

EXPERIMENTAL PROJECTS WORK PLAN

Barrier Reflector Durability Study

Location:	Cascade County/Great Falls District: I-15 Structures Emerson and Sun River
Project Name:	Barrier Reflector Durability Study
Project Number:	N/A
Experimental Project:	MT-19-06
Type of Project:	Reflector Prototype Test
Principal Investigator:	Craig Abernathy: Experimental Project Manager (ExPM)
Technical Contact:	Jayden Manuel, P.E.: Traffic Engineer

Description

With the need for winter maintenance, the current railing reflectors have been damaged due to successive plow passes; this frequency of damaged reflectors has initiated the Great Falls District to design and test more durable reflectors.

The project is located on Interstate 15 (C000015) Cascade County, within the township of Great Falls. Two structures are identified to test the prototype reflectors; The Sunriver and Emerson Junction decks.

Experimental Design

The Districts Maintenance shop in conjunction with traffic engineering staff have developed three reflector prototypes to be tested on the subject structures. The reflectors will be designated as T2, T3, & T4 respectively. The conventional reflectors will be added to the project as a control (T1). The construction report will detail the specific design and test unit locations as applied in the field.

Evaluation Procedures

Pre-inspection: Document general condition of dedicated sections prior to installation.

Construction Documentation: The Research Section will document the construction methods, equipment used, material placement, weather, and specification conformance etc. (if applicable); and develop an initial location schematic.

Post Documentation: Will entail (at a minimum) monthly site visits/inspections of the sections for visual project documentation for inclusion into the final reports; in addition to include nighttime documentation of the reflector's efficacy; and to maintain the schematic map to track progress of the unit(s) condition and durability.

The District has discussed in conducting retro-reflectivity readings on the prototypes; if that data is collected it will be included in the report.

If an occurrence involving the performance of the prototypes requires additional inspections by Research outside the monthly inspections, Research staff will accommodate.

*It is anticipated the duration of the analysis may only entail the 2019-20 winter season; but may be extended if necessary.

Evaluation Schedule

Research will monitor and report on performance for the duration that the District deems it has enough data on the project to determine the best performing reflector. This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction/installation report, interim, monthly, annual or semi-annual reports is required as well as a final project report (responsibility of Research). A web page will be dedicated to display all reporting from the project.

2019: October: Installation/Construction Report

2019: October-December: Monthly Inspections

2020: January-April: Final Evaluation/Final Report and Presentation

*If considered the extra data collection and analysis will add value to the overall results of the project.

Project Location

Cascade County/Great Falls District-Great Falls: Interstate 15 Structures at the Sun River and Emerson Junction; red circles are approximate structure locations

