

## CHAPTER 28

# Developing and Encouraging Multidisciplinary Safety Teams

### GOALS

- Promote coordination, cooperation, and communication within and between jurisdictions on all matters relating to highway traffic safety.
- Identify, maintain, and enhance highway safety funding sources.
- Initiate, support, and facilitate community-based highway safety programs by providing expertise and assistance in the area of the “4 E’s + 1” (engineering, enforcement, education, and emergency response, plus “everyone else”).
- Identify and support models of highway safety improvement projects that demonstrate comprehensive and multidisciplinary processes.
- Form coalitions of public agencies and private organizations to be “champions” for roadside safety.
- Increase consideration of safety in the development of metropolitan transportation plans.

### KEY TOPICS

- “4 E’s + 1” (engineering, enforcement, education, and emergency response, plus “everyone else”)
- local solutions
- multidisciplinary approach
- multi-jurisdictional approach
- Safe Communities

### BACKGROUND

Whoever you are, and wherever you live, death and serious injury from traffic crashes are a problem that affects everyone ... we are all at risk. Motor vehicle crashes are the leading cause of all injury deaths and the leading cause of death for people of every age from 5 to 29 years old. More than 40,000 otherwise healthy Americans die in traffic crashes every year. Another four million end up in emergency rooms. The motor vehicle injury problem costs our nation over \$150 billion every year. And the emotional toll on individuals, families, and communities is immeasurable.

National Highway Traffic Safety Administration (NHTSA),  
*Safe Communities: The First Six Months*

Multidisciplinary safety teams are locally based groups of highway safety advocates who are committed to solving traffic safety problems through a comprehensive multi-jurisdictional, multidisciplinary approach. As “community” teams, these are people with common interests living in a particular area.

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- Multi-jurisdictional means that several agencies (cities, counties, and state) plus other groups and organizations work together toward a common goal of improving traffic safety in their community.
- Multidisciplinary means integrating the efforts of the “4 E’s + 1” of highway safety (enforcement, engineering, education, and emergency response, plus “everyone else”).

### NATIONWIDE

Trends may occur nationally, but crashes occur locally. When tragic motor vehicle crashes occur, it is often those who travel, live, and work in the area who can identify the contributing factors and find remedies that reduce the risk of future crashes occurring in the same way or in the same place. Local traffic problems are best solved locally, with neighbors and safety professionals who collaborate to assess how and why crashes occur—and then choose effective countermeasures.

National and state officials recognize that highway safety can only be implemented in broad scale to a certain degree. Just as each roadway has its own geographic characteristics, motorists and traffic patterns are specific to a given place, and the best solutions often come from a multidiscipline approach chosen by those who know the area best. To this end, many sources of federal program funding are allocated to the state level and then applied at the local level. Highway safety efforts may receive funding through law enforcement, health, transportation, commerce, or other sources.

- Specific locations where people drive too fast or high-risk groups who do not wear seat belts may be targeted to change a specific condition. Coordinated special enforcement efforts during holiday weekends or special events draw attention to such problem areas. The high visibility of the efforts and the consequence of paying fines or appearing in court are deterrents to others who see or read about the activity.
- When a driver is killed at a familiar intersection, local citizens, law enforcement, and traffic engineers study the conditions to find an appropriate solution that may prevent the same situation being repeated. Sometimes the condition requires an engineering change and sometimes it requires a driver knowledge or behavior change.
- When freeways or major highways are closed by traffic crashes, predetermined alternate plans coordinated and communicated by local

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safety teams can be quickly put into place, complete with signing and staff to safely reroute traffic across several jurisdictions without further incident.

- Specific roadway environment factors—such as overpass clearance, lack of turning lanes or signal-protected turn lanes, and access management on urban corridors—may be identified and addressed by teams that include typical traffic safety experts as well as local business and government leaders.
- Grassroots efforts such as Mothers Against Drunk Driving (MADD) demonstrate how powerful public sentiment can be when everyday people get involved to change the way their neighbors think about safe driving. The wide success of such efforts begins in the communities where local residents act to impact their local conditions.
- The concept of “safe communities” has been practiced through a range of agencies and focus areas over the past few years. Some have focused on drug and alcohol abuse prevention, crime and violence prevention, or community health and injury prevention (often the emphasis area chosen is based on the sources of funds available). These elements all relate to—but may not focus on—roadway safety. The current NHTSA Safe Communities model offers a template for forming local groups that are focused on highway safety and preventing motor vehicle fatalities and injuries.

### IOWA

#### *Iowa Facts*

Motor vehicle crashes are taking lives in communities throughout Iowa nearly every week of every year. There are few Iowa drivers who have never been involved in some sort of crash. There is probably no Iowan who cannot name someone who was injured or killed in a motor vehicle crash. The Iowa DOT reports the following Iowa crash data for 1999:

- 1.34 lives were lost every day because of traffic crashes.
- 101.15 persons were injured every day because of traffic crashes.
- 1 crash occurred every 7.95 minutes
- 1 driver out of 19.44 was involved in a crash.

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### *Local Safety Teams*

A number of local multidisciplinary safety groups are already working to solve local safety problems—each group with its own focus and range of coordinated activities and safety interests. For example, a Council Bluffs/Pottawattamie County group collaborates with their neighboring Omaha, Nebraska, counterparts to address road construction, freeway traffic, and incident management. In eastern Iowa, groups have created incident management handbooks, mitigated low-clearance bridge collisions, pilot-tested red light running video cameras, and implemented use of abandoned vehicle marking tape.

These groups connect those who design and build roadways with those who maintain and operate them and those who educate and provide medical care for those who travel on the roadways. A local multidisciplinary safety team in this context has a focus on problem solving and facilitating solutions that cannot be produced by one agency, one discipline, or one program alone.

Many local safety teams operate with support from the Iowa Governor's Traffic Safety Bureau (Iowa GTSB) or benefit from Iowa Safety Management System (Iowa SMS) or Iowa Department of Transportation (Iowa DOT) Office of Traffic and Safety funding. Ongoing programs provide assistance to local practitioners who may bring these resources into play in their local traffic safety groups. In addition to using data to help identify problem areas in Iowa, state agencies provide funding and consulting services to support local group efforts in addressing their local highway safety needs.

### *Iowa Department of Transportation*

The Iowa DOT offers a range of safety programs to assist practitioners at the local level. These efforts offer important resources that safety teams may use to further leverage their local resources.

- Safety improvement candidate locations: Each year, the Iowa DOT releases an annual list of the top 200 safety improvement candidate locations in Iowa and forwards this list to cities, counties, municipal planning organizations (MPOs), regional planning associations (RPAs), and Iowa DOT field offices to help them analyze and develop proposals for projects that will improve safety. The locations are ranked according to the number of crashes, the severity of the crashes, and the rate at

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which crashes occur at an intersection. The Iowa DOT uses information from crash reports filed by city police departments, county sheriffs, the Iowa State Patrol, and individual drivers in determining the rankings. The locations identified are eligible for funding assistance to develop safety improvements under the Iowa Traffic Safety Fund program.

- Safety analysis: Each of these programs provides safety analysis assistance for local engineers and traffic safety teams. Engineering changes or operational data may be identified to help resolve safety issues.
  - o Traffic Safety Improvement Program (TSIP)
  - o Hazard Elimination Safety (HES) program
  - o Traffic Engineering Assistance Program (TEAP)
  - o Traffic safety studies
  - o Design plan review
  - o Safety audits
- Crash and roadway data are provided by both the Office of Traffic and Safety and the Office of Driver Services at the Iowa DOT. The Iowa DOT and Iowa GTSB support the Iowa Traffic Safety Data Service (ITSDS) through the Center for Transportation Research and Education (CTRE) at Iowa State University.
- Analysis tools and training are also available to local practitioners through a range of collaborative efforts (see Chapter 25, Improving Information and Decision Support Systems).
- The Iowa DOT Office of Traffic and Safety sponsors an annual Traffic Safety Forum, free of charge to local engineers and highway safety practitioners. Each year this event provides updates on available programs, research, and assistance available, as well opportunities for peer networking. The Iowa DOT also collaborates with the Iowa GTSB and CTRE in a range of outreach and training programs.
- Other resources include the completed *Access Management Handbook* and the Iowa DOT Office of Traffic and Safety handbook now being developed.

### *Iowa Governor's Traffic Safety Bureau*

The Iowa GTSB administers a number of federally funded highway safety initiatives. Many of these are implemented locally. These funds include on-going federal programs such as Section 402 highway safety funds, as well as special funding applied for and received by the bureau. These special funds include a Section 410 alcohol incentive grant, occupant protection and

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child safety seat grant/incentive programs such as Sections 157, 405a, and 2003b, and a traffic records data improvement grant, Section 411. These are not designated for local groups but support related efforts of many local safety team members.

In federal fiscal year 2000, nearly four million dollars in highway safety program funds were administered by the Iowa GTSB. Section 402 highway safety funds target nine major areas of emphasis: alcohol, occupant protection, speed, serious moving violations, emergency medical services, pedestrian/bicycle safety, motorcycle safety, traffic records, and roadway safety. Impaired driving, non-use of seat belts, and speed/moving/stop sign violations are the major contributors to traffic-related death and injury in Iowa.

- Police Traffic Services—for speed and serious moving violation enforcement efforts—have been integrated with alcohol and occupant protection in a series of highly successful corridor enforcement events. Corridor enforcement involves combining the resources of the 402, 410, and Special Traffic Enforcement Program (STEP) programs, a substantial volunteer effort from many local police departments and sheriff's offices, and support from the Iowa State Patrol. These one-day events focus on a particular highway or corridor with identified traffic safety problems and often involve the cooperation of more than 30 sheriff's offices and police departments, while including the entire length of the designated roads in Iowa and cooperation from neighboring states such as Illinois and Nebraska.
- Safe Community safety initiatives targeting high-risk populations have also received Iowa GTSB support.
- Traffic engineering programs supported by the Iowa GTSB include working zone safety enforcement and education efforts, and traffic engineering assistance for Iowa's smaller towns and communities.
- Iowa GTSB staff members are involved in facilitating or participating in local traffic safety groups throughout the state.
- The Iowa GTSB newsletter, *Crossroads*, provides traffic safety updates to safety practitioners throughout the state.
- The Iowa GTSB is using Section 405a funds to provide statewide training for child safety seat technicians. These funds are also assisting the establishment of local child safety seat fit stations across the state, in collaboration with local entities, the Iowa Department of Health and the Safe Kids Coalition.
- The Iowa GTSB and Iowa DOT support the ITSDDS through CTRE. Other public safety data may also be available.

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### *Center for Transportation Research and Education*

The following are efforts of CTRE at Iowa State University:

- Iowa's award-winning Safety Circuit Rider program, part of the Local Technical Assistance Program (LTAP), presents safety workshops to local governments and offers suggestions for improving roadway safety. Many of these programs are given anywhere local agencies have space—in meeting rooms, shops, or garages. The Circuit Rider is a collaborative effort of the Iowa DOT, Iowa GTSB, and CTRE and also provides programs on safety management systems, excavation safety, pavement markings, county engineers' safety policies, and much more.
- The Iowa Traffic Safety Data Service provides timely access to crash analyses and reports from many safety and geographic information systems (GIS) tools developed by the Iowa DOT and CTRE in recent years. ITSDS facilitates decision making, effective presentation of information, and education. Funding is provided by the Iowa DOT and Iowa GTSB.

### *Iowa Safety Management System*

Iowa SMS has recognized the value of local multidisciplinary groups and has committed \$125,000 dollars toward supporting local groups in the past two years. Many Iowa SMS efforts and accomplishments are listed in the Successes and Strategies Implemented section in this chapter.



## **POTENTIAL STRATEGIES**

### *Legislation, Policy, and Enforcement*

- Maintain appropriate crash cost values and crash reporting thresholds to assist in appropriate data analysis, evaluation criteria, and ranking of high-risk locations.
- Enhance speed enforcement on rural two-lane corridors through multidisciplinary task forces and identify candidate corridors (see Successes and Strategies Implemented section in this chapter).
- Initiate a cooperative corridor safety program using the efforts of state and local government, business, and civic leaders to reduce crashes through a variety of low-cost solutions (Washington state model was recognized by the Federal Highway Administration in 1996 for innovation, effectiveness, and efficient use of resources).
- Involve the business community in educational as well as policy-related strategies to reduce the impact of traffic-related deaths and injuries on their businesses (New Mexico model).

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- Expand coordination among substance abuse, juvenile justice, and operating while intoxicated (OWI) prevention programs (New Mexico model).
- Continue providing traffic safety consultants to local jurisdictions to maximize the safety program impact in local cities and counties.

### *Education and Public Awareness*

- Sponsor a statewide workshop for local multidisciplinary teams to network and learn. Involve existing and potential teams (see Successes and Strategies Implemented section in this chapter).
- Promote or reactivate a statewide multidisciplinary incident management model and handbook. Conduct a statewide best practices workshop with local SMS groups to draft and identify topics needed.
- Support development and training to enhance safety integration into planning through MPOs and RPAs with training and resource availability (federal standards now require inclusion of safety planning in MPO plans) (see Successes and Strategies Implemented section in this chapter).

### *Design and Technology*

- Provide engineering information and consultation to local groups.
- Provide crash data and analysis tools to local entities and groups.

### *Other Initiatives*

- Continue to use partnerships with the health community, including but not limited to emergency medical services, injury prevention programs, aging Iowans, and substance abuse and prevention programs.

## **SUCCESSES AND STRATEGIES IMPLEMENTED**

- Improved crash data and analysis tools are available or under development (see Chapter 25, Improving Information and Decision Support Systems).
- The Iowa DOT sponsored a study of traffic safety improvement projects. The *Effectiveness of Roadway Safety Improvements* study (conducted by CTRE) of 94 traffic safety projects concluded that there was a mean crash reduction rate of 23% on these hazard elimination and safety improvement fund projects.



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- The *Traffic and Safety Informational Series* is sponsored by the Iowa Department of Transportation Office of Traffic and Safety. The goal of this project was to make available clear, concise, and consistent answers to 25 traffic and safety questions, commonly asked by local officials and the public. The information may be altered, distributed, and used as seen fit by area officials and/or transportation professionals. It is available in print, on disk, and on the web.
- The Iowa DOT Office of Traffic and Safety is developing the “TAS” manual for highway safety practitioners and engineers at the state and local levels (to be available in print and on the Office of Traffic and Safety web site in 2002).
- The Iowa DOT Office of Traffic and Safety sponsors the annual Traffic and Safety Forum each fall to help city, county, state, and consulting highway safety engineers stay up-to-date on recent developments in highway safety technology and practice.
- In 1999, the Iowa SMS produced the *Iowa Strategic Highway Safety Plan* and distributed the document to over 800 entities for review and comment. The plan served as a catalyst for discussion and a wider range of potential highway safety strategies, resulting in this toolbox. The complete “plan” document is available on the Iowa SMS web site ([www.IowaSMS.org](http://www.IowaSMS.org)).
- In 2000, the Iowa SMS commissioned a public opinion survey (*Iowa Strategic Highway Safety Plan Goals and Strategies: Statewide Survey of Adults*) of the highway safety improvement goals and strategies found in the 1999 Iowa SMS *Iowa Strategic Highway Safety Plan*. Iowans were polled to determine which goals Iowans believed were important and which strategies they would support. The summary results are included in this document and are available on the Iowa SMS web site.
- In January 2000 and April 2001, Iowa SMS approved funding to assist local multidisciplinary safety groups in creating local groups or completing selected local projects.
- In April 2001, Iowa SMS approved funding for a local multidisciplinary safety groups workshop in conjunction with the Iowa Traffic Control and Safety Association (ITCSA) for fall 2001.
- Special multidisciplinary and multi-jurisdictional enforcement efforts funded through the Iowa GTSB (i.e., STEP) have been effective in targeting and publicizing a range of driver behaviors.

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### NOTE

The potential strategies in this chapter do not represent specific recommendations of the Iowa SMS Coordination Committee or any agency, group, or individual represented in Iowa SMS. The strategies represent a range of alternatives for legislators, department or agency directors, local governments, and citizen groups to consider when they elect to address a specific highway safety concern.

This toolbox is a living document that will continue to provide information, direction, and ideas for highway safety decision makers. Any strategies selected for implementation by Iowa SMS or any other entity will require further development through identifying potential partners, entities impacted, potential funding, steps for implementation, evaluation, and other pertinent tasks.

### RESOURCES

Information in this chapter is drawn from many individuals and sources. Known sources are listed here. **Contributors:** Mary Stahlhut (primary), Mark Campbell, Jack Latterell, and Bob Thompson.

#### **American Association of State Highway and Transportation Officials**

*Strategic Highway Safety Plan* (Sept. 1997):

A comprehensive plan to substantially reduce vehicle-related fatalities and injuries on the nation's highways.

[safetyplan.tamu.edu/plan/toc.asp](http://safetyplan.tamu.edu/plan/toc.asp)

#### **Center for Transportation Research and Education, Iowa State University**

[www.ctre.iastate.edu/index.html](http://www.ctre.iastate.edu/index.html)

*Effectiveness of Roadway Safety Improvements:*

[www.ctre.iastate.edu/Research/detail.cfm?projectID=386](http://www.ctre.iastate.edu/Research/detail.cfm?projectID=386)

#### **Iowa Department of Transportation Office of Traffic and Safety**

[www.dot.state.ia.us/traffic\\_safety/index.htm](http://www.dot.state.ia.us/traffic_safety/index.htm)

*Iowa Access Management and Awareness Project Report; Access Management Toolkit; Access Management Handbook.*

[www.ctre.iastate.edu/Research/access/index.htm](http://www.ctre.iastate.edu/Research/access/index.htm)

*Traffic and Safety Informational Series:*

[www.ctre.iastate.edu/pubs/tsinfo/index.htm](http://www.ctre.iastate.edu/pubs/tsinfo/index.htm)

*Iowa Access Management Awareness Project:*

*Traffic and Safety ("TAS") Manual* (Jan. 2002)

#### **Iowa Governor's Traffic Safety Bureau**

[www.state.ia.us/government/dps/gtsb/index.htm](http://www.state.ia.us/government/dps/gtsb/index.htm)

*Crossroads*

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### **Iowa Safety Management System**

[www.IowaSMS.org](http://www.IowaSMS.org)

*Iowa Strategic Highway Safety Plan* (Aug. 1999):

[www.iowasms.org/pdfs/ishsp.pdf](http://www.iowasms.org/pdfs/ishsp.pdf)

*Iowa Strategic Highway Safety Plan Goals and Strategies: Statewide Survey of Adults* (Oct. 2000):

[www.iowasms.org/pdfs/publicopinionsurveyexecsumm.pdf](http://www.iowasms.org/pdfs/publicopinionsurveyexecsumm.pdf)

### **National Highway Traffic Safety Administration**

[www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)

*Safe Communities:*

[www.nhtsa.dot.gov/safecommunities/default.htm](http://www.nhtsa.dot.gov/safecommunities/default.htm)

*Safe Communities: The First Six Months*