Montana Researchers Examining Animal-Vehicle Crash Mitigation Using Advanced Technologies

Researchers at Montana State University's Western Transportation Institute (WTI) are tackling the challenging problem of reducing animal-vehicle crashes.

This is a particularly troublesome problem in the US, where development has progressed even as deer and elk populations have risen dramatically in the last several decades. Many suburban areas are faced with an over-population of these large animals, which, when combined with increasing traffic density, can lead to numerous accidents -- some very damaging and injurious.

WTI was established in 1994 as a national and international center for rural transportation and research; the Institute was recently designated as a University Transportation "super-center" with a mission of "*making rural travel and transportation safer, more efficient, and more convenient through high quality research, education, collaboration and outreach activities.*" Under the leadership of Director Stephen Albert, WTI works with many western states in performing its mission.

The Goal: Automated Animal Detection and Warning

According to the project's website, the research objective is to deploy and evaluate the effectiveness of automated animal detection and warning. According to the National Highway Traffic Safety Administration (NHTSA), vehicle collisions with animals accounted for more than a quarter of a million vehicle crashes in one year alone (1996).

Although humans are less likely to be killed or injured in these types of crashes vs. other types, there is still a great and as yet unmeasured cost associated with them: in addition to human and animal life and limb, one must factor in significant property (vehicle) damage, insurance costs, cleanup costs, and the environmental impacts of restriction of animals' movement patterns.

WTI has highlighted three methods used traditionally to reduce animal-vehicle collisions in high crash risk areas: (1) limiting animal presence on the roadway using fences, reflectors, scent and sound-based repellents, or increased hunting; (2) improving drivers' ability to react through reduced speed zones, vegetation clearances, or improved lighting; or (3) improving drivers' awareness of the hazard through warning signs or public education.

The study was prompted by the high cost and mixed results achieved by these standard countermeasures.

ODOT in the Lead

With the advent of Intelligent Transportation Systems and an increased focus on technological solutions, many feel that the problem of animal-vehicle crashes should be reexamined. The Oregon Department of Transpor-

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tation (ODOT), in cooperation with WTI, has taken the lead in this pooled-fund study, which will look primarily at roadway-based (vs. vehicle-based) animal detection/driver warning systems to mitigate crashes.

The ODOT/WTI investigation is expected to result in the development and installation of a prototype animal detection and driver warning system and an evaluation of its effectiveness in reducing animal-vehicle crashes.

According to project leaders, the evaluation will happen first inside the Montana section of Yellowstone National Park; other sites -- tentatively planned for Oregon, Indiana and/or Iowa -- will be considered based on proposals received and funding available.

Serious Investment Planned

The project, budgeted at $750,000, began in late 1999 and will run for three years. States who have shown active interest in the study -- that is, who have committed funding -- are shown below.

The project is organized into six tasks, as follows:

Task 1 - *Identify promising advanced technologies or systems.* This includes a review of existing research and collection of vendor information.

Task 2 - *Locate potential study sites.* Besides the Montana site, up to three additional implementation sites will be chosen, funds permitting.

Task 3 - *Document existing site conditions.* Pre-evaluation data will be collected for the site(s).

Task 4 - *Implement and test systems.*

Task 5 - *Collect post-implementation site data.*

Task 6 - *Evaluate system effectiveness, user acceptance, and performance.* A final report is expected early in 2003.

RFP Imminent for System Applications

In May, WTI issued a solicitation for ideas and systems which employ advanced technology to prevent animal crashes.

A Request for Proposals (RFP), based on the information received to date, is expected from WTI in early August; watch for an *IVsource* update on the subject.

States participating in WTI's Animal-Vehicle Crash Countermeasures Study

California | Indiana | Iowa | Maryland | Montana | Nevada | New Hampshire | New York | North Dakota | Oregon | Wisconsin | Wyoming

For more information, contact Pat McGowen, WTI project manager, at **PatM@coe.montana.edu**.

Find the WTI web site at:
www.coe.montana.edu/wti