

Support by State Departments of Transportation for Local Agency Safety Initiatives

**Final Report
July 2009**

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The preparation of this (report, document, etc.) was financed in part through funds provided by the Iowa Department of Transportation through its "Agreement for the Management of Research Conducted by Iowa State University for the Iowa Department of Transportation," and its amendments.

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SUPPORT BY STATE DEPARTMENTS OF TRANSPORTATION FOR LOCAL AGENCY SAFETY INITIATIVES

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Preparation of this report was financed in part through funds provided by the Iowa Department of Transportation through its research management agreement with the Institute for Transportation.

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INTRODUCTION

Responsibility for the Iowa roadway network is divided between state and local agencies, both rural and urban. In some states, the number of miles of local roads and streets far exceeds the miles of roads under state control. In Iowa for example, approximately 90% of the 110,000 mile network of roads is owned and maintained by local agencies, cities, and counties. The traffic volumes expressed through annual daily traffic numbers are generally less on local roads than state-owned roads. Despite the difference in traffic volume, a comparable potential for traffic crashes exists on rural and urban roads. Consequently, it is not uncommon that one-half or more of all serious crashes, those resulting in fatalities and major injuries occur on local roads and streets.

Despite near parity in crash potential on rural and urban roads, local agencies do not have access to funding levels that are available to state departments of transportation (DOTs) for safety investments. The current federal highway funding legislation SAFETEA-LU does include a program designated for rural roads, the High Risk Rural Roads Program, (HRRR), but in many states this funding has not been applied to local roadways.

In recognition of the need for more emphasis on roadway safety at the local level, several state DOTs have initiated programs to assist local agencies in identifying and addressing safety needs on rural roads and urban streets. This document will summarize information provided by several states in supporting safety initiatives at the local level.

SURVEY

The following is the text of a survey request distributed electronically by Tom Welch, PE, Safety Engineer at the Iowa Department of Transportation (Iowa DOT), in June, 2009:

As we all know, about one-half of the fatalities are occurring on local roads within our states. County staff in particular are very challenged in their ability to identify opportunities for low-cost safety improvements.

Lack of data to identify candidate sites, the ability to perform an adequate safety review to identify cost-effective countermeasures, and of course funding are some of their major challenges. I know several DOTs have implemented programs to provide safety engineering assistance to county engineers. For example, the (Minnesota Department of Transportation (Mn/DOT) has a staff safety engineer assigned to assist county engineers. Iowa followed the Mn/DOT lead and retained a former county engineer, part-time, to be our safety engineering liaison with our county engineers. An example report of his duties is attached. Iowa also provides a free safety engineering training class to county engineers every year, great crash data and analysis on county roads, free Road Safety Audits (RSAs), and safety funds for their projects.

PLEASE share with all of us any local safety engineering, funding, training, etc. initiatives your state has implemented recently. This will provide an opportunity for others to perhaps try to enhance their safety engineering services to county engineers also.

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STATE SUPPORT FOR LOCAL SAFETY INITIATIVES

Several states responded to Welch's request for information, including California, Hawaii, Illinois, Iowa, Louisiana, Michigan, Minnesota, Missouri, New Jersey, and New Hampshire. Following is a brief summary of each state's programs.

California

Respondent: Jesse Bhullar, PE, TE
State Highway Safety Engineer
California Department of Transportation

California state law requires that all federal safety funds be shared equally between state and local agencies, with the California Department of Transportation (Caltrans) receiving half and local agencies sharing the remaining half.

For local roads, the Caltrans Division of Local Assistance prepares guidelines and application forms for the Highway Safety Improvement Program (HSIP), HRRR, and Safe Routes to School (SRTS). Local agencies then compete for these funds on an annual or biennial schedule, depending on the requirements of each program. The guidelines have been developed with a goal of maximizing the safety effectiveness of the programs. Caltrans is currently working on many upcoming changes to these guidelines based on various Strategic Highway Safety Plan (SHSP) actions, which are expected to result in increased safety improvements for local roadways. In addition, Caltrans Division of Rail manages the Railway/Highway At-Grade Crossing Program (Section 130) to award funds for grade crossing improvement projects on state highways and local streets and roads.

Caltrans Local Assistance does not conduct formal training for local agencies on these programs. However, Caltrans district staff may conduct training when requested by a local agency. Additionally, Caltrans Local Assistance performs outreach and education on different safety programs through various local agency partnerships and with presentations at various local, regional, and state meetings, forums, and summits.

As part of the SHSP implementation, Caltrans is working towards encouraging local agencies to conduct RSAs for corridors with higher than expected collision rates. These RSAs will provide a new opportunity for information/expertise sharing between Caltrans and many local agencies.

California has recently contracted with the University of California, Berkeley, to geo-code all the state's fatal and severe injury collisions (identify latitude and longitude coordinates and map them to identify collision concentrations). This effort has been critical in providing new and accurate methods to investigate high collision locations on local roadways, including identifying good candidates for RSAs and HSIP/HRRR projects.

Caltrans also maintains web sites for the HSIP, HRRR, and SRTS programs with program descriptions, approved project lists, and application instructions and forms.

Hawaii

Respondent: Sean Hiraoka, PE
Traffic Safety Engineer
Hawaii Department of Transportation

The State of Hawaii has four counties, but only two have engineering staff dedicated to highway safety. The Hawaii Department of Transportation (HDOT) has offered all HRRR funding to the counties, amounting to approximately \$500,000 per year.

Engineering staff from the four counties are generally invited to participate in various safety training events sponsored by HDOT and the Local Technical Assistance Program (LTAP). Recently, engineers from the counties attended a National Highway Institute (NHI) training course called “New Approaches to Highway Safety Analysis,” where HDOT made a presentation on Hawaii’s HSIP.

HDOT generates high-accident listings for state and county roads annually and distributes them to the counties and various other safety partners. HDOT has conducted accident analysis and provided accident data support for the counties upon request.

HDOT leads the Hawaii SHSP effort intended to develop a Leadership Implementation Committee comprised of top management from key safety agencies around the state. County representatives have signed partnership agreements and will be invited to join that committee. Statewide safety coalitions and task forces are generally comprised of both state and county representatives

All four counties have representation on the Statewide Traffic Records Coordinating Committee.

Hawaii has one metropolitan planning organization (MPO). HDOT has requested that the MPO include performance measures related to the Hawaii SHSP in its Regional Transportation Plan update.

Illinois

Respondent: Priscilla A. Tobias, PE
State Safety Engineer
Illinois Department of Transportation

The Illinois Department of Transportation (IDOT) regularly attends the Illinois Association of County Engineers Traffic and Safety Committee meetings and provides information and guidance in regard to safety efforts and initiatives.

Approximately 20% of the HSIP funds, including all of the HRRR funds, are applied to local roadway safety improvements, totaling about \$8 to \$12 million per year.

IDOT has trained several county engineers or their representatives along with local law enforcement to perform RSAs. In addition, IDOT has performed several RSAs on local highways at the request of a county engineer. These RSAs tend to result in projects submitted for HSIP/HRRR funding.

IDOT used over \$1 million of state HSIP dollars to locate severe crashes on the local roadway system over a five-year period using geographic information systems (GIS) . Now, all crashes that occur on the local roadway system are located in the state crash database.

A project was submitted and awarded federal HSIP funding for improving the safety of curves in four counties based on the crash data that were located with the five-year GIS project mentioned above. A project was also submitted and received intelligent transportation systems (ITS) funding for vehicle-actuated advanced warning for curves in another county.

IDOT provided funding for rural sign upgrades in local agency jurisdictions with higher numbers of fatal and serious injury crashes, if local funding was unavailable.

IDOT schedules two local roadway safety meetings annually to discuss safety issues such as the HSIP/HRRR process, safety countermeasures and initiatives, RSAs, etc.

Counties with higher fatality crash numbers have been targeted for an integrated approach to safety, including directed funding. Activities have included RSAs, crash analyses, etc. These activities have been successful in jump starting safety efforts in these counties and have had long-term benefits.

A local safety services project has been developed using the University of Illinois' Center for Transportation.

Iowa

Respondent: Tom Welch, PE
State Safety Engineer
Iowa Department of Transportation

The State of Iowa has invested funding and developed programs to assist and train agencies, both engineering and law enforcement, in improving safety on local roads and streets. The backbone of this effort is a detailed crash database that contains records of crashes on all roads and streets in the state over a period of 10 to 15 years. Crash data from the five most recent years along with analysis software programs and training is provided without cost annually to local agencies. In addition, crash analysis and advice is furnished to local agencies upon request by a research and data analysis center at Iowa State University and the Iowa DOT. A web link with easy

accessibility has been developed by the Iowa DOT to provide current crash data to local agencies in both tabular and spatial displays.

The Iowa Code includes a provision to dedicate one-half of one percent from the annual road use tax fund to safety programs and improvements, totaling approximately \$4 million per year. Much of this fund is directed to local agency programs, improvements, and research by the Iowa DOT. One successful program funded through this one-half percent fund has been the Small Town Sign Replacement Program, which furnishes specific sign upgrades to small communities on a needs basis. Cost-sharing programs and engineering services for cities and counties are offered by the Iowa DOT through the Traffic Engineering Assistance Program (TEAP), County-State Traffic Engineering Program (C-STEP), Urban-State Traffic Engineering Program (U-STEP), and Pedestrian Curb Ramp Construction Program. Other funding is provided by the HRRR and SRTS federal programs.

The Iowa DOT and Governor's Traffic Safety Bureau also partially fund the safety circuit rider and local safety liaison positions at the Iowa LTAP. These two registered engineers work primarily with local agencies to provide information, training, and assistance in addressing safety concerns.

Road safety audits are performed for local agencies upon request. Safety-related workshops are developed and presented annually on selected topics such as intersection safety, older driver design issues, and integrating safety into rehabilitation, restoration, and resurfacing (3R) projects. Local agencies participate in these workshops at no cost.

Louisiana

Respondent: Marie B. Walsh, Ph.D.
Director Louisiana LTAP/Technology Transfer Center

The Louisiana Department of Transportation and Development (LA DOTD) is working through the state's LTAP to implement the Local Road Safety Program (LRSP), which includes the following components.

Two part-time traffic safety engineers have been retained on contract through LA DOTD to work with LTAP to provide technical assistance to local agencies. One engineer works to implement low-cost safety improvements on the local road system following LA DOTD's federal aid process.

The program includes implementation of locally sponsored low-cost safety improvement projects and management of the application process. Also involved are application of LRSP-identified system-wide countermeasures for intersections and roadway departure locations using HRRR funds and transfer funds.

Local crash data improvement efforts and analyses have been performed, including the streamlining and improving of data access by local agencies.

Training targeted to local audiences has been provided, including intersection safety, roadway departure countermeasures, data analysis, fundamentals of road safety, RSAs, temporary traffic control, work zone safety, etc.

Outreach efforts have been extended to municipal and parish (county) associations and MPOs for support and wider dissemination of program materials.

Collaboration has been undertaken with the Governor's Highway Safety Office on statewide efforts such as the recent Click It Or Ticket campaign.

Representation of local issues has been provided to statewide safety groups such as the SHSP Executive Committee, Traffic Records Coordinating Committee (TRCC), etc.

Michigan

Respondent: Dale Lighthizer
Michigan Department of Transportation

The Michigan Department of Transportation (MDOT) uses several methods to support local road safety, including services, education/training, funding, and outreach.

Services

To provide assistance to local road authorities in reducing the number of fatalities and serious injuries in roadway crashes, MDOT created the Local Safety Initiative (LSI) about five years ago.

The LSI uses three strategies to support local safety efforts: directing traffic safety engineering support; enhancing the RoadSoft Safety Module; and training in basic traffic safety, application of RoadSoft, and ways to educate local officials on the importance of traffic safety

For the LSI effort, MDOT has dedicated 2.5 engineering full-time equivalents (FTEs) to provide safety analysis of local agency data. An agency that volunteers to participate receives a review of local crash data, a list of locations of interest, and a team field review of the locations. In addition to the regular safety review of local roads, a separate review is made to identify crashes on HRRR-eligible roads. Suggestions for potential countermeasures (with a focus on low-cost applications) are made to the local agency. Assistance is provided in preparing applications for HRRR and local safety funds. In a limited number of cases, additional safety funds have been made available to institute some low-cost solutions. Basic before-and-after analyses of LSI projects are carried out by MDOT.

The LSI effort also involves distributing and enhancing the RoadSoft Safety Module. RoadSoft is a GIS-based suite of tools developed and supported by Michigan's LTAP for asset management, safety, and other management functions. The tools were originally developed to

provide traffic crash data to local agencies when other mechanisms are ineffective. Local agencies have received the RoadSoft software free of charge with ten years of crash data loaded and GIS-ready. As part of the LSI effort, MDOT has used safety funding to enhance the safety module's functionality. The purpose of the enhancement was to make the safety module easier and more intuitive to use with the goal of improving access to crash data and assisting safety analyses. Improvements included enhanced mapping, crash trend analysis, intersection collision diagrams, and new crash ranking options.

Education/Training

MDOT has approached training on two levels: (1) training of technical people, and (2) training/education of public officials.

MDOT partnered with LTAP staff at Michigan Technological University to develop courses to convey to technical staff basic traffic and safety engineering concepts as well as to teach the use of the RoadSoft toolset to conduct a safety analysis. A course for intersection safety was developed to address some common intersection safety issues.

While working with local engineers and managers, MDOT found that convincing the local agency personnel of the value of improving safety would not be completely effective if board members and commissioners were not also advised of the importance of highway safety because these officials set the priorities in local agencies. A course has been developed titled "What elected officials need to know about traffic safety (and what your constituents expect you to know)."

Funding

Michigan field reviews all 5%-funding-eligible locations with local agencies. The MDOT Design Office funds engineering costs for local agencies for any safety improvement at these eligible locations at up to 10% of construction costs. Funds have been made available to local agencies for registration and travel to the annual Michigan Safety Summit.

In addition, applications for local HSIP funds involving one of the 5%-funding-eligible locations are given special consideration.

Additional funds are made available to implement low-cost improvements at locations identified through the LSI process.

Moreover, all Michigan HRRR funds go to local agencies.

Outreach

MDOT safety staff frequently make presentations at County Road Association meetings, local safety forums, and other public meetings to raise awareness about highway safety.

Minnesota

Respondent: David B Engstrom
State Traffic Safety Engineer
Minnesota Department of Transportation

The Minnesota Department of Transportation (Mn/DOT) has centralized the HSIP funding process, primarily to provide funding for low-cost systematic improvements on local roads. This process was fully implemented for projects in FY09 and beyond. Typical low-cost improvements have included signing upgrades, wider edge lines, rumble strips and stripes, intersection lighting, and other low-cost treatments.

Mn/DOT has conducted a number of educational forums to assist the locals in identifying projects, though the forums have had mixed results. Some counties develop very good projects while others do not take advantage of the opportunity. For that reason, Mn/DOT also funded the development of "Road Safety Plans," which allow individual counties to closely examine safety on their roadway system and develop a prioritized list of potential low-cost safety improvements. Based on early results from this process, Mn/DOT will be funding the development of these plans for all counties and state districts over the next few years.

More information on these processes can be found on the Mn/DOT web site,
<http://www.dot.state.mn.us/trafficeng/safety/index.html>.

Missouri

Respondent: John P. Miller, PE
Traffic Safety Engineer
Missouri Department of Transportation

The Missouri Department of Transportation (MoDOT) uses several programs to provide assistance to locals in an effort to assist in evaluating the local roadway system and to identify opportunities to save lives on these routes through low-cost safety solutions.

TEAP provides an opportunity for local agencies to receive engineering assistance. The program is presented at the following web site:
[http://epg.modot.mo.gov/index.php?title=Category:906_Traffic_Engineering_Assistance_Program_\(TEAP\)](http://epg.modot.mo.gov/index.php?title=Category:906_Traffic_Engineering_Assistance_Program_(TEAP)).

Missouri has also established blueprint regional efforts through enhanced enforcement efforts that have focused on behavioral issues such as impaired driving. MoDOT provides funding for these initiatives through the Highway Safety Office. The following web site illustrates one such initiative: <http://www.savemolives.com/>.

In addition, the Blueprint Infrastructure Subcommittee has been established to focus specifically on local issues, primarily through assisting local agencies by providing data and engineering

expertise. The Subcommittee is working to identify strategies from the MoDOT SHSP that will apply at the local level and is working with local agencies on implementation of those strategies

The LTAP in Missouri works directly with local agencies across the state to provide training, reference materials, advice, and technical support. Those services can be found at the following web site: <http://131.151.35.63/index.html>.

MoDOT recently completed an Intersection Safety Workshop and is now identifying potential countermeasures for safety concerns at these locations and determining an implementation plan. This information will be shared with local agencies.

High Severity Reports (including the high-5% report) have also been developed. These include data from all roads in Missouri, including local roads. However, no HSIP funding has been applied to local roads to date.

MoDOT continues to evaluate tools to assist local agencies with crash analysis. Data sharing has been expanded, and basic data including actual crash reports can be provided to local agencies. An online crash mapping tool is available at http://www.mshp.dps.mo.gov/ePublicCrashMaps/interactive_map.jsp.

New Hampshire

Respondent: G. Stuart Thompson, PE
Highway Safety Engineer
New Hampshire Department of Transportation

The New Hampshire Department of Transportation (NHDOT) solicits comments annually from planning commissions, towns, and law enforcement on the results of annual network analysis. Local agencies and planning commissions are represented on HSIP group site selection committees. Training is provided to local agencies on topics such as RSAs and crash reduction factors. Engineers, road agents, and planning commission members participate in these training sessions.

Each year NHDOT distributes lists of locatable (through a global positioning system [GPS]) crashes to planning commissions and towns and provides site-specific analysis upon request. When requested, NHDOT also provides representation on local agency RSAs and invites local representation on state safety audits and reviews. Additionally, NHDOT provides a presentation at the annual Local Government Center Conference.

A rural signing and delineation improvement program has been developed and prioritized according to the highest potential for safety improvement by addressing run-off-road crashes under the HRRR program.

New Jersey

Respondent: William J. Beans
Section Chief, Bureau of Safety Programs
New Jersey Department of Transportation

Approximately 90% of total roadway miles in New Jersey are controlled by local agencies. The New Jersey Department of Transportation (NJDOT) works very closely with the MPOs in providing crash data. The NJDOT collects all crash reports (fatal, injury, and property damage only where the costs are over \$500). These records are geo-coded for use by the state and MPOs. The crash data is provided to users via the web in a comma delineated format. NJDOT has also partnered with Rutgers University to develop a software tool (Plan4Safety) that is available to users. This tool allows the MPOs to analyze crash data and develop safety initiatives. A data warehouse has been created where various types of data (motor vehicle data, fatality analysis reporting systems [FARS] data, etc.) have been stored. This year, Plan4Safety will be moved onto the data warehouse so that users will be able to analyze crash data as well as motor vehicle, emergency medical services (EMS), FARS, and other data using the most current data available.

As New Jersey develops safety programs, local roadway systems are included in the analysis. The results are then separated into state and local roadways. The local area analyses are then forwarded to the MPOs for inclusion in local safety programs for Statewide Transportation Improvement Program (STIP) funding. The MPOs also develop their own programs using the crash data, Plan4Safety, and other methodologies.

The NJDOT has developed a Local Aid Safety Program where funding is provided to the MPOs for use in implementing safety countermeasures on local roadways. These countermeasures include intersection safety, HRRR, SRTS, and other key safety initiatives.

The NJDOT conducts an annual Traffic Safety Forum to address safety issues and provide an opportunity to recognize agencies and organizations that have shown great initiative and success in the area of transportation safety.

SUMMARY AND CONCLUSIONS

A total of ten states responded to the survey distributed by Iowa Traffic Safety Engineer Tom Welch requesting information about state DOT practices and initiatives for providing assistance and funding to local agencies to improve roadway safety in their jurisdictions. While the scope of assistance varies considerably, the responses indicated an effort in each state to provide needed funding, technical advice, analysis tools, training, and advice for addressing this important topic at the local level.

A summary of state programs and assistance is shown in the following table.

| State | Funding | Training | Data | Audits | Peer Exchanges | Safety Liasons |
|--------------|----------------|-----------------|-------------|---------------|-----------------------|-----------------------|
| CA | x | x | x | x | | |
| HI | x | x | x | | | |
| IL | x | x | x | x | x | |
| IA | x | x | x | x | x | x |
| LA | x | x | x | | | x |
| MI | x | x | x | | | |
| MN | x | x | x | x | | |
| MO | x | x | x | | | |
| NH | x | x | x | x | | |
| NJ | x | | x | | x | |

Historical records indicate that up to one-half or more of all serious crashes occur on locally administered and maintained roadways in many states. However, most local agencies do not have the funding or technical staff available to adequately address safety in their jurisdictions. It is important that adequate support and funding be provided as needed to local agencies by federal and state agencies to allow safety issues to be addressed. This survey has indicated that several state DOTs have undertaken that task.