

LEGISLATIVE AUDIT DIVISION

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MEMORANDUM

TO: Legislative Audit Committee Members

FROM: William Soller, Senior Performance Auditor

CC: Mike Tooley, Director, Montana Department of Transportation
Dwane Kailey, Administrator, Highways and Engineering Division
Roy Peterson, Chief, Traffic Safety Bureau
Vickie Murphy, Manager, Internal Audit Unit

DATE: January 2014

RE: Performance Audit Follow-up 14SP-07: The Highway Safety Improvement Program (orig. 11P-03)

ATTACHMENTS: Original Performance Audit Summary

Introduction

In October 2012, we presented our performance audit of the Highway Safety Improvement Program (HSIP). The audit included two recommendations to the Montana Department of Transportation (MDT). We gathered information from MDT to assess their progress in implementing the audit's recommendations. This memorandum summarizes the results of our follow-up work in addition to presenting background information on the HSIP.

Overview

Audit recommendations addressed the need for MDT to comply with federal regulations by analyzing and assessing how the HSIP reduces the number of crashes, fatalities, and serious injuries, or potential crashes on public roads in Montana; and strengthen internal controls to track and document the status of HSIP projects. MDT is currently in the process of implementing both of the audit's recommendations.

Background

Improving highway safety is about achieving a reduction in the number and severity of traffic crash injuries and fatalities on highways and other public roadways. MDT plays a key role in highway traffic safety in Montana. Generally, MDT identifies and addresses known safety concerns on roadways as part of any major construction project. MDT also addresses known safety issues as part of the HSIP, a core federal-aid program. HSIP projects are identified and prioritized through the use of crash data. HSIP projects are funded via a combination of state and federal funds, with federal funds representing 90 percent of project funding. Federal funds are apportioned to states based on a number of factors, such as miles of highways in each state. In Montana, state funding for the program is derived from the state gasoline tax. Since state fiscal year 2005, over \$80 million in state and federal funding has been obligated for HSIP projects in Montana. Individual HSIP projects can range from under \$1,000 to over \$1,000,000.

Examples of safety improvements implemented by the program include safety countermeasures such as lighting, chevrons, guardrails, and rumble strips. While the scale of projects is generally small, larger projects such as the installation of a roundabout may also be considered for an HSIP project.

Audit Follow-up Results

The performance audit report contained two recommendations to MDT. As part of follow-up work, we examined program materials and interviewed staff from MDT. The following summarizes information relating to follow-up audit work and the implementation status of recommendations.

RECOMMENDATION #1

We recommend the Montana Department of Transportation comply with federal regulations by analyzing and assessing how the Highway Safety Improvement Program reduces the number of crashes, fatalities and serious injuries, or potential crashes on public roads in Montana.

Implementation Status – Being Implemented

At the time of our follow-up work, MDT has established policies and procedures for the evaluation of HSIP projects. However, they have not completed an HSIP evaluation. MDT's policy states that the purpose of evaluating HSIP projects is to not only comply with federal regulations, but also to assess the effectiveness of projects and how well safety improvement funds have been invested. MDT's policy establishes methodologies and thresholds for project evaluation. According to the policy, MDT uses before and after studies to evaluate the effectiveness of a particular safety improvement or group of improvements. These studies consider crash and volume data from both before and after the installation of a safety improvement. These types of studies can include both locations where a safety improvement has been installed or locations where a safety improvement has not been installed to estimate crash frequencies. The change in the number of crashes at a location is considered the safety treatment effect. At this time, MDT has established a cost threshold for project evaluation, with projects approved by MDT's Transportation Commission and exceeding \$100,000 currently being evaluated. Smaller projects are not evaluated at this time, but may be reconsidered in the future for evaluation. Typically, a minimum of five-years of post-implementation data should be available for a location, with three-years considered for urban projects. The results of a project evaluation will be summarized in a memorandum which will then be distributed to applicable engineering and safety staff to consider as part of future project planning and implementation. The results of any evaluation of an HSIP project will provide information to improve future decision-making and policy development. As part of our follow-up work, we reviewed a draft evaluation of HSIP projects completed in 2007. This evaluation grouped together a number of similar safety projects by type, including fencing, guardrails, and intersection improvements. According to this draft evaluation, the number of crashes, fatalities, and injuries has generally declined at locations where HSIP improvements were installed.

RECOMMENDATION #2

We recommend the Montana Department of Transportation strengthen internal controls to track and document the status of Highway Safety Improvement Program projects, including reporting back to the program upon project completion.

Implementation Status – Being Implemented

In an effort to track and document the status of HSIP projects, MDT staff have established a number of intermediary tracking tools to manage HSIP projects from approval through completion until MDT implements a new data system for safety-related engineering projects. Traffic safety staff currently maintain two spreadsheets to track the development and completion of HSIP projects. One spreadsheet is

for larger projects approved by MDT's Transportation Commission and let to contract, and another is for smaller projects implemented by MDT or local government maintenance staff. As part of smaller projects, MDT also instructs internal or local government maintenance staff that they are responsible for reporting back to MDT safety staff upon project completion. Regarding larger projects let to contract, MDT staff have also developed a new data query in the database used to let construction contracts which can be used to specifically track safety-related engineering projects, including HSIP funded projects. In addition, one MDT traffic safety staff member has been assigned to maintain the tracking tools and follow up at periodic intervals with construction and maintenance staff to ensure the status of projects is continually updated.

In addition to these intermediary tools, in 2013 MDT released a request for proposal to identify a vendor for a new Safety Information Management System (SIMS). This data system will be used to manage the planning, design, and implementation of safety-related highway engineering projects. MDT staff recently selected a successful vendor for SIMS and plan to have the system up-and-running within the next six months. According to staff, the system will include an automated notification process to track the status and completion of HSIP projects, including both those projects let to contract and completed by maintenance staff. Once SIMS is in place, the tracking spreadsheets currently used by the department for HSIP projects will be discontinued.