Roadway Departure Safety Information Clearinghouse

BACKGROUND

Roadway departure crashes are frequently severe and account for the majority of highway fatalities. In 2010, there were 15,786 fatal roadway departure crashes resulting in 17,389 fatalities, which was 53 percent of the fatal highway crashes in the United States. A roadway departure crash is defined as a non-intersection crash which occurs after a vehicle crosses an edge line or a center line, or otherwise leaves the traveled way.

The sharing and availability of information on roadway departure, roadside safety, and infrastructure safety is one of the greatest challenges we face to further improve the safety of our roads. The sheer volume and numerous sources of safety information available today make identification and interpretation of needed information a difficult task. Advancements in research and technology can only be effective in solving safety problems if practitioners at all levels are aware of these techniques. Ready access to information on the state-of-the-practice and the state-of-the-art, including effective solutions and countermeasures, all types of research, new technology, training, and other information on roadway and roadside safety are essential elements for successfully addressing safety problems.

The establishment of a centralized, comprehensive, actively managed *Roadway Departure Safety Information Clearinghouse* (Clearinghouse) will provide a much needed source of information on roadway departure safety that will serve State DOTs, local agencies, designers, planners, consultants, policy makers, contractors and others involved in the implementation of safety improvements. The Clearinghouse will greatly expand the knowledge of and use of roadway departure safety countermeasures by practitioners. It will provide rapid access to information, best practices, training, safety features, and countermeasures that will make our roadways safer and reduce the unacceptable loss of life that is occurring everyday on our nation's roadways.

Transportation Research Board (TRB) Committee AFB20 "Roadside Safety Design" developed a strategic plan that defined strategies for promoting their mission to effect changes that will reduce the frequency and severity of roadway departure crashes. A key element of the plan was to promote the establishment of a Roadway Departure Safety Information Clearinghouse as a means of sharing information and fostering implementation of research results, best practices, and safety countermeasures.

Funding was provided by FHWA to "seed" the establishment of the Clearinghouse. This initial effort produced a detailed planning document to guide its development that includes identification of content, and development of a framework and recommended architecture. It reflects feedback gathered from a Practitioner Group comprised of public and private sector

stakeholders regarding their data and information needs, desired content, desired features, and recommended organization of the Clearinghouse.

The practitioners were unanimous in their strong support for and endorsement of the Clearinghouse. They indicated that their information needs are not currently being met, and that the Clearinghouse would provide valuable time savings and more rapid implementation of safety countermeasures.

OBJECTIVES

The objective of this pooled fund project is to fully develop and launch the Roadway Departure Safety Information Clearinghouse. The Clearinghouse will be an actively managed, comprehensive, centralized resource for roadway departure safety information. This effort will reduce frequency and severity of roadway departure crashes by aiding practitioners with more rapid identification and implementation of best practices, safety countermeasures, new roadside safety technologies, and the latest research and training.

The Clearinghouse will serve as an integral tool in support of important safety initiatives that are underway in the United States including Toward Zero Deaths, the Decade of Action, and the various state Strategic Highway Safety Plans, all of which have elements related to roadway departure safety. These efforts have a common goal of eliminating deaths associated with highway crashes.

SCOPE

The scope of the Clearinghouse will include identification and dissemination of data, best practices, safety countermeasures, and research that will reduce the number and severity of roadway departure crashes. The three key elements of this scope include:

1. Reducing the frequency of vehicles leaving the roadway,
2. Reducing the potential of errant vehicles crashing if they do leave the roadway, and
3. Mitigating the severity of crashes that do occur.

Tasks required to complete the Clearinghouse development include: content identification, system setup, website and relational database design, data collection and web content development, marketing, and quality control. A brief description of these tasks is provided below.

Task 1 – Establish Practitioner Group

A Practitioner Group will be formed to help guide the Clearinghouse development effort. State DOTs participating in the pooled fund project will have representation on the group. Other

members will be selected from both the public and private sectors from among people active in the roadside safety community, including federal, state and local designers and safety engineers, consultants, researchers, contractors, and manufacturers.

Task 2 – Define Clearinghouse Content and Features

Feedback will be obtained from the group regarding data and information needs, desired content and features, and layout and organization of the Clearinghouse. The content identified in the final report prepared under the FHWA Clearinghouse planning project will be critically reviewed and evaluated. The development team will use this information to define the needs and requirements for the Clearinghouse site.

Task 3 - System Setup

Detailed database development plans and site feature requirements for the Clearinghouse will be provided to the software applications developers. The developers will conduct requirement analysis, complete system requirement specifications, develop system level design and implementation plans, and complete the system design. The developers will then implement the site development plan, define content types, implement required features, configure site themes, and perform system integration testing. User acceptance testing (UAT) of the system will be performed and developers will fix any identified bugs and add requested enhancements.

Task 4 - Website Design

Draft layouts for the various levels of site pages will be developed by the graphics designer for review and approval. Once approval of the graphical user interface (GUI) is received, a written Style Guide and associated files will be delivered to the developers and the homepage and secondary pages will be constructed on the development server.

Task 5 - Content Development

In addition to the programming and setup of the Clearinghouse framework and website, the development will include intensive collection of information on topics identified in Task 2. The identified information resources will be entered and linked in the appropriate relational databases. The data entry efforts will include creating bibliographic records, writing abstracts, assigning topics/index terms, archiving electronic documents, etc. The relationships and links defined between these databases will dynamically generate information pages by subject and topic. This work will be performed in parallel with the system development.

Task 7 – Marketing

To be effective, the Clearinghouse must be successfully marketed to all levels of government, academic institutions, associations, and industry. After the launch of the Clearinghouse, announcements about content, services, features, and resources available through the Clearinghouse will be made to relevant groups, agencies, and committees. The announcement

will also be made on listservs such as National State Safety Engineers Listserv(NSEL), Work Zone Safety Listserv (hosted by the National Work Zone Safety Information Clearinghouse), Roadway Safety Listserv (hosted by the American Traffic Safety Services Association, ATSSA), and TRANLIB (a discussion list for library and information professionals in the field of transportation), etc. Articles about the Clearinghouse will be submitted to certain media publications such as TRB's *Transportation Research E-Newsletter*, Texas Transportation Institute's (TTI) *Texas Transportation Researcher*, etc. Brochures or newsletters will also be created to disseminate information about the Clearinghouse.

Task 8 – Quality Control and Administrative Documentation

The goal for quality control is to achieve ultimate customer satisfaction. The Clearinghouse staff will be trained on subject matters and technical skills needed to respond to inquiries and develop web content. Comments collected thru web feedback forms or received by the Clearinghouse will also be reviewed and addressed. Responses to customer inquiries will be reviewed for accuracy and timeliness.

COMMENTS

Funding Needed: $750,000

North Carolina Department of Transportation (NCDOT) will be the lead agency. NCDOT is seeking partners, both state and local, to commit funds at a minimum level of $15,000 per year for 3 years. The total funding amount per partner is $45,000. Separate funding sources will be pursued for the ongoing maintenance and operation of the Clearinghouse after its development and launch under this pooled fund effort.

Period of Performance: 36 months

Framework of Partnership

An Advisory Group of experts and practitioners will help guide technical aspects of the Clearinghouse. The Advisory Group will be comprised of representatives from FHWA, state departments of transportation (including Pooled Fund participants), local government, industry, consultants, and research/academia. TTI and ATSSA and will serve as the managing partners for the development effort. TTI will be responsbile for system setup, website design and implementation, content development, and quality assurance. ATSSA will provide overall coordination, marketing, promotion, and technical input from members of its various committees and councils.