DRISI

Implementing and Reporting on Efficiencies and Process Improvements

Requested by
Troy Tusup, Division of Research, Innovation and System Innovation

December 2, 2019

The Caltrans Division of Research, Innovation and System Information (DRISI) receives and evaluates numerous research problem statements for funding every year. DRISI conducts Preliminary Investigations on these problem statements to better scope and prioritize the proposed research in light of existing credible work on the topics nationally and internationally. Online and print sources for Preliminary Investigations include the National Cooperative Highway Research Program (NCHRP) and other Transportation Research Board (TRB) programs, the American Association of State Highway and Transportation Officials (AASHTO), the research and practices of other transportation agencies, and related academic and industry research. The views and conclusions in cited works, while generally peer reviewed or published by authoritative sources, may not be accepted without qualification by all experts in the field. The contents of this document reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the California Department of Transportation, the State of California, or the Federal Highway Administration. This document does not constitute a standard, specification, or regulation. No part of this publication should be construed as an endorsement for a commercial product, manufacturer, contractor, or consultant. Any trade names or photos of commercial products appearing in this publication are for clarity only.

Table of Contents

Executive Summary

Background

California Senate Bill 1 (SB-1), the Road Repair and Accountability Act of 2017, requires the California Department of Transportation (Caltrans) to implement efficiency measures with the goal of generating at least $100 million annually in savings to redirect toward maintaining and rehabilitating the state's highways. (Caltrans is seeking to save over $200 million per year.) Capturing and reporting on the savings can be challenging. Other state departments of transportation (DOTs) have created processes to capture and report annual savings, and Caltrans can leverage these systems to develop custom processes that meet the needs of California and SB-1 requirements.

Caltrans is seeking information about other agencies' practices that will inform development of a business plan and accompanying materials for Caltrans to meet SB-1 reporting requirements. To assist Caltrans' efforts in developing this business plan, CTC & Associates contacted selected state agencies to learn more about process improvement strategies. Supplementing these findings is a sampling of the guidance developed in connection with SB-1 and reports of program results.

Summary of Findings

Survey of Practice

Survey questions were distributed by email to a small group of state DOTs expected to have experience with tracking and reporting on agency efficiencies and improvements. Five states (Colorado, Florida, Iowa, Missouri and Utah) provided written responses or feedback during phone interviews. A sixth state (Illinois) responded to specific questions about an agency initiative discovered after the survey for this project was developed.

Case studies summarize five of the responding agencies' practices for implementing and reporting on efficiencies. (The Iowa DOT respondent did not complete the survey, noting that he was not aware of any formal departmentwide program to identify, gather, quantify and track efficiencies. Instead, the respondent provided information about Iowa DOT's #Engage program, which involves staff members as Engagement Champions who promote and advocate for workplace engagement.)

A brief summary of the respondents' process improvement programs appears in Table ES1. More information about each program is available in the **Detailed Findings** section of the report (see page references in the table).

Table ES1. Respondents' Program Highlights

Agency/Office/Focus	Program Highlights	Page Number
Colorado DOT **Office of Process Improvement**	Launched in late 2011. Key programs include: • Lean Everyday Ideas. • Change Agent Network. Uses the Prosci ADKAR Model to train staff in change management. Limited experience quantifying results.	13

Agency/Office/Focus	Program Highlights	Page Number
Florida DOT **Strategic Initiatives, Engineering and Operations**	Launched in 2012. Key program: Invitation to Innovation involves Innovator Task Teams; staff submits innovative ideas on a SharePoint site. Analyzes return on investment (ROI) for its Transportation Work Program and for some individual projects; ROI is also a factor in adopting innovations.	21
Illinois **Office of Rapid Results**	Launched in May 2016. Key program: Rapid Results, which uses an internal SharePoint site to track Rapid Results projects and their impacts; separate scorecard tracks metrics by agency and statewide. Primary purpose is not to generate cost savings. The program "aims to … make work easier, better, faster and cheaper."	27
Missouri DOT **Organizational Performance**	Formalized, publicized performance measurement began in 2005. Key programs: • Tracker, a performance measurement publication. • Innovations Challenge. • MoDOT Results.	35
Utah DOT **Office of Performance and Process Improvement**	Purposeful tracking by the agency began in 2006. Key programs: • Statewide SUCCESS Framework. • Innovation and Efficiencies reporting. A statewide SUCCESS Framework performance equation has had limited application within the agency. Currently, the agency is reporting on metrics and expenditures but does not directly link the two.	42

Below are key findings from the following topic areas addressed in the case studies:

- Staffing.
- Gathering innovative ideas.
- Tracking performance.
- Engaging staff.
- Communicating results.
- Impact on agency culture.
- Lessons learned and recommendations.
- Focus of future efforts.

Publications provided by respondents or identified in a search for relevant literature appear after each case study in the **Detailed Findings** section of the report.

Staffing

The number of employees dedicated to process improvement efforts varied among respondents. Colorado and Illinois DOTs reported the most significant staffing levels.

Colorado DOT's Office of Process Improvement:
- Director (reports to the agency's chief operations officer).
- Senior program manager, Strategy and Change Management Services.
- Innovation and improvement lead.

- Administrative assistant.
- Interns (currently three part-time college students and three full-time recent graduates).

Illinois' Office of Rapid Results:
- Deputy director.
- Operational excellence managers (three).
- Marketing and communications manager.
- Administrative assistant.
- Interns (currently two).
- Contractors (two).

Both of these agencies employ interns. In Colorado, a formal internship program offers college students the opportunity to "gain valuable experience in process improvement and related disciplines." Interns serve in temporary jobs that have a maximum tenure of nine months; the typical intern works a five- to six-month term. Process improvement interns contribute by assisting process improvement teams, helping to implement the agency's change management program, and developing tools to enhance and evolve the process improvement program.

Table ES2 provides a summary of the staffing levels at each responding agency.

Table ES2. Staffing (Number, Type and Reporting Level)

Agency	Staffing (Number and Type)	Reporting Level
Colorado DOT	Ten staff members: • Director. • Three full-time regular staff. • Three full-time interns. • Three part-time interns.	Director reports to chief operations officer.
Florida DOT	No changes in the agency's organizational structure resulted with the launch of the Innovation Program.	N/A
Illinois Office of Rapid Results	Eight staff members: • Deputy director. • Five full-time regular staff. • Two interns. The office also employs two contractors.	Deputy director reports to Department of Central Management Services director.
Missouri DOT	The agency does not maintain a separate process improvement office or division, instead engaging employees across the department through participation in tracking performance and highlighting innovations.	N/A
Utah DOT	Two staff members: • Director. • Manager.	Director reports to Technology and Innovation director, who reports to the Planning and Investment deputy director.

Gathering Innovative Ideas

All agencies reported on activities to gather innovative ideas from staff members and, for one agency, external stakeholders. Table ES3 highlights these activities.

Table ES3. Agency Practices to Gather Innovative Ideas

Agency	Practice
Colorado DOT	**Lean Everyday Ideas** Staff members submit feedback using two paths: • I fixed it (for sharing implemented solutions). • I suggest (for sharing ideas). The process: • Identify a problem or opportunity. • Develop an innovative way of doing something better to solve that problem or seize upon that opportunity. • Implement the improvement. • Share the improvement using online Idea Cards so others can "borrow" the innovation.
Florida DOT	**Innovative Idea Collector** Staff members submit innovative ideas on the internal SharePoint Innovative Idea Collector web site, describing the idea's impact in the following categories: • Cost, including estimated cost savings. • Time, including estimated time savings. • Safety. • Environmental. • Customer service. Ideas are vetted by Innovator Task Teams that meet monthly and quarterly.
Illinois Office of Rapid Results	**Rapid Results Events** A team that includes front-line staff, supervisors, stakeholders and customers analyzes the current state of an identified process, breaks it down into specific steps and considers those process steps in connection with customer requirements. Rapid Results projects are tracked using four categories of metrics: easier, better, faster and cheaper.
Missouri DOT	**Innovations Challenge** This annual event encourages employees to submit best practices in three categories: • *Project best practices* (new construction techniques or "taking an innovative approach to an assigned project"). • *Productivity best practices* (automating or streamlining a time-consuming process and identifying innovative materials or products). • *Tool and equipment best practices* (items fabricated or modified by agency employees). Reviewers select 50 to 60 innovations to showcase during the annual statewide competition. Cash and other awards are given to winning entries.

Agency	Practice
Utah DOT	**Utah ID Portal** An internal web portal is used to document, share and vote on ideas. The portal also functions as a discussion platform much like social media where employees can like and comment on the posts. External stakeholders wishing to submit an idea can submit them to ideas@utah.gov.

Tracking Performance

Most agencies are attempting to track performance in some way. Quantifying that performance, particularly at an agencywide level, appears to be challenging for some agencies. Table ES4 highlights agency activities.

Table ES4. Agency Practices to Track Performance

Agency	Practice
Colorado DOT	The agency formally captures benefits but doesn't aggregate them.
Florida DOT	The agency continues to look for simple ways to gauge progress and refine performance measures over time, being careful not to be too prescriptive. • An employee survey with more than 60 questions on a range of topics includes six questions related to innovation. The agency plans to extract performance metrics from this survey related to the Innovation Program. • The agency plans to gather data for a benefit-type metric that considers the cost, time, safety, environmental impact and customer service of each innovative idea. Each idea submitter provides an initial estimate of these benefits when submitting the idea.
Illinois Office of Rapid Results	An internal SharePoint site tracks Rapid Results projects. Metrics tracked include trained employees, total projects, implemented projects, annual dollars saved, annual hours saved and annual days of lead time saved.
Missouri DOT	Tracker is the agency's performance measurement publication. Each performance measure included in Tracker is assigned the following: • *Result Driver*, a senior leader in charge of meeting the department's goals. • *Measurement Driver*, the lead staff person responsible for collecting data and meeting the specific measurement's objective. • *Data Driver*, the staff person charged with doing the data analysis. In 2020, the print publication will transition to online-only.
Utah DOT	SUCCESS Framework equation: Effectiveness and efficiency = QT/OE (where output is defined by both the quality (Q) and quantity (or throughput) of productivity (T); operating expenses (OE) describe input) To date, there has been limited application of this equation within Utah DOT. Currently, the agency is reporting on metrics and expenditures but does not directly link them. This type of quantification is a future goal.

Engaging Staff

Respondents take different tacks to engage staff in the agency's process improvement activities. Table ES5 highlights a few of the practices described in more detail in the case studies.

Table ES5. Agency Practices to Engage Staff

Agency	Practice
Colorado DOT	**Change Management** Launched in 2012, the Change Agent Network is managed by a senior program manager and a team of interns to: • Ensure that all staff members are successful with every change that impacts them. • Build organization competency and ability in order to be responsive. • Fully realize intended benefits of the agency's desired changes. Initially selected by Office of Process Improvement staff, change agents are now selected with the advice and counsel of leadership in regional offices.
Florida DOT	If an employee's idea is implemented, the employee is eligible for FDOT Innovator of the Quarter awards and Florida TaxWatch Productivity Awards.
Illinois Office of Rapid Results	**Rapid Results Workshops** Typical participants in the two-day Rapid Results Workshops are front-line and middle managers with a general management understanding of their agency's culture. Participants refine an idea for a Rapid Results project as part of the two-day workshop. Work on the Rapid Results projects begin after the workshop, and participants come back together several weeks later to report on project results.
Missouri DOT	**Participating in Tracker** • Being designated as a Measurement or Data Driver for a Tracker performance measure is seen by staff members as a growth opportunity. • Staff members working as Data Drivers are encouraged to work across divisions and engage with staff members outside their area of expertise, which breaks down the silo effect that can limit innovation. • Quarterly Tracker meetings bring together 100 to 150 people who are responsible for managing the data described in Tracker. These meetings are an opportunity for agency leadership to ask questions and engage with the staff members gathering and analyzing the data.

Agency	Practice
Utah DOT	**Utah ID Portal** The Ideas, Innovations and Efficiencies Group in the Learning Portal allows employees to vote for, comment on or share ideas. Staff can browse by tags and find topics of interest from among the over 200 ideas stored there. The respondent discussed the law of diffusion of innovation, noting that acceptance by a relatively small portion of a population is needed for something to become mainstream. Lacking that minimum level of acceptance, an idea or practice will fail to move into common practice.

Communicating Results

Agencies use a variety of methods to share process improvement results, both inside the agency and with external stakeholders. Table ES6 highlights a few of the practices described in more detail in the case studies.

Table ES6. Agency Practices to Communicate Results

Agency	Practice
Colorado DOT	The Lean Everyday Ideas program has generated more than 300 Idea Cards since January 2012. These single-page online "cards," which are recommended by Colorado DOT employees, briefly describe improvements that save time, effort or money.
Florida DOT	The agency shares the results of its innovation efforts by presenting at meetings, contributing to national guidance and co-authoring publications.
Missouri DOT	*Tracker*, the agency's performance measurement publication, has made measurement second nature within the agency. The respondent considers this emphasis on performance and accountability the agency's biggest strength. *MoDOT Results* is an annual publication that highlights savings to the DOT and its customers. An appendix to the report provides details of cost savings broken out by individual innovation or efficiency. *Citizen's Guide to Transportation Funding for Missouri* is an annual publication intended for an external audience that identifies the sources of transportation funding and how funding is distributed.
Utah DOT	The agency produces an annual Innovations and Efficiencies Report that has trended toward innovations and away from efficiencies. The respondent noted an interest in returning to a focus on efficiencies.

Impact on Agency Culture

The following summarizes respondents' perspectives on how agency culture has been impacted by process improvement efforts:

- *Colorado DOT*. The activities of the agency's Office of Process Improvement have been described as "building a culture of innovation and continuous improvement."

- *Florida DOT*. The respondent noted that the impact to agency culture "hasn't happened overnight," but the agency "has been willing to invest in innovation through time, money, training, new technologies, research and development, and new products."

- *Illinois Office of Rapid Results*. Literature describing Rapid Results often highlights the leveraging of expertise of front-line staff, distinguishing the program from more traditional top-down process improvement efforts.

- *Missouri DOT*. Obtaining tangible results is everyone's job. Results are addressed in performance reviews, where performance objectives are tied to tangible results, and achieving tangible results is integrated into the agency's culture.

- *Utah DOT*. An innovative culture is moving the agency toward formalizing process improvement strategies.

Lessons Learned and Recommendations

The following highlights the lessons learned and recommendations respondents offered to other agencies just starting out on the path of process improvement.

- *Colorado DOT.* In addition to reviewing the structure of the Malcolm Baldrige National Quality Award, an award established by the U.S. Congress in 1987, the respondent recommended the following:
    - Start small. Recognize every win and build on that success.
    - Identify some really good champions. Find a few managers who are thought leaders and want to try something different.
    - Learn from others. Reach out to other groups and agencies trying to do what you're doing. Share, collaborate and learn.

- *Illinois Office of Rapid Results*. The respondents recommended the following:
    - Bring people together. Develop a cohesive team, and move quickly.
    - Clearly define roles. Everyone needs to understand their jobs.
    - Never stop trying to improve.
    - Tackle small projects to gain momentum.
    - Generate excitement.

    The respondents also highlighted challenges the office has faced, including obtaining buy-in, working to withstand changes resulting from changing administrations, and bringing new people on board.

- *Missouri DOT*. Other agencies developing a focus on performance management are advised to "just start and do it," and start measuring even if the data isn't perfect. Other recommendations:
    - Obtain and maintain leadership support.
    - Focus on performance management, which will support innovations.
    - Maintain a willingness to change and be patient.

- *Utah DOT*. Some of the focus areas described by the respondent can serve as a roadmap for other agencies wishing to encourage and track process improvement:
    - Identify champions at the highest level; buy-in is critical.
    - Tap into data the agency is already collecting.
    - Formalize and document processes for knowledge management and repeatability.
    - Develop a communication plan to broadcast success.
    - Create the message of success and distribute it.

Focus of Future Efforts

Respondents are planning for what's next with their agencies' process improvement efforts. The following highlights a few of those plans:

- *Colorado DOT*. The Office of Process Improvement plans to focus on improvements associated with contractors' contributions to the agency. This more holistic view of the agency is expected to begin after 2020.

- *Florida DOT*. The agency has created a Statewide Innovator Task Team to work on its Idea Collector, a tool to gather innovative ideas from agency staff. The agency is also seeking to move from idea to implementation more quickly. Performance measures and reporting are both garnering attention for future improvements.

- *Illinois Office of Rapid Results*. Management's end goal with the Rapid Results program is encouraging and developing process improvement practices within each agency that are so robust and entrenched that a centralized office like the Office of Rapid Results is no longer needed.

- *Missouri DOT*. The agency is transitioning its Tracker publication from print to online-only in 2020, and will also consider other changes to the publication as it makes this transition.

- *Utah DOT*. The agency's strategic direction web presence will be used to help the agency tell its story rather than delivering that message in a new report or other form of communication.

Related Resources

A sampling of the publicly available information about SB-1 appearing on various California state agency web sites is provided to supplement the discussion of other agency practices. Included are guidance documents describing the programs affected by SB-1 requirements and the type of reporting required. Also cited are documents describing the CalSMART reporting tool used to submit quarterly reporting on Caltrans-implemented SB-1 projects on and off the state highway system. Examples of SB-1 project reports are provided for state, district and local projects.

Gaps in Findings

A relatively small number of agencies participated in the information-gathering effort for this project given the limited scope of a Preliminary Investigation. Additionally, some participating agencies did not report a significant level of experience with agencywide efforts to quantify and report on efficiencies. Contacting other agencies could produce additional relevant experience and recommendations in connection with implementing, quantifying and reporting on process improvement efforts.

Next Steps

Moving forward, Caltrans could consider consulting with the agencies participating in this information-gathering effort to learn more about specific agency practices and how they might be applied within Caltrans. Topics of interest might include:

- Colorado DOT's formalized internship program and future plans to apply process improvement principles to contractors' activities.

- Florida DOT's plans to establish metrics associated with innovations submitted by agency staff.

- The series of metrics established by Illinois' Office of Rapid Results to monitor the performance of Rapid Results projects.

- Missouri DOT's Tracker publication, which engages staff across the agency to gather, analyze and report on data associated with agency performance.

- Utah DOT's SUCCESS Framework, including application of the framework's efficiency equation (Q×T÷OE). This equation is described in SUCCESS Framework workshop training materials as "a universal formula to capture the performance over time of any system of work in government."

Caltrans might also seek out other agencies expected to have experience with process improvement to learn more about quantifying and reporting on process improvement efforts.

Detailed Findings

Background

California Senate Bill 1 (SB-1), the Road Repair and Accountability Act of 2017, requires the California Department of Transportation (Caltrans) to implement efficiency measures with the goal of generating at least $100 million annually in savings to redirect toward maintaining and rehabilitating the state's highways. (Caltrans is seeking to save over $200 million per year.) Capturing and reporting on the savings can be challenging. Other state departments of transportation (DOTs) have created processes to capture and report annual savings, and Caltrans can leverage these systems to develop custom processes that meet the needs of California and SB-1 requirements.

This project builds on the information presented in a December 2017 Preliminary Investigation, Implementing Efficiencies as Part of an Investment Strategy, that describes the efforts of six state DOTs (Colorado, Minnesota, Missouri, Utah, Washington and Wisconsin) to quantify efficiencies, apply performance measures or implement accountability practices. This project seeks additional information about agency practices, including:

- Tracking performance, including methods to quantify savings.
- Communicating with staff and agency management, and sharing data outside the agency (legislators and the public).
- Impact of agency efforts to track efficiencies.
- Tools, software, forms, templates and dashboard reporting mechanisms.
- Lessons learned from the agency's process improvement practices and reporting.

Caltrans is seeking this information to inform development of a business plan and accompanying materials that describe key findings and highlight the recommendations identified in the soon-to-be-developed business plan.

To assist Caltrans' efforts in developing this business plan, CTC & Associates contacted selected state agencies to learn more about process improvement strategies. To supplement these findings, CTC examined a sampling of the guidance developed in connection with SB-1 and reports of program results.

Survey of Practice

Survey questions were distributed by email to selected respondents from state DOTs known to have experience with tracking and reporting on agency efficiencies and improvements. The survey questions are provided in Appendix A. The pool of potential respondents included the following state DOTs:

- Colorado.
- Florida.
- Iowa.
- Minnesota.

- Missouri.
- Utah.
- Wisconsin.
- Washington.

Five states (Colorado, Florida, Iowa, Missouri and Utah) provided written responses or feedback during a phone interview. A sixth state (Illinois) responded to specific questions about an agency initiative discovered after the survey for this project was developed. Case studies summarizing each state's practices for implementing and reporting on efficiencies are presented below using the following topic areas:

- Background.
- Gathering innovative ideas.
- Tracking performance.
- Engaging staff.

- Communicating results.
- Impact on agency culture.
- Lessons learned and future plans.
- Related resources.

The availability of information determines which topic areas are addressed in the case studies and the level of detail. Not all case studies include all topic areas.

Colorado Department of Transportation

Gary Vansuch, director of Colorado DOT's (CDOT's) Office of Process Improvement, addressed portions of the survey in a brief phone interview. A summary of that discussion and other publicly available information follows Table 1, which highlights key elements of CDOT's process improvement efforts.

Table 1. Program Highlights: Colorado Department of Transportation

Approximate Implementation Date	Late 2011 (new director appointed)
Key Programs	• Lean Everyday Ideas. o CDOT staff submits suggestions for improvements. • Change Agent Network. o CDOT staff is trained to better manage change in their networks.
Tools	Prosci ADKAR Model
Quantifying Results	The agency formally captures benefits but doesn't aggregate them. It's possible to reduce some benefits to dollars, while for others the benefits of gaining efficiency are harder to assess in terms of dollars or staff time saved.
Contact	Gary Vansuch, Director, Office of Process Improvement, 303-757-9017, gary.vansuch@state.co.us.

Background

Innovation and improvement at CDOT began in late 2011 with the establishment of the Office of Process Improvement (OPI) and the appointment of Vansuch as its director. OPI has three lines of service:

- Process improvement.
- CDOT strategy.
- Change management program.

Staffing

In addition to its director, who reports directly to CDOT's chief operations officer, OPI employs the following staff:

- Senior program manager, Strategy and Change Management Services.
- Innovation and improvement lead.
- Administrative assistant.
- Interns (currently three part-time college students and three full-time recent graduates).

Internship Program

OPI's internship program offers college students the opportunity to "gain valuable experience in process improvement and related disciplines." Interns serve in temporary jobs that have a maximum tenure of nine months; the typical intern works a five- to six-month term. Process improvement interns contribute by assisting process improvement teams, helping to implement CDOT's change management program, and developing tools to enhance and evolve CDOT's process improvement program.

An intern report-out completed twice a year includes a summary of each intern's activities during his or her OPI term. Process improvement internship opportunities are posted occasionally throughout the year on the Colorado state government employment page.

Software and Systems

While the agency does not use specialized software to track its process improvement activities, CDOT does use the Awesome Table app in conjunction with Google Forms and Google Sheets as a cost-effective, visually pleasing way to display data online (see the Idea Cards discussed later in this case study as an example of this app's use). Other displays supported by the Awesome Table app include people directories, Gantt chart views and Google Maps. Awesome Table is available as a gadget for Google Sites and as a web app.

Gathering Innovative Ideas

CDOT gathers innovative ideas in several ways:

- Lean Everyday Ideas.
- Cross-functional improvement efforts.
- Transportation Lean Forum.

Lean Everyday Ideas. This decentralized, committee-based program involves one person or a small group of people who submit ideas through a web portal to:

- Identify a problem or opportunity.
- Develop an innovative way of doing something better to solve that problem or seize upon that opportunity.
- Implement the improvement.
- Share the improvement with others so they can "borrow" the innovation.

CDOT staff members can submit feedback using one of two paths:

- I fixed it (for sharing implemented solutions).
- I suggest (for sharing ideas).

CDOT estimates that 75 percent of front-line units engaged in improving the agency's business by June 30, 2019.

Summarized below is the Lean Everyday Ideas process:

- *Suggestion is submitted*. A CDOT employee submits a suggestion through the online portal. The employee receives an email from the Lean Everyday Ideas team acknowledging the submission and indicating that the team will be in touch soon to discuss the next steps. CDOT receives one suggestion approximately every five days.

- *Suggestion is evaluated*. The Lean Everyday Ideas team connects the suggester with a subject matter expert (SME) related to the suggester's topic for an email discussion of the suggestion. It takes an average of 2.5 days to facilitate the connection between the SME and suggester.

- *Suggestion is categorized*. After gathering information from the suggester, the SME determines if implementing the suggestion is feasible.
  - If it *is feasible*, the SME determines if the suggestion will be implemented.
    - If the suggestion *will be implemented*, the SME submits the implementation solution as a Lean Everyday Idea (documented and shared using the agency's Idea Card format), adding the suggester as a contributor to the Idea Card that summarizes the suggestion.
    - If the suggestion *won't be implemented*, the SME has concluded that more research is required before implementation. The Lean Everyday Ideas team follows up with the SME and suggester within three months to check on progress. At that time, the suggestion is reevaluated for implementation.
  - If it *isn't feasible*, the SME explains to the suggester why the suggestion can't be implemented.

In 2018, the Lean Everyday Ideas program was named a Top 25 program for the Innovation in American Government Award conferred by the Ash Center for Democratic Governance and Innovation at Harvard University.

Cross-functional improvement efforts. These larger, cross-functional improvements involve people from across CDOT "to collaboratively analyze and problem-solve new solutions that reduce waste and add value to CDOT's business practices."

Transportation Lean Forum. Vansuch coordinates this forum of government agencies from the United States, Canada and England with a connection to transportation and an interest in Lean principles and tools. Launched in 2012, the group meets every two months by videoconference for members to exchange information and ideas related to the application of Lean principles in their organizations. The forum's web site provides access to recordings of the bimonthly meetings, Lean tools and agency resources.

Tracking Performance

The agency formally captures benefits but doesn't aggregate them. Noting that other agencies are further ahead in quantifying the benefits of process improvements, Vansuch indicated that it's possible to reduce the benefits of some improvements to dollars, while for others the benefits of gaining efficiency is harder to assess in terms of dollars or staff time saved.

Engaging Staff

Change Management

Launched in 2012, CDOT's Change Agent Network (CAN) is managed by a senior program manager and a team of interns. A December 2018 webinar (see **Related Resources**, page 20) explains that change management has been embraced by CDOT to:

- Ensure that all CDOT staff members are successful with every change that impacts them.
- Build organization competency and ability in order to be responsive.
- Fully realize intended benefits of the agency's desired changes.

The December 2018 webinar defines change management at two levels:

- *Project level*: The application of a structured process and set of tools for leading the people side of change to achieve a desired outcome.
- *Organizational level*: A leadership competency for enabling change within an organization, and a strategic capability designed to increase change capacity and responsiveness.

Initially selected by OPI staff, change agents are now selected with the advice and counsel of leadership in regional offices. Training provides change agents with knowledge of the fundamentals of human behavior in times of change so they can assist their networks in responding to upcoming changes. Throughout the agency, adoption of new initiatives is expected to be accelerated under the change agents' guidance.

The CAN is divided by region offices that work together as a network. In 2018, CDOT had five CAN teams that included more than 100 change agents. CDOT managers and supervisors are assigned a change agent for complete coverage throughout the agency. Four dedicated regional sponsors lead teams of 10 or more change agents in each region. A team lead is assigned to each region. More than 35 project and change managers are overseeing more than 50 projects.

CDOT has concluded that change management is a "better way to support the roles in change (sponsors, managers and supervisors, employees, and project and change managers). It "results in more successful business projects" and "helps to make change (improvement) stick."

Training

In its early days, OPI provided role-based training for sponsors, managers and supervisors that expanded to include a three-day workshop for practitioners in 2014. The three-day course—Prosci's Change Management Course for Change Practitioners and Project Managers—provides participants with the tools needed to develop a change management plan. At the heart of the change management process is ADKAR (Awareness, Desire, Knowledge, Ability and Reinforcement), described as the "foundation for implementing successful changes."

In 2016, the agency tied its manager and supervisor course to the employee engagement action plan. In 2018, the office added an employee course on role-based training and hosted a state agency peer exchange. To date, many of the agency's leaders from across the department have been trained in change agent methodologies and participate in CAN activities.

Public Sector Change Practitioners

The Public Sector Change Practitioners is described as "an agnostic community of practice designed for those working in government who want to learn more about the people side of change." The group's bimonthly sessions provide a platform to presenters who offer an "in-depth overview of their individual change management journeys."

Communicating Results

Idea Cards. The Lean Everyday Ideas program has generated more than 300 Idea Cards since January 2012. These single-page online "cards" briefly describe improvements recommended by CDOT employees that save time, effort or money. Searchable online by publication date, description, category and region, each Idea Card describes the challenge, innovation and benefits of a suggestion submitted by a CDOT employee or group of employees. If the idea involves equipment, the parts used will be listed on the Idea Card. The card will also include the region and contact information for those participating in idea submission. More details available for each card vary and might include photos, specifications or easily reviewed and printable directions on how to "borrow" the idea and apply it to other potential improvements.

Improvement of the Week. These weekly online postings are another way to highlight results of the Lean Everyday Ideas program. OPI interns are charged with selecting items from among the Idea Cards and posting them online.

Maintenance Roadeos. Roadeos are described as "regional competitions where CDOT employees test their ability to operate maintenance vehicles (e.g., snowplows, skidsteers, graders, loaders, etc.) through an obstacle course with accuracy in the shortest time." In 2018, Lean Everyday Ideas team members attended nine roadeos to spread awareness of innovations.

Impact on Agency Culture

The activities of CDOT's OPI have been described as "building a culture of innovation and continuous improvement." In a December 2018 webinar presentation, Vansuch and his team indicated that change management "results in a more engaged culture."

The OPI web site provided this succinct description of process improvement and its impact on culture:

> The Office of Process Improvement (OPI) exists to help everyone within CDOT improve their work and build a culture of continuous improvement where every new idea is valued, tested, implemented and shared across CDOT. There are several different avenues CDOT employees use to improve processes, products and service.

Lessons Learned and Future Plans

Vansuch offered the following recommendations to other agencies implementing a process improvement program:

- *Start small*. Some top executives may want to make huge leaps forward. Go the other direction and focus on smaller initiatives instead. Start small, recognize every win and build on that success.

- *Identify some really good champions.* Find a few managers who are thought leaders and want to try something different, perhaps someone you've already worked with. Support these champions in the small projects you start with.

- *Learn from others.* Reach out to other groups and agencies trying to do what you're doing. Share, collaborate and learn.

He also recommended reviewing the structure of the Malcolm Baldrige National Quality Award. Established by the U.S. Congress in 1987, this award applies the seven criteria below, known as the Baldrige Criteria for Performance Excellence, to select award recipients:

- *Leadership*: How upper management leads the organization and how the organization leads within the community.

- *Strategy*: How the organization establishes and plans to implement strategic directions.

- *Customers*: How the organization builds and maintains strong, lasting relationships with customers.

- *Measurement, analysis and knowledge management*: How the organization uses data to support key processes and manage performance.

- *Workforce*: How the organization empowers and involves its workforce.

- *Operations*: How the organization designs, manages and improves key processes.

- *Results*: How the organization performs in terms of customer satisfaction, finances, human resources, supplier and partner performance, operations, governance and social responsibility, and how the organization compares to its competitors.

Focus of Future Efforts

Vansuch noted that thus far his efforts have been focused internally. With one-half of the agency budget distributed to contractors, future efforts will be focused on improvements associated with contractors' contributions to the agency. This more holistic view of the agency is expected to begin after 2020.

Related Resources

Innovation, Improvement and Empowerment at CDOT, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement
The home page for OPI, this web site offers a wealth of resources about the agency's process improvement efforts. A small sampling of the information accessible through this site is highlighted below.

Related Resources:

Change Management, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/change-management
From the web site: CDOT's ability to save lives, make people's lives better and positively impact Colorado's economy relies heavily on its employees responding quickly to change as it relates to their work. By addressing the people side of change, CDOT equips and empowers our internal customers so that everyone is successful with change.

Idea Cards, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/idea-cards
From the web site: At CDOT, the vision for Lean is: "Everyone, Everyday, Improving Every Process and Every Product, to Benefit Every Customer." Below you'll find hundreds of improvements from CDOT employees that save time, effort, or money, reduce waste, or improve customer service and safety.

Improvement of the Week, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/archives-featured-improvement-of-the-week
This site highlights one Idea Card each week to call attention to the agency's process improvement activities and encourage staff to "borrow" an implementable suggestion submitted by CDOT staff.

Internship Program, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/process-improvement-news
From the web site: CDOT's process improvement internship program is a partnership between CDOT and the student. College students gain valuable experience in process improvement and related disciplines, while CDOT benefits from the insight, talent and enthusiasm of the college student.

Larger Process Improvement Efforts, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/larger-process-improvement-efforts
From the web site: Some of CDOT's improvement efforts focus on larger, cross-functional processes. Such improvements involve people from across CDOT to collaboratively analyze and problem-solve new solutions that reduce waste and add value to CDOT's business practices.

Lean Everyday Ideas, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/lean-everyday-ideas
From the web site: Everyone at CDOT is encouraged to identify opportunities to make improvements to their workplaces and work processes, every day. These Lean Everyday Ideas (LEI) are innovations and improvements where one person (or a small group of people) will: identify a problem or opportunity; develop an innovative way of doing something better to solve that problem or seize upon that opportunity; implement the improvement, and let others know about it so that they can "borrow" the innovation, too!

Manager Start Guide, Resources, Tools, Readings and Submittals, Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/self-service/resources
This web page provides links to a series of quick start guides aimed at preparing managers to help their employees become engaged in improving processes. The guides include:
- Business case for Lean process improvement.
- Communicating about change.
- Engaging employees through "Everyday Ideas."

- Local process improvement.
- Performance and process measurement.
- Roles of managers during times of change.

Public Sector Change Practitioners (CoP), Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/community-of-practice
From the web site: The Public Sector Change Practitioners (PSCP) is an agnostic community of practice designed for those working in government who want to learn more about the people side of change. The PSCP provides bi-monthly sessions to discuss best practices, pitfalls and everything in between. Every session hosts one to two presenters who give an in-depth overview of their individual change management journeys. Some months a panel of experts is assembled to answer community questions. Audience members are encouraged to participate by asking questions both specific to the presentations or more broadly about change management. The PSCP consistently engages community members on a wide variety of topics and interests. We are an inclusive, proactive and engaged community of change management public sector professionals.

Transportation Lean Forum (TLF), Office of Process Improvement, Colorado Department of Transportation, undated.
https://www.codot.gov/business/process-improvement/multinational-transportation-lean-forum-tlf
Participants in this forum meet via teleconference "every-other-month to exchange information and ideas about Lean in their organizations."

"Making It Work: A Story of Improvement at the Colorado Department of Transportation," Gary Vansuch, Michelle Malloy and Geneva Hooten, Colorado Department of Transportation, *MoreSteam Master Black Belt Webcast Series*, December 2018.
https://media.moresteam.com/main/downloads/Webcast-Dec18-CDOT.pdf'
From the webinar description: Since 2011, a small team at the Colorado Department of Transportation has leveraged employee talent across the agency to help foster a culture of continuous improvement. Through an award-winning idea system to change management, CDOT is working to become a more efficient, effective and customer-service orientated transportation agency. This webcast will showcase CDOT's approach to building improvement through engagement and helping to make those changes stick with a structured approach to change management.

Awesome Table, Script Examples, undated.
https://awesome-table.com/
This web site provides access to a help forum and documentation about this software, which CDOT uses to present some of its online information. *From the web site*:

> Awesome Table is our web app that has the power to transform any plain and boring data into beautiful, dynamic, and functional views from a data source Google Spreadsheet. Awesome Table allows you to simply and easily create interactive views using data stored in Google Sheets.

The Prosci ADKAR Model, Prosci Inc., undated.
https://www.prosci.com/adkar
From the web site:

Focusing on the people side of change

The Prosci ADKAR Model is one of the most widely requested and sought-after models for change management. Backed by 20 years of Prosci research, the model is based on the common—yet often overlooked—reality that organizational change only happens when individuals change.

The ADKAR Model drives powerful results by supporting individual changes to achieve organizational success. The model offers a structured approach to ensure that each individual experiencing change moves through the five phases necessary to make overall change successful.

What is the Malcolm Baldrige National Quality Award (MBNQA)?, Quality Resources, American Society for Quality, 2019.
https://asq.org/quality-resources/malcolm-baldrige-national-quality-award
From the web site: The Malcolm Baldrige National Quality Award (MBNQA) is an award established by the U.S. Congress in 1987 to raise awareness of quality management and recognize U.S. companies that have implemented successful quality management systems. The award is the nation's highest presidential honor for performance excellence.

Florida Department of Transportation

Marsha Johnson, senior fiscal advisor in Florida Department of Transportation's (FDOT's) Strategic Initiatives, Engineering and Operations, provided written responses to the survey questions. A summary of those responses and other publicly available information follows Table 2, which highlights key elements of FDOT's process improvement efforts.

Table 2. Program Highlights: Florida Department of Transportation

Approximate Implementation Date	2012
Key Program	**Innovation Program (Invitation to Innovation)** • Statewide Innovator Task Teams. • SharePoint site for agency employees to submit innovative suggestions for improvement. • External site for stakeholders (contractors, consultants, general public) to submit suggestions.
Tools	The agency uses a SharePoint site to collect innovative ideas and display results on an internal dashboard.
Quantifying Results	FDOT analyzes return on investment (ROI) for its Transportation Work Program and some individual projects; ROI is also a factor in adopting innovations. Transportation benefits are compared to project costs and are most often expressed in terms of cost and time savings for Florida's businesses, workers and consumers. The intent of ROI is to help identify projects with benefits well in excess of their costs.
Contact	Marsha Johnson, Senior Fiscal Advisor, Strategic Initiatives, Engineering and Operations, 850-414-4647, marsha.johnson@dot.state.fl.us.

Background

As its Invitation to Innovation web site indicates, FDOT "continually strives to enhance all areas of its operations. In support of these efforts, the department encourages innovative ideas, research and accelerated implementation." Success will depend on the agency's "ability to carefully evaluate or implement the products and services provided to the users of Florida's transportation system," and its "continued goal is to utilize newly developed technology or employ creative thinking to generate greater value for every transportation dollar invested."

Staffing

The agency's organization chart did not change after its launch of the Innovation Program in 2012.

Gathering Innovative Ideas

FDOT solicits innovative ideas from external stakeholders and FDOT employees.

Transportation Innovation Challenge: Soliciting Ideas From External Stakeholders

FDOT's public-facing Transportation Innovation Challenge web site invites stakeholders to complete an online survey to share their thoughts on ways FDOT can challenge itself "to be innovative, efficient and exceptional." The one-page online survey, available at https://www.surveymonkey.com/r/fdotinnovation, includes a section for the submitter to describe the innovative idea and the program area relevant to the idea. Optional fields for the submitter's name and contact information are also included.

Innovative Idea Collector: Soliciting Ideas From FDOT Employees

When FDOT employees submit innovative ideas on the internal SharePoint Innovative Idea Collector web site, they are asked to describe the impact of the idea in the following categories:

- Cost, including estimated cost savings.
- Time, including estimated time savings.
- Safety.
- Environmental.
- Customer service.

Each innovative idea submitted through the Idea Collector web site is vetted through an Innovator Task Team. These teams meet monthly and quarterly. Ideas expected to have a statewide impact are forwarded to the Statewide Innovator Task Team to be vetted through the appropriate program area. For ideas presented through other avenues, expert task teams may be developed to formalize and implement specialized innovations, or program offices may develop a new process or practice that is then brought before the executive committee for approval.

FDOT established District Innovator Teams to help get the message out across the department. Most districts select a cross section of staff to serve as team members, ensuring the representation of expertise across various disciplines. At this time, there is no specific training, but some District Innovator Team members have participated in internal training and professional development for FDOT employees in supervisory positions (Supervisor Academy, Management Academy and Leadership Academy).

In addition to aiding in communication, the District Innovator Teams have provided ways to solve organizational innovation problems more efficiently, and Johnson noted the teams have "drastically reduced" the time required for implementing innovative solutions that were specific to a district. The team approach is described as "marshal[ing] the power of the innovation team to find innovative solutions quickly and foster[ing] a culture of innovation throughout the organization." No changes in the agency's organization chart or staffing were required to establish the Innovation Program.

Ideas that are ripe for implementation are encouraged to be shared in several ways:

- Presented at the monthly Executive Committee Workshop.
- Described in the internal *Innovation Rising* newsletter. (See Attachment A for a recent example.)
- Presented at various meetings, including district and central office town hall meetings, and meetings within individual offices.

Adopting Innovations

Some innovations are adopted more quickly based on their impact (for example, innovations without a statewide impact that can be implemented locally by a district office) or if the innovation is championed by a passionate advocate. As Johnson noted, these individuals are engaged and willing to do "whatever it takes to move forward with the innovation to get it implemented to make the improvement."

Innovations are also adopted based on ROI. FDOT analyzes ROI for its Transportation Work Program and for some individual projects. Transportation benefits are compared to project costs and are most often expressed in terms of cost and time savings for Florida's businesses, workers and consumers. The intent of ROI is to help identify projects with benefits well in excess of their costs. Johnson noted that while all ideas are reviewed for cost benefit, some may not have a monetary benefit but are applied to improve safety, boost employee morale or improve customer service.

FDOT's Structures Research Center and Materials Lab conducts much of the testing required in connection with new innovations prior to adoption.

Implementation Tools

FDOT purchased the Innovation in a Box program, also referred to as the i5 Process, to "provide direction and support" for the agency "to be successful on real projects from concept to completion." An article in the Spring 2016 *Innovators!* newsletter describes how the i5 Process was used to innovate utility coordination (see **Related Resources**, page 26, for a link to this publication).

Tracking Performance

Johnson acknowledged that developing performance measures for innovation is challenging but these measures are needed. The following summarizes FDOT's measurement practices:

- Performance measures are included in the business plan for the agency's directors in Engineering and Operations.
- FDOT distributes an employee survey that includes more than 60 questions that examine topics such as working conditions, effective leadership, awards and recognition.

Six questions are related to innovation. FDOT plans to extract performance metrics from this survey related to the Innovation Program.

- The agency also plans to gather data for a benefit-type metric that considers the cost, time, safety, environmental impact and customer service of each innovative idea. Each idea submitter provides an initial estimate of these benefits when submitting an innovative idea.

- FDOT has an extensive set of performance measures used to measure progress toward agency goals. See **Related Resources**, page 26, for publications describing these measures.

Johnson noted that the agency continues to look for simple ways to gauge progress and refine performance measures over time, being careful not to be too prescriptive.

Engaging Staff

Employees submit ideas through the Innovative Idea Collector. If an employee's idea is implemented, the employee is eligible for the following awards:
- FDOT Innovator of the Quarter awards.
- Florida TaxWatch Productivity Awards. Nominations reflect an innovative or outstanding idea or practice that has led or will lead to taxpayer savings, improved service delivery or overall taxpayer value.

The agency is also planning to hold a statewide expo to highlight implemented ideas and recognize some of the employees who have submitted ideas. "Recognition is a big issue for us," Johnson said.

Johnson also reflected on the importance of employee engagement: "We are continuously asking our employees to look for ways to change [the] status quo! As the industry and transportation needs evolve, we must take advantage of our institutional knowledge, capitalize on new perspectives within the FDOT, and advance our culture so that all employees are engaged in innovating the way we do business. Our younger generation has grown up in a very fast-paced world, so it is vital that we keep up with their expectations and attention span to keep them engaged and offering their perspective."

Communicating Results

FDOT shares the results of its innovation efforts through a variety of activities:

- *Meeting presentations*. FDOT staff members present at meetings of national transportation and engineering-related trade associations, participate in Every Day Counts regional summits, and meet with industry groups such as the Post-Tensioning Institute and American Segmental Bridge Institute (ASBI) to collaborate on training activities.

- *Contributing to national guidance*. FDOT's Structures Office was recently asked by ASBI to write a chapter that mirrors FDOT policies.

- *Co-authoring publications*. FDOT is co-authoring a presentation with Federal Highway Administration that highlights FDOT's past, present and future applications of accelerated bridge construction.

Impact on Agency Culture

When asked about the impact of the agency's process improvement efforts on agency culture, Johnson noted that it "hasn't happened overnight," but the agency "has been willing to invest in innovation through time, money, training, new technologies, research and development, and new products." Johnson also said, "We will continue to invest in our people," and offered this recommendation: Value your people and your people will value what they do.

Underscoring the focus on employee engagement, FDOT's assistant secretary makes annual visits to all seven geographic districts, thanking the District Innovator Teams for their service and asking for feedback on what's working and what could be improved. Johnson noted that these visits have been very well received by FDOT staff members.

Lessons Learned and Future Plans

FDOT is continuing to improve its Idea Collector and has created a Statewide Innovator Task Team to work on it. The agency is also seeking to move from idea to implementation more quickly. Johnson noted that an agency of FDOT's size presents particular challenges when attempting to implement rapid change. Performance measures and reporting are both garnering attention for future improvements.

Related Resources

Transportation Innovation Challenge, Invitation to Innovation, Florida Department of Transportation, 2019.
https://www.fdot.gov/agencyresources/innovation/default.shtm
From the web site: The Florida Department of Transportation continually strives to enhance all areas of its operations. In support of these efforts, the department encourages innovative ideas, research and accelerated implementation. Success will depend on our ability to carefully evaluate or implement the products and services provided to the users of Florida's transportation system. Our continued goal is to utilize newly developed technology or employ creative thinking to generate greater value for every transportation dollar invested.

Transportation Innovation Challenge Responses, Transportation Innovation Challenge, Invitation to Innovation, Florida Department of Transportation, undated.
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/agencyresources/innovation/documents/ticresponses.pdf?sfvrsn=d5f09559_4
This undated document describes innovative ideas submitted in 2017 and 2018, and FDOT's response.

Design Innovation, Office of Design, Florida Department of Transportation, 2019.
https://www.fdot.gov/design/innovation/default.shtm
From the web site: After researching and evaluating many innovative ideas, the Central Office has developed a list of concepts, products and services that may be the best solution to the project's needs or design challenges. Some items on the list are completely developed, and only need tailoring to your project. We encourage you to propose one or more of these innovations for project specific solutions with confidence of approval by the Districts.

2017 Performance Report, Florida Department of Transportation, undated.
https://www.fdot.gov/docs/default-source/content-docs/planning/performance/2017Performance.pdf
From the report:

> This report provides a snapshot of select measures that are used to inform decisions and provide feedback on the performance of FDOT, our partners, and Florida's transportation system. While the direct impact of the Department's efforts on individual measures varies, the suite of measures reported here collectively provides a high-level overview of performance.

Ten performance measures are provided in the following categories: infrastructure, mobility, safety and accountability.

The FDOT Source Book, Forecasting and Trends Office, Florida Department of Transportation, 2018.
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/fto/sourcebook/2018sourcebook.pdf?sfvrsn=59320405_46
From the introduction: The FDOT Source Book – 2018 (Source Book) describes the mobility performance of Florida's transportation system using decades of research and historic data from multiple sources including vehicle probe data, volumes, and roadway geometry. Through the Source Book, a comprehensive report is provided for all major modes of travel in Florida. Although the Source Book measures are not facility specific, they are the aggregation of measures calculated at the facility level. Some of these mobility measures are leveraged for making funding decisions when used at the segment level. The Source Book provides mobility performance measures for every segment of the State Highway System.

Innovation Rising: Transportation in the Sunshine State, Update No. 5, Florida Department of Transportation, January 2018.
See Attachment A.
This is an example of the internal newsletter the agency produces to highlight its work in innovation.

Innovators! Update No. 3, Florida Department of Transportation, Spring 2016.
https://www.juiceinc.com/files/documents/Innovators_Update_No_3_FDOT).pdf
From the newsletter: In February 2015, we purchased a program that provides a structured process for innovation, "Innovation in a Box." This program includes five steps, known as the i5 Process, designed to provide direction and support for you to be successful on real projects from concept to completion. This product has proven to be very helpful and well received throughout the agency.

"Innovation and the Journey," Jim Boxold, *From the Road Blog*, Florida Department of Transportation, May 2016.
https://communications.transportation.org/wp-content/uploads/sites/2/2017/05/10d-Florida-blog.pdf
The blog maintained by the Florida DOT secretary included the following post that describes what's next for the Statewide Innovator Task Team:

> Now that the Innovators Team has been in existence for around four years, what have we done to make the process easier?
> - We created the District/CO [central office] Innovator! Teams to deliver the message and to implement the ideas quicker.

- We produced an on-line submittal form—we have both an "Intranet" and an "Internet" site. This will cover both our employees and our external transportation partners. The tool is very easy to find and use to submit your idea.
- We selected i5 Tools—after researching seven innovation training companies with experience in the public and private sectors, we chose Juiceinc i5 Innovation in a Box as the process to be used. We completed one set of training and will do another round of training as well.

Innovation in a Box, Juice Inc., 2019.
https://www.juiceinc.com/programs/show/innovation-training
From the web site: Over the past 10 years, we've carefully curated the best tools to enable 5 stages of innovation—the i5 Process. These tools will help your people:
- Get clear on the opportunity they're working on.
- Understand the challenge/opportunity deeply.
- Brainstorm effectively.
- Decide on the best ideas to move forward.
- Prepare prototypes, experiments and a strategic game plan to make their idea real.

Innovation in a Box will equip your people with the process and tools to enable your innovation strategy. We'll engage your people in learning the Innovation in a Box approach while working on real, meaningful and relevant challenges ensuring the time you invest delivers immediate value.

Illinois Department of Central Management Services

Two staff members of the Office of Rapid Results—Kajanda Love, continuous improvement manager, and John Powell, marketing and communications manager—within the Illinois Department of Central Management Services addressed questions about their office's Rapid Results program in a phone interview. A summary of that discussion supplemented by information provided by Love and other publicly available information follows Table 3, which highlights key elements of the Office of Rapid Results' process improvement efforts.

Table 3. Program Highlights: Illinois Department of Central Management Services

Approximate Implementation Date	May 2016
Key Program	Rapid Results
Tools	An internal SharePoint site is used to track Rapid Results projects and their impacts. A separate scorecard tracks metrics by agency and statewide.
Quantifying Results	The program's primary purpose is not to generate cost savings. The program "aims to [in this order] make work easier, better, faster and cheaper."
Contacts	Kajanda Love, Continuous Improvement Manager, 217-558-4645, kajanda.love@illinois.gov; John Powell, Marketing and Communications Manager, john.powell2@illinois.gov.

Background

In the summer of 2015, the Illinois Governor's Office began an investigation of Lean management solutions. That investigation resulted, in part, in the May 2016 launch of the Office of Rapid Results (ORR) within the state's Department of Central Management Services. In addition to providing centralized statewide training on continuous improvement principles and project implementation support for all state executive agencies, ORR also coordinates the collection and reporting of process improvement metrics.

A summary of ORR's origins and activities highlights the two core principles underlying its efforts:

- Respect for people.
- Continuous improvement.

ORR "uses proven principles of operational excellence and continuous improvement to evaluate and improve Illinois [s]tate [g]overnment [s]ervices. Unlike traditional "top down" operational improvement initiatives, Rapid Results leverages the expertise and knowledge of front line state government employees in the identification of solutions." The ORR focus is on creating value for the customer and eliminating waste, with the goal of making work "Easier, Better, Faster and Cheaper—in that order."

ORR's strategies and objectives include:

- Educate — develop extraordinary leaders.
- Facilitate — provide comprehensive project facilitation services.
- Communicate — share the experiences of successful Rapid Results leaders.
- Evaluate — benchmark the agency's success against the best organizations in the nation.

Staffing

ORR's current staff includes:

- Deputy director.
- Operational excellence managers (three).
- Marketing and communications manager.
- Administrative assistant.
- Interns (currently two).
- Contractors (two).

Each of ORR's operational excellence managers is assigned a group of agencies or departments to assist with process improvement. Relationships are developed during monthly or more frequent meetings. Each operational excellence manager is engaged in promoting and fostering the growth of these agencies, offering ideas and assisting with training. Through these contacts, Rapid Results champions within each agency are identified and cultivated.

Gathering Innovative Ideas

Rapid Results Events

During a Rapid Results Event, a team that includes front-line staff, supervisors, stakeholders and customers meets to analyze the current state of an identified process, breaks it down into specific steps, and considers those process steps in connection with customer requirements. Process steps that are not deemed to add value are considered for removal or improvement. Using brainstorming and collaboration, the team designs a more efficient and effective process.

A presentation describing the application of Rapid Results in the Illinois Department of Revenue highlights key elements of the approach to a Rapid Results Event:

- Assemble stakeholder representatives.
- Map the current value stream or process.
- Determine process cycle times.
- Determine process lead/wait times.
- Determine costs associated with the current condition.
- Determine the customer requirements.
- Identify wastes and value-added steps.
- Perform root cause analysis on wastes, including:
    - Overproducing.
    - Inventory (any form of batch processing).
    - Waiting.
    - Extra processing.
    - Correction (any form of defects).
    - Excess motion (movement of people).
    - Transportation (movement of paperwork).
    - Underutilized people (people's abilities, not their time).
- Map a desired future state.
- Develop an action plan for improvement.
- Track implementation of action items.
- Measure and evaluate results.
- Standardize improvements.

Tracking Performance

An internal SharePoint site is used to track Rapid Results projects and their impacts. A separate scorecard tracks metrics by agency and statewide. The metrics tracked include:

- Trained employees.
- Total projects.
- Implemented projects.
- Annual dollars saved.
- Annual hours saved.
- Annual days of lead time saved.

The office expanded its metrics in July 2019 (see Attachment B for details). Metrics are organized into four categories:

- Easier.
- Better.
- Faster.
- Cheaper.

Tracking time and money are fairly recent advances that allow the agency to track smaller projects that might slip through the cracks.

Staff members use the SharePoint portal to enter Rapid Results projects. Some of the fields staff members use to enter their projects include:

Projects in the **Easier** category:

- Nonvalue added steps eliminated.
- Handoffs eliminated.
- Nonvalue added decision points eliminated.
- Fields/forms eliminated.
- Nonvalue added approvals eliminated.

Projects in the **Better** category:

- Rework loops eliminated.
- Customer satisfaction increased.
- Errors eliminated.
- Quality improvement.

Projects in **Faster** category:

- Incomplete items eliminated.
- Preimplementation annualized lead time and postimplementation annualized lead time.
- Preimplementation annualized process time and postimplementation annualized process time.
- Preimplementation annualized wait time and postimplementation annualized wait time.

Projects in the **Cheaper** category:

- Preimplementation annualized cost and postimplementation annualized cost to date.
- Preimplementation annualized indirect cost and postimplementation annualized indirect cost to date.
- One-time cost saved.
- Paper savings.

Reminder messages are generated to keep the project on track.

Engaging Staff

While ORR maintains a calendar of events and workshops, Rapid Result champions in each agency maintain their own training schedules, offering one-day classes to supplement the three-day multiagency Rapid Results Workshops described below.

Rapid Results Workshops

The typical participants in the three-day Rapid Results Workshops are front-line and middle managers with a general management understanding of their agency's culture and an "adequate understanding of agency specific policies, work standards and regulations which impact their areas. The ideal candidate is a high capacity employee with proven leadership, change management and interpersonal skills who possesses a desire to achieve high levels of performance."

During the workshops, participants learn about the principles, tools and techniques of continuous improvement, ways to apply value stream mapping to a work process, and methods to apply metrics to measure outcomes and results.

At the time of registration, participants are required to identify three to four ideas for potential Rapid Results projects within their agencies. Project ideas should be simple, aligned with the agency's strategic improvement goals and supported by agency management. Before the end of the second day of the workshop, each participant selects a Rapid Results project and completes a charter for the project that he or she will work on in the coming weeks. Several weeks after their initial meeting, workshop participants return for a third day to deliver a brief presentation on the status of their Rapid Results improvement projects. All participant improvement projects are reviewed with management and considered for implementation.

Communicating Results

ORR's SharePoint portal is used to enter Rapid Results data and generate reporting of results.

Impact on Agency Culture

Literature describing Rapid Results often highlights the leveraging of expertise of front-line staff, distinguishing the program from more traditional top-down process improvement efforts.

According to Love, management's end goal with the Rapid Results program is encouraging and developing process improvement practices within each agency that are so robust and entrenched that a centralized office like ORR is no longer needed. She noted that agencies are already moving in that direction and hiring their own operational excellence managers. Eventually, as this long-term goal is met across all executive agencies, ORR would move away from its more comprehensive process improvement charge to focus on overseeing multiagency projects.

Lessons Learned and Future Plans

Love and Powell offered the following recommendations to agencies just beginning to focus on process improvement:

- Bring people together. Develop a cohesive team, and move quickly.
- Clearly define roles. Everyone needs to understand their jobs.
- Never stop trying to improve.

- Tackle small projects to gain momentum.
- Generate excitement.

Challenges faced by ORR have included:
- Obtaining buy-in.
- Working to withstand changes with changing administrations.
- Bringing new people on board.

Related Resources

Office of Rapid Results, Illinois Department of Central Management Services, undated. See Attachment B.
This document provides a high-level overview of the Rapid Results program and Rapid Results Workshops. Also included are descriptions of the Rapid Results metrics.

Rapid Results Initiative (Personnel), State of Illinois, Department of Central Management Services, *2017 Innovations in State Government*, National Association of State Chief Administrators, undated.
https://collaborate.nasca.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=338ec31f-d5e5-91e5-9527-a2d610f815cd&forceDialog=0
This document is Illinois' submission for the 2017 Innovations in State Government award, a program designed to "recognize state administration department programs and projects that exemplify best practices." Illinois' submission won the 2017 award in the Personnel category.

"Mission Excellence/Rapid Results: Continuous Process Improvement," Dan Hall, Illinois Department of Revenue*, 2018 Midwestern States Association of Tax Administrators Annual Meeting*, August 2018.
https://taxadmin.memberclicks.net/assets/docs/Meetings/18_msata/Tuesday%20GS%20-%20Process%20Improvement%20-%20IL.pdf
This meeting presentation provides a good summary of the Rapid Results approach and its impacts within the Illinois Department of Revenue.

Iowa Department of Transportation

David Putz, survey and measurement administrator in Iowa DOT's Strategic Performance Division, provided an email response in lieu of completing the survey. While Putz noted that he is not aware of any formal departmentwide program to identify, gather, quantify and track efficiencies, he did provide a historical perspective on organizational performance management within Iowa DOT and his personal observations based on more than 20 years of experience in the agency.

Historical Perspective: Quality Teams

When Putz began his tenure at Iowa DOT in 1996, he provided analytics support for quality teams. Each team included a lead worker, who often dealt with "soft" side/work environment issues in addition to overseeing the quality improvement effort. A trainer provided classes on quality and continuous improvement; Putz provided analytics support. Putz estimates that between 30 and 40 staff members received training at various times as process improvement facilitators. Projects were identified through the agency's top management team. That process

improvement effort and focus no longer exist; Putz noted that "an effort several years ago [that] was made to introduce Lean practices did not take hold."

Current Agency Efforts

Putz's current activities are focused on more department-level efforts, including compliance with the state's Accountable Government Act reporting, organizational performance management, measurement, surveys and employee engagement. Putz also noted that the department has a relatively new Project Management Office that was created to help the agency improve its project management capabilities in the Highway Division. He is not aware of any formal measure, equations or software used to calculate or track efficiencies or savings.

Employee Engagement

Iowa DOT is encouraging employee engagement through its #Engage program. Engagement Champions—staff members who promote and advocate for workplace engagement—are described in more detail on the Iowa DOT web site:

> An Engagement Champion is an advocate who promotes engagement and provides ongoing support and coaching to leaders, managers and teams. Engagement Champions help leaders, managers and organizations incorporate shifts in behavior that inspire engagement, foster collaboration and drive performance.

> These employees become engagement experts who help leaders, managers and teams create new openings for strengthening engagement and performance. Champions advocate for the creation of an engaging workplace and provide support during the engagement process.

Engagement Champions participate in Gallup's Creating an Engaging Workplace for Champions program, a two-day, on-site training program that "provides simple, conceptual engagement strategies and techniques to create an engaging culture by promoting engagement, offering advice, collecting best practices and educating leaders, managers and teams about engagement."

Some of the 25 staff members expected to be trained as Engagement Champions will be the DOT's workforce coordinators. The remaining pool of champions will participate in each district in support of field staff.

Recommendations

Putz offered his recommendations for best practices for process improvement and reporting on investment efficiencies based on his long experience with strategic performance:

- For any process improvement effort to ultimately be successful, it will be vital that both the "hard" side and "soft" side be acknowledged and supported.
- While issues such as tracking performance, communications, and tools and documentation are clearly important, clarity and support for roles within an efficiency-focused effort are necessary both for internal guidance and external acknowledgment and integration.

Contact

David Putz, Survey and Measurement Administrator, Strategic Performance Division, Iowa Department of Transportation, 515-239-1297, david.putz@iowadot.us.

Related Resources

"Changing the Strategy Behind Strategic Planning at the Iowa DOT," Blog Post,
Transportation Matters for Iowa, April 2015.
https://www.transportationmatters.iowadot.gov/2015/04/changing-the-strategy-behind-strategic-planning-at-the-iowa-dot.html
This online post quotes David Putz as he describes how Iowa DOT's strategic plan will be used
to focus agency efforts on process improvement:

> Likely there will always be more areas that can benefit from process improvements than can
> be tackled at one time. As the strategic plan team worked to approach planning this time
> around, they decided they needed to limit the areas to be addressed and determine the
> order in which to tackle them in order to make the largest impact to the department. It was
> determined that management team would provide guidance on the order in which the areas
> will be addressed. Once the first area to tackle is identified, employees who know and/or
> work in the area, or subject matter experts, are brought in. These employees will look at
> what needs to be accomplished and develop an implementation plan to address issues.
> Putz said, "We are still early in the process, but it just makes sense to have employees who
> know the most about subject areas play a critical part in developing improvement strategies.
> The challenge to management will then be to make sure these teams have the resources
> needed to implement the changes."

The online post also identifies the five key initiatives for change identified by the management
team: performance management, data integration, portfolio and project management,
organization communication, and workforce and knowledge management.

Performance Management: Iowa DOT Strategic Plan, Iowa Department of Transportation,
undated.
https://iowadot.gov/strategicplan/current-initiatives/performance-management
This web site provides links to final documents for the agency's performance management
implementation work plan (see
https://iowadot.gov/strategicplan/docs/SPPMworkplanFINAL.pdf).

Employee Engagement, Iowa Department of Transportation, undated.
https://iowadot.gov/employeeengagement/Home
This web page provides links to the agency's blog posts, director's reports and general
information about the agency's employee engagement efforts.

Missouri Department of Transportation

Karen Miller, organizational performance specialist in Missouri DOT's Transportation Planning Division, addressed the survey questions in a phone interview. A summary of that discussion, supplemented by information provided by Miller and other publicly available information, follows Table 4, which highlights key elements of Missouri DOT's process improvement efforts.

Table 4. Program Highlights: Missouri Department of Transportation

Approximate Implementation Date	2005 (formalized print version of Tracker); performance measure analysis predates the 2005 publication of Tracker
Key Programs	• Tracker. • Innovations Challenge. • MoDOT Results.
Tools	Tracker's measurement and data drivers
Quantifying Results	• Tracker examines seven categories of Tangible Results that are tracked using 45 to 50 specific performance measures. • MoDOT Results is an annual report that describes savings for the DOT and its customers. Spreadsheets provide details of individual cost savings for the innovations and efficiencies rolling up into departmentwide cost savings.
Contact	Karen Miller, Organizational Performance Specialist, Transportation Planning Division, 573-522-5529, karen.miller@modot.mo.gov.

Background

Missouri DOT's Tracker began publication in 2005 with 17 Tangible Results, described as outcomes the agency's customers expect to see. The quarterly publication is viewed by the agency as a "tool to assess how well we deliver services and products to our customers. Much like a GPS tracking system, this tool can only show the direction in which the department is headed. We must determine if it is going in the right direction to best serve our customers." The initial 17 Tangible Results were reduced to seven in 2011 as a result of fiscal constraints. The 200 performance measures the agency started tracking have been reduced to near 50.

In addition to the performance management highlighted in Tracker, Missouri DOT is also known for its application of practical design and a focus on innovations.

Staffing

Missouri DOT does not have a single department charged with coordinating all process improvement activities. Employees throughout the agency are involved in process improvement efforts through their contributions to the Tracker publication and participation in the Innovations Challenge.

Gathering Innovative Ideas

Innovations Challenge

Launched in 2007 to showcase original ideas for tool and equipment innovations, the Innovations Challenge has selected more than 250 innovations to become Missouri DOT best

practices from more than 1,500 employee submissions. The challenge has expanded from its initial focus on efforts in the field to consider office-related innovations.

Employees participating in the challenge submit best practices submitted in three categories:

- *Project best practices* include "efforts resulting in exceptional results for transportation users or internal operations." These might be new construction techniques or "taking an innovative approach to an assigned project."

- *Productivity best practices* include "improvements to office and field processes, materials and products," such as automating or streamlining a time-consuming process and identifying innovative materials or products.

- *Tool and equipment best practices* include items fabricated or modified by Missouri DOT employees.

An Innovations Challenge Coordinator is named for each district. Applications are submitted and voted on. Submitters of winning entries in the first round are given cash awards. In the second round, winning submissions are selected from each of the three best practice categories. Statewide teams using surveys and multidisciplinary technical review committees select 50 to 60 innovations to showcase during the statewide competition held in conjunction with the agency's annual statewide DOMInno (Design, Operations, Maintenance, Innovation) meeting. Submitters bring in posters and equipment that are viewed in an exhibit hall open to Missouri DOT staff members. Hundreds of employees in the program delivery and operations and maintenance units participate in the annual Innovations Challenge Showcase.

Implementing Innovations

Miller noted that it's difficult to implement an innovation at the statewide level. For the last two to three years, the agency has set aside operational funds to replicate new innovations. Miller pointed to the 2017 winner of the Innovations Challenge Showcase, the TMA Flagger, as an example of the agency putting money behind an innovation. This innovation, developed by the Kansas City District, won both of the top two awards at the 2017 showcase (the People's Choice Award chosen by all attendees and the Director's Safety Award chosen by event judges). The TMA Flagger innovation allows the driver of a truck-mounted attenuator to remotely operate a stop-slow paddle, a digital message and a panic air horn from the safety of the truck's cab. A request for proposal has been issued to procure 40 of these units.

Process improvement is associated with the Innovations Challenge too. The July 2018 Missouri DOT publication, FOCUS: Strategic Initiatives for Continuous Improvement, includes a measure that tracks and seeks to improve on Innovations Challenge submissions. Among the measures tracked:

- Number of submissions (176 is the annual target).
- Number of approved best practices (57 is the 2018 target).

The FOCUS assessment also noted that transportation planning staff is working with location coordinators and regional managers to increase participation, expanding a preshowcase evaluation process and a new online virtual showcase designed to generate more interest in the program.

Tracking Performance

Tracker

Tracker is the agency's performance management publication. Rather than taking the approach of applying a single equation to assess performance or process improvement, Missouri DOT has developed a comprehensive series of measures that are considered individually and evaluated in the collective in multiple agency publications (see **Communicating Results** for more information).

Launched with an evaluation of 17 Tangible Results, in 2011 the quarterly publication reduced the number of broad measurement categories to seven as a result of fiscal constraints. The seven broad categories of results, as reflected in the most recent Tracker publication, include:

- Keep customers and ourselves safe.
- Provide outstanding customer service.
- Deliver transportation solutions of great value.
- Use resources wisely.
- Keep roads and bridges in good condition.
- Operate a reliable and convenient transportation system.
- Advance economic development.

The most recent Tracker publication includes 48 individual performance measures within the seven broad categories of Tangible Results. Measures are evaluated quarterly, semiannually or annually. Each measure includes a description of the approach to measurement and data collection, a brief summary of the measure's significance and targets that the agency hopes to achieve. Commentary on the current results is supplemented with graphical representations of the data that illustrate how the agency compares with internal and external benchmarks.

Each performance measure included in Tracker is assigned the following:

- *Result Driver*, a senior leader in charge of meeting the department's goals.
- *Measurement Driver*, the lead staff person responsible for collecting data and meeting the specific measurement's objective.
- *Data Driver*, the staff person charged with doing the data analysis.

An internal Tracker supplement is used to measure items district by district. The person assigned as the Measurement Driver participates in production of the district supplement. Each district also maintains a district version of Tracker (also an internal document) that examines monthly, quarterly and annual measures. Each district determines what's important, measures it and holds regular performance review meetings.

Tracker is scheduled to be transitioned to an online-only document in 2020. Miller noted that Tracker was revamped 10 years ago, and the agency will consider further changes when transitioning from a print to digital publication.

Engaging Staff

Tracker Participation

According to Miller, staff members consider participating as a Measurement or Data Driver for one or more of the Tracker performance measures as a growth opportunity. Quarterly Tracker meetings bring together 100 to 150 people who are responsible for managing the data described in Tracker. These meetings are an opportunity for agency leadership to ask questions and engage with the staff members gathering and analyzing the data.

She added that the staff members working as Data Drivers for Tracker measures are encouraged to work across divisions and engage with staff members outside their area of expertise, which breaks down the silo effect that can limit innovation.

Employee Advisory Council

The Employee Advisory Council was established in 2004 in response to suggestions from the annual employee survey. Its role is "to foster and enhance a positive and supportive work environment among the department employees by assisting management with cultural diversity, policy review and communication issues." Council membership includes elected members from each district and Central Office who serve three-year terms and represent a cross section of the workforce in supervisory and nonsupervisory roles.

Communicating Results

Tracker

Miller noted that measurement is now second nature within the agency, and she considers this emphasis on performance and accountability the agency's biggest strength. Miller also highlighted the importance of the activities that feed into the Tracker publication: "[B]ecause we track it, we can talk about it."

MoDOT Results

The annual publication MoDOT Results highlights savings to the DOT and its customers. An appendix to the report provides details of cost savings by individual innovation or efficiency. Agency and customer savings are segregated, and lives saved are noted where applicable. Cost-Benefit Details describe each innovation/efficiency. See **Related Resources**, beginning on page 39, for links to these documents.

Citizen's Guide to Transportation Funding for Missouri

The agency also updates the Citizen's Guide to Transportation Funding for Missouri each year. The guide, which is intended for external audiences, identifies the sources of transportation funding and how funding is distributed.

Impact on Agency Culture

Missouri DOT has adopted the premise that being innovative and obtaining tangible results is everyone's job, Miller said. Results are addressed in performance reviews, where performance objectives are tied to tangible results, and achieving tangible results is integrated into the agency's culture.

Lessons Learned and Future Plans

Other agencies developing a focus on performance management should "just start and do it," Miller said, recommending that agencies start measuring even if the data isn't perfect. She also advised agencies not to be afraid to reach out within the agency and beyond. Communication is critical, and agencies must take advantage of the information available from people and agencies within an organization's network. Miller added that the Transportation Lean Forum offers agencies interested in process improvement an excellent opportunity to share their successes and learn from others.

Miller's top three recommendations for an agency just starting on the path of process improvement:

- *Obtain and maintain leadership support*. While there may be resistance to measurement, managing performance is effective when driven from the top down. At the beginning of Missouri DOT's performance management effort, a leadership mandate promoted the program (Tracker was launched by a new department director), and that mandate has continued and flourished through five department directors, who have all seen the value in continuing the measurement effort. Transparency and accountability to citizens are also effective drivers of innovation.

- *Focus on performance management*, which will support innovations.

- *Maintain a willingness to change and be patient*. It can take a year to get a new measure off the ground, and Miller recommends that agencies just starting out "stay with it."

Related Resources

Tracker, Missouri Department of Transportation, 2018.
https://www.modot.org/tracker
From the web site:

> MoDOT's *Tracker* is a tool to assess how well we deliver services and products to our customers. Much like a GPS tracking system, this tool can only show the direction in which the department is headed. We must determine if it is going in the right direction to best serve our customers.

> MoDOT's Mission and Value Statements provide the basis for the *Tracker*. The Tangible Results are outcomes our customers expect to see as we fulfill our mission. Each performance measure listed on the *Tracker* is designed to help us focus on successfully achieving these results. The *Tracker* will be published quarterly to ensure accountability and allow our customers to see the progress we are making towards those results that they expect.

This web site offers links to each quarterly issue of Tracker published since 2005.

Missouri's Performance Tracker: Flexibility and Accountability, *FHWA Transportation Performance Management: TPM Noteworthy Practice Series*, Federal Highway Administration, undated.
https://www.fhwa.dot.gov/tpm/noteworthy/mo2013.pdf
This two-page document provides a concise history of Missouri DOT's Tracker.

Innovations Challenge, Missouri Department of Transportation, 2018.
https://www.modot.org/innovations-challenge
From the program overview: Innovation is at the heart of MoDOT's employee value of being bold and delivering the best value to our customers. The department's innovation culture is front and center at its annual employee innovation competition, Innovations Challenge.

Since it began in 2007, the challenge format has generated more than one thousand five hundred employee innovations with more than 250 chosen to be MoDOT best practices. This page is dedicated toward sharing those best practices with our transportation partners in Missouri and across the nation.

Related Resource:

> **"MoDOT's Innovations Challenge,"** Tim Chojnacki, Missouri Department of Transportation, *Winter Maintenance Peer Exchange*, September 2015.
> https://sicop.transportation.org/wp-content/uploads/sites/36/2017/07/SBPR_MO_Chojnacki.pdf
> This presentation highlights key elements of the Innovations Challenge program and how the program operates within the agency.

"MoDOT Connection: Missouri Celebrates a Decade of Innovative 'Plays,'" *Missouri LTAP Newsletter*, Missouri Local Technical Assistance Program, Third Quarter 2017.
https://mltrc.mst.edu/media/center/moltap/documents/newsletters/MO%20LTAP%20Newsletter%20Layout%202017%203Q.pdf
See page 8 of this newsletter for a brief history of the Innovations Challenge and discussion of the TMA Flagger, the 2017 winner of the Innovations Challenge Showcase.

Citizen's Guide to Transportation Funding in Missouri, Missouri Department of Transportation, 2018.
https://www.modot.org/citizens-guide-transportation-funding-missouri
From the web site:

> In an effort to educate and inform Missourians on the current status and future direction of their transportation system, the Citizen's Guide to Transportation Funding takes the complex issues of the state's transportation revenue, expenditures, system condition and unfunded needs and explains them in clear and easy-to-understand terms.

The site offers access to the suite of Citizen's Guide materials, including the complete current report, a financial snapshot, highlights in the form of a "placemat" and various calculators.

MoDOT Results: Safety. Service. Stability., Missouri Department of Transportation, 2018.
https://www.modot.org/sites/default/files/documents/MoDOT%20Results%202018_0.pdf
From the report: Since 2007, MoDOT documented more than $4.8 billion in one-time or on-going savings. This includes redirection of $305 million in efficiency savings in 2018 to roads and bridges and $638 million in savings to our customers. In the last 10 years, efficiencies and safety enhancements resulted in 624 lives saved.

Related Resources:

> **MoDOT All Savings Appendix**, Missouri Department of Transportation, undated.
> https://www.modot.org/sites/default/files/documents/allsavings2.pdf
> This spreadsheet provides details of cost savings described in the MoDOT Results and
> Results Summary documents. Missouri DOT and customer savings are segregated, and
> lives saved are noted where applicable. Cost-benefit details describe each
> innovation/efficiency.
>
> **MoDOT 2018 Savings**, Missouri Department of Transportation, 2018.
> https://www.modot.org/sites/default/files/documents/2018Savings.pdf
> This spreadsheet segregates Missouri DOT savings for 2018 only.

Citizen's Guide to Transportation Funding in Missouri + Results Summary (Placement Version), Missouri Department of Transportation, 2018.
https://www.modot.org/sites/default/files/documents/Citizens%20Guide%20Placemat%20%2B%20RESULTS_1.pdf
This document, referred to as a "placemat," provides a high-level summary of data contained in two Missouri DOT publications that highlight agency results.

FOCUS: Strategic Initiatives for Continuous Improvement, Missouri Department of Transportation, July 2018.
https://www.modot.org/sites/default/files/documents/MoDOT_FOCUS_Final.pdf
From the director's message:

> … MoDOT is now launching a strategic planning framework that we will use to unify and
> prioritize the dozens of ongoing transformational initiatives which Department staff propose
> and implement each year.

The publication describes work on 20 initiatives in three categories (safety, service and stability). The initiatives "were chosen through multiple rounds of focus groups and surveys of MoDOT staff, with survey respondents nominated by their peers. It is the intention that this collaborative process of project selection represents both a 'top down' aspirational approach while also balancing 'bottom up' considerations of implementation benefits. This program is intended to serve as a dynamic management tool to drive new initiatives to completion, while introducing new data-driven approaches to measuring initiatives' benefits. If we find that some initiatives are yielding major positive results, it is likely that these initiatives will be repeated."

Employee Advisory Council, Missouri Department of Transportation, 2018.
https://www.modot.org/employee-advisory-council
From the purpose: The department recognizes one of the most integral components of our workforce is to respect and appreciate the values, ideas, cultures and backgrounds of others.

The Employee Advisory Council was established to foster and enhance a positive and supportive work environment among the department employees by assisting management with cultural diversity, policy review and communication issues.

Utah Department of Transportation

T. Patrick Cowley, director of Utah DOT's Office of Performance and Process Improvement, addressed the survey in two phone interviews and followed up with additional information and documents. A summary of those discussions and relevant publications follows Table 5, which highlights key elements of Utah DOT's process improvement efforts.

Table 5. Program Highlights: Utah Department of Transportation

Approximate Implementation Date	2006 (start of purposeful tracking)
Key Programs	• Statewide SUCCESS Framework launched in 2013. • Innovation and Efficiencies reporting.
Tools	• Learning Portal. An Ideas, Innovations and Efficiencies Group accessible via the portal allows employees to vote for, comment on or share ideas. • Strategic direction and tactical measures.
Quantifying Results	Statewide SUCCESS Framework performance equation has had limited application within the agency. Currently, the agency is reporting on metrics and expenditures but does not directly link the two. To date, the agency has not made a one-to-one funding link to specific tactical measures to quantify specific project-level results.
Contact	T. Patrick Cowley, Director, Office of Performance and Process Improvement, 801-648-5459, patrickcowley@utah.gov.

Background

Utah DOT started intentionally tracking process improvements in 2006. In 2013, the Governor's Office of Management and Budget (GOMB) developed the SUCCESS Framework to "help agencies improve quality, reduce costs and create the capacity to do more with the same or fewer resources (improved throughput). The specific charge from the Governor is to realize a 25 percent improvement in state government operations by January 2017. Fundamental to this framework is a measurement approach that attempts to address all of the challenges inherent in the existing measurement systems."

Program Focus

The agency's focus on a strategic direction is the underpinning of its program of process improvement. Agency leadership emphasizes the relationship between metrics and funding. Metrics are continually reviewed and funding is closely tracked, with Cowley noting that agency leadership wants to have confidence in both elements. Cowley also noted that performance metrics by themselves don't show efficiencies, but need to be linked to expenditures over time.

Staffing

At Utah DOT, process improvement activities were conducted as "other duties as assigned" until this past January, when the agency created a director position in the Office of Performance and

Process Improvement in response to the SUCCESS Framework initiative. Cowley, as director, and one other staff person (a manager) are now focused on process improvement.

Gathering Innovative Ideas

The Utah ID portal (https://utah-udotu.sabacloud.com), which is available to all Utah DOT employees, is used for a variety of purposes, which includes documenting and sharing ideas. Once on the portal, the employee clicks on "ideas" to document, share and vote on ideas. The portal also functions as a discussion platform much like social media where employees can like and comment on the posts. External stakeholders wishing to submit an idea can submit them to ideas@utah.gov.

Tracking Performance

SUCCESS Framework Performance Equation

A 2015 GOMB report, SUCCESS Framework: Guide to Measurement, provides a technical description and a performance equation that can be applied to quantify the savings associated with effectiveness and efficiency:

> Effectiveness and efficiency is a product of "output" divided by "input." This percentage measures the quantity of services rendered (or units produced) per unit of input. Output is defined by both the quality (Q) and quantity (or throughput) of productivity (T). Operating expenses (OE) describe input. In terms of the Governor's challenge to improve state operations by 25 percent, the goal is to increase quality (Q) and throughput (T) per dollar expended (OE).

> Accordingly, the GOMB performance equation is:

> Effectiveness and efficiency = QT/OE

> All three efficiency variables must have quantifiable measures that directly gauge system performance.

During 2013 and 2014, teams of Utah DOT staff members met to apply this performance equation to the following systems and practices:

- Preconstruction system.
- Grants of access system.
- Ports of entry processing system.
- Snow and ice control system.
- Procurement system.
- Equipment maintenance (heavy-duty trucks).

See Attachment C for details of these analyses.

The QT/OE equation has not been widely implemented within Utah DOT. Eventually, Cowley would like to apply it to all tactical performance measures, starting with the pavement program and continuing with bridges, signals and other agency assets.

Other Ways to Quantify Efficiencies

Currently, Utah DOT is reporting on metrics and expenditures but does not directly link them. To date, the agency has not made a one-to-one funding link to specific tactical measures. Quantifying efficiencies will come into play when the agency can report on specific projects that have a direct relationship to specific safety measures. The agency is currently examining performance measures to identify those that require updating to align with project-level results.

Cowley noted that current indices, such as the bridge health index, are not tied to specific improvements, so the agency isn't quantifying the impact of these improvements. This type of quantification is a future goal of Cowley's.

The agency's Research Division has examined ROI in connection with implementing research, but a larger assessment of ROI hasn't been done within the agency. Cowley hopes to prepare an aggregate ROI analysis to tell the story of the entire department.

Measures Under Development

The tactical measures and performance metrics under development include:
- Travel times and speeds.
- Transportation Commission reporting.
- Federal performance measures.
- Freeway performance metrics.

Division tactical measures and performance metrics under development include:
- Construction.
- Employee development.
- Environmental.
- Maintenance planning.
- Motor carrier.
- Pavement condition.
- Program delivery dashboard.
- Programming.
- Statewide permitting.
- Structures.
- Traffic and safety.
- Traffic management.

Engaging Staff

Staff members use the Utah ID portal (https://utah-udotu.sabacloud.com) to submit innovative ideas. The Ideas, Innovations and Efficiencies Group in the Learning Portal allows employees to vote for, comment on or share ideas. Staff can browse by tags and find topics of interest from among the over 200 ideas stored there.

Discussing staff engagement more generally, Cowley addressed the law of diffusion of innovation, noting that acceptance by a relatively small portion of a population is needed for something to become mainstream. Lacking that minimum level of acceptance, an idea or practice will fail to move into common practice. Cowley noted that targeting and engaging that often small portion of a population with an interest in innovation or in trying new things is essential to attaining a critical mass of staff members who will accept a new process.

Communicating Results

The agency produces an annual Innovations and Efficiencies Report (see **Related Resources**, below) that Cowley acknowledges has trended toward innovations and away from efficiencies. Cowley would like to see a return to a focus on efficiencies.

Impact on Agency Culture

Cowley feels that an innovative culture is moving the agency toward formalizing process improvement strategies. He describes Utah DOT as "a learning organization," one in which staff members are not afraid to try new things.

Lessons Learned and Future Plans

Cowley's focus areas, listed below, can also be viewed as recommendations for other agencies pursuing process improvement:

- Identify champions at the highest level; buy-in is critical.
- Tap into data the agency is already collecting. While it is critical to have the most relevant, timely data, it can be challenging if the organization has to rely on staff members to gather and update data manually.
- Develop processes that the agency can point to that are meaningful and relatable.
- Formalize and document processes for knowledge management and repeatability.
- Develop a communication plan to broadcast success.
- Create the message of success and distribute it.

Utah DOT is connecting everything back to the agency's strategic direction. The agency's strategic direction web presence (http://www.udot.utah.gov/strategic-direction/) will be used to help the agency tell its story rather than delivering that message in a new report or other form of communication.

Related Resources

SUCCESS Framework: Guide to Measurement, Governor's Office of Management and Budget, State of Utah, 2015.
https://site.utah.gov/gomb/wp-content/uploads/sites/7/2015/11/SUCCESSMeasurementGuide.pdf
This publication highlights the challenges associated with traditional performance measures (too many measures, local optimization, poor alignment, lack of baseline measures, and confusion between performance measures and operational indicators) and recommends an alternative.

Page 7 of the report provides a technical description and a performance equation:

Effectiveness and efficiency is a product of "output" divided by "input." This percentage measures the quantity of services rendered (or units produced) per unit of input. Output is defined by both the quality (Q) and quantity (or throughput) of productivity (T). Operating expenses (OE) describe input. In terms of the Governor's challenge to improve state operations by 25 percent, the goal is to increase quality (Q) and throughput (T) per dollar expended (OE).

Accordingly, the GOMB performance equation is:

Effectiveness and efficiency = QT / OE

All three efficiency variables must have quantifiable measures that directly gauge system performance.

GOMB advises agencies to prepare OE measures that are comprehensive and replicable using these practices:

- Document the time period for the measure.
- Provide the source of information (FINET reports or specific internal reports). (FINET is the state's centralized accounting system.)
- Include categories or objects of expenditure.
- Provide justification for any excluded expenditures.
- Include relevant budget classifications (line items, appropriations codes and/or units).
- Specify which expenditures are cost-allocated.
- Include the method for cost allocation.

Related Resources:

QT/OE Measurement Guide and Form, Governor's Office of Management and Budget, State of Utah, undated.
https://docs.google.com/document/d/1hTVt0rcZjzukYospzaye3lhe5NubSOK1F760BdClrTY/edit
This document provides a brief explanation of the performance equation and a form for its use.

SUCCESS Framework Summary, Utah Department of Transportation, November 2014.
See Attachment C.
This summary document shows the application of the QT/OE equation to selected efforts within Utah DOT.

SUCCESS Workshop Training Tools, Governor's Office of Management and Budget, State of Utah, June 2019.
https://gomb.utah.gov/success-workshop-training-tools/
This web site offers a brief overview presentation and other materials for an eight-part, two-day training session on the SUCCESS Framework.

2020 UDOT Strategic Direction, Utah Department of Transportation, undated.
http://www.udot.utah.gov/strategic-direction/
This web site provides information about the agency's strategic goals (zero fatalities, optimize mobility and preserve infrastructure) and provides information about the agency's tactical measures and performance metrics.

Innovation and Efficiency Report, Utah Department of Transportation, 2018.
https://www.udot.utah.gov/main/uconowner.gf?n=5990536908657200
This is the latest report that highlights agency innovations.

Related Resource:

Innovation and Efficiencies Report Timeline, Utah Department of Transportation, undated.
https://www.udot.utah.gov/main/uconowner.gf?n=30906606603185868
This timeline highlights the activities associated with preparing the annual Innovation and Efficiencies Report, including:

- *Submit fact sheets*. Regions and groups submit fact sheets that describe efficiencies, innovations, SUCCESS Framework initiatives or implementation of a Transportation Research Board (TRB) idea.
- *Compile fact sheets*. UDOT's Research Division collects all fact sheets submitted and uses them to create a comprehensive efficiencies list.
- *Select topics*. Agency leadership reviews the efficiencies list and selects topics to be highlighted in the annual report.
- *Prepare write-ups*. Regions and groups submitting the selected topics prepare write-ups.
- *Compile report*. UDOT's Research Division compiles all feedback and prepares the report.

The Innovator, Utah Department of Transportation, August 2018.
https://www.udot.utah.gov/main/uconowner.gf?n=3385019384327023
This publication highlights ideas in development that are championed by a Utah DOT employee and undergoing prototyping design and piloting) and also features implemented innovations.

Investing in Utah Transportation Research, Douglas I. Anderson, Utah Department of Transportation, July 2016.
https://www.udot.utah.gov/main/uconowner.gf?n=33001711481373783
From the abstract: Measuring the benefits of transportation research investments is important to justify the expenditure of research funding and maintain the support of management. Understanding the benefits of research can better establish how future available funds are utilized and maximize how the funding is allocated. This study was initiated to estimate the benefits of UDOT's research projects over a four-year period, and estimate a benefit-cost ratio for the program. Benefit information gathered in this study indicate[s] that the studies completed during the years 2009 through 2012 by the UDOT Research Program had an estimated benefit-cost ratio of 14.

Related Resources

Highlighted below is publicly available information about SB-1 that appears on various California state agency web sites. Information is organized in the following categories:

- SB-1 guidance.
- SB-1 reporting procedures.
- SB-1 project reports.
    - Statewide reporting.
    - District projects.
    - Local projects.

SB-1 Guidance

Baseline Agreements, California Transportation Commission, 2019.
https://catc.ca.gov/programs/sb1/baseline-agreements
From the web site:

> Baseline agreements establish the agreed-upon expected benefits, project scope, schedule, and cost of a project for which the Commission has approved funding. These agreements provide a foundation for project monitoring and reporting. The baseline agreements also identify the agency responsible for reporting on the progress made towards the implementation of the project.

Caltrans is responsible for preparing SB-1 reporting on the following programs as described below:

- *Active Transportation Program* (ATP). Only projects with a total project cost of $25 million or greater or a total programmed amount of $10 million or greater adopted in the 2017 Active Transportation Program Augmentation and subsequent program amendments and adoptions.

- *Local Partnership Competitive Program* (LPP-C). Only projects with a total project cost of $25 million or greater or a total programmed amount of $10 million or greater.

- *Solutions for Congested Corridors Program* (SCCP). All projects.

- *State Highway Operation and Protection Program* (SHOPP). Only projects with a total project cost of $50 million or greater, or a total programmed amount (in right of way and/or construction, support and capital cost) of $15 million or greater adopted in the 2018 SHOPP and subsequent program amendments and adoptions.

- *Trade Corridor Enhancement Program* (TCEP). All projects.

This web site also provides forms and templates (in Excel format) for presenting the estimated benefits for affected projects.

Efficiency Measure General Guidance, Independent Office of Audits and Investigations, California Department of Transportation, December 2018.
https://dot.ca.gov/-/media/dot-media/programs/sb1/documents/efficiencymeasuresgeneralguidance-a11y.pdf
This document offers general guidance for determining effective efficiencies. The following general areas in which efficiencies may be undertaken are briefly described:

- Stewardship.
- Time savings.
- Technology.
- Reduced material or labor costs.

"Accountability and Transparency Guidelines," *SB 1 Workshop, Part 2,* Division of Local Assistance, California Department of Transportation, November 2018.
https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/training/sb1-p2-accountability-guidelines.pdf
This instructional webinar is intended to supplement SB-1 program guidelines and applies to the Caltrans programs subject to SB-1 reporting (ATP, LPP, SCCP, TCEP and SHOPP). The August 2018 publication, SB 1 Accountability and Transparency Guidelines, cited below supersedes the webinar in cases of conflicting information.

SB 1 Accountability and Transparency Guidelines, The Road Repair and Accountability Act of 2017, California Transportation Commission**,** August 2018.
https://catc.ca.gov/-/media/ctc-media/documents/090418-final-amended-accountability-transparency-guidelines-a11y.pdf
This document provides information about amendments to the guidelines cited above.

SB-1 Reporting Procedures

Caltrans staff members use CalSMART (https://calsmart.dot.ca.gov/login/auth), an online project progress reporting tool, to prepare quarterly reports on Caltrans-implemented SB-1 projects on the state highway system and locally implemented projects off the state highway system (local roads, rail and mass transportation). More information about CalSMART is available at:

- CalSMART Questions and Answers: https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/atp/2019/calsmart-qa.pdf.

- Quick Start Guide: CalSMART SB 1 Progress Reporting Tool: https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/atp/2019/calsmart-quick-start-guide-v10.pdf.

Each Caltrans program involved in SB-1 projects has a program contact available for questions and concerns. These program contacts are available at https://dot.ca.gov/programs/sb1/progress-reports.

SB-1 Project Reports

Statewide Reporting

Rebuilding CA Project Map, Rebuilding California: SB 1, State of California, 2019.
http://rebuildingca.ca.gov/map.html
This interactive map of California allows users to find transportation projects that the state and local communities are investing in with SB-1 revenue. This map includes city, county, state and mass transit projects.

Project Gallery, Rebuilding California: SB 1, State of California, 2019.
http://rebuildingca.ca.gov/gallery.html
This interactive web site allows users to view full-resolution before and after images of SB-1 projects completed across the state.

Annual Efficiencies Report to the California Transportation Commission Fiscal Year 2017-2018, California Department of Transportation, 2018.
https://dot.ca.gov/-/media/dot-media/programs/sb1/documents/annual-efficiencies-report-1018.pdf
From the executive summary: This is the first annual report to the Commission outlining the efficiencies achieved. Caltrans is focused on achieving efficiencies through the use of technology, innovative tools and process improvements. Caltrans is pleased to report that in FY 2017-18, it achieved a total of $133 million in efficiency related savings. Out of the $133 million, $129 million are related to cost avoidance and $4 million are monetary savings. The savings achieved through cost avoidance will be used towards programming future projects that maintain, rehabilitate, replace and reconstruct the state highway system.

Senate Bill 1: Program Progress Report to the California Transportation Commission, California Department of Transportation, October 2018.
https://dot.ca.gov/-/media/dot-media/programs/sb1/documents/sb1-progress-report-1018.pdf
The California Transportation Commission adopted the SB 1 Accountability and Transparency Guidelines "to require Caltrans to prepare and submit to the Commission progress reports for each SB-1 program at specific timelines." This report to the commission for the period March 1, 2018, to August 31, 2018, described the programs subject to SB-1 reporting, their costs, major activities and accomplishments, and program benefits.

Interim Report on Efficiencies, California Department of Transportation, January 2018.
https://dot.ca.gov/-/media/dot-media/programs/sb1/documents/interim-efficiencies-report-0118.pdf
This is the first report, completed midfiscal year, that Caltrans produced under SB-1. This report estimated the range of savings Caltrans sought to realize by the end of the first fiscal year (September 30, 2018).

District Projects

Below are selected descriptions of recent SB-1 projects in each Caltrans district as presented in Caltrans' news releases.

"District 1: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019. https://dot.ca.gov/news-releases/news-release-2019-056
This District 1 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Pavement Preservation Project on U.S. Highway 101 in Mendocino County: $17.1 million pavement preservation project will construct rumble strips, replace traffic count station and improve 35.2 lane miles of U.S. Highway 101 (US-101) from south of Geysers Road to Hopland Overhead Bridge near the town of Hopland in Mendocino County. This project was allocated more than $17.1 million.

- Pavement Replacement Project on Route 1 in Mendocino County: $16.8 million pavement preservation project will replace guardrails and improve 32.6 lane miles of State Route 1 (SR-1) from Pudding Creek Bridge to north of Wages Creek Bridge near the city of Fort Bragg in Mendocino County. The project was allocated almost $16.8 million.

"District 2: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019. https://dot.ca.gov/news-releases/news-release-2019-057
This District 2 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Replace Adin Maintenance Station Project in Lassen County: $16.5 million project will replace existing maintenance station along SR-299 near the town of Adin in Lassen County with a new station to provide modern and effective maintenance operations. The project was allocated almost $16.5 million.

- Road Safety and Worker Safety Improvements Project Along State Routes 3 and 299 in the Counties of Trinity and Shasta: $4.7 million project will enhance highway worker safety and improve safety for motorists by constructing maintenance vehicle pullouts, extend chain-on areas, install changeable message signs and pave areas along SR-3 and SR-299 at various locations in Trinity County, and SR-299 in Shasta County. The project was allocated almost $3.5 million.

"District 3: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019. https://dot.ca.gov/news-releases/news-release-2019-058
This District 3 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Mobility Project Along U.S. Highway 50 and Interstate 80 in Yolo County: $46.7 million traffic management systems project will improve the flow of traffic in the cities of Sacramento, Rancho Cordova, West Sacramento and Folsom by installing intelligent transportation system field elements at various locations along US-50 from the Sacramento/Yolo County line to Folsom Boulevard in Sacramento County, along US-50 from Interstate 80 (I-80) in the city of West Sacramento in Yolo County to the

Sacramento/Yolo County line, and along I-80 from Enterprise Boulevard to US-50 in Yolo County. The project was allocated more than $3.5 million.

- Lagoon Creek and American River Bridge Project on State Routes 99 and 160 in Sacramento County: $30.7 million bridge project will replace three bridges on SR-99 at South Lagoon Creek Bridge Number 24-0028, Lagoon Creek Bridge Number 24-0045L and North Lagoon Creek Bridge Number 24-0027L, and place rock slope protection and preserve the integrity of the American River Bridge Number 24-0001L in Sacramento County. The project was allocated almost $27.5 million.

"District 4: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019.
https://dot.ca.gov/news-releases/news-release-2019-059
This District 4 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Bridge Deck Project on Interstate 580 in Alameda County: $1.1 million will revamp the bridge deck at Foothill Undercrossing Number 33-0334K on I-580 in the city of Oakland in Alameda County. The project was allocated $631,000.

- Pavement Preservation Project on U.S. Highway 101 in Sonoma County: $88.8 million pavement preservation project will construct rumble strips, replace culvert, guardrails, concrete barrier, overhead signs, upgrade curb ramp to Americans with Disabilities Act standards and improve 43.2 lane miles of US-101 from Old Redwood Highway near the town of Windsor in Sonoma County to south of the Sonoma/ Mendocino County line near the city of Cloverdale. The project was allocated more than $87.9 million.

"District 5: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019.
https://dot.ca.gov/news-releases/news-release-2019-060
This District 5 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Pavement Preservation Project on State Route 1 in Monterey County: $30.1 million pavement preservation project will upgrade existing guardrail and improve 69.9 lane miles of SR-1 from the Torre Canyon Bridge near Big Sur to San Luis Avenue in the city of Carmel. The project was allocated almost $30.2 million.

- Bridge Improvement Project on State Route 1 in Santa Barbara County: $4.8 million bridge project will revamp the San Antonio Creek Bridge on US-101 near State Route 1 near the city of Lompoc in Santa Barbara County. The project was allocated almost $1.8 million.

"District 6: More Than Half a Billion Dollars Allocated to Preserve and Upgrade Highways and Bridges for All Californians," News Release, California Department of Transportation, July 2, 2019.
https://dot.ca.gov/news-releases/news-release-2019-043
This District 6 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Pavement Preservation Project on State Route 99 in Fresno County: $50.4 million pavement preservation project will replace 16.6 lane miles of SR-99 from SR-201 in the city of Kingsburg to south of Second Street in the city of Selma in Fresno County. The project was allocated more than $48.1 million.

- Drainage Project Along Interstate 5 in Kern County: $7.1 million drainage project will repair culverts along I-5 from north of Fort Tejon State Historic Park to south of Grapevine Road in the town of Lebec in Kern County. The project was allocated more than $4.9 million.

"District 7: CTC Approves More Than $90 Million for SB 1 Projects to Improve Highways and Reduce Congestion," News Release, California Department of Transportation, March 25, 2019.
https://dot.ca.gov/news-releases/news-release-2019-016
This District 7 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Pavement Rehabilitation Project on State Route 60 in Los Angeles County: $165.2 million pavement preservation project will replace bridge approach and improve auxiliary lanes, interchange connectors, shoulders, ramps and 78.7 lane miles of SR-60 from west of I-710 to I-605 in the cities of Monterey Park, Montebello, Rosemead and South El Monte, and on I-710 south and north of SR-60 in Los Angeles County. The project was allocated $164.5 million.

- Mobility Project in Los Angeles County: $24.6 million traffic management systems project will upgrade traffic monitoring elements and network on SR-1 from Lincoln Boulevard to McClure Tunnel, on SR-2 near West Broadway, on I-10 from Lincoln Boulevard to US-101/I-5 Junction, on US-101 near Tujunga Avenue, and on I-105 near La Cienega Boulevard in Los Angeles County. The project was allocated $3.2 million.

"District 8: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019.
https://dot.ca.gov/news-releases/news-release-2019-063
This District 8 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Traffic Managements Systems Project on Interstate 10 in San Bernardino County: $10.6 million traffic management systems project will improve the flow of traffic by installing wireless vehicle detection stations pole, changeable message signs, closed circuit television (CCTV), data node cabinet and fiber optic elements along I-10 from SR-210 Junction in the city of Redlands in San Bernardino County to the Riverside/San Bernardino County line. The project was allocated more than $10.3 million.

- Pavement Preservation Project on Interstate 15 in San Bernardino County: $30.4 million pavement preservation project will upgrade safety devices and replace 11.5 lane miles of I-15 from south of Sierra Avenue in the City of Fontana to Glen Helen Parkway in San Bernardino County. The project was allocated $27.9 million.

District 9 Senate Bill 1 (SB1) Projects, District 9 Current Projects, California Department of Transportation, 2019.
https://dot.ca.gov/caltrans-near-me/district-9/district-9-current-projects/district-9-senate-bill-1-projects
This web page includes descriptions of allocations for projects associated with SB-1 funding, including:

- Inyo 395 Coso/Keough Pavement Project: This $2.4 million project resurfaced 41.8 lane miles of southbound US-395 near Big Pine and also near Coso Junction in Inyo County. This project was completed August 31, 2017.

- Inyo 395 Keough Pavement Project: This $1 million project resurfaced 24.4 lane miles of the northbound lanes of US-395 from north of Big Pine to south of Bishop. This project was completed July 13, 2018.

"District 10: CTC Approves More Than $90 Million for SB 1 Projects to Improve State Highways and Reduce Congestion," News Release, California Department of Transportation, March 21, 2019.
https://dot.ca.gov/news-releases/news-release-2019-019
This District 10 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Bridge Rail Replacement and Upgrade Project in Alpine County: This estimated $9.3 million project will replace and upgrade bridge rails at the Silver Creek Bridge on SR-4, the West Fork Carson River Bridge on SR-88 and the Markleeville Creek Bridge on SR-89. The project was allocated approximately $1.9 million.

- Bridge Rehabilitation Project on State Route 99 in Stockton: This estimated $2.7 million project will remove existing damaged girder and build new overhang and barrier increasing the vertical clearance on the SR-99 overcrossing at Wilson Way in the city of Stockton in San Joaquin County. The project was allocated approximately $2.2 million.

"District 11: More Than a Billion Dollars Allocated to Continue Work on California's State Highway System," News Release, California Department of Transportation, August 19, 2019.
https://dot.ca.gov/news-releases/news-release-2019-066
This District 11 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Drainage Project Along Interstate 8 in San Diego County: $8 million drainage project will repair or upgrade culverts along I-8 from west of Harbison Canyon Undercrossing (west of Alpine Boulevard) in the city of El Cajon to east of Horsethief Road Undercrossing in the town of Guatay in San Diego County. The project was allocated almost $5.3 million.

- Mobility Project Along Interstate 15 in San Diego County: $5.8 million traffic management systems project will improve the flow of traffic by updating microwave vehicle detection system elements in the cities of San Diego and Escondido along I-15 from north of SR-52 to SR-78 in San Diego County. The project was allocated more than $4.5 million.

"District 12: CTC Allocation of SB 1 Funds Helps Caltrans Stay on Target to Reach 2017 Goals," News Release, California Department of Transportation, July 2, 2019.
https://dot.ca.gov/caltrans-near-me/district-12/district-12-news/district-12-sb1-ctc-funding-june-2019
This District 12 news release includes descriptions of allocations for projects associated with SB-1 funding, including:

- Drainage Project Along State Route 1 in Orange County: $2.5 million project will repair culverts along SR-1 from north of Superior Avenue to 60th Street in the city of Newport Beach in Orange County.

- Drainage Project Along State Route 22 in Orange County: $3.2 million project will increase drainage capacity and alleviate recurring flooding by replacing culverts along SR-22 at the Haster Street westbound off-ramp in the city of Garden Grove in Orange County.

Local Projects

Fact Sheets, Rebuilding California: SB 1, State of California, 2019.
http://rebuildingca.ca.gov/fact-sheets.html
Caltrans offers local fact sheets presenting SB-1 transportation projects that are underway in the agency's 13 regions. Each fact sheet presents 10-year total SB-1 funding for cities and counties in the region, the number of projects in specific improvement areas for each region, and project descriptions in the following improvement areas:

- Filling potholes and repaving roads.
- Traffic congestion relief.
- Bridges.
- Pedestrian and bicyclist safety.
- Road safety.
- Public transportation.

Contacts

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

State Agencies

Colorado

Gary Vansuch
Director, Office of Process Improvement
Colorado Department of Transportation
303-757-9017, gary.vansuch@state.co.us

Florida

Marsha Johnson
Senior Fiscal Advisor, Strategic Initiatives, Engineering and Operations
Florida Department of Transportation
850-414-4647, marsha.johnson@dot.state.fl.us

Illinois

Kajanda Love
Continuous Improvement Manager, Office of Rapid Results
Illinois Department of Central Management Services
217-558-4645, kajanda.love@illinois.gov

John Powell
Marketing and Communications Manager, Office of Rapid Results
Illinois Department of Central Management Services
john.powell2@illinois.gov

Iowa

David Putz
Survey and Measurement Administrator, Strategic Performance Division
Iowa Department of Transportation
515-239-1297, david.putz@iowadot.us

Missouri

Karen Miller
Organizational Performance Specialist, Transportation Planning Division
Missouri Department of Transportation
573-522-5529, karen.miller@modot.mo.gov

Utah

T. Patrick Cowley
Director, Office of Performance and Process Improvement
Utah Department of Transportation
801-648-5459, patrickcowley@utah.gov

<u>Appendix A: Survey Questions</u>

The survey questions below were provided by email to selected respondents who were offered the option to participate by providing written responses or addressing the questions during a phone interview.

Program Background

1. Please briefly describe the process improvement strategies your agency is currently using to identify, assess and improve efficiencies and report on them.
2. When did your agency begin implementing these process improvement strategies?
3. How has the level of staffing needed to support process improvement reporting changed over time?
4. Can you share an organizational chart that shows how your agency is staffing its process improvement program?

Tracking Performance

1. Please describe the best practices you have identified for capturing efficiencies using performance measures.
2. Does your agency use formalized performance equations to quantify savings?
   - No
   - Yes (please tell us more about these equations or provide documentation explaining them)
3. Please identify the practices *other than performance measures and performance equations* that your agency uses to quantify savings.
4. Please briefly describe how your agency's quantification practices were developed and vetted.

Communication

1. How does your agency communicate with and engage staff members to encourage participation in process improvement at all levels of the agency?
2. Please describe any mechanisms in place for staff members to recommend changes or share efficiency data with headquarters/central office.
3. Please describe how your agency prepares efficiency data and presents it to agency management. Please provide examples, if available.
4. Does your agency share efficiency data outside the agency?
   - No
   - Yes (please describe these external audiences and the type of data you make available)

Impact and Feedback

1. Please describe the impact your agency's process improvement reporting has had on your agency's culture.

2. Do you track staff-level feedback about the process improvement program? If yes:
    A. Please describe how you track staff-level feedback.
    B. Please summarize the type of feedback you've received.

Tools and Documentation

1. Does your agency use a software program to track efficiencies?
    - No
    - Yes (please briefly describe the software)
2. Does your agency use a dashboard to report on program efficiencies?
    - No
    - Yes (please briefly describe the dashboard, including whether it is internally or externally facing, and provide a link, if available)
3. Do you have documents (internal or publicly available) you can share, such as forms, templates, reports, procedures or other publications, which are used in connection with your agency's process improvement program? If available, provide links to electronic files or send any files not available online to chris.kline@ctcandassociates.com.

Lessons Learned

1. Please describe the greatest strengths of your agency's current process improvement reporting.
2. Please describe where improvements are needed for your agency's current process improvement reporting.
3. What are your top three recommendations for an agency just beginning to report on process improvements? For example, what has been most critical to telling your agency's story (how you're getting things done better, faster, cheaper)?

Wrap-Up

Please use this space to provide any comments or additional information about your previous responses.

Innovation Rising – Transportation in the Sunshine State
Update No 5

A Message from the Secretary

Secretary Mike Dew

Recently I addressed the Florida Chamber of Commerce and outlined some of the challenges and opportunities Florida DOT faces as we experience and anticipate continued unprecedented growth.

Florida has a long history of leading our nation in transportation and we now have the opportunity to lead again in areas of safety, innovation, and efficiency. The question is how do we take advantage of the accomplishments, investments, and lessons learned from our past?

We must continue to build on those investments and lessons. What we do today will help shape our future. That is why what we are doing today is so important. We are more efficient today than ever before. But how much more efficient can we become?

In addition to the tremendous population growth, this past year highlighted the challenges of natural disasters like hurricanes and wildfires. Add to that the need to address the coming wave of automated and connected vehicle technology to hit our roadways.

There's no question that we have our work cut out for us, but we are not sitting back and waiting for change to happen. As you know, we are already investing time, effort and funding across the state to ensure we are ready for the future.

If history and experience are any indications, we have the right people, the right policies and right organization to do the job. I could not be prouder of what we have accomplished as an agency and I look forward to facing future challenges with the same passion, determination, and innovation.

Together, let's continue to build a culture of innovation.

Improving Efficiency

The cashier's office in the FDOT general accounting office has recently undertaken two innovations: desktop depositing and a paperless initiative to reduce work processes and storage of paper pertaining to the Receipt Processing System (RPS).

- Desktop depositing is a process that allows a deposit to be made without physically going to the bank. Images of checks and money orders are captured by a scanner and sent to the bank electronically, allowing the department to receive credit for the deposit the same day.

  The process began in April 2017, after working with the Department of Financial Services and Wells Fargo to obtain the software and scanner necessary to read checks and money orders. Advantages include faster depositing, late in the day deposits, and fewer courier trips to the bank (typically once a week now). In addition, the State—as a whole—benefits from cost savings as it is less expensive to perform a desktop deposit than making an actual deposit at the bank. To maximize internal control, the depositing function for the department was maintained in the Central Office, General Accounting Office.

- Paperless Initiative: The Receipt Processing System (RPS) is the department's system that officially logs and tracks all incoming receipts, whether those are cash, check, or money order, and was designed to process receipts without paper. Because RPS preserves the receipt information electronically, printing became unnecessary. Within the first three years of going live in April 2013, RPS greatly reduced the amount of paper related to receipt processing. This program has evolved from the initiating office maintaining the paper back up to now a PDF attachment can be added to the receipt. A backup document can be linked directly to the receipt eliminating the need for the initiating office to keep hard copy documentation. This ability further reduced the need for paper backup, increased research capability, and has reduced audit time of receipt information.

Combined with the Remote Deposit innovation, these initiatives have greatly improved the efficiency of the department's receipt handling responsibilities

Lighting the Way: Mast-Arm Mounted Lighting

January 25, 2018 · by fdotinnovation · in Uncategorized. ·

Wider intersections make it very difficult to illuminate the center of crosswalks, creating visibility issues for those using the crosswalk. Jennifer McKinney and Justin Reck recognized this issue and researched potential lighting fixtures to improve the visibility of these crosswalks. It was decided to pilot the intersection of US 41 and Club Drive in Sarasota. The innovative approach adds lighting to the mast arms improving the visibility for pedestrians and bicyclists. The pilot project exceeded expectations; the lighting assembly has effectively increased lighting levels in the crosswalks, and no concerns have been reported.

This cost-effective lighting alternative could be used statewide to increase safety within crosswalks of signalized intersections. District 1 will be working with Central Office on the steps to a quick adoption.

By FDOT District One

More parking, please.

January 25, 2018 · by fdotinnovation · in Uncategorized. ·

District 2 noticed that certain days of the week it was difficult to find a place to park at their building. These are the days that generally all employees regardless of schedule – flex and/or alternate – are at work. In addition, consultant acquisition meetings are also generally held on these days. D2 District Secretary Greg Evans and his team had to get creative.

There is a circular driveway at the District Office in Lake City that originally was designed to accommodate two-way traffic. In this driveway, there is a curbed indentation into the front lawn with 20 striped parking spaces which includes 2 ADA spaces. These are undesignated spaces that visitors or employees may use.

The District Secretary proposed the idea of signing the circle drive for one-way traffic. The space that was "created" is now used for parallel parking along the curb which resulted in an additional 15 spaces. Just a little signage and paint by Lake City Operations and the project was

complete. They also made improvements to the sidewalk to accommodate and connect pedestrian traffic along the street to D2's complex and a bicycle rack was installed.

The success of this idea lies with the following teams:

- Planning/Design Team: Brett Crews, PE; Greg Evans; Dustin Hodges; Ashley Stefanik, PE; Aaron Trippensee, PE and the
- Installation Team: Jeff Johnson; Troy Geiger; Chris MacDonald; Gerald Cherry; Bobby Phillips; Billy Johnson; Chris Williams; James Westberry; Keith Lang; Carl Johnson; K. C. Thomas; Matt Blair; Tommy Lee; April Smith; Ofc. Meyers, Inmate Crew; Joseph Byrden; Carl Simmons

Thank you to all involved in making this innovative idea a quick reality!

Cost and Time Savings in Eliminating Right of Way Maps on Projects With Temporary Construction Easements Only

January 25, 2018 · by fdotinnovation · in Uncategorized. ·

FDOT uses right of way maps to show private property and business owners the location and dimensions of proposed easements needed to construct a transportation project. To simplify the process, design plan sheets showing the location and size of the Temporary Construction Easement (TCEs), coupled with a less expensive parcel sketch and legal description prepared by a professional surveyor and mapper, would be more than sufficient to convey to the landowners what be needed. Danny Deal, District Surveyor and Mapper and his team identified this simple shift in communication technique as an opportunity to reduce cost and increase efficiency.

Danny's team began to look at past work program years to determine what kind of savings could be realized from this idea. Data from multiple projects and from multiple consultants were analyzed. The research concluded that an average cost for the right of way maps were approximately $3,550 per sheet. The average cost of the typical parcel sketch is on the order of $800 per sketch, so around 22% of the cost for a right of way sheet.

Danny and his team know that even simple improvements are making big differences in the way they do business and continue to strive to be more efficient and effective by innovating the little things to get BIG results.

By FDOT District Three Surveying and Mapping Innovations

Innovative Idea- Centralized Materials Test Status Reporting System

January 25, 2018 · by fdotinnovation · in Uncategorized. ·

The department requires extensive testing of all materials it uses to construct roads and bridges. The testing process occurs in the department's materials labs and has many phases. Given the importance of knowing the status of the testing samples, the department's District 4/6 materials lab made innovative use of existing software and a display monitor (cost of $400) to provide a centrally located, easily viewed, and updated place of reference for this information.

Status updates are uploaded to the database to obtain the current status of the required tests of samples. This increased the lab efficiency by reducing time spent to determine the status of a given sample of projects. The value of staff time saved has not been quantified but it is substantially greater than the investment made in the software and monitor. It is anticipated that this way of displaying sample test status information can easily be used in the department's other materials labs.

Centralized Data Dashboard
D04001
Date Range: 8/1/2017 to 8/20/2017
8/29/2017

Date Received	Sample ID	Sample No.	Sample Level	Date Sample Taken	Test Method	Date Test Performed	Test Completed	Sample Status
8/18/17	149017	1C015R	R	6/23/17	FM110303PG	8/18/17	Y	Finalized
8/22/17	151184	1F001I	IV	8/21/17	FM110303PG	8/22/17	Y	Submitted for Lab Testing
8/4/17	142454	2C001V	V	6/20/17	FM1T166PLANT	8/3/17	Y	Finalized
8/15/17	148233	1C004I	IV	8/15/17	FM1T166PLANT	8/16/17	Y	Pending Finalization
8/18/17	149007	1C012R	R	6/8/17	FM1T166PLANT	8/18/17	Y	Finalized
8/18/17	149012	1C013R	R	6/14/17	FM1T166PLANT	8/18/17	Y	Finalized
8/18/17	149017	1C015R	R	6/23/17	FM1T166PLANT	8/18/17	Y	Finalized
8/22/17	151184	1F001I	IV	8/21/17	FM1T166PLANT	8/22/17	Y	Submitted for Lab Testing
8/4/17	142454	2C001V	V	6/20/17	FM1T209	8/3/17	Y	Finalized
8/15/17	148233	1C004I	IV	8/15/17	FM1T209	8/16/17	Y	Pending Finalization
8/18/17	149007	1C012R	R	6/8/17	FM1T209	8/18/17	Y	Finalized
8/18/17	149012	1C013R	R	6/14/17	FM1T209	8/18/17	Y	Finalized
8/18/17	149017	1C015R	R	6/23/17	FM1T209	8/18/17	Y	Finalized
8/22/17	151184	1F001I	IV	8/21/17	FM1T209	8/22/17	Y	Submitted for Lab Testing
8/4/17	142454	2C001V	V	6/20/17	FM5563OVEN	8/3/17	Y	Finalized
8/15/17	148233	1C004I	IV	8/15/17	FM5563OVEN	8/16/17	Y	Pending Finalization
8/18/17	149007	1C012R	R	6/8/17	FM5563OVEN	8/18/17	Y	Finalized

By FDOT District Four

Electronic ROW Comment Cards

How am I doing? That's what our Right of Way (ROW) office asks former property owners after each acquisition or relocation negotiation has concluded. But instead of using hardcopy cards, why can't we do it electronically? Jorge Colon in the ROW office found out that it was possible and he got it done.

He worked with the Office of Information Technology staff to develop an electronic survey that was then distributed to each of the districts for review and are now used today. The forms allow for instant data collection, prompt feedback, ease of submission and cost savings to the Department. Great job Jorge!

By FDOT District Five

Push Button Work Order Management

Ryan Fisher, P.E. Roadway Area Manager, North Dade Maintenance in District 6 submitted a bold and innovative idea to create a GIS layer containing the push button work order projects in the planning, in design and construction stages. The D6 Innovators! Team supports and is assisting moving this idea forward. Currently, maintenance does not include information regarding the upcoming locations of push button construction projects. It has been noted that work has been duplicated in either planned areas or recently paved locations were done or re-done by construction push button work.

Ryan proposes to work with GIS, Production & Construction to ensure all push button design projects are sent to Construction for input into the system early in the design process. A new GIS layer will be generated showing the locations of all push button projects in the design and under construction phases. Maintenance Area Managers will check this layer prior to performing sidewalk, asphalt or drainage work.

The proposed solution saves maintenance contract resources by eliminating the duplication of work and allowing for efficient planning of limited funds.

By FDOT District Six

Roadway Characteristics Inventory — Innovation!

The Roadway Characteristic Inventory (RCI) team is responsible for taking inventory of FDOT right of way assets. The Office of Maintenance (OOM) relies on the accuracy this data and the information gathered is used to support the maintenance budget. The District Maintenance Management System (MMS)/RCI Coordinator, the Tampa Operations Resident Construction Engineer (RCE)/MMS Coordinator and the RCI Team are working together to improve the accuracy and efficiency of collecting the roadway data.

The team evaluated two different video cameras to collect maintenance roadway features during a test period: the Go Pro and the Garmin. The team decided that the Garmin was a better choice/device than the Go Pro because of its GPS and mapping capabilities.

The team anticipates a reduction of 25% of time spent in the field with the added benefits of decreased wear and tear on FDOT vehicles resulting in lower vehicle maintenance costs. Most importantly, the use of the Garmin camera is a safer method of collecting data for some features and reduces the time RCI teams spend in active traffic areas due to a vehicle moving at more appropriate speeds along our highways. The RCI team rests not on its laurels but practices the Plan-Do-Check-Act business model for continuous improvements. We cannot wait to see what they have planned for future innovations. Stay tuned!

By FDOT District Seven

Implementing a Governing Regulation Tracker for Design Build Projects — It Can Be Simple!

January 25, 2018 · by fdotinnovation · in Uncategorized. ·
Tracking multiple design-build projects and their coinciding criteria at different stages of development and construction can become confusing and cumbersome.   As such, Matthew Musante, PE, Atkins Senior Structural Engineer at Florida's Turnpike Enterprise (FTE), developed a system to track his concurrent design-build projects. As time passed, it became evident that there would be significant benefit and efficiency gained by updating the document to include all FTE design-build projects and sharing the document internally and externally with those working within the various FDOT districts and FDOT construction offices on design-build projects. The FTE Innovators! Team recently completed the implementation of this tracker with the help of Todd Bettger, PE, Atkins Design Program Manager at FTE. The tracker will allow users to quickly and easily confirm the appropriate governing criteria without having to search for key dates in each project's Request for Proposal (RFP). This will reduce errant comments and confusion between FTE staff and design-build teams.
This idea was simple to implement and there will be benefits seen by many. The *FTE Innovators! Team* sincerely thanks Matthew Musante for submitting the idea and encourages other districts to explore the tool as a similar mechanism may be helpful for future design-build projects. The tracker is available on the FTE website located here. A screenshot of the tracker is shown below.

By Erin Yao, PE District Drainage Engineer, Florida's Turnpike Enterprise Innovators! Team

Office of Rapid Results

Overview

The Illinois Office of Operational Excellence (also known as the Office of Rapid Results) was formed within Central Management Services (CMS) on May 1, 2016, to oversee and coordinate the State of Illinois Rapid Results initiative. The Office provides centralized statewide training and guidance on the principles of continuous improvement and project implementation support for CMS and all executive agencies. The Office also coordinates the collection and reporting of process improvement metrics and agency success stories.

Principles

At its core, Rapid Results embodies two basic principles: Respect for People and Continuous Improvement. These two principles form the foundation of everything we do. We believe that the people doing the work within an organization are the true experts of that work, and the Rapid Results approach was created to engage with front line employees in the ongoing identification and implementation of improvements. When attempting to improve work processes, the Rapid Results approach routinely takes us to the Gemba (which means, the real place, or where the truth may be found) to identify, analyze, and eliminate wasteful activities as we seek ways to add value to the service or product. Rapid Results focuses on the creation of value for the customer and the elimination of waste at each process step, with the goals of making work **Easier**, **Better**, **Faster** and **Cheaper** - in that order.

Vision
A customer-focused culture in Illinois State Government that embraces a lasting commitment to continuous improvement and respect for people.

Mission
To develop, support and guide a thriving and dynamic community of Rapid Results leaders within Illinois State Government towards operational excellence and outstanding customer service.

Strategies & Objectives

Strategy	Objectives
Educate: We develop extraordinary leaders.	• Develop a sustainable training framework that supports development of Rapid Results Leaders through systematic training in basic, intermediate and advanced tools and skills as appropriate. • Develop and maintain a body of knowledge focused on operational excellence and continuous improvement to support the growth and success of Rapid Results Leaders.
Facilitate: We provide comprehensive project facilitation services.	• Develop the capacity to support the completion of large-scale Rapid Results projects statewide. • Develop a framework to evaluate potential Rapid Results projects and allocate resources accordingly.
Communicate: We share the experiences of successful Rapid Results leaders.	• Increase engagement level of currently trained Rapid Results Leaders. • Identify ways to share information with the general public regarding the Rapid Results initiative and successful projects. • Establish a statewide network of information sharing to maximize the impact of Rapid Results learning and successes.
Evaluate: We benchmark our success against the best organizations in the nation.	• Engage with best-in-class organizations both public and private to benchmark Rapid Results progress. • Develop a mechanism to assess Rapid Results progress within Illinois agencies and identify ongoing opportunities for improvement.

Performance (As of August 21, 2019)
Since the inception of the Office of Operational Excellence, **2,473** employees from **35** state agencies have been trained on Rapid Results and process improvement concepts. **1,535** projects have been undertaken with **1,123** of those implemented to date. **$19,600,371** of total annualized cost reallocation has been achieved, with **862,035** work hours reallocated annually, the equivalent of more than 400 person years of saved work, captured and reallocated annually among agencies involved.

WHO WE ARE

The Office of Rapid Results was formed within Central Management Services (CMS) on May 1, 2016, to oversee and coordinate the State of Illinois Rapid Results Program. The Office provides centralized statewide training and guidance on the principles of continuous improvement, and project implementation support for CMS and all executive agencies. The Office also coordinates the collection and reporting of process improvement metrics and agency success stories.

WHAT WE DO

Rapid Results is a program that uses proven principles of operational excellence and continuous improvement to evaluate and improve Illinois State Government Services. Unlike traditional "top down" operational improvement initiatives, Rapid Results leverages the expertise and knowledge of front line state government employees in the identification of solutions. Rapid Results Events are the foundation of the program and the catalyst for transformation.

During Rapid Results Events, a team consisting of front line staff, supervisors, stakeholders and customers is identified and empowered to map the current state of an identified process. The team analyzes the current state against customer requirements in order to identify the steps of the process that add value to the customer. Non-value added process steps are analyzed to determine if they can be removed or improved. Through brainstorming and collaboration, the team designs a more efficient and effective process that improves flow, minimizes wastes and maximizes customer value.

WHAT WE CAN DO FOR YOU

The Office of Rapid Results provides a wide variety of specialized services to help state agencies improve operations including:

- Strategic Planning.

- Value Stream Mapping workshops.

- Workplace on-site support to implement change thoroughly.

- Operational Excellence training workshops in 1/2 day, single day and multiple day formats.

- Performance coaching and meeting facilitation.

WHERE YOU CAN FIND MORE INFORMATION

Office of Rapid Results
Stratton Office Building
(217) 782-7379
rapidresults@illinois.gov
https://cms2.portal.illinois.gov/sites/RapidResults/

Rapid Results Workshop Description

Overview

The Rapid Results Workshop is a fun and engaging learning experience which provides participants with the knowledge and tools necessary to launch Rapid Results Improvement Events within their agencies. The workshop is an immersive three-day experience which combines interactive training with hands-on learning.

The first two days of the workshop are back to back and involve intensive training on the principles of Rapid Results. Using a combination of heavily interactive discussions and hands-on activities, these first two days are designed to allow participants to immediately apply what they have learned in order to increase retention and develop expertise with the tools and techniques of Rapid Results. Upon completion of Day Two of the workshop a starter kit is e-mailed to all participants. The participants return to their agencies and utilize the starter kit to initiate a Rapid Results Improvement Event. Participants return for the third day of the workshop four weeks later to deliver a short presentation (10-15 minutes) on the status of their Rapid Results Improvement Event. During this final session, an emphasis is placed on participants learning from each other by sharing successes and obstacles.

Learning Outcomes

Upon completion of this workshop, each participant will be able to:

- Explain the principles of Rapid Results to their team members and employees.

- Develop an effective problem statement for a Rapid Results project.

- Map the current state of a value stream, identify process wastes and determine root causes.

- Design an improved future state for a value stream that improves flow, minimizes wastes and maximizes customer value.

- Develop and implement an action plan to achieve the desired future state.

Knowledge and comprehension are assessed through satisfactory participation and completion of exercises. The effectiveness of this workshop is evaluated by participant follow-up presentations.

Target Audience

Although the Rapid Results Workshop is open to all employees, the target audience is front-line to middle management supervisors with a general management knowledge of their agency's culture as well as an adequate understanding of agency specific policies, work standards, and regulations which impact their areas. The ideal candidate is a high capacity employee with proven leadership, change management and interpersonal skills who possesses a desire to achieve high levels of performance.

Participant Preparation

Learning by doing is central to the Rapid Results Training Methodology. For this reason, participants are required to identify 3-4 ideas for potential Rapid Results projects within their agency when they are registered. Potential Rapid Results projects should be:

Simple in nature. The goal of the workshop project is for participants to apply the principles of continuous improvement successfully. A project with a simple scope and a clearly defined problem statement will facilitate a more successful learning experience for the participant.

Aligned with the agency's strategic improvement goals. Rapid Results Improvement Events are designed to produce rapid improvements in agency effectiveness, and deployment should always be targeted towards areas which have been identified by agency management as important opportunities for improved performance.

Supported by agency management. Leadership support is the most critical element of success for Rapid Results Improvement Events and fast implementation of resulting action plans will be necessary in order to realize the benefits of the Rapid Results Approach.

On the afternoon of the second day of the workshop, participants will select their Rapid Results project and will complete a charter for their proposed project.

More Information

If you have specific questions about an upcoming Rapid Results Workshop, please contact the Rapid Results Office at (217) 782-7379 or e-mail us at rapidresults@illinois.gov

If you see…	You should track…	Improvement looks like…	How to Enter on the Portal
A convoluted process	Number of non-value added steps.	Number of non-value added steps eliminated	Enter the number of eliminated non-value added steps in the form field entitled, "Non-Value Added Steps Eliminated".
A large amount of hand-offs between work units, offices, and/or agencies	Number of people or offices involved that are necessary to the process	Number of hand-offs eliminated	Enter the number of eliminated hand-offs in the form field entitled, "Hand-Offs Eliminated".
An excess amount of stops in a process requiring a decision	Number of non-value added decision points	Number of non-value added decision points eliminated	Enter the number of eliminated non-value added decision points in the form field entitled, "Non-Value Added Decision Points Eliminated".
An abundance of documents or online forms with repetitive information	Number of fields and/or forms necessary to complete the process	Number of fields/forms eliminated	Enter the number of eliminated forms in the form field entitled, "Fields/Forms Eliminated".
A large amount of approvals needed between work units, offices, and/or agencies	Number of non-value added approvals necessary to the process	Number of non-value added approvals eliminated	Enter the number of eliminated non-value added approvals in the form field entitled, "Non-Value Added Approvals Eliminated".

EASIER

BETTER

If you see…	You should track…	Improvement looks like…	How to Enter on the Portal
Documents need to be edited multiple times	Number of rework loops	Amount of rework eliminated	Enter the number of eliminated rework loops in the form field entitled, "Rework Loops Eliminated".
Frequent process complaints from customers	Areas customers find challenging	Customer satisfaction increased	Choose "Yes" in the "Has Customer Satisfaction Increased?" form field and explain in the "Please Explain" field.
Documents contain mistakes	Number of mistakes	Number of errors eliminated (nonconforming work)	Enter the number of eliminated errors in the form field entitled, "Errors Eliminated".
A product that can be improved	Number of missing product specifications	Quality of product (degree to which specifications are met) improved	Enter quality of product improvements in the form field entitled, "Describe Quality Improvement".

FASTER

If you see…	You should track…	Improvement looks like…	How to Enter on the Portal
Incomplete work items consuming time	Number of pieces in work	Work in progress (incomplete items) eliminated	Enter the number of eliminated work in progress items in the form field entitled, "Incomplete Items Eliminated".
Product takes too long to reach customer	Amount of "Lead Time"	Time to customer (time spent working + time spent waiting) reduced	Enter time to customer in the form field entitled, "Pre-Implementation Annualized Lead Time & Post-Implementation Annualized Lead Time".
The time spent working in a process takes too long	Amount of "Process Time"	Time spent working reduced	Enter time spent working in the form field entitled, "Pre-Implementation Annualized Process Time & Post-Implementation Annualized Process Time".
Steps in a process that add to Lead Time without impacting customer	Time spent waiting	Reduced wait time	Enter the wait time in the form field entitled, "Pre-Implementation Annualized Wait Time & Post-Implementation Annualized Wait Time".

CHEAPER

If you see…	You should track…	Improvement looks like…	How to Enter on the Portal
A process in which costs can be reduced	Amount of total costs reduced from the budget	Direct annualized cost savings	Enter direct cost savings in the form field entitled, "Pre-Implementation Annualized Cost & Post-Implementation Annualized Cost to Date".
Resources already on hand that can be redirected for other purposes	Amount of resources on hand that can be reallocated for other purposes	Indirect annualized cost savings	Enter indirect cost savings in the form field entitled, "Pre-Implementation Annualized Indirect Cost & Post-Implementation Annualized Indirect Cost to Date".
One time cost that can be reduced	Amount of one-time non-annual costs reduced from the budget	One-time cost savings	Enter one-time cost savings in the form field entitled, "One-Time Cost Saved".
An excess amount of paper usage increasing costs	Amount of costs attributed to paper usage	Paper savings	Enter paper savings in the form field entitled, "Paper Savings". Please consult your department's fiscal department for paper cost amounts. Please contact the Office of Rapid Results if you need assistance with estimating paper savings.

Important Tips

- **All fields on the Portal's Current Initiatives list are not required. Please enter information for only those metrics that are related to your project.**

- **Choose the most applicable fields to fill out.**

- **If you are confused about what to enter into a field, all form fields for the Current Initiatives list have a description beneath them on the entry form that defines what types of things belong in each field.**

- **Be sure to keep the "Project Contact" up-to-date, so the proper person can receive reminder messages, etc. for his or her project.**

- **If you are having difficulties with defining measures for your projects, please contact us at rapidresults@illinois.gov.**

HELPING UTAH PUBLIC SERVICES DELIVER VALUE and DEMONSTRATE EXCELLENCE
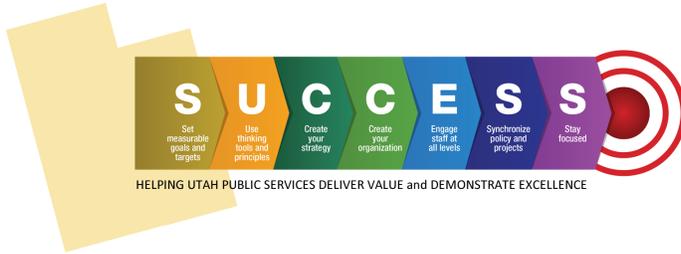
PRECONSTRUCTION SYSTEM

SUMMARY OF EFFORT

Improve our project delivery by focusing on our scoping process.   The Department will spend more time in the early phases of the projects in order to fully define a scope and schedule that meets the project goals. New procedures (Project Definition Document, Region Funding Liaisons) have been implemented to assist in the project planning process. The results of this effort will be reduced preconstruction engineering costs since the amount of redesign should be minimized. We also anticipate a reduction in change orders during construction due to creating plan sets that are more clear and accurate.

Team	Meeting Dates
- Randy Park - Lisa Wilson - Dave Adamson - Monte Aldridge - Dave Schwartz - Craig Hancock	- October 29, 2013 - November 1, 2013 - December 17, 2013

CONTROL POINT: SCOPING PHASE

What Good Looks Like (WGLL): We are producing well-defined scopes and accurate schedules to meet project goals and budget. Scoping is accomplished more and more thoroughly, in a timely fashion.

MEASUREMENTS – QT/OE

Q	=	1/ $ of change orders
T	=	$ of closed projects
OE	=	PE Costs $

QT / OE Spreadsheet   Note: CMGC and Design Build projects are excluded

Calendar Year	(Q) $ of Change Orders	(T) Original Contract Amount	(OE) PE Cost	QT/OE	QT/OE goal	Difference
Baseline 2012	$47,844,299.27	$578,756,905.40	$34,257,926.30	.35311	.44	
2013	$46,371,075.70	$684,873,431.78	$29,997,086.73	.49236		39.4%
2015 (8/12/14)	$12,196,178.90	$240,621,501.53	$16,460,778.16	1.2		

GOAL

Deliver a clear accurate advertising package that meets the project goals – on time and within budget

STRATEGY AND TACTICS TO INCREASE BLUE LIGHT

Work on Project Knowledge
- Identify Project Sponsor
- Complete Project Definition Document
- Use Region "experts" for funding sources
- Increase knowledge using Fund Fact sheets

NEXT STEPS:
- Report QT/OE numbers in SMIS by 2nd Friday of each month
- Continue with PM level training

Preconstruction - Scoping

Goal: Deliver a clear accurate advertising package that meets the project goals – on time and within budget

Q = 1/$ of Change Orders
T =$ of closed projects
OE = PE costs
QT/OE Baseline: CY 2013

Idea, Need

Concept (goals, funding, planning)

Control Point

Scoping

Project Definition Document Approval

Geometry

Plan-in-hand

PS&E

Advertising

Contract let

Right of Way

Utilities

Environmental
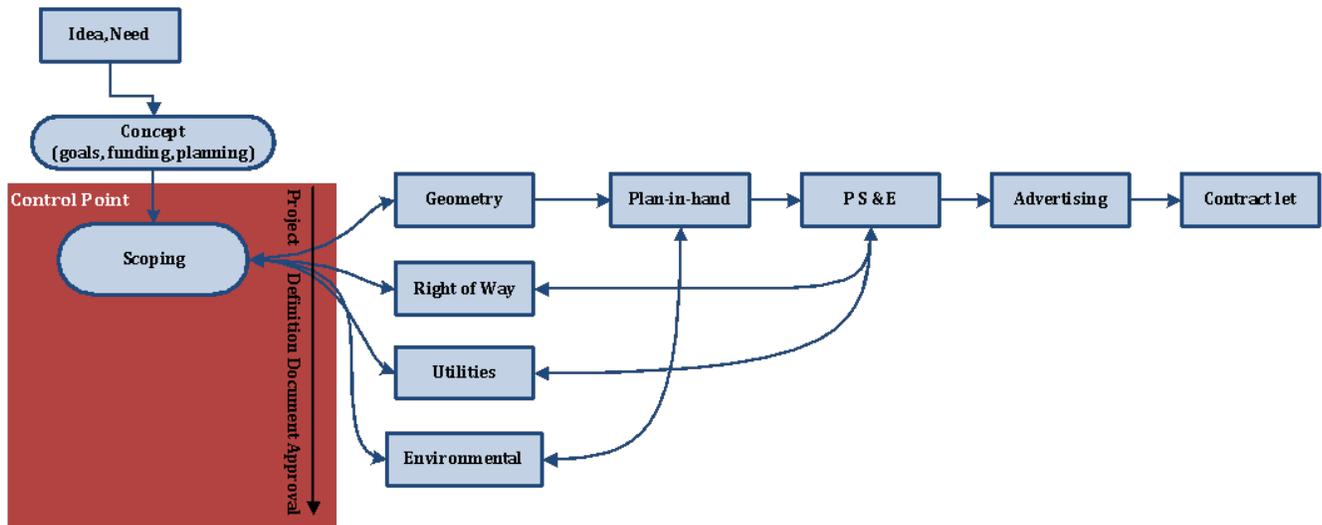
WGLL: Feeding the Control Point	WGLL: Control Point	WGLL: Following the Control Point
• Concept reports are sent to scoping with more defined goals and better budget estimates	• We are producing well defined scopes and accurate schedules to meet project goals and budget. • Scoping is accomplished more and more thoroughly, in a timely fashion	• We are conforming to the scope and completing quality work within the committed schedule more and more efficiently.

HELPING UTAH PUBLIC SERVICES DELIVER VALUE and DEMONSTRATE EXCELLENCE

GRANTS OF ACCESS SYSTEM

SUMMARY OF EFFORT

The principal objectives are to improve overall program efficiency and statewide operational consistency by significantly enhancing applicant education practices, integrating a defined business process, and in a parallel effort, secure the necessary resources to perform an ultra-critical system overhaul or complete system replacement. Increase the amount of time Right of Way Control Coordinators are actually spending a larger portion of their time reviewing properly completed grant of access applications. This is the "control point" and properly completed applications are considered a "full kit." By tracking and reducing the amount of required application re-submissions (i.e., increasing the number of applications submitted correctly the first time) and by reducing the amount of time spent on front-end applicant education efforts (not currently measured) the Department can expect significantly improved operating throughput, while also seeing improved statewide processing consistency. This will translate into a measurable improvement of QT over OE and aid the Department in realizing an overall 45-day processing turnaround performance for standard grant of access applications.

Team	Meeting Dates
- Lyle McMillan - Rod McDaniels - Tony Lau - Robert Dowell - Rux Rowland - Darin Fristrup - Katy Warren	- December 5, 2013 - January 13, 2014 - March 11, 2014 - June 5, 2014

CONTROL POINT: REVIEW AND DETERMINE STATUS OF APPLICATION

What Good Looks Like (WGLL): ROW Coordinators are spending a higher percentage of their time reviewing complete applications that are based on the consensus achieved in the pre-application meeting. Permits are approved faster and faster.

MEASUREMENTS – QT/OE

Q	**=**	% of applications processed within 45 days of submittal (UDOT time)
Q2	**=**	# of terminated applications processed (within 45 days of UDOT time)
T	**=**	# of grants of access applications processed
OE	**=**	Costs of personnel, travel, data processing, and current expenses (based on % of time spent on Access Permits).

QT / OE Spreadsheet

Fiscal Year	# applications processed (w/i 45 days)	Q	T	OE	QT/OE	QT/ OE Goal	Difference
Baseline FY13	166	.802	207	$502,417.81	.0003304	.0004773	
FY14	206	.892	231	$521,858.11	.0003947		19.5%
FY15 (9/4/14)	48	.888	54	$65,119.90	.0007363		

GOAL

Applications processed within 45 days of submittal

STRATEGY AND TACTICS TO INCREASE BLUE LIGHT

Improve Applicant Education
- Clear, concise instructions
- Instructions presented on website
- Defined pre-app process and checklist

Improve System Technology
- Improve / update web interface
- Enhance online permit system
- Business Process –Variance - establish formal, statewide process

Adequate Resources
- Write a compelling case for DTS resources
- Communicate expectations to technical experts and invite only those who are needed

NEXT STEPS:
- Report QT/OE numbers in SMIS by 2nd Friday of each month (Leslie, Rod)
- Move forward with project plan

Grants of Access

Goal: Applications processed within 45 days after submittal

Q = % of applications processed within 45 days + % of applications terminated
T = # of applications processed
OE = Costs of personnel (direct and indirect)
QT/OE Baseline: SFY 2013

```
Access Permit          Approval → Encroachment → Processed Permit
   Need                             Permit

Pre-Application → Application → 10-day      →  [Control Point]
   Meeting         Submittal    Completeness
                                Review          Review → Additional → Denial
                                                         Information
                                                         Needed?
                                                Additional      → Yes   Termination
                                                Information                [60 days
                                                Letter Sent                inactive]
```

Control Point
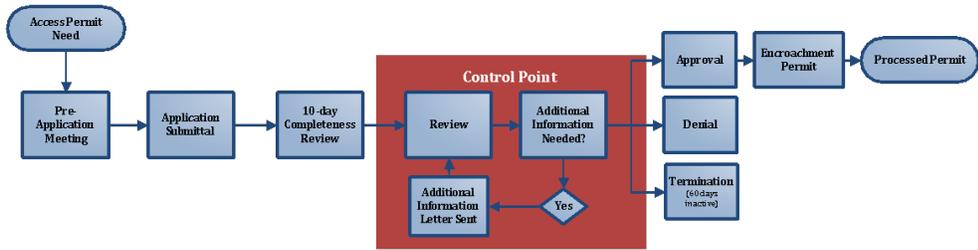
WGLL: Feeding the Control Point	WGLL: Control Point	WGLL: Following the Control Point
• "Meeting of minds"/consensus is achieved regarding • Size, use, location, # of access points, standards etc • Technical experts review and give feedback on pre applications. •	• Right of way coordinators are spending a higher % of their time reviewing complete applications that are based on the consensus achieved in the pre application meeting • Permits are approved faster and faster	• More approvals • Fewer denials • More satisfied applicants

HELPING UTAH PUBLIC SERVICES DELIVER VALUE and DEMONSTRATE EXCELLENCE

POE TRUCK PROCESSING SYSTEM

SUMMARY OF EFFORT

Allow the least amount of impact to the flow of commercial truck traffic through Utah's port of entries while continuing the efforts to inspect vehicles for safety and licensing requirements. This will be accomplished by examining different technologies that help with identification of those vehicles that are at highest risk for non-compliance of safety and licensing and allow the state's limited inspection resources to be focused on the most appropriate vehicles.

Team	Meeting Dates
- Jason Davis - Chad Sheppick - Brenda Hennefer - Lane Murphy - Rick Clark - Ronald Butler	- December 19, 2013 - January 28, 2014 - February 25, 2014 - March 24, 2014 - June 17, 2014

CONTROL POINT: DIAGNOSE AND INSPECTION

What Good Looks Like (WGLL): More and more trucks roll without stopping at ports of entry. The right trucks are pulled for inspection based on risk review and random selection resulting in faster and more effective inspections. Compliant trucks roll.

MEASUREMENTS – QT/OE

Methods

Q1	**=**	% of trucks bypassing ports of entry
***Q2**	**=**	% of truck activities completed within (time standard) - *Still pending - technology needed to measure
T	**=**	# of trucks rolling through ports of entry system
***OE**	**=**	Costs of personnel, travel, data processing, and current expenses. *Pending - need to add indirect costs

Fiscal Year	Q1	Q2	T	*OE	Baseline	QT/OE Goal	Difference
Baseline FY13	21%	TBD	6,071,070	$5,294,332	.2372	.32496	
FY14	23%	TBD	7,438,327	$5,148,740	.3251		37%

QT / OE Spreadsheet *OE still needs indirect costs added*

GOAL:

For the trucking industry, achieve safety, facilitate commerce and protect infrastructure. Target is to bypass 50% of trucks at the Ports of Entry.

> Pre Pass calculation cost analysis: $8.68 per pull-in [2008+] (FMCSA Economic Analysis and Business Case for Motor Carrier Industry Support of CVISN - Oct 2007)

STRATEGY AND TACTICS TO INCREASE BLUE LIGHT

- Modernize I.T. Systems (define requirements, build business case, release RFI, then RFP)
- Promote/Create/Show Benefits of Bypass (goal – 50% of trucks bypass the POE)
    o Educate drivers and agents on bypass options
    o Promote on UDOT website
    o Educate trucking association on Pre-Pass and Drivewise
    o Specific application – Daniels POE - Oil haulers, Monticello – requesting trucking companies report their bypass numbers monthly (so we can add to our totals)

NEXT STEPS:

- Chad will put together user group to work with Steve Quinn to define business requirements for technology that will support agents performing faster and more effective inspections
- RFI release
- Jason to look into funding opportunities for technology needed
- Steve Goodrich to add indirect costs for OE and send to Matt Lund
- Steve to report QT/OE in SMIS by 2nd Friday of each month
- Continue work on project plan
- More trucks use the bypass system
- Once technology is acquired, define Q2 (truck activities for measurement)
- next steps for project plan

POE Truck Processing

Goal: For the trucking industry, achieve safety, facilitate commerce and protect infrastructure. Target - 50% of trucks bypass POE

Q1 = % of trucks bypassing ports of entry
Q2 = % of truck activities completed within (time standard)
T = # of trucks rolling through ports of entry system
OE = Costs of personnel (direct and indirect)
QT/OE Baseline: SFY 2013

Control Point

Truck Identification → Diagnose (Agent or Bypass System) → Inspect (Agent) → Identify Corrective Action → Verify Corrective Action → Trucks Roll

Diagnose (Agent or Bypass System) → Trucks Roll
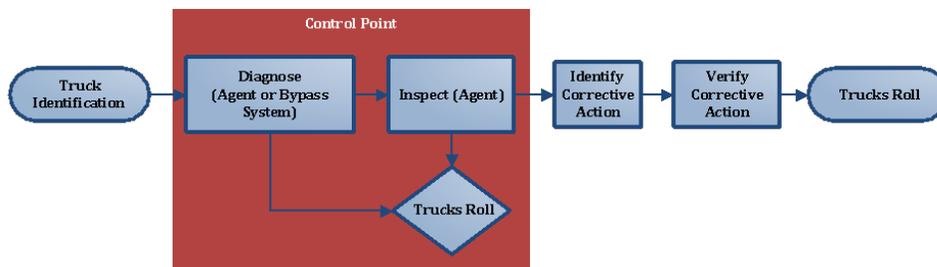
WGLL: Feeding the Control Point

- More self-policing thru education and understanding of the bypass system
- More trucks use the bypass system

WGLL: Control Point

- More and more trucks roll without stopping at ports of entry
- The right trucks are pulled for inspection based on risk review and random selection. Compliant trucks roll.
- Faster and more effective inspections

WGLL: Following the Control Point

- Fast and fair corrective action
- More self-policing in the future thru education and understanding of the bypass system

SNOW & ICE CONTROL SYSTEM

SUMMARY OF EFFORT

Explore all facets of UDOT's snowplow efforts and determine where improvements can be accomplished. All areas will be looked at for efficiency including use of better technology, equipment, materials, and improved strategic use of limited manpower assets. This will allow the roadway surface to maintain the highest level of roadway friction possible therefore permitting the public to travel safely throughout the state during weather events.

Team	Meeting Dates
- Jason Davis - Lloyd Neeley - Ryan Williams - Brent DeYoung - Jim McConnell - Earven Rhodes - Rick Debban	- November 21, 2013 - December 16, 2013 - January 22, 2014 - February 13, 2014 - May 1, 2014

CONTROL POINT: RESOURCE DEPLOYMENT, RE-DEPLOYMENT

What Good Looks Like (WGLL): Equipment operators are spending a higher % of their time operating equipment on the roadway during the weather event (less dead head time). Achieve optimal use of equipment and materials.

MEASUREMENTS – QT/OE

Methods

Q1	**=**	Snowplow hours / labor hours charged = % time spent plowing snow
Q2	**=**	Percent of A grades
T	**=**	Snowplow hours
OE	**=**	Operational Expense

QT / OE Spreadsheet *OE still needs indirect costs added*

Fiscal Year	Q1	Q2	Overall Q (Q1,Q2 equal weight)	T	*OE	QT / OE	QT / OE Goal	Difference
Baseline FY11 – 13 (average)	60.9%	36%	48.5%	126,761	$23,244,992	.002642	.003302	
FY 14	62.4%	41.8%	52.09%	107,349	$17,396,536	.003214		3.43%

GOAL:

Keep traffic moving by maintaining traction on road surface

STRATEGY AND TACTICS TO INCREASE BLUE LIGHT:

- Contracts for materials in place
- Operator training is thorough and timely
- Equipment is prepared/repaired
- Seasonal staff hired and trained
- Snow plans updated
- Operator personal equipment acquired
- Accurate, timely weather forecasts and good deploy plan

NEXT STEPS:

- Work on Project Plan
- Report QT/OE numbers in SMIS by 2nd Friday of each month

Snow and Ice Control

Goal: Keep traffic moving by maintaining traction on road surface

Q = Improvement in roadway condition (as per MMQA report)
T = Lane miles plowed per FTE
OE =
QT/OE Baseline: Average for past 3 years

Weather Event

Prepare for weather event → Weather forecast →

Control Point
Pre-event resource deployment → Resources deployed to attack event → Redeploy resources → Lower priority surfaces addressed

Roadway surface = Bare pavement

Post-event activities

Road condition report to public
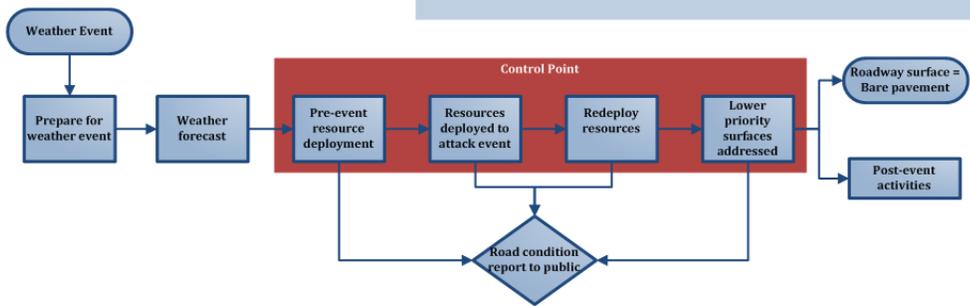
WGLL: Feeding the Control Point
- Contracts for materials in place
- Operator training is thorough and timely
- Equipment is prepared/repaired
- Seasonal staff hired and trained
- Snow plans updated
- Operator personal equipment acquired
- Accurate, timely weather forecasts and good deployment plans

WGLL: Control Point
- Equipment operators are spending a higher % of their time operating equipment on the roadway during the weather event (less dead head time)
- Optimal use of equipment and materials

WGLL: Following the Control Point
- Post event analysis conducted to identify improvements.
- Material replenishment and equipment repairs made timely.

PROCUREMENT SYSTEM

SUMMARY OF EFFORT

UDOT Procurement processes request for goods and services, aids in writing of specifications, solicits and awards bids from suppliers, and creates agency contracts.

The goal is to deliver accurate and high-quality services in a timely manner, and to ensure taxpayer funds are being used appropriately. Procurement's throughput operating strategy will be to improve the turn-around time for processing purchasing requests while assuring the best value for the State. All purchasing requests are processed by one of three categories; Title 72, State Purchasing, and other. The total count of each category will represent the Throughput Metric (T).

The Quality Metric (Q) will be determined by the timeliness of the process. Title 72 purchases should

be processed within 70 days, State Purchase Contracts within 100 days, and all others within 30 days.

Team	Meeting Dates
- Becky Bradshaw - Shawn Holland - Brent Laulusa - Tracie Montano - Paul Kikuchi - Penni Taylor - Debra Boulton	- October 29, 2013 - November 1, 2013 - December 17, 2013 - January 8, 2014 - February 19, 2014 - Shawn to meet w/ Greg at future date to talk about warehouse system

CONTROL POINT: PREPARING BIDS

What Good Looks Like (WGLL): Purchasing Agents are spending a higher percentage of their time reviewing full packages. Agents are able to prepare more and more bids

MEASUREMENTS – QT/OE

Methods - Formula is $[(QT_{Title\ 72}) + (QT_{State\ Purchase\ Contracts}) + (QT_{All\ Others})] / OE$

Q	**=**	Combined percentage of requisitions (by type) meeting specified reliability standards for processing time: Title 72 within 70 days, State Purchase Contracts within 100 days, All Others within 30 days
T	**=**	Count of requisitions tracked by type
OE	**=**	Costs of personnel, travel, data processing, and current expenses.

QT / OE Spreadsheet *OE still needs indirect costs added*

Fiscal Year	Q	T	OE *	QT/OE	QT / OE Goal	Difference
Baseline 10/12 – 06/13	69.6%	201	$544,948.79,	.000257	.000321	
2014	83.7%	320	$719,215.00	.000373		45.1%

GOAL

Improve the turn-around time for processing purchasing requests while assuring the best value for the State. Title 72 purchases should be processed within 70 days, State Purchase Contracts within 100 days, and all others within 30 days.

STRATEGY AND TACTICS TO INCREASE BLUE LIGHT

Build Procurement – Request Full Kit
- Clear set of instructions on website to develop procurement request (templates, flowchart, etc.)
- Policy to follow (with "why" explained to get buy in)

Training
- Online, funding for website, Gift Presentation, UDOT U, P-card online, small purchase, face to face, maintenance spring and fall training involvement

NEXT STEPS:

- Include indirect costs into OE
- Report QT/OE results in SMIS by 2nd Friday of each month
- Move forward with the next steps of the project plan (policy, training)
- Shawn to analyze warehouse system (DO requisition types) and will set an appointment up with Greg to discuss in the near future

Procurement

Goal: To deliver accurate and high-quality services in a timely manner, and to ensure taxpayer funds are being used appropriately.

Q = Timeliness - reliability standard for the steps, review request through executed contract
T = Executed requisitions
OE = Costs of personnel (direct and indirect)
Baseline Period: Oct 2012 – June 2013

Rework Request

Customer Need

Incomplete File

Customer Request for Goods and/or Services

Review Request

Complete File

Control Point

Prepare Bid

Post Bid

Review Bid Responses

Customer Review and Recommendations

Review Bid Responses

State Purchasing

Executed Contract or Purchase Order
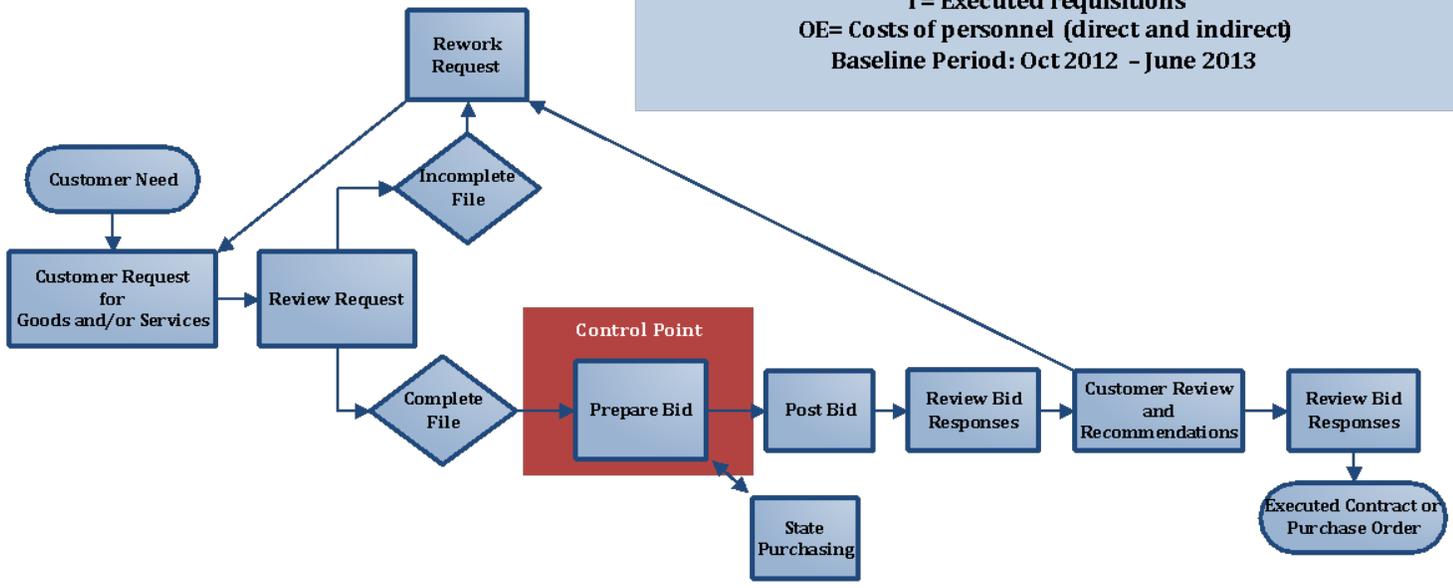
WGLL: Feeding the Control Point

- Customers are prepared and providing complete, accurate and timely request documentation.

WGLL: Control Point

- Purchasing agents are spending a higher % of their time reviewing full packages. Agents are able to prepare more and more bids.

WGLL: Following the Control Point

- Customers are available to do reviews when bids are received. Contracts are executed more quickly.

EQUIPMENT MAINTENANCE – HEAVY DUTY TRUCKS

SUMMARY OF EFFORT

Focused on creating a TLC Culture of Ownership with the UDOT shops in regards to heavy duty truck maintenance and devising a plan to ensure trucks and resources are available to match the snow plan. We have completed a Trainers workshop and a capacity planning/ management system workshop pilot at the central shop in June. An Executive memorandum regarding greasing and washing pre/post trip inspections was approved and sent in July.

Project Scope: Class 8 snow removal trucks

Problem Statement: Unreliable equipment, unsafe equipment, shortened useful life of trucks, maintenance cost too high (ratio is counter to ideal), snowball effect (indefinite deferment maintenance is growing faster than we can counter), fleet aging too fast.
Fleet too old (Olympic fleet -1/3 of fleet is approaching end-of-life). We currently do not have sufficient funds available to meet the new fleet requirements.

Team	Meeting Dates
- Jason Davis - Jeff Casper - Richard Grange - Wayne Jackson - Troy Starley	- April 28, 2014 - April 30, 2014 - May 22, 2014 - May 30, 2014 - August 4, 2014 - September 4, 2014

CONTROL POINT: PREVENTATIVE MAINTENANCE / REGIONAL REPAIR

MEASUREMENTS – QT/OE

Q	=	Truck availability during snow season (percent)
T	=	Core number of trucks
OE	=	Costs of personnel, travel, data processing, and current expenses

QT / OE Spreadsheet

Fiscal Year	Q	T	OE	QT/OE	QT / OE Goal	Difference
Baseline FY13	.806	415	$ 2,921,919.96	7068.91	8836.14	
FY14	.772	514	$ 2,369,563.62	5972.39		(15.5%)

QT Results Total	
T = Core number of trucks	515
Snow season days - October through May	212
Ideal number of operational days	109180
Total days down	21210.40
Q = Availability during snow season	0.806
Q*T=	414.95

GOAL

90% of Trucks are available to match snow plan expectations

NEXT STEPS:

- Finalize OE and send to GOMB for validation
- Move forward with the next steps of the project plan (policy, training)
- Workshop – have all PM completed for class 8 on loaders on schedule and done properly by Oct 15th
- Implement TLC culture (go shed to shed)
- Dashboard concept in development – Jeff is investigating – target date TBD. UDOT Dashboard spot will be checked. Wayne and Richard are investigating options
- Memo to area supervisors – 3C (Complaint, Cause, Correction)
- Create awareness motivation for closing task orders in a timely manner
- Examine a truck aggregation and prioritization for deployment system

UDOT - Equipment Maintenance, Heavy Duty Trucks - Throughput Operating Strategy

4/29/2014

Goal: Trucks are available to match snow plan expectations.

Q = % of fleet available during snow season
T = Core # of trucks in fleet
OE = TBD
QT/OE Baseline: FY13

Truck

Truck Selection & Specification → Purchase Truck → Prep Truck for Service → Put Truck Into Service → **Control Point** Preventive Maintenance → Repair Needed → Minor Problem / Major Problem

Minor Problem → **Control Point** Regional Repair
Major Problem → Central Repair

Truck In Service or Retired

WGLL: Feeding the Control Point
- Confirm that new trucks are working properly before being put into service
- Train operators on how to run trucks
- Equipment orders are complete and accurate
- Right truck is purchased; standardization

WGLL: Control Point
- Preventive maintenance is completed
- Pre/Post Trip Inspections are completed (Including washing)
- Needed repairs communicated early to mechanic
- Mechanics are performing repairs
- No rework (verify complaint, confirm repair)
- PM Training completed for operators
- PM instructions are complete & up-to-date

WGLL: Following the Control Point
- Not spending money on trucks that have passed their useful life
- Trucks repaired/refurbished
- No rework
- Trucks rotated to extend life
- Zero downtime due to failures
- Minimized downtime due to planned maintenance

GOAL TREE:

Goal
Enough Trucks are available to match snow plan expectations

Critical Success Factor
One UDOT – United kingdoms (Viable renewal plan based on cost benefit analysis of the fleet) –9

Critical Success Factor
Simple to maintain, reliable, standard trucks –8

Critical Success Factor
Good consistent data (Y) for all repairs and planned maintenance –10

Necessary Condition
Need based budget distribution is in place –7

Critical Success Factor
Fast acquisition of parts needed for repairs and planned maintenance

Necessary Condition
All planned maintenance is kept current and up to date including manuals – 6

Critical Success Factor
Fast and accurate repairs

Necessary Condition
Maintenance related data is uncorrupted (Detach pay from pay codes) – 10

Necessary Condition
Simplified task codes and drop down list technology – 4

Necessary Condition
Value of accurate data is understood by those who provide data – 3

Necessary Condition
All policies support the high availability of trucks – 5

Necessary Condition
Operators trained in depth for maintenance and repair and are available to support the demand and perform to necessary expectations – 7

Necessary Condition
Mechanics are trained in depth for maintenance and repair and are available to support the demand and perform to necessary expectations