

Crashworthiness and Protection of ITS Field Devices

Introduction

Many ITS deployments include signs and other traffic device displays that are located within the roadway clear zone, requiring them to be crashworthy. The ENTERPRISE Pooled Fund has initiated a project to determine the existence of crashworthy supports for ITS field devices (signs, detectors, solar panels, control cabinets, etc.) that have been successfully crash tested in accordance with NCHRP Report 350 and/or the Manual for Assessing Safety Hardware (MASH). The project will also identify whether additional crashworthy supports are required to meet the needs of current ITS deployments.

Project Summary

Identify Crash Tested ITS Devices and Supports

The project will first identify ITS devices and supports that have been successfully crash tested by investigating the following sources to determine the existence of crashworthy devices:

- FHWA
- State DOT Standards
- Crash Testing Facilities in the U.S. and Canada
- Equipment Manufacturers

The search will consist of on-line literature searches, surveys, and email/phone communications. The results of this search will be assembled in a summary document and shared with ENTERPRISE members.

Determine Needs for ITS Device Supports

Representatives from ENTERPRISE member states will be surveyed to understand both the current specifications of ITS device supports and anticipated future needs. For example, the determination of needs will include ability of the structure to withstand common wind loads, ability to support the additional weight of the ITS equipment, existence of breakaway power connections, and other needs as identified. Consideration will also be given to the cost and ease of installation of the supports.

Identify Gaps and Recommend a Course of Action

The last phase of the project will include preparing a matrix that maps the needs of the ITS structures against the existing device supports to determine which structures are feasible options. Gaps in the matrix (ITS devices that do not have adequate options for crash tested supports) will be identified, and a course of action will be recommended. Potential recommendations may include establishing support standards for deployment of ITS field devices, suggesting additional crash testing, or examining other innovative alternates for protecting, shielding, or locating these devices outside the clear zone.



For additional information:

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