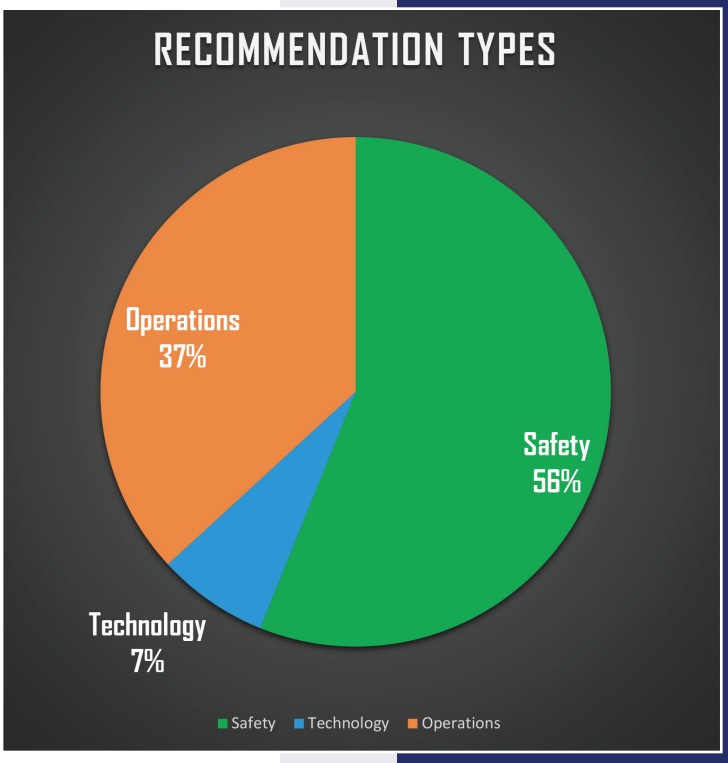
TSM&O Evaluation
Executive Summary

Purpose and Development

The Transportation Systems Management and Operations (TSM&O) Evaluation is a holistic approach to project development that encourages stakeholders to consider safety, operations, and technology elements early in the project life-cycle. The TSM&O Evaluation provides a process for project evaluation and a framework for improvement recommendations to be made, ensuring that CDOT provides the best products and services possible to the traveling public.

Development of the TSM&O Evaluation program began in 2015 through CDOT's Lean Process Improvement Initiative. The goal of this initiative was to introduce a business management approach focused on continuous improvement and a respect for people. The TSM&O Evaluation fulfills this approach by focusing on synergies within projects to provide the highest quality product to the public. By considering safety, operations, and intelligent transportation systems (ITS) elements early and throughout the design process, the TSM&O Evaluation helps CDOT optimize its limited resources to make the right decisions for transportation improvements and build public trust by delivering the best projects possible. Costly rework and inconvenience to the traveling public is avoided by improved planning early on in the project life-cycle.

The TSM&O Evaluation aids regions in identifying safety and operational issues and empowers regions to use innovative solutions to address those issues, while strengthening the technical knowledge within the region.



Progress to Date

All CDOT projects with a scoping date after February 2016 are required to complete a TSM&O Evaluation. The original TSM&O Evaluation tool has undergone several iterations to refine the process and expand the scope of the evaluation with additional safety and operations considerations, strategies for addressing issues, and suggested stakeholders for coordination. Integration with other CDOT processes has improved with the addition of a dedicated TSM&O Evaluation milestone in SAP.

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In the first year alone, almost 1400 recommendations, an average of 6.3 recommendations per project, were made from the TSM&O Evaluation. Construction of acceleration/deceleration lanes, implementing advanced warning signs, providing bicycle lanes, and coordination between separate

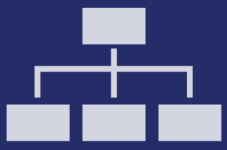
Next Steps

To date, the TSM&O Evaluation has been a static spreadsheet tool, requiring considerable effort to manage the program. The manual management of the program and communication between various internal stakeholders causes inefficiencies which are being addressed with the TSM&O 2.0 tool currently in development. The new tool will be a web-based application which will streamline all facets of the TSM&O Evaluation process, making the process more automated and less time consuming. The webtool will foster greater collaboration and accountability between the various individuals completing a TSM&O evaluation through increased transparency.

Performance tracking of the program will be streamlined by the creation of a central database of all TSM&O Evaluations, enabling the recommendations made by the program to be searchable and located on a map. One of the biggest challenges to the current TSM&O Evaluation is the lack of feedback from PMs on which recommendations are implemented in projects. The webtool will enable greater communication throughout the project life cycle and automatically solicit this vital feedback. In-person trainings, webinars, and job aides will be created to help CDOT staff understand the new process to maximize the TSM&O Evaluation to its full potential.

Currently, completing the TSM&O Evaluation takes approximately 40 person-work hours to complete per project and produces inconsistent results across projects. It also takes headquarters approximately 25 hours per week to manage and track TSM&O Evaluations. This limits the value and effectiveness of the TSM&O Evaluation. With a custom software application, it is expected that the TSM&O Evaluation would take approximately 15 hours to complete per project and 5 hours per week to manage. The webtool will provide access to resources and maps within the application allowing for a more efficient process. The webtool will be compatible with smartphones and tablets to have the ability to upload data from the field, as well as attach files such as plans, specs, or previous studies.

NEXT STEPS



Dynamic TSM&O Evaluation

TSM&O Evaluation Web Application

Training