

Montana Department of Transportation  
Research Programs  
March 2006

**EXPERIMENTAL PROJECT**

**EVALUATION OF RADAR SPEED DISPLAY TRAILER-MOUNTED DEVICE FOR  
SPEED REDUCTION FOR USE IN CONSTRUCTION WORK ZONES  
(Work Plan)**

**Location:** Interstate 90, Approximate Mile point 304; Gallatin County.

**Project Name:** Bear Canyon

**Project Number:** IM 90-6(90)304, UPN 3612

**Type of Project:** Experimental trial of trailer-mounted automated radar speed displays for use in potential speed reduction in construction work zones

**Principal Investigators:** Craig Abernathy, Experimental Project Manager  
Doug Bailey, Designer-Traffic Engineering Section

**Objective**

Determine the effectiveness of trailer mounted radar speed display devices in reducing speed in construction work zones.

**Experimental Design**

Deployment of the radar speed trailers (RST) at two locations, the Bear Canyon project, Interstate 90 (I-90), and the Gallatin Canyon area on Highway 191 (N-50). Two units will be used at each site.



## Evaluation Procedures

Evaluation will consist of collecting data with automatic traffic counters (ATC) to determine if the devices are a factor in speed reductions. Research is working with the Departments Traffic Engineering Section in the coordination and scheduling of the data collection process. Accident history will be incorporated into the analysis when that becomes available. Anecdotal comments about the effectiveness of these devices by MDT field staff at the Bear Canyon Project will also be included.

The RST units used in the Bear Canyon project have built in ATC's that automatically log all counts and speeds from passing traffic east and west. Supplementary ATC data will also be collected at evenly spaced distances throughout the work zone crossover (figure 1). ATC speed data will be collected prior to initiating the RST's to provide base data comparison. The Gallatin Canyon site will follow the same scenario as in Bear Canyon. The MDT Traffic Engineering section will be responsible in determining the necessary frequency and duration of speed data collection to present a statistically defensible performance evaluation.

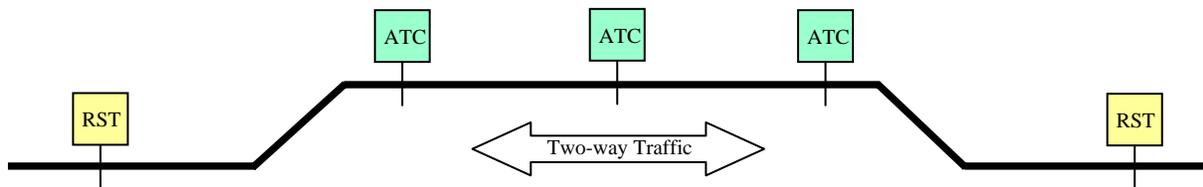


Figure1: Work Zone Crossover Schematic

## Evaluation Schedule

The data collection and analysis reporting of this effort will be different from static projects. It is estimated that a trend of driver behavior can be determined in a time frame much less than our normal monitoring procedures used in our regular experimental projects program. It is anticipated that the RST's will be used in other work zone areas and will be evaluated ongoing as the these units go from site to site. Evaluation reports will be published for each unique situation these devices are used in.

Research will monitor performance for a period of five years annually, with every year up to \*ten years (informally). This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction/installation report, interim, annual or semi-annual reports is required as well as a final project report (responsibility of Research).

2006:	Installation	Research Installation Report
2006:	Interim	Field status report

2007-2011:	Annual Evaluation	Annual reports
2012:	Final Evaluation	Final Report
*2012-2016:	Annual Evaluation	Annual reports (Informal) – if devices are still in use