TSMO-TIP AND SISP PROJECT SELECTION AND PRIORITIZATION

By Wisconsin Department of Transportation

IN THIS CASE STUDY YOU WILL LEARN:

1 How the Wisconsin State Legislature provided the ability for the State to appropriate funds for installation, replacement or rehabilitation of traffic signals and ITS deployments not incidental to another highway improvement.

2 How the Wisconsin DOT launched the Transportation Systems Management and Operations – Traffic Infrastructure Process (TSMO-TIP) to guide the TSMO project development phase.

3 How the Signals and ITS Standalone Program (SISP) guides the evaluation, prioritization, and implementation of TSMO projects funded under this appropriation.

BACKGROUND

In 2013, the Wisconsin State Legislature provided the ability for the State to appropriate funds for installation, replacement or rehabilitation of traffic signals and ITS deployments not incidental to another highway improvement in Wisconsin Statute 84.06(13). The Signals and ITS Standalone Program (SISP) was established in 2013 to manage the appropriated funds for the purpose of addressing signals and ITS needs not within the limits of a highway improvement projects which was the only mechanism available before 2013. With the maturity of the existing plan, evolution in technology and needs, and the opportunity to deploy standalone signals and ITS projects, the need for project evaluation and flexible planning became a top priority for the BTO and traffic operations program. The transition the traditional planning approach to a data driven, needs based TSMO infrastructure planning process was critical to providing a sustainable TSMO program. In 2016, the department launched the Transportation Systems Management and Operations – Traffic Infrastructure Process (TSMO-TIP) to replace the former TOIP. The TSMO-TIP guides the TSMO project development phase; these projects can be funded through several mechanisms, including, the Highway Safety Improvement Program (HISP), as part of a larger infrastructure project, or the SISP. The SISP guides the evaluation, prioritization, and implementation of TSMO projects funded under this appropriation.

TSMO PLANNING, STRATEGIES AND DEPLOYMENT

The TSMO-TIP and SISP are interrelated programs that support the selection (project development) and prioritization of TSMO projects for WisDOT. The TSMO-TIP requires that needs and solutions be considered on an annual basis, increasing the efficiency and effectiveness of funding resources by allowing BTO to quickly respond to rapid advancements in technology.

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A consistent, data driven methodology of project development, evaluation, and prioritization is being used statewide:

- Needs Identification – Needs are considered utilizing a Needs Analysis Tool developed by the University of Wisconsin Traffic Operations and Safety Laboratory (TOPS Lab) using current MetaManager data. Data available for user consideration include annual average daily traffic (AADT), future projected AADT, traffic growth, truck percentage, level of service (LOS), future projected LOS, crash rate, crash severity, weather incidents, and special events.

TSMO-TIP Needs Analysis Tool

TSMO-TIP Benefits Tool

- Project Benefits Analysis – Project benefits are analyzed with a Benefits Analysis Tool. The Benefits Tool was developed by Kimley-Horn and is used to quantify potential monetary benefits per project type. The Benefits Tool uses readily available, project-specific data from the user (such as location, maintenance history, AADT, and crash data) and industry research to estimate potential project benefits. Project types include ITS device replacement, Closed Circuit Television (CCTV), detection, and Dynamic Message Sign (DMS) deployment.

Project TSMO-TIP Evaluation – Regional staff develop project packages that document needs, stakeholder involvement, O&M considerations, and project benefits. The TSMO-TIP Oversight Committee reviews potential projects and offers support or suggestions. After a project is supported, it may then move forward to seek

funding from sources, including the SISP. The SISP applications are developed by local, Regional, or statewide BTO staff and are evaluated and awarded on a semi-annual cycle.

Project Prioritization – The SISP application consists of general project information; explanation of anticipated benefits (including analysis completed during the TSMO-TIP when applicable); project cost and schedule information; project contact; and managerial support. The SISP evaluation and prioritization methodology is established to consistently and objectively distribute funds.

SISP Evaluation Rubric

Projects are evaluated, scored, and prioritized by an Evaluation Committee. Scoring is based on an evaluation criteria rubric that provides a guide to the Committee for consistent scoring. The scoring criteria include:

- Regional Status
- Mobility (as determined by the Benefits Tool when applicable)
- Accountability
  - Efficient use of O&M funds
  - Performance goals and objectives
- Preservation
  - Lifecycle Replacement
  - Energy and Environment
- Safety (as determined by the Benefits Tool when applicable)
- Service
  - Implementation Schedule

The Evaluation Committee scores are compiled, reviewed, and discussed during a one-day Prioritization Workshop where the Committee builds consensus for each project score. The Evaluation Committee then recommends projects awards. Project contacts are notified and asked to prepare a project work plan for each awarded project in advance of funding disbursement.

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COMMUNICATIONS PLANNING AND EXECUTION

The TSMO-TIP and SISP programs support local connecting highway agencies, Regional, and BTO departments throughout the state. It has been critical to work with these partners to develop the framework for the programs and then communicate program policies and procedures once established. Program development and evolution is managed through an active committee process comprised from representatives from BTO, each of the five regions, and the State Traffic Engineer of Operations. Having buy-in and ownership of the processes and procedures was critical to the establishment of the programs.

Communicating TSMO-TIP and SISP program policy and procedures has been done in multiple ways. There were a series of webinars available to all stakeholders reviewing the programs. In addition, there was a full-day Technology Summit that was used to review emerging technologies, exciting projects, and program policy and procedures. It will be necessary to continue outreach efforts to make sure stakeholders are aware and able to provide feedback to guide program evolution.

OUTCOME, LEARNINGS AND PUBLIC BENEFIT

Both the TSMO-TIP and SISP programs have evolved over time to address the needs of applicants, program administrators, project types, and political environment. Lessons about how to establish and communicate program policy with stakeholders have been learned. Program policy and procedures have evolved to support multi-year projects and consistent life-cycle replacements. The project selection and prioritization methodologies used in these interrelated programs have largely been successful and maintained. The selection and prioritization processes are considered after each cycle for any needed refinements which have included revisions to the weighting, rubric definitions, and project types.

The project selection and prioritization methodologies provide the ability to clearly, transparently demonstrate fiscal responsibility and the value of TSMO strategies which has proven to be critical during times of fluctuating budget cycles and competing priorities. The SISP legislation was originally written such that the funding allocation

had to be renewed each biennial. This made it challenging to confidently plan and program projects because there was a time of uncertainty as to whether the program would be renewed. However, to the tremendous credit of WisDOT program administrators and the steadfast TSMO-TIP and SISP project selection and prioritization programmatic processes, this sunset has been removed and the SISP is now a fully established program. This is of great benefit to the public that TSMO strategies may now be deployed throughout the state based on need.

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