Agenda

Introduction to the TSM&O Evaluation

Case Study Examples

Next Steps
What is the TSM&O Evaluation?

The Transportation Systems Management and Operations (TSM&O) Evaluation is a process to evaluate projects and make recommendations to the project team in an effort to improve safety, efficiency, and effectiveness. It is a critical element in CDOT projects because it ensures that we are providing the best products and services possible to the traveling public.
What is the TSM&O Evaluation?

Purpose
The TSM&O Evaluation is a holistic approach that encourages stakeholders to consider safety, operations, and technology elements early and throughout the project life-cycle.

Significance
Provide an avenue for supplemental funding for high-value recommendations and justify funding for future projects.
Developing the TSM&O Evaluation

- Advanced through CDOT’s Lean Process Improvement Initiative
- **Lean** = “Everyone, Every day, Improve Every Process and Every Product, for Every Customer”
- Business management approach though **continuous improvement and a respect for people**

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**Early 2015**
- Operations Clearance

**Jun 2015**
- Rapid Improvement Event

**Sept 2015**
- TSM&O Evaluation Implementation Workshop

**Jan 2016**
- Launch TSM&O Evaluation
Why is the TSM&O Evaluation important?

- Identifies opportunities to improve safety and save lives
- Supports the implementation and prioritization of innovative ideas to improve mobility
- Values tax payer dollars by considering stakeholder needs prior to construction
- Spreads expertise across CDOT staff and furthers knowledge of TSMO
Progress to Date

Over 350 Projects have initiated a TSM&O Evaluation since February 2016

80% of projects have submitted a TSMO Evaluation

Other performance measures we track:
• Projects with TSM&O Evaluation Milestone
• Projects that have TSM&O Evaluation spreadsheets
• Projects that go to ad with a TSM&O Evaluation

Recommendation Types

Safety 56%
Operations 37%
Technology 7%

As of Winter 2017
TSM&O Evaluation Recommendations:

Safety:

- Replace or improve existing pavement marking, signing, and/or delineation
- Replace button and/or guardrail reflectors
- Apply safety edge to eliminate pavement edge drop-offs

ITS:

- Include CDOT ITS in review of design sets for existing devices
- CDOT ITS should review design sets to confirm fiber conflicts

Operations:

- Incorporate transit stop improvements into project
- Coordinate with local officials for area special events
- Improve turning radii at intersections
Case Study Example

Resurfacing Project
Rural Highway Facility
Project length: 7 mi

Recommendations:
• No shoulder or median according to OTIS: Shoulders should be widened in this project. If they are widened, it is recommended that shoulder rumble strips be installed
• Since this is only a resurfacing project, there probably isn’t funding to construct a wild life fence, but that would help with the majority of accidents. Coordination with Colorado Parks and Wildlife is recommended if a game fence is installed.
Case Study Example

Reconstruction/Widening
Urban Arterial Facility
Project length: 1 mi

Recommendations:
• Coordinate locations of signalized crossing and bus stops to make for safer crossings for pedestrians and cyclists
• Review existing signing and striping and make changes as needed to bring up to current standards
• Provide concrete pads at transit stops
Case Study Example

Resurfacing
Freeway Facility
Project length: 2 mi

Recommendations:
• Steep grade change: Consider truck passing lanes/areas in the event of future bottleneck mitigation
• Lengthen acceleration and deceleration lanes to meet standard requirements
Case Study Example

Culvert Repair
Rural Highway Facility
Project length: <1 mi

Recommendations:
• Named maintenance area supervisor
• Named Region public information officer
• Named Region pedestrian representative
Next Steps

Dynamic TSM&O Evaluation
Questions in the TSM&O Evaluation will be based on facility, scope, budget, and needs.

TSM&O Evaluation Web Application
Working on a process to have the TSM&O Evaluation be available through online application and will better integrate with CDOT processes.

Training
Training is being developed for Region Traffic Engineers to discuss how to use training data through subject matter experts and case studies.
Consider the following:

• Are all internal and external stakeholders engaged appropriately?

• Can improvements be made to better accommodate traffic incident management?

• Can improvements to bicycle, pedestrians, or other modes be made to feel more comfortable on the facility?

Remember: seemingly small concepts can lead to big changes!
THANK YOU

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