsjo                    District of Colombia Department of Transportation
- § Russell McMurry               Georgia Department of Transportation
- § Brian Ness                       Idaho Transportation Department
- § Paul Trombino                  Iowa Department of Transportation
- § Shawn Wilson                  Louisiana Department Transportation and Development
- § Dave Bernhardt                Maine Department of Transportation
- § Stephanie Pollack               Massachusetts Department of Transportation
- § Kirk Steudle                    Michigan Department of Transportation
- § Charlie Zelle                    Minnesota Department of Transportation
- § Patrick McKenna               Missouri Department of Transportation

- § Kyle Schneweis                      Nebraska Department of Roads
- § John Schroer                         Tennessee Department of Transportation
- § James Bass                            Texas Department of Transportation
- § Carlos Braceras                      Utah Department of Transportation
- § Chris Cole                              Vermont Agency of Transportation
- § Roger Millar                            Washington Department of Transportation

## CEO PEER EXCHANGE WORKSHOP SUMMARY REPORT

This summary document is a synopsis of the presentations and discussions that ensued in the several workshop sessions. Each section provides an overview of the formal presentations made by the research team, brief remarks on the presentation by a DOT CEO who had agreed prior to the workshop to offer such remarks, and the general discussion that followed.

A secondary objective of the workshop was to identify initiatives that AASHTO or NCHRP might pursue to address matters of concern to CEOs. During each topical discussion, the research team maintained a list of questions raised during the discussions that could be topics for research or bases for future peer exchanges. These questions (assembled at the end of each topical section and in Appendix A) will inform AASHTO and NCHRP staff activities.

# WORKSHOP INTRODUCTION

## WELCOMING REMARKS

AASHTO Executive Director Bud Wright opened the CEO Peer Exchange Workshop, welcoming the participants and observing that one of AASHTO's most important activities is to facilitate a continuous learning process for its members. He noted that for a DOT CEO there is no better group to learn from than others who sit in the same chair. He also noted that small groups such as the current workshop attendees encourage productive conversation. The workshop is meant to provide a safe setting where the CEOs can ask questions of one another and have frank discussions. This year's workshop includes 10 CEOs that have been in office for 10 months or less and eight CEOs who have held the position for much longer. All CEOs attending the workshop should benefit equally well from the experience. There are no rules of engagement; the intent is to facilitate free-flow conversations. The workshop is funded through NCHRP Project 20-24; AASHTO will continue to offer such workshops as long as CEOs find value in them.

Minnesota Department of Transportation (MnDOT) Commissioner Charlie Zelle welcomed the CEOs to Minnesota. He remarked that the local forecast for the following day – opening day of both baseball and the construction season in Minnesota – included snow. Charlie noted that the warmth and graciousness of CEOs and staff participating in the workshop make it a great event. Charlie learns from his work every day and believes it is an honor to be a CEO because the job is really about how people live their lives. DOTs are engaged in what people are thinking about.

Paula Hammond—research team principal investigator and former Secretary of the Washington State Department of Transportation (WSDOT)—welcomed the participants and stated that the CEOs' work will not be done when they leave office. She introduced the participants to the technical team facilitating the workshop, many of whom are former CEOs, and noted that the workshop provides an opportunity to share experiences and forge new relationships. This year's workshop includes two sessions on vehicle automation and system finance, as well as refreshed looks at topics from the 2015 workshop. Paula encouraged the CEOs to share whatever is on their minds as the workshop progresses.

## GOALS OF THE CEO PEER EXCHANGE WORKSHOP

AASHTO President Paul Trombino noted the value for CEOs to get together for a short and intense period of time to share their experiences. The Peer Exchange Workshop provides immense value for new and more seasoned CEOs alike. The first goal of the session is to establish and strengthen relationships, and this provides great value to CEOs. Many CEOs also act as resources and advocates for one another. This session also provides CEOs with the opportunity to strengthen relationships with US DOT with Butch Weidelich's participation and to gain from the experience and insight of John Porcari, former Deputy Secretary of USDOT.

The CEO Peer Exchange is issue-driven. The names and faces of participants may change, but many of the issues CEOs face remain much the same. AASHTO has developed a list of important topics that will be discussed in a setting designed to provide CEOs with insight from our shared experience. AASHTO also hopes

that the CEO Peer Exchange Workshop will enable new CEOs to understand the merits of having such an association and the benefit of the organization as an industry advocate.

# WORKING WITH WASHINGTON TO ENHANCE YOUR STATE'S TRANSPORTATION PROGRAM

## AASHTO

Executive Director Bud Wright reported that AASHTO updated its strategic plan when it celebrated its centennial in 2014. AASHTO's members include DOTs from the 50 states and the District of Columbia and Puerto Rico, as well as 46 non-voting associate members from government agencies in the U.S. and abroad. AASHTO supports all transportation modes – highways, rail, transit, air and water – and has recently added active transportation issues as a sixth mode.

All transportation agencies are different. While the average state DOT is responsible for roughly 20 percent roads in their states, this figure ranges from a low of nine percent in California to over 80 percent in Virginia. State DOTs have a wide range of responsibilities. Some operate short line railroads, airports and seaports. Many provide funding for transit, while others also operate their states' motor vehicle administrations.

AASHTO's emphasis is on transportation solutions. The association exists because its members find value in what it does. AASHTO does not officially engage in lobbying, but was extensively involved in shaping the Fixing America's Surface Transportation Act (FAST Act); the national transportation authorization act that was signed into law in December 2015. This successful outcome aligns with the needs and activities of AASHTO's members, as the states have a lot of credibility in Congress.

AASHTO's most important role is providing technical services through its centers of excellence, publications, laboratories, and standards. Three percent of AASHTO's \$75 million annual budget comes from member dues. Individual states also choose to be part of different technical service programs, at a cost of \$3,000 to \$20,000. The average states pays approximately \$5000 per year in dues.

AASHTO's national leadership includes a Board of Directors comprised of its 52 members' Chief Executives, as well as a twelve-member Executive Committee. AASHTO's Board sets the organization's policy, with resolutions requiring a two-thirds majority, or 35 votes. The Executive Committee is responsible for developing and approving AASHTO's budget. The organization also has four regional associations that operate independently with their own boards and secretaries. However, the regional associates do inform some of AASHTO's activities and decisions.

## FEDERAL HIGHWAY ADMINISTRATION (FHWA)

FHWA Executive Director Walter "Butch" Waidelich has had a varied career over 28 years at FHWA, 25 of which have been spent in FHWA field offices. Butch has worked in 11 different FHWA Division offices and served as Division Administrator in Utah and California. He also served as the FHWA's Director of Field Services–West, where he supervised 13 western state Division Offices. He has learned a great deal from the states and their important partnerships with FHWA. FHWA holds similar workshops for their Division Administrators, giving its Division Administrators the opportunity to interact with one another. Most Division

Administrators are familiar with Butch's philosophy on FHWA's role because he was part of the team that piloted those workshops. The bottom line is that FHWA works with the states to make transportation safer and more efficient. FHWA has a staff of 2,900, which is less than half of its size of when Butch joined the organization. This includes its Division Offices, headquarters, which is responsible for policy, and the Office of Federal Lands, which has a billion dollar program overseen by a staff of 450 people. FHWA's resource centers provide expertise in technical areas and assist the states and the Turner Fairbank Highway Research Center in Virginia performs research and forensics. FHWA represents one mode within USDOT, but it is one of the only modal administrations within USDOT with an office in each state. As such, FHWA's Division Offices can also field inquiries on other modes, and can assist in contacting the appropriate point of contact.

The federal highway program goes back over 100 years, to the first Federal Aid Highway Act of 1916 and the Wilson administration. However, federal government's transportation partnership with the states is much older, beginning with President Monroe vetoing a law that would have allowed the federal government to operate and toll the National Pike even though it was built on state lands. Later, the National Pike was turned over to the states. In Europe, national governments own the transportation system, but the model is different in the U.S. The states own their transportation roadway networks, with FHWA providing funding and technical assistance. The system is state-administered and federally-assisted. This is a unique arrangement within the federal government.

Butch stated that he has seven key beliefs in how the relationship between state DOTs and FHWA should work:

1. States' initial point of contact with FHWA should be the Division office
2. Administering the program is a partnership. The Federal-aid program is state administered and federally assisted. Any failure (such as something that causes a loss of funds) is a joint failure of FHWA and the states. We succeed or fail jointly.
3. FHWA's role is to help states navigate federal red tape
4. There should be no surprises, the sooner you or FHWA is aware of an issue, the sooner it can be addressed.
5. Work closely to achieve mutual goals. Division Administrators should help CEOs achieve their goals and they need to communicate with each other what they are.
6. Trust is non-negotiable and partnerships are not possible without it
7. Open communication requires an investment of time

As he assumes his new role at FHWA, Butch has many expectations of the Division Administrators (Be forward leaning, be visible, be accountable, be corporate, be credible and be an agent for engagement). FHWA's roles have evolved over the past two and a half decades, and the partnership with the states have made all the difference. Two weeks into his new position, Butch is stressing the importance of the states' relationships with the Division Offices and he looks forward to interacting with state DOTs across the country.

## FEDERAL AND STATE PERSPECTIVES

John D. Porcari, National Director of U. S. Advisory Services for WSP | Parsons Brinckerhoff and former Maryland Transportation Secretary and U.S. Deputy Secretary of Transportation, discussed the relationship between USDOT and state DOTs. He noted that it has been a remarkable experience to serve at both the state and federal levels. John said that he had a chip on his shoulder when he went to USDOT because he felt the Department's responsiveness was not always the best, but after spending four and a half years with USDOT, he respects how hard its staff works to make things happen for the states.

John stressed the importance of state DOT CEO's engaging in dialogue with USDOT in order to gain help at the federal level. He noted that every CEO has an agenda. You need to boil your agenda down to a sixty-second elevator speech. USDOT needs to know what your priorities are, and you need to articulate them clearly to USDOT staff including the Secretary, Deputy Secretaries and your Division Administrator. You should also be sharing your agenda with your congressional delegation.

The transportation system is built from the bottom up and aggregates into a national system. You need to understand the federal government's agenda and how your program and interests intersect with, and support the Federal program. For example, the Federal government supports road user charges, but there is little activity in this arena at the federal level. The work is all going on at the state level, and ultimately a national policy will be crafted from the state experience. This dynamic extends to other strategic areas, such as the use of tolling, public-private partnerships and financing tools. These are all important items on the federal transportation agenda and states should slot them into their own programs.

John observed that personal relationships matter and that they have to be predicated on trust. The Recovery Act is an excellent example of the federal and state relationships. The bill provided \$48 billion in funding, but all the projects came from the local level. This required an enormous amount of trust at the federal level that projects being put forward by the states were good choices. The "no surprise rule" is also an essential ingredient in building trust. All major projects have near-death experiences. States need to keep USDOT apprised of what is going on at all times so that federal players can provide help when it is needed. When this occurs, you will succeed together.

Innovation comes from the state level. Offer to innovate and share what you have accomplished with your federal partners so that others can also adapt and apply what you have achieved. This type of input is essential with federal programs such as Every Day Counts; these programs rely on information that flows both ways between the state and federal levels. Your experience is probably relevant to others.

You should also be aware of what your federal partners can and cannot do for you. Recognize that there is very little that USDOT can do without going to Congress. Do not ask USDOT for help with something they cannot do, but do look for ways that they can. USDOT can help with other parts of the federal process such as NEPA and permitting. While they cannot change the rules, if leadership at USDOT knows what you are trying to do they can help you.

Leadership at USDOT is supportive to your needs. If you know your agenda and theirs and work the plan together, there is no limit to what you can accomplish. There is a lot of empathy and understanding for state DOT CEOs at the federal level, you are the real entrepreneurs in the transportation sector.

## DISCUSSION

*Question:* When is the right time for CEOs to engage with new USDOT appointees?

*Answer:* The best time for CEOs to reach out to new USDOT appointees is immediately. Today administrations have more turnover than ever in both appointed and career staff. Any appointee knows how important career staff are. Current acting staff are not likely to be confirmed. Engage immediately with appointee and career staff members. They are committed. No important decisions are made without input from both career and appointed staff.

*Question:* What will happen at USDOT in the first four months of the new administration?

*Answer:* It will be a combination of a blank slate and the continuation of past work. Career staff will probably not take on new policy initiatives at the beginning of the administration. The sheer number of appointees is cumbersome. There will not be dramatic changes in the first four months of the year. The last change of administration was atypical with the onslaught of the Great Recession. The new administration at the time heeded the adage to never let a crisis go to waste when Congress passed the Recovery Act in February 2009. DOT CEOs should plant their seeds right away with the new administration. Share your priorities with new DOT appointees. Your ability to drive the federal agenda is never stronger than at the beginning of a new administration.

*Question:* John Porcari was asked what he would have done differently coming into his role at USDOT knowing what he knows to day.

*Answer:* John gave himself 30 days to speak with all 52 DOT CEOs to learn about their priorities after assuming his role as Deputy Secretary of Transportation. Coming in to a new position, you need to learn to listen and understand priorities. The NEPA process troubled John from the outset of his time at USDOT. It took a long time for him to peel back the onion and understand what the issues are. It would have been helpful to hear from CEOs about the liabilities of delays in the NEPA process. Be vocal about these issues and build on existing momentum, such as the Every Day Counts initiative.

*Question:* What advice would you have on interacting with other associations and groups?

*Answer:* There are many good groups out there who DOTs can partner with. The Urban Land Institute is an excellent organization and a natural transportation stakeholder. Look for unconventional partnerships. Freight is an issue that enjoys bipartisan support in Congress. The seams in the freight network need to be addressed including highway and rail connections to ports. Inland waterways are also natural partners. There are several other industry stakeholders doing good work.

*Question:* With the possible shut down of WMATA in Washington, are we reaching a tipping point with Congress to get to the next level of transportation investment?

*Answer:* John Porcari stated that we are not there yet, and noted that the effect of the I-35W bridge collapse was short lived. BART and MARTA also need significant investment. It is possible to get funding to purchase new rolling stock, but much harder to gain funding for signals and tunnel lining repairs. The presidential candidates are all talking about infrastructure, but it takes longer to find funding for sub-structures.

*Comment:* The states need FHWA to come in and delivery the same message to help reinforce what they are trying to do. The Division Administrators and DOTs need to coordinate and anticipate one another.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the working with Washington session, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § How can states share their innovation and accomplishments with others so that can be adapted and applied in other settings?
- § What will transpire at USDOT during the first few month of a new presidential administration? When is the optimal timeframe for CEOs to engage with new USDOT appointees?
- § How should state DOTs interact with industry associations and groups?
- § What effect are slow and indefinitely delayed approvals of appointed staff having at USDOT?
- § Increases in transportation investment are focused on capacity enhancements and new facilities. However, ongoing maintenance needs require the vast majority of current transportation funding. What strategies can be used to get to the next level of transportation funding for our substructures?

# ARE STATE DOTs READY FOR THE TECHNOLOGY TRANSFORMATION?

Scott Shogan with WSP | Parsons Brinckerhoff observed that no matter how long we have all been in the transportation sector, we have all seen how technology is changing how we manage our system assets, communicate and interact with customers, and monitor and measure system performance. Soon technology will also change how our society will define mobility. This is not change around the edges; it is a fundamental transition to driverless vehicle technologies. There is a sprint towards driverless vehicles right now; and industry watchers predict that fully autonomous vehicles will likely be available to the commercial market by the mid-2020's. Technology is advancing because the market is there.

Autonomous automated vehicles operate in isolation from other vehicles using internal sensors. Connected vehicle communicate with nearby vehicles and infrastructure. These two technologies are converging creating an array of potential benefits. DOTs will play critical role in supporting and leveraging that connectivity.

What are the implications of all of this change for state DOTs? Driverless vehicles will likely be connected to the DOT's infrastructure. If we can run trains of vehicles at high speeds with low headways, then we will be able to increase throughput and roadway capacity. The deployment of these technologies will require a transition period. During this time, we may see driverless vehicle only lanes on our highways. The precision of computer driving could enable us to add lanes within existing footprints.

What types of changes will these innovations have on trip-making behavior? With people able to spend time in their cars doing things other than driving, would they tolerate longer commuting distances? Could this dynamic lead to urban sprawl and higher VMTs? Could these new technologies also lead to a shift in the static car ownership model as people take advantage of driverless rideshare or taxi services where a smaller number of vehicles are being used more frequently and efficiently? Connected vehicle technologies also present important opportunities for DOTs by providing data that can enhance current asset management, real-time operations capabilities, and system performance measurement.

How do we prepare for this future and when should we start? Starting early can provide further a state's economic competitiveness and identify pathways to early user benefits. With regulatory action regarding connected vehicles likely to occur as soon as 2016, early action will enable DOTs to gain experience before mandates are established. Connected vehicle technology could be installed in all new vehicles by 2019, depending on regulatory action. In order to take advantage of this, DOTs will need to prepare the necessary digital infrastructure – digital information will become equally vital as steel and concrete. DOTs will need to collect, parse and manage enormous amounts of data and build out communications networks. This will also require partnering with other agencies and developing robust back office capabilities that are critical to the mission of the DOT.

While there are still some questions over the role of publically owned infrastructure versus the use of 5G and other technologies, it remains likely that public infrastructure will still play a role in this system, particularly at traffic signals. Another foundational first step will be developing infrastructure-based messaging systems to

deliver information to vehicles. DOTs do not need to deploy these technologies to prepare. DOTs should follow industry research and activity and anticipate future communications needs. If you need to rip up pavements, put in fiber when they are restored. DOTs should also engender a cultural shift to make information technology part of their core missions. Figuring out where the DOT needs to go will not necessarily require a large upfront investment.

The impacts of connected and automated vehicle technologies on long-range planning is an important consideration that the industry is just starting to understand and assess. Looking forward over a 20-year planning horizon, driverless vehicles will achieve significant market penetration. That will have profound and yet unknown impacts on a wide range of travel behavior assumptions that have held constant for decades. We are no longer able to extrapolate from the static past. Technology will shift behavior in new ways and result in fundamental changes in long range planning.

## PREPARING FOR DRIVERLESS VEHICLES

In state DOTs interested in preparing for driverless vehicle implementation, there is a push to justify pending resources to support driverless vehicle technologies. This technology is all about safety and the experts predict that we will reduce traffic fatalities by 80 percent. This is a reduction from 30,000 to 6,000 traffic-related deaths annually. Why wouldn't we do that? Safety is an extremely effective issue when put in front of legislators. The automobile industry recognizes the value of this technology and has bought into it. Michigan and California are preparing for driverless technology; we recognize that we need to plant these trees even though we may not sit under their shade. In time, other states will recognize that they should forge new partnerships and start down this path. As we prepare for driverless technologies, we also need to recognize the essential role that our IT staff will play in the process, as they have a greater sense of urgency and understand what needs to happen.

## DISCUSSION

- § It used to be that if you wanted to kill an initiative you made it an IT project. Now, it is an IT project that will be moving all vehicles around. We need to partner with IT and traffic management centers.
- § Fifteen years ago, IT staff were not allowed in traffic management centers. One DOT developed systems such as asset management software without input from IT and, as a result, the systems were not consistent with what IT would have done if they had been involved.
- § Another DOT has expanded its IT staff 100 percent in the past two years. The state realized that the DOT was behind, and now it wants to take IT responsibilities away from the DOT. In addition, traffic management staff and IT staff are at odds over which department owns different systems. As a result, it may need to merge these capabilities. Turf is the biggest impediment. The DOT needs to develop a collective goal vision.
- § It was noted that the issue of connected and autonomous vehicles extends beyond IT staff, connected vehicles need to be built into NEPA analyses. On the planning side today, you need to think about how to build this into corridor studies for future projects.

The CEOs were asked to discuss their perspectives on current funding gaps and where the CEOs put connected vehicle investment needs against more immediate needs.

- § Safety is the first priority, as is snow removal. Cuba rebuilds 1957 Chevy's and we need to start setting funds aside to move to the next paradigm. Driverless vehicle technology is a big unfunded liability for DOTs. The technology will be there. Some say it will be car-to-car, others say that it will be autonomous – like a room full of smart people who do not talk. Even Google admits that it will use roadside information. Roadside information will not be available everywhere, it will be accessed at nodes and data sharing spots. We should start equipping our infrastructure at safety problem spots, at places where snow squalls pop up. Take advantage of the technology and put it there. A crisis is a terrible thing to waste.
- § It takes a long time for DOTs to implement projects. Google takes it for granted that roadside technology is not provided by the public sector. We need to find a way to be nimble and learn to play with the actors in this sector. We need to stay at the table and interact with the real players. What do we do when the backlash comes? Public agencies will need to respond to that. Are we letting the technology run rampant? How does it work? What is our role and how do we network?
- § Twenty years ago a DOT was going to install a communications system and did not know whether to use wireless or fiber technology. They thought that fiber would be the backbone, so they put in conduit whenever they did roadwork. The fiber network was idle for quite some time, but now they are providing broadband internet access to rural areas. The DOT is collaborating with the telecom industry and sharing fiber lines. It is important to think about partnerships with local jurisdictions when autonomous vehicles are on the market. We will need to have a single national system. The DOT owns and operates 84 percent of all traffic signals in the state and interacts with local communities regarding the signal system. It also partners with transit operators. The DOT has developed a traffic performance system and have seen performance improve between 20 and 40 percent in intersections. These are the bold things DOTs need to think about. Traffic management centers in the state are also integrated with local government.
- § The government's ability to predict the future is limited. MIT is currently experimenting with autonomous vehicles in Singapore rather than in the U.S. We need to be more agile. Transit agencies have put loops in roads, but now blue tooth technology is available. How can we be nimble enough to react to technology changes in real time? We need shared ownership, and this extends to the vehicle fleet. Some predict that in the future car sharing will be responsible an 80 percent decrease in car sales and a 90 percent decrease in parking use. However, VMT will increase. In high-cost locations, people have to make decisions on whether to spend their money on housing or a car, but car sharing will give them new options. Car sharing works like bike share programs. Cars will reposition themselves. Automated vehicle technology is only one of many new capabilities. One state is interested in real time data sharing and installing real time signs on its 625 miles of state highway. Agility is now a statewide priority for the governor, and non-IT staff from state agencies have recently undergone agility training. State agencies will use real time data sharing to managed kids in foster care and run the Registry of Motor Vehicles.
- § The government's ability to select winning technologies is dubious. In one state, spending a penny doing anything but fixing a bridge is considered wasting money. Therefore, the state is taking a venture capital

approach and asking industry to come in with their suggestions. Through this process, the state has generated 300 suggestions for fixing a major interstate highway. State DOTs can undertake pilot projects with minim risk exposure. At this DOT, IT has seen more turnover than other departments. In response, the IT Department has been classified on par with the Engineering Department. This has caused some cultural backlash in the agency. However, everyone needs to understand that IT staff are partners and that we need to be able to work together.

- § In conducting corridor studies, one state is concerned about how it should approach improvement projects today versus when we have deployed full autonomous vehicle technology. How do we intermingle the two systems? The initial deployment of autonomous vehicles will not create more roadway capacity. The state is working with FedEx to study platooning. It is currently studying whether or not it will need to build new dedicated lanes to accommodate that. It is like transitioning from horses to cars. The challenge is how the DOT can mingle traditional and autonomous vehicles without spending a lot of money.
- § It was noted that one of the benefits of these kinds of sessions is that they can identify research needs that could be addressed through NCHRP 20-24. At the same time, we need to be cognizant of other similar research that is currently under way or anticipated through other NCHRP programs.
- § One DOT has struggled with how to incorporate these issues in its 2040 long-range plan. Initially autonomous vehicles will behave more conservatively than traditional vehicles because they will need to be able to accommodate driver error. The question is at what point will there be a saturation rate where we can derive wins from this new technology.
- § There is a legacy and these new developments allow us to redefine technology. It is important for DOTs to define what this will look like. Scenario planning is important so that we can define an envelope of possibility. DOTs are responsible for arterials but not local streets.
- § Representatives from Google spoke about autonomous vehicles in a state capital recently and pointed out that they do not currently have weather/road condition recognition capabilities. That is a challenge. There is also a risk with alternative route choices that in the future toll roads may no longer have a competitive edge compared to other routes. Bondholders should be concerned.
- § The NCHRP Foresight Report 750 Series: Informing Transportation's Future is looking at these issues. There are many interesting implications and many questions. Getting the answer right is less important than thinking about the implications.
- § Network security is an important issue with connected vehicles. How will we keep the network safe?
- § Ford invests billions in research and much of it involves social issues. The technology is there, the issue is how do we predict how the introduction of the technology will change things? For example, priced managed lanes may not make much money, but they improve traffic flow. The managed lanes will be used as a testing ground for autonomous vehicles. We will have to build this new world on top of the old system. It involves the confluence of many issues and dynamics: car ownership, toll roads, reusing existing assets.
- § Toughness, system resiliency, redundancy and security are all important issues.

- § We have to live in today's reality. If all new vehicles are equipped with autonomous technology today, then the transition will need 10-12 years to be largely in place. During that transition, autonomous vehicle will follow the rules and adhere to the speed limit.
- § Politics and political actors will have an impact. Uber is facing a backlash today. Looking at the implications of changes, we need to be mindful of the concerns that people will have and factor them into our plans.
- § Some may think that autonomous vehicle technologies will have more influence in urban areas, but safety is an essential issue in more rural states. Safety in snow is a compelling issue and with scarce resources, so DOTs are focusing on mainline asset management and economic development. Autonomous and connected vehicles will have important implications on goods movement in rural states. Each state is different. The private sector will have better ideas on how and when to invest in these technologies than the government.
- § Moving forward the CEOs will need to give guidance to TRB on these issues. NCHRP has a technology on-call contract that will have nine tasks orders that will be generating results later in the year and there is \$1.5 million in funding for the next crop of topics. Research will be conducted on security, transition issues and how state DOTs partner with industry to deploy these technologies. There is also an upcoming study on motor vehicle codes.
- § During the AASHTO Spring Board Meeting, there will be a round table discussion with motor vehicle operators.
- § The private sector is doing a lot of work with autonomous and connected vehicle technologies. What are they asking of the public sector? What do they want or expect us to do?
- § AASHTO is organizing a coalition of private sector actors to identify and discuss the issues associated with autonomous and connected vehicle technologies. The first phase of this effort will focus on functions and safety in June. Other activities include conversations with lawmakers on connected vehicle policy issues.
- § We really need to talk about the relationship between policy and infrastructure; we need to understand what is needed and when.
- § The private sector seems to have a better handle on deficiencies and delineation than the public sector. For example, the technology cannot understand certain types of roadway striping. We need to think about how we deal with construction and temporary changes. DOT's will need to ensure that there is room to operate. One state is trying to interact with industry in these areas. The navigation app Ways is interested in having access to the state DOT's information.
- § Toll authorities and bridge and tunnel operators are likely to be early adopters of autonomous and connected vehicle technologies. They are also responsive to the concerns of the goods movement sector.
- § USDOT issued a Smart City Challenge that will award up to \$40 million to one city to help it define what it means to be a "Smart City" and become the country's first city to fully integrate innovative technologies including self-driving cars, connected vehicles, and smart sensors into their transportation network. The

finalists include Pittsburgh, Columbus, Austin, Denver, San Francisco, Portland, Oregon, and Kansas City, Missouri. Several regions are thinking about these issues.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the technology transformation session, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § What types of changes will driverless vehicles have on trip-making behavior?
  - Will workers tolerate longer commuting distances?
  - Could driverless technologies lead to urban sprawl and higher VMTs?
  - Could these new technologies also lead to a shift in the static car ownership model as people take advantage of driverless rideshare or taxi services where a smaller number of vehicles are being used more frequently and efficiently?
- § How can DOTs can enhance current asset management, real-time operations capabilities, and system performance measurement using connected vehicle technologies?
- § How should state DOTs prepare for driverless vehicle technologies and when should they start?
- § What digital infrastructure will DOTs need in order to take advantage of driverless and connected vehicle technologies?
- § What strategies can DOT employ to engender a cultural shift to make information technology part of their core missions?
- § How should driverless and autonomous vehicle scenarios be assessed in NEPA analyses?
- § What strategies can DOTs employ to interact with technology providers and help influence the development and use of automated and driverless vehicle technologies?
- § How should state DOTs interact with local jurisdictions in deploying driverless vehicle technologies?
- § Will new roadway capacity be needed to support vehicle platooning?
- § What strategies should be employed during the transition period when both traditional and automated vehicles are being driven at the same time? How can DOTs mingle traditional and autonomous vehicles without spending a lot of money? How do we build this new world on top of our existing transportation system?
- § At what point with there be a saturation rate in the deployment of driverless and connected vehicles where DOTs can derive wins from these new technologies?
- § What public acceptance issues are associated with connected and driverless vehicle technologies?
- § What does the private sector expect state DOTs and governments to do to facilitate the use of autonomous and connected vehicle technologies?



# LEADING CHANGE: IMPLEMENTING NEW PRACTICES AND INNOVATIONS AT STATE DOTs

John Porcari observed that all the CEOs in the room were hired as change agents, not caretakers. You should come into your job with a mission statement of what you want your legacy to be, recognizing that any substantive legacy will require change. The reality is there are no organizations that cannot be improved, but they do not adopt new practices and innovation on their own. Change requires a champion. How should you lead that change and what should you avoid in the process?

John offered two examples of times when he implemented change, one in Maryland and one at the federal level. One of these was planned and one was a reaction to events, but they both provide a number of common characteristics.

When he was Secretary of the Maryland Department of Transportation, John worked for a governor who came from the local government level and supported local compact development and farmland preservation. Smart growth became the governor's signature issue and it wound up turning the DOT's capital program upside down and changing how transportation funding was allocated. Maryland became the first state in the country to adopt a smart growth initiative and, as a result, three major bypass projects were removed from the DOT's capital program.

The federal example of implementing new practices occurred after the largest inland oil spill to occur in the U.S. There are 2.5 million miles of pipeline under the USDOT's jurisdiction that are administered by the Pipeline and Hazardous Materials Safety Administration (PHMSA). The spill occurred in July 2010 when a 40-foot pipe segment ruptured, sending 1.1 billion gallons of heavy crude oil into a tributary of the Kalamazoo River. The pipeline had several significant shortcomings and there was a long paper trail that was not heeded in a timely manner. The accident triggered a response program costing in excess of \$1.0 billion to remediate 35 miles of the Kalamazoo River.

In order to implement change you need to get your compass bearings. Gather input from the public, elected officials and your team at the DOT— including both career and appointed staff. Steal ideas shamelessly and forge consensus.

In Maryland, the legislature was generally supportive of the governor's smart growth initiative, but reaction at the DOT was mixed. John started by listening to core staff and sorting out their points of view. The oil spill was quite different because it started with public outrage and the recognition that the accident was due to a massive failure that had evaded a skeletal enforcement staff. The two initiatives started from two very different places.

Start the initiatives by gathering ideas and knowing who your allies are. In Maryland, John identified a smart growth cabinet comprised of people who would deliver the same message when he was not available. With the pipeline, John gathered ideas from the National Transportation Safety Board (NTSB) and enlisted the service of a team from other parts of USDOT. This included staff from the Federal Aviation Administration who made

recommendations on how to build a safety management system. Both efforts made use of the full resources available to the government at the time.

In order to assemble a winning coalition, you need external help and validation to lend credibility. Local mayors, county officials and developers were all tapped for the smart growth initiative because they saw the benefit of the concept. With the pipeline, USDOT tapped the support of state and local officials, but also recognized that first responders needed to play an essential role in developing an effective response plan. In addition, in the post 9/11 environment, the location of pipelines is not necessarily public. USDOT also worked with members of Congress in areas that were directly impacted. They were early allies. This was important because Congressional approval is usually needed if federal procedures are modified.

The central element in leading change is communication. The CEO needs to communicate effectively and directly. CEOs need to be consistent and have their elevator speeches prepared. Find some early victories to celebrate. In Maryland, the state initiated its first smart growth projects at courthouses in rural county seats, where they made sidewalk and pedestrian improvements. This demonstrated that the smart growth concept could benefit different types of communities, including rural communities, and provided an early victory that Maryland DOT could point to. They also worked to find validators to give credibility to the change, including national groups and developers. With the pipeline disaster, first responders lent credibility to the importance of monitoring and remediating aging infrastructure. Data on the poor condition of the pipeline was available, but it had been ignored.

As you move ahead, do not slow down. If you stop swimming, you will drown. The CEO must be a tireless champion. Build a circle of support as you go and be crystal-clear on what the desired outcome should be. For the pipeline, the outcome was changing regulatory requirements to reduce the likelihood of a similar incident happening again. If both communication and the definition of victory are clear, then you can get there. You also have a tactile advantage in redefining incremental change as you move forward and bring more people under the tent. Build allies from the onset, and win the support of career staff.

Choose your agenda for change carefully. A CEO can only have two or three change initiatives. These issues should leave the agency in better place and serve the state well into the future.

## LEADING CHANGE IN A STATE DOT

One CEO observing that initially he thought that to implement change one needed to have a strong personality and work quickly. This is not the case; implementing change requires a process. DOT CEOs can come from within or outside of their organizations. Their suggestions may be met with skepticism on the part of some career staffers, who may have the attitude that they were here before the CEO and that they still be there when the CEO departs. This dynamic can make the CEO's job difficult. When coming from within the DOT, some staff will expect that the status quo will continue. This dynamic is a challenge when a CEO wants to innovate. CEOs need to look for strategies to overcome these challenges. When discussing outcomes and actions that staff should pursue, the CEO needs to explain how they mesh with his or her vision and mission for the DOT. Identify unofficial leaders in your department and discuss your program with key staff ahead of time, explaining what their roll will be in implementing new policies and programs. Never say that you are implementing change

because you were directed to do so by someone else. You need to own the change completely, and demonstrate why it is good for your organization. Your staff needs to have the sense that they are moving forward.

## DISCUSSION

- § There is a big difference between self-imposed change and someone else trying to change you.
- § One CEO explained that during his first five years at the DOT he worked for a Democratic governor. The CEO was then reappointed by a Republican governor and had new direction and priorities. The department needed either to fix things itself, or be fixed by others. It took about two to three weeks for the CEO's inner circle to come around and offer solutions. You need to engage early. The new governor had a different set of ideas and legislators agreed that the DOT needed to change. This included downsizing by 15 percent. The CEO got in front of the issues and made it happen, and ultimately closed eight offices without any layoffs.
- § When projects are proposed or modified in communities, CEOs need to get out into the field. They need to engage the community in identifying solutions. This is critical in gaining buy-in.
- § One CEO came to the DOT from the outside. The CEO had run a business, and did not know anyone in the department when he arrived. You need to ask a lot of questions. The CEO ultimately made several structural changes and the hardest part was getting people on board. Some staff will walk away, but others will be willing to engage. Gaining buy-in from core staff who are important to the organization is the most challenging issue. You need to identify those people and gain their trust.

It was noted that meaningful innovation introduces a risk of failure. The CEOs were asked to discuss the public sector's tolerance for failure.

- § Risk management is key in managing failure and containing risk. We also need to take advantage of risk to gain a better balance. There are advantages to risk. We may fail in 70 percent of things we take risk on, but the effects of the other 30 percent will be so positive that they will advance the organization. It is important not to box people in; help them remove their blinders. CEOs will wind up on the front page of the paper either way, so it is best to be on the front page for doing something bold. In Iowa, the agricultural industry is very prominent. Farmers have to figure out how to survive on their own. Do not assume that when you yank the rope in an organization that everyone will grab it. Do not underestimate the power of complacency.
- § When one CEO was appointed, the department was spending down the cash balance of some of its funds and was not properly maintaining its 26,000 mile roadway system. There had been five DOT directors in eight years, and there was a legacy of fatigue within the organization. While change may be necessary, it is better not to turn DOTs upside down. Agencies need some stability, so it is better to make incremental changes. At the DOT, 50 of its senior-most 55 staff are retirement-qualified. The CEO reached out to them to ask them what has impaired them from making changes that they believe would be helpful to the Department. It was helpful to learn from the organization and then formulate a collective vision.

- § Sometimes we need to turn outward and recognize that we do not have all the answers when addressing risk. The real question is what the level of accountability should be when staff do not look outside the DOT when dealing with challenging issues. One CEO required his staff to undergo communication training. They learned about concepts of good communication and the process ultimately morphed into leadership training, with 540 out of 3,000 staff taking the training. The most important message involved risk. The power of a DOT does not rest with the CEO, it is vested in all of its people, so career staff need to know that they have permission to take risk. Eighty-five percent of the staff recognize that responsibility for change rests with them.
- § There can be vacuums during a long search for a CEO. Leadership may be tired of waiting. Some senior staff have had it too good. It is important for CEOs to tap into staff below the front line.
- § When implementing change, your department needs to be with you. Twenty percent will be all on board, and another 20 percent will be unreceptive, so you need to focus on the 60 percent of the people who are in the middle. Most people do not like to be reformed. It is important for the CEO to demonstrate that he or she cares about their staff and their safety. You need to look at what the 60 percent care about and then respond to those issues to gain their buy-in.
- § One CEO had served previously as the director of policy. As deputy secretary, he held listening sessions in all the districts and reflected the input he obtained in the budget. It was important for him to demonstrate that he had the power to act on the input he received from staff. DOT management needs to win staff buy-in and then advocate for their agenda. CEOs need to build a level of trust and mutual support. Walk the halls and develop trust. Learn about issues from every level.
- § Trust is fundamental. If you are not innovative, you are not moving towards your goals. In one state, safety numbers went up last year and the department is looking at how it can influence human behavior. The DOT has many appointed staff. It is very powerful to have a management team that serves at will. It makes the department a different kind of organization.
- § Another DOT has 165 employees that serve at will. Trust is critically important. When the CEO arrived, he found that respect for the office was there but, personally, he had to earn the respect of his colleagues. Shake every employee's hand and do what you say you are going to do. You have to continue earning trust.
- § Industry is accustomed to innovating all the time. As part of a TRB panel, the 3M Company reported that 50 percent of what it sold had in a given year had not been invested two years before. DOTs need to change their culture to innovate. They need to count the innovations, make innovating a goal, and think about how progress will be measured.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the session on leading change at state DOTs, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § What are effective strategies for CEOs to gain the trust of their staff at state DOTs?
- § How can innovation be adopted as part of a state DOTs culture? How should innovation be measured and enable tangible results to be quantified and conveyed to DOTs, government and the public?

# GETTING THE WORK DONE: MANAGING THE CHANGING ROLE AND WORKFORCE OF THE STATE DOT

Former Executive Director of the Utah Department of Transportation, John Njord, worked for four different governors at Utah DOT. His third governor once asked him how he knew if he was being successful. DOTs plan, design, finance, build, operate and maintain transportation systems, but their real goal is to support the economic vitality of the state and improve quality of life for its citizens. You are successful when you are achieving this fundamental mission.

When CEOs come into a DOT, they need to understand why their staff has chosen to work for the DOT. Staff members are looking for the stability and benefits the public sector provides. They are also interested in serving the public good and have a desire to be in the driver's seat. A CEO should also be focused on what their organizations can do to make their staff great. Staff need training to keep current and do their jobs better. They are also looking for a diverse experience that provides them with challenges. They will rise to the occasion. The CEO's trust also helps to make their employees great. They will be great if you give them that trust. Help them by defining what their role is.

DOT staff are diminished if they lack training, diverse challenges, and trust. Managers need to invest in their staff and recognize that although they may ultimately leave the DOT, they will likely still interact with it after their departure. Managers should also recognize that staff reductions, layoffs and hiring freezes put a chill across the entire organization. Low pay is another impediment. DOTs have a vital dependence on their maintenance staff, so why is it that many of them qualify for Food Stamps? DOTs have large maintenance and operations staffs, and when they see problems, they fix them. Our maintenance staffs are instant problem solvers and do not need to wait for a process to be prescribed. How can we incorporate their "can do" attitude and ability to solve problems into the rest of the organization?

Part of the CEO's job is to consider whether the possibility of outsourcing certain DOT activities might benefit the organization and provide it with the opportunity to focus on the things it does best. Areas where many DOTs outsource activities include environmental stewardship, design, and construction engineering. DOTs have a normal ebb and flow in their work plans. The keys to success for DOTs are to maintain internal staff levels to cover slower periods and then augment their internal staff with outside assistance to meet peak workflows. There should always be a DOT employee in charge, and external support should be treated as an extension of the agency's current staff. While outsourcing is a useful tool, DOTs need to maintain their core competencies.

DOTs traditionally use external design and construction firms to implement projects. Under the standard design-bid-build approach, the DOT retains considerable risk. Today with larger and more complex projects, DOTs are using other procurement models to transfer additional risk to their private sector partners. Some of these procurement models include construction management at risk, "progressive" design-build, lump sum design-build, and design-build operate/finance.

As they set their priorities, DOT CEOs should also be aware of the changing roles and interests of state DOTs and metropolitan regions. DOTs are interested in maintaining the Interstate Highway System and facilitating

throughput and longer-distance travel. Metropolitan regions are interested in establishing a sense of place and developing multimodal access to employment and activity centers.

John Njord concluded by suggesting the following questions for further discussion:

- § With many competing priorities, how can the CEO focus the DOT on its most important responsibilities?
- § What is the CEO's role in helping the DOT staff be successful?
- § How best to deliver the state program using the tools available?
- § How can the state DOT partner to meet needs and demands of growing urban areas?
- § How can the state DOT partner to meet needs and demands of growing urban areas?

## A STATE DOT PROGRAM REVIEW AND STRATEGIC PLAN UPDATE

A large state DOT recently completed program review and strategic plan update. CEOs own the DOT organization chart and can make organizational changes, but buy-in is critical. Similarly, the CEO cannot dictate a new mission statement. He or she needs buy-in from staff. DOTs tend to train their staffs very well how to do things the old way. DOTs role as owner operators will continue, but the organizations need to seek out ways to improve their processes. Caltrans is employing the data-driven six sigma approach to eliminate defects and improve its processes. DOT staff know our organizations better than others do, and the CEO should follow up on internal suggestions when they are offered.

The DOT's vision needs to combine all of these activities, and reflect the governor's agenda. In California, sustainability and environmental objectivity are important objectives and, as a result, Caltrans' strategic plan includes performance metrics and action steps to meet them.

The CEO's role is like holding the reins; sometimes the horse pulls back. The organization chart of the typical DOT is an inverted pyramid and the CEO's role is to make everyone in the department successful. Mid-management may not want to take on extra work and innovate, but we need to expand the toolbox and have as many options as possible. Caltrans does roughly 90 percent of its design work in-house through a lens built on existing knowledge. This approach does not necessarily incentivize innovation. The state has recently passed a new revenue package and Caltrans is planning to outsource more work as its program accelerates.

Communications has been essential to the strategic plan update. As it has gone through its strategic planning process, the DOT has held town hall meetings, webcasts and video conferences for staff. It was important for the CEO to field direct questions from staff. The DOT also has an upcoming town hall meeting on partnerships with cities and metropolitan areas. It recognizes that to be successful it must work together with the different regions in California and cultivate internal and private partners as well. Developing the strategic plan has been a two-year process and now the DOT is trying to maintain its momentum as it implements the plan.

## DISCUSSION

- § One CEO spent time in local government and observed that from the local perspective if the DOT is not working cooperatively with local partners then they assume that the DOT is “doing things to them.” The DOT needs to be a humble partner and participate in the Metropolitan Planning Organization (MPO) process. The state’s interests need to include local interests.
- § How do DOTs help communities achieve their goals? There is a false sense that the math adds up and that there are adequate resources.
- § There is more tension there. In one state, the governor supported development plans prepared by local mayors and got a three-cent motor fuel tax increase through the legislature, but it was not enough to support the DOT’s program. The issues of system integration and asset management do not resonate with decision-makers. There needs to be a balance between new projects and the basics of maintaining the existing system.
- § The pendulum goes back and forth with a changing emphasis on maintenance versus economic sustainability. One DOT had started to develop a capital plan and then the state went through a bad winter. Now the emphasis has switched to snow removal and transit reliability. The department’s plan does not reflect the MPO’s needs, so it has retained consultants to rank the MPO’s plans using the department’s planning criteria. This will facilitate the merging of the different plans.
- § Partnerships with urban areas arise from sustainable revenue sources. There is pushback from associations representing counties and MPOs, and DOTs need to do a better job of demonstrating that the needs of metropolitan regions are important. There is a push to direct federal transportation funding to the local level rather than going through state government.
- § DOTs need to incorporate performance measurement into their strategic plans so that they can document the effects of their investments. CEOs should drive this forward and use performance data to validate investments and increase the size of the pie.
- § Growing the size of the funding pie is important because local regions are pushing to get more funding for facilities already under their jurisdiction. This could reduce the amount of money available for state needs.
- § We need to have joint conversations and move toward joint unified plans.
- § DOT and local regions can speak with one voice for a unified plan
- § One state has been in-sourcing its work efforts and the DOT has hired 4,000 new employees. Maintenance workers live below the poverty level, so the DOT is raising salaries and providing educational opportunities for staff. There are not many employment opportunities in the state in rural areas. The department has merged its construction and maintenance divisions, which allows maintenance workers to pursue GEDs. It is also requiring life-long learning for all staff. The DOT is also providing employees with the opportunity to pursue two-year degrees so they can learn new skills and take on new responsibilities within the department. They just launched their first pilot and over 200 staff members signed up for the program. It is

the state's duty to provide opportunity for its citizens. The DOT has a Director of Education and a starting pay level of \$28,000.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the session on the changing role of workforce of state DOTs, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § How can state DOTs align their programs with the needs of regions as defined by the MPO process? How can state and local coordination be improved?
- § How can sustainable revenue sources support better integration of state and local transportation needs?
- § What are current staffing trends at state DOTs and trends in the use of outsourcing?

# THE BUCK STOPS HERE: THE ART AND PRACTICE OF USING PERFORMANCE MANAGEMENT AND COMMUNICATIONS TO BUILD AGENCY CREDIBILITY

Paula Hammond noted that it was interesting to see from the discussions thus far that so many of the CEOs attending the Workshop have come to similar conclusions on the top priorities of a CEO: DOTs must use their performance management data to build credibility and success. It is all about building trust, so it is important to make sure that the data is not biased or inaccurate. This is critical to your trust as the leaders of a state DOT.

DOTs are in the news all the time, and there are many headlines that one would rather not see. Government accountability is increasingly important, and CEOs will be well served by getting ahead of the policy makers call for action. There is also a notion that government does not tell the truth, so it is important to use performance data as a way to be transparent and truthful. People will see that the DOT is being open and transparent, and that engenders trust and builds credibility for the agency.

We have and will continue to have limited resources for transportation, so the public wants to see and hear more about efficiency. Tell them about best-value reform at your DOT. Technology is changing what we do. Use it to the DOT's advantage and demonstrate the benefits those investments to the public. We also live in a world with 24-7 communication, so there is a need to optimize strategic communication. The media has also changed. We have gone from having reporters who are trustworthy to those with computers in their mother's basement who are wildcards; do they have journalistic integrity?

Social media tools such as Tumblr, Facebook, and Twitter present both challenges and opportunities for a DOT. DOTs are using social media to engage in active conversations about all different kinds of programs and services. This gives them the opportunity to shape the issues and explain the facts, if needed, rather than have to react after misinformation has been spread. DOTs are tweeting about weather conditions and traffic incidents. The Washington State DOT recently provided Twitter coverage all afternoon after a semi-trailer rolled over on SR 167 and blocked all lanes of traffic, giving updates and status of congestion as the cleanup progressed. Twitter allows the DOT to keep travelers informed 140 characters at a time. Social media also allows DOTs to be accessible to the public on topics of interest, such as why Iowa DOT had put salt on I-80 near Iowa City. The DOT's immediate response turned an inquiry into an active conversation. Michigan DOT uses YouTube to post "Innovation in a Minute" videos on a wide variety of topics. In the past, DOTs had to wait for public service channels to provide this type of information to the public, but now they can own the messaging and demonstrate they are real people behind those computer screens.

These different strategies provide ways to for DOTs to communicate with the public on their goals, priorities and focus areas. They also provide an opportunity for DOTs to use all the data they collect to reinforce their communications. Coupling performance management with strategic communications disciplines the agency's actions, builds credibility and improves the public's confidence in the DOT. CEOs have the opportunity to shape a culture of performance by institutionalizing performance management in their DOT's communications. This process involves communicating the agency's vision and direction and requires having the right people on the

team. Align strategic and business plans with performance expectations. Engage employees throughout the agency to focus on performance measurement and empower them to act. CEOs should manage their agencies by performance outcomes and engage employees in interpreting what the information tells them. Use performance data to identify what went well, what differed from expectations, and what has changed. Doing this allows the DOT to convey a straight and credible story.

Communication is a large part of the CEO's job and it is important for CEOs to be known as honest brokers of information. Create a communication strategy for just about everything you do, both internally and externally. This builds accountability and the ability to follow a communication road map. Report the good, but also be the first to tell your bad news. Public agencies are not good at explaining that what they do is hard. Sometimes they look too perfect. Draw from performance results to create good news stories to educate and inform the public. In this way, public agencies can "be" the media. Keep the public involved in a dialogue on the risks the DOT faces and what it is doing to manage them.

Encourage your employees to communicate externally, but always with care. As state DOTs become more comfortable with 24/7 communication, they become more human. This type of communication also allows the agency to show the human effort involved in its work. There is a lot of effort behind every good headline. There are risks to 24/7 communication, but if you build a plan on how to push information out and be open when issues do not go well, you can reach a wide audience and go a long way to improving the public and policy maker's image of the agency.

Paula concluded her comments by noting that many DOTs have been using performance monitoring for a long time and asking the CEOs to discuss what has been fruitful and what has not.

## ONE STATE DOT'S COMMUNICATIONS STRATEGY

Not long ago, a Midwestern state DOT was planning to change its logo to represent the department moving forward. The media learned that the effort would cost roughly \$100,000, and the issue went viral. Yes, we want to be sincere and human, but we need to recognize that the media is not always working in the interest of the DOT. We want to have good relationships with the media and one way to achieve that is by not shying away from difficult conversations. The DOT CEO addressed the issue of why the new logo was important to the department in a radio interview. The DOT ultimately made the logo change, and gained respect through the open communication of the reasons why it was important. There is a need to be in front and up front with issues in the media. When information comes from the DOT, it builds trust. The DOT communicates directly with the public using Facebook as a key tool. Press releases are retro in today's world. The Department communicates directly with its customers before the media has a chance to shape the story.

The governor asked the DOT CEO to identify potential transportation funding options for the state and the CEO went to the public and asked for their input directly. The media was upset that the DOT had communicated with stakeholders but not with them. Public agencies have the first shot at controlling their messages and should not rely on others to convey the message. Ultimately, this means that the DOT is marketing its own success. Iowa DOT's Communications Group prepares stories in the form of blogs. The agency's internal communications are also picked up by the media.

CEOs need to compel their employees to get on board with their agencies communication strategies. Traditionally DOTs have relied on communications groups to handle external communication. The DOT is now vesting employees involved with projects with the responsibility of communicating about them. This means that they are more responsible for their own performance. It also engenders a culture of performance management. Doing this requires organizational change, but if you enable it, it will grow.

## DISCUSSION

§ One CEO inherited an Office of Communications that provided three pieces of advice:

- 1) Do not confuse how many times you say something and whether the public has heard it;
- 2) Do not spend time and energy demonstrating what you know, get people to like you; and
- 3) News reporters are lazy – seek them out and feed them information.

The DOT now has a new communications director who is knowledgeable about social media and does things such as sending scripts from public testimony directly to reporters.

§ Another DOT releases news videos. Videos can be prepared using equipment as simple as an iPhone. Once you see your video run like a report on the television news, you will see how powerful it is. Michigan DOT also tweets information about meetings to make sure word gets out.

§ A 2009 mandate in one state required the DOT to establish an Office of Performance Management (OPM). OPM has built databases for internal purposes and then taken them public. It has also prepared an iPhone app that provides real-time information on wait times at the Registry of Motor Vehicle. When you provide this type of information, problems tend to solve themselves. The OPM currently provides reliability data for bus and rail transit. Even bad news can be good if people know that the DOT is working on it. Since reporting on wait times at the Registry of Motor Vehicles, people are treating its staff members more kindly. Customer satisfaction is the most important metric for the DOT. The technology supporting real time feedback is amazing today. If you have a commitment to performance, show the public what you are doing – both well and not so well.

§ Another DOT uses performance management information effectively. On Christmas Eve, a heavy snowfall closed all east-west highways in the state. The DOT put photographs on social media so that people could understand the nature of the problem. One showed a backhoe operating on a 30-foot snowbank on an interstate highway. Customers actually came to the defense of the DOT and built up support for the DOT's response to the storm. Performance management is an important tool and can demonstrate that the DOT's work is making things better.

§ One DOT has co-located its staff responsible for Twitter with its highway and transit operations staff.

§ Another DOT relies on social media and real time maps to provide information on larger events. Last summer more calls came into the Department's customer service phone line during a nine-day period when its on-line maps were down than the entire rest of the summer. When the maps were down customers also

went to social media to get the information they needed. The traditional call center system was overwhelmed, but social media was working smoothly.

- § Pictures are particularly powerful on social media. One DOT has 75,000 Twitter followers and six projects with their own Twitter accounts.
- § One DOT wanted to manage its vehicle fleet better, so it installed GPS trackers DOT vehicles. The Department provides real time information on the locations of snowplows on its website. On Christmas Eve a DOT plow hit and damaged a private vehicle, but did not stop. The on-line information made it clear that the private motorists claim was true, and the Department ate the crow very quickly.
- § The AASHTO Standing Committee on Communication has had extensive discussions on what information and dissemination tools DOTs should utilize. Putting out a bunch of information does not necessarily convey a specific message. Just because it can be done does not mean that it should. There was a communication project that came up at a recent meeting of AASHTO's Standing Committee on Finance and Administration that did not get funding. Perhaps this would be a good candidate for NCHRP 20-24.
- § Sometimes less is more. People want DOTs to explain things better. They want to know why their project is or is not funded. It may be more effective to let local people play the role of the "expert" and then channel strategic information to them. DOTs may benefit from practicing greater empathy.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the session on performance management and communications, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § What strategies and best practices are state DOTs using in taking advantage of social media and real-time data and information feedback? What information and dissemination tools should DOTs utilize?
- § How can organizational change within DOTs be used to enhance performance management and communications?
- § There was a communication project that came up at a recent meeting of AASHTO's Standing Committee on Finance and Administration that did not get funding. Perhaps this would be a good candidate for NCHRP 20-24.

## WHERE DO WE GET THE MONEY: FUNDING TRANSPORTATION INVESTMENT WHEN BUDGETS ARE SLIM

Benjamin Perez with WSP | Parsons Brinckerhoff noted that we spend a lot of time talking about constraints to federal transportation funding and the fact that the federal motor fuel tax has not been increased since 1992. However, the majority of transportation funding in the U.S. – 74 percent – comes from the state and local levels. So, rather than waiting for Congress to do something about federal funding, let's explore what's happening with transportation funding at the state and local levels across the country.

While the motor fuel tax is the primary source of transportation funding at the federal level, the mix of funding sources is more varied at the state and local levels. State funding is derived from the state motor fuel taxes, other taxes, bond proceeds, and tolls. Local transportation funding is largely derived from the general fund and real estate taxes. Over the past five years, several states have increased their fuel taxes and many have tied the tax rate to changes in the consumer price index (CPI). Most states with lower motor fuel taxes have not increased their tax rates since the 1980s or 1990s.

Since 2012, states have used several other strategies to increase transportation funding. The more common approaches include increases in the state sales tax, vehicle sales and rental taxes, and vehicle registration fees. They have also imposed new fees on hybrid and electric vehicles, or increased tolls and existing license and vehicle weight fees. There are also some interesting one-off strategies including tolling new highway capacity, cigarette and tobacco taxes, hotel taxes, and installing cell towers and solar energy farms in state highway rights of way. States that have passed major revenue initiatives, such as Florida and Pennsylvania, have also put firewalls around significant portions of the new revenues and then used them to fund specific groups of projects.

There have also been a number of innovative approaches for raising new transportation funding at the local level. These efforts have been successful because transportation investment needs are often better perceived closer to home. Local revenue measures usually support a group of pre-identified projects and may include a local sales tax increase, real estate tax increases, payroll taxes, improvement districts or property assessments. In 2015 alone, voters approved eight out of 13 proposed local sales tax measures and 11 out of 12 real estate tax measures to support transportation investment. These wins include a \$900 million property tax measure in Seattle and a sales tax measure supporting transit in Phoenix.

California is home to 19 self-help counties that have passed local transportation sales tax measures, each of which has been approved by two-thirds majority of the voting public. Eighty-one percent of Californians live in self-help counties. Together these measures generate \$3-\$4 billion a year in funding, supporting \$95 billion in spending. The half-cent Measure R sales tax was passed in 2009 in Los Angeles and is expected to generate \$40 billion in transportation funding over 30 years.

Several states are using public-private partnerships (P3s) to deliver transportation improvements. P3s are a project delivery tool and require revenue like any other project. They derive their revenue from tolls or availability payments made by the state DOT from its own funding sources. Under this concession model, the

private partner designs, finances, builds, operates and maintains a transportation asset for a designated concession period in exchange for the right to collect tolls or availability payments. The private partner invests its own capital in the project on an at-risk basis and expects to derive a return on its investment. However, their returns are not guaranteed and P3 investors are at risk of sustaining significant losses. The potential benefits of P3s include providing public project sponsors with access to new sources of funding, accelerating the completion of needed projects, incentivizing cost efficiencies, and transferring risk to the private sector.

A number of states are also studying the possible use of road user charges based on vehicle miles of travel as a replacement to the motor fuel tax. This would be a much more complicated system compared to the motor fuel tax, which is actually paid by approximately 800 fuel wholesalers. There are also unknowns about how advances in vehicle automation technology will influence VMT in the future. While it is a promising approach, road user charge rates could also flat line just like the motor fuel tax.

Whatever the revenue source is, we need to make the case and advocate for transportation investment. Doing so requires overcoming a number of hurdles including the perception that the public sector is not a good steward of public resources, the cultural expectation that roads should be free, and limited knowledge among the general public about where transportation funding comes from and how much people pay for it. To gain the needed funding, we need to cultivate political champions, showcase the good work of the DOTs, and leverage the importance of mobility to society.

## STATE TRANSPORTATION FUNDING

One large state has not issued any transportation related debt or increased its 20-cent motor fuel tax since the early 1990s. This situation ultimately created a transportation funding crisis in the state. The chair of the Transportation Commission went to the state legislature and asked them to consider tolling, stating that the options were either toll roads, or no roads and slow roads. The state then adopted a policy of analyzing the feasibility of implementing all new highway capacity as tolled facilities.

The state also had P3 authorization legislation in place, and these two dynamics led to one of the most active P3 markets of any state, with a total of over \$18 billion in new private investment supported by tolls. The state has not legalized the use of availability payment concessions in the state, so all P3 transactions are real-toll concessions where the private partner has assumed considerable financial risk. Even though the one highway concession recently went bankrupt, this has not had a financial impact on the state.

As new toll roads have come on line over recent years, considerable opposition to tolling has developed. This has wound up having a positive outcome, as legislators and the general public have recognized that additional transportation funding is needed. In 2014, voters approved a ballot measure that allowed lawmakers to redirect revenues from the so-called "Rainy Day Fund," which is funded by oil and gas tax revenues, to that state DOT. The DOT is now the beneficiary of half of the \$9 billion in annual revenues coming into the Rainy Day Fund. There was concerted outreach to the business community and the ballot measure passed by a margin of 80 percent. Then, in 2015, the legislature passed a bill redirecting up to \$2.5 billion annually in existing sales tax revenue and an additional \$400 million in vehicle taxes to transportation needs.

It has been a long path to achieve this level of investment, but ultimately voters and the legislature recognized that the cost of doing nothing was more onerous. They also recognized that that state DOT was broke, but not broken. Toll fatigue continues and the state continues to explore different options to meet its investment needs.

## DISCUSSION

- § One state has restructured its motor fuel tax to stabilize revenues and reduce volatility. The new tax is based 50 percent on a percentage of the purchase price and 50 percent on a per gallon amount. The state has a “fair share” capital program. If a facility operates below the state level-of-service (LOS), then funding for improvements is allocated based on the number of vehicles using the road. This approach has garnered broad support from the environmental and business communities. It took two years to lay the groundwork for the increase to the fuel tax, but it has enabled a bond program that provides funding for a suite of projects.
- § At the federal level, 25 percent of funding for transportation comes from the general fund. Is this sustainable, or should highway users pay for federal transportation funding moving forward?
- § The user fee concept was revolutionary but public knowledge has disappeared.
- § Another state passed funding legislation linking the state vehicle excise tax to the fuel efficiency of the vehicle fleet in the state and the CPI. This has raised an additional \$850 million in transportation funding. The state has also rescinded a tax credit for electric vehicles and replaced it with a fee, and it has also introduced heavy vehicle fees. Technology is evolving and is increasing fuel efficiency, but if there is an indexing approach that can compensate for lost revenues, then it should be used. The DOT prepared a report to the legislature making this point and they were able to get a motor fuel tax increase approved and have the new rate indexed according to the CPI. The DOT accomplished this without identifying a list of projects that would be funded by the increase. If a state could do this, why can't the federal government.
- § One conservative state has made hard decisions about asset management and condition assessments. The DOT has demonstrated that good roads cost less to maintain. After an eight-year campaign, the DOT was successful in gaining approval from the legislature for increasing the state motor fuel tax from 24.5 cents to 29 cents per gallon. They accomplished this without having a list of projects. One of the main arguments for making the increase was the need to maintain the condition of the state's roadway network. The DOT also received funding from the state's general fund. However, this is justified by the fact that 17 percent of the state sales tax is generated by automotive-related fees.
- § Another state recognized that it either needed to make changes in the use of transportation funding or in how its people get around. The issues are balanced. They considered revisiting the motor fuel tax or pursuing other options for raising revenue. The state has also lost federal earmarks, so it made the decision that it was time to do a heavy lift and has implemented a two-part increase to that state motor fuel tax, raising rates by 7 cents in 2015 and an additional 4.9 cents in 2016.
- § There is a lack of faith in the federal governments' ability to sustain and raise revenues for transportation. This inhibits efforts to generate increased federal revenues. Devolution is no more popular today than it has

been historically. The concept garners some support and the transportation community needs to pay attention to it. It is rooted in historically in state funding programs and is not driven by donor and donee issues.

- § One state recently increased its fuel tax and indexed it to inflation. However, the indexing was subsequently rescinded. This situation has exacerbated the tension between funding for asset management and new projects. We make the case for raising new revenue by promising new things. There is also competition for funding between states and local regions that want to poach federal funding. More money is needed.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the transportation finance session, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § How do the outcomes of revenue measures differ if there is or is not a list of projects that will be funded from them? What are the up and downsides of having such lists?
- § Is it possible for revenue generation strategies employed at the state and local levels to be replicated at the federal level?
- § What strategies have been successful in gaining new funding for asset management needs?
- § To what extent is federal transportation funding being directed away from state DOTs for use at the local level?

# WHAT KEEPS THE CEO AWAKE AT NIGHT: DISASTER RECOVERY AND SYSTEM RESILIENCY

Paula Hammond stated that there is never a good time for a disaster. There are planned and unplanned disasters. Planned disasters such as the closure of I-405 in Los Angeles in 2011 – “carmageddon” – are able to be planned for and can be managed. However, one can never know when and unplanned disaster will occur. In some cases, you may have some level of warning and see it coming, such as with the flooding of I-5 in Chehalis, Washington in 2007. The region had seen snow followed by heavy rain, and there was a premonition that this could lead to flooding. There are also totally unforeseen disasters, such as the collapse of the I-35 Mississippi River Bridge in Minneapolis on August 1, 2007. The only way to prepare for these kinds of disasters is to have response and recovery operations ingrained in your agency culture.

The mission of DOT's is to build, operate, and maintain infrastructure. Our facilities are the economic lifelines of our states and when a disaster occurs, all eyes in the state are on the DOT CEO. There are many resources that can help one prepare for emergencies. There are four phases to emergency response: preparedness, response, recovery, and mitigation. As part of their emergency preparedness procedures, DOTs should maintain a list of risk areas by type and impact. Coordinate with local legislators and officials to identify areas at risk of flooding. Identify lifeline bridges located in seismic areas. Establish relationships with local partners, develop incident response plans, and make sure that all your partners understand their roles and responsibilities. The DOT needs to have good relationships with first responders and other partners. DOTs should practice their emergency response procedures together with their local partners and run through tabletop exercises.

During the response to a major disaster, the governor becomes the point person. The DOT's maintenance and engineering teams will know how to respond and what to do when there is a threat to highways and bridges. Let your employees “do their thing,” DOTs shine in an emergency response environment. Communication is critical during an emergency response. The target audience includes travelers, communities, the media, and the DOT staff. Speak to what you know, what the agency is doing and plans to do next, but do not speculate about what might happen, (will there be more rain, will the road be open in 24 hours, how much damage did the earthquake do?) unless you know for sure. Tell people what has occurred and what is being done about it. One can get into trouble by having speculative opinions. Also, recognize that your employees may also be affected by the disaster. Recognize them for their hard work and that of other emergency responders, and support their needs.

Returning to “normal” may take time. Partnerships are extremely important during recovery periods. Recognize that local agencies do not have the same type of resources as state DOTs and that local governments and transportation agencies will likely need the DOT's help.

Be preemptive in the wake of a disaster and anticipate future needs. Learn from the response: what worked and what did not. If you have a large scale medical situation, how do you prioritize who has access to hospitals and other facilities?

Ask your maintenance team what they worry about on the state facilities. They are the closest to your facilities and understand the risks and vulnerabilities of the system. Prepare a risk map to identify areas impacted by climate change and start adapting your infrastructure to withstand predictable weather events in the future. Start to talk about it and formulate a plan. You need the right people in your agency with the right mindset. No private operator is going to have the same level of commitment as the DOT.

## THE WINTER OF 2015

During the winter of 2015, a northeastern state experienced three major blizzards in a two-week period. The state's largest metropolitan area received 72 inches of snow and during this period and the temperature only rose above the freezing point on two days. When you have statewide storms of this magnitude and have every highway district working at full tilt for five weeks, there is no plan.

Communication is essential in responding to a disaster and the governor is the key point of contact. When you design response plans and practice those procedures you think more strategically. Responding to an actual disaster is different. The governor asked the DOT to prepare criteria for a travel ban. There was a travel ban following the first storm and it was very effective. The state DOT did some scenario exercises to explore travel bans and recognized that they were an effective form of mitigation. Local municipalities were unable to function and it was clear that resources were needed from beyond the state.

The state needed to move snow and buy snow melters. Parks suffered a lot of damage in cities and towns around the state because snow was put there. In the wake of the storm, the state DOT studied snow storage locations. The state also developed close relationships with its neighbors during the crisis, four of which sent equipment and personnel to assist in the recovery. The state set up a centralized communication channel for cities and towns to make requests for assistance. The DOT also needed to develop an understanding of what the National Guard is authorized to do and what it are not allowed to do. It was problematic whenever responders had to do things that were not part of their normal functions.

The state's largest transit authority was particularly hard hit by the storms. The third rail on its commuter rail lines became coated in ice and the entire system was shut down. The state deployed minimum-security prisoners to dig the snow out from the system. Tabletop exercises are helpful, but only if the scenarios relate to what actually occurs. The state needed to deploy resources at the source, but they did not have resources to deploy. Social media was very helpful.

There is never a crisis without an opportunity. The state established a 30-day blue ribbon panel to study the snow event and make recommendations moving forward. In April 2015, it recommended changing the governance of the transit authority. The state also used the snow event as an opportunity to obtain resources and make policy changes. Other recommendations included building a practice facility for the transit authority staff, providing mobility training for disabled people, and establishing emergency preparation centers. The Chief Resilience Office also created a face-to-face operations center where managers from the different responding agencies could be co-located in order to facilitate effective coordination.

## DISCUSSION

- § The AASTO Special Committee on Transportation Security and Emergency Management addresses all hazards infrastructure protection, emergency response, and related systems operations and resilience programs. The committee reports directly to AASHTO's Board of Directors. The seven-person leadership team is proud of its accomplishments and wants all 50 states to be represented on the committee.
- § One state DOT is preparing for the possibility of a large earthquake that would likely damage a coastal area. It has developed a continuity of operations plan. The DOT needs to have a fully functional headquarters in the event of a disaster, so it has plans to establish a backup location for an Emergency Operations Center. DOT staff also need to know how to engage directly with people. Knowing the human side of a disaster is essential.
- § TRB also has a Resiliency Committee.
- § One state DOT conducts drills to prepare for responding to mudslides and earthquakes. Experience from earlier events demonstrated that the emergency response and communication staff knew what to do, but that was not case with management. Following the washout of a bridge on the interstate system, the DOT coordinated with a neighboring state. The technical aspects of the response was relatively quick. Most of the department's time was spent keeping legislators and elected officials informed, all of whom were at the ready to be helpful.
- § The notion that transportation systems cannot be shut down is perverse. Recovery efforts are complicated by abandoned vehicles. We need to recognize the benefit of travel bans under certain situations. One state was hoping to implement a travel ban during a recent snow event, but officials in neighboring states were not willing to put one in place. The state ultimately turned to officials at another DOT for assistance in recovering from the snow.
- § One state has gained experience from surviving a recent hurricane. All DOT employees have now received Level 1 disaster response training at the agency's command centers. They have four levels of disaster response training. The agency is asking for volunteers to take the additional training modules. It also offers incentives to towns to close bridges during repairs.
- § The American Public Transportation Association has excellent materials on disaster response. The press and the governor received hourly briefings during a recent crisis event. This was too much time. Resilience is the key moving forwards. If shutting the transportation system down means that it will be back up and running sooner, then it is appropriate to shut it down.
- § Manage expectations in response efforts and do not over-promise. The climate is changing. One state has seen three 100-year storms in the past eight years. TRB has conducted research on the issue, but there are gaps.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the disaster response session, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § How does responding to an actual disaster differ from the processes laid out in disaster response plans? What is different about responding to an actual disaster?
- § What best practices have been learned regarding the identification of snow storage locations?
- § What best practices have been learned in establishing lines of communication between state and local governments during a disaster response?
- § What activities is the National Guard authorized to do and is it not authorized to do in responding to disasters and how should this be taken into account in disaster response events?
- § What responsibilities will responders need to undertake that are not part of their normal functions during disaster response events?
- § What types of policy changes have been implemented by state DOTs after assessing disaster response efforts?
- § What best practices have been learned in making the case for and implementing travel bans during emergency events, particularly in multi-state metropolitan regions?

# ROUND TABLE DISCUSSION: ASK THE EXPERTS – LEARN HOW YOUR PEERS AND PREDECESSORS HAVE DEALT WITH SIMILAR ISSUES

The CEOs engaged in an open round table discussion on Tuesday morning. Newer CEOs were given the opportunity to ask questions of the group, and more seasoned CEOs were invited to share knowledge and experiences that they had gained during their tenure as a state DOT CEO.

- § One CEO asked for tips on preparing a DOT’s annual budget well.
- Staff may provide you with detailed information on the budget, but the legislature does not deal with the details. Keep your budget presentation to the legislature relatively high-level. Look at the legislature’s agenda so you can be aware of the issues they are focused on. Learn what the budget chairperson is expecting. It can be helpful to meet with the budget chairperson to understand the issues the state is facing.
  - You need to know the details of the budget. Legislators may drill down on small details. Have a good relationship with legislative budget staff.
  - Trust your instincts and keep asking staff questions. In developing budgets, know how past levels of funding have performed. There is a story to tell leading to more money or different allocations. Watch the budget presentations from the previous two years to get a feel for the way it has unfolded in the recent past. Do not answer questions that you do not know the answer to. Be as brief as possible. The more you talk, the more questions you will have to answer.
  - You will know what your sticking points are. For example, in one state, funding for pavement upkeep was based on lane miles and population levels and had nothing to do with the condition of the system. It required a big transition to be able to spend dollars where they were most needed.
- § One CEO asked for advice when transitioning to a new governor from the same party as his or her predecessor.
- One CEO noted that he had served under four different governors. He visited one of the newly elected governors in his home and told the governor that he would like to continue to serve as the DOT CEO, but that he would also be willing to leave the position if the governor wanted him to. He was invited to stay.
  - One CEO shared that he had worked for both a Democratic and Republican governors. For his first five years in office he was considered a Republican in a Democratic administration and then with the new governor as a Democrat in a Republican administration. He noted that the CEO needs to be loyal to his or her boss, but otherwise run the department as a professional. Stay away from partisan politics and provide sound advice to the governor.
  - Decide when you want to leave. After a new governor was voted in, one CEO noted a responsibility to stay in office. However, the new governor wanted to distinguish himself from his predecessor, and after

being pressed he made it known that he wanted to the CEO to step down. You cannot forecast how these types of transitions will unfold. One of the main motivations for wanting to stay was out of loyalty to employees at the DOT.

- Another CEO stated that after seven and a half years in office, he will not work for a new governor. He believes that he has articulated a clear vision for the DOT, and left enough flexibility to be able to incorporate the governor's agenda
- Another CEO stated that when a new governor came into office, he demonstrated to the new governor how his priorities could mesh with what the DOT was doing. The CEO needs to be careful how closely he or she is aligned politically with the governor.
- It was noted that some CEOs report to a transportation commission or board rather than the governor. Such boards or commissions—whose members of may attain their positions through appointment by the governor, election by legislators, or other means—provide some separation between the DOT and the governor's immediate political concerns; the separation may provide benefits and challenges for the CEO.
- Do not overlook the importance of an incoming governor's transition team.

§ One CEO who has a background in policy rather than engineering asked for thoughts on how best to maneuver within the DOT.

- Recognize that you cannot do everything. You have to be able to say, "No." Most CEOs have excellent deputies. When the CEO is away, the deputy runs the show. Most CEOs are more likely to have a background in planning, programming or law rather than engineering.
- Even if you are an engineer, you need to recognize that that is not your job any more. You run a department of 4,000 staff and a \$2.0 billion budget. Most people that become a CEO do not necessarily understand how to build staff. The CEO needs to understand the process not the details and has to become comfortable in not knowing. The CEO needs to give decision-making authority to the experts. Let other people make decisions about asphalt. The CEO needs to work less and think more and cannot focus on day-to-day issues. The same is true for senior leadership at the DOT. You risk losing the higher-level vision if you drill down too far. The DOT CEO should have somebody really talented to work on whatever the CEO knows the most about, and then recognize that the CEO will hamper that person if he or she is too focused on the details. The CEO should put his or her own team in place. The staff will trust the CEO and over time, he or she becomes more entrenched. The CEO should show confidence in his or her team. The CEO also needs to remember to take care of home first.
- DOT secretaries are treated differently, many people will tell the secretary that he or she is doing a great job, but the reality is that they do not really care. They care about their own agenda.

§ One CEO noted that some DOTs are inclined to measure processes but not outcomes. There is a need to give employees the flexibility to adjust their behavior to achieve outcome goals. How can we instill this kind of ethic in mid-tier staff? There is a need to go to the mission and then work backwards.

- We need to start by determining what the goal is. When given a budget with a fixed amount of money, the CEO needs to be clear what can be done with that amount of money. Use the goal to fight for the resources that are needed. The CEO can also use that information to demonstrate the effect of a budget that does not meet the department's needs.
- Link performance management to what is important for customers. This has forced some DOTs to rethink their data collection practices and develop measures that are based more on outcomes. One such outcome could be a reduction in traffic fatalities. This, in turn, will force staff to think about issues such as driver error. The CEO should engage with the entire department on an issue like safety and involve others in how he or she is addressing this issue. California has adopted a goal of Vision Zero (no traffic-related fatalities). The goal may be unattainable, but the state is also looking at the issue at the county-level and other smaller zones.
- If reducing fatalities is a DOT's most important goal, then it needs to think differently. You may need to reduce speeds. You need to think about how to break the wall down. Volvo has adopted Vision Zero as a goal, as have some states. If the goal isn't zero, then what is it?
- One DOT made a video addressing safety and asked people about what the state target for fatalities should be, and then it asked them what the target should be for their families. Issues include addressing impaired driving and looking at locations where fatalities occur and then addressing safety issues at those locations.
- We have poor culture of safety in the United States. Why do speedometers go up to 160 miles per hour?
- There is a robust alumni group of former CEOs who are available to current CEOs. Former CEOs generally keep some distance from those who are in office not so they can do their jobs and operate the DOT the way they want to. However, most are happy to share advice when asked for it.
- CEOs of other state agencies may be jealous of the DOT because they have access to more resources and funding than other departments. CEOs should look for opportunities to partner with other government offices, such as the Department of Agriculture.
- One DOT lends staff to other departments, such as its videographer and public affairs teams to organize events. Other commissioners know that they can call and ask for assistance. The DOT assists other organizations as well, and recently blew out a sprinkler system for a veterans' cemetery.
- Different policies align the DOT with different areas of government and provide the DOT with opportunities to coordinate with other departments.
- Another DOT has a "get it done" list of priorities that it shares with other public agencies to help facilitate coordination, such as getting a permit quickly for a safety improvement project.
- One coordinates frequently with natural resource agencies.

§ The biggest construction project in a small state recently incurred a six-month delay and is now a year and a half behind schedule. How can the DOT motivate the contractor and how can it demonstrate to other

branches of the state government that it is doing everything it can to move the project forward? What are the risks of modifying the contract to switch from liquidated damages to incentive/disincentive payments?

- Most contracts give the sponsor the right to cancel the agreement if the contractor does not deliver the project within a specified timeframe.
- Most contracts go off schedule early. Hold monthly progress meetings on high-risk, high-priority projects. Write letters to the contractor; put things in writing. Get the bonding company involved early. Monitor to ensure that the project is properly staffed. Ride the contractor; make project engineers be part of the solution.
- With high priority projects it is best to transfer schedule completion risk to the contractor by using design-build or Construction Manager/General Contractor (CM/GC) procurements
- Put every project through a risk analysis and select the procurement model accordingly
- Renegotiate the contract and put in an incentive/disincentive clause and increase liquidated damages. You need to adjust the contract to the circumstances. Make sure the FHWA Division Administrator is included in meetings with the contractor. Use this situation as a learning opportunity rather than a precedent.
- In one DOT, a partnering approach has been beneficial on the state's larger design-build contracts. Do not let the contractor try to dump risk back on the DOT. Problem solve together.

The CEOs were asked to identify some lessons that they had learned during their tenure in their positions.

- § Build partnerships. Find out who your friends are. When you are in a position where you have to step on toes, you need friends who will have your back. Engender broad-based partnerships and use them.
- § The CEO is the layer between a robust organization and politics. There are people above the CEO making decisions based on optics, but the CEO makes decisions based on management principals. Internally, do not underestimate the impact and influence you have on the DOT as a CEO.
- § Recognize that people will read things in to what you say, and even the questions you ask.
- § You need someone in your organization that you can trust one thousand percent. That person will tell you the truth. This will also be someone to whom you can show your weaknesses.
- § Do not assume that the governor's staff is on the same page as the governor. Staff can think that they are little governors themselves. Build a relationship with the governor. Take the state plane and spend time with the governor.
- § You need to take the lead in communicating with the other officers in the governor's cabinet. These are generally the only people who are able to speak candidly with the governor.
- § Learn to work with young staffers and build their trust. Have clarity and make sure you know where to draw the line. Know whom the governor listens to.
- § Be consistent and build relationships with a wide range of stakeholders. Do not neglect people.

§ If you do not manage your schedule on a daily basis, then it will manage you. You need to set the standard on how you manage your day.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the round table discussion, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § What best practices have emerged in documenting how past levels of funding have performed in preparing state DOT budgets?
- § What issues arise when the DOT CEO transitions to a new governor and what best practices have been learned in navigating this process?
- § What are the differences in the dynamics of managing DOTs that report to a transportation commission and those that report to the governor?
- § What are best practices in measuring outcomes rather than processes? What are best practices in demonstrating what amount of work can be performed for a fixed amount of money? What performance outcomes should be measured?
- § What type of policies align DOTs with different areas of government and provide them with opportunities to coordinate?
- § What are the risks of modifying contracts to switch from liquidated damages to incentive/disincentive payments?

# PARTNERING FOR RESULTS: BUILDING AND SUSTAINING RELATIONSHIPS

John Njord noted that CEOs cannot accomplish their work by themselves. They need to work with partners in order to be successful. DOTs have many partners. They include consultants and contractors who function as an extension of staff. The local business community is also an important partner and the CEO should reach out to them and understand their needs. The transportation commission, local legislators, the governor's staff and the staffs of local congressional representatives are also natural partners for DOTs. The CEO needs to respect governmental processes.

The DOT has many partners at the local government level and at MPOs. Know whom the governor trusts and maintain good relationships with these people – recognizing that many of them may be part of the governor's transition teams. It is also important to develop partnerships with agencies within your state. Some state DOTs have formed natural resource committees with representation from state and federal resource agencies, giving the participants the opportunity to talk through issues and look for ways to help one another. Maryland has used this type of approach as a way to discuss processes rather than specific projects. Minnesota does both.

DOTs often need to use the services of other state offices including human resources, information technology and legal. It is particularly frustrating for citizens when the DOT has difficulty navigating internal state processes.

When working with federal agencies, it is important to recognize that they may not have staff located in your state. Staff from the Utah DOT often travel to Denver to meet face-to-face with federal resource agencies. It is important to put a face on your agency. You are less likely to receive unexpected difficulties from resource agencies if they know who you are. It is also a good idea to visit with utility companies from time to time.

Your partners are also potential advocates. Many will be willing to work with you, including the business community. The Utah DOT worked with a coalmine company in southern Utah that had approached the Department and asked for its input in developing a new approach to worker safety. These types of partnerships provide the opportunity to learn about things that one may not have anticipated.

Be a good partner and invest in your trustworthiness. Good communication is essential. Working face-to-face is more effecting than using e-mail. Listen carefully. It is too easy to listen in the moment, but not stay in the moment. Stay on message and ask good questions. This is a fundamental function of being a good partner. Always do the right thing and do not burn bridges.

Partnerships are based on common goals, so look at where you and your partners have commonalities. Partnerships are also strengthened if you encounter difficulties. Allowing issues to remain unresolved inhibits partnerships. Communication and building trust are the secret sauce when it comes to building and maintaining relationships. To build trust you have to deliver. If you put construction barrels in the road, then there has to be construction activity underway. That's trust.

## PARTNERING FOR RESULTS

While some CEOs reach their positions as a culmination of years of employment with their agencies, others are recruited from outside, bringing with them experience from other transportation agencies or other types of organizations. One of the workshop participants who had come to his agency from elsewhere reflected on the new CEO's need to get to know the layers of people and relationships that he or she will encounter. At the beginning, everyone wants to meet the new CEO; many tend to think that the CEO makes all the decisions and see the new person as a figurehead who has not yet done anything. During the first year, this new CEO met with each state legislator and worked hard to form partnerships with the DOT's employees.

Now, several years later, this CEO maintains close contact with key legislators, meets with the governor's staff every two weeks, knows the local news anchors, and interacts with editorial boards of the state's newspapers; and engages regularly with counterparts in adjacent states. Maintaining these partnerships, within the DOT and beyond, does not require specific preparations prior to each meeting, this CEO advised, but simply regularity of contact and delivery of a consistent message.

## DISCUSSION

- § Not burning bridges is a priority. If the person you are dealing with is causing trouble, you may need to build a bridge. Always think about what the right thing to do is. After every election meet with each new legislator and give them a person lesson about the DOT's mission and priorities. Drill down to their district and go over all the projects there. They will appreciate your time and will be eager to have the information you share with them.
- § Visit with legislators in their districts. It is different if the CEO goes to see them.
- § Reach out to vocal opponents and try to build relationships and develop a better understanding of their concerns.
- § During his first summer in office, one CEO took a four-day bus trip and visited every region in the state together with senior DOT leaders. They met with local legislators and described projects in their regions. He continues to meet with MPOs and regional planning organizations (RPOs) every year. The CEO cannot run the department from the seventh floor, he or she needs to be an external representative and see the people.
- § Another CEO met with many stakeholders early in his term in office. He felt like he was in the middle of Act II without having read the script, but it was a valuable undertaking. It is important to be your authentic self. If you are not, people can tell and things fall flat immediately. You need to embrace the plurality; have a backbone, but be authentic. You need to be the same person.
- § One DOT has funding partnerships with MPOs and regional transportation planning agencies. These organizations do not just want to be informed about decisions; they want to be at the table and part of the decision-making process. This is a different dynamic than with a contractor.

- § Partners are not monolithic. Some make a living off controversy and there are some who make money based on the department's dysfunction. Don't give them another stick to beat you with.
- § In some cases, it is easier for the CEO to gain credibility externally. Internally it is more difficult to gain people's trust. District engineers continue to do their own thing.
- § Bring internal staff in as part of the decision making team. Move the district engineers. At one DOT, all district engineers serve at will.
- § Make district engineers part of executive boards. This is helpful in creating shared ownership of issues.
- § In another state, the stewardship counsel went through a concerted process to make decisions at the lowest level possible.
- § Ask district engineers what they want to know about their district. Let them see that you understand their needs. Look for an opportunity to have their back.
- § One DOT has traveled to each district office to teach a class together with the district administrator to see how the district's work plan aligns with the agency's goals. This provides an opportunity to show the team how they are part of the organizations ability to meet important goals such as safety.
- § Working with all communities, including disadvantaged business enterprises and with people of all races is essential. This is not window dressing. DOTs need to ensure that African American staff have management roles. Inclusion is a developmental skill set.
- § Inclusion is a requirement. The DOT's workforce needs to look like the people it serves. Cultural competence is an important issue. Inclusion is not nice to have, it is essential. One of the good things about being a CEO is that you can pursue passions, such as inclusion.
- § CEOs need to think about the culture within the DOT and how it does business. Inclusion helps people be successful. DOT's need to see more diversity in their contractors. This dynamic can be exacerbated by an over concentration with selected contractors, such as truckers. The issue of inclusion requires constant leadership and diligence.
- § One CEO attends monthly small and disadvantaged business council meetings. DOTs need to lift all groups. The Associated General Contractors (AGC) also attends this meeting; representation at the meetings is quite diverse. It is also useful to engage larger contractors. They tend to be very transparent. The DOT's candidate pool needs to be diverse in order to have a diverse staff.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the partnering for results session, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

- § What best practices have emerged in the interaction between state DOTs and legislators, particularly those who were recently elected?
- § What best practices have emerged for engaging DOT staff in the decision making process at state DOTs?

§ What best practices have emerged regarding inclusion and cultural competence at state DOTs both with regard to the composition of agency staff and agency contractors?

## WORKSHOP SYNTHESIS

The CEOs agreed that the time together was well spent, not only because “new” CEOs gained helpful pointers from their more-experienced peers, but all found value in reflecting on their experience and learning from the particularities of others’ experience. The newer CEOs were engaged in the workshop sessions and asked questions. All the CEOs agreed that the primary benefits of the workshop involved open discussion and exchange of ideas and advice with their peers. Having the opportunity for personal interaction and sharing real world perspective was extremely valuable. The workshop enabled the CEOs to build contacts and friendships with their peers. A number of the CEOs found the open roundtable discussion particularly useful, as it allowed spontaneous dialogue on subjects of their own choice. It was suggested that at future workshops one or two technical sessions could be replaced by additional round table discussions. The majority of the participants felt that the workshop provided a valuable opportunity to learn from each other and share experiences and feedback from other CEOs working in similar environments.

# APPENDIX A: POTENTIAL RESEARCH TOPICS

At several times during the CEO Peer Exchange Workshop, participants were reminded that the event was planned and funded under NCHRP Project 20-24 Administration of Highway and Transportation Agencies, and that the NCHRP as a whole is a joint investment by the DOTs intended to assist the agencies to improve their practices and service to their stakeholders. Throughout the workshop discussions, questions emerged that could be suitable topics for new research, funded under NCHRP or other programs; these questions have been listed periodically in the preceding pages and are assembled in Appendix A.

In addition, participants were invited during the workshop's closing session to suggest researchable topics that might be well suited for research specifically under NCHRP Project 20-24 that addresses matters of particular concern to CEOs and other top agency executives. That project's oversight panel convenes twice a year, at AASHTO's Spring Meeting and Annual Meeting.

The CEOs identified the following researchable topics:

- § Current performance management efforts do not measure how efficiently DOTs deliver their work
- § Different governors talk about different ways to measure efficiency. The measures we have are great for communicating what DOTs do, but not for improving DOTs' business processes.
- § DOTs talk about goals, but they do not have the metrics to connect them. We need to emulate the ways that other sectors such as public health, economics, and the environment measure work outcomes in order to sell the merits of our transportation programs.
- § With controversial EISs, if the sponsoring agency does not have an autonomous vehicle alternative, it may be found liable to legal action. Agencies should formulate strategies for addressing this issue. Regions such as Portland and Atlanta are studying autonomous vehicles.
- § DOTs need to develop capacity in all areas of their operation to foster and integrate ITS and all other functions, including autonomous and connected vehicles.
- § DOTs need to address succession planning in their work force development programs. They need to consider how future trends and developments will shape the DOTs' role. In Washington State, 40 percent of the Ferry Division is eligible for retirement and the DOTs employees are compensated 30 to 40 percent below those in other branches of government.

## RESEARCHABLE QUESTIONS

Following are questions the research team extracted from the discussion during the different workshop sessions, without any effort to indicate relationships or priorities among the individual questions. These will be used by AASHTO and NCHRP staff in planning future discussion and research activities.

## Working with Washington to Enhance Your State's Transportation Program

- § How can states share their innovation and accomplishments with others so that can be adapted and applied in other settings?
- § What will transpire at USDOT during the first few month of a new presidential administration? When is the optimal timeframe for CEOs to engage with new USDOT appointees?
- § How should state DOTs interact with industry associations and groups?
- § What effect are slow and indefinitely delayed approvals of appointed staff having at USDOT?
- § Increases in transportation investment are focused on capacity enhancements and new facilities. However, ongoing maintenance needs require the vast majority of current transportation funding. What strategies can be used to get to the next level of transportation funding for our substructures?

## Are State DOTs Ready for the Technology Transformation?

- § What types of changes will driverless vehicles have on trip-making behavior?
  - Will workers tolerate longer commuting distances?
  - Could driverless technologies lead to urban sprawl and higher VMTs?
  - Could these new technologies also lead to a shift in the static car ownership model as people take advantage of driverless rideshare or taxi services where a smaller number of vehicles are being used more frequently and efficiently?
- § How can DOTs can enhance current asset management, real-time operations capabilities, and system performance measurement using connected vehicle technologies?
- § How should state DOTs prepare for driverless vehicle technologies and when should they start?
- § What digital infrastructure will DOTs need in order to take advantage of driverless and connected vehicle technologies?
- § What strategies can DOT employ to engender a cultural shift to make information technology part of their core missions?
- § How should driverless and autonomous vehicle scenarios be assessed in NEPA analyses?
- § What strategies can DOTs employ to interact with technology providers and help influence the development and use of automated and driverless vehicle technologies?
- § How should state DOTs interact with local jurisdictions in deploying driverless vehicle technologies?
- § Will new roadway capacity be needed to support vehicle platooning?
- § What strategies should be employed during the transition period when both traditional and automated vehicles are being driven at the same time? How can DOTs mingle traditional and autonomous vehicles without spending a lot of money? How do we build this new world on top of our existing transportation system?

- § At what point will there be a saturation rate in the deployment of driverless and connected vehicles where DOTs can derive wins from these new technologies?
- § What public acceptance issues are associated with connected and driverless vehicle technologies?
- § What does the private sector expect state DOTs and governments to do to facilitate the use of autonomous and connected vehicle technologies?

#### Leading Changes: implementing New Practices and Innovations at State DOTs

- § What are effective strategies for CEOs to gain the trust of their staff at state DOTs?
- § How can innovation be adopted as part of a state DOTs culture? How should innovation be measured and enable tangible results to be quantified and conveyed to DOTs, government and the public?

#### Getting the Work Done: Managing the Changing Role and Workforce of the State DOT

- § How can state DOTs align their programs with the needs of regions as defined by the MPO process? How can state and local coordination be improved?
- § How can sustainable revenue sources support better integration of state and local transportation needs?
- § What are current staffing trends at state DOTs and trends in the use of outsourcing?

#### The Buck Stops Here: the Art and Practice of Using Performance Management and Communications to Build Agency Credibility

- § What strategies and best practices are state DOTs using in taking advantage of social media and real-time data and information feedback? What information and dissemination tools should DOTs utilize?
- § How can organizational change within DOTs be used to enhance performance management and communications?
- § There was a communication project that came up at a recent meeting of AASHTO's Standing Committee on Finance and Administration that did not get funding. Perhaps this would be a good candidate for NCHRP 20-24.

#### Where Do We Get the Money: Funding Transportation Investment when Budgets are Slim

- § How do the outcomes of revenue measures differ if there is or is not a list of projects that will be funded from them? What are the up and downsides of having such lists?
- § Is it possible for revenue generation strategies employed at the state and local levels to be replicated at the federal level?
- § What strategies have been successful in gaining new funding for asset management needs?
- § To what extent is federal transportation funding being directed away from state DOTs for use at the local level?

## What Keeps the CEO Awake at Night: Disaster Recovery and System Resiliency

- § How does responding to an actual disaster differ from the processes laid out in disaster response plans? What is different about responding to an actual disaster?
- § What best practices have been learned regarding the identification of snow storage locations?
- § What best practices have been learned in establishing lines of communication between state and local governments during a disaster response?
- § What activities is the National Guard authorized to do and is it not authorized to do in responding to disasters and how should this be taken into account in disaster response events?
- § What responsibilities will responders need to undertake that are not part of their normal functions during disaster response events?
- § What types of policy changes have been implemented by state DOTs after assessing disaster response efforts?
- § What best practices have been learned in making the case for and implementing travel bans during emergency events, particularly in multi-state metropolitan regions?

## Round Table Discussion: Ask the Experts – Learn how Your Peers and Predecessors Have Dealt with Similar Issues

- § What best practices have emerged in the interaction between state DOTs and legislators, particularly those who were recently elected?
- § What best practices have emerged for engaging DOT staff in the decision making process at state DOTs?
- § What best practices have emerged regarding inclusion and cultural competence at state DOTs both with regard to the composition of agency staff and agency contractors?

## Partnering for Results” Building and Sustaining Relationships

- § What best practices have emerged in the interaction between state DOTs and legislators, particularly those who were recently elected?
- § What best practices have emerged for engaging DOT staff in the decision making process at state DOTs?
- § What best practices have emerged regarding inclusion and cultural competence at state DOTs both with regard to the composition of agency staff and agency contractors?