

Transportation Performance Management Webinar Series

Agency Innovations and Improvements Blitz

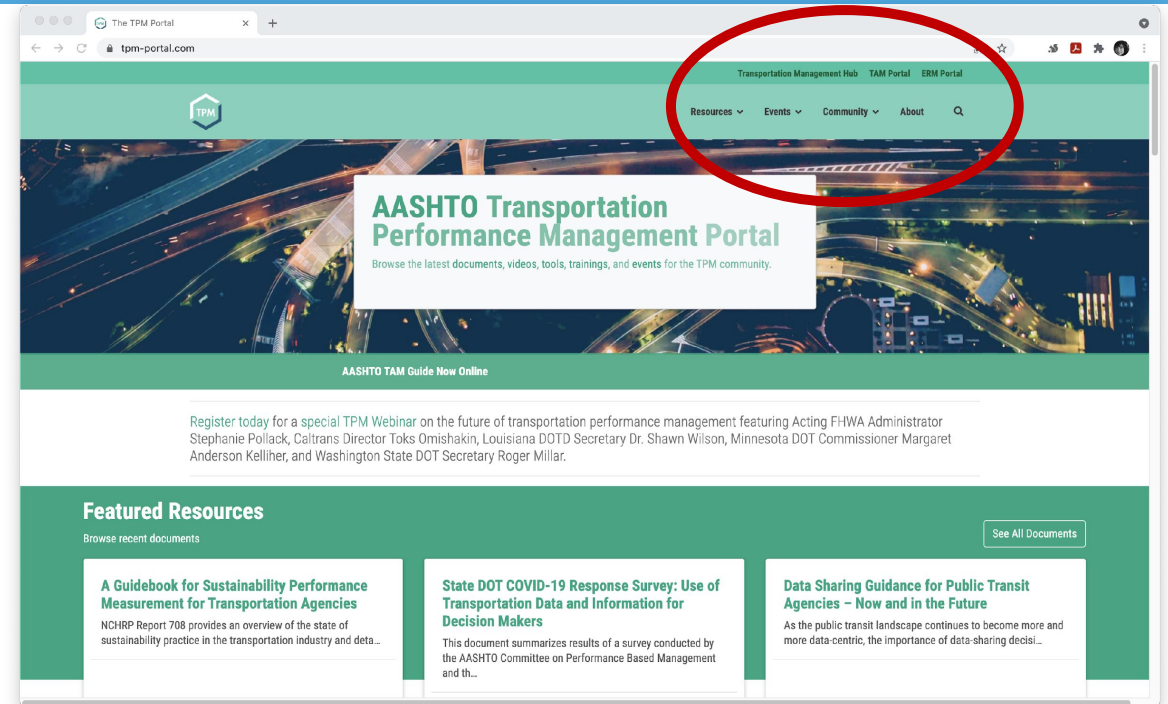
Sponsored by AASHTO and FHWA, and the Transportation Lean Forum



Wednesday, May 24, 2023
TPM Webinar 17

Transportation Performance Management Webinar Series

- Our TPM webinar series is held every two months, on topics such as communications, system performance management, data sources, and many more to come!
- Today is the 17th webinar in our bi-monthly series
- We welcome ideas for future webinar topics and presentations
- Use the webinar chat panel during the webinar
 - Submit questions for today's presenters
 - Submit ideas for future webinar topics



Find us on the AASHTO TPM Portal
<https://www.tpm-portal.com>

Webinar Agenda

- 2:00 Welcome, Introduction, and Agenda.**
Christos Xenophontos.
- 2:05 AASHTO Welcome.**
Susan Howard, AASHTO.
- 2:10 FHWA Welcome and Innovation.**
Jeffrey Zaharewicz.
- 2:15 CPBM OM Subcommittee and Topic Introduction.**
Gary Vansuch, Colorado DOT.
- 2:25 Agency Innovations and Improvements.**
Gary Vansuch, Colorado DOT.
Lisa Pounds, Arizona DOT.
Patrick Cowley, Utah DOT.
Tara Brown, Oklahoma DOT.
Brian Cowan, Ministry of Transportation of Ontario.

Webinar Agenda

2:30 Agency Innovations and Improvements.

Shayne Daughenbaugh, Nebraska DOT.

Rachel Wassel, Vermont DOT.

Peter Drivas, Port Authority of New York and New Jersey.

Scott Rollins, Maine DOT.

David Schwartz, Kansas DOT.

Nick Baptista, Idaho DOT.

Ben McCulloch, Texas DOT.

3:20 Presentation Synthesis.

Gary Vansuch, Colorado DOT.

3:25 Wrap Up.

Christos Xenophontos, Rhode Island DOT.

AASHTO Introduction

Susan Howard

AASHTO

showard@aaashto.org



AASHTO

Committee on
Performance Management



REGISTER TODAY!

AASHTO's Committee on Performance-Based Management 2023 Annual Meeting

September 11 to 13 | Denver, Colorado

FHWA Introduction

Jeff Zaharewicz

FHWA

Jeffrey.Zaharewicz@dot.gov



CDOT Innovations Challenge

Every year we host the CDOT Innovation Challenge!



<https://sites.google.com/state.co.us/process-improvement/lei-innovation-engagement-services/cdot-innovations-challenge>

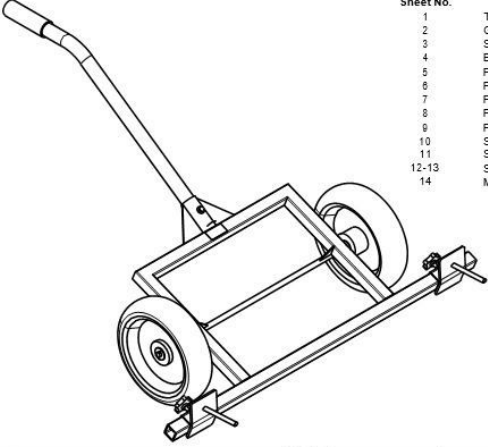
CDOT Innovations Challenge

During the March TLF Webinar, we featured the Plow Blade Installer Cart




Department of Transportation
 State of Colorado
 Project: Snow Plow Blade Installer Cart

Sheet No.	Index of Sheets
1	Title Sheet
2	General Notes
3	Stock List
4	Bill of Materials
5	Part Drawings: ST-1, ST-2, ST-4, & H-2
6	Part Drawings: H-1
7	Part Drawings: CF-2, CF-7, & ST-3
8	Part Drawings: CF-3, CF-4, & CF-5
9	Part Drawings: CF-1, CF-6
10	Subassembly Drawings: SA-1
11	Subassembly Drawings: SA-2
12-13	Subassembly Drawings: SA-3
14	Main Assembly Drawing: SPBIC-1



Revisions		
Date	Comments	Iss.



COLORADO
 Department of Transportation

Design By: B. Manguso
 Drawing By: J. McDowell
 Print Date: 12/08/2021

Project: Snow Plow Blade Installer Cart
 Subset: Title Sheet
 Subset Sheets: 1 of 1 Sheet Number: 1





INNOVATIONS CHALLENGE
 Innovate Your State


CDOT Innovations Challenge

This month, the LIDAR-based Viewshed Analysis Innovation

“CDOT planning and environmental staff have the data, programs and skills to run viewshed analyses in-house as part of Visual Impact Assessments (VIAs), but lack a standardized process across regions to implement them. Viewshed analyses are run using GIS software and demonstrate where proposed roadway elements will be most visible. Our data-driven viewshed analysis process has the potential to save CDOT thousands of dollars on each project, help visually communicate impacts to stakeholders and the design team, and add to project buy-in early in the planning phase.”

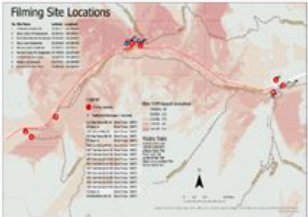
A series of LIDAR-based viewshed analyses that can be customized to a CDOT project

Environmental, Pre-Construction Engineering, and Transportation Development.



Challenge	Lack of standardized viewshed analysis process across CDOT regions
Innovation	A series of LIDAR-based viewshed analyses that can be customized to a CDOT project
Parts Used	ArcGIS Pro - Spatial Analyst & 3D Analyst
Benefits	<ul style="list-style-type: none"> Saves Time Saves Money Improves External Customer Experience


EJMT to Bakerville_10mDEM_Viewshed



Department of Transportation Development,
Environmental Programs Branch,
Landscape Architecture Section

Lita Koiv-Haus, Landscape Specialist (HQ),
Jennifer Kerns, Temporary Aide (HQ), Veronica McCall, EPS II (Region 1), Evan Kirby, CDOT Consulting Partner

[CLICK HERE FOR MORE DETAILS](#)



COLORADO
Department of Transportation

Published: 7/8/22






INNOVATIONS CHALLENGE
Innovate Your State



https://docs.google.com/presentation/d/1ympT_rA8agpTAI3i2Pb3-qs---VdlrVL/present?slide=id.p1

CDOT Employee Housing Initiative



COLORADO
Department of Transportation

Fact Sheet

- Colorado has seen significant changes in the housing market over the past five years as more people move to our great state. This has made it increasingly difficult for folks across Colorado who are required to live and work in high-cost areas. To help retain and recruit highway maintainers in these high-cost areas, CDOT has been providing housing stipends for selected areas in the state since 2018. In light of changes in the past few years, CDOT has just completed a comprehensive new analysis of market conditions, which has supported a recent decision to extend stipends to a broader range of geographic areas. Stipends are up to \$2000 monthly, based on the essential employees' work location.

Although housing stipends further the ability for employees to continue to rent or buy houses where they live and work, Colorado still continues to lack an inventory of homes that the stipend cannot address. As a result, CDOT is building new workforce housing that will allow essential employees to live within 30 minutes of their assigned duty area. Following a pilot project to add workforce housing in Glenwood Springs, upcoming capital projects are underway in Frisco and Fairplay, both breaking ground in the spring of 2023 and then Basalt, Gypsum and as part of a broader state effort at Dowd Junction.



Frisco and CDOT break ground on housing project expected to aid local workforce and winter road crew

The Colorado Department of Transportation has been shifting maintainers around the state to fill shortages but this project should help keep a dedicated crew in Frisco

News [Follow News](#) | 15 hrs ago

Ryan Spencer [Follow](#)
[ryan.spencer@summitdaily.com](#)



<https://www.codot.gov/news/2022/november/assets/maintenance-readiness-fact-sheet.pdf>

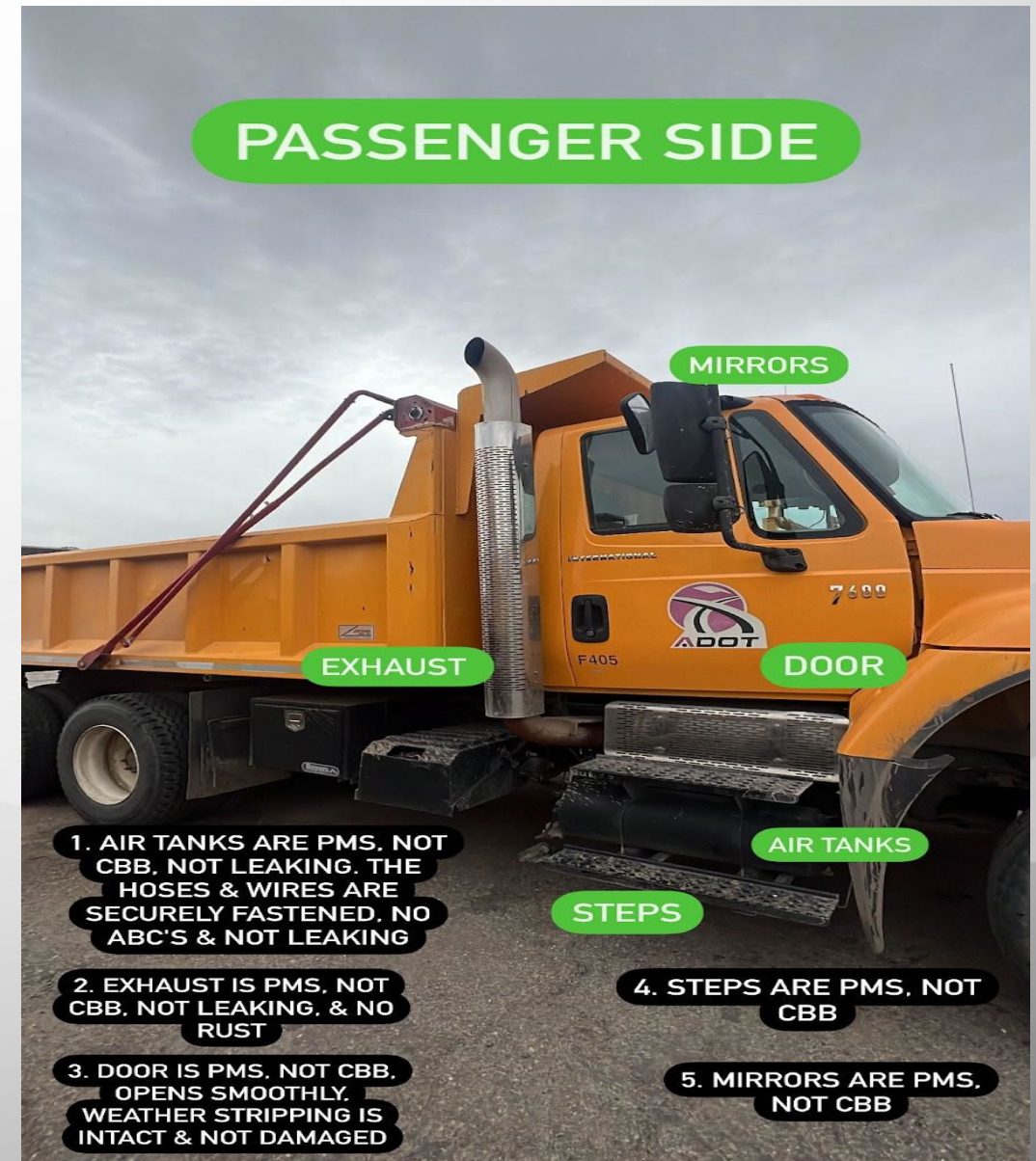
<https://www.summitdaily.com/news/frisco-and-cdot-break-ground-on-housing-project-expected-to-aid-local-workforce-and-winter-road-crew/>

CDL Training & Learning Guide

Innovator: Connor Varel, ADOT Quartzsite Maintenance

Purpose: Provide Alternatives for Studying for the Commercial Drivers License Test.

Innovation: Created visual studying tool for the employees to prepare for the Commercial Drivers License Test. The tool has 20 pages of pictures and instructions and has been adopted by other District Maintenance Units as another tool for all employees.



Remote Skid Steer

Innovator: Mark Killian, Avondale Maintenance Supervisor



Innovation and Efficiencies Report

2023 INNOVATION & EFFICIENCIES REPORT

INNOVATION PROGRAM DASHBOARD

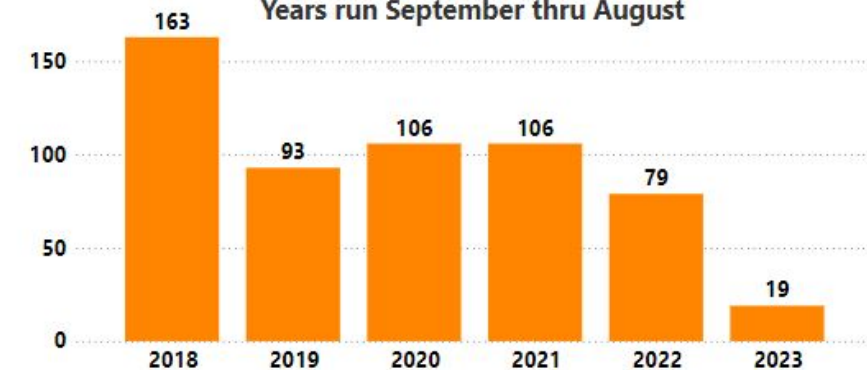
Cumulative Savings
(from 2017 to date)



\$35,378,875
91,392 HOURS

Implemented Innovations by Year

Years run September thru August





Incident Management Team Uses Drones to Expedite Scene Clearance After Crashes

Problem

After a crash or roadway incident, Incident Management Team (IMT) personnel document the scene as part of the incident record. The older documentation practices used handheld cameras, ground-based LiDAR systems, and manual record taking. These efforts took significant manpower, kept roads closed for extended periods, and increased the risk of secondary crashes due to traffic congestion.

Change

With the help of the UDOT Aeronautics Division and the Utah Highway Patrol, the IMT successfully integrated Unmanned Aerial Systems (UAS), commonly known as drones, into the incident documentation process.

Result

Using drones to collect data provides a more accurate record of the scene. GPS location data and high-detail photos and videos are used to create 2D/3D models and photogrammetry (accurate measurements based on imagery).

By using drones for data collection, road closures on a fatal scene—which used to last 5–6 hours—now only take about 4 hours. Opening the roads sooner reduces the number of secondary crashes and causes fewer delays for the traveling public.



Oklahoma Transportation Cabinet



Efficiencies Tracking

Every day, employees across our Transportation Cabinet are using innovative solutions to cut costs, save time, and safely get their jobs done.

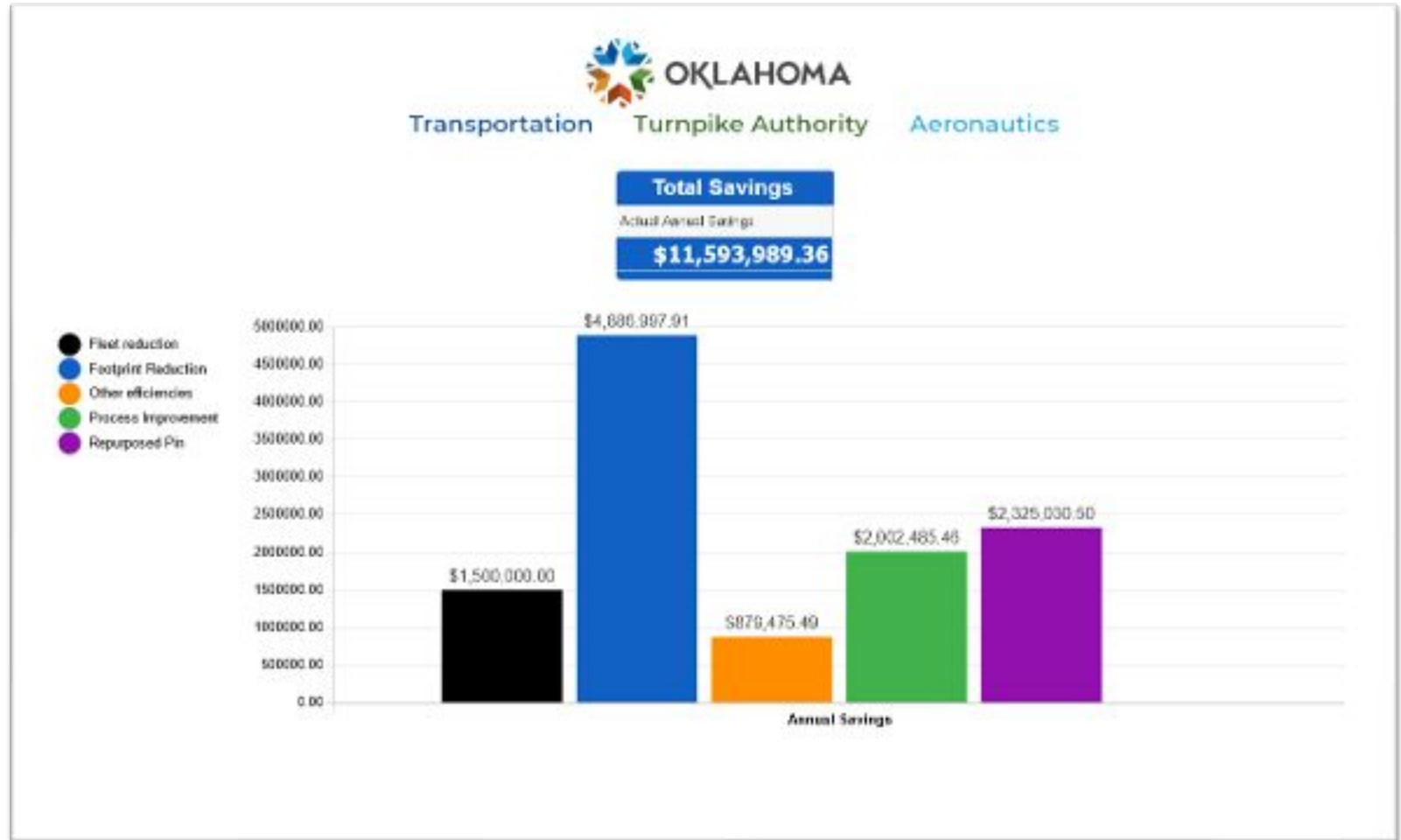
To streamline our process for gathering information on these efficiencies, the Office of Innovation is developing a user-friendly website as an open channel of communication where new successes can be reported as soon as they're established.



Oklahoma Transportation Cabinet Efficiencies

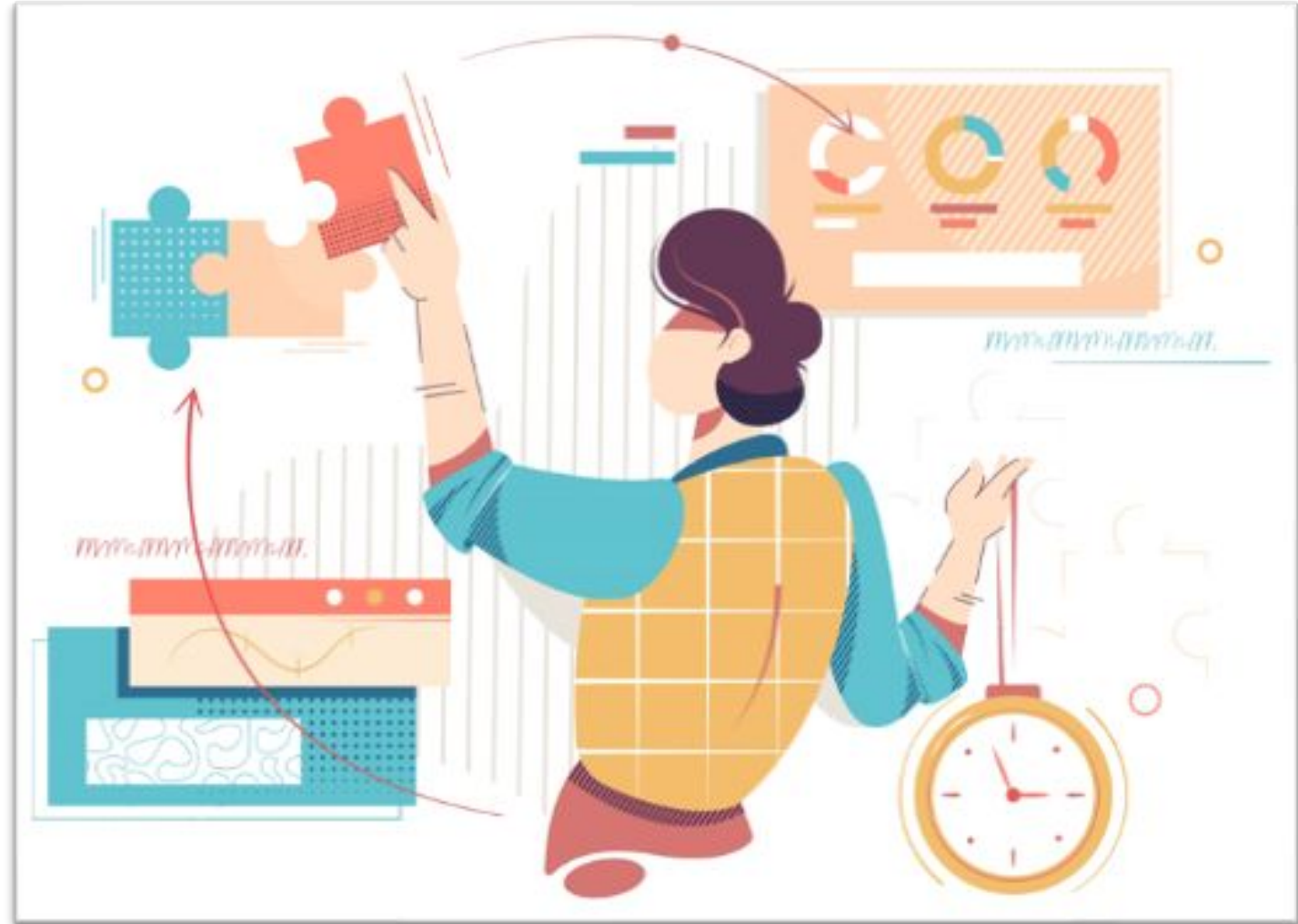
- **Efficiency Highlights:**

- Overlaid existing shoulders instead of replacing them, resulting in cost savings and decreased construction time.
- Shifts to paperless processes reduced the needed number of printers, creating savings on leases, copy paper and ink.
- Project bundling allows awarding a single contract for multiple projects.
- Footprint consolidation has allowed for the elimination of several leased facilities.



Business Process Improvement Initiatives

- **8 Completed Change Initiatives**
- **144 improvement projects defined via Initiatives**
 - Implementation of these projects is supported through regular review forums
- **KPIs defined for 34 areas across the cabinet**
- **SOPs implemented, with 108 created to date**
- **Technology implementations in place to assist with the transition from legacy systems**



Ontario Fleet Cost Chargeback Journey



2009

- Challenged with merging and managing OPS fleet under one umbrella

2015-16

- Direct chargeback recovery process began to recover actual costs for operations, amortization, insurance and toll route charges
- New processes were developed to support recovery model change

2012-14

- Established Fleet Management Centre (FMC) as OPS common service provider
- Recovered amortization and operating expenses at C/km
- Implemented Holman as primary tool to house fleet data

2016-17

- LEAN Review!!
- Continued direct chargeback recovery model
- Developed a database to reduce manual steps, improve tracking and inform future improvements

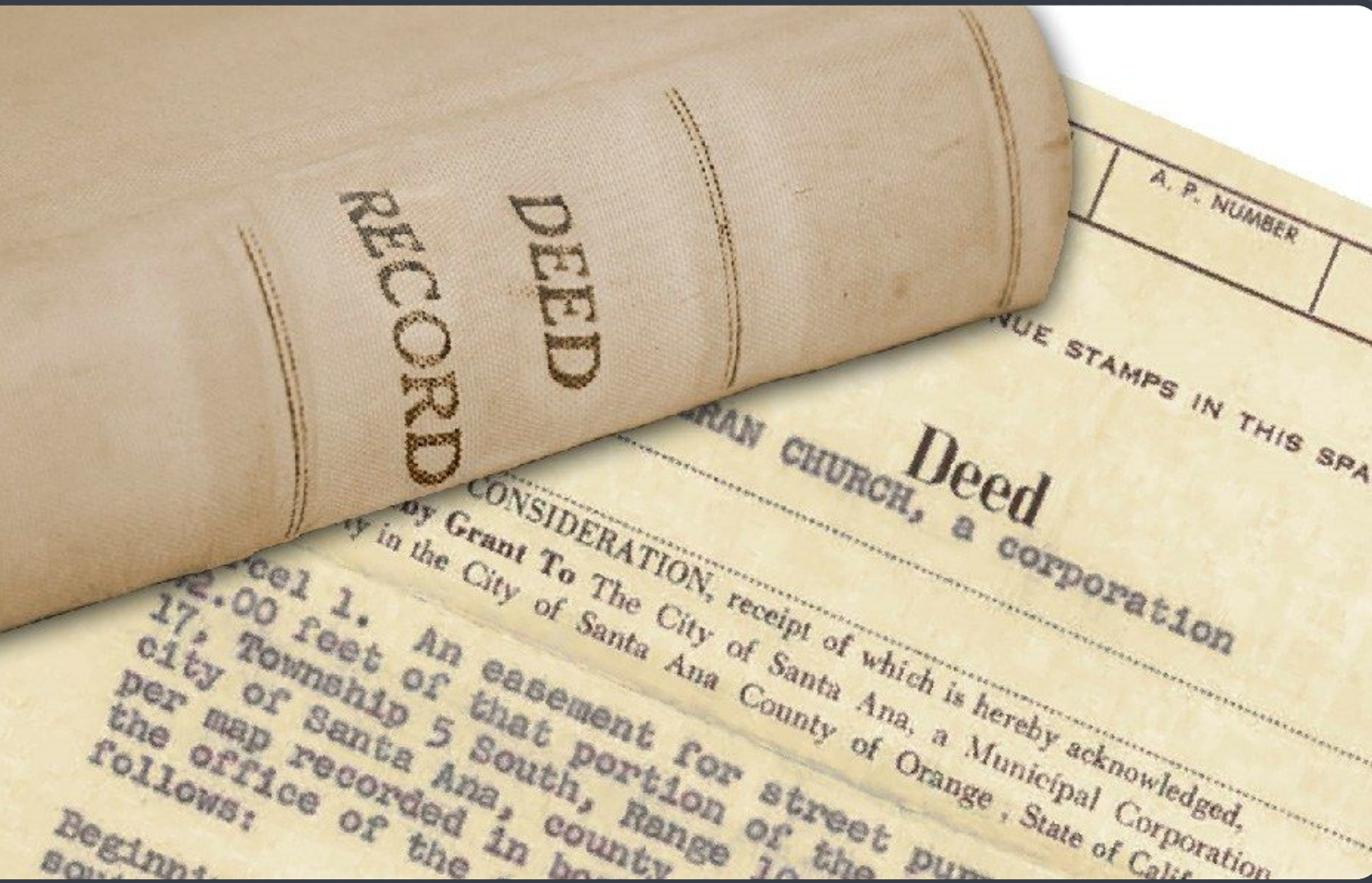
2022-23

- Eliminated chargeback model; operating expenses directly invoiced to ministry programs & fixed costs expensed by FMC with the support of one-time budget transfers

NEBRASKA

Good Life. Great Journey.

DEPARTMENT OF TRANSPORTATION



PROPERTY ACQUISITION

RACHEL KILCOIN &
KARLA SMITH

SPONSOR: TOM WEBER

PAPER HEAVY – printing/copying, assembling packets, wet signatures, certified mail, checks sent

BEFORE

- PREPARE COVER LETTER AND VOUCHER
- PRINT, SIGN, SCAN
- SEND CERTIFIED MAIL - \$4,500 ANNUALLY
- PHOTOCOPY FOR RECORDS
- PROCESS INVOICES INDIVIDUALLY
- AVG TIME: 23 DAYS

AFTER

- ELIMINATED
- SIGNED ELECTRONICALLY
- SUBMITTED ONLINE, INSTANTLY - \$1000 ANNUALLY
- ELIMINATED
- PROCESS BATCH WEEKLY
- AVG TIME: 0.5 DAYS – 98% REDUCTION

“A strong front-line-driven CI component turned out to be the primary difference between successful CI initiatives in public-sector organizations and those in their private-sector counterparts.”

*- Alan Robinson and Dean Schroeder,
Practical Innovation In Government*

- ★ The Continuous Improvement Unit of Vermont's AOT launched an initiative in late 2022 called AOT Innovates! to engage employees in innovation and continuous improvement.
- ★ To effectively engage AOT employees, we aim to establish a network Innovation Stewards and establish innovation leadership at all levels of the agency.

Benefits Include

Networking: Participation provides opportunities to connect with colleagues across AOT and build professional relationships.

Resume Building Opportunities: Acting as a Steward is professional development experience in communications, positive culture building, continuous improvement, and innovation.

Public Service: Serving as a Steward provides deeper opportunities to make meaningful contributions to the organization that benefit the public through cost savings and efficiency gains.

Leveraging a Hybrid Environment

- ★ Agency wide MS teams channel
- ★ Weekly calls for participation
- ★ Exclusive coaching opportunity
- ★ CI community of practice

Has your agency launched something similar? Do you have suggestions or feedback? Please reach out!

AOT.CI@vermont.gov

Tolling Revenue Recovery Improvements

Problem: A large number of tolls and late fees owed by drivers who use Port Authority bridges and tunnels went uncollected in 2022. This challenge is driven by:

- Transition to all-electronic/cashless tolling
- Limited tools to influence customer behavior
- Constrained policy landscape and complex interagency coordination with Metropolitan Transit Authority, NYS Thruway Authority
- Data stored across multiple systems with complex ownership

Existing Tools at Our Disposal:

- Standard Toll by Mail process, including support from E-ZPass Customer Service Center
- Contracts with a collections agency and law firm to pursue payment
- Toll Payer Advocate Office to facilitate settlements and payment plans
- NYS DMV Suspension Program (no NJ equivalent)



Tolling Revenue Recovery Improvements

What changed:

- **Data-driven decision-making** to identify new strategies in the NYS DMV Suspension program, and cross-departmental coordination in **frequent data-driven huddles**
- Customer Service Center now allowed to **refer customers directly to the Toll Payer Advocate**
- Mailing campaign to 200K+ Toll by Mail customers to **encourage enrollment in E-ZPass**
- Wrote or **revised 40+ internal SOPs** and created operational library to improve knowledge transfer

Impact:

- **15% increase** in average monthly revenue recovered from 2021 to 2022.
- Particular success **converting NYS DMV suspensions into payments.**

Lessons Learned:

- Focus on quick wins and adopt a prototyping mindset
- Even if your data is imperfect, you can still use it to make decisions – just be willing to adjust
- Radical collaboration and transparency can unlock the best (most feasible and impactful) ideas

MaineDOT's Transition to Virtual Public Involvement

Problem

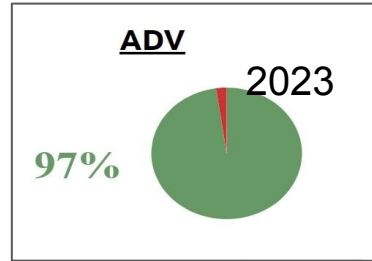
The COVID-19 Pandemic prevented the ability to hold in-person public meetings.

Needs

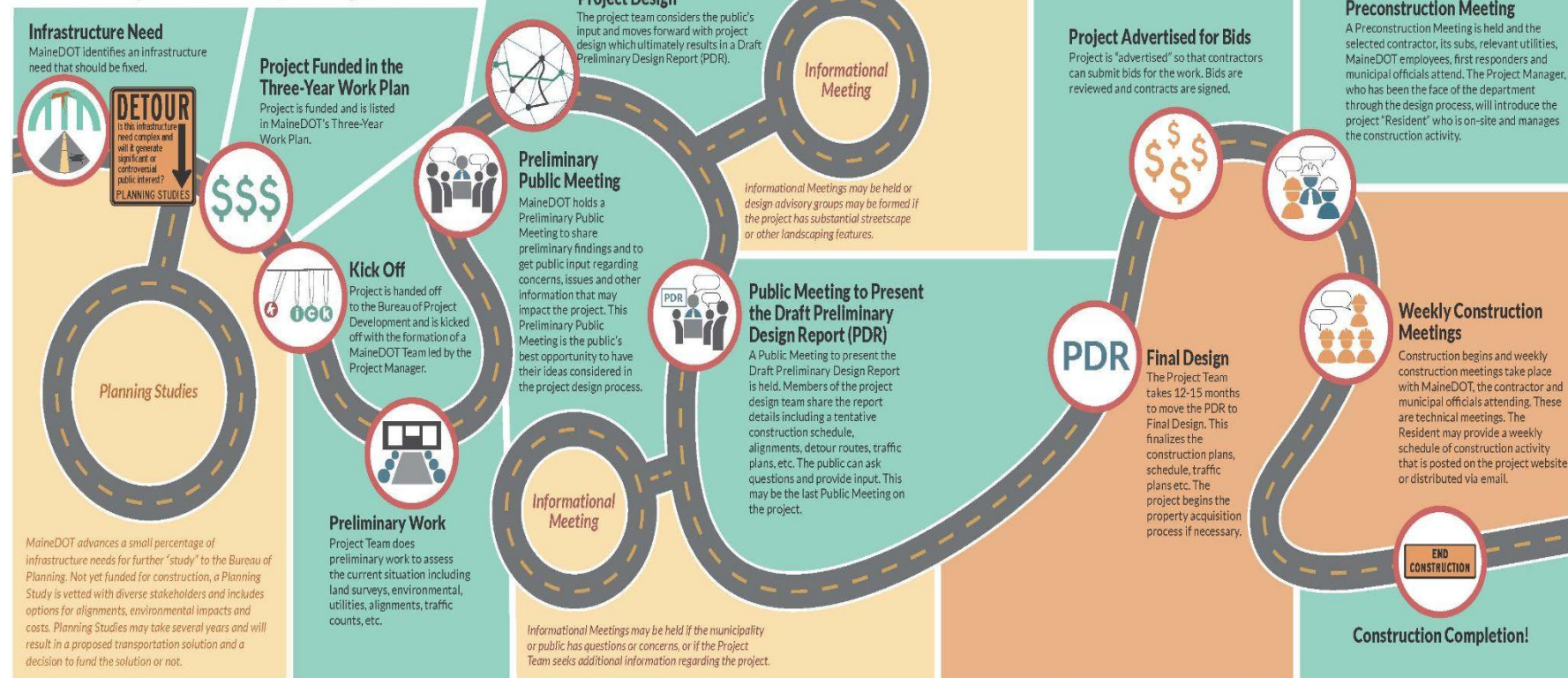
Public Meetings are an important part of our Project Development (Design) Process to share project information and obtain input. That process is an integral part of our schedule that cannot be removed.

We needed a method to maintain our schedule and meetings while:

- Providing an easy way to get information to the public and obtain input,
- Promoting effective dialogue between the public and our staff, and
- Removing barriers due to connectivity issues.



MaineDOT Projects From Concept Through Construction



MaineDOT's Transition to Virtual Public Involvement

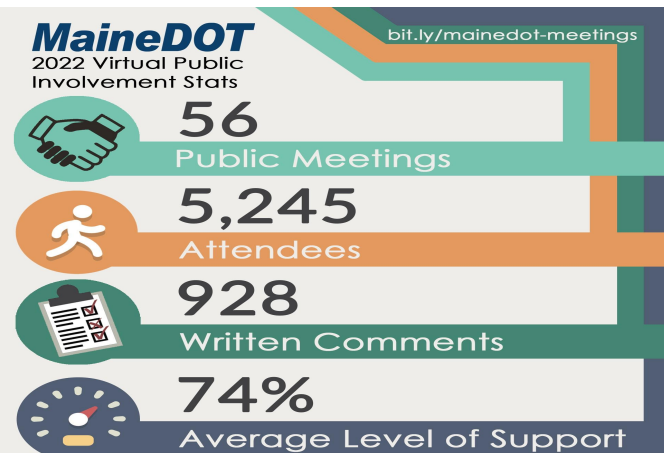
Solution - On-Demand Virtual Meetings

Meetings show project information such as videos, plans, images, and any other pertinent information. Integrated with the Public Involvement Management Application (PIMA) developed by IowaDOT. The On-Demand method allows for greater engagement by not limiting people with transportation or work conflicts.

Our solution includes:

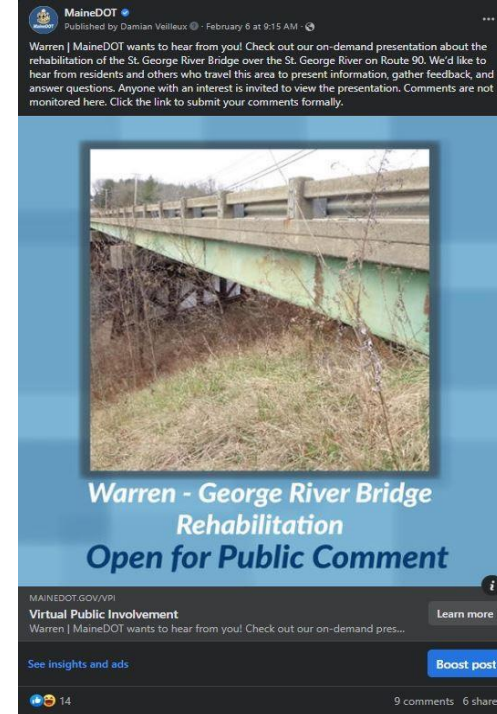
- Posting meetings for 2 to 3 weeks, allowing for anytime access.
- Allowing commenting and responding through PIMA.
- Promoting via social media.
- Providing short, to-the-point videos and information.
- Making it mobile-friendly.

This has been, and will remain, our preferred method even after the end of the pandemic.



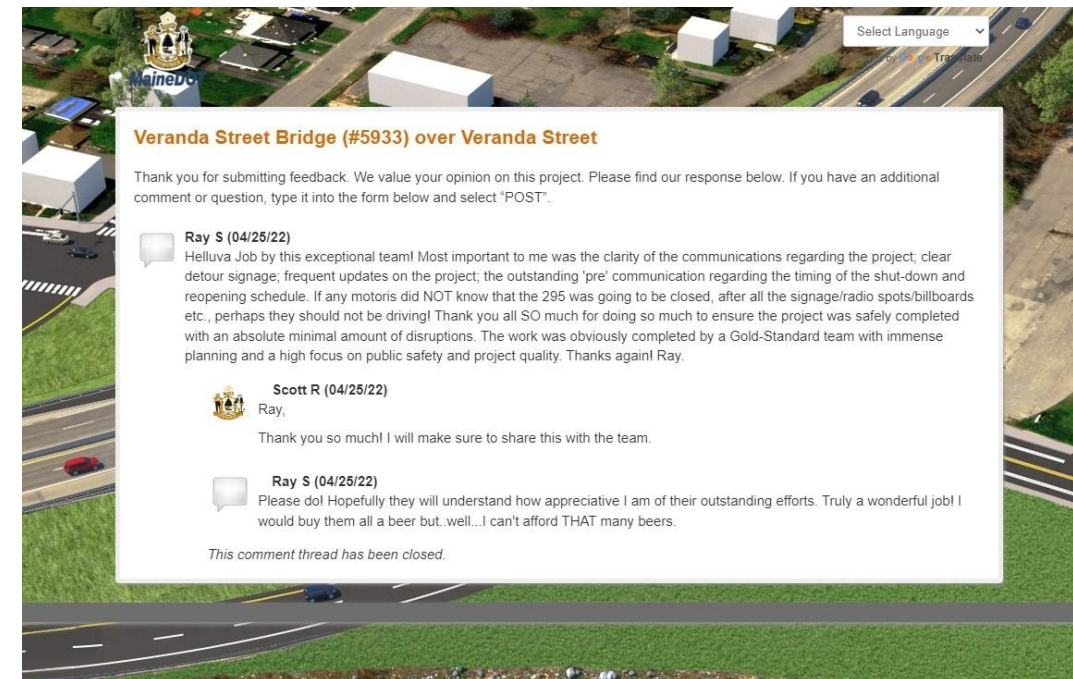
Overall Data

145 Meetings
72 Attendees per meeting
15 Written comments per meeting
75% Favorability



Social Media Ads

Geo-targeted
Average Cost \$200
Average views 60,000
Average reach 20,000



Safety Corridors Website



- Includes a "Story Map"
- Description of Kansas' Safety Corridor program
- Allows users to access data displays of crash trends in the safety corridors





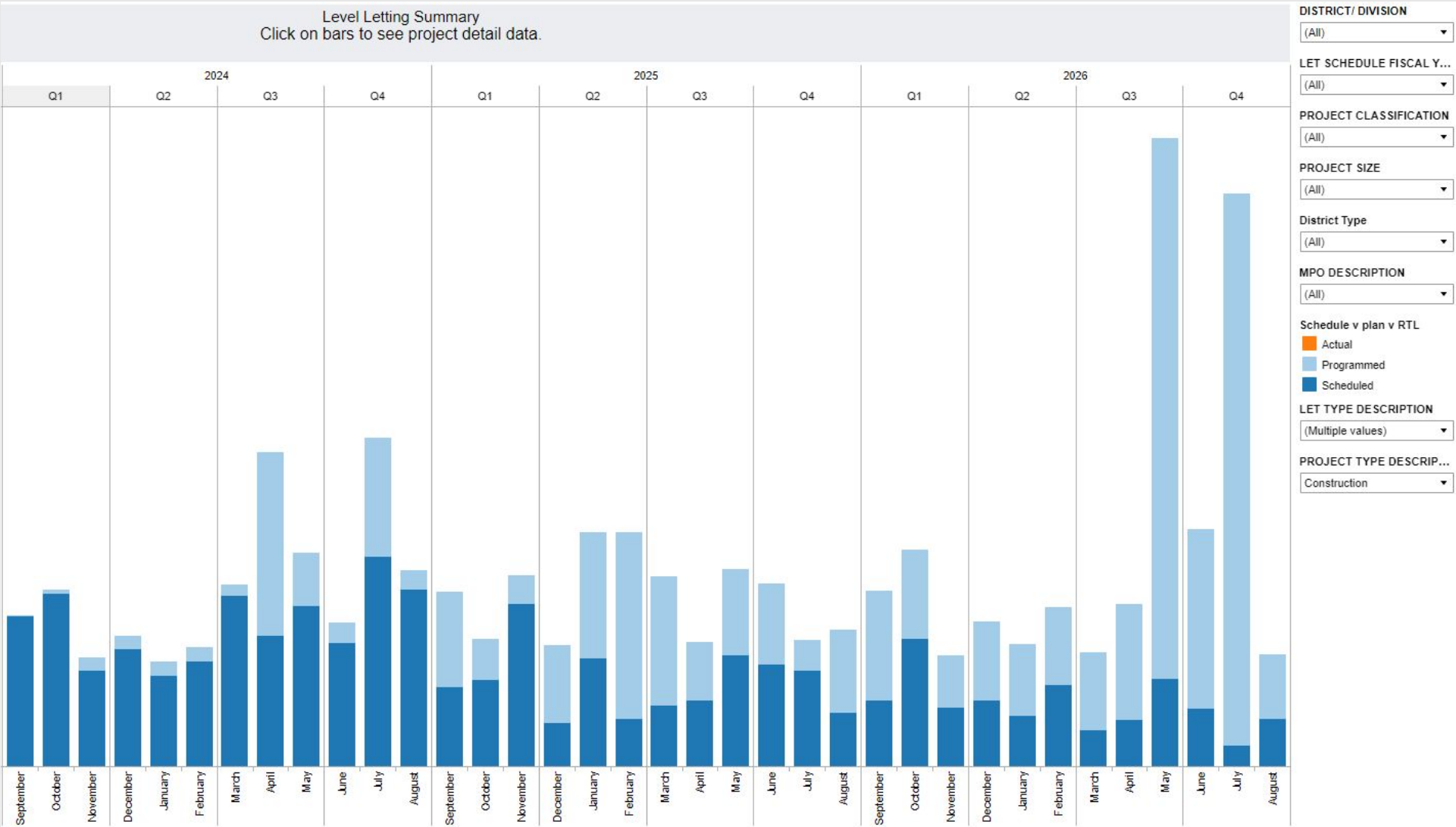
TxDOT Level Letting Dashboard

Ben McCulloch

Strategic Data Scientist TxDOT



- Problem: TxDOT have very lopsided lettings with the majority of projects being in June, July, and August. It is not feasible to release most of our projects over a 3 month period.
- It was a problem for the contracting community to manage their resources and difficult for TxDOT to have extremely high letting months 3 times a year.
- Over the last year we have improved the health of the lettings by having a more even distribution of projects over the months. In terms of project number and dollar volume.
- There is still more work to do but we are on the right trend and TxDOT actively managing which projects are in each month and if they move manage which month they move to.





Improving ITD's Permission Access Support System

Darryl Kuhrt, James Palmer, Katrina Barton, Patrick Willoughby, Diana Swanson, Robyn Wilson, Joshua Hon, Carlin Hill, Rebecca Pearson, Sharon Matthies, Renae Post, Jaime Conley, and Nick Baptista

May 24, 2023

Your Safety • Your Mobility • Your Economic Opportunity

Presentation Synthesis



Co-sponsored by the Transportation Lean Forum (TLF)

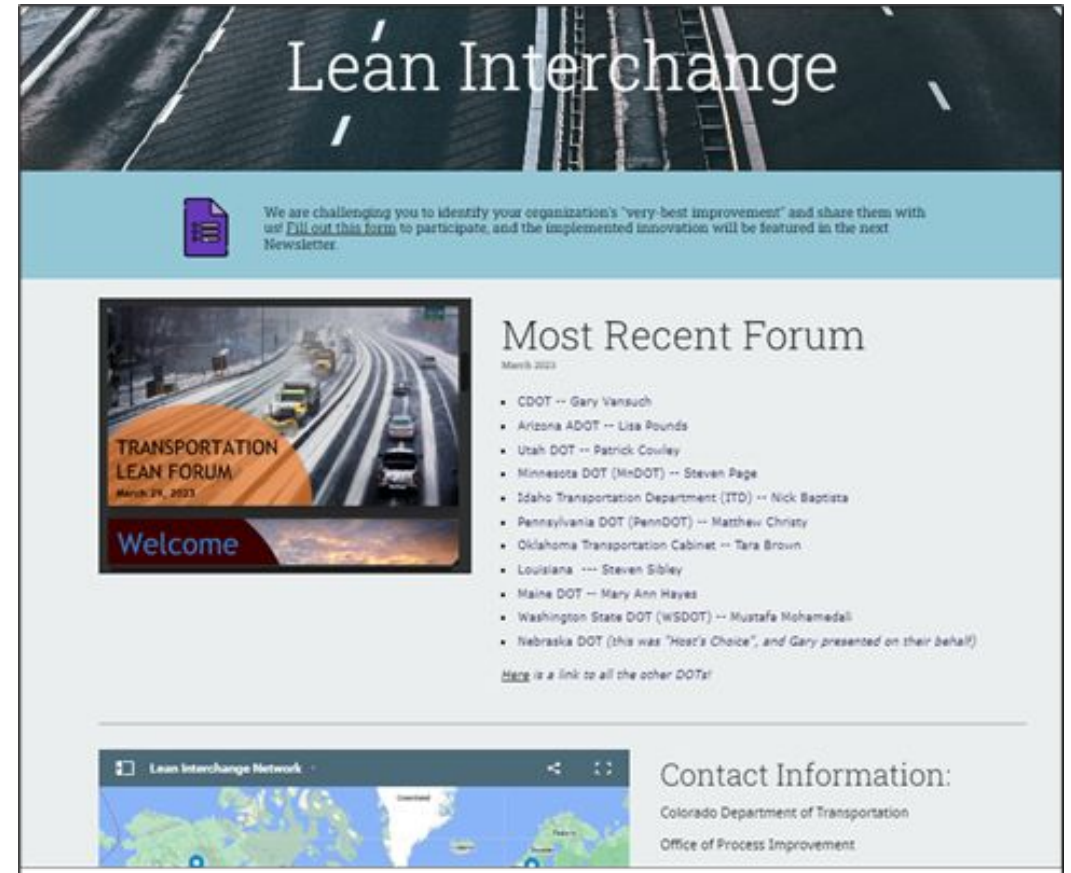
TLF started in June 2013!

Mission: To provide a community for transportation agencies to share and support each other regarding Lean and continuous improvement.



Find us on the TLF's "Lean Interchange" website

<https://sites.google.com/state.co.us/leaninterchange/home>



Transportation Lean Forum (TLF)

The Lean Interchange website

<https://sites.google.com/state.co.us/leaninterchange/home>



TLF's YouTube Channel

<https://www.youtube.com/channel/UCDYwf18xEnyVqsmtqY19r3Q>



TLF's LinkedIn Group

www.linkedin.com/groups/12332721/



Next TLF Webinar: Wednesday, July 26, 2023





Committee on
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REGISTER TODAY!

AASHTO's Committee on Performance-Based Management 2023 Annual Meeting

September 11 to 13 | Denver, Colorado

All TPM Webinars: <https://www.tpm-portal.com/event-directory/tpm-webinars/>

Save the Dates!

Visit TPM-Portal.com to register for future webinars

Upcoming Webinars:

**TPM Webinar 18: July 19, 2023 - FHWA and State DOT
TPM Roundtable**

TPM Webinar 19: September 20, 2023

TPM Webinar 20: November 15, 2023

Let us know topics of interest to you in 2023!

**Webinars Typically
Begin at 2:00 PM
Eastern Time**



For more information or to register:

[TPM-Portal.com](https://www.tpm-portal.com)