



Fostering Innovation within State Departments of Transportation

Requested by

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Executive Summary

Background

A January 2014 report commissioned by the California State Transportation Agency (CalSTA) found that Caltrans “is in need of modernization—both in the way it sees its job and how it approaches that job—and of a culture change that will foster needed adaptation and innovation.” While the department has already taken strides to address the report’s findings, as documented in a December 2014 follow-up report, Caltrans is seeking to better understand organizational structures, methods and approaches that are used by other agencies to promote cultures of innovation.

The central focus of this Preliminary Investigation is innovation at other state DOTs. We conducted an initial literature search to identify states with noteworthy practices and strong innovation cultures. Based on these findings, Caltrans selected target states for CTC to contact and interview in depth. In addition to state DOTs, this Preliminary Investigation also examines leading practices in and beyond the public sector.

Summary of Findings

Innovation at State DOTs

Initial research and conversations with the Caltrans customer team helped to identify state DOTs that appeared to have noteworthy innovation cultures. We interviewed representatives from target states selected by Caltrans. Findings from interviews with Arizona, Florida, Louisiana, Minnesota, Missouri, Pennsylvania, Texas and Washington State are detailed in the body of this Preliminary Investigation. Below we summarize key points and repeated themes from the interviews.

- **Leadership support of innovation.** Most DOTs we spoke with cited the importance of support by agency leaders. Continuity of support, even as executive leadership changed, was called out by Florida, Louisiana and Missouri as contributing to program success.
- **Strength of ingrained innovation cultures.** Those we spoke with also noted that a well-ingrained culture of innovation can transcend changes in leadership. In Washington State, executive changes often lead to different strategic priorities, but innovation is still applied to meet those priorities. Our contacts in Missouri said innovation is so ingrained in the agency culture that there isn't a policy or a drive to ensure that it happens.
- **Crowdsourcing innovative ideas.** Many states described tools used for collecting innovative ideas from all agency staff: Idea Lab (Arizona), Innovators! Task Team (Florida), Operation 57 (Louisiana), Innovation Jam (Minnesota), Innovations Challenge (Missouri), IdeaLink (Pennsylvania), and IdeaWorks (Washington State). These programs have processes in place for upper-level review to determine feasibility and required next steps to put the suggested innovations into practice.
- **Implementation champions.** In Louisiana, those who suggest innovations are expected to champion implementation of change. Likewise in Minnesota: “We don’t just want idea people; we want people who will be responsible for making ideas into reality.”

- **Safe environment to try (and to fail).** Innovative DOTs understand that risk and failure are necessary components of innovation. Part of Minnesota’s value to “Be Bold” includes the statement: “I Take Risks and Accept Failure. I will use my failures to identify ways to get better.” In Washington State, such understanding of failure does not eliminate accountability, but it does require a tolerance for risk.
- **Tools and processes.** According to Pennsylvania, beyond having a culture that supports innovation and risk taking, DOTs also need to give employees the resources and opportunities to explore innovative ideas. Washington State likewise stressed the importance of resources as well as access to information to support innovation.
- **External opportunities.** Minnesota and Washington State both mentioned that having employees involved in national dialogue (such as AASHTO and TRB committees) or engaged in opportunities beyond their typical duties helps foster creative thinking and exposes staff to innovative solutions. Texas also looks carefully at other state DOTs’ innovative practices.
- **Caltrans as an innovative agency.** Interviewees from Minnesota, Texas and Washington State called out Caltrans as an agency they view as being innovative.
- **Recognition/reward for innovation.** Public agencies cannot match private industry in financially rewarding innovation, and those we spoke with did not expect public servants to be similarly driven by financial reward. Missouri’s Innovations Challenge provides a small prize (\$75) to the competition winner. Beyond that, high-level recognition is most commonly used by DOTs to reward innovative excellence. Pennsylvania described innovation as self-rewarding when employees are properly engaged.
- **Risk management.** Managing risk is a necessary component of innovation. Missouri is “willing to try anything” that has practical value and can be replicated as long as it doesn’t put people at risk. Washington State noted, “We couldn’t do what we do without Risk Management backing us up and being engaged. They’re innovative in their own right.” In Minnesota, a senior leadership team assesses risk and determines what risks the agency is willing to take with new innovations.
- **Support of strategic plans.** Washington State discussed innovation as a way to support the agency’s strategic plan. Likewise in Texas and Louisiana, innovation was seen as a key ingredient in the multiyear transformational changes ongoing in those organizations.
- **Research support.** Formal research programs can help address innovation opportunities raised through grassroots efforts (like the crowdsourcing methods described above).
- **Performance measurement.** Louisiana and Missouri both discussed trying to quantify the percentage of research projects implemented as a measure of innovation. The difficulty in doing this, however, is that if the implementation rate becomes very high, does that imply that the agency isn’t taking enough risks in its research?
- **State Transportation Innovation Councils (STICs).** Pennsylvania sees its STIC as an external source of innovation complementary to internal implementation efforts.

Key supporting citations supplementary to these interviews appear throughout the section:

- The Smart Growth America/SSTI report *The Innovative DOT: A Handbook of Policy and Practice* highlights Missouri and Minnesota in the section titled “Improve Agency Organization and Initiate Cultural Change.”
- A 2010 Minnesota DOT synthesis report highlights state DOTs that facilitate, track or reward innovation; it highlights standout activities for Arizona and Louisiana.
- A 2013 TRB paper features Minnesota’s Destination Innovation program.
- A 2013 FHWA article on State Transportation Innovation Councils discusses Pennsylvania DOT’s Next Generation initiatives, which include policies, processes and procedures aimed at creating “a culture of continuous improvement.”
- Michigan DOT’s latest strategic plan describes its “Wildly Important Goal” for 2015-2016: to increase the agency’s capacity to innovate.

Innovation in the Public Sector

United States

A report from the IBM Center for the Business of Government, *A Guide for Making Innovation Offices Work*, examines in detail public sector innovation offices at the city, state and federal levels. The study presents six different models of how an innovation office can operate and provides key considerations and success factors for implementing an innovation office.

National transportation innovation in the United States is featured in FHWA’s *Innovator* periodical, which highlights the best examples around the country from among federal programs like Every Day Counts (EDC). A 2013 EDC report specifically addresses the building of an innovation culture in the 21st century; the report is intended to serve as “a resource for the highway community as it develops a new business model to encourage ongoing innovation in managing highway project delivery.”

The Partnership for Public Service’s report on the most innovative agencies in the federal government further adds to the discussion of innovative culture in the public sector.

International

A policy brief by the European Commission Innovation Union outlines the “need to change the organizational culture of the European Commission to equip it better in driving the future of research and innovation in Europe.”

Australian Public Services’ *Public Sector Innovation Toolkit* assists “individual public servants, public sector teams and agencies who want to increase the extent and effectiveness of their innovation efforts.” The agency also presents a website listing “ten guiding principles for building innovation in public sector agencies.”

Research

Three recent research citations on innovation in the public sector discuss innovation culture further, addressing employee empowerment, managerial autonomy, and the roles of feedback, accountability and learning.

Innovation in the Private Sector

Private sector and general innovation principles were reviewed in brief. Citations include a research citation on Schein's "multilayered" model, an article in *MIT Sloan Management Review*, a book on innovation lessons from CEOs, and two websites from the vertical construction industry: the Construction Industry Institute and Fiotech.

Gaps in Findings

- There are certain to be other examples of noteworthy practices in fostering implementation among the DOTs we did not interview, and possibly different perspectives from other representatives at agencies that we did speak with.
- We heard in some cases that innovation was a work in progress (Florida's Innovators! Task Team, Arizona's Idea Lab, Louisiana's Operation 57, Texas' agency overhaul). This Preliminary Investigation is a snapshot in time that cannot capture the full effect and impact of programs that have not come to full fruition.

Next Steps

The interviews with state DOTs focused more on the "what" than the "how" of those agencies' innovation programs. If Caltrans is interested in exploring some of the tools used by other state DOTs, the contacts interviewed in this Preliminary Investigation expressed a willingness to provide further details on how they put the principles into practice. They can also answer any questions raised by the summaries of our interviews.

Caltrans might also find it informative to look at the IBM Center for the Business of Government's report *A Guide for Making Innovation Offices Work* in detail to see where its own innovation processes fit among the models presented and how its own activities align with the authors' suggested "success factors for building and sustaining effective innovation offices."

Innovation at State DOTs

We conducted an initial literature search of innovative practices and programs at state DOTs. Discussions with the Caltrans customer team helped inform the team's selection of the agencies to interview.

We reached out to contacts in the target states by email, seeking to find a time to speak by phone about the following broad questions:

Caltrans is interested in learning about organizational structures, methods and approaches to innovation at your agency. Areas Caltrans would like to address include:

- *How does your agency define “innovation” and “innovation culture”?*
- *What specific practices and policies have been enacted to promote innovation at your agency? These might include:*
 - *Organization and management structures and principles.*
 - *Funneling, selection and implementation of innovative ideas.*
 - *Employee hiring, training, recognition and reward.*
 - *Risk management.*
 - *Leveraging of the research program.*
- *How successful have efforts been? What are the performance measures?*
- *What external models (from other DOTs or elsewhere) has your agency tried to follow?*

We also requested that our contacts point us to the right person to speak with if agency-wide innovation is spearheaded by an office other than theirs.

Summaries of our interviews with each of the states follow below. Repeated themes and key points drawn from this commentary are presented in the Executive Summary of this Preliminary Investigation. Supporting citations appear in the discussions of the individual states below.

An analysis of findings for each state by category (established division, office or program; policy; functions or initiatives; training and networking; resources; and communications) appears in [Appendix A](#) in a table created by Caltrans.

Arizona Department of Transportation

Contacts:

- Anne Ellis, Assistant Deputy Director, 602-712-6910, aellis@azdot.gov.
- Vincent LaBella, Manager, Leadership and Employee Engagement Program, 602-712-8167, vlabella@azdot.gov.

Research Citation

Developing a Culture of Innovation, Minnesota DOT, Transportation Research Synthesis, February 2010.

<http://www.dot.state.mn.us/research/TRS/2010/TRS1003.pdf>

This synthesis report conducted for Minnesota DOT, which is cited in detail in the Minnesota section of this Preliminary Investigation, noted Arizona DOT as a standout in facilitating innovation: “Arizona DOT ... has a Partnering Office and a process for establishing champions and fostering cooperation between groups, internal and external.”

Interviews

We interviewed both Ellis and LaBella, who described aspects of the agency’s innovation culture.

Leadership and Employee Engagement Division

In the last three years, Arizona DOT launched a Leadership and Employee Engagement (LEE) program, whose success led to the formal establishment of LEE as an agency division with a staff of eight people led by Vincent LaBella. Some accomplishments of LEE include:

- Idea Lab, a new initiative to give innovative ideas a forum. Suggestions can come from anywhere in the DOT, and the right people are brought together to ask questions, work through the “bumps and kinks,” and see if the innovations are feasible. One product of Idea Lab moving forward is an internal wiki to capture agency knowledge in an easy-to-access web-based format. (Ellis noted that Idea Lab itself bubbled up as an employee suggestion; LaBella noted that Idea Lab is still ramping up, and full implementation may vary from the original strategy.)
- Ideas with Legs, an opportunity to join leaders on a daily walk and discuss new ideas of possible interest.
- Training of more than 700 agency staff to date with Tom DeCoster, Director of AASHTO’s National Transportation Leadership Institute. Leaders, managers and even high-potential non-managers have been trained to share a common vocabulary and expectations about ADOT as forward-looking and expecting innovation.
- Inclusion of a formal buddy and mentor system as part of employee training and orientation. This is helping change workplace expectations and make people more comfortable and less risk-averse, which leads to more innovative behavior.
- Women’s Innovation Network, which gathers women on a monthly basis to address topics through speakers and lunch-and-learns; the program recently won national recognition.
- *Ignite* newsletter, which is designed to share the director’s message, provide agency-wide communication, spark innovation and recognize people who have gone above and beyond.
- LaBella noted that his staff’s job is to provide experiences that engage employees because engagement leads to better communication, innovation, knowledge sharing and skill development; to capture great ideas; and to bring interesting findings to leadership. “Nothing happens in a vacuum,” LaBella said.

Leadership support

Both Ellis and LaBella stressed the importance of leadership support of innovation. Ellis said that Arizona DOT Director John Halikowski has been “absolutely instrumental” in the developments described above. While many of these innovation efforts are grassroots-based, “they would never have happened without top-down support from the entire leadership team.”

Ellis also noted the importance of continuity of leadership support, with Halikowski having been in this executive role since 2009.

Knowledge management as a conduit for innovation

Arizona DOT is considering strategic knowledge management (KM) and the creation of a Knowledge Management Officer position. Ellis sees one of KM's roles as making an agency behave more innovatively, noting that KM "helps organizations understand the importance of innovation and encourages collaboration, which can lead to innovation." Conversely, silos—even high-performing "cylinders of excellence"—inhibit innovation.

External models: Accenture, NASA, Kraft

Ellis cited three external models that she learned about in detail as a participant in the 2013 U.S. Domestic Scan tour on KM:

- Accenture has a program to encourage staff to capture innovative ideas and to share their technical expertise via blogging. The company uses "gameification," giving virtual awards or flairs for employees' email signatures as recognition for submitting a quantity of good ideas into the system. These are an important consideration in promotion and pay increase decisions, as they indicate the degree to which employees are engaged and share their knowledge.
- During project debriefing, the National Aeronautics and Space Administration (NASA) has a policy of inclusiveness in listening to everyone involved in the project. Project snags can come from anywhere, and the more people who understand how the project works and the importance of their own roles, the better things will go next time.
- Kraft does a tremendous job of knowledge retention through its "Knowledge Books" that capture staff insights and commentary.

Florida Department of Transportation

Contact: Marsha Johnson, Senior Fiscal Advisor, Engineering and Operations Strategic Initiative Office, 850-414-4647, marsha.johnson@dot.state.fl.us.

Johnson provided an overview of Florida's innovation efforts in a phone interview. These include promoting an innovation-friendly environment (through the Step Up program) and providing dedicated channels to capture and advance innovative ideas (such as the Innovators! Task Team).

Invitation to Innovation website

We discussed Florida DOT's Invitation to Innovation website (<http://www.dot.state.fl.us/officeofdesign/innovation/>), published by Florida DOT's Office of Design. The website states:

Recently, the Department embarked into a new bold era for innovative ideas, research and accelerated implementation. Success in this new era depends on the ability to innovate the products and services Florida's transportation system provides its users. The Florida Department of Transportation's desire for innovation will utilize newly developed technology or employ "outside the box" thinking to generate new and better value for every transportation dollar invested.

The site provides a list of innovations for FDOT staff to consider during project design. Johnson said that the Invitation to Innovation website is not completely up-to-date. The public site shows only design innovations, but in reality this an agency-wide effort involving innovations in any business area. The website will be brought up-to-date soon.

Step Up program

Johnson provided the text of an article now in press (see [Appendix B](#)) that describes Florida DOT's multi-year Step Up program. Started by the previous Florida DOT secretary, Ananth Prasad, the program was designed to spark employee engagement and give staff a comfort level with submitting new ideas. It led to the creation of a statewide task team.

Innovators! Task Team

Secretary Prasad also launched an Innovators! Task Team in 2012 (see [Appendix C](#) for the charter). The process seeks bold, innovative ideas from all FDOT employees as well as from private industry. A cross-functional team of executives analyzes the ideas to assess where there is a potential return on investment and well as a desire/ability to aggressively research or implement. Guidance provided to submitters, "How to Submit a Bold and/or Innovative Idea," is attached as [Appendix D](#).

Johnson shared these statistics on the program's success to date:

- Florida DOT staff have submitted 150 ideas; 27 have been identified as high-priority.
 - 31 complete (includes 11 high-priority).
 - 33 underway (includes 13 high-priority).
- 174 ideas from contractors/consultants are now under review.

Johnson described one of the top successes of the program to date as the innovative idea to move to all-electronic submission of construction documents. This implementation is now in process, with Florida DOT partnering with FHWA as well as with Michigan DOT.

Johnson noted that the agency's research director, Darryll Dockstader, serves the task team in an advisory capacity and is called in when established research or implementation channels can help advance ideas that bubble up through this process.

Next steps under new leadership

Florida DOT's new secretary, Jim Boxold, was promoted from within the agency, having served as chief of staff. Johnson described him as a strong supporter of these innovation efforts, with innovation as "one of his number one priorities." Under Boxold's direction, next steps for the Innovators! program include having district innovator teams (Johnson described them as "incubator teams") to handle ideas that come directly from the districts. Moreover, Florida DOT plans to next open the innovation solicitation process to Florida metropolitan planning organizations and then possibly to the public at large.

Innovation training

Johnson said that two people per district attended a two-day innovation training provided by outside consultant Juice Inc.

The program features are described at <http://www.juiceinc.com/programs/show/innovation-training>:

Bringing together teams of employees to brainstorm the “next big thing” often prove unfruitful ... because without a structured process to guide teams in their efforts to be innovative, ideas don’t usually get to the implementation stage. ... Innovation in a Box is a program and suite of tools, designed to help your business not only initiate but implement and sustain your innovation project.

The thought was that staff who attended the Juice training would be able to go back to their districts and further share these innovation tools with colleagues, a form of “training the trainer.”

Louisiana Department of Transportation and Development (DOTD)

Contacts:

- Harold “Skip” Paul, Director, Louisiana Transportation Research Center, 225-767-9101, harold.paul@la.gov.
- Denny Silvio, Director, Quality & Continuous Improvement Program, 225-379-1964, denny.silvio@la.gov.
- Wade Lester, Program Specialist, Quality & Continuous Improvement Program.
- Kritsi Folse, Program Specialist, Quality & Continuous Improvement Program.

Research Citation

Developing a Culture of Innovation, Minnesota DOT, Transportation Research Synthesis, February 2010.

<http://www.dot.state.mn.us/research/TRS/2010/TRS1003.pdf>

The Minnesota DOT synthesis report also noted Louisiana DOTD as a standout in facilitating innovation: “Louisiana DOTD ... rewards innovation and whose Quality and Continuous Improvement Program teams focus on improving processes..”

Interviews

We had a conference call with Paul, Silvio, Lester and Folse to discuss innovation at Louisiana DOTD.

Quality & Continuous Improvement Program

Silvio, who has been with the program for seven years and has served as director of the Quality & Continuous Improvement Program (QCIP) for eight months, discussed the DOTD’s QCIP. The program started with a mission of change management and managing the people side of change, and it continues to fill that role.

Operation 57

Silvio described a major initiative of the QCIP, Operation 57, which is a multiyear process to work with every section in the agency statewide (there were 57 sections at the time the program started) to get snapshot of its operations and resources. This helps the DOTD identify innovations and efficiencies. Employees provide feedback for inclusion in a final report that includes specific recommendations for change, and those recommendations are reviewed and vetted at the highest levels and are implemented if there are funds to do so.

It is important to be clear with staff that this exercise is to help them, not to criticize failings. To help establish a trust level, Operation 57's SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses are usually conducted without staff members' immediate supervisors present.

Louisiana DOTD's deputy secretary spearheaded Operation 57 and remains its champion, and the agency's secretary serves as an integral part of the initiative as well. It is too early in the process to measure outcomes of changes from this initiative.

Paul noted that Operation 57 is also an important knowledge management tool: The program is helping capture key business practices, which will provide continuity as staff retire or turn over at the DOTD.

Government Efficiencies Management Support (GEMS)

GEMS is an initiative across all of Louisiana's state agencies to "identify at least \$500 million in cost savings and efficiencies within Louisiana State government" (<http://www.doa.la.gov/gems/>). The QCIP is facilitating the transportation agency's efforts to implement innovations that increase efficiency or generate revenue under the GEMS mandate, which includes deadlines and financial targets.

Silvio noted that DOTD has been one of the top-performing state agencies under GEMS.

Innovation support

QCIP helps facilitate new ideas—especially ones that need to involve individuals from different parts of the agency. "We help break down silos and pull together people from all over the agency," Silvio said. QCIP is light on its feet and adaptable: "People come to us for assistance with fixing processes that don't seem to be working as well as they could be."

Folse, a program specialist who joined QCIP from Human Resources, said the program has made its presence known throughout the agency as a resource to turn to. Lester, also a program specialist, noted that executives also come to QCIP to solve problems or for support in implementing new ideas.

Silvio noted a trend toward incremental change rather than big, disruptive change. "You keep chipping away until you have a better organization," he said. "Little changes add up to big change, but it's less painful."

A few other agencies (Workforce Development, Revenue), recognizing the value of a program like QCIP, have modeled an office after it to focus on quality and efficiencies.

Research

Paul described the main charge of the research program as solving problems in the state of Louisiana. He described culture changes within the research program to make people more responsible for tracking and measuring how results are implemented and deployed, and making sure people who suggest research act as implementation champions. Research also requires an implementation sponsor among upper management. This ensures high-level administrative support of research products.

Paul noted that challenges or proposed innovations being worked on through QCIP can funnel into the traditional State Planning and Research program through the biennial research solicitation.

Michigan Department of Transportation

Michigan DOT Strategic Plan, 2015.

http://www.michigan.gov/documents/mdot/MDOT_mission_vision_and_goals_2_375168_7.pdf

The latest strategic plan from Michigan DOT (MDOT) includes the department's " 'Wildly Important' Goal (WIG) for 2015-16: Increase MDOT's capacity to innovate." An excerpt from page 3 of the plan:

Department-wide Measure:

In all areas of the department, achieve a 25 percent improvement in value-addition (in terms of safety measures, cost reduction, increased quality or reduced schedule) by December 31, 2016, through the rapid application of innovative products, processes and technology.

Implementation Steps:

1. A statewide strategy for fostering a culture of innovation will be developed and implemented.
2. Front-line staff will be engaged by their leadership to help develop goals, measures and action plans specific to their work area with a clear 'line of sight' to our WIG.
3. Each Region/Bureau/Office will identify an 'Innovation Champion' to encourage and drive innovation.
4. Each Region/Bureau/Office will establish appropriate performance plans and metrics to monitor progress and celebrate successes.

Minnesota Department of Transportation

MnDOT Contacts:

- Jean Wallace, Assistant Division Director, Modal Planning & Program Management Division, 651-366-3181, jean.wallace@state.mn.us.
- Tim Henkel, Associate Commissioner for Modal Planning & Program Management, 651-366-4829, tim.henkel@dot.state.mn.us.

Research Citations

Three citations address transportation agency innovation related to Minnesota DOT (MnDOT). Two of these address innovation at the agency, and the third is a MnDOT synthesis report on innovative practices at other state DOTs.

The Innovative DOT: A Handbook of Policy and Practice, Smart Growth America and the State Smart Transportation Initiative, January 2015.

<http://www.ssti.us/2015/01/the-innovative-dot-a-handbook-of-policy-and-practice-ssti-sga/>

The introduction states that the “Innovative DOT offers 34 specific recommendations to help state transportation officials position their agencies for success in the coming era. Developed with input from top transportation professionals, agency staff, and officials at state agencies around the nation, this handbook documents many of the innovative approaches leaders are taking to make transportation systems more efficient, governments more effective, and constituents better satisfied.”

The section of this report that appears most relevant to this Preliminary Investigation is Focus Area 8: Improving DOT Processes (page 225), and the subsection “Improve Agency Organization and Initiate Cultural Change” (page 237). Case studies begin on page 239. Below is an excerpt from the Minnesota case study:

Minnesota

The Office of Capital Programs and Performance Measurement now acts as the highway modal office and leads the development and implementation of MnDOT’s performance-based capital improvement program for the highway system. The office is also responsible for conducting investment analysis and performance measurement for other modes, and providing expertise in those areas to the entire department.

The separate Office of Statewide Multimodal Planning now focuses on integrating and connecting the modal systems to ensure that transportation planning in MnDOT will be multimodal, customer-based, future-focused, and performance-oriented. By creating a new office with a special focus on multimodal planning, MnDOT has taken an important step toward developing a more truly multimodal transportation system.

In 2011, MnDOT released Minnesota GO, a 50-year statewide vision for multimodal transportation based on interviews and input from citizens and stakeholders. The following year, the agency released its Statewide Multimodal Transportation Plan based on that vision. This plan will provide a framework for all subsequent decision-making, including follow-up plans, investment decisions, and internal processes.

MnDOT’s Commitment to Innovation in the New Normal, Jean Wallace, Brian Gage and Mark Gieseke, *TRB 92nd Annual Meeting Compendium of Papers*, 2013.

Abstract: <http://trid.trb.org/view/2013/C/1241697>

<http://assets.conferencespot.org/fileserver/file/42808/filename/2vdd16.pdf> (full text as submitted)

Abstract:

In late 2009, the Minnesota Department of Transportation (MnDOT) established the Destination Innovation program to transform MnDOT’s culture, process, technology, and way of thinking to invite innovation and rapid adoption of new practices. Projects and initiatives are selected that support one or more of MnDOT’s Strategic Directions – safety, mobility, innovation, leadership and transparency, in addition to meeting other criteria:

- Deliver innovative technologies, processes, financing, practices and performance measures that illustrate significant improvements in safety, quality and cost efficiency.
- Lead to rapid change in MnDOT’s transportation program to accelerate construction of 11 high-quality, cost effective, enduring projects.

- Ensure incorporation of a wide variety of innovations and project types.
- Ensure agency-wide distribution of Destination Innovation funding. The goal is to have funding for at least one project per district.
- Be marketable, promotes our transportation program and adds value for MnDOT's customers.

MnDOT leadership has consistently emphasized support for innovation and rapid implementation of ideas that reduce fatalities, have a high reward or return on investment, improve mobility for people and goods, and create transparency with the public we serve. The Destination Innovation program supports these ideas and provides the link between our strategic goals and implementation in the New Normal, allowing MnDOT to strive for improvement and efficiency, even in light of more constrained budgets and higher stakeholder expectations.

Developing a Culture of Innovation, Minnesota DOT, Transportation Research Synthesis, February 2010.

<http://www.dot.state.mn.us/research/TRS/2010/TRS1003.pdf>

Excerpt from the Introduction and Summary:

The ability to innovate is critical to an organization's performance, especially for DOTs confronted with managing a large and complex transportation system. However, like many large organizations, DOTs typically resist change and are slow to innovate.

Minnesota DOT is interested in the steps other states have taken to encourage a culture of innovation among employees, including a work environment, organizational structures and operating procedures that reward exploration of new, more effective approaches to doing business.

We conducted a survey of state DOTs and performed a literature search, focusing on:

- Challenges, opportunities and successes in developing a culture of innovation.
- Organizational strategies for moving toward a culture of innovation.
- The relationship of a culture of innovation to centralized or decentralized organizational structures.

Eight states responded to our survey. ... Five of these states had initiated efforts to facilitate innovation, four track innovative ideas, and all reward champions in some way. Standout agencies included:

- Arizona DOT, which has a Partnering Office and a process for establishing champions and fostering cooperation between groups, internal and external.
- Louisiana DOTD, which rewards innovation and whose Quality and Continuous Improvement Program teams focus on improving processes.

The common theme for these states is a focus on a) improving cooperation and communication among internal units of their large organizations, so that conflict and miscommunication do not hinder innovation, and b) establishing champions of innovation and rewarding innovation.

Our literature search confirms that each of these methods is critical to overcoming barriers to innovation, which include:

- The large number of conflicting interests within a complex and multifaceted organization, the multiple layers of decision making affecting internal processes, and poor communication among internal groups.
- Risk aversion and resistance to change.
- A lack of clear direction and processes for innovation.

Critical to overcoming these roadblocks and establishing a culture and organizational structure that encourage innovation are:

- Customer orientation, so that their needs drive innovations.
- Improvements in internal communications and cooperation among researchers, developers, operators and decision makers—including widespread participation of internal and external stakeholders in developing strategic plans and performance measurement systems.
- Establishing criteria for evaluating innovations and clear procedures for the innovation process.
- Finding champions of innovation at all levels, and creating incentives for innovators—including programs that recognize and share employee innovations.
- Conducting regular self-evaluations and measuring performance.
- Managing the balance between risk and change, specifically between the more adventurous knowledge seekers willing to tolerate risk and those within an organization who are more conservative and incremental in their approach.

Interviews

We interviewed Wallace and Henkel about innovation at MnDOT.

Innovation defined

Minnesota defines innovation as ideas and activities from anywhere within the organization that are implemented into practice within MnDOT.

Wallace said that she sees Caltrans as innovative, and noted that “it’s a challenge to put innovative ideas into practice.” She said MnDOT has done well at going from idea to implementation and making sure it all happens.

Crowdsourcing innovation

Innovation Jam is a crowdsourcing tool that has been used at MnDOT to garner innovative ideas from all employees. A dedicated project team reviews ideas as they come in and facilitate further conversation. All ideas are examined, and those meriting further consideration are fleshed out and brought to senior leadership.

Under Innovation Jam, ideas that lead to practice were eventually turned back to the submitters to serve as implementation champions. This ownership is critical, Wallace said. “Accountability can take an individual or team’s great idea and turn it into reality.”

One way MnDOT ensures an innovation culture is by hiring innovative people. “This sets the framework for a resilient, innovative culture regardless of other factors affecting our agency.”

Rewarding innovation

There isn't an expectation of financial reward like there would be in private industry, but there are official programs in place for recognition of great ideas. These include MnDOT's Achievement Awards for “recognizing and rewarding the outstanding work of its employees” (<http://www.dot.state.mn.us/policy/hr/hr001.html>) and the Above and Beyond awards that recognize employees who have gone “above and beyond” to exhibit excellence in a variety of areas. One of these is for “displaying innovation and creativity in delivering products and services.”

Risk management

Risk assessment, both formal and informal, is an ongoing process at MnDOT. When it comes to innovation, a senior leadership team assesses risk and determines what risks the agency is willing to take with new innovations.

Innovative business practice: enhancing financial effectiveness

In an email, Wallace described MnDOT's strategic priority of enhancing financial effectiveness as an innovative business practice:

This is our strategic priority, otherwise referred to as our Wildly Important Goal (WIG): **Earn or reinforce stakeholder trust and confidence in MnDOT by demonstrating effective and efficient stewardship of public resources.**

To support our strategic priority, or Wildly Important Goal, we've identified four focus areas that have stated lead and lag measures, scorecards, and weekly meetings for accountability and to track and keep commitments:

- Asset Management.
- Financial Management.
- Information and Outreach.
- Project Management.

Each of these areas has an identified champion and team working on specific implementation activities. MnDOT offices and districts have also been encouraged to develop additional activities that support financial effectiveness outside of the four areas listed above, and those activities are also being tracked.

Innovation models: FHWA, 3M

Henkel noted MnDOT's strong relationship with FHWA, specifically the Research and Technology Coordinating Committee which provides oversight and brings together independent partners to give advice on FHWA's research program. MnDOT is looking at adopting a similar model.

Wallace said that MnDOT has looked to Minnesota-based 3M. They have visited 3M's Innovation Center and like the concept of setting aside a percentage of time for innovation.

National involvement

Henkel said that employees benefit from participating in national committees like PIARC (the World Road Association), TRB and NCHRP. Letting people “step away from daily work” and talk to national peers and experts gets them thinking in new and innovative ways. “They come back energized and full of ideas.”

Another example is temporarily embedding employees with other MnDOT offices or even with consultants during a project to get them thinking about a problem from another perspective. “They have insights that they never would have in their own office.”

Destination Innovation

The Destination Innovation program cited above no longer exists as a funded program, but innovative ideas that support the program’s goals of safety, quality and cost-efficiency are encouraged and can compete with other agency priorities for funding.

Missouri Department of Transportation

Contacts:

- Bill Stone, Research Administrator, 573-526-4328, william.stone@modot.mo.gov.
- Jen Harper, Research Engineer, 573-526-3636, jennifer.harper@modot.mo.gov.

Research Citation

The report *The Innovative DOT: A Handbook of Policy and Practice*, cited in the Minnesota section above, also describes innovative practices at Missouri DOT:

Missouri

Performance management became a guiding principle beginning in 2004 when Pete Rahn was appointed Director of MoDOT. This new “data-driven and results-focused approach” depended on four implementation strategies similar to those outlined above. These strategies include empowering staff (particularly middle-management leaders), encouraging innovation, demanding measurable results and cost savings, and holding staff accountable for results. MoDOT’s new institutional culture is manifested in key programs such as practical design, new asset management strategies, and improved customer relations.

Interviews

We spoke with Stone and Harper about innovation culture at Missouri DOT (MoDOT). They indicated that Harper would be Caltrans’ best contact for follow-up questions.

Agency value to “Be Bold”

Stone and Harper agreed that innovation is so ingrained in MoDOT culture that there isn’t a policy or a drive to ensure that it happens. It is called out in the agency’s “Mission, Values, Tangible Results” statement (<http://www.modot.org/about/MissionValuesTangibleResults.htm>). One stated value is to:

Be Bold

- **I Embrace New Ways of Doing Work.** I will be flexible and support changes that help us all get better.

- **I Take Risks and Accept Failure.** I will use my failures to identify ways to get better.
- **So We Can Be Innovative in Our Pursuit of Excellence.** I will push myself and others around me to not be satisfied with average results.

Harper said MoDOT is “willing to try anything” that has practical value and can be replicated as long as it doesn’t put people at risk.

Performance measures

In the late 2000s, the agency had a performance measure for percentage of research implemented, but once a high level was reached, the question became whether Missouri was taking enough risk in research and innovation. There are no current performance measures on innovation. “It’s just who we are as an agency,” Stone said.

Executive support

All three agency directors in the past decade have been supportive of innovation, and there is no expectation that this will change as MoDOT prepares for new leadership.

Innovations Challenge

The Innovations Challenge is a competition with a small cash prize (\$75 per teammate) that calls upon employees statewide to propose innovations in any area of the agency. Winners of regional competitions are showcased at a statewide summit.

The program initially featured just tools and equipment and was limited to original ideas. It was recently expanded to include any innovation area, and to include innovations in use elsewhere. A summary of the 2014-2015 Innovations Challenge is attached as [Appendix E](#). It was also featured in the March/April 2015 issue of U.S. DOT’s *Innovator* magazine (<http://www.modot.org/MoDOTNOW/documents/InnovatorNewsletter.pdf>) and in the following videos:

- 2014 Innovations Challenge Showcase
https://www.youtube.com/watch?feature=player_embedded&v=pG2kE1qi5_U
- 2013 Innovations Challenge Showcase
https://www.youtube.com/watch?v=1NGffeW91-0&feature=player_embedded

MoDOT’s risk management group serves on the judging committee and ensures that ideas developed out of the Innovations Challenge are implemented safely or properly tested first.

External innovations

As part of the design-bid-build process, MoDOT allows external contractors to bring innovative ideas to the agency prior to bidding as “alternative technical concepts” (the policy guide is online at http://epg.modot.mo.gov/index.php?title=147.1_Alternative_Technical_Concepts). If an idea is determined to be an equally good or better way of meeting the project criteria, it is allowed in the bid. “Contractors may have better ways to do things that we may not have thought of,” Harper said.

MoDOT brought this idea to FHWA, and it was incorporated into the Every Day Counts program as second round (EDC2) initiative:

<http://www.fhwa.dot.gov/everydaycounts/edctwo/2012/atc.cfm>

In another example, a contractor brought an existing idea from another state—using recycled concrete as aggregate—to Missouri DOT, and it was tried out through the cooperation of the agency and a research university.

Innovations from other agencies: pooled funds

Missouri also cited national pooled funds as a way to learn innovative ideas from other agencies. Harper and Stone mentioned adopting innovations from both the No Boundaries Roadway Maintenance Practices pooled fund (noboundaries-roadmaintenance.org) and the Clear Roads Winter Maintenance pooled fund (www.clearroads.org).

Pennsylvania Department of Transportation

Contacts:

- Nolan Ritchie, formerly Innovations Officer, Bureau of Innovations, 717-787-1398, nritchier@pasen.gov.
- Michael Bonini, Research Manager, Bureau of Planning & Research, 717-772-4664, mbonini@pa.gov.

Research Citations

A standout success of FHWA's State Transportation Innovation Council (STIC) program is Pennsylvania DOT (PennDOT), which was featured in an article in *Public Roads*.

State Transportation Innovation Councils, program guidance, Federal Highway Administration.

<http://www.fhwa.dot.gov/stic/guidance.cfm>

Excerpt from the website:

The Federal Highway Administration (FHWA) State Transportation Innovation Council (STIC) Incentive program provides resources to help STICs make innovations standard practice in their States. Under the program, technical assistance and limited funds are available to support or offset the costs of standardizing innovative practices in a State transportation agency (STA) or other public sector STIC stakeholder. The funding opportunity is \$100,000 per State per year.

The STIC is the leadership platform in every State to identify critical needs, find best solutions and to get them into practice quickly. Their role is to help facilitate the deployment of innovations and engage the various stakeholders within the State. The STIC is an organizational unit comprised of people from key areas within the State's borders and its transportation community. In addition to State and Federal transportation executives, the STIC includes technical decision-makers, local agencies, regulatory agencies, Local Technical Assistance and Tribal Technical Assistance Programs, metropolitan planning organizations (MPO), and industry members.

Implementing Innovations, Kathleen Bergeron, *Public Roads*, July/August 2013.

<http://www.fhwa.dot.gov/publications/publicroads/13julaug/02.cfm>

The article includes four state case studies: Pennsylvania, Oklahoma, New Mexico and Wisconsin. Among these, Pennsylvania was noteworthy: “The STIC is one of five initiatives in the Pennsylvania Department of Transportation’s (PennDOT) Next Generation, a review of policies, processes, and procedures aimed to “create new efficiencies...advance [its] business practices and technology...and... create a culture of continuous improvement.”

Interviews

We discussed innovation at PennDOT with Ritchie and Bonini. (Ritchie since left his position at PennDOT; his contact information has been updated.)

Keys to innovation

Ritchie outlined what he sees as the three keys to innovation at PennDOT:

1. **Strong leadership.** Since the 1980s, PennDOT has benefitted from having strong leaders in place who have directed and supported innovation. Alternatively, if strong leadership is not present, engagement drops.
2. **Tools/processes.** To embrace innovation and have consistent culture, it is imperative to have a variety of tools and processes in place that support innovation. Tools can include informative websites, mechanisms to engage feedback across the agency, and formalized curriculums. Processes refer to having a systematic way of understanding the innovation process: Who innovates and when? Is there an innovation action plan? When do you close out an innovation and start a new one?
3. **Purpose/self-rewarding.** Purpose simply means that there needs to be reason to change. Ritchie couples this idea with “self-rewarding”: An engaged employee will understand the purpose of innovation, and see why it will benefit him or her as an employee. Employees are further empowered to be innovative by being recognized and by having a safe environment to suggest new ideas.

Bureau of Innovations

PennDOT’s Bureau of Innovations became official in 2014, though its function had existed in different parts of the agency as far back as the 1990s. Ritchie described the office as a small organization of five people focused on the next generation of PennDOT. It is a horizontal, non-hierarchical approach to organizational management. (Different types of innovation office models are discussed in the IBM report cited in the Innovations in the Public Sector section of this investigation.) “We facilitate innovation in other parts of our organization,” Ritchie said. “We are a resource center that provides tools and training to help drive innovation.”

PennDOT Next Generation

PennDOT Next Generation (<http://www.moderndot.pa.gov/>) is “a combination of five distinct initiatives to review and enhance PennDOT’s operations to create improved efficiencies and make the agency both a better business partner and a better employer.” We discussed two of these with ties to innovation: IdeaLink and Pennsylvania’s State Transportation Innovation Council (STIC).

IdeaLink

IdeaLink is an online suggestion box “that empowers all employees to submit innovative ideas to improve workplace safety and enhance operations.” This has met with success, with more than 2,000 ideas submitted in the last four years. About half have been reviewed to date.

A 12-page table outlining some of the biggest successes from IdeaLink is online at <ftp://ftp.dot.state.pa.us/public/pdf/Modern/IdeaLinkProjectList.pdf>. Ritchie called out two in particular: the reduction of standard curb height by two inches, and a flagger safety video that has been introduced into school driver education curriculums.

A noteworthy feature of IdeaLink is that submissions are anonymous when they are reviewed. This is critical to ensure that ideas submitted by the rank-and-file are given equal, objective consideration as those submitted by managers or executives.

State Transportation Innovation Council

As Bonini outlined, Pennsylvania’s State Transportation Innovation Council (STIC) is a complement to innovation within the agency. It brings together stakeholders from around the state to consider innovative ideas that can improve transportation in the state. “We’re not the only ones with good ideas,” Bonini said. “Our external partners have ideas too, and the STIC brings everyone to the table.”

PennDOT’s Research Division is commonly called on to assess the feasibility of implementing innovative ideas brought to the agency’s attention by the STIC. The division serves as the communication and implementation lead on STIC and FHWA Every Day Counts innovations in efforts to streamline the project delivery process and to enhance the safety of the transportation system for users and workers.

Texas Department of Transportation

Contact: Darran Anderson, Chief Strategy and Innovation Officer, 512-305-9513, darran.anderson@txdot.gov.

In an email, Anderson described a strategic innovation and change management program that is “fledgling in many respects.” Anderson said he is “in the process of defining and hammering out approaches and plans with his peers, and in some cases adopting other initiatives.”

Agency-wide change

In our follow-up interview, Anderson described significant changes at Texas DOT (TxDOT) that were initiated about six years ago when the state legislature mandated an external review, as a regular process of reviewing all state agencies. This led to the introduction of a Strategy and Administration Office to overhaul components of TxDOT’s structure and operations. Major changes have been implemented in fleet operations and maintenance, engineering services and regular procurements, financing, research, information technology, real estate management, human resources, communications, and enterprise resource planning. All of these are just reaching the point of sustained and accepted change, with regular review for needed adjustments. In the meantime, all business areas are self-surveying and determining whether more significant changes are needed to support their goals.

Anderson discussed the growing pains of the change process, noting that, at times, some of the people effecting change weren't always "culturally sensitive" to the impacts. "I think, in many cases, it could be done more slowly and with a better communication strategy. You need to provide reasons for change, a timeline and proper expectations. Communicate early and regularly, and get employees' buy-in to the change process."

Anderson also discussed the importance of instituting changes that are attainable and measurable. He said major innovation initiatives should be tied to performance metrics and the agency's strategic road map.

Innovation office

Anderson discussed the role of TxDOT's Office of Strategic Planning, which is responsible for long-range analytical research, strategic planning, innovation initiatives, and performance metrics. He said he often looks to see what innovations other states are implementing, citing as influential the state DOTs in California, Oregon, Michigan, Florida and Washington State.

TxDOT encourages innovation and innovative ideas, but the challenge is how to resource them and how to gain support for them externally and at all levels of the organization. Therefore, it is important to bring employees and other external stakeholders into any improvement process to get their input on process changes.

Research and long-range change

Anderson discussed TxDOT's close relationships with Texas A&M University and the University of Texas, which are involved not only in traditional research but also in mid- and long-range planning and visioning. Understanding long-range influences and technologies that are five, 10 or 15 years on the horizon, or even further out, will help brace TxDOT for future changes.

Washington State Department of Transportation

Contacts:

- Nancy Boyd, Director, Engineering Policy & Innovation, 360-705-7259, boydn@wsdot.wa.gov.
- John Nisbet, Director, Traffic Operations, 360-705-7280, nisbetj@wsdot.wa.gov.
- Leni Oman, Knowledge Strategist and former Director, Research & Library Services, 360-705-7974, omanl@wsdot.wa.gov.
- Rhonda Brooks, Acting Manager, Research & Library Services, 360-705-7945, brookrh@wsdot.wa.gov.

Innovation and WSDOT's strategic plan

A key takeaway from our discussion with Washington State DOT (WSDOT) is how innovation is driven by and serves the agency's strategic plan. The Engineering Policy & Innovation Division serves to help cross organizational boundaries within the agency and foster innovation. Nisbet discussed how innovation had traditionally been done in siloed areas, but now there is a recognized need to break down those silos and work across disciplines.

Boyd noted that the strategic plan also helps focus innovation efforts and sets the tone for innovation. Some examples of programmatic innovations include practical design, operational and demand management, and innovations across modes.

Despite WSDOT's success and active interest in research and innovation, they recognize that innovation must be nurtured. Leadership has a role in this through modeling innovative practices, setting expectations for innovation, and recognizing innovators within the organization.

IdeaWorks

Oman described the IdeaWorks program (modeled on MnDOT's use of Innovation Jam) that WSDOT initiated about a year ago. She explained that an advisory group looks at ideas collected through IdeaWorks and acts on them as appropriate. She added by email:

“The IdeaWorks community is the first online community of its kind at WSDOT. Employees are encouraged frequently to share ideas for a number of agency focal areas. Participation is reinforced by leadership's commitment to review, assess and potentially implement ideas across all areas of the agency.”

Boyd stressed that a transparent organizational response is required to ensure that innovative ideas generated through IdeaWorks don't wither on the vine.

Innovation culture at WSDOT

Oman described the innovation culture at WSDOT as organic rather than structured. Boyd said that innovation has been going on a long time at WSDOT, and this has made it sustainable through leadership changes. Executive priorities may shift, but the use of innovation to meet the current priorities does not.

Boyd and Nisbet credited executive leadership in modeling innovative thinking. When the DOT secretary comes forward with new ideas, it makes it easier for others to do so. There is also a common expectation of accountability, which is achieved through regular reporting, strategic plan metrics, and expectations for timeframes and deliverables. Calculating traditional return on investment for innovations is an ongoing challenge.

Oman also cited an “aptitude for innovation” that some employees have more than others, including managers. Not everyone is equally willing to take risks, but it's the organization's job to nurture it and not obstruct innovation. In an environment of “on-time, on-budget, in scope,” it can be difficult for employees to find the time and resources to pursue innovation or to know that it is acceptable to investigate innovative strategies.

National involvement

WSDOT discussed the importance of staff being able to travel in order to be aware of opportunities beyond the state and to develop partnerships with others to develop and test innovation.

Boyd noted that WSDOT has an integrated and focused approach toward getting WSDOT involved in the national dialogue. Such involvement supports the strategic plan, helping the agency learn about what others are doing. The agency keeps a close eye on other states that are leading in specific areas and seeks to benchmark its own capabilities against those states when possible.

Oman also mentioned WSDOT staff's close involvement in AASHTO and TRB. Excessive time away from the office can be a challenge that comes with travel. Some leaders in innovation have gained national and international recognition in their subject areas, increasing the demand for travel. The agency is working on amending its practices in order to use travel and national/international engagement strategically and to explore ways to distribute these opportunities.

National involvement and special assignments also serve to develop and reward employees and help create platforms for WSDOT employees to work on what they're passionate about and to be creative. Boyd noted that Oman's recent one-year assignment to grow WSDOT's knowledge management function is an example of carving out opportunities for innovation.

Risk management

Risk management necessarily plays a strong role in applying innovation at WSDOT. Nisbet noted: "We do very innovative things, and we use risk management to make sure we've considered them very broadly." Boyd said: "We couldn't do what we do without Risk Management backing us up and being engaged. They're innovative in their own right."

Documenting implementation

Oman said Caltrans is very innovative and is one of the states WSDOT uses to benchmark its work in some subject areas. Possibly Caltrans is not as strong as other states at distributing research results and documenting innovation deployment. This is a common challenge, as those who deploy research are seldom those who benefit from documenting it. She believes WSDOT implements the majority of the research they conduct but has found it very difficult to obtain the information needed to quantify the value of the research products.

Ingredients for innovation culture

Brooks outlined what she saw as three ingredients to engage employees in problem solving and create a culture of innovation:

1. **Executive support for risk taking.** If something new doesn't work, the person who suggested it shouldn't fear getting fired. This doesn't eliminate accountability, but does require tolerance for risk.
2. **Access to information.** This has changed dramatically in the last 30 years, with how information is more organized and more accessible than ever before.
3. **Resources.** If an employee is given resources—even minimal—and allowed to discover and explore, there is a greater chance of success.

Next-generation workforce

Brooks also talked about the changing nature of the workplace. She said it's important to recognize that millennials interact with the workplace differently from previous generations. Different management and leadership styles can help get the most out of younger employees and make them excited about going the extra mile.

Innovation Outside of DOTs

Public Sector

United States

A Guide for Making Innovation Offices Work, Rachel Burstein and Alissa Black, IBM Center for the Business of Government, 2014.

<http://www.businessofgovernment.org/sites/default/files/A%20Guide%20for%20Making%20Innovation%20Offices%20Work.pdf>

This report examines “the recent trend toward the creation of innovation offices across the nation at all levels of government to understand the structural models now being used to stimulate innovation—both internally within an agency, and externally for the agency’s partners and communities.” An excerpt from the Foreword (page 4):

Based on research into a broad range of federal, state, and local innovation offices, the authors identify six different models for how an innovation office can operate:

- Laboratory.
- Facilitator.
- Advisor.
- Technology build-out.
- Liaison.
- Sponsored offices.

[The authors] then present examples of each of these structural models. In addition to describing models for innovation offices, the authors identify issues that government leaders should consider in their decision to create a new innovation office, along with critical success factors for building and sustaining effective innovation offices. The authors emphasize that government leaders should not make the decision to set up an innovation office lightly, and should not create an innovation office for symbolic reasons. Rather, moving forward with setting up a center of gravity for innovation should follow a careful assessment of the mission of the new office, financial resources available, and support from key partners.

The report details the following seven “success factors for building and sustaining effective innovation offices” (see page 8):

1. Commit to supplying real resources.
2. Choose leaders carefully, and invest in and provide appropriate support to those leaders.
3. Create a specific mission tied to specific impacts.
4. Communicate effectively with internal and external partners throughout the innovation lifecycle.

5. Find allies within government and committed partners outside of government.
6. Establish an innovation process from the outset, even if the exact details and specific projects change over time.
7. Seize opportunities to share lessons and information emerging from government innovation offices through both formal and informal networks.

Municipal innovation offices in California included in this study are those in the cities of Davis, Redlands, Riverside, San Francis and San Leandro.

Innovator—Accelerating Innovation for the American Driving Experience, FHWA Center for Accelerating Innovation.

<http://www.fhwa.dot.gov/hfl/innovator/>

The successes of high-profile federal innovation programs such as Every Day Counts and Highways for LIFE are highlighted and disseminated in the bimonthly publication *Innovator*. *Innovator* “advances implementation of innovative technologies and processes in the highway industry. Its audience is transportation professionals in highway agencies, trade and research groups, academia and the private sector, and the driving public.”

Every Day Counts: Building a Culture of Innovation for the 21st Century, Report on the EDC2 Summits, FHWA, Spring 2013.

http://www.fhwa.dot.gov/everydaycounts/pdfs/edc2_2013.pdf

From the Foreword: “Every Day Counts is the Federal Highway Administration’s initiative to advance a culture of innovation in the highway community in partnership with states. Through this collaborative, state-based effort, FHWA coordinates rapid deployment of proven, market-ready strategies and technologies to shorten the project delivery process, enhance roadway safety, and improve environmental sustainability. This report documents a series of summits held in fall 2012 and spring 2013 to launch the second round of Every Day Counts innovations. It highlights the key role summits play in the Every Day Counts innovation deployment process and outlines the impact they have on the initiative’s progress. The report is intended as a resource for the highway community as it develops a new business model to encourage ongoing innovation in managing highway project delivery to better serve the nation.”

Most Innovative Agencies, Best Places to Work in the Federal Government Analysis, Partnership for Public Service, May 2013.

http://cdn.govexec.com/media/gbc/docs/pdfs_edit/042913kl1.pdf

From the introduction:

As part of the Best Places to Work in the Federal Government analysis, the Partnership for Public Service and Deloitte examined the Office of Personnel Management’s (OPM) 2012 Federal Employee Viewpoint Survey to see how federal employees feel about innovation at their agencies.

We also looked at what drives innovation in federal agencies and what can leaders do to promote it.

This snapshot, an update of 2010 and 2011 analyses, identifies from the employee perspective which agencies are innovating and which are struggling. The Best Places to Work innovation score is based on responses from three survey questions that best reflect employee opinions on innovation:

- I am constantly looking for ways to do my job better
- I feel encouraged to come with new and better ways of doing things.
- Creativity and innovations are rewarded.

The report further “analyzed survey questions to determine which were most closely related to the three questions that comprise the innovation score. The analysis revealed six survey questions that have a disproportionately high impact on the overall score, ranging from employees feeling rewarded for doing high-quality work, having a chance to expand their skills, having an opportunity to demonstrate leadership, having respect for senior leaders, feeling satisfied with involvement in decisions that impact their work and having a feeling of personal empowerment.”

International

Creating a Foresight Culture in the European Commission, Policy Brief 12, European Commission Innovation Union, undated.

http://ec.europa.eu/research/innovation-union/pdf/expert-groups/effla-reports/effla_pb_12_-_creating_a_foresight_culture_in_the_european_commission.pdf

This brief outlines the “need to change the organizational culture of the European Commission to equip it better in driving the future of research and innovation in Europe.”

According to its home page, http://ec.europa.eu/research/innovation-union/index_en.cfm:

“Innovation Union is the European Union strategy to create an innovation-friendly environment that makes it easier for great ideas to be turned into products and services that will bring our economy growth and jobs.”

Public Sector Innovation Toolkit, Australian Public Service.

<http://innovation.govspace.gov.au/>

From the Welcome page:

The Toolkit has been developed to assist individual public servants, public sector teams and agencies who want to increase the extent and effectiveness of their innovation efforts. On this website are tools that have been developed to give practical advice on fostering innovation within your agency. While this Toolkit is designed for use by the Australian Public Service, we welcome the use of the tools by other public servants.

[Using] the Toolkit you can:

- Learn about the innovation process.
- Consider where your agency needs to focus in the innovation process through our diagnostic.
- Assess the strengths of an idea.
- Get tips on putting together a business case.
- Find out more about tools and approaches that can assist innovation.

Empowering Change: Fostering Innovation in the Australian Public Service, Australian Public Service Commission, 2010.

http://www.apsc.gov.au/_data/assets/pdf_file/0015/10437/empoweringchange.pdf

Page 62 of the report presents “Ten guiding principles for building innovation in public sector agencies”:

1. **Integrate innovation into an agency’s strategy and planning:** what are the agency’s key priorities and challenges, what opportunities do they present for innovation, and how can the need for innovation and its attendant risk be communicated internally and externally.
2. **Foster and attract innovative people:** seek to recruit and nurture people who are motivated to innovate and have relevant skills and capacities.
3. **Tap into the ideas and experience of stakeholders:** build an organization capable and desirous of interacting with partners, customers and citizens and draw on their innovative potential.
4. **Develop organizational capacity to facilitate and manage innovation:** build expertise and experience in managing innovation in a public sector environment and work to identify and address any unnecessary impediments to innovation that may exist.
5. **Provide ‘safe spaces’:** areas and programs where innovation can be channeled, where experimentation is expected and where ‘failures’ are regarded as legitimate. These spaces should be explicitly identified as testing grounds for ideas that can be expected to carry implementation and political risks.
6. **Facilitate networking:** build communities of practice and networks of trust within and without the APS by which to share experiences of innovation, build partnerships and learn from others.
7. **Build a supportive culture:** reward and encourage innovation and give agency staff both the means and the permission to innovate.
8. **Use government’s influence and advantages to spur innovation:** use the government’s procurement power, its role as a regulator and its leverage with other jurisdictions to develop and realize innovative solutions.
9. **Measure and evaluate your results and share what you learn:** monitor the return on your innovation investment and evaluate the outcomes; sharing such learning across the public sector will improve the quality and speed of the innovation process.
10. **Make public information accessible:** public sector information and data is a valuable resource for innovation, both internally and externally to the APS and therefore publicly funded data sets should be publicly available unless there is a good reason for confidentiality.

Research

Using Employee Empowerment to Encourage Innovative Behavior in the Public Sector, Sergio Fernandez and Tima Moldogaziev, *Journal of Public Administration Research and Theory*, 2012.

Abstract: Employee empowerment programs have been widely adopted in the public sector as a way to improve organizational performance. Empowered employees improve performance largely by finding innovative ways of correcting errors in service delivery and redesigning work processes. Failure to encourage innovation can seriously undermine the effectiveness of

empowerment programs. Based on Bowen and Lawler's conceptualization of employee empowerment as a multifaceted management approach, this study explores how different empowerment practices can be used to encourage US federal government employees to seek out new and better ways of doing things. The empirical results show that while employee empowerment as an overall approach can increase encouragement to innovate, empowerment practices have divergent effects, and some may even discourage innovation.

Innovation-Oriented Culture in the Public Sector: Do Managerial Autonomy and Result Control Lead to Innovation? Jan Wynen, Koen Verhoest, Edoardo Ongaro and Sandra van Thiel, *Public Management Review*, Special Issue: Innovation in Public Services, Volume 16, Issue 1, pages 45-66, 2014.

<http://www.tandfonline.com/doi/full/10.1080/14719037.2013.790273>

Abstract: This article examines the effect of specific new public management (NPM)-related characteristics to explain innovation-oriented culture within public sector organizations. According to NPM doctrines, an enhanced managerial autonomy combined with result control will stimulate a more innovation-oriented culture in such organizations. Using multi-country survey data of over 200 public sector agencies, we test for the influence of organizational autonomy, result control and their interactions, on innovation-oriented culture. High levels of managerial autonomy and result control have independent and positive effects. However, the interaction between high personnel management autonomy and high result control has a negative effect.

The Sustainability of Public Sector Innovations: The Role of Feedback, Accountability and Learning, Wout Frees, Geert Bouckaert, and Wouter van Acker, *European Group of Public Administration Annual Conference*, September 2014.

<https://lirias.kuleuven.be/handle/123456789/473436>

Abstract: The study of organizational change and innovation has been criticized for focusing too much on the early days of innovations and too little on the later stages of their development. This paper tries to contribute to the body of literature by studying the development of organizational innovations throughout time. As a proxy for innovations, our research focuses on administrative projects or practices which were recognized as "best practices" by specific awards and conferences. The focus of our research on the dependent side of the equation is on the subsequent life courses of these projects and practices after their recognition as best practices. On the independent side of the equation, we present a conceptual framework with three main dimensions: feedback, accountability, and learning. Our expectation is that different constellations of these three dimensions at the level of the organization will lead to different patterns of change and innovation. To test this, we have developed a survey tool. The first part of the questionnaire was designed to inquire about the subsequent life courses of the best practice cases. The remaining parts of the survey try to measure the different (sub-)dimensions of our conceptual framework at the level of the organization. The bulk of this paper is devoted to the elaboration of our conceptual framework. The analysis of the survey data falls outside of the scope of this paper.

Private Sector

Organizational Culture, Innovation, and Performance: A Test of Schein's Model, Suellen J. Hogan and Leonard V. Coote, *Journal of Business Research*, Volume 67, Issue 8, pages 1609-1621, August 2014.

Citation at <http://www.sciencedirect.com/science/article/pii/S0148296313003342>

Abstract: Innovation is the key to organizational survival and therefore the study of processes that support innovation should be of interest to researchers and practitioners alike. Schein's multi-layered model of organizational culture offers a useful framework for thinking about processes that foster innovation. A defining characteristic of the model is the subtle but important distinctions between the varied "layers" of organizational culture (i.e., values and norms, artifacts and behaviors). The basic assumption of this study is that Schein's model offers a tractable explanation of cultural processes that support organizational innovation, especially in service firms. Despite the intuitive appeal and practical value of Schein's conceptual framework, empirical research in relation to the model is limited. This paper develops a rationale for an empirical model based on Schein's conceptual model; the study reports a test of an empirical model. Data collected from approximately 100 principals of law firms provides a suitable empirical context for a test of the model. The findings generally support the hypothesized relationships. A key result is how layers of organizational culture, particularly norms, artifacts, and innovative behaviors, partially mediate the effects of values that support innovation on measures of firm performance. The findings have implications for theory and practice, especially in relation to building an organizational culture within professional service firms that fosters innovative behavior.

How Innovative Is Your Company's Culture? Jay Rao and Joseph Weintraub, *MIT Sloan Management Review*, Spring 2013.

<http://sloanreview.mit.edu/article/how-innovative-is-your-companys-culture/>

This article details the "six building blocks of an innovative culture: resources, processes, values, behavior, climate and success." The article includes a "Building Blocks of Innovation Survey" (<http://sloanreview.mit.edu/files/2013/03/1d3719138f2.pdf>), which presents 54 questions across these six blocks, each answered on a three-point scale. The survey is used to assess an enterprise's existing innovation culture.

Quick and Nimble: Lessons from Leading CEOs on How to Create a Culture of Innovation, Adam Bryant, 288 pages, 2014.

http://www.worldcat.org/title/quick-and-nimble-lessons-from-leading-ceos-on-how-to-create-a-culture-of-innovation/oclc/841198199&referer=brief_results

Amazon.com summary:

More than two hundred CEOs reveal their candid insights on how to build and foster a corporate culture that encourages innovation and drives results.

In *Quick and Nimble*, Adam Bryant draws on interviews with more than two hundred CEOs to offer business leaders the wisdom and guidance to move an organization faster, to be quick and nimble, and to rekindle the whatever-it-takes collective spark of a start-up workplace, all with the goal of innovating and thriving in a relentlessly challenging global economy. By analyzing the lessons that these leaders have shared in his regular "Corner Office" feature in *The New York Times*, Bryant has identified the biggest drivers of corporate culture, bringing them to life with real-world examples that reflect this hard-earned wisdom.

These men and women—whose ranks include Jeff Weiner of LinkedIn, Tony Hsieh of Zappos, Angie Hicks of Angie’s List, Steve Case of Revolution (and formerly AOL), and Amy Gutmann of the University of Pennsylvania—offer useful insights and strategies for creating a corporate culture of innovation and building a high-performing organization that unleashes the passion and energy of its employees.

As the world shifts to more of a knowledge economy, the winners will be companies that can attract and retain the best and brightest employees by creating an environment where they can grow, contribute, and feel rewarded. Through the wisdom of these leading chief executives, *Quick and Nimble* offers a keen understanding of leadership, recruiting, and the forces that shape corporate culture and a clear road map to bring success and energy to any organization.

Construction Industry Institute (CII)

<https://www.construction-institute.org/>

CII’s purpose is “to measurably improve the delivery of capital facilities.”

- Vision: “CII is a leader in the construction industry, creating and implementing research-based knowledge that measurably improves the effectiveness and sustainability of capital facilities delivery. The increased business success that CII member organizations experience enables these participating industry leaders to make breakthroughs in the life cycle value of capital facilities.”
- Mission: “CII creates global, competitive, and market advantages for its members through its research-based, member-driven creation of knowledge and CII Best Practices. The institute’s ability to disseminate this knowledge and assess its implementation gives members a decisive industry edge. Employees of CII member organizations cooperatively engage with leading academics to generate CII knowledge; this unprecedented partnering of industry and academia creates the perfect forum for identifying the most significant opportunities for industry improvement. These industry participants and academics also benefit from the professional development and career advancement this collaborative effort provides.”

A relevant resource for this Preliminary Investigation may be:

Enhancing Innovation in the EPC [Engineering, Procurement and Construction] Industry

https://store.construction-institute.org/detail.aspx?id=IR243_2_E

Abstract: This tool, the Innovation Maturity Model (IMM), gives users a means of assessing their respective organizations’ capacities to innovate. It also generates specific recommendations for improving the areas within their organizations that most hinder innovation. Included with the tool is a detailed and comprehensive guide for successfully using the IMM.

Fiotech

<http://fiotech.org/>

From the website: “Fiotech is an international community of passionate stakeholders working together to lead global development and adoption of innovative practices and technologies to realize the highest business value throughout the life cycle of capital assets.” Its vision is “Transforming the World’s Infrastructure Delivery and Operations through Innovation.”

Fiatech's "Workforce and Training" focus (<http://www.fiatech.org/workforce-training/roadmap-summary>) may be most applicable to this Preliminary Investigation.

The history page notes that Fiatech was founded in 2000 with "initial funding support from Construction Industry Institute (CII) and its partner in the initiative, the National Institute of Standards and Technology (NIST)."

Contacts

CTC contacted the individuals below to gather information for this investigation.

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Entity	Established Division, Office, or Program	Policy	Functions or Initiatives	Training and Networking	Resources	Communications
Arizona	<p>*Division of Leadership and Employee Engagement</p> <p>*Office of Partnering: Support for Public, Private, Internal collaboration.</p> <p>*Seeking to create a Knowledge Management Officer position: 'helps organizations understand the importance of innovation and encourages collaboration, which leads to innovation.'</p>		<p>*Idea Lab: Open employee suggestion program</p> <p>*Ideas with Legs: Staff join leaders on walks to discuss ideas of interest.</p> <p>*Buddy/mentor system: part of emp training and orientation</p> <p>*Active effort by Division to 'capture great ideas and bring interesting findings to leadership.'</p>	<p>*Training of staff in AASHTO's National Transportation Leadership Institute.</p> <p>*Women's Innovation Network: gathers on a monthly basis to address topics through speakers and lunch-and-learns</p>	<p>*Internal wiki: Captures agency knowledge.</p>	<p>*Ignite newsletter: "designed to spark innovation and recognize people who have gone above and beyond."</p>
Florida	<p>*Innovators ! Task Team: Cross functional team of executives that analyzes ideas and assesses potential ROI and desire/ability to research and implement.</p>		<p>*Step-Up Program: campaign to encourage employee engagement and comfort with submitting new ideas.</p>	<p>*Innovation training with consultant (<i>two people per district</i>).</p>		<p>*Invitation to Innovation website: public publication of implemented innovations (currently only shows design, not internal biz process changes)</p>
Illinois		<p>*Focus on applied, implementable research.</p>				
Louisiana	<p>*Quality and Continuous Improvement Program: Change management support, org evaluation and adjustment, mapping of business processes (cf. kennisboom), innovation support. "People come to use when they don't know how to get things done."</p>	<p>*Research program requires implementation sponsor among upper management.</p>				
Maryland	<p>*Informal communities of practice</p>					

<p>Minnesota</p>	<p>*Established focus areas with stated "lead and lag measures, scorecards, and weekly meetings for accountability and to track and keep commitments": Asset management, Financial Management, Information and Outreach, Project Management. Each area has I'd champion and team working on specific implementation activities.</p>	<p>*"Hire innovative people." *Use formal and informal risk assessment as part of innovation evaluation.</p>	<p>*Innovation Jam and IdeaScale: Crowdsourcing to garner innovative ideas from all employees. Dedicated team reviews ideas as come in and facilitate conversation. *Encourage national engagement in TRB, NCHRP</p>	<p>*Maintain close relationship with FHWA. *Visited 3M Innovation Center in Minnesota.</p>		
<p>Missouri</p>		<p>*Adopted value "Be Bold": I embrace new ways of doing work, I take risks and accept failures, so we can be innovative in our pursuit of excellence *Previously est performance measures, but no longer use. *Solicit "Alternative Technical Concepts" of external contractors for ideas which could be equally good or better way of meeting project criteria, if approved, allowed during bid. (Picked up in EDC initiative).</p>	<p>*Innovations Challenge: state competition involving employees to propose innovations in any area of the agency. Winners showcased at a summit. *Use of pooled funds with other agencies.</p>			
<p>Pennsylvania</p>	<p>*Bureau of Innovations: Facilitates innovation in other parts of our organization, resource center that provides tools and training to help drive innovation. *Research Division: Assesses feasibility of implementing innovative ideas brought to the agency's attention by the STIC.</p>		<p>*PennDOT Next Generation: Five initiatives partnered to review and enhance PennDOT's operations, create efficiency, make better biz partner and employer. -IdeaLink: Online suggestion box -State Transportation Innovation Council: brings together external stakeholders</p>			

Texas	<p>*Strategy and Administration Office: Overhaul of TxDOT structure and operations as part of legislative mandate.</p> <p>*Innovation Office: Research, Strategic Planning, and Performance Metrics.</p>	<p>*Collaboration with Texas A&M and Uni of Tx.</p>				
Washington	<p>*Engineering Policy and Innovation Division: helps cross boundaries within agency and foster innovation.</p>	<p>*Use of strategic management plan to set tone for innovation (e.g. programmatic innovations, practical design, operational and demand mgmt and innovations across modes).</p> <p>*Culture of accountability, reporting, strategic plan metrics, expectations for timeframes and deliverables. Calculating ROI a challenge.</p> <p>*Apply risk management principles to vet ideas.</p>	<p>*IdeaWorks: Modeled on MnDOT's IdeaScale, advisory group looks at ideas collected through IdeaWorks and acts on them as appropriate.</p> <p>*Encouraging involvement in AASHTO and TRB, special assignments to develop and reward employees "to work on what they're passionate about and to be creative."</p>			
Accenture			<p>*Gamification: virtual awards or flair for employees email signatures as recognition for submitting a quantity of good ideas into the system.</p>			
NASA		<p>*Project debriefing: ensuring everybody involved in project participates to develop understanding of interrelationships and identify problems/opportunities.</p>				

FDOT Step Up: *Moving Forward as One*

by

Lawrence S. Ferguson, III, CPM

Dr. Gregory Ferris, Ed D.

How it Started

It didn't take the Secretary long to realize his appointment as leader of the Florida Department of Transportation (FDOT) was going to be one of the bigger challenges he had faced in his professional career. State employees in Florida had not seen a pay raise in six years; the state legislature had decided to place a larger responsibility on employee contribution to their health care; the retirement system was being revamped and job reductions in the workforce were ongoing. These actions and others had reduced morale to an all-time low. In essence, the morale of state employees had bottomed out. The FDOT was also struggling in an attempt to gain increased funding for infrastructure construction. Realizing the critical circumstances and the negative impact of low morale, the Secretary reviewed the infrastructure of the agency, human resource policies and sought the input of others. The conclusion he reached was that inconsistencies permeated the agency and there was little effort to maximize input from human capital. FDOT needed to turn the corner with a significant change in the culture and consistency in policies. In short, Secretary moved forward with a plan for the agency to be a ... *bold, innovative roadmap for the future which will provide the most advanced and effective transportation in the country.* In October 2011, the Secretary announced the plan for stepping up:

- The approach would be centralized control policy by the executive team with decentralized execution in the Districts,
- Consistent, predictable and repeatable (CPR) change and work actions would be used by the agency,
- Interactions within the agency should demonstrate consideration of others, professionalism and respectfulness with each other (CPR²). (CPR² was introduced during the second annual Step Up meeting)
- The workplace culture of Step Up with bold actions, innovative ideas and inspirational communication - would be embedded in the agency.

The communication was powerful if somewhat overwhelming. Responses ranged from full acceptance to the plan to resistance from scattered comments. However, the consensus of

employees welcomed inclusion in the functions of the agency. What was found most interesting, FDOT inadvertently backed into a full blown employee engagement practice. The following story will provide you with an overview of the *three phases* used, how Step Up is the realization and practice of employee engagement and the success stories that emerged.

Phase I: Communication from the Start – Creating Awareness & Understanding

In successful change initiatives communication is what brings the change to light. The Secretary initially moved forward with his plan using *sense of urgency discussions* with his immediate leadership team. Onboarding the team was critical to gain support and commitment to Step Up and the beginning of a communication plan. The Secretary then called a Step Up Workshop meeting with his top one hundred seventy executives and cost-center managers. The one day meeting was entitled *Step Up I - Raising FDOT's Batting Average*. Throughout the workshop, the Secretary repeatedly articulated the change focus and actions necessary to move forward as one FDOT. His communication of thinking boldly with innovative ideas and inspirational communication was the plan of action. Secondly, actions should be consistent, predictable and repeatable, followed by behavioral expectations. Interestingly enough, during the meeting the Secretary asked all employees to submit innovative ideas to him. His challenge was met with over 1200 ideas! A statewide "Innovators! Team" was then created to review the ideas, select the doable ideas and then push the ideation forward for approval. The Innovators! Team later organized a process for submission of ideas, follow through and feedback.

Capturing the enthusiasm from the workshop meeting, the Secretary traveled to each of the eight Districts, as well as Headquarters, delivering sense of urgency communication in Town Hall meetings. Each meeting always concluded with Q&A. The Secretary also utilized webinars as a change of pace and a means to further disseminate Step Up information and practices. Transparency was delivered as well as impactful listening skills applied.

The first year of Step Up moved slowly as the new language and practice of Step Up began to penetrate the upper level of the agency. It was important that FDOT leadership understand the focus and direction of the agency. Getting buy-in, identifying influencers and potential champions of Step Up dominated the communication. Even though the overwhelmed remained vocal in the workplace, quietly resisting the culture shift of Step Up, the Secretary persisted in challenging the *as is* with a *to be* persuasion.

Twelve months later, the Secretary scheduled another one day workshop meeting, with the same participants, entitled, *Step Up II – Every Step Begins with Me!* The intent of this meeting was to further drill down to the individual level. The Secretary indicated that progress was being made after one year, but there was still a long way to go. Getting the message out consistently, helping

others understand the message and getting everyone to do something with ideas remained the issue. He continued to emphasize that every level of leadership communicating Step Up should be the same everywhere within the agency; Step Up is not a choice but the way we do business and the message should be delivered with conviction and enthusiasm. The challenge in the workshop meeting was placed in a question format: How have you made Step Up a reality in your area? What are the benefits of Step Up? How are you being accountable to Step Up? A real plus to the meeting was the introduction of the Step Up Resource Bank. During the second meeting, a presentation was made on the resources created and available in the Step Up Resource Bank. Although limited in volume, the resources represented a start for leaders to use for team meeting starters and short presentations with larger groups of managers and supervisors.

Phase II: Gaining Traction

Two years of Step Up at FDOT passed quickly. Ongoing Step Up dialogues and practices continued to grow with sustainable workplace actions. Step Up Town Hall meetings flourished in the Districts and Central Office. Daily communications included Step Up results and forward thinking actions. The Innovators! Team tackled some big ticketed innovation ideas and turned them into workplace applications.

In the beginning of Phase II, Step Up drill down meetings was conducted in each District and Headquarters. The intent of the interactive meetings was to further communicate Step Up and recognize the efforts of those employees who had stepped up. The communication of Step Up was broader in reach and comprehensive in content. Along with managers in the earlier FDOT meeting, additional managers and supervisors were also in attendance. The impact of Step Up growth and commitment was clearly communicated in the meetings.

Clearly, the original intent of Step Up was to encourage all FDOT employees to be bold in thinking, generate innovative ideas and share inspirational communication. Entering into the third year FDOT leadership team realized that Step Up was an approach to engage employees. FDOT had produced an employee engagement practice that was using innovation as the key driver. A positive turbulence surfaced that was beginning to impact the agency. The language of Step Up had broadened to include the need to refine the culture and clearly explain how Step Up is the vehicle for employee engagement and innovation.

Phase III: Taking Ownership of Your Work

FDOT was quickly learning that giving employees ownership of their work accelerated

communication and the practice of engaging employees. Prior to the third annual Step Up meeting, the Secretary released information that the agency had reached a milestone in goals achievement and there was a 10% upswing in the recent employee satisfaction survey. Recognition was delivered throughout FDOT with a cross-section of communication tools. Each message consistently acknowledged employees for their commitment and performance in the agency.

The annual Step Up meeting, attended by the same participants, provided the opportunity to summarize the Step Up progress and recognize engaging actions by employees. The meeting was entitled, *Step Up III - Making a Difference & Owning Your Work*. The meeting began when the Secretary gave his State of the Step Up Union address. He was enthusiastic in his remarks and gave extensive recognition to the achievements of the agency followed by a comment that struck a positive tone: It's all about you! The Secretary's sincerity brought smiles upon faces and a feeling of work satisfaction.

A pilot employee engagement survey was conducted prior to the meeting with the results reported to participants. Interestingly enough, participant feedback was mixed to the data reported. The data identified served two purposes: the realization that there is a difference between employee satisfaction and employee engagement, and secondly, the need to gather feedback to generate an eventual FDOT employee engagement survey. At the same time Step Up resource development was in full production. One of the resources presented, *Mapping a Course to Success*, was introduced. The resource takes participants through an employee engagement gap and disconnection gap. It explains how to engage employees, essential leadership behavior and then crossing the performance bridge to success.

Continued Step Up communication followed the annual meeting along with identifying specific resources to support Step Up meetings. The resources were categorized under the following areas:

- Readings: Books and Articles
- Stepping Up Ideas and Tools
- Power Sessions (See *Fig 1* for list of the 12 Power Session topics)
- Videos
- Step Up Posters, Pictures and Meeting Starters
- Materials from the Annual Statewide Step Up Meetings

The next step in Phase III was to generate communication to fully align all FDOT employees to the Step Up principles of being bold, generating innovative ideas and inspirational communication. Up to this point, the three statewide meetings were dedicated to the management level to create the awareness and understanding that would lead to engaging employees in Step Up practices. The fourth Step Up meeting represented the culmination of the Step Up learning curve. The intent of the meeting was to formally take Step Up to the front line. It would be the opportunity to engage the head, heart and hands of all employees and embed employee engagement as the work culture practice.

The planning for the fourth annual Step Up meeting required an intensive effort to develop twelve Power Sessions, (see Fig 1) each having a one hour duration, for team and department meetings and the selection of five employee engagement drivers that would be used in the development of the employee engagement survey questions. The survey would be sent to all employees prior to the meeting; and equally important was the need to develop a presentation that would rejuvenate the Innovators! Team effort. Even before the scheduled meeting, meeting content teasers were sent to the same participants. The purpose was to generate enthusiasm, build curiosity and assure participants that the Step Up meeting would be interactive. The title and focus of the meeting was *Step Up IV - Putting Step Up into Power Drive*.

Power Sessions



Fig. 1

The meeting started with a bang! The Secretary recognized a year of goal achievement and remarked on the total efforts of all employees. Participants were then engaged in two interactive Power Sessions. A guest speaker, from the private sector, spoke on getting employees on the same page. Then short videos clips on employee engagement were shown and a simulation was

used closely related to the game show Jeopardy. Next, feedback from the engagement survey reported areas in need of strengthening. Finally a presentation was given entitled, *Innovating How FDOT Innovates*. The presenter challenged participants to *Free the Idea Monkeys* – identify employees who have bold and innovative ideas, implement idea campaigns, establish innovation incubators in each District and Headquarters; and finally, redefine the statewide Innovators! Team by broadening their role and responsibility. The presentation had a tremendous impact on the participants. The room was full of excitement and laughter with participants ready to increasingly Step Up to the challenge of engaging the front line.

Currently FDOT, continues to find ways to manage the energy of engaging employees who are bold, offer innovative ideas and inspirational communication. The innovation incubators are being developed and implemented. The incubators present the opportunity maintain the innovation focus and the greater possibility that FDOT will eventually become an innovation community. A new social media feature is in the offing that would invite leaders to share ideas and successes in engaging employees.

You Can Hold On or Let Go and *Move On*

Organizations that have successfully made innovation part of their strategy did so by capturing the creative energies and the powerful insights of their employees. The Secretary's intent to replace low morale with engaging action(s) was the springboard for engaging employees in innovative thinking. The Step Up culture re-channeled the energy of employees into a work culture that helped them be part of something big, the chance to make a difference, do meaningful work and belong to an engaging workplace. The Secretary's challenge to fulfill the capacity of the agency remains ongoing- *an idea only gets you to a better idea*. To be sure, the leadership provided by the Secretary is *...more than just task accomplishment, it's about helping employees realize their potential*.



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

March 29, 2012

MEMORANDUM

To: Assistant and District Secretaries

From: Ananth Prasad, Secretary 

Copy: Innovators! Team Members, FHWA

Subject: Innovators! – Implementing Bold and Innovative ACTIONS

Two key tenets I have stressed as Secretary are centralized command/decentralized execution and bold/innovative change. One of the primary advantages of centralized command/decentralized execution is its inherent ability to allow an organization to rapidly learn and adjust from those executing the centralized guidance in the field. I intend to take full advantage of this leadership philosophy and approach. I want to see the Department, with sound engineering thought and judgment, move away from the conventional black and white thinking and look to take bold steps in the way it carries out its business. I am looking for bold leaps more than incremental steps.

I have stressed the need for us to take a hard look at how we provide the transportation infrastructure to ensure the safe mobility of people and goods for the State of Florida. I have called for bold and innovative ideas on how to improve both the efficiency and effectiveness of our operations with the intent of optimizing everywhere possible – and I have received many good ideas. However, collecting and consolidating bold/innovative ideas is the easy part, the real effort lies ahead. To produce significant change, the true task comes in analyzing, developing and ultimately implementing bold and innovative ACTIONS that stand to greatly increase the efficiency and effectiveness of the Department.

My intent is to aggressively pursue real and measureable improvements in the full spectrum of our operations – from initial PD&E and right of way acquisition to delivering and maintaining the best intermodal transportation system in the nation – nothing is off limits. To enable this, I am setting up a cross-functional team – Innovators! – of senior leaders from across the Department. In order to rapidly determine and implement bold/innovative actions, I expect the Executive Team to give the Innovators! and any follow-on task teams high priority in their efforts.

Assistant and District Secretaries
March 29, 2012
Page 2

Members of Innovators! are:

Chair: Ananth Prasad with Brian Blanchard as delegate
Vice Chair: Tom Byron (Chief Engineer)
District 1: Billy Hattaway (Secretary)
District 2: James Bennett (District Planning Manager)
District 3: Phillip Gainer (Director of Transportation Operations)
District 4: Gerry O'Reilly (Director of Transportation Development)
District 5: Frank O'Dea (Director of Transportation Development)
District 6: Debora Rivera (Director of Transportation Operations)
District 7: Ron Chin (District Design Engineer)
Turnpike Enterprise: Pau Wai (Director of Highway Operations)
FHWA: David Hawk (Chief Operating Officer)

I understand the team members are key District staff and that there is a significant "cost" to taking the time and effort to analyze and implement bold/innovative actions. There will be travel required to facilitate face-to-face meetings as well as time for video meetings. I foresee this team meeting monthly. As such, I expect the team to prioritize and aggressively pursue ideas that will provide the best return on this investment. Along with bold/innovative ideas already collected, I expect the team to gather more from those in your Districts working the issues day in and day out. I expect them to form expert task teams as appropriate to assist in the effort. In short, provide the personnel and assistance required of a Department-wide, rigorous effort to assess our processes from top to bottom and implement fundamental changes that can provide significant savings and improvements.

In closing, my expectation is that we find and implement significant improvements to the efficiency and effectiveness with regard to the cost, timeliness and performance of the intermodal transportation infrastructure that we deliver to the great State of Florida.

AP/TBi

Florida DOT

How to Submit a Bold and/or Innovative Idea

SUGGESTOR RESPONSIBILITY - Submit the idea

We need to make sure the idea is understood by all who get involved. A “White Paper” concept is a short write up by the person who has the idea. Be sure to include:

PROBLEM STATEMENT: What is getting fixed or improved?
 COST/BENEFIT: What is the estimation in dollars and/or time?
 WHO will be involved or impacted by the proposed idea?
 TIMEFRAME: How long will it take for possible implementation?
 Contact information for clarification purposes

Where should you submit it?

Start with your supervisor; especially if it is something they have the power to implement or the Employee Suggestion Program.

What if you don't trust your supervisor to support the idea or the supervisor has not acted on an idea you submitted?

Use the Employee Suggestion Program or similar approaches available in your District, or Innovator's representative.

The cost center manager is asked to comment on the idea. It proceeds forward even if they do not support the idea.

PROCESSING THE IDEA

If you submit to your supervisor or any level of manager, they need to review the idea.

If they agree with the idea, and it is something they have to power and authority to implement, they are expected to implement the idea.

If they agree with the idea, but there are concerns about consistency, possible impacts to other units, or possible application of the idea statewide, the manager should forward the idea with their recommendation to the appropriate district or central office staff manager for proper consideration.

If the manager reviews the idea, but has concerns, and does not recommend for implementation, they should still forward the idea with their recommendation to the appropriate district or central office staff manager for a final review.

If there is ever doubt on where the idea should be directed, send it to your *Innovator!* representative.

If ideas get to the Innovators! Team, they will evaluate the potential for a Return on Investment (High, Medium, or Low)

For the ideas rated HIGH, the Innovators! Team will put together an appropriate Expert Task Team to further analyze the idea and determine appropriate implementation.

Expert Task Team members will get training in Team Problem Solving.

The Innovators! Team member will be liaison with the Expert Task Team to make sure they stay on track.

The Expert Task Team will have permission to do what it takes to get their mission accomplished.

Roadblocks to the Expert Task Team progress will be removed quickly.

A specific date for a report from the team will be established by the Innovators! Team.

Once a recommendation comes back, the right level of management will be brought in to make sure the recommendation gets implemented. If it is the Executive Leadership Team, we have their support. If it involves going outside the agency, that will not stop us.

MANAGEMENT RESPONSIBILITY

Acknowledge receipt of the idea.

Keep the employee informed as to status.

Once a final determination is made, let the employee know no matter the outcome.

2014-2015 Innovations Challenge

The 2014-2015 Innovations Challenge is designed to identify and share the best department innovations for all areas of the department.

- This challenge is open to all full-time employees.
- All innovations must be in use within the department and showing desired results.
- District and Central Office competitions run from August through December.
- Innovations must fall within these three categories:
 - o **Tools and equipment** – *This will include items fabricated or modified by MoDOT employees.*
 - o **Projects** – *This will include efforts resulting in exceptional results for transportation users or internal operations.*
 - o **Productivity** – *This will include office and field processes, materials and products.*
- Innovations will be judged on the following:
 - o **Originality** – *How new is it to MoDOT?*
 - o **Transferability** – *How likely is it to be used by other areas?*
 - o **Conservation of Resources** – *How much time or money does it save?*
 - o **Organizational Impact** – *How will it impact performance especially our Tangible Results?*
- Each district and the Central Office can select as many as six submissions in each of the three categories as first-round winners for a total of up to 18 per location.
- **First-round winners will receive \$75 per person or a maximum of \$450 per team.**
- District and Central Office coordinators will choose as many as 60 innovations to compete at the Innovations Showcase. The showcase will be held the first morning of the spring statewide maintenance and program development meeting.
- District and Central Office judges will select up to four innovation showcase winners per category at the showcase. **Showcase winners will earn \$425 per individual or maximum of \$1,550 per team.**
- A panel of judges will select one innovation to receive the Director's Safety Award along with a traveling trophy.
- Up to two innovations per category may be identified as statewide best practices. **Statewide best practices will earn an extra \$10,000 for the district or division budget.**
- Showcase visitors will vote for their favorite innovations with the top vote getter receiving a People's Choice Award trophy.