



2013

CEO Leadership Forum

Leading the 21st Century DOT

A Summary Report

In Association With:

American Association of State Highway and
Transportation Officials (AASHTO)

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Forum

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To the Reader

This report summarizes the 2013 CEO Leadership Forum for state departments of transportation (DOTs). Over three days, transportation leaders from across the nation explored a range of issues and developed action plans to support CEOs and their staffs.

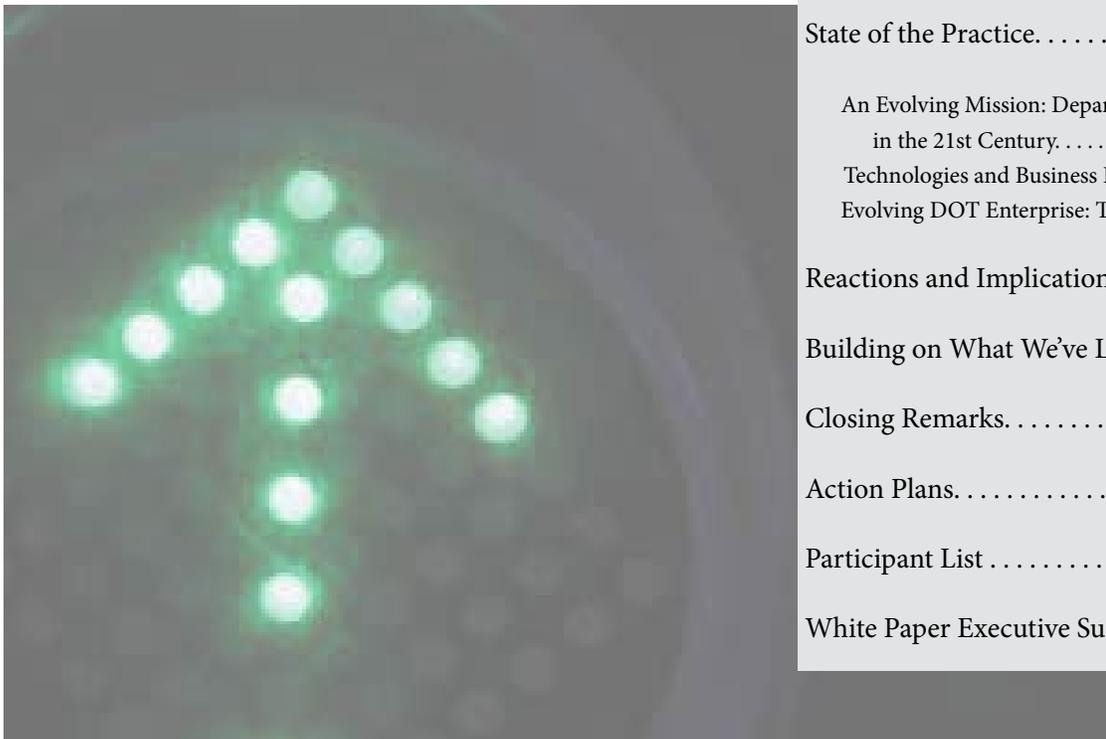
Included are summaries of the presentations and conversations we had with each other and a list of the 10 action plans produced at the forum. We are committed to following up on these directions.

The results of this forum will help prepare transportation chief executive officers to lead their organizations in the 21st century.

—Michael Lewis, President, AASHTO

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Introduction

The fifth CEO Leadership Forum provided a venue for dialog about how state DOTs are responding to the forces changing their business. The unique setting allowed CEOs to consider and discuss four main topics:

- Current trends
- Leadership experiences
- Best practices
- Research and other AASHTO, TRB, and FHWA initiatives

Before the event, forum organizers commissioned three white papers to examine DOTs in states with experiences related to the forum's theme: Leading the 21st Century DOT. The consultants compiled information garnered through literature and research reviews and interviews with state DOT CEOs or top staff, and synthesized the information into three white papers that provided context for discussion.

Five speakers provided opening remarks: Laurie McGinnis, director, Center for Transportation Studies (CTS) at the University of Minnesota; Charles Zelle, commissioner, Minnesota Department of Transportation (MnDOT); Bud Wright, executive director, American Association of State Highway and Transportation Officials (AASHTO); Victor Mendez, administrator, Federal Highway Administration (FHWA) and former director, Arizona Department of Transportation (ADOT); and Michael Lewis, president, AASHTO and director, Rhode Island Department of Transportation (RIDOT)

McGinnis, who served as one of the event moderators along with CTS associate director Gina Baas, noted the number of accomplished and skilled people in attendance and the great potential for sharing experiences, ideas, and questions, all of which would contribute to the value of the gathering.

In welcoming participants to the forum, Zelle explained that prior to joining MnDOT in January 2013, he ran an intercity bus com-

pany with routes from Minnesota to Texas. While he is relatively new to the agency and to public service, he is a long-time customer of roads and DOTs. "When I operated Jefferson Lines...I found the [DOT] CEO engagement I experienced over the past 25 years to be invaluable," he said. "I have forged great relationships and have learned a lot from various state DOTs. As I looked over all the agenda topics [for this forum]—like technology, the challenges of generational shifts and workforce, and financing—I realized that running a DOT is a lot like running a private company; these are very familiar issues."

Wright pointed out that only eight of the current state DOT CEOs were in their positions prior to 2010. "There is a tremendous amount of turnover at the highest position in state DOTs," he noted. "And that means there is a great opportunity for bringing in new ideas and innovations from outside the transportation arena. It also means there is a great opportunity to learn from the experienced CEOs sitting here. These forums have been remarkably successful in the past...they have helped many of the CEOs who have participated develop networking opportunities and learn who among their peers is dealing with similar issues to the ones they're facing. It's really a grand opportunity to exchange ideas and learn from one another."

Mendez relayed what is happening at the federal level and addressed the importance of the FHWA/state DOT partnership. "Our relationship with all of you is what really drives the direction we take within FHWA," he said. MAP-21 (the Moving Ahead for Progress in the 21st Century Act) puts a big emphasis on project delivery and accelerating project delivery. "We're happy about that because one of our main initiatives within FHWA is innovation...and being able to deliver faster. For decades, both Congress and the American people have said it takes us too long to deliver our major projects. We need to find new ideas and bring them to the table and figure out as an industry how to deliver our projects



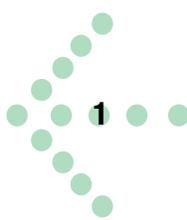
Laurie McGinnis

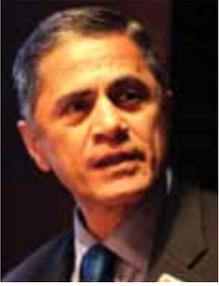


Charles Zelle

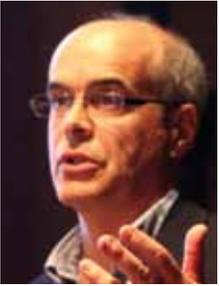


Bud Wright





Victor Mendez



Michael Lewis

much faster,” he said. DOTs all face challenging issues that differ from state to state, but collectively the challenges are similar. “That’s why we are here... to learn from each other and be able to bring to the table, to Congress, to the American people, new ideas and ways to address challenges today.”

Next year is the hundredth anniversary of AASHTO, Lewis then explained as he set forth the forum charge. “In November of 1914, a group of 17 states got together and decided to do something collectively to help improve the highway system in this country. Collectively, we have been building on the shoulders of those people...and must continue to build on the successes of the past,” he said. “The greatest strength of AASHTO is that we can take the lessons learned, build on them, and progress to the future. It is the mix of the traditional and historic, along with new ideas, that will help us move the transportation industry forward. My charge to you here is to get engaged and learn from those who have lived it and bring your challenges and successes to the table. After all, we have the responsibility of making a better transportation system for those who come after us. Just as we stand on the shoulders of those who came before us, this will help us pass the baton of our collective experience to our successors.”



State of the Practice

To lay the groundwork for the forum, three former state CEOs—Pete Rahn, Tom Warne, and Debra Miller—presented their respective white papers on the state of the practice. Following each presentation, current DOT leaders presented highlights from their states. Then, forum participants contributed their thoughts and experiences in conversation-circle discussions.

An Evolving Mission: Departments of Transportation in the 21st Century

Pete Rahn, HNTB, Inc., and former DOT CEO for New Mexico and Missouri

To understand the modern department of transportation, Pete Rahn began, it helps to understand where DOTs came from. The first state highway department was started in Connecticut in 1895. Then, throughout the early 1900s, states all over the country began creating highway departments, with Washington State creating the first named department of transportation in 1964. The thinking behind all of these organizations was to coordinate the various modes of transportation that were evolving independently, he said.

Since those early days, DOTs have been constantly evolving. One notable change seen over the past 10 to 20 years has been to DOT mission statements, Rahn said. “I see [these changes] reflecting much more the actual reason DOTs were first created: to have a broader view of this interoperable, multi-modal system.”

And while the missions place much greater emphasis on multimodal integration, nearly all of the six CEOs Rahn interviewed commented about not having the funds for multimodal initiatives. “Several states have constitutional prohibitions about using the road fund for anything other than roads,” he explained. “Others have similar statutory restrictions...and a majority of the DOTs are still being funded like a highway department.”

Rahn’s interviews also revealed that these six DOTs are all putting more emphasis on maintenance and system preservation mainly due to a lack of resources. “They are all trying to

find ways to keep their system together and make it function better without the resources that ideally would be in place,” he said.

Rahn’s paper also looked at federal and state expenditures for capital outlay relating to highways and public transit and how these numbers changed between 1980 and 2010. “If you look at why we are having a funding gap today in real dollars...even with the states stepping up and providing significantly more than they have in the past, it’s not even close to the increases we’ve seen in usage by an increase in population, an increase in car ownership, and the resulting congestion.”

All six of the CEOs Rahn interviewed cited the lack of funding as negatively affecting their approach to meeting their organization’s mission. “Use of debt to replace actual revenue has caused total DOT debt to grow 731 percent since 1980,” Rahn reported. “A lack of revenue coming in has resulted in state DOTs borrowing and issuing debt to make up the difference, which in my opinion, has managed to camouflage the lack of funding from the citizens. We’ve trained the citizens over the past 30 years not to expect to pay more when they get improved transportation systems that include a changing product and service mix.”

“DOT employers of the future will need to have a better understanding of business practices and be better able to engage with the public at a different level.”

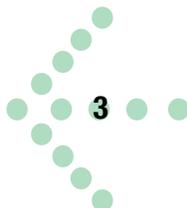
Executive summaries of the white papers are in the appendix of this document.

The full white papers are available for download on the AASHTO website: transportation.org.



Pete Rahn

— Pete Rahn



The six CEOs also described an evolution of organizational practices, Rahn said. “Operations have been more important across the board as DOTs try to manage congestion and other issues through operational improvements instead of expanding the system,” he explained. “And some DOTs are reorganizing themselves to deal with changing demands by redistricting to provide a consistent level of service across the state or changing their hours of operation to manage the system in real time, 24 hours a day, 7 days a week.”

The private sector also appears to play an increasing role for DOTs. “Almost every CEO I talked to wishes he could use public-private partnerships. While some DOTs have either political or other authority restrictions preventing these arrangements, a number of DOTs no longer manage their own construction or maintenance and are relying on the private sector instead. In the Florida DOT (FDOT), for example, approximately 90 percent of their system is maintained through contracted maintenance. This is one way FDOT is organizing and staffing for success,” Rahn said. “Their goal is a diamond-shaped organization with a few people at the top, and the breath of the organization—the middle managers, and the actual people doing the work—are contract rather than DOT employees.”

All of the CEOs Rahn interviewed said that staffing in their DOTs is not well-positioned for the future, for various reasons, including a lack of succession planning. Many DOTs do not have a good system to move people from within the organization into higher levels as people leave, Rahn said. Similarly, DOTs should no longer expect to have 30-year employees. “DOT employees of the future will need to have a better understanding of business practices and be better able to engage with the public at a different level,” he said.



An Evolving Mission: California DOT

Malcolm Dougherty, Director, California DOT

The California DOT (Caltrans) has evaluated where it stands today in terms of its mission and where it needs to be in the next 5 to 10 years. “Early on in this evaluation, we realized that we didn’t need to change our mission, which is improving mobility throughout California,” Malcolm Dougherty explained. “But the vision for accomplishing the mission over time could change.”

Caltrans is a very large organization, Dougherty continued. “We have 650 construction projects underway, mainly due to state Proposition 1B that passed in 2006 and invested \$19 billion into infrastructure, with \$11 billion or \$12 billion of that going to transportation in general—not just highways. Significant portions of the Proposition 1B funds had to be awarded to construction contracts by the end of calendar year 2012.”

Caltrans is also dealing with other legislative mandates regarding environmental and land-use decisions. “We have three ongoing lawsuits regarding land use and the fact that development is not addressing the transportation needs that will be generated from it,” he said. “This speaks to the type of new issues DOTs need to deal with now and looking forward.”

About a year ago, Caltrans initiated a complete program review of all its activities in recognition of the department’s need to evolve and change. “We know we will do business differently in 5 or 10 years,” Dougherty said. “The role we play will change, too, and local partners and other entities may play a more important role in some activities. But I think the state will always need to provide leadership in linking the entire transportation system.”

Caltrans formed a team of four of its own employees and four members of local entities, including Regional Transportation Planning

Agencies (RTPAs) and Metropolitan Planning Organizations (MPOs), to reach out to its counterparts and gather input on how Caltrans needed to evolve, he explained. The team created an initiation document that helped to drive a deeper program review. “We concentrated on organizational updates, process updates, and business decision updates. This effort really started a process, the conclusion of which became the Caltrans *Plan for the Future*,” he said. (A copy of the plan can be found at dot.ca.gov/docs/prgrev2012.pdf.)

Caltrans is also updating its five-year strategic plan covering 2013 through 2018. “We’ve done an employee survey to make sure there is a grassroots opportunity for input,” Dougherty said. The department strives to empower its employees and promote increased delegation to the local district level. “As I came up through the districts, all too often I saw decisions being made in Sacramento—which always added time to the process, always made for more conservative decision making and thwarted innovation at the district level, and always risked contradicting decisions that had already been made,” he said.

Today, Caltrans delegates 100 percent of project review before it goes out to advertisement to the districts. “We are removing steps and duplication in the process. In the end, we are looking for an agile organization that makes the wisest investments to improve the quality of life and drive the economy—that’s what it is all about. But it’s got to be integrated with the entire transportation picture. This is what we’ve been doing at Caltrans to figure out how to evolve the organization, not necessarily evolving the mission, but rather, evolving how we do business to accomplish our mission.”



Malcolm Dougherty

“In the end, we are looking for an agile organization that makes the wisest investments to improve the quality of life and drive the economy—that’s what it is all about.”

— Malcolm Dougherty

An Evolving Mission: Conversation Circle

Moderator: Pete Rahn

Question 1: What additional changes are you seeing to your organization's mission beyond those mentioned in the paper and today's presentation?

"Many state DOTs, including mine, see themselves as being responsible only for the state highways or only for bridges," Michael Lewis (Rhode Island DOT) said. "DOTs need to look beyond those traditional roles. Today, it's more about being responsible for the users of all of the modes. When [the public] looks at the quality of work the DOT does, it is very much a reflection of how people view their local street system. One role we need to take on involves educating the public and elected bodies on how the system is integrated and how we can't just invest in one piece of it and expect it to work."

"I think we all understand our role in delivering a system that is effective, efficient, and sustainable," Bernie Arseneau (Minnesota DOT) said. "Given our reduced resources, I think it's important that we continue looking for nontraditional solutions. We have to recognize that we won't have those resources available to us... It is a big challenge."

John Halikowski (Arizona DOT) explained the importance of fully understanding the international economy and international relations. "We're finding that all of our transportation in logistics and shipping has taken on an international flavor," he said. "As a DOT director, I need to pay attention to this." His department now works with a new mix of people, including logistics companies and shippers who measure success in hours and minutes rather than days to move goods. "These folks are impacted by peak-hour traffic where issues can cut into their profitability... so we've begun to focus on what we call 'key commerce corridors,'" he added.

Kirk Steudle (Michigan DOT) recalled that when he started working for Governor Rick Snyder, they discussed building a bridge into Canada. "We talked about logistics and how this [bridge] would connect to world markets. It was all about mobility and economic development," he said. "We've seen a huge expansion in how we think about our mission. I come back to this notion of being mobility managers... DOTs are morphing... we can see change happening in all states. Whether we like it or not, that's where we are going. We're focusing on what the customer wants—they want to move goods—and we need to provide that mobility and think in larger terms."

"When we started working more with local partners," Ann Schneider (Illinois DOT) added, "we needed to point out the economic advantages transportation assets bring to them and help them leverage that to attract businesses into their areas. That's another area where we can think more multimodal." She pointed to the need to look at rail and mass transit systems and how they all tie together with the highway and bridge system. "I have met with some of our agricultural partners who are concerned with the first and the last mile," she said. "We are looking at short-line railroads and the lack of investment in them and trying to figure out what we can do about it within our limited resources."

Mike Hancock (Kentucky DOT) wrapped up this discussion: "Much of what we do revolves around the historical model of how DOTs were created. I see the evolution happening to us, and in fast motion. Our siloed-thinking days of the past are over. We have retooled and are refocused on making sure our employees are better trained and looking at how things work together for the common good."

"Our siloed-thinking days of the past are over."

— Mike Hancock

Question 2: How is your organization responding to these changes? What are the reactions of your customers and stakeholders?

John Njord (Utah DOT) explained that when his department first adopted a new departmental goal of strengthening the state's economy, employees questioned how that would be possible. "Since then, they have embraced the concept," he said. "Fundamentally, the highway system in this country was built to develop our economy." Today, Utah DOT employees meet regularly with various companies to find out how the DOT can help them be successful. "In one case, our deputy director went to the Utah Jazz (professional basketball organization) and discussed how the UDOT could help move fans leaving the games faster. The reactions have been helpful for us...and the companies [we engage with] really believe in us."

Charlie Zelle (Minnesota DOT) discussed how DOTs work to support their states' economic development and shared his involvement with a volunteer organization called the Itasca Project, a group of some 60 area CEOs, foundation heads, and public-sector leaders concerned about the Twin Cities' quality of life and economic vitality. One of the group's efforts calculated the return on investment of an area transit system. "If, for example, there is a \$4 billion investment, what could we, as business leaders, expect as a reasonable direct

impact return," he explained. "This convinced a lot of leaders in the community that [making transportation investments] is not a second-tier issue, and in fact may be fundamental to our prosperity. So, I think we need to bring more metrics to what the returns are on particular transportation investments."

Mike Cline (Indiana DOT) reported that his DOT has been discussing what it can do to sustain long-term revenues and at the same time find the right investments that both the public and the business community want. He then clarified one of the points Pete Rahn made in his white paper. "In our discussion with the legislature, we didn't say we have a funding gap, but rather we talked more about a best-value investment plan, and if we invest more in our infrastructure now, we can sustain the condition we have and save \$1 billion over 20 years," he explained. "We didn't whine that we are underfunded with respect to our program...and the legislature is responding positively to this."

Halikowski added that an employee once asked him what he values and looks for in terms of organizational change. "I call it the CLRRR Initiative when I talk to employees about this: communication, leadership, roots, recognition, and responsibility," he said. "Thinking in these terms is one way we're changing as an organization."



Pete Rahn, Ann Schneider, Mike Hancock, Kirk Steudle, and Michael Lewis in a conversation circle



Tom Warne

Technologies and Business Processes That Work

Tom Warne, Warne and Associates, and former DOT CEO for Utah

In his white paper, Tom Warne highlighted innovation and technology business practices that work at five state DOTs: Florida, North Dakota, Minnesota, Utah, and Washington.

“What impressed me about the Florida DOT is that it didn’t wait for the economic recovery,” Warne began. “That is a strong message to all of us. In our business, you can’t wait for things to happen; you have to make them happen regardless of the circumstances you find yourselves in.”

One example from FDOT is its pavement rating benchmark: when it set it at 80, the department made a point to understand that achieving a higher rating does not necessarily create a better system of more satisfied customers for the additional investment. By better managing its pavement design and specifications for projects, “FDOT saved a lot of money,” Warne said. “This speaks totally to enterprise risk management, which is certainly something we all need to look at.”

FDOT is also maximizing social media efforts. For example, FDOT has 26 Twitter accounts and uses them to stimulate conversation on transportation, provoke people’s thought processes, and get people thinking about transportation in different ways. “The message here is that FDOT is not only handling the technology side of the business, the value engineering, the pavement management piece, but is also aggressively looking at innovative ways of communicating to its customers,” Warne said.

“There are 15 or 16 states that have some semblance of enterprise risk management going on, and MnDOT is clearly one of the leaders,” he continued. “Former MnDOT commissioner Tom Sorel did an amazing job of raising the thought process around enterprise risk management. Most of us understand risk management from a project level, even from a programmatic level, and we put those principles into practice in our businesses. MnDOT has gone to an ERM that speaks to the enterprise and what it is doing.”

MnDOT has four areas of risk management: programmatic, project, organizational, and operations. Organizational risk management is about getting people to understand and believe they are not just doing a job, but that what they do contributes to the success of the agency. Employees need to recognize that things happening around them might actually prevent them from achieving those goals and objectives, Warne said. “There is sometimes frustration about what we can influence, particularly at a national level in terms of policies. Yet those have to be dialed into an enterprise risk management model,” he continued. “When I talked to Tom [Sorel] about this, he made the point that you’ve got to put all of this into your risk profile so that you’re making informed decisions. Even seemingly mundane activities may have an impact on the risk profile and even bring damage and notoriety to the agency if not executed well. So, it’s getting employees all to recognize that they contribute to the overall risk profile of the agency—and what they do each day, even if it doesn’t seem that important, could affect that.”

“In our business, you can’t wait for things to happen; you have to make them happen regardless of the circumstances you find yourselves in.”

— Tom Warne

The North Dakota DOT is responding to a new world with the increase in shale oil fracking; the state has been turned upside down with an explosion of activity, Warne reported. “This is a state that 10 years ago was barely matching federal funds. Since then, they have raised more money for state and local roads, because this isn’t just a state problem, and now have a \$1 billion program divided into a lot of small projects, which is just another management challenge they have.” NDDOT has not added a lot of new staff, he continued, and has had to rely on the consulting community. Simple projects, in fact, have been designed by university students. “This is one way they have to adjust their thinking in how they manage their program,” he said.

NDDOT is also using traffic modeling to rethink its program; however, since there is no off-the-shelf product that can handle the 1,100 truckloads a day it takes to drill a single shale oil well, it has to invent one, Warne explained. “They are also looking at revised pavement designs and making pavements thicker, and are offering local planning assistance. The locals are totally unprepared to handle the planning that goes with this increased truck activity.”

Warne next discussed the Utah DOT, where connecting everything is the name of the game. “There is an amazing ability at UDOT to make disparate management systems work well together. Some of their products are off-the-shelf commercial products; some are self-developed,” Warne explained. “What are most impressive are the connections they’ve been able to make in these things. Believe it or not, they allow third parties to put data into their systems, and that’s the transparency of the process.”

Finally, Warne continued, Washington DOT continues to push the envelope with regard to innovative thinking in a variety of areas. One example is the Moving Washington strategy adopted in 2008. “It talks about 300 miles of

toll and managed lanes mostly in the Puget Sound area. A lot of this is underway, and it’s very impressive. It’s an example of looking at 300 miles and knocking it out 20 miles at a time,” he said. “Pretty soon you have a sophisticated and functional system.”

The SR 520 Bridge Replacement and HOV Program is an interesting project, Warne added, noting the success WSDOT had tolling the bridge well before the new bridge was in place. “WSDOT explained to the public it would be like paying off your house early so you pay less interest. And, that made sense,” he explained. The key to the early tolling effort was an effective communication and marketing plan. “We can come up with the best technical ideas, but if we can’t effectively communicate those things and help people understand the value of things like early tolling, it’s hard to implement those impressive concepts.”



John Njord

Technologies and Business Processes: Implementing Innovation

John Njord, Former Director, Utah DOT

“In his white paper summary,” John Njord (UDOT) began, “Tom Warne talked about the Utah DOT connecting all of the data the agency collects in order to make better organizational decisions. To do that, we need data in a format that people can actually use.” As an example, Njord explained how UDOT can measure the safety index of its roads to show what is actually taking place on them using real data instead of opinions. “The idea here is that with real data, you can have a real conversation.... We’re trying to collect all of that data we have within our department and put it into a format that our designers, customers, and anyone else who wants it has access to and can use to make better decisions.”

In another example, Njord described how UDOT groups roads by three categories: high-, medium-, and lower-volume. Initially, the agency spent a lot of money on the more important, higher-volume roads and less money on the medium- and lower-volume roads. “We collect data on these roads and have a history of the road conditions over time,” he explained. “We also have software that can predict the longevity of these roads based on levels of investment.” As it looked at the system as a whole, Njord continued, UDOT could see that by investing a little money on the lower-volume roads, it could make a significant improvement on the overall condition of the roads. “We had the confidence in our data that enabled us to squeeze money off higher-volume roads and put it into the lower-volume roads, which then made a very significant difference on those lower-volume roads,” he said. “That’s where data can help us do our jobs better. We make much better decisions when we have data that is consistent, repeatable, and available.”

On another front, UDOT is using innovative contracting methods. “I know many states are hamstrung in the ability to use innovative contracting tools, but at UDOT, we’ve

completed 70 projects using design-build and construction manager/general contractor (CM/GC), and we are happy with the success of those,” Njord said. “The rest of our projects are design-bid-build, but we have taken design-bid-build to a different level. We use price plus time, more commonly referred to as A + B bidding. Contractors bid for price and bid for time and then combine the two. By doing so, we find significant accelerations in the delivery process.”

UDOT has provided other tools to help employees solve problems. These include the continuous flow intersection design, the diverging diamond interchange design, and the thru-turn intersection design. In both urban and suburban areas with growing congestion but where it costs too much to add lanes, UDOT has installed reversible flex lanes. “Although the flex lane concept is not new, what is unique for ours is that the continuous left-turn lane is also moving with the other lanes,” Njord said. “The flex lane program has been a resounding success.”

The last thing Njord discussed was UDOT’s use of innovative construction approaches, specifically its accelerated bridge construction project. The most recent example moved a 354-foot bridge that was built on the side of road, causing virtually no impacts to traffic. “In about 12 hours overnight, UDOT moved the bridge into place,” he said. “As engineers, we think this is pretty cool...but we don’t do projects like this because they are cool—we do them because they are an outward expression of our inward commitment to minimize our impacts on people’s lives. This helps us build credibility to the point where we actually have fans that come out to watch us build our facilities.”

“We make much better decisions when we have data that is consistent, repeatable, and available.”

— John Njord

Technologies and Business Processes: Conversation Circle

Moderator: Tom Warne

Question 1: How have technology innovations affected program delivery and operations within your organization?

“We’ve set up an innovators team as a way of getting employees to generate new ideas,” Brian Blanchard (Florida DOT) explained. “So far, this has been very successful. We’re also working to increase our communication efforts using various social media avenues as well as webinars and podcasts...I don’t think you can ever overcommunicate,” he added.

While the California DOT’s staff is innovative, Malcolm Dougherty reported, the challenge was that their innovative ideas often created more work for first- and second-line supervisors. “At the very highest level, encouraging and rewarding those innovative ideas began to squeeze out that hesitance at the supervisor level,” he said. “However, deploying the innovations then became our big challenge. There were a lot of innovative ideas we had invested in and had done research on, but they were not permeating throughout the department.”

Njord shared the advice he received from the first governor he worked for: “You can fight change and die; accept change and survive; or lead change and prosper.” We are in a dynamic society now, he said, “but unfortunately, our business—the business of building civil works—is typically reluctant to innovate and to change. So we can choose to accept

change and simply survive or we can lead that change and actually prosper.”

Connecticut struggles with the high cost of business, high cost of living, and high cost of energy, James Redeker (Connecticut DOT) said. On top of these issues, the City of Stamford, Connecticut, faced another obstacle in its efforts to attract business development: It would have to widen a bridge running over five tracks of the Northeast Corridor Line at the Stamford station. The initial analysis said it would take three years to design and four years to construct, and would require closing two tracks at a time for two years east of the Northeast Corridor Line, closing a freeway ramp for two years, and so on. “We realized we had to rethink this; we went through a series of lean business practice improvements...people reinvented the way they used to do things and they owned the process,” he said. “We also went into accelerated bridge construction, and now the schedule is to complete the project in 2016.”

Pete Rahn (HNTB) reminded participants that when you encourage people to be innovative and something goes wrong, you need to be prepared to step forward and take responsibility or you will kill all innovation within your organization. “If you are not prepared to do that, you are doing a disservice to the people in your organization.”

“I don’t think you can ever overcommunicate”

— Brian Blanchard



James Redeker

Mike Cline (Indiana DOT) shifted gears to discuss speed to market. “While we talk about risk management, I believe if you don’t go fast, you expose yourself to an unnatural amount of risk, either to kill a project or to make it more expensive. We focus on going as fast as possible on projects. To do that takes a bold step to change the personality of the company.” One case in point: IDOT chose a non-engineer to be the executive project manager on a \$700 million, four-lane interstate project. “We wanted someone we could put in front of the governor and also who could manage the project. This shook up our staff somewhat,” he said. “They were good technical people, but perhaps not the people to be the face of the project. We put together a team that allowed us to go fast and take some risk we might not have taken in the past.”



Terry Bellamy

Question 2: What business practices have been priorities for change in your DOT?

“We have an e-construction project going on right now that is completely paperless,” Kirk Steudle (Michigan DOT) said. In the past, a normal change order might take 120 days. “We had one earlier this spring that took six hours,” he noted. Using a paperless process on this project should save the contractor about \$60,000 and save MDOT \$40,000. “The reduction in paperwork time is really making things faster,” he continued. “We’ve created a series of videos called “In the Field Reports” aimed at sharing innovations, research, and new technology. We have a video coming out highlighting this paperless construction project.”

Njord recalled that when Tom Warne joined UDOT, it had a history of delivering projects whenever it wanted. “Tom came in and said simply that from now on, we will deliver projects when we say we will. This speaks to credibility. We talk a lot about having a lack of funding and not enough resources to do our jobs, yet in some cases, we don’t even do what we have complete control over, which is to deliver our program. It starts with account-

ability. We want to be trusted and provided with resources, so we better do our jobs.”

When Paul Trombino (Iowa DOT) joined his department, it had two big projects both about a year behind schedule, “yet there didn’t seem to be any sense of urgency with them,” he said. In one case, the delay had closed off the only access to one small community for more than a year. “While it was just a small interchange project to us, to that community, it was a major project,” he said. “...I went out to meet an individual from that community and forgot the road was closed... it took me forever to get there. I wrote an apology letter to the community, but before I mailed it I sent a copy to all managers and division directors and let them know that this would be the last letter we send apologizing for a project not being done when we said it would be.”

Terry Bellamy (District DOT) explained that Washington, D.C., has a process called “Grade.DC.gov” that enables the public to grade certain district agencies. “Each month, we get graded on our work, our projects, and our day-to-day operations. The first month, we got a C- probably because a couple of projects were late...and in those cases, the contractor was the poor player...but the community simply saw the projects not getting done; people couldn’t access their homes and businesses.” Since then, DDOT has made changes that have perhaps made the agency “the bad guys” in the construction industry, because they challenge the construction contractors to meet deadlines. “But our grades have gone from a C- to an A+ mostly because we started delivering on our projects,” he said.

It’s been 22 years since New Hampshire increased its state gas tax for highway funding, Christopher Clement (New Hampshire DOT) reported. “We have been pushing in the last 18 months to build credibility at a grassroots level. We’ve reached out to the public with messaging about our need for

investment in the transportation infrastructure,” he said. The department also is creating lean processes that are working well to build credibility with the legislators. “They see how we’re using the taxpayers’ dollars, and it’s helping us as we move forward on the initiative to get a 12-cent gas tax passed,” he said.

Randall Peters (Nebraska Department of Roads) talked about strengthening partnerships as a kind of lower-tech innovation. In one case having to do with endangered species, NDOR formed a partnership with the FHWA Nebraska Division Office and also involved stakeholders from the U.S. Fish and Wildlife Service, Nebraska Game and Parks, and Corps of Engineers. “We did a lot of upfront work to identify project scopes and translate jargon,” he said. “This effort strengthened partnerships and is saving enormous amounts of time now in consultations and re-consultations.”

Question 3: How is your DOT addressing risk management on an enterprise level or a project level? What does your organization need to advance its integration into your processes?

“We’ve gotten more sophisticated over time in doing risk management on individual projects and then carrying that concept over to the organization,” Dougherty said. “We’re evaluating not only what the risks are and whether or not we have the right controls, but also asking our employees to look at their own work in this way. The cautionary note is not to impede innovation while we’re talking about limiting risk. You want to take smart risks, and the entire team takes that risk such that you can try to be innovative.”

In 2000 the Arizona DOT highway fund was running in the negative, Halikowski said. “I was presented with the choice of either not plowing snow up north or closing rest areas. It was pretty obvious to me which risk I should take; from a public safety perspective, we needed to plow snow.” The department closed 18 rest areas. “I thought this would

drive the public to see the funding crisis and create some call to action to improve transportation funding in this state,” he explained. “We got attention for a short time, but it had negative effects from the public’s perspective of our credibility and how we manage the program.”

Stuedle added that “asset management is really the backbone in making the risk decision of where you invest your money. While I think we inherently do that risk assessment, I don’t think we do it in a real structured way,” he said. “We innately choose the lowest-risk piece, but we don’t talk about it in real specific terms as much as we should.”

Jeffrey Paniati (FHWA) noted that from an FHWA perspective, enterprise risk management is something the agency has been working into over a number of years. “It has taken us a while just to speak the right language,” he said. “For example, when we talk about risk management, we talk about minimizing the threats and maximizing the opportunities, but often the maximizing opportunity part gets lost in the discussion. It is important to really look for both sides.”

Lewis discussed a particular A+B bidding project that initially started off well. “But the contractor started to fall behind and because of the disincentive clause in the contract, it faced a \$10 million loss on the project,” he explained. “We brought them in to discuss how we could resolve this. There was reluctance at our division office staff level to get away from what was specifically in the contract, but we had to redefine what was important. Was the primary goal to make the contractor adhere to the contract, or was it to get the road open? We had to give the contractor a way out so they could have success.”

“...asset management is really the backbone in making the risk decision of where you invest your money.”

— Kirk Stuedle

Evolving DOT Enterprise: Today Toward Tomorrow

Debra Miller, Cambridge Systematics, and former DOT CEO for Kansas



Debra Miller

“Social media provides a way to create an authentic experience with your customers.”

— Debra Miller

Debra Miller’s charge in writing her white paper was to analyze how DOTs are evolving in light of resource constraints. “But my conclusion,” Miller began, “is that what is forcing us to evolve is a bigger, broader, social, cultural change that has been going on for some time.”

Miller pointed to several particular issues that flow from these cultural changes. “One is the distrust of government, which is significant in terms of how we do our jobs,” she said. “Additionally, people just don’t trust experts like they used to...with the democratization of information, everyone is now an expert,” she said. “As such, people expect to be a part of the decision-making process. They don’t want you to tell them the decision you made after the fact. We need to think about ways to allow the public to participate without creating anarchy or completely losing control.”

Authenticity is another important issue—meaning that at some level, people want what feels like an authentic experience. For example, Miller said, people may take a vacation in Mexico to build schools because it makes them feel they are really seeing the country. People want an authentic experience when they engage with government, too. “But think about what kills authenticity: being inflexible, unmovable, and stuck in time. Does that remind you of anybody you know or any place you’ve ever worked in government?”

DOTs are using several new and emerging strategies to engage customers. MnDOT, for example, is using an online customer community to facilitate three-way communications: MnDOT talks to its customers, customers talk to MnDOT, and the online community talks to each other. “As an industry, we’ve been trying to create a national vision for transportation by talking to ourselves. Let’s think about a national online

customer community to help us really get to what it is the public cares about,” Miller said.

Many DOTs are using social media to do interesting things. “If you go back to the concept of authenticity, social media provides a way to create an authentic experience with your customers,” Miller said. “If used properly, it is an amazingly powerful tool. It’s not about how many followers or Facebook friends you have, but rather, are you really engaging those participating with you and engaging them on the right issues?”

The idea of open data further captured Miller’s attention. “I think there are ways to open up certain kinds of data that can bring value back to the department,” she said. Some agencies have looked at using open data as a way to rebuild competence and respect in government—arguing that the data was paid for with taxpayers’ dollars, so isn’t it already their data? “Sharing data also can be a way to get really cool, innovative, customer-friendly apps for our DOTs,” she added, citing FlyOnTime as an example of an independent project created by private citizens using open data. “It provides a valuable service to travelers, yet the USDOT does not have to maintain it,” she said.

When cultural shifts occur, Miller continued, we tend to think in terms of how they affect us personally, but we need to also look at how they affect institutions. “When you boil it all down, what we’re really doing is serving the public...and we want them to realize how hard we’re working on their behalf, we want to be able to take care of the infrastructure we care about, and that means we need taxpayers’ support,” she said. “DOTs need to ask themselves first and foremost: Are we relevant? If the answer is ‘not sure,’ or ‘maybe,’ then it is time to get to work.”

Evolving DOT Enterprise: MnDOT's Online Customer Community

Karla Rains, Customer Relations Director, Minnesota DOT

MnDOT has had a customer research department for about 15 years. “We have invested in understanding what is important to our customers,” Karla Rains said. “In trying to make sure our customers are part of our processes...we discovered that we probably needed some new tools.” An online customer community is one such tool DOTs can leverage.

The MnDOT online customer community consists of 400 customers. “We’ve balanced that group to match Minnesota census criteria; we know we have a small microcosm of Minnesotans by age, income, gender, and ethnicity, and we make sure they represent our general customers from a broader view,” she said.

“We have weekly online interactions via surveys and discussions,” Rains continued. “We send questions to them, they send questions to us, which we respond to, and customers can speak to each other. We watch these interactions, and we learn things. For example, by watching one particular dialog it was clear we needed to do a better job of educating the public about roundabouts,” she said.

“In our industry, the problems are increasingly complex, and we have to be iterative about that,” Rains added. “We learn something, we apply it, we ask again, and we apply it again. This tool helps us do that as well.”

And, she noted, the online customer community is a rather affordable venture compared with traditional market research. “Our online community costs us approximately \$260,000 a year,” Rains explained, “whereas conducting a series of focus groups can cost \$70,000, and the same amount for a single quantitative study.”

She pointed out, however, that traditional market research still has its place. “We con-

duct surveys for the most complex topics the way we always have. We use both traditional mechanisms for research as well as the online customer community to gain a deeper understanding and enough precision.”

MnDOT is entering its fourth year with its online customer community program and will continue using it in the foreseeable future. “There are great benefits to the public participating in this,” she said. “We already have their tax dollars, so it makes sense that they engage in and help guide our decision processes.”

For agencies thinking about starting an online customer community, Rains recommended using a full-service research firm to help manage such a program. She introduced Alan Moskowitz, from MnDOT’s online community partner Communispace, who provided a few points to consider when looking for a consumer collaboration partner. For example, he said, “make sure your partner will have a high-touch engagement with your customers and that someone on the team connects with your customers every day.”



Karla Rains

“We use both traditional mechanisms for research as well as the online customer community to gain a deeper understanding and enough precision.”

— Karla Rains



Paul Trombino

Evolving DOT Enterprise: Vision—Smarter, Simpler, and Customer-Driven Safety, Mobility, and Economics

Paul Trombino, Director, Iowa DOT

While the DOTs traditionally have been constructors of infrastructure, Paul Trombino questions whether that is still true today. “I don’t think it is our primary role any more. I believe we are now facilitators of information,” he said. “To me, mobility is information...you can’t be mobile without information.”

With that in mind, the Iowa DOT is working to be smarter, simpler, and customer-driven, Trombino reported. “I want people to think about this every day, in everything they do. Many times our processes are complex and take a long time. But I think we can find ways to make the process smarter, simpler, and ultimately, focused on the customer.”

DOT customers today expect choice in their services and products, which ties to how DOTs engage and respond, he continued. “Many times we don’t respond [to our customers’ issues and concerns], and that’s a problem for us. From a customer perspective, I believe perception drives our business... if we asked our customers what they think is the most unsafe road segment, for example, would their responses align with our data? I don’t think so. While data is important to what we do, I think our customers’ perceptions are important as well.”

DOTs can change how they interact with the customer in many ways, Trombino asserted.

“We’ve tried to engage, from an operational perspective, by allowing customers to tell us what they think and provide what I call situational awareness. We use Twitter and geotagging to link exactly where on the road our customers are talking about. During a storm, for example, if we start seeing several geotags in one spot, we know that area of the road needs attention. This provides a way for our customers to take command; they can give us direct feedback that we can directly respond to.”

IDOT is also working on a 24/7 on-demand truck permitting system. Drivers will soon be able to get permits electronically along with an electronic copy of the route they will use to load into their truck’s GPS. “They could run through the route on-screen before actually driving it,” he explained. “I think this will significantly enhance safety.” IDOT customers also will be able to pay online for services such as driver’s licenses and registration fees using Dwolla, an Iowa-based payment network that allows anyone to send, request, and accept money.

IDOT recently created a performance and technology division with the aim of connecting all of the pieces, including enterprise risk management and open data. Overall, Trombino said, “the goal is to bring our DOT in line with what is important to customers.”

“The goal is to bring our DOT in line with what is important to customers.”

— Paul Trombino

Evolving DOT Enterprise: Conversation Circle

Moderator: Debra Miller

Question 1: What strategies does your DOT employ that promote a customer-centric philosophy and encourage engagement with the public?

Malcolm Dougherty (California DOT) talked about one particular project in the Los Angeles area—known as “Carmageddon”—that shut down a section of I-405, one of the nation’s busiest and most congested freeways. “Closing the 405 and dumping that traffic on the rest of the transportation system had the potential to shut down the entire L.A. basin,” he explained. “We used every tool we could think of to manage traffic... Twitter and other media outlets... some radio stations in the area even had Carmageddon Survival Kit contests. Our traffic management strategy essentially was to scare everyone off the freeway system, and it worked.” Traffic was lighter than normal across a wide area, with fewer vehicles using the roads than usual, and those who did travel by road arrived more quickly than on a normal weekend.

AASHTO does an annual survey asking state DOTs how they are using social media, Lloyd Brown (AASHTO) explained. “We are seeing a shift in terms of getting the information out, to a much more collaborative effort... but it’s still a one-way process.” He also shared advice about using social media to reach out to communities: “If you don’t have a process in place to receive the information back in, it can be a disaster.” For example, if an agency asks for and then gets a piece of information at 11 p.m., a process must be in place to handle that information or this becomes a risk point.

The Minnesota DOT asks its 400-person online community questions on a corridor-level, Rains said. “We don’t use this community on a project level, because it’s not a large enough group. But we will step back and ask what we need to know about a particular project and typically find it is something that

is transferable to many projects—such as how do you get your information, how can we make this information more accessible, are you getting the kind of information that helps you make the best pre-trip or en route planning decisions?”

Mara Campbell (Missouri DOT) reported that her department has used performance indicators as a conduit to help better understand and learn from its customers. “We don’t have an online community, but we do a lot of customer surveys.” The state’s research SPR (state planning and research) dollars pay for some of these activities.

“Perception is very different from measure,” James Redeker (Connecticut DOT) said, “and I am missing that customer perception piece. Back in the transit world, rail on-time performance was 95 percent, but it got a ‘D’ based on the passenger experiences. The perception was ‘if the train is late, I’m really late, I don’t care if it is on time every other day—it hurt me today.’”

Ann Schneider (Illinois DOT) agreed. “We talk a lot about customers who are right here right now, but much of what we are doing now will really impact people in the future. We have a project in the Chicago area to reconstruct a major interchange that is currently rated the most congested interchange in the United States. There is a condominium with 57 people nearby who don’t like the project and are vocally disapproving of it. But I have to think about the 300,000 vehicles that go through the intersection every day,” she said. “But those 300,000 drivers aren’t going to say a word. We need to think about the definition of customer and how we weigh current customer needs to the needs of future customers as we move down the path of more public involvement and public engagement through technology.”

“We talk a lot about customers who are right here right now, but much of what we are doing now will really impact people in the future.”

— Ann Schneider

Question 2: How is your DOT advancing performance reporting and management in support of transparency and decision making?

The Indiana DOT started with imperfect data but currently reports on many things, Mike Cline (Indiana DOT) said. The department has migrated away from some activities because of better data or changed views of what was important. “Now, we are trying to create that awareness of how we are doing from a more balanced perspective,” he said.

Cline then posed a question: “I see performance management used as a colloquial term, but we call it performance measurement. Is there a consistent term that should be used?”

Pete Rahn responded: “Performance management refers to the cycle of performance measurement, which is one step in that cycle. You cannot have performance management without performance measurement. Performance management is the complete cycle: measure, analyze, act, and measure again; it’s that continuous cycle. If you only collect measurements and they sit on the shelf until the next time you collect measurements, it’s really a futile exercise.”



Mike Cline

Panel: Reactions and Implications for Sponsors

Bud Wright, Executive Director, AASHTO; Jeff Paniati, Executive Director, FHWA; Robert Skinner Jr., Executive Director, TRB
Moderator: Michael Lewis, President, AASHTO

Customer focus was a consistent theme throughout all the presentations, Bud Wright said. “We’re talking about nontraditional ways of interacting with our customers and sharing information with them. Parallel to that is the theme of communication. I heard someone say you can’t communicate too much. I think that’s very true, whether it’s with our employees, our customers, or partner entities—communication is the key to what we’re doing. It can’t be a one-way street; it is about us sharing information with our customers and employees and also about our willingness to hear back from them as well. It is very much a two-way proposition.”

Jeff Paniati said that while he liked the idea of using social media in the transportation planning process to learn what the community wants, he wondered if doing this would draw comment only from the vocal minority. “This may just create another version of the same problem. We have to guard against thinking we’ve got a better answer simply because we use a new technology,” he said.

Speaker after speaker talked about the innovative methods state DOTs are using, Robert Skinner said. “One issue we haven’t talked about directly but that is just beneath the surface is the question of just what is our capacity to innovate. As leaders, how many stones can you afford to turn over and deal with? How do you build that capacity? I don’t have the answers, but we need to ask those questions.”

A related subject is the workforce challenge DOTs face, Wright noted. “We have long-standing, highly talented, well-intentioned employees who were hired with different expectations from what is now required to be successful. From what I’m hearing, transitioning those employees is really a new paradigm of expectation for their service. It is a challenge to bring employees along and get them to understand new concepts and new ways of dealing with their business.”

Paniati was struck by the discussion of mobility managers. “We need to think about transit, pedestrians, bikes, rails, ships, and



Bud Wright, Jeff Paniati, Robert Skinner Jr.

freight; we need to think about design, build, operate, and maintain, and this idea of blending planning into operations,” he said. “We need to deal with the complexity and challenges of financing and assembling funding... and by the way, we haven’t been able to give our employees pay raises for five years, yet we need them to do all of this very well. How is this going to happen? We need to figure out if we’re going to deliver on all of these expectations either with the same staff or fewer staff and really rethink the organizational, people side of this to be successful.”

Wright said the planning process is a great example of something that was developed in a different era with a different set of assumptions and a different objective, and “now it doesn’t know how to grapple with operations. I think the huge challenge for us will be to get to the softer-side things and make those innovation processes stick.” This will involve making cultural shifts that last beyond a single person’s leadership and become part of an agency’s culture, he continued. “Employees have to understand and believe that innovation is the expectation...and that becomes a generational thing rather than something tied to a particular leader...the hope is that you have enough success that people see it is something they want to be associated with.”

To get the career employees to own the changes, Paniati added, “you have to let them help shape them. If the staff doesn’t have some ownership, when the next thing comes along, that’s what they’ll turn to. I think the difference is really allowing people to shape [these institutional changes] themselves.”

That ownership has to extend beyond the FHWA: “It has to extend to the state DOTs and all of the transportation constituents,” Wright pointed out. “We are starting to build that foundation but have far from established it completely. We are still greatly a risk-averse enterprise.”

One organizational advantage is that 50 states are solving problems—coming up with 50 approaches that others can emulate, Skinner said. “The flip side, however, is the difficulty in introducing new technologies and new approaches to these 50 different organizations. While I am optimistic...we are hearing as much about innovation as ever among the states...I don’t think we’re close to declaring victory in this area.

“I still don’t think the public, or even the legislature, really understand what goes into operating a highway system,” Skinner continued. “To me, that continues to be one of our communication challenges. If agencies need more resources, part of the way to build that case is to explain this expanding mission in terms that people understand.”

That relates to accountability and credibility to raise public and legislative support, Wright said. “Legislators are drawn to stories about success...and the continuing description that the sky is falling isn’t getting us far. What we need to do is show them what we have done when given the resources to succeed.” One example he pointed to is the doubling of funding for the Highway Safety Improvement Program (HSIP) in MAP-21. “Can we legitimately claim that HSIP was the reason fatalities went down 13,000 to 15,000 over a several year period? I don’t know if it was the sole reason, but it absolutely was a contributing factor...and I think there are other areas where we can show that same kind of success and show the ways we can change peoples’ everyday lives.”

Referencing the 2007 collapse of the I-35W bridge in Minneapolis, Paniati added that “the crumbling infrastructure argument has not gotten us very far either. When there’s an event, yes, there is an immediate response, but it doesn’t do much in the long run.”

Wright said what’s needed is to communicate why transportation is important and link it to the things people care about—that when

people order something on Amazon.com, for example, they get it the next day because of our transportation system. “People take for granted that the transportation system will provide all of the logistics support necessary for that to happen. But it isn’t automatic; it isn’t a given, yet that is becoming an expectation,” he said.

“The return on investment in the transportation system isn’t a better transportation system,” Paniati said. “It’s a better quality of life, a more robust economy, packages sent and received quickly, for example. We need to frame it into those terms.”

“For decades,” Skinner continued, “our message was dominated by the interstate highway system. The benefits of that big investment were thought to be implicit and obvious—that we would enable travel. When that system neared completion, some people believed that the only way the industry could function would be to think of the next big thing. It turns out there is no single next big thing—especially considering this mission expansion we’ve talked about.”

“I think the huge challenge for us will be to get to the softer-side things and make those innovation processes stick.”

— Bud Wright

Conversation Circle: Building on What We've Learned

Moderator: Tom Warne

Question 1: As a leader, how do you institutionalize change beyond your tenure?

“The idea or concept has to be accepted by the entire organization—from the chief engineer and deputy commissioner to the lower levels of the organization,” Christopher Clement (New Hampshire DOT) said. “We as CEOs have to have credibility within all levels of the organization and with the legislature as well. To help me build some credibility with my staff when I came on board, I got my commercial driver’s license and then went out plowing with a driver...I went out with a striping crew, I did some crack sealing... word spread that I took the time to do those things. Building that credibility has helped me move new initiatives forward with the whole organization getting behind them.”

Robert St. Onge (South Carolina DOT) added, “I think you have to put the right people in the right place and invest in and develop them.” There is still the issue of breaking down silos and building teams within DOTs and externally with other partners, he added. “We’ve got to work hard to build those teams...we need to have people talking to each other and understanding each other’s perspectives, and they need to own it.”

Mike Hancock (Kentucky DOT) said one of the things he learned from his predecessors is

that “if you do things that make good sense, they have a much greater likelihood of staying around. Getting these things inculcated in the minds and hearts of the people doing the work means a great chance of survival.”

“It can’t be about you as the secretary of transportation,” Shailen Bhatt (Delaware DOT) said. “We’ve been talking about performance management in Delaware and had a couple of different constructs as to how we could roll it out. We decided that rather than it being Secretary Bhatt’s initiative, we made one of our bright young engineers, who came up through our organization, the chief performance officer. By giving it to her—someone everyone knows and respects—it’s now her thing and she’s the face of it. If it was just my thing, it might die to a certain extent if I left.”

Mike Tooley (Montana DOT) explained that when he joined the department in January 2013, he discovered that there were 14 strategic plans—one for each division. “There is no one single, guiding document,” he said. The leadership team is fragmented, and there are many silos. “Engineers build roads...but then we turn it over to maintenance until that road needs to be replaced again, and these two never talk.” He sees an opportunity to improve in this area and make institutional changes that can last.

“I think you have to put the right people in the right place and invest in and develop them.”

— Robert St. Onge



Shailen Bhatt, Debra Miller

At the Florida DOT, the challenge is to get each of its seven districts to operate consistently, Brian Blanchard said. “When people come to Florida to do business, they don’t want to go to Tampa for a permit issue and then go to Miami and get a different answer,” he explained. “The agency is trying to be bold and innovative in institutionalizing consistency into the process.”

Question 2: What have you done to groom the up-and-comers in the organization—who will eventually be the leaders of your organization—to make them part of the whole change management process?

John Halikowski (Arizona DOT) explained that in 2010, he noticed that ADOT had very few employees ready to step up to the executive management level. “We realized our organization wouldn’t survive if we kept going down that path, so we needed to start grooming future leaders.” ADOT has since begun holding one-week leadership seminars and is now putting together a leadership education plan to be taught by the executive team. The hope is to use this plan to train each of ADOT’s 720 managers and supervisors over the next three years.

Terry Bellamy (District DOT) said that when he joined his department, most of the senior engineers couldn’t review designs online. To address this, DDOT created “d.university” (<http://ddotuniversity.org>) to help train staff to meet current knowledge needs. “We were archaic...most of our staff came from the old public works environment and many of them got their jobs by political appointment.” Today DDOT actively seeks only the best and brightest talent and is willing to educate staff through “d.university” to move its workforce to the next level. “It is challenging and time-consuming, but our hope is to create a very innovative DOT,” he said.

Question 3: What is your DOT’s approach to outsourcing in response to workforce challenges and program delivery needs?
FDOT outsources about 80 percent of its

maintenance work today and is moving to increase that share to 90 percent. “We get employee buy-in through attrition, not downsizing,” Blanchard added.

“I think FDOT’s diamond-shaped organization is something all DOTs eventually will face,” John Njord said. UDOT combined its construction staff with its maintenance staff and now calls that group collectively trans techs. “We told them that over time they will move from the doers of work to overseers of work to decision makers where middle managers are directing contracts...this has been by far our most challenging effort...people who come on as truck drivers or mechanics often resist this change,” he said. “But this also has been rewarding...we challenge people to do more than they think they are capable of, and when they succeed, they get it.”

Mike King (Kansas DOT) explained that he is the first DOT secretary in Kansas with a general contracting background. “When we talk about outsourcing, I take the perspective of, would [a general contractor] want to bid on that contract? We are outsourcing more because we can identify specific contracts. We also look at our core mission, the idea of which is to do some things well rather than many things marginally, and I think this has improved employees’ self-worth and confidence.”

James Redeker (Connecticut DOT) admitted, “I am jealous, in some sense, of the outsourcing capabilities others have embarked on. When we received design-build authorization a year ago, it came with a hook: I had to eliminate all outsourcing from the design services group and have only in-house employees do all of that work.” Redeker is hiring more people to do more work in the coming budget year, but the hiring and training process takes time, and the design-build/contract management experience does not yet exist. “This has to be built from ground zero, but the law says I have to eliminate all contractors,” he said.

David Bernhardt (Maine DOT) explained that over the last six years, his department has lost 450 people yet is doing the same or even more [work] because it has relied on more outsourcing. “We recently outsourced all of our parts supplies to NAPA Auto Parts. We sold this to our maintenance side by explaining how this move saves \$2 million a year, and we will give that money back to that department to use.”

Kirk Steudle added that two years ago, the Michigan DOT went through a solid top-to-bottom reorganization resulting in a 15 percent staff reduction. “This made people think about the things we should not be doing any more. Our job is to make sure maintenance, for example, gets done on the citizens’ behalf, but we don’t have to necessarily do that work ourselves. We are close to [outsourcing more] but we still have some political obstacles to overcome.”

Three years ago the Missouri DOT started belt-tightening that included a 20 percent reduction of FTEs (full-time equivalents), 131 facilities including three district offices, and more than 700 pieces of equipment, all under the direction that the agency needed to outsource more, Mara Campbell said. The message to the public was “we’re willing to tighten our belts first, and we’re actually right-sizing the DOT,” she explained. “So, when we closed facilities and offices down, we didn’t get backlash.”

“In some cases I would argue outsourcing is not always best,” Halikowski said. For example, he explained how private firms ran a program in which signs along highways advertised businesses. “ADOT didn’t pay for that service, but we didn’t get any benefit out of it either. We looked at the [revenue] the vendors were making from the logo sign program and realized we could net \$3 million a year by taking that service back in house, which is what we did. This is one case where privatization was not working to our benefit.”

Question 4: What are your leadership challenges dealing with internal and external politics?

Mike Lewis explained that when he became the agency’s CEO, the Rhode Island DOT had a bad reputation from the public’s perspective, partially due to a lack of leadership and partly because of its relationship with the contractor community. “There was a terrible relationship between the DOT and construction industry...and we started holding [construction companies] accountable. We began using better metrics to demonstrate how our change order rate dropped or our on-time performance improved, for example.” While it was an education process to inform the legislature and discuss what is important to it and its constituents, eventually RIDOT improved its reputation with these groups, and the agency was able to move forward. “Much of this was because we had the metrics to show the performance improvements,” he said.

When Bhatt joined the Delaware DOT, “we owed \$1.2 billion as an agency, which was a big deal for a small state like Delaware—36 percent of our operating budget was going to our debt service. We decided to stop the borrowing...and eventually dropped our debt service down to 33 percent; we’d like to get it down to 20 percent. We’ve freed up \$15 million from debt service that is now going into projects, yet I still hear from some...that money is cheap, so go borrow more. But to me, just because you’ve paid off one of your four maxed-out credit cards doesn’t mean you go out and max it out again because money is cheap...from a good governance standpoint, this thought is startling to me.”

“I think there is a place for borrowing and financing projects,” Lewis replied. “But now, when we want to propose a capital program with borrowing, we’ve created the belief that it is a bad idea. There is a place for it, but we need to figure out where that pendulum is.”

“Most of us would go out and borrow money to buy a house,” Bhatt pointed out, “but most would not go out to borrow money to pay for a lawn-mowing service because that’s maintenance and operation. That’s when we slide down the slope: when your borrowing is not going for things...some states are borrowing money to pay their debt service.”

Question 5: What do you in your organization need to continue this evolution to the 21st century DOT?

“If my DOT were a private company, I would want to find the best company out there and model my business after that,” Bhatt said. “So, I need a blueprint of best business practices or the best whatever, and I’m almost like a franchisee where I take that model and run it.”

Clement suggested, “Why don’t we use each other and standardize as much as possible? In manufacturing, standardization is king. We need our federal partners’ help to identify what those five things are, for example, and which states are doing what things best and then use those states as the model for the rest of us.”



Tom Warne, Pete Rahn, John Halikowski

Closing Remarks

Hyun-A Park, Principal, SpyPond Partners, and chair, Transportation Research Board Management and Leadership Section

“The main theme I heard throughout the forum was communicate, communicate, communicate.”

— *Hyun-A Park*



Hyun-A Park

Hyun-A Park summarized the discussion themes from the past two days. “We are here because we want to make improvements and do better to influence our world around us,” she said. “A lot of speakers talked about the various forces at work changing DOTs—changing missions as well as structure. We’ve discussed how technology is changing behaviors—people not having landlines but using cell phones instead, for example. We’ve talked about globalization and thinking beyond your state and agency boundaries and how a changing funding landscape, an aging population, even a changing climate affect what we do. These forces are making us think about how we can and have to do things better.

“We have discussed opportunities and making strategies work,” Park continued. “There seems to be a lot of strategic planning going on, but the issue is making strategies count... thinking long-term and being proactive, not reactive, and thinking about lasting changes. These are the real opportunities we must focus on.

“We’ve heard a lot about innovations and adopting technologies to do things simpler, faster, better by integrating data, using social media, improving construction methods and materials, for example. We touched on governance issues on the innovation side, meaning the boundary issue of how you get things done, and that how you do things today is different from what you did yesterday,” Park explained. “You have to partner more and really think out of the box to work together to address what your customers need. You have to change your culture and empower your staff—and find ways to harness that power and energy and make it work for you.

“The main theme I heard throughout the forum was communicate, communicate, communicate,” she continued. “We’ve all heard this before, but it is growing in impor-

tance, maybe because we live in the social media world. Communication has to be an ingredient to your success. We heard a lot of examples from various states that you can take back to your DOTs to help motivate you and your staff to do things a little differently. And along those lines, we discussed the issue of knowledge transfer and sharing and not reinventing the wheel. This is one of the benefits of this gathering.

“Our communication discussions often shifted into talking about the customers,” Park noted. “This is an area where I think DOTs do the talk and not the walk; you have an understanding, but what does it really mean to connect with your customer and understand them? The MnDOT online community was an excellent example of connecting with customers in a meaningful way. We heard about how UDOT asks the business community what it can do for them. Those are the kinds of connections that help gain an understanding of what our customers want, which then transfers into also gaining their support.”

Money came up several times in the conversation, but these conversations were not solely about how to get money. “We all know money is an issue; it’s embedded in what we do, but it is just an ingredient,” she said.

Park shifted gears to discuss the agenda for the working group sessions taking place the following day. “We want you to work together to generate ideas and come up with a research and action agenda for AASHTO, TRB, and FHWA that can help influence national leaders,” she explained. She asked participants to think about the following questions leading into the action planning sessions:

- Why, not what? That is, why do we have a transportation system—not what is a transportation system?
- Which innovations—tools, techniques, and

process improvements—will work best for DOTs? What are the ways you can translate and transfer successes across states? How do you make all of these innovations more commonplace?

- What are the ways you can be effective in the long run and leave a legacy?

“You have to have a vision as a group of where you want to go,” Park said. “You need

to talk as AASHTO together and think about how to establish your collective vision. Your force together is much more powerful than each of you alone. You must institutionalize the process of setting a vision and sticking to it so you achieve the results you set out to. Keep at it and remember that some failures along the way will be part of it. And know that national research and action does make a difference.”

Large-Group Brainstorming and Working Groups

Facilitators: Hyun-A Park and Gina Baas

The final day of the forum consisted of large-group brainstorming and working-group sessions to develop research and action plans. The three working groups came up with ten draft action plans, listed below and detailed on pages 28–29.

Working Group: Workforce

1. Developing effective knowledge management strategy
2. Nurturing a DOT culture of innovation
3. Preparing DOTs for the future workforce
4. Learning how effective employee engagement builds customer satisfaction

Working Group: Communications

5. Creating an effective messaging campaign on the value of an effective transportation system
6. Using scenario planning to understand evolving DOT roles

7. Developing a customer survey tool to help DOTs organize and prioritize their resource allocation

Working Group: Cross-cutting

8. Updating the AASHTO strategic plan
9. Enhancing DOT freight market research and partnerships
10. Learning from the private sector about responding to market change

Speaking for all the participants, Mike Lewis said the proposed action plans can help DOTs continue to improve their ability to serve the public, provide effective stewardship for the public’s investment in transportation, and maintain crucial support for future economic and social well-being. Lewis expressed confidence that AASHTO and its partners will use these proposals as they undertake future research and develop management policy.



The final day of the forum consisted of group brainstorming.

Action Plans

Workforce

1. DEVELOPING EFFECTIVE KNOWLEDGE MANAGEMENT STRATEGY

Description:

- Best practices academy
- Suite of ideas that the BOD can select from
- State DOT staff engaged as instructors

Goal: Getting transformative best practices

2. NURTURING A DOT CULTURE OF INNOVATION

Description: Benchmark a number of companies (both new and mature) to see how both private sector and public sector generate and create a culture of innovation. Investigate how to reinvent transportation agencies so creativity and innovation are paramount.

Goal: Change the culture of transportation organizations to be more innovative

Desired products and outcomes: Framework report and possible template of implementation; key communication and messaging needs to be a key component

Suggested Roles (AASHTO, FHWA, TRB): TRB and FHWA to conduct the research

3. PREPARING DOTs FOR THE FUTURE WORKFORCE

Description: Review and analyze how companies engage, retain, and hire employees. How best to identify the competency a DOT needs and creatively engage the right skills to move the transportation industry forward. Look for ways to creatively compensate employees and package work that is directed for different workforce needs (like a project instead of division).

Goal: Agile workforce that works differently, supervises differently, thinks differently

Desired products and outcomes: Compilation of best practices that identify how to engage, retain, and hire these new nimble employees. Matrix of competencies and skills for a successful workforce for the future.

Suggested roles (AASHTO, FHWA, TRB): TRB, AASHTO Standing Committee on Finance and Administration, and FHWA to conduct the research

4. LEARNING HOW EFFECTIVE EMPLOYEE ENGAGEMENT BUILDS CUSTOMER SATISFACTION

Description: Identify the best practices of what type of environment motivates staff (at all levels) and how to truly engage transportation DOT employees. What techniques are most effective, how does true engagement work, and how does it correlate with customer satisfaction? How to “discontinue” engagement efforts that aren’t really providing desired outcomes.

Goals: A more effective and productive workforce that feels fully engaged and wants to remain a DOT employee—creating DOT ambassadors!

Desired products and outcomes: Compilation of best practice tools that include communication and messaging that works.

Suggested roles (AASHTO, FHWA, TRB): TRB and FHWA to conduct the research.

Communications

5. CREATING AN EFFECTIVE MESSAGING CAMPAIGN ON THE VALUE OF AN EFFECTIVE TRANSPORTATION SYSTEM

Description: Mobilize transportation partners; develop a multimedia campaign to educate the public based on the market research; big investment, long-term; message could include the value of transportation investment to the economic well-being of the country

Goal: Raise the awareness of the general public on the value of the transportation system

Desired products and outcomes: Primer on commodity advertising campaign—develop a series of case studies, including levels of investment and return on investment, examples of technique; multimedia public service campaign; toolkit for states to utilize the messages and strategies (possibly model after NHTSA’s traffic safety marketing division)

Suggested roles (AASHTO, FHWA, TRB): AASHTO Subcommittee on Transportation Communication; AASHTO TRAC/RIDES program

6. USING SCENARIO PLANNING TO UNDERSTAND EVOLVING DOT ROLES

Description: Utilize the MIT scenario planning model and have it focused on the mission and direction of the transportation industry. Incorporate the outcomes of the NCHRP 20–83 efforts.

Goals: Educate CEOs on what the future of transportation could be and what the driving forces facing DOTs in the future will be.

Desired products and outcomes: Scenario exercise of what DOTs would look like and what their mission might be in 2040

Suggested roles (AASHTO, FHWA, TRB): AASHTO Board of Directors

7. DEVELOPING A CUSTOMER SURVEY TOOL TO HELP DOTs ORGANIZE AND PRIORITIZE THEIR RESEARCH ALLOCATION

Description: Develop a fact-based data set on transportation customer expectations

Goals: Anticipate the future – understand where we are going; organize state DOTs effectively; prioritize resources

Desired products and outcomes: Review of market segments; toolbox to conduct research by state

- How to organize
- How to allocate

Suggested roles (AASHTO, FHWA, TRB): AASHTO Subcommittee on Transportation Communication

Cross-cutting

8. UPDATING THE AASHTO STRATEGIC PLAN

Description: Develop a strategic plan that defines AASHTO's direction and role and how it is going to achieve its strategic goals.

Goals:

- Engage members and get input
- Understand customers' and partners' perception
- Define role in national transportation policy
- Create AASHTO's work plan for next five years
- AASHTO convenes state DOTs to develop collective view

Desired products and outcomes:

- AASHTO Strategic Plan
- SWOT exercise
- Clear understanding of AASHTO role and strategic directions (e.g., transportation policy)
- Identify potential income streams for AASHTO

Suggested roles (AASHTO, FHWA, TRB):

- AASHTO leads

9. ENHANCING DOT FREIGHT MARKET RESEARCH AND PARTNERSHIPS

Description:

- Coordinate state DOT position on freight
- Convene focus group with rail, trucking industry, logistics people
- Work side-by-side with USDOT

Desired products and outcomes: Develop understanding and expectations of the multimodal freight network from the customer's perspective

Suggested roles (AASHTO, FHWA, TRB):

- AASHTO leads

10. LEARNING FROM THE PRIVATE SECTOR ABOUT RESPONDING TO MARKET CHANGE

Description: Case studies on how private-sector missions have evolved over time and how that evolution has changed their culture, organizational structure, employee staffing, and product lines. How can DOTs learn from the private sector as the industry is evolving from construction oriented to mobility managers to economic leaders?

Goals: Raise awareness of how important it is to evolve with changing times and needs

Desired products and outcomes: Case studies of mission evolution from other industries

Suggested roles (AASHTO, FHWA, TRB):

TRB to conduct the research

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Appendix:

White Paper Executive Summaries

The full white papers are available for
download on the AASHTO website:
transportation.org

Disclaimer

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State DOT Mission Evolution

Prepared by:
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This paper highlights the challenges faced by six state departments of transportation (California, Colorado, Florida, Massachusetts, Missouri, Oregon) and the views of their respective chief executive officers within the context of national trends. Each CEO has extensive experience within his department or in a transportation-related segment of the private sector. Collectively they have 126 years of practice in transportation.

The paper explores the remarkable transformation of the modern DOT from its roots as a public works road department to the multimodal engine of today by examining the mission statements of all 50 states and the organizational structure of 30 states. It then looks at specific challenges DOTs face and some changes they are implementing. For example:

1. The growing demands to become more intermodal and supportive of economic development—without accompanying resources—is exasperating to the six CEOs, a view shared by many other DOTs.
2. The funding gap for surface transportation is large and growing, as deferred maintenance and mounting congestion create an expanding backlog of needed work. Twenty-five states are now publicly discussing how to increase funding to transportation, ranging from \$500 million to \$3 billion annually.
3. The CEOs all report having to increase their emphasis on operations and maintenance in the absence of resources for construction and reconstruction of their aging networks.
4. Over the course of the last two decades, DOTs have greatly expanded their communications efforts to engage the traveling public.
5. Nearly all the state DOTs have now implemented traffic management centers to manage their systems more actively.
6. Many DOTs are relying more on the private sector for traditional DOT services, and nearly all would like to utilize public-private partnerships to help fund large

projects that can no longer be afforded with existing resources.

7. The CEOs share their views on emerging responsibilities and what a state DOT could look like in its next iteration. All six are concerned about the preparedness of their DOT staff to create a more business-oriented department that can engage the private sector and ensure the taxpayer is getting value. They unanimously stressed a need for succession planning within their organization.

Technology and Business Practices that Work

Prepared by:

Thomas R. Warne, PE

Tom Warne and Associates

Salt Lake City, Utah

This report highlights exciting activities in five states today that have potential for implementation in other departments of transportation. The variety is impressive, and the sense of innovation inspiring.

In Florida, deliberate decision-making, technical engineering, and process changes save the state millions of dollars. Florida is also a leader in pushing the envelope on social media and communications strategies. Minnesota is thinking like a private enterprise and sees risk management in ways that even many private sector firms don't. Its Destination Innovation and Ombudsman initiatives create value both inside and outside the agency.

North Dakota is an example of how a state DOT has had to "remake" itself and its transportation paradigm to accommodate the transformational experience of the oil shale boon. Not everyone will have an oil shale boon, but the lessons learned by North Dakota's response are informative and useful.

Utah is in the business of connecting systems and people and innovating project delivery methods. Don't say that Utah can't connect two different systems together, because the DOT probably can, and the results will be powerful. Utah is also exploring boundaries of transparency and connectivity that are impressive and worth considering. Washington is pre-tolling its SR 520 corridor and getting people to pay for something that they don't even use right now. It is a compelling story of managing capacity in new and impactful ways and getting public acceptance for innovative thinking.

In addition, WSDOT's electric highway is a model for other states to follow, and the lessons learned will be useful to all who tread that path.

None of these states can be accused of sitting back and just letting the world go by. Of note is the fact that each of these

innovative activities is in place and being used today. They are not being "beta" tested and are certainly a long ways from the drawing board. The good news for other state DOTs is that these innovations can be taken and implemented without further testing or evaluation. They work, and each one has proven results.

The Evolving DOT Enterprise: Today Toward Tomorrow

Prepared by:
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Departments of transportation (DOTs) today are being shaped by a wide range of factors—some of which are directly managed and controlled within the transportation industry while others are external factors shaping the demand for transportation services. Singularly and in combination, these factors are shaping the way DOTs mobilize to address the nation's transportation challenges:

- 1. It's still the economy, stupid.** Though public priorities tend to change over time, the American public is still highly focused on restoring jobs and strengthening the economy. Investing in transportation infrastructure is overshadowed by other competing priorities that the public views as more important.
- 2. Transportation legislation is all about revenue with a few innovations thrown in.** In recent years, transportation legislation has focused on maximizing limited resources and exploring new sources of revenue. Major legislation has included fuel tax increases, new taxes on alternative fuels and electric vehicles, and public-private partnership (PPP) authorization and expansion. Legislators have also expressed significant interest in innovative funding mechanisms, devolution of state responsibilities to local governments, and blue-ribbon panels.
- 3. Belt tightening continues, but are our belts as tight as we think?** The temporary injection of funding from the federal stimulus notwithstanding, all 50 states face a shortfall between existing transportation revenues and their projected financial needs. However, transportation expenditures actually grew by 6.5 percent between fiscal years 2009 and 2010. Several trends among state DOTs have emerged or been exacerbated during the past several years, including increasing reliance on general funds for transportation purposes, and increased discussion and review of PPPs and of tolling.
- 4. Our population is becoming older, more urban, and more diverse...and it matters.** Between 2010 and 2050, the U.S. population is projected to grow from 309 million to 439 million, an increase of 42 percent. The U.S. population is becoming older, more racially and ethnically diverse, and increasingly urban and with different transportation priorities.
- 5. Climate change, is it back?** Many states have developed climate action plans, mode shift goals for biking, walking, and transit, and vulnerability assessments, and have also joined climate action councils in conjunction with other state agencies. In fact, 38 states have at least some documentation regarding climate change and its impact on state DOT activities. But much of this activity began before 2009, before climate change became politically toxic. With the hottest year on record and three 100-year storms in two years on the east coast, will the climate discussion be re-engaged? It certainly has been on the east coast but perhaps not in other regions of the country.
- 6. DOTs align with 21st century priorities.** Some DOTs have decentralized core functions while others have focused on cultural change and becoming more customer-centric. Key trends include a shift toward hybrid silo/workflow-based organizational designs that promote nimbleness, efficiency, innovation, better alignment with generational work culture changes, and an increasing focus on outsourcing and privatization.
- 7. Performance is the focus.** State DOTs are increasingly using performance management. However, the state of the practice varies considerably. Performance management provisions introduced in MAP-21 have established new requirements for performance-based statewide and regional long-range plans, but will the states' approach connect with the audience?
- 8. DOTs need different skills today.** The nation is shifting to a knowledge-based economy that relies on skilled talent, innovation, and unique capabilities to create a competitive advantage. At the same time, employees are moving away from more permanent, lifetime jobs toward less permanent, nonstandard employment relationships (e.g., self-employment) and work arrangements (e.g., telecommuting). State DOTs face an increasing percentage of workers eligible for retirement, a limited number of younger replacements, and hiring limitations imposed by budget constraints. As the role of the DOT evolves, so do the skills required of the DOT workforce.

Perhaps the biggest factor creating change is socially/culturally driven, having transformational effects on how people spend their time, their expectations of public and private sector service providers, and their view of government. This change has been manifested in:

- A distrust of institutions and a suspicion of experts;
- An expectation for communications/information 24/7;
- An expectation for a role in decision-making;
- A desire for authenticity.

The most successful DOTs are/will be those that recognize the cultural element that is pushing them to change and, as a consequence, change in ways that are responsive to those cultural elements. Interviews at five state DOTs—the Minnesota, Michigan, New York, and Iowa departments of transportation and the Kentucky Transportation Cabinet—provide examples of how DOTs are pursuing interesting new approaches that are having a big impact:

- 9. Minnesota DOT’s Online Customer Community**—Commonly used in the private sector to understand consumer markets, the Minnesota DOT (MnDOT) has created the nation’s first public-sector online customer community (OLC) to explore a range of transportation topics with a representative sample of the Minnesota public. The OLC facilitates dialogue between MnDOT and the Customer Community as well as communications between members of the community. As a supplement to other forms of community engagement, MnDOT has found considerable value in the OLC’s ability to get public feedback on topics that would have taken months to plan and execute previously.
- 10. Social Media and the Iowa DOT**—The Iowa DOT has embraced the use of social media as a way to facilitate conversations with the public and provide real-time travel information. The DOT has developed several mobile applications, with more in the works, that help people make more informed transportation choices.
- 11. Open Data**—Making certain public agency data freely available to the public has led to the development of

some innovative, consumer-friendly applications at no cost to the agency. Open data can harness the creative energy of others to develop useful applications as well as to analyze data in a way the agency may never have had the time or resources to consider.

- 12. Performance Reporting**—For public agencies, the ability to connect to and communicate with the public is no longer a “good” thing to do—it is an absolute necessity if the public agency is to develop and retain the credibility that is critical to accomplishing its mission. A recent report prepared for the Federal Highway Administration (FHWA) provides lessons learned about what interests audiences about transportation and the principles of data visualization and design.
- 13. State DOTs: Putting the Customer First**—State DOTs are finding new ways to interact with the general public and are recognizing that being customer-centric requires culture change at the DOT and new ways to communicate with customers. Case studies from Michigan, New York, and Kentucky provide examples of ongoing changes within the transportation departments to embrace a more customer-driven focus.

“2010 State Expenditure Report,” National Association of State Budget Officers, 2011. <http://www.nasbo.org/sites/default/files/2010%20State%20Expenditure%20Report.pdf>. Accessed November 15, 2012.

U.S. Census Bureau. *The Next Four Decades, The Older Population in the United States: 2010 to 2050*, May 2010.

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