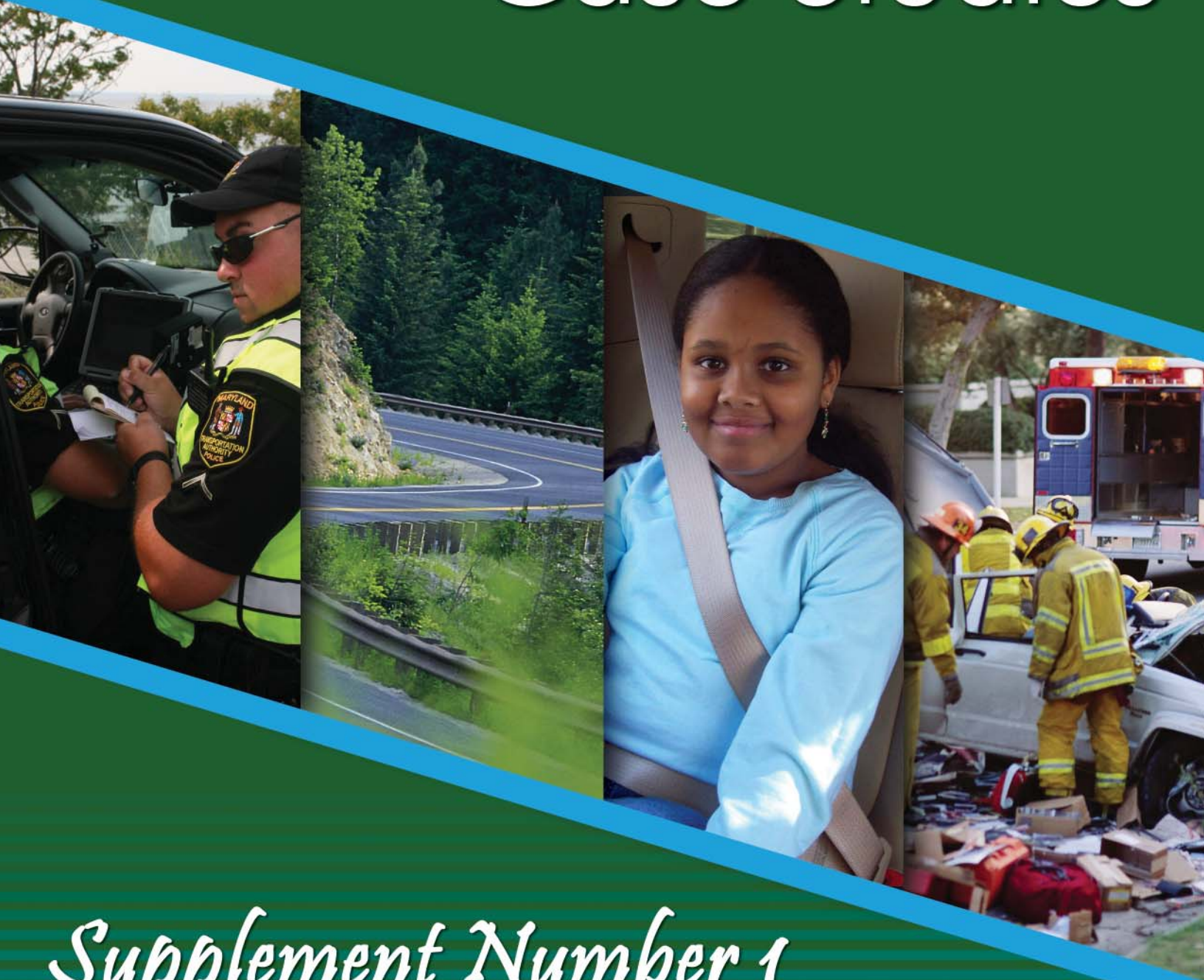


Strategic Highway Safety Plan  
Implementation Process Model

# Case Studies



## Supplement Number 1

## *Notice*

This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for use of the information contained in this document. This report does not constitute a standard, specification, or regulation.

## *Quality Assurance Statement*

The Federal Highway Administration provides high-quality information to serve Government, industry, and the public in a manner that promotes public understanding. Standards and policies are used to ensure and maximize the quality, objectivity, utility, and integrity of its information. FHWA periodically reviews quality issues and adjusts its programs and processes to ensure continuous quality improvement.

### Technical Report Documentation Page

1. Report No. FHWA-SA-10-025	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle SHSP Implementation Process Model – Supplement Number 1: Case Studies		5. Report Date June 2010	
		6. Performing Organization Code	
7. Author(s)		8. Performing Organization Report No.	
9. Performing Organization Name and Address <b>Cambridge Systematics, Inc.</b> <b>100 CambridgePark Drive, Suite 400</b> <b>Cambridge, MA 02140</b>		10. Work Unit No.	
		11. Contract or Grant No. DTFH61-05-D-00025	
12. Sponsoring Agency Name and Address Department of Transportation Federal Highway Administration Office of Safety E-71-320 1200 New Jersey Ave, SE Washington, DC 20590		13. Type of Report and Period Covered Final Report May 2010-August 2010	
		14. Sponsoring Agency Code	
15. Supplementary Notes FHWA: Tamiko Brim-Burnell, Office of Safety			
16. Abstract  This document supports the Strategic Highway Safety Plan Implementation Process Model (IPM). It features case studies derived from the experiences of States that were used as models during the development of the IPM. Each case study describes a noteworthy practice actually used by the State, the results achieved, and key accomplishments. Users can obtain additional information by calling or e-mailing the contact person identified within each case study.			
17. Key Words Transportation safety, SHSP implementation, HSIP, HSP, CVSP, transportation planning		18. Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield, VA 22161.	
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No of Pages 62	22. Price

June 2010

### **Message from the FHWA Associate Administrator of the Office of Safety**

This Case Study Supplement is a companion document to *The Essential Eight – Fundamental Elements and Effective Steps for SHSP Implementation* – also known as the SHSP Implementation Process Model (IPM). The four fundamental elements of the IPM include leadership, collaboration, communication, and data analysis. These complement the four effective steps of the IPM: emphasis area action plans; linkage to other plans; marketing; and monitoring, evaluation, and feedback.

The case studies in this document demonstrate noteworthy practices used by States in their SHSP implementation efforts. Most of them are currently in use by IPM “model” States, i.e., States whose practices were studied as part of the IPM development effort. The remaining noteworthy practices were identified during testing of the IPM by a variety of “pilot” States.

The Supplement groups case studies according to their relevance to particular IPM chapters. Individual case studies provide summaries of each practice, their key accomplishments, the results, and contact information for those interested in learning more. The IPM was designed to be flexible and can be adapted to meet the needs of each State. The case studies demonstrate the range of approaches States have taken to implement their SHSPs effectively. Readers are encouraged to draw from these case studies and adapt them to their needs.

Sincerely yours,



Joseph S. Toole  
Associate Administrator for Safety  
Federal Highway Administration



## How to Use This Document

While this document can be used as a stand-alone reference for noteworthy practices related to Strategic Highway Safety Plan (SHSP) implementation, it is designed primarily as a companion document to *The Essential Eight – Fundamental Elements and Effective Steps for SHSP Implementation* – also known as the SHSP Implementation Process Model (IPM).

The case studies are organized according to which IPM chapter they most closely relate and the individual chapters within both documents are identified by their matching color tabs. In the IPM, the pages of Chapter 2: Leadership, Collaboration, and Communication are identified by red color tabs. Within this document (the Case Study Supplement), the individual case studies associated with leadership, collaboration, and communication are also identified with red color tabs.

The title of each case study also contains information that identifies the particular IPM chapter to which it is most relevant. This information is in the form of a two-number code within the title. The first number identifies the IPM chapter for which the case study has the most relevance. The second number provides a unique identification for the case study. Two examples will serve to illustrate this point:

### **Case Study 2-3 – Collaborative Problem Solving**

The number “2” in the title of this case study refers to the IPM chapter it is associated with. In this case, Chapter 2: Leadership, Collaboration, and Communication. The number “3” indicates that this is the third case study related to Chapter 2 of the IPM. The color tab for this case study is red – the same as the color tab for Chapter 2 of the IPM.

### **Case Study 4-6 – Multiagency Policy Council Supporting Safety Legislation**

Similarly, the number “4” in the title of this case study refers to IPM Chapter 4: Emphasis Area Action Plans, and the number “6” indicates that this is the sixth case study related to Chapter 4. The color tab for this case study is blue – the same as the color tab for Chapter 4 of the IPM.

As described, both the color tabs and the individual case study titles link this Case Study Supplement to the IPM.

## Table of Contents

Case Study 2-1 – SHSP Operations Manager.....	1
Case Study 2-2 –SHSP Project Seed Money .....	2
Case Study 2-3 – Collaborative Problem Solving .....	3
Case Study 2-4 – Motor Vehicle Administration Partner.....	4
Case Study 2-5 – Emergency Medical Services Partner.....	5
Case Study 2-6 – LTAP Support to Local Agencies .....	6
Case Study 2-7 – Technical Support to Local Agencies.....	7
Case Study 2-8 – State Safety Charter .....	8
Case Study 2-9 – Electronic Communication System.....	9
Case Study 2-10 – Teen Driver Study Commission Adopts SHSP Strategies and Advances Legislation .....	10
Case Study 2-11 – Law Enforcement Partnership with Engineering.....	11
Case Study 3-1 – MOU Among Data Generators .....	13
Case Study 3-2 – Centralized Data Source .....	14
Case Study 3-3 – Data Decision Support Tool.....	15
Case Study 3-4 – Local Safety Planning Improved Through MPO Outreach .....	17
Case Study 3-5 – Data Analysis Strategies.....	18
Case Study 3-6 – LTAP Provides Software and MDOT Provides Support for Local Safety Data Analysis .....	19
Case Study 4-1 – Road Safety Audits .....	20
Case Study 4-2 – Emphasis Area Team Facilitators .....	21
Case Study 4-3 – SHSP Implementation Chart.....	22
Case Study 4-4 – Links to Existing Organizations.....	23
Case Study 4-5 – Three-Tiered Programming .....	24
Case Study 4-6 – Multiagency Policy Council Supporting Safety Legislation .....	25
Case Study 5-1 – MPO Participation in SHSP.....	26
Case Study 5-2 –Prioritizing Safety in the Transportation Improvement Program.....	27
Case Study 5-3 – Safety Element in Performance Reviews.....	28
Case Study 5-4 – A Systems Approach to Project Selection.....	29
Case Study 5-5 – Training Improves Local Safety Planning Capacity .....	30

<b>Case Study 5-6 – Centralized HSIP Funding and Evaluation Results in Safety Projects Aligned with SHSP .....</b>	<b>32</b>
<b>Case Study 5-7 – Local Government Assistance .....</b>	<b>34</b>
<b>Case Study 5-8 – Focusing HSP Grant Applications .....</b>	<b>36</b>
<b>Case Study 5-9 – Local Safety Coordinators Adopt SHSP Strategies and Actions.....</b>	<b>37</b>
<b>Case Study 5-10 – Grant Writing Assistance Focuses on SHSP .....</b>	<b>38</b>
<b>Case Study 5-11 – SHSP Committee Provides Forum for Data Collection Improvements...39</b>	<b>39</b>
<b>Case Study 5-12 – Collaborative Process Improves Work Zone Safety.....</b>	<b>40</b>
<b>Case Study 5-13 – Truck Safety Commission Supports SHSP Efforts.....</b>	<b>41</b>
<b>Case Study 5-14 – Enforcement and Engineering Collaboration.....</b>	<b>42</b>
<b>Case Study 5-15 – Engaging Local Agencies in Commercial Vehicle Inspections .....</b>	<b>43</b>
<b>Case Study 5-16 – SHSP/HSIP Alignment .....</b>	<b>44</b>
<b>Case Study 6-1 – SHSP Newsletters .....</b>	<b>45</b>
<b>Case Study 6-2 – SHSP Leadership Summit .....</b>	<b>46</b>
<b>Case Study 6-3 – Branding and Marketing the SHSP.....</b>	<b>47</b>
<b>Case Study 6-4 – Legislative Symposium.....</b>	<b>48</b>
<b>Case Study 7-1 – Tracking Local Project Implementation .....</b>	<b>49</b>
<b>Case Study 7-2 – SHSP Steering Committee Manages Implementation with Tracking Tools .....</b>	<b>50</b>



## ■ Case Study 2-1 – SHSP Operations Manager

Prior to the development of the SHSP, the Georgia Department of Transportation (GDOT) created a Safety Action Plan. The plan was based on the NCHRP 501 Integrated Safety Management Process (ISMP). Fundamental to the ISMP is an interdisciplinary organizational structure formed through a coalition of highway safety agencies that allocates different responsibilities to specific groups or people who must work together to maximize safety. Day-to-day management responsibility falls to the operations manager, a coalition appointee.

### Key Accomplishments

- Created the position of full-time SHSP operations manager to provide leadership and coordination.
- Centralized SHSP communications through the operations manager.
- Formalized safety collaboration between the DOT and GOHS via a memorandum of understanding.

After SAFETEA-LU required States to develop an SHSP, GDOT merged its Safety Action Plan into the SHSP and developed its structure based on the ISMP. GDOT stepped aside from the leadership role to encourage an interdisciplinary and interagency structure so partners and stakeholders would not view their participation as directed by GDOT. They felt stakeholders would be more likely to participate and provide legitimate feedback if the Governor’s Office of Highway Safety (GOHS) took responsibility for leading the SHSP effort.

GDOT and GOHS developed a memorandum of understanding creating a SHSP Operations Manager position housed in the GOHS. The Operations Manager acts as the focal point for the SHSP. As part of GOHS, the Operations Manager dedicates time and effort to facilitating the development and implementation of the SHSP, as well as coordinating communication among GOHS, GDOT, and the other partners and stakeholders. The Operations Manager is funded by GDOT with Highway Safety Improvement Program funds.

### Results

The State demonstrated its commitment to the SHSP by creating a full-time staff position to oversee its management and implementation. The Operations Manager handles the day-to-day administration of the SHSP process and provides support to the SHSP Leadership Team. As the focal point of the SHSP process, the Operations Manager facilitates all activities.

**Contact:** Randy Clayton  
SHSP Operations Manager  
Georgia Governor’s Office of Highway Safety  
404-651-8503  
rclayton@gohs.ga.gov





## ■ Case Study 2-2 – SHSP Project Seed Money

After Georgia’s initial development of the SHSP, stakeholder participation in the process slowed and dedication to the implementation process needed a boost. Stakeholders needed clear incentives to participate in the process and tangible implementation tools. Therefore, Georgia decided to allocate \$10 million seed money from the \$406 Safety Belt Performance Award to fund implementation of SHSP programs and projects.

### Key Accomplishments

- Dedicated significant funding to SHSP implementation.
- Developed criteria for project identification and a prioritization process based on expected fatality reduction.
- Reenergized emphasis area teams.

The SHSP Leadership Team is responsible for deciding which projects are funded through the seed money. Project ideas first come from the emphasis area task teams, and the Leadership Team prioritizes projects based on benefit/cost, expected fatality reduction, and the extent to which projects address SHSP emphasis areas. A project prioritization matrix is used to rank proposed projects based on the extent to which each one will reduce fatalities. The matrix uses the estimated percent contribution of each emphasis area addressed by the project to the total number of fatalities Statewide to calculate a project score. The score is then used to rank proposed SHSP projects. The team intends to fund strategies and/or projects that address as many of the 4Es (e.g.; engineering, enforcement, education, and emergency response) as possible.

The implementation funds serve as an incentive for SHSP stakeholders to collaborate on multidisciplinary projects and work beyond agency boundaries. Because projects addressing the 4Es are difficult to implement within a single agency, the Leadership Team places an emphasis on providing resources for these projects.

### *Results*

The SHSP process has gained momentum and received renewed interest as a result of this new funding strategy. Dedicated funding provides an incentive for partners representing the 4Es to collaborate on projects and for the 4Es to be incorporated into overall strategies.

**Contact:** Randy Clayton  
SHSP Operations Manager  
Georgia Governor’s Office of Highway Safety  
404-651-8503  
rclayton@gohs.ga.gov



## ■ Case Study 2-3 – Collaborative Problem Solving

The process to develop and implement an effective SHSP requires a multidisciplinary approach from the state’s safety stakeholders. Working collaboratively to identify and solve the State’s transportation safety problems is central to the plan’s success.

States demonstrating success with implementation of their SHSPs find collaborative arrangements are the norm and tend to have superior inter/intraagency communication. Partners talk to one another on a frequent basis, building trust and understanding. This collaboration helps expand the SHSP’s reach to the broader safety community, and fosters the mindset that “we all understand what the safety priorities are.”

Key Accomplishments
<ul style="list-style-type: none"> <li>• Built trust and understanding through inter/intraagency communication.</li> <li>• Improved data collection and analysis capabilities.</li> <li>• Considered safety in a wider range of transportation planning processes.</li> </ul>

Collaboration results in wiser use of the State’s limited resources. States have found this approach helps improve their crash data collection and analysis capabilities. Solutions arrived at collaboratively among several agencies and data users result in improved processes and cost sharing. Collaboration on SHSP projects brings new partners to the effort and expands resources to assist with SHSP implementation.

One success story involves a close partnership between the Utah Department of Transportation (UDOT) and Utah Department of Public Safety’s Highway Safety Office (HSO). The HSO includes the UDOT Traffic and Safety Engineer in its annual NHTSA-required Highway Safety Plan process. This relationship is reciprocated by UDOT. UDOT includes the HSO as a partner to use HSIP flexible funds to implement behavioral programs. UDOT also provided a portion of STP Enhancement Funds to the SHSO for education and outreach programs involving pedestrian safety.

The benefits of the SHSP collaborative approach carry over to other projects as well. Personnel involved with the Motor Carrier Safety Assistance Program (MCSAP) are intimately involved in SHSP implementation. As a result, the MCSAP and the SHSP work in concert to address commercial vehicle traffic safety. This collaboration has led to the adoption of new technologies, such as speed detection signs, specifically addressing commercial vehicle safety.

### *Results*

The State’s adoption of a collaborative problem solving approach resulted in improved data collection and analysis capabilities, new interagency collaborations on planning activities, and improved utilization of limited State resources.

**Contact:** Robert Hull  
Director, Traffic and Safety Division  
Utah DOT  
801-965-4273  
rhull@utah.gov



## ■ Case Study 2-4 – Motor Vehicle Administration Partner

The Maryland Motor Vehicle Administration (MVA) is a member of the SHSP Executive Committee and signed a MOU stating their support for the SHSP. Once the SHSP was developed, it was important to the Management Committee and the SHSP Champion that Executive Committee members live up to the commitments in the MOU and take responsibility for implementation. This was a theme mentioned at each Executive Committee meeting and at both Traffic Safety Summits. At an Executive Committee meeting in December 2006, members were asked to assume responsibility to monitor implementation of the various emphasis areas. Given their important role in safety, the MVA agreed to lead implementation for the following emphasis areas:

- Distracted Driving;
- Older Drivers;
- Younger Drivers;
- Motorcycle Safety; and
- Truck and Bus Safety.

Key Accomplishments
<ul style="list-style-type: none"> <li>• Assumed a strong leadership role in SHSP implementation.</li> <li>• Secured MVA employee involvement and buy-in on SHSP implementation.</li> <li>• Created Driver Safety Division within MVA.</li> </ul>

Each of these areas relates specifically to work conducted by the MVA. Because these efforts involve several offices and divisions within the MVA, the Administrator felt it was important to have a single individual coordinate all activities, including the preparation of quarterly progress reports. In January 2007, the Administrator designated an individual within the MVA to monitor the work of the emphasis area teams because “we are a safety agency, and it is important we do our part to improve safety through the SHSP,” he said. No additional funding was necessary for this position as the SHSP coordinator responsibilities were assigned to an existing MVA staff member.

In addition to the SHSP coordinator, two MVA staff members volunteered and continue to be actively involved as emphasis area team leaders, and the MVA has taken a lead role on numerous individual strategies and action steps.

### *Results*

Propelled by the Administrator’s leadership, the Maryland MVA has taken an active role in ensuring SHSP implementation: a single designated coordinator overseeing five emphasis areas, two emphasis area team leaders, and a number of leaders for strategy and action steps. Reflecting this commitment to the SHSP, and safety as a whole, the MVA created a Driver Safety Division.

**Contact:** Nanette Schieke  
Chief, Driver Safety Division  
Maryland Motor Vehicle Administration  
410-787-7977  
nschieke@marylandmva.com





## ■ Case Study 2-5 – Emergency Medical Services Partner

Originally, Maryland’s SHSP development process envisioned EMS as part of all emphasis areas. However, given the importance of EMS in improving safety, the State EMS Director felt a more focused effort was needed. The Executive Director of the Maryland Institute for Emergency Medical Service Systems (MIEMSS) discussed the issue with the SHSP Executive Committee, and they decided to add EMS as a separate emphasis area. The EMS emphasis area team, which includes key EMS and law enforcement representatives, developed an action plan funded primarily by the State EMS agency.

### Key Accomplishments

- Involved EMS agency as a prominent stakeholder and leader in the SHSP implementation effort.
- Established a separate EMS emphasis area to increase EMS role in safety implementation.
- Provides EMS knowledge and expertise to all of the SHSP implementation teams.

The MIEMSS Public Information Director was assigned to work with the Executive Director and other members of the emphasis area team on the implementation plan and serve as cochair of the SHSP Public Information Committee. This committee meets periodically to review various public information and education activities such as the “Choose Safety for Life” campaign launched in the summer of 2008.

MIEMSS promotes safe driving through a number of other activities, such as the “Drunk Driving – It’s Been Done to Death” media campaign launched in October 2007. The agency also advises the Distracted Driving emphasis area team. For example, with their input the team eliminated an action step to implement the use of screens for blocking traffic incidents from motorist view due to the view shared by both EMS and law enforcement that the action was unworkable.

### Results

Creation of an EMS emphasis area raised visibility of this important safety component among SHSP stakeholders. The EMS team made significant contributions to public information efforts. EMS stakeholders actively contribute to other emphasis areas, further reinforcing the 4E approach to safety.

**Contact:** Jim Brown  
Director of Public Information and Media Services  
Maryland Institute for Emergency Medical Services  
Systems  
410- 706-3994  
jbrown@miemss.org



## ■ Case Study 2-6 – LTAP Support to Local Agencies

Communicating the SHSP to local agencies is a required first step toward implementation of safety strategies at the local level. Local Technical Assistance Programs (LTAP) serve as conduits, transferring highway technology from FHWA, the State DOT, and universities to local transportation agencies. Utah is using the LTAP to disseminate information about the SHSP to local jurisdictions.

LTAPs provide workshops, publications, videos, and other training materials to local agencies to improve the effectiveness of their transportation programs. They also support Road Safety Audits (RSA) and provide direct technical assistance for dealing with transportation challenges.

In Utah, LTAP personnel regularly promote the State’s SHSP in their work with local agencies. Actions by local agencies can directly impact SHSP implementation efforts. LTAP personnel are helping local agencies collect and manage crash data, thereby improving its accuracy, timeliness, and completeness. LTAPs also provide software with potential safety benefits to local agencies (e.g., sign inventory software).

LTAP staff are able to give insight into local issues and concerns to UDOT through their involvement with local agencies. UDOT personnel also gain additional knowledge of local issues through their participation in RSAs. This local information is provided to the SHSP emphasis area working groups to fine tune or modify their action plans.

### *Results*

By tapping into relationships already in place through the LTAP program, Utah is able to collect information, ideas, and other inputs from local agencies and share it with emphasis area teams, ensuring that local input is considered as the SHSP is implemented.

**Contact:** Robert Hull  
Director, Traffic and Safety Division  
Utah DOT  
801-965-4273  
rhull@utah.gov

### **Key Accomplishments**

- LTAP staff routinely promote SHSP concepts when working with local transportation agencies, broadening the reach of the SHSP.
- Local agencies receive assistance with data collection and input efforts.
- SHSP working groups receive local insight and hear about local concerns via LTAP personnel.





## ■ Case Study 2-7 – Technical Support to Local Agencies

To support SHSP implementation at all levels, New Jersey identified a need to increase technical safety support to local agencies. The Transportation Safety Resource Center (TSRC) was established by hiring a professional safety engineer from outside the university and by securing funding through the HSIP using State planning and research (SPR) funds. Rutgers University initially proposed the establishment of a research center to provide local technical assistance and training. FHWA suggested NJDOT be involved as a partner. NJDOT recommended that instead of establishing the center to conduct research, it would be more beneficial as an operating entity of NJDOT in helping to support SHSP implementation.

### Key Accomplishments

- Established a resource center to assist county and municipal engineers in identifying low-cost safety improvements and developing better quality applications for project funding.
- Developed safety training programs for local agencies.
- Developed a new resource for technical support of NJDOT safety and engineering staff.
- Created a user friendly safety data warehouse to provide on-line safety data and analysis to local stakeholders Statewide.

The TSRC at Rutgers Center for Advanced Infrastructure and Transportation (CAIT) now serves as a one-stop shop for technical support to local governments on engineering, planning, training, and outreach. This assistance has been particularly important in the development and deployment of safety initiatives to implement the SHSP. The TSRC’s engineering support services include needs assessments and recommendations on low-cost countermeasures. The TSRC helps local agencies enhance crash data processing, conduct safety analysis, and develop data mining applications. The Center also provides technical support to the Safety Conscious Planning Network, which supports SHSP implementation at the regional level.

The TSRC has partnered with the NJ Local Technical Assistance Program (LTAP) at Rutgers CAIT to develop and deliver training programs and technical assistance on crash data analysis using advanced decision support systems. Additional training has been provided on traffic signal design, electrical signal design, road safety audits, and guardrail design.

### Results

The TSRC has helped local agencies improve their safety analysis capabilities. With support from the Center, local agencies have been able to effectively disseminate traffic safety data to support local safety initiatives and grant applications such as developing and implementing a larger number of “quick-fix,” low-cost safety projects. TSRC resources have enabled local stakeholders to develop better NJDOT project submittals, which include safety needs and potential solutions, allowing for a more efficient response.

**Contact:** Sarah Weissman  
 Program Manager  
 Transportation Safety Resource Center  
 732-445-0579, Ext. 135  
 scweiss@rutgers.edu



## ■ Case Study 2-8 – State Safety Charter

In 2005, to strengthen the commitment to safety, the Ohio Department of Transportation (ODOT) and SHSP steering committee were given authority by the Governor and key agency Directors to make decisions regarding the safety planning process. To formally document Ohio's commitment to safety and the collaborative process, lead agency Directors signed a MOU, known as the "Safety Charter." The charter will be updated as trends change. The charter identifies eight overarching strategies defining the agencies' shared mission and Ohio safety priorities:

- Crash data improvements;
- Use of a multidisciplinary approach;
- Coordination of resources at all levels of government;
- Coordination across jurisdictional boundaries;
- Pursuit of innovative technologies;
- Education of road system users;
- Involvement by nontraditional partners; and
- On-going evaluation.

The charter also commits Ohio to reduce the fatality rate to no more than 1.0 per 100 million vehicle miles of travel or 1,100 fatalities per year by the end of 2008. In 2010 the Charter will be updated to include county engineers and other local government representatives.

The charter was signed by the leadership of ODOT, the Ohio Rail Development Commission, the Public Utilities Commission of Ohio, the Ohio Department of Public Safety (DPS), State Highway Patrol, FHWA, FMCSA, NHTSA, and FRA. Signatories pledged the necessary resources to address the principles outlined.

### *Results*

All partner agencies committed in writing to contribute resources and support the SHSP goals. The charter formally empowers ODOT and SHSP leadership to manage and implement the SHSP.

**Contact:** Sarah Weissman  
Program Manager  
Transportation Safety Resource Center  
732-445-0579, Ext. 135  
scweiss@rutgers.edu

### **Key Accomplishments**

- Developed a formal agreement among stakeholder agencies to support SHSP.
- Publicly declared a fatality reduction goal to focus stakeholder agency efforts.
- Added flexibility to the agreement to allow the SHSP goals to change as new data become available.



## ■ Case Study 2-9 – Electronic Communication System

In developing the SHSP and following up on its implementation, New Jersey needed a means to efficiently communicate with the members of its Safety Management Task Force. NJDOT wanted to establish a system enabling safety partners to post documents and resources, communicate information, and distribute updates on SHSP progress. A similar system had already been established on the Rutgers University Web site to facilitate student-faculty communication utilizing a free, open-source collaboration and courseware management platform. In partnership with NJDOT, Rutgers developed and hosted a Web-based communication system specifically for SHSP participants, utilizing the capabilities of the preexisting Web-based system.

### Key Accomplishments

- Utilized existing communication tool that was easily implemented at no cost.
- Established single Web site location to post documents, disseminate information, and communicate updates.
- Reduced need for travel and face-to-face meetings while increasing level of information sharing.

The NJDOT safety coordinator directed specifications and design of the system. Once the concept was established, the university developed and launched the system within a week. No formal agreement between the State and Rutgers was necessary and no funding was required other than staff time to set up the system. This system supports communication among safety partners outside NJDOT, which is fundamental to the success of SHSP implementation.

While the system was designed to be a tool useful for educators, it has a wide range of components enabling group interaction. Project sites can be made publicly available or limited only to users invited to join. Some of the tools made available for the SHSP group were announcements, chat room, e-mail, e-mail archive, schedule, and resources. Each site incorporates an e-mail listserv so the site owner can communicate with the group easily, without having to manage large groups from personal e-mail accounts. One of the best features is the resources page that allows users to post documents to share with the group, negating the need for a separate FTP site.

### *Results*

The electronic communication system provided an effective tool to keep SHSP partners informed and engaged, without being overbearing. The tool not only allows for the distribution of information but also for interaction and communication among partners, reducing the need to conduct time-consuming and expensive face-to-face meetings.

**Contact:** Sarah Weissman  
Program Manager  
Transportation Safety Resource Center  
732-445-0579, Ext. 135  
scweiss@rutgers.edu





## ■ Case Study 2-10 – Teen Driver Study Commission Adopts SHSP Strategies and Advances Legislation

Despite a strong Graduated Driver Licensing (GDL) law, New Jersey experienced a continued high volume of teen crashes. As a result, leadership identified young driver crashes as an SHSP emphasis area. The SHSP Young Driver Emphasis Area Team developed three primary strategies and 10 action steps to reduce crashes among this population.

Concurrently New Jersey enacted a law establishing a Teen Driver Study Commission. The 15 member Commission is comprised of representatives of both the public and private sector as well as members of the State legislature. The charge of the Commission is to assess teen driving within New Jersey and recommend ways to reduce fatal and injury crashes. The Commission incorporated all of the young driver emphasis area strategies into their 47 recommendations. These are grouped into seven areas: Graduated Driver License, driver education, driver training, enforcement/judicial, insurance industry, schools, and technology. Recommendations requiring legislative action were presented to the Highway Traffic Safety Policy Advisory Council and the legislature.

### Key Accomplishments

- Enhanced communication and coordination among the private and public sectors and State legislators.
- Expedited the implementation of SHSP strategies by partnering with a public-private commission in the young driver emphasis area.
- Drafted legislation to strengthen the GDL law, require safety belt use in rear seats, and eliminate plea bargaining for GDL licensed drivers.

### Results

The leaders of the SHSP effort successfully partnered with the Teen Driver Study Commission and achieved agreement to move the SHSP strategies forward through the Commission. Although agencies receiving public funds are prohibited from lobbying, the private sector members of the Commission have been able to successfully champion bills included in the Commission's recommended policy initiatives.

**Contact:** Pam Fischer  
 Director, Division of Highway Traffic Safety  
 New Jersey Department of Law and Public Safety  
 609-633-9272  
 Pam.Fischer@lps.state.nj.us



## ■ Case Study 2-11 – Law Enforcement Partnership with Engineering

The Illinois DOT's (IDOT) Bureau of Safety Engineering developed a strong partnership with law enforcement resulting in improved safety outcomes. In 2005, when the Bureau of Safety Engineering was created, it took on the responsibility of photo enforcement formerly handled by IDOT operations. By assuming this responsibility, the Bureau began working directly with the Illinois State Police who managed this effort in work zones. At the same time, the State was developing its first SHSP and recognizing the importance of collaboration among the 4Es of safety. During a meeting involving law enforcement and engineers, police noted that when it rained on I-55 north of Springfield, cars were going off the road. The Bureau engineers investigated and identified a pavement friction issue, which they fixed. This experience served as a catalyst to ramping up collaboration between law enforcement and engineers, and IDOT started to integrate enforcement at district meetings as a regular part of doing business.

### Key Accomplishments

- Improved understanding among law enforcement and engineering of how safety roles complement each other.
- Improved safety accountability among law enforcement.
- Trained county crash reconstruction officers and State safety education officers on RSAs.

IDOT began working closely with local law enforcement, particularly in high fatal crash counties. When IDOT identified a high fatal crash rate in Williamson County, the State safety engineer contacted the Williamson County Sheriff's office to discuss the problem and identify solutions. The State safety engineer discussed the SHSP and explained that funding was available to support an integrated approach such as road safety audits and education to complement enforcement. Williamson County then developed a local comprehensive safety plan identifying locations with severe crash problems. In partnership with law enforcement, the county conducted RSAs, and IDOT implemented several safety projects with HSIP funding. IDOT took this same approach in other Illinois counties with high fatal crash rates.

IDOT has emphasized cross-disciplinary education among engineers and law enforcement. For example, law enforcement officers serve as instructors conducting safety training as well as attending safety courses, which have included RSA training and a class on the Manual on Uniform Traffic Control Devices. Law enforcement previously did not realize it had other tools to change behavior beyond writing tickets but have learned that they can contribute their knowledge of driver behavior to improve the roadway system. Engineers typically do not think about where police can pull over violators when they are designing roadways but are now incorporating law enforcement needs into their work. Law enforcement has gained a much better understanding of how crash report data is used by engineers to make roadway improvements, which is resulting in better data.

Accountability among law enforcement on safety has increased. For example, at monthly meetings Illinois State Police commanders review roadway fatality trends. If the numbers are down in a particular area, the commander is asked to explain what they are doing that is working so others can learn from them. If numbers are up, they are required to explain what





steps they plan to take to reverse the trend. This effort also encourages the Illinois State Police to work with local law enforcement. Given increasingly stretched resources, the State Police have recognized that to effectively get the numbers down, they must target patrols using the safety data. IDOT provides law enforcement with a list of hazardous locations in the State's "5 Percent Report" so they can target enforcement to those locations.

### *Results*

Overall in Illinois, from 2004 to 2008, fatalities have decreased 23 percent, from 1,355 to 1,043. Since implementation of the SHSP was started in 2006, fatalities on the local system have dropped from 50 percent to 42 percent of total fatalities in 2009. As a result of the problem identification, improvements, data-driven enforcement, and education conducted in Williamson County the number of fatalities has been cut sharply, from 18 in 2006 to 11 in 2009, based on a three-year rolling average.

**Contact:** Priscilla Tobias, PE  
State Safety Engineer  
Bureau of Safety Engineering  
Illinois DOT  
217-782-3568  
Priscilla.Tobias@illinois.gov



## ■ Case Study 3-1 – MOU Among Data Generators

The Michigan DOT (MDOT), Department of State, and State Police signed a memorandum of understanding (MOU) defining crash data management and funding. The State agencies invested in a team of three people, including a dedicated project manager, over a five-year period. The MOU provided a basis for ongoing cooperation and communication concerning Michigan’s data systems. Researchers can review current data without personal identifiers within 24 hours of receiving crash reports. The Michigan Office of Highway Safety Planning (OHSP) provides funding for a research center at Wayne State University, which provides public access to annual reports on safety data.

### Key Accomplishments

- Developed an MOU to clearly define roles, responsibilities, and funding obligations related to crash data management.
- Improved data quality and timeliness.
- Ensured consistent use of data Statewide through uniform data queries.

The State’s safety stakeholders understand they all need to be working with the same data and statistics for each crash type; therefore, a uniform data query was developed for Statewide use to ensure consistency in the number of crashes for each emphasis area and other crash types.

Michigan currently is transitioning to electronic crash reporting and citation management to reduce reporting errors. Paper crash reports have an average of 1.5 errors per form, while the error rate for electronic crash reports is very low given the quality checks that can be implemented (e.g., it is impossible to enter conflicting data such as the weather was sunny and the crash occurred at midnight). The OHSP contributed \$1 million in funding in 2007 for electronic crash reporting equipment. One county currently operates a completely paperless system. Citation information is processed quickly; therefore, in areas with electronic data processes, a person can drive directly to the courthouse to pay the fine after receiving a citation.

### Results

The State established a uniform crash reporting system with improved data quality, reliability, and timeliness. Data are now widely available to all potential users to improve safety data analysis and dissemination.

**Contact:** Dale Lighthizer  
Supervising Engineer  
Michigan DOT  
517-373-2334  
lighthizerd@michigan.gov



## ■ Case Study 3-2 – Centralized Data Source

The SHSP process requires data from a variety of sources to support the emphasis areas. If a central data source is not available, emphasis area teams may use conflicting data. When the safety data used by multiple agencies is inconsistent, tracking, evaluation, and problem identification are difficult.

To improve data consistency, Ohio created the Crash Statistics System (CSS), a single Statewide crash database for use by all agencies and the public. The CSS is managed by the Department of Public Safety (DPS), which is also responsible for license, citation, and vehicle registration data. The Ohio Enhanced Crash Location and Identification System (OECLIS), managed by the Ohio Department of Transportation (ODOT), uses the latest three years of crash data, which are merged with data on roadway characteristics and then analyzed to identify high-crash intersections and corridors. These databases support development of SHSP strategies and action plans.

### Key Accomplishments

- Developed a centralized data source for all SHSP partners resulting in more consistent safety analysis Statewide.
- Established common data analysis processes enabling problem identification, tracking, and evaluation to be conducted in a consistent manner across agencies.
- Improved local agency and MPO safety analysis capabilities by providing user-friendly analysis tools.

A second element developed by ODOT, the GIS Crash Analysis Tool (GCAT), is an on-line GIS Web tool designed to enhance safety analysis capabilities. It allows users to extract crash data spatially and to create tables, charts, graphs, and collision diagrams based on the crash data selected from the map. The Crash Analysis Module (CAM) Tool is an Excel template that was built for the GCAT and helps facilitate common data analyses and queries, including crashes by day-of-week, light condition, weather condition, severity, and road condition.

State and local law enforcement agencies provide funds for data collection. ODOT staff cleans and maintains the data and provides data analysis support for metropolitan planning organizations (MPO) and local agencies. Ohio used \$408 funds to develop the CSS portal.

### Results

Ohio's centralized process for safety data distribution has resulted in improved consistency in data analysis among all SHSP partners. Problem identification, tracking, and evaluation of safety progress have improved. The CSS, GCAT, and CAM Tool have increased local government and MPO access to crash data and enabled agencies to easily perform basic crash analyses.

**Contact:** Jonathan Hughes, P.E.  
Office of Systems Planning and Program Management  
Ohio DOT  
614-466-4019  
jonathan.hughes@dot.state.oh.us



## ■ Case Study 3-3 – Data Decision Support Tool

New Jersey recognized a need to provide transportation safety data in a more user-friendly format. NJDOT felt that easier access to data and enhanced analytic capabilities would encourage participation by safety partners in its various safety programs, including its SHSP efforts.

The State contracted with the Rutgers University Transportation Safety Resource Center (TSRC) to develop a roadway safety decision support tool. This software program enables users to quickly filter, analyze, and map crash records. The tool also allows merging of specialized data sources with crash records, enabling in-depth analysis.

### Key Accomplishments

- Developed new system for on-line access to transportation safety data enabling safety partners to make data-driven safety decisions.
- Enhanced capabilities to analyze data and tailor reports to support safety initiatives.
- Distributed safety data broadly to encourage greater SHSP participation.

The TSRC developed the software as a Web-based application to enable public agency personnel to quickly analyze safety data. By hosting the tool on a platform of servers, large amounts of data can be accommodated with little effect on execution speed. The application processes queries submitted on-line, produces reports mapping crash location and severity, and identifies contributing factors. Users can access the software from any Internet-enabled computer without requiring a high level of computing power. The program is secured through the use of login IDs and passwords to protect content and allows users to save filters and preferences. The program enables network screening, economic analysis, and diagnosis. The network screening layer integrates methodologies currently used by safety engineers to locate high-crash intersections or segments. Crash rates can be calculated for any filter/query. The software also includes a model to predict crash frequencies and severity for selected roadways. Future elements will incorporate the safety performance function calculations from the new Highway Safety Manual into the program for all classifications of roadways to determine which locations have the greatest potential for safety improvement.

The Center also provides engineering, planning, training, and outreach services to local governments and assists with crash data analysis to support SHSP implementation. NJDOT funds work of the TSRC through the HSIP.





## *Results*

The Web-based software tool supporting collection, analysis, and distribution of transportation safety data has been instrumental in the development and implementation of the SHSP. The approximately 500 agencies using the analysis software enjoy easy access to transportation safety data and can perform analyses to support their local safety initiatives as well as those at the State level. Broad dissemination of safety data and the availability of this tool has encouraged participation in the SHSP by safety partners at all levels.

**Contact:** Jonathan Hughes, P.E.  
Office of Systems Planning and Program  
Management  
Ohio DOT  
614-466-4019  
[jonathan.hughes@dot.state.oh.us](mailto:jonathan.hughes@dot.state.oh.us)





## ■ Case Study 3-4 – Local Safety Planning Improved Through MPO Outreach

Because a large number of crashes were occurring off the State system, the Ohio Department of Transportation (ODOT) recognized that local jurisdictions needed to be more involved in safety analysis and countermeasure development. Since it is challenging to conduct outreach to so many jurisdictions, ODOT enlisted Ohio metropolitan planning organizations (MPO) to work with local governments to encourage their involvement in safety programs.

### Key Accomplishments

- Provided technical assistance and funding for local government to identify and implement safety projects.
- Developed a culture of safety at the local level.
- Increased the study of local safety issues.

ODOT provided training and assistance for MPOs to help them develop more effective, safety-focused relationships with local governments. To support this effort, the State held a series of Safety Conscious Planning forums for MPOs to help them identify safety needs and deficiencies. As a result of the forums, ODOT now assists MPOs with the development of safety work plans. These plans document regional safety goals and objectives, analyze regional crash data, identify regional high-crash locations, propose safety improvements, and identify funding strategies. They also facilitate coordination with local transportation agencies to implement highway system improvements.

MPOs analyze safety data in their regions and develop lists of high-priority locations and/or driver behaviors to target for improvement. Safety studies and projects are then developed from this list and funded with local, State, and Federal funds. In some cases the Ohio DOT provides funding for consultant services to support MPO safety studies.

### Results

MPOs are now working with local jurisdictions to analyze data and develop safety work plans. They are focused on addressing regional high-crash locations, understanding regional crash trends, and assisting local governments with funding applications. As a result of these partnerships, a number of major and minor safety projects have been implemented in local jurisdictions.

**Contact:** Michelle May  
 Safety Program Manager  
 Ohio DOT  
 614- 644-8309  
 Michelle.May@dot.state.oh.us



## ■ Case Study 3-5 – Data Analysis Strategies

To thoroughly investigate the behavioral aspects of highway safety, a number of datasets must be merged. In Georgia, the DOT provides location-specific crash data to the Governor’s Office of Highway Safety (GOHS) in raw database format. Other agencies provide injury, trauma, licensing, and citation data to the GOHS separately. All data must be integrated to perform comprehensive safety analysis. The GOHS realized it needed to improve its analytic capabilities to incorporate data analyses into grant applications.

### Key Accomplishments

- Added an epidemiologist to GOHS staff to provide enhanced behavioral safety data analysis.
- Developed a safety data clearinghouse.
- Merged various datasets to improve safety data analyses.

A 2004 Traffic Records Assessment recommended the GOHS hire an epidemiologist to strengthen safety data analysis. Epidemiology is the study of factors affecting the health and illness of populations, including injuries from car crashes. Therefore, the GOHS hired an epidemiologist to provide data analysis support. Rather than collecting and analyzing crash and injury data separately, the epidemiologist looks at factors that contribute to both crashes and injuries. The epidemiologist works closely with GDOT to manage data needs for the SHSP.

### Results

The addition of an epidemiologist to GOHS staff has greatly strengthened SHSO crash analysis capabilities. The epidemiologist analyzes the clearinghouse of safety data available and creates queries specific to the GOHS’s data needs. These data runs are readily accessible to staff for grant applications and other needs.

**Contact:** Michelle May  
Safety Program Manager  
Ohio DOT  
614- 644-8309  
Michelle.May@dot.state.oh.us



## ■ Case Study 3-6 – LTAP Provides Software and MDOT Provides Support for Local Safety Data Analysis

Because the fatal crash rate on non-State highways was higher than on State highways, Michigan recognized that additional tools were needed to support local safety planning and programming. The Local Technical Assistance Program (LTAP) developed a GIS-based integrated roadway management system to analyze and report on local roadway inventory, safety, and condition. The software’s safety module helps local practitioners conduct several analyses, including identifying trends in crash frequency and severity, determining segments eligible for the High-Risk Rural Roads funding program, and identifying intersections of concern in their jurisdictions. Crash report data are embedded in the software so users can easily access crash reports when conducting safety analysis. These new analysis capabilities result in projects targeted to locations with high rates of fatal and serious injury crashes. Previously, it was common for projects to be targeted at locations based on resident complaints. Development of standard data queries aligned with SHSP emphasis areas is underway.

Key Accomplishments
<ul style="list-style-type: none"> <li>• Increased the number and quality of local safety projects.</li> <li>• Developed local agency analysis capabilities on safety trends including development of charts and maps.</li> <li>• Aligned local safety efforts with the SHSP.</li> </ul>

The software also includes diagnostic tools to analyze crash patterns to identify locations where infrastructure improvements can reduce crash frequency and severity. Once problem areas are defined, users can follow built-in links to National Cooperative Highway Research Program safety documentation to identify promising countermeasures. MDOT-funded enhancements to the safety module and provides funding for the LTAP to offer the software and training at no cost to local agencies.

Since the establishment of the MDOT Local Safety Initiative in 2004, three dedicated staff have provided engineering support to local agencies by conducting local crash analysis using the software. Additionally, MDOT conducts field reviews of locations of interest with the local agency and provides suggestions for safety countermeasures. When staff conducts outreach to local agencies they provide information on the State’s SHSP to increase alignment of local activities with Statewide safety goals and strategies.

### *Results*

More than one-half of counties have voluntarily sought support on safety data analysis, countermeasure development, and training from the local safety initiative. The local capacity for safety analysis has improved, and the number and quality of local safety projects has increased.

**Contact:** Tracie Leix  
 Supervising Engineer, Local Safety Initiative  
 Michigan DOT  
 517-373-8950  
 LeixT@michigan.gov

Case Study 3-6  
 LTAP Provides Software and MDOT Provides Support for Local Safety Data Analysis



## ■ Case Study 4-1 - Road Safety Audits

In Maryland several SHSP emphasis area teams (Keep Vehicles on the Roadway, Intersections, Young Drivers, and Pedestrians) identified Roadway Safety Audits (RSAs) as a strategy to improve safety. Prior to the SHSP, the Office of Planning had developed an RSA program designed around Maryland’s roadway standards. To coordinate all RSA activities across the State, the Maryland Department of Transportation (MDOT) established a Roadway Safety Audit Committee. The committee, made up of senior management and staff from MDOT districts and the Offices of Planning and Preliminary Engineering, Highway Development, Traffic and Safety, and Maintenance, will develop RSA policy and criteria for audit locations, as well as review selected locations, findings, and recommendations. This new process will help identify issues requiring a systemwide response. The committee will track implementation of audit findings to evaluate their effectiveness and to revise standards as needed.

### Key Accomplishments

- Prevented duplication of effort by emphasis area teams and Office of Planning personnel through a centralized RSA process.
- Linked emphasis area RSA strategies with existing State RSA program to institutionalize the SHSP process.

### Results

The work of the RSA Committee is linked with the RSA implementation strategy in the SHSP. The Director of the Office of Planning and Preliminary Engineering is a member of the SHSP Management Team and coordinates RSA findings with emphasis area action plans.

**Contact:** Mary Dietz  
Chief, Regional and Intermodal Planning Division  
Maryland State Highway Administration  
410-545-5570  
mdeitz@sha.state.md.us





## ■ Case Study 4-2 – Emphasis Area Team Facilitators

Michigan formed 12 emphasis area teams facilitated by Office of Highway Safety Planning staff to develop and implement action plans for the SHSP emphasis areas. Given the nature of the topics and the range of stakeholders involved, the most effective management strategy is to tailor each team's operation to its dynamics. Team management varies in the use of subcommittees, meeting frequency, and approaches for writing action plans.

### Key Accomplishments

- Developed action plans for all emphasis areas in the SHSP.
- Garnered maximum stakeholder involvement through tailored team management strategies.
- Achieved cross-education of team members with a range of expertise.

Depending on the topic and group dynamics, team facilitators assist each team's stakeholders in developing a management strategy. For example, the Young Driver Action Team conducts many of its meetings, including all members so subgroups can learn from each other. The committee chair of the Senior Mobility Team meets with individual stakeholders on specific topics and handles engineering and behavioral issues separately. Teams try to calibrate their meeting schedules to the group's level of activity to ensure maximum productivity during meetings and keep members actively involved. The Motorcycle Team meets as a committee of the whole two to three times per year, avoiding meetings in summer because it is the busiest season for the motorcycle community.

Teams use both a centralized and decentralized approach for developing action plans. Some teams employed subgroups to write sections and subsequently merged them into a complete plan. Some agencies drafted a plan and sought comment from the team members. One team hired a consultant to write the draft plan followed by input from the team members. A strong leader collects all input and finalizes the language for each action plan for consistency and clarity.

### Results

All emphasis area action teams successfully developed plans for SHSP implementation, and all teams are actively implementing strategies identified in the plans.

**Contact:** Mike Prince  
Director  
Michigan Office of Highway Safety Planning  
517-333-5301  
princem@michigan.gov



## ■ Case Study 4-3 – SHSP Implementation Chart

One of the most challenging aspects of SHSP implementation is tracking the responsibilities and activities undertaken by multiple partners to address different emphasis areas. To comprehensively manage this process, Ohio developed “Implementation Charts,” which are easy-to-use templates for documenting the strategies, action steps, and implementation responsibilities within each SHSP emphasis area. Each action step includes a brief description, relative performance indicators, the agency or agencies responsible for implementation, relative cost, timeline, and whether this is a new or existing program. Relative cost is qualitatively classified as low (less than \$100,000), moderate (\$100,000 to \$500,000), moderate to high (\$500,000 to \$2 million), or high (more than \$2 million). The timeline is classified as short (less than one year), medium (one to two years), or long (more than two years). The charts also document the status of activities as individual action steps are undertaken. The Implementation Charts are in an easy-to-read format and provide the fundamental information necessary for tracking SHSP implementation.

### Key Accomplishments

- Successfully tracked SHSP implementation progress across multiple agencies.
- Facilitated ownership of strategy implementation efforts by lead agencies.

### Results

By using the Implementation Charts, partners are better able to track the status of action items and ensure tasks are completed on time. Additionally, action step responsibilities are clearly defined, communicated, and reported so each agency takes ownership for specific aspects of SHSP implementation.

**Contact:** Michelle May  
Safety Program Manager  
Ohio DOT  
614-644-8309  
Michelle.May@dot.state.oh.us



## ■ Case Study 4-4 - Links to Existing Organizations

Once the SHSP is developed, it is important to integrate SHSP implementation activities into the efforts of existing groups and coordinate with other implementation plans. In Maryland several safety Task Forces had been operating for a number of years prior to development of the SHSP. These included the Young Driver Task Force, Impaired Driving Coalition, Safety Belt Coalition, and Pedestrian Safety Coalition. SHSP leadership worked with these groups to include SHSP emphasis area strategies in their work plans.

### Key Accomplishments

- Leveraged existing resources to implement SHSP action plans.
- Engaged additional stakeholders in the SHSP action planning and implementation process.
- Avoided duplication between SHSP implementation and other efforts.

Maryland also legislatively mandated a Task Force to Combat Driving Under the Influence of Drugs and Alcohol, which examined current impaired driving laws in the State and recommended improvements. The Impaired Driving emphasis area incorporated the work of this task force into its plan and leveraged the progress already made on impaired driving legislation. To strengthen implementation of the motorcycle section of the SHSP, Maryland used information from an existing motorcycle assessment performed by NHTSA to help develop the action plan for the Motorcycle Safety Emphasis Area. The NHTSA assessment was conducted by a team of experts from outside the State and provided a fresh look at the issue. Using the results of the assessment improved the action plan and avoided duplication of effort.

### Results

Integrating SHSP implementation efforts into the work of existing task forces institutionalized the SHSP implementation process, avoided duplication of effort, and increased the number groups involved in implementation. SHSP action plans are now aligned with other State efforts enhancing coordination on action planning, ensuring seamless implementation of SHSP strategies, and increasing efficiency.

**Contact:** Vern Betkey  
 Chief  
 Maryland Highway Safety Office  
 410-787-5824  
 vbetkey@sha.state.md.us



## ■ Case Study 4-5 - Three-Tiered Programming

Through the SHSP process States identify a full range of potential safety strategies. Implementation of each strategy ranges from relatively easy to very challenging. Likewise, the potential benefits of strategies vary significantly. Therefore, Utah has stratified its SHSP approach to focus on the strategies with the greatest expected benefits and manage the level of implementation effort.

The safety leadership team in Utah designed the SHSP using a three-tiered approach. The first tier represents emphasis areas with the most significant issues and addresses strategies with the greatest potential for reducing fatalities and injuries. These areas require a comprehensive approach and include roadway departure crashes; safety restraint use; impaired, aggressive, drowsy, and distracted driving; intersection safety; and young driver safety. Emphasis area leaders are assigned from the leadership team with the primary responsibility for the issue.

Key Accomplishments
<ul style="list-style-type: none"> <li>• Enabled various types of safety programming to be addressed differently via a tiered approach.</li> <li>• Allowed safety stakeholders to take advantage of new opportunities.</li> <li>• Reduced the need to rewrite the SHSP because flexibility is written into the Plan.</li> </ul>

The second tier addresses programs or processes currently underway in Utah. The safety leadership team determined these programs must continue to be supported and enhanced. The safety areas in this category include pedestrian, child, work zone, motorcycle safety, railroad crossing, older drivers, bicycle safety, and truck safety.

The third tier represents opportunities to further reduce fatalities and injuries and recognizes these areas would take significant effort and resources to develop. Programs included in this tier address the crash data system, emergency services capabilities, and the safety management system (defined as not just planning, but actual physical connections among projects). Emerging issues, such as the role of the courts in traffic safety, also are addressed here. There is some fluidity in this tier, which provides the ability to take advantage of knowledgeable people and technology, manage new problems, and identify new opportunities as they come up. These strategies can be elevated to a higher tier without updating the entire SHSP.

### Results

The SHSP's three-tiered design focuses efforts on implementing the most feasible strategies having the largest potential safety benefits. It accommodates emerging issues and opportunities by providing the flexibility to move programs among the tiers without having to revise the plan.

**Contact:** Robert Hull  
Director, Traffic and Safety Division  
Utah DOT  
801-965-4273  
rhull@utah.gov





## ■ Case Study 4-6 – Multiagency Policy Council Supporting Safety Legislation

Prior to the passage of SAFETEA-LU and the development of the SHSP, the Governor of New Jersey established an interagency Highway Traffic Safety Policy Advisory Council. The Council was conceived as a forum for discussing State transportation safety needs and as a mechanism for facilitating safety legislation. Council members are appointed by the Governor and include representatives from FHWA, NJDOT, Division of Highway Traffic Safety, Highway Safety Council, Motor Vehicle Commission, Emergency Medical Services, Department of Health, Department of Education, municipal law enforcement, courts, private sector corporations, and the general public. The Council holds bimonthly public meetings.

### Key Accomplishments

- Tapped into an existing mechanism to move SHSP legislative strategies into the implementation pipeline.
- Engaged an existing Statewide Safety Council in tracking SHSP implementation progress.
- Established a process for the Governor and State legislature to be briefed annually on SHSP progress.

The Council provides a means for identifying legislative proposals through the SHSP and presenting them for consideration without direct lobbying, which is prohibited for agencies receiving public funds. Many Council members participated in development of the New Jersey’s SHSP and have an extensive understanding of its purpose and objectives. Since its formation the Council has made legislative proposals to the Governor regarding the State’s Highway Safety Plan (HSP) and it now also reports on SHSP implementation progress.

### Results

The Highway Traffic Safety Policy Advisory Council provides an institutionalized means of reviewing SHSP progress and recommending legislative actions to the Governor.

**Contact:** Pam Fischer  
 Director  
 New Jersey Division of Highway Traffic Safety  
 609-633-9272  
 Pam.Fischer@lps.state.nj.us



## ■ Case Study 5-1 – MPO Participation in SHSP

Prior to the initiation of the SHSP development process, New Jersey had fully embraced Safety Conscious Planning and established working relationships with its MPOs on transportation safety planning. The SHSP process took metropolitan planning organization (MPO) engagement to the next level. A contact with responsibility for transportation safety was identified in each MPO, and each agency established a transportation safety program.

### Key Accomplishments

- Developed MPO safety plans aligned with the SHSP.
- Deployed regional and local safety countermeasures.
- Incorporated safety projects into regional TIPs.
- Enhanced communication between NJDOT and regional, county, and local officials.

Once the SHSP development process was underway, MPO safety programs were incorporated into it. Some MPOs have now developed regional safety action plans linked directly to the SHSP emphasis areas. MPOs have also developed alliances with local agencies and organizations to facilitate implementation.

The MPOs view themselves as “Safety Ambassadors” to county and local governments. They provide technical guidance on the collection and analysis of data, develop solutions, and prepare funding proposals. Each MPO collects and analyzes regional safety data. They also develop and implement such safety countermeasure programs as RSAs, safety belt surveys, and deer crash avoidance education programs.

The MPOs have incorporated their safety goals into their long-range plans and use them as a basis for prioritizing projects in their TIPs. Their safety programs and activities are also incorporated into their UPWPs and they have dedicated full-time staff assigned to transportation safety.

MPO efforts are a natural and vital element of the SHSP process. Good communication between the NJDOT and the regional agencies facilitated their participation; no formal Memorandums of Agreement were established, and little or no additional funding was provided.

### Results

MPO participation in the SHSP resulted in the development of their own safety programs and action plans aligned with the SHSP. Increased MPO involvement in safety via the SHSP process has resulted in MPOs using safety as a criterion in project prioritization.

**Contact:** Patricia Ott  
Director, Traffic Engineering and Safety  
New Jersey DOT  
609-530-2488  
Patricia.Ott@dot.state.nj.us



## ■ Case Study 5-2 – Prioritizing Safety in the Transportation Improvement Program

While safety is required in transportation planning and is frequently stated as a planning goal, often safety issues are not given sufficient weight in the project selection process to ensure safety projects are advanced into the programming phase. To increase the number of safety projects programmed, several Michigan metropolitan planning organizations (MPO) have developed prioritization processes that explicitly consider safety.

### Key Accomplishments

- Increased use of safety as a factor in prioritizing TIP projects.
- Achieved better understanding of safety problems through data analysis in MPO areas.
- Increased number of local safety projects proposed.

MPO project prioritization often takes the form of weighting project factors using a point system. Incorporating safety into the weighting process can be achieved through allocating a certain number of points to safety, which may vary depending on whether a project is categorized as capacity, preservation, or non-motorized. For example, one MPO allocated up to 20 points out of a possible 100 to safety-related factors for preservation projects and 20 points out of 125 points for capacity projects. Safety factors considered included separation of non-motorized modes from vehicles, crash rates, and whether a project includes countermeasures such as signs and striping to reduce crashes and severity.

The Michigan Office of Highway Safety Planning funds a consultant to analyze safety data and identify hazardous locations in most of the MPO planning areas. As part of the project prioritization process, several MPOs consider whether a project addresses a hazardous location included in the safety analysis.

### Results

Through the SHSP process, awareness of the Michigan safety goal among MPOs has increased. The number of requests for local safety funds has increased, as well as the funding available for such projects.

**Contact:** Marsha Small  
 Manager, Statewide Transportation Planning  
 Michigan DOT  
 517-373-9054  
 smallm@michigan.gov





## ■ Case Study 5-3 – Safety Element in Performance Reviews

One way to institutionalize the SHSP and safety is to embed it into agency culture. States are taking this next step by including safety as measurement criteria in key employee performance reviews.

In Michigan, the Michigan Department of Transportation (MDOT) Chief Operating Officer modified performance reviews for district MDOT staff to incorporate safety. Specific measurement criteria in the review include partnering with agencies and organizations to raise safety awareness, train, provide guidance, and improve safety on all State and local roadways. The review also states staff should continue to implement recommendations in the SHSP. Staff is evaluated on progress on certain countermeasures, including successful implementation of the work zone safety policy and rumble strip and cable barrier programs.

### Key Accomplishments

- Established regular processes by which DOT district staff work with local agencies to provide technical assistance on safety and support safety project development.
- Aligned DOT district staff efforts with the SHSP.
- Institutionalized safety within agency culture.

In Utah, the Utah Department of Transportation (UDOT) Chief Operating Officer took a more quantitative approach to measuring safety progress with the performance reviews for regional and group directors. Measurement criteria included specific timeframes for identifying and submitting safety spot improvement projects, beginning construction on non-advertised safety spot improvement projects, and completing a regional review of possible locations that may meet signal warrants after receipt of the requested study. Regional and group directors were all given a numeric goal by which to reduce traffic-related and pedestrian fatalities, which equated to a two percent reduction from the previous year. Regional directors are also required to conduct quarterly staff meetings to review fatalities and identify action items to address each goal. Included in a monthly meeting between the Regional and Group leaders and the Department Deputy Director is a review of current traffic fatalities. The Governor-appointed Transportation Commission is also updated by DOT staff on the current status of traffic fatalities.

### Results

Incorporation of safety into the performance review process raised the profile of safety and ensured it is integrated into the work processes of DOT district staff.

**Contact:** Mark Bott  
Traffic Operations Manager  
Michigan DOT  
517-335-2625  
bottm@michigan.gov

Robert Hull  
Director, Traffic and Safety Division  
Utah DOT  
801-965-4273  
rhull@utah.gov





## ■ Case Study 5-4 – A Systems Approach to Project Selection

Historically, States focused problem identification analysis on fatal crashes to identify locations for the Highway Safety Improvement Program (HSIP). This long-standing practice was reinforced by Federal agencies’ performance goals focusing on fatal crash reduction. Fatal crashes should be a foundation of the process, but not the exclusive focus.

To reduce the tendency to “chase fatalities and injuries,” Utah is adopting a proactive and preventive “safe systems” approach. The SHSP process provided focus and guidance for the Utah Department of Transportation’s (UDOT) migration to this approach. The State has fundamentally changed the way crash problems are addressed leading to a comprehensive approach to the HSIP.

Key Accomplishments
<ul style="list-style-type: none"> <li>• Made a paradigm shift to a safe systems approach to HSIP project selection.</li> <li>• Established a process for the DOT Central Office to nominate HSIP projects based on objective criteria.</li> <li>• Implemented a process to review all transportation projects with respect to safety and to add safety improvements to the scope where beneficial.</li> <li>• Achieved high annual expenditures of HSIP obligations.</li> </ul>

Historically, all or most projects were nominated by regions or districts. Through this new, broader approach, UDOT now analyzes Statewide data and the Central Office nominates half of the safety projects Statewide. This is a fundamental change in UDOT’s safety planning culture. Bringing the Central Office into the project selection process helps to avoid regional political issues and pressures and encourages objectivity. The deciding factor for project selection is not which entity is submitting the project, but which project has the most favorable benefit/cost ratio.

The UDOT Central Office reviews every project, not just safety-specific projects, to determine safety deficiencies and, if necessary, adds safety-related improvements to the project scope. To resolve complaints that too much money was being spent on safety to the detriment of pavement preservation, exceptions were made when an element fit into a UDOT project programmatic focus area (e.g., rumble strips), which meant the element would have been added anyway. Exception requests can also be considered if the cost of the safety improvement is significant (i.e., 20 percent or more of the total project cost).

### Results

Utah has moved towards a safe systems approach to developing transportation projects. It is now standard practice to consider systematic safety solutions. As a result, the State maintains a high annual expenditure of HSIP obligations.

**Contact:** Robert Hull  
 Director, Traffic and Safety Division  
 Utah DOT  
 801-965-4273  
 rhull@utah.gov



## ■ Case Study 5-5 – Training Improves Local Safety Planning Capacity

To reduce fatalities and injuries throughout New Jersey, agencies and organizations at the local level need to participate in safety planning. However, many local governments and metropolitan planning organizations (MPO) have limited staff and resources available to conduct safety studies; therefore, the New Jersey Department of Transportation (NJDOT) recognized a need to increase safety capacity at the local level.

On a regular basis, NJDOT provides MPOs and local governments a list of locations with a high-crash frequency. Local jurisdictions are required to conduct studies to identify contributing crash factors and develop strategies to improve safety at these locations. NJDOT developed a Safety Study Guidelines Course to train local governments, MPOs, and consultants retained by local governments to determine crash contributing factors and to identify strategies for improving high-crash locations.

The course trains people how to apply a systematic process to conduct safety studies. The process involves five components:

- Confirm and clarify problems, goals, and project needs;
- Collect data;
- Analyze data and select relevant studies (i.e., volume, signal warrant, capacity analysis, sight distance);
- Identify and evaluate countermeasures; and
- Recommend a plan.

The course also familiarizes students with the project development process, project selection criteria, and key individuals typically involved in the process.

NJDOT strongly encourages local governments to participate in the Safety Study Guidelines Course. Consultants performing safety studies for local governments or MPOs are required to complete the Safety Study Guidelines Course before working on projects utilizing Federal funding.

### Key Accomplishments

- Improved the ability of local governments to conduct safety studies according to State guidelines.
- Enhanced the safety culture in local agencies.
- Improved consistency of safety studies among local governments and MPOs.



### *Results*

The course has improved the SHSP by providing a consistent format and guidelines for safety studies. Instead of simply providing technical analysis support to local agencies, the training enhances the safety knowledge and culture of local governments and MPOs. City, county, and regional planners and engineers now have increased capacity to perform safety studies, including roadway safety audits, and are educated about the SHSP process.

**Contact:** Patricia Ott  
Director, Traffic Engineering and Safety  
New Jersey DOT  
609-530-2488  
Patricia.Ott@dot.state.nj.us



## ■ Case Study 5-6 – Centralized HSIP Funding and Evaluation Results in Safety Projects Aligned with SHSP

To continue to reduce highway fatalities and serious injuries the Ohio Department of Transportation (ODOT) recognized the need to ensure safety projects were being developed at the local level. It was critical that projects be evaluated based on criteria designed to ensure that locations with the greatest safety needs were being addressed throughout the State. ODOT also wanted to provide more opportunity for local agencies to propose safety projects.

To achieve these goals, ODOT centralized Highway Safety Improvement Program (HSIP) funding and developed a management process that includes district safety review teams (DSRT). In each ODOT district, a safety review team was formed, including ODOT representatives from planning, production, highway management, and traffic engineering, as well as representatives from law enforcement agencies and local metropolitan planning organizations (MPO). Representatives from the Ohio Traffic Safety Office and the FHWA were also invited to participate. Many members of DSRTs were actively involved in the SHSP process, which encouraged the alignment of district safety activities with State priorities. Each DSRT develops and adopts annual work plans, reviews safety studies, and recommends countermeasures.

<b>Key Accomplishments</b>
<ul style="list-style-type: none"> <li>• Established district-level safety teams to identify hazardous locations and develop projects aligned with the SHSP.</li> <li>• Developed objective criteria for project identification and prioritization resulting in increased alignment with the SHSP.</li> <li>• Provided support for safety studies by local governments and MPOs providing more opportunities for local agencies to propose safety projects.</li> </ul>

To identify high-risk locations and countermeasures, each DSRT reviews an ODOT-provided list of intersections and highway segments with high-crash frequencies. Districts are required to perform safety studies to determine contributing crash factors and to develop plans to implement safety improvements. As part of this effort information on high-risk locations also is provided to local jurisdictions. Project sponsors are encouraged to examine a full range of mitigation options, including those that are short-term and low-cost (e.g., new signs, pavement markings, and drainage improvements), as well as those that are mid-term and mid-cost (e.g., new traffic signals, turn lanes, and realignments).

District offices may pay for these improvements through their annual district budgets or they may apply for HSIP funding. The DSRTs submit project applications for funding consideration on behalf of local agencies. Local governments and MPOs can also propose projects with support from the DSRT and receive assistance with safety studies.

A six-member committee at ODOT headquarters reviews applications for projects generated via the DSRT process. Projects are evaluated and prioritized based on uniform and objective criteria that align with the SHSP. Selection criteria include:

- Crash frequency/density;
- Crash rate;





- Severity Index (represents the relative cost to society of a specific type of crash);
- Equivalent property-damage-only rate;
- Percent commercial motor vehicle-related;
- Rate of return; and
- High-risk rural roads.

The committee may approve a project proposal, select a different safety strategy, or request further study before allocating funding.

### *Results*

The centralized HSIP funding process has resulted in the development of safety projects closely aligned with the SHSP. The process is generating increased safety project proposals by local agencies and MPOs.

**Contact:** Michelle May  
Safety Program Manager  
Ohio DOT  
614-644-8309  
Michelle.May@dot.state.oh.us



## ■ Case Study 5-7 – Local Government Assistance

In 2005, Georgia represented nearly 20 percent of the total increase in motor vehicle fatalities nationally. The Georgia Department of Transportation (GDOT) had traditionally spent most of its safety dollars on improvements to State route intersections. However, approximately 36 percent of fatalities and 41 percent of crashes were occurring on off-system routes. The State realized it could not reach its goal of 1.0 fatalities per 100 million vehicle miles of travel by addressing on-system locations alone.

### Key Accomplishments

- Established dedicated funding source for off-system safety improvements.
- Distributed off-system safety funding to 103 counties.
- Reduced off-system crashes.
- Improved safety knowledge at the county and municipal level.

The State developed an off-system safety program in 2005 by providing each district \$1 million per year dedicated to off-system safety projects. Each district hired an off-system coordinator (consultant) to manage the program. The off-system coordinators provide technical assistance and traffic engineering expertise to local governments to help identify projects and prepare cost estimates. GDOT and local governments entered into agreements enabling local governments to let and award their own projects. Some districts divide dollars evenly among counties based on need. Others require local participation to leverage funding. If districts are not able to prepare projects in time to obligate the full \$1 million, remaining balances are distributed among the other districts. GDOT conducts spot inspections once work begins.

Program eligibility criteria were developed with input from FHWA, GDOT senior management, and district engineers. Eligible activities include:

- Centerline raised pavement markers;
- Shoulder, centerline, and edge line rumble strips;
- Edge line (20 feet or wider roadways), centerline, and stop-bar pavement markings;
- Signing;
- Chevrons;
- Vegetation removal;
- Guardrail – excluding routine upgrades;
- Guardrail delineation; and
- Traffic signals if a crash warrant is met and adequate turn lanes exist.



## *Results*

As a result of dedicated funding for off-system improvements, local jurisdictions have received increased technical assistance and traffic engineering expertise to identify projects and prepare cost estimates. County and city interest in identifying safety issues and making safety improvements has increased. Off-system safety improvements have reduced crashes in a number of SHSP emphasis areas.

**Contact:** Kathy Zahul  
Traffic Safety and Design  
Georgia DOT  
404-635-8134  
kzahul@dot.ga.gov



## ■ Case Study 5-8 – Focusing HSP Grant Applications

The Maryland Highway Safety Office (MHSO) recognized the need to institutionalize the link between the Highway Safety Plan (HSP) and the SHSP through the grant application process. Each year the MHSO conducts grant application seminars for prospective grantees for the upcoming fiscal year. During the seminars, the MHSO Director and other presenters instruct attendees to relate their applications directly to the emphasis areas, strategies, and action steps in the SHSP.

### Key Accomplishments

- Directly linked the behavioral HSP of the SHSO to the SHSP.
- Raised awareness of State and local level grantees of the need to implement projects targeting established SHSP goals and objectives.

The MHSO provides potential grantees with materials to support linking grant applications with the SHSP. Each seminar attendee receives a copy of the SHSP objectives and emphasis areas and a full copy of the SHSP on CD. In the grant application software a pop-up was added to remind grantees that programs should be directly related to the SHSP; this pop-up appears every time the grantee enters information about an objective or activity.

MHSO program coordinators prescreen grant applications before a project is submitted to the final grant review team. Among other criteria, program coordinators evaluate each application on how it relates to the SHSP.

### Results

In the first year after instituting the new process, the MHSO has seen a concerted effort by grantees to ensure projects are within the scope of the SHSP.

**Contact:** Vern Betkey  
Chief  
Maryland Highway Safety Office  
410-787-5824  
vbetkey@sha.state.md.us





## ■ Case Study 5-9 – Local Safety Coordinators Adopt SHSP Strategies and Actions

The New Jersey Division of Highway Traffic Safety (DHTS) funds Community Traffic Safety Program (CTSP) coordinators in every county in the State. They work with local stakeholders to identify traffic safety problems, develop appropriate countermeasures, and implement or advocate solutions. The coordinators are the county-level focal point for communication and cooperation among local government agencies, the DHTS, and the private sector on traffic safety issues.

### Key Accomplishments

- Used existing CTSP network to focus local safety activities on implementing SHSP action steps.
- Developed CTSP program evaluation tool to monitor local implementation of behavioral strategies and actions in the SHSP.

The DHTS Director and staff directs CTSP coordinators to link their programs directly with the SHSP in order to extend implementation to the local level. Since FY 2009, behavioral strategies and action steps within the SHSP (impaired driving, occupant protection, pedestrian safety, distracted driving, older drivers, younger drivers, motorcycle safety, and aggressive driving) have been fully adopted as elements in the CTSP business plans.

This has been further strengthened by the development of a CTSP program evaluation that directly links CTSP activities with the SHSP. Performance and outcome measures used to monitor and evaluate CTSP activities relate to the strategies and actions in the SHSP.

### Results

All CTSP activities are driven by SHSP emphasis area action plans. CTSP strategic planning documents and program evaluations are linked to SHSP implementation.

**Contact:** Pam Fischer  
 Director  
 New Jersey Division of Highway Traffic Safety  
 609-633-9272  
 Pam.Fischer@lps.state.nj.us



## ■ Case Study 5-10 – Grant Writing Assistance Focuses on SHSP

The Michigan Office of Highway Safety Planning (OHSP) partners with police on traffic enforcement efforts as part of its annual Highway Safety Plan (HSP). To receive funding, each year every county law enforcement agency and the State Police write grant applications describing the data-driven need for traffic enforcement efforts. Law enforcement agencies typically have few grant writing resources, and in the past it took considerable time to revise grant application drafts by both law enforcement and OHSP staff. To assist law enforcement with this process, the OHSP developed a law enforcement grant shell, or template, to provide a framework for applications.

### Key Accomplishments

- Developed efficient grant application process.
- Used current, centralized data rather than local data.
- Strengthened the partnership between the Highway Safety Office and law enforcement.

The OHSP populates the template with current crash data on key SHSP emphasis areas, including safety belts and impaired driving. The grant shell describes general enforcement strategies to support the SHSP, including national mobilization efforts defined by NHTSA and strategies based on State problem identification. The grant application does not dictate methods for enforcement so each agency can customize approaches for its region, but it provides consistency on addressing SHSP goals related to law enforcement.

### Results

This approach has allowed law enforcement to minimize time writing grant applications and improved the quality of the applications.

**Contact:** Mike Prince  
Director  
Michigan Office of Highway Safety Planning  
517-333-5301  
princem@michigan.gov



## ■ Case Study 5-11 – SHSP Committee Provides Forum for Data Collection Improvements

Since data is the foundation of transportation safety planning, the Ohio Department of Transportation identified data improvement as one of the priority emphasis areas in its SHSP. Each year the Federal Motor Carrier Safety Administration (FMCSA) publishes a State-by-State safety data quality rating that summarizes the completeness, timeliness, accuracy, and consistency of State-reported commercial motor vehicle crash and inspection records. States receive either a poor, a fair, or a good rating. Ohio received a “fair” rating and wanted to improve its “timeliness” rating to receive Motor Carrier Safety Assistance Program (MCSAP) incentive funds.

### Key Accomplishments

- Used collaborative process of the TRCC to conduct problem solving related to data quality.
- Improved quality of commercial vehicle safety data resulting in the receipt of MCSAP funding.
- Implemented improvements in one of the key SHSP emphasis areas.

Ohio’s TRCC is responsible for overseeing data improvements included in the SHSP. The TRCC is the perfect forum for addressing this issue since all the necessary partners are members of the committee. Ohio’s Department of Public Safety (DPS), which provides motor carrier crash data to the FMCSA, did not realize that by not meeting the Federal data reporting deadline, the State was being penalized. Through its participation in Traffic Records Coordinating Committee (TRCC) meetings, DPS learned of this problem and was able to modify its data reporting process to accommodate the deadline. The policy changes involved the department obtaining crash data from local governments in a timelier manner to meet FMCSAs data reporting requirements.

### Results

By improving the timeliness of its data reporting, and therefore its safety data quality rating, Ohio received several hundred thousand dollars in MCSAP incentive funds.

**Contact:** Tom Hollingsworth  
 Chief, Traffic Statistics  
 Ohio Department of Public Safety  
 614 -387-2800  
 THollingsworth@dps.state.oh.us



## ■ Case Study 5-12 – Collaborative Process Improves Work Zone Safety

Work zones are often high-crash locations, and many of the crashes in work zones involve commercial vehicles. Enforcement can be challenging, especially if the work zones are not designed to accommodate enforcement activities. For example, if the work zone covers a long stretch of road, law enforcement officers may not have adequate room to safely pull vehicles over.

### Key Accomplishments

- Developed collaborative process for safety planning focused on work zones.
- Increased consideration of safety in work zone design.

Ohio’s SHSP identified work zone safety as an emphasis area. A team consisting of engineers, law enforcement officers, and Motor Carrier Safety Assistance Program (MCSAP) personnel was formed to better understand the issue of work zone safety. This Work Zone Safety Team collaborated with key agencies to discuss issues, pool resources, target efforts, and develop a comprehensive work zone safety plan.

To improve work zone safety performance, the Team develops a comprehensive plan to improve safety and enable improved enforcement for all work zones scheduled by the Ohio Department of Transportation (ODOT) each year. This multiagency effort incorporates resources and input from the highway patrol, engineering, MCSAP, and the Ohio Traffic Safety Office. The group works together to identify work zone areas to target with increased enforcement and inspection efforts. The highway patrol identified appropriate locations for speed enforcement. MCSAP provided truck enforcement and truck inspection support. In some cases, the Department of Public Safety used §402 funds to provide additional non truck-related enforcement. The Team also provides construction zone signage information to improve safety and aid enforcement efforts.

### Results

The Work Zone Safety Team now conducts annual strategic planning related to safety in and around work zones. As a result, the ODOT engineering department has changed its construction zone design practices to better accommodate trucks. The department also has adopted practices that better accommodate enforcement activities in its work zones.

**Contact:** Michelle May  
 Safety Program Manager  
 Ohio DOT  
 614-644-8309  
 Michelle.May@dot.state.oh.us





## ■ Case Study 5-13 – Truck Safety Commission Supports SHSP Efforts

The Michigan legislature established a Truck Safety Commission (TSC) with a dedicated Truck Safety Fund to increase commercial vehicle safety. The Commission is appointed by the Governor and includes members from Michigan Department of Transportation, the State Trucking Association, higher education institutions, the Department of Motor Vehicles, labor groups, private motor carriers, and the Office of Highway Safety Planning. Revenue for the Fund is generated from local trucking company fees, vehicle registrations, and motor carrier fees. Truck safety grants support commercial vehicle education, enforcement, and research. While the Commission predated the SHSP, the existing structure has been tapped to implement strategies for the commercial vehicle safety emphasis area. The TSC's annual strategic plan serves as the emphasis area action plan for commercial vehicle safety.

<b>Key Accomplishments</b>
<ul style="list-style-type: none"> <li>• Utilized existing organizational structure to maximize commercial vehicle safety efforts.</li> <li>• Conducted commercial driver safety belt survey.</li> <li>• Streamlined court processes through prosecutor education on commercial vehicle regulations.</li> </ul>

TSC activities supporting the SHSP include truck driver continuing education, Share the Road Safely public education, special enforcement operations, education, training for prosecutors and magistrates, and research to enable progress tracking.

TSC activities supporting the SHSP include truck driver continuing education, Share the Road Safely public education, special enforcement operations, education, training for prosecutors and magistrates, and research to enable progress tracking.

### *Results*

Dedicated funding, communication, and collaboration stimulated by the TSC has enabled enhanced commercial vehicle safety efforts and resulted in improved truck safety.

**Contact:** Mike Prince  
 Director  
 Michigan Office of Highway Safety Planning  
 517-333-5301  
 princem@michigan.gov



## ■ Case Study 5-14 – Enforcement and Engineering Collaboration

The Michigan Department of Transportation (MDOT) engineering staff and the State Police developed a commercial vehicle strategy team comprised of six individuals from each agency for enhanced communication and collaboration.

The catalyst for formation of the team was a professionally facilitated three-day meeting during which participants discussed organizational and operational challenges and the need for a new approach. During this initial meeting, the concept of the Commercial Vehicle Strategy Team was generated, and the group developed a mission statement, goals, and defined a quarterly meeting structure.

<b>Key Accomplishments</b>
<ul style="list-style-type: none"> <li>• Developed structure for enhanced collaboration on commercial vehicle issues.</li> <li>• Increased discussion of truck safety issues to support the SHSP.</li> <li>• Installed new infrastructure to increase truck regulatory enforcement.</li> </ul>

On an ongoing basis, the team collaborates on truck size and weight and safety issues with a subcommittee dedicated to each. The subcommittees make recommendations to the Committee at large on improvements.

### *Results*

As a result of input from the Strategy Team, MDOT has installed 15 new weigh stations and maintained and enhanced other stations previously targeted for closure. The State has installed wireless weigh-in-motion technology at 21 locations, and repairs and enhancements are being made to existing sites. MDOT has installed safe enforcement sites (pull-out stations) where trucks can be safely pulled over for size and weight inspections.

**Contact:** Captain Robert Powers  
 Traffic Safety Division  
 Michigan State Police  
 517-336-6447  
 powersr@michigan.gov



## ■ Case Study 5-15 – Engaging Local Agencies in Commercial Vehicle Inspections

Commercial vehicle safety is an emphasis area in the Michigan SHSP, with goals including reduced fatigue-related crashes, improved heavy truck maintenance, and a strengthened commercial driver license program. The commercial vehicle safety emphasis area action plan identifies enforcement as a strategy for achieving SHSP goals; however State resources are limited. To extend enforcement capabilities, the State Police developed programs to engage local law enforcement in commercial vehicle inspections.

### Key Accomplishments

- Increased commercial vehicle inspections.
- Improved local law enforcement knowledge of Federal safety regulations and commercial vehicle safety issues.
- Increased local officer confidence in conducting truck inspections.

Michigan State Police conduct basic commercial vehicle inspection introductory classes and train local police agencies to conduct North American commercial vehicle inspections. Through a Special Transportation Enforcement Team (STET), State Police provide field training and mentoring for local officers certified to conduct inspections. The STET officers work alongside local police during special training sessions. During a typical event, State Police set up temporary operations at a weigh station, rest area, or along the roadside and offer field training to local officers certified in North American inspections. This format enables experienced State commercial vehicle enforcement specialists to communicate enforcement strategies and best practices to local law enforcement.

### Results

Thirty local agencies have been certified to conduct North American standard inspections and hours of service enforcement, and some local agencies have established dedicated commercial vehicle enforcement teams.

**Contact:** Lt. Ron Crampton  
Traffic Safety Division  
Michigan State Police  
517-336-6476  
CramptonR@michigan.gov



## ■ Case Study 5-16 – SHSP/HSIP Alignment

Because the target fatal crash rate had not been achieved on the non-DOT portion of its road network, Michigan recognized that greater focus on local safety projects was needed. The Michigan Department of Transportation (MDOT) has a policy to distribute a cover letter to regional engineers and system managers strongly encouraging submission of safety projects in the annual call for projects. In addition, to provide more focus at the local level, the 2008 call for projects highlighted the need for local safety projects. As part of the process, MDOT delivered presentations on the SHSP at State conferences to increase awareness and alignment of safety projects with the emphasis areas.

### Key Accomplishments

- Established a strong safety focus in regional DOT offices emphasizing the SHSP.
- Provided improved guidance on safety project development to local agencies resulting in improved project quality and focus on the most serious hazardous locations.
- Implemented multiple pedestrian safety projects including countdown pedestrian signals, dynamic speed signs in school areas, pedestrian freeway overpasses, and grade separation of a bike path crossing.

In letters to the county road association and municipal league announcing the call for high-risk rural road and local safety projects, MDOT requires benefit/cost or time-to-return analysis on all project submissions for better alignment with the SHSP. To support local agencies in completing this requirement, MDOT provides a listing of accepted crash reduction factors for commonly submitted projects. The letters also promote submission of non-motorized projects, which aligns with the SHSP’s emphasis area on pedestrians and bicycles. To help with identification of high-risk locations, MDOT provides fatal and serious-injury crash maps by region on the Web site. Regional MDOT staff provides assistance to local agencies on project development when requested to make sure safety projects fit into a SHSP focus area.

### Results

By providing local agencies more details on the types of safety projects MDOT seeks, the quality of submittals is improving and safety projects are aligning with SHSP emphasis areas.

**Contact:** Jim D’Lamater  
 Safety Engineer  
 Michigan DOT  
 517-335-2224  
 dlamaterj@michigan.gov





## ■ Case Study 6-1 – SHSP Newsletters

Sustaining support and interest in the SHSP is difficult, particularly since people involved in implementation usually have other responsibilities as well. To maintain interest and activity in the SHSP, Maryland publishes a quarterly newsletter highlighting Statewide and local activities conducted by emphasis area and regional teams. The newsletter is sent to an extensive e-mail distribution list, including members of the SHSP Executive Committee, the SHSP implementation team, participants of the two SHSP Summits, elected officials, and other key Federal and State stakeholders. The newsletter includes a Champion's Corner highlighting the contributions of exceptional SHSP supporters who devote significant time and energy to the plan.

### Key Accomplishments

- Used a newsletter as a vehicle for ongoing SHSP marketing to stakeholders.
- Highlighted accomplishments of key SHSP supporters via a newsletter.
- Educated a wide audience about ongoing safety activities.

Maryland usually publishes the newsletter following the quarterly meetings of the SHSP Implementation Team at which time emphasis area and regional team leaders provide progress reports. The Governor has agreed to contribute a safety message on a periodic basis, and newsletter recipients submit ideas for future articles. An SHSP consultant creates the newsletter with funding from the Maryland Highway Safety Office, and content is approved by the SHSP Management Team.

### *Results*

The SHSP Newsletter is helping maintain momentum for SHSP implementation by keeping a broad range of safety stakeholders informed on its progress. The newsletter credits those that are moving the implementation process forward and motivates stakeholders to continue implementation efforts. This marketing tool keeps safety stakeholders abreast of State and regional activities and events related to safety.

**Contact:** Vern Betkey  
Director  
Maryland Highway Safety Office  
410-787-5824  
vbetkey@sha.state.md.us



## ■ Case Study 6-2 – SHSP Leadership Summit

As Maryland moved forward on implementation, the need for greater participation at the regional and local level became clear. To address this concern, the Management Team determined the second SHSP Summit should focus on leadership and on how individuals at the local level could participate in the process. A regional approach also provided an opportunity to involve the metropolitan planning organizations (MPO) and other regional planning agencies. This was viewed as a way to address the SHSP requirement that the plan apply to all public roads. These organizations have a direct link to local elected officials, an important constituency for SHSP success. The Secretary of Transportation sent a letter to mayors, county council members, and other elected officials asking them to create a team from their counties. The Community Traffic Safety Program (CTSP) coordinators, who are active in every county in the State, were tasked to assist with the formation of the Summit teams.

Key Accomplishments
<ul style="list-style-type: none"> <li>• Engaged a wide range of stakeholders at the regional and local levels.</li> <li>• Achieved increased communication and coordination among safety disciplines.</li> <li>• Developed new ideas and approaches to SHSP implementation at the local level.</li> </ul>

More than 400 individuals attended the Summit and participated in the regional breakout sessions where data were provided on the region’s most serious transportation safety problems. Participants viewed the data and selected the applicable emphasis areas. They reviewed the SHSP Statewide strategies and action steps and adapted those that were relevant.

### *Results*

Following the Statewide Summit, two regions went on to hold Regional Safety Summits, with support provided by the CTSP coordinators and the State Highway Administration’s district personnel. One region invested in a radio campaign to promote safety. The Baltimore Metropolitan Council established a standing committee on highway safety. The effort also resulted in the development of a young driver program by one county’s Superintendent of Public Schools, a group that had previously not been as active in SHSP implementation.

**Contact:** Vern Betkey  
Director  
Maryland Highway Safety Office  
410-787-5824  
vbetkey@sha.state.md.us



## ■ Case Study 6-3 – Branding and Marketing the SHSP

SHSPs provide a State’s safety stakeholders with clear and consistent goals, performance measures, and strategies for addressing motor vehicle-related fatalities and injuries. States are using branding and marketing to increase exposure and gain support of their plans among their partners and the public.

### Key Accomplishments

- Fostered increased public awareness and support through SHSP branding.
- Promoted SHSP successes via a marketing plan.

States with a strong core goal have been successful in using it as the message to promote their SHSP. Such messages include “Zero Fatalities: A Goals We Can Live With,” “Toward Zero Deaths,” and “Target Zero.” Developing goals like this requires strong support from everyone in the participating agencies’ management structures. Other States have chosen effective yet softer messages such as, “Blueprint to Arrive Alive” or “Blueprint to Safer Roadways” to promote their SHSPs.

Branding focuses the public on the SHSP and its related programs, and not on an agency. This is effective in promoting the safety coalition’s partnership, eliminating any agency’s “baggage” (intraagency or with the public), and mitigating turf issues among coalition members. One State reflected on the advantage of a branded message as, “It doesn’t belong to anybody; it belongs to everybody.”

Branding the SHSP ensures all partners send a consistent message. Logos, messaging, and collateral artwork are often created and distributed to coalition members and provided to safety partners, ensuring unity of appearance Statewide. At least one State (Utah) is implementing an integrated and comprehensive media/marketing plan to further promote their SHSP and zero goal. Media campaigns, billboards, and events heighten awareness and support for SHSP programs through a unified marketing plan. The unified plan is a year-long coordination effort to maximize the media resources available for outreach and allows for a near weekly safety campaign message through varying media outlets. Federal funds are used to support the cost of the marketing plan, and some costs are absorbed by individual agencies through their normal marketing efforts.

### Results

Effective branding combined with a comprehensive media/marketing plan has resulted in increased stakeholder and public recognition and support of the State’s SHSP and its implementation strategies.

**Contact:** Robert Hull  
Director, Traffic and Safety Division  
Utah DOT  
801-965-4273  
rhull@utah.gov



## ■ Case Study 6-4 – Legislative Symposium

To enlist the support of New Jersey legislators for safety initiatives, the State’s metropolitan planning organizations (MPOs), with support of New Jersey Department of Transportation (NJDOT) and the Division of Highway Traffic Safety, organized and facilitated a Statewide legislative symposium. The half-day event was designed to educate legislators about New Jersey’s safety needs and market the SHSP.

### Key Accomplishments

- Educated State legislators on the SHSP.
- Initiated dialogue between safety professionals and State legislators.
- Presented technical information on data necessary to identify and support legislative initiatives.

The symposium agenda included presentations by NJDOT on pedestrian and bicycle safety initiatives, by the State Police on aggressive driving programs, by Mothers Against Drunk Driving (MADD) on impaired driving, and by the New Jersey Safety Council on young drivers. Legislators also were asked to discuss pending legislation relevant to transportation safety.

To encourage participation in advance of the symposium, legislators were sent information about New Jersey’s SHSP and initiatives being pursued through the State’s Transportation Safety Policy Advisory Council. It was critical that no lobbying for specific legislation be conducted during the symposium, as it is prohibited for agencies receiving Federal funding. However, with increased information about New Jersey’s safety needs, legislators were better educated about the kinds of approaches they could pursue legislatively to further the State’s safety agenda. All costs, including staff time for preparation and meeting space, were underwritten by the MPOs.

### Results

Given the success of the event and the positive response from legislators, New Jersey intends to conduct this symposium again in the future.

**Contact:** John D. Ward  
Associate Director, Planning Division  
Delaware Valley Regional Planning Commission  
215-238-2899  
jward@dvrpc.org





## ■ Case Study 7-1 – Tracking Local Project Implementation

Ohio's SHSP includes an emphasis area focused on the reduction of fixed-object, intersection, cross-median, and head-on crashes. Strategies include identifying locations with high numbers of such crashes and making safety improvements to them. To monitor project implementation, the Ohio Department of Transportation (ODOT) developed a formal process to track district-level progress on safety projects, countermeasures, and studies.

### Key Accomplishment

- Developed a database enabling ODOT to track implementation of district safety countermeasures by location.

ODOT monitors district performance via the Safety and Congestion Work Plan. The database supporting the Work Plan includes recommended low- and moderate-cost countermeasures for specific locations. It also provides fields for estimated and actual costs, estimated and actual start date, estimated and actual completion date, progress, and crashes over the past three years. If a project milestone is not met, the project appears on a past due list. Project locations are populated by ODOT, and county managers provide status updates on countermeasures for each location.

### Results

The project tracking tool has enabled ODOT to closely monitor safety project implementation in the districts. The system has been effective in informing ODOT of project delays and backlogs so issues can be addressed quickly.

**Contact:** Michelle May  
Safety Program Manager  
Ohio DOT  
614-644-8309  
Michelle.May@dot.state.oh.us



## ■ Case Study 7-2 – SHSP Steering Committee Manages Implementation with Tracking Tools

To ensure implementation of the SHSP is progressing according to plan, the Steering Committee requires emphasis area team leaders to report the status of their action items on a quarterly basis. To support this effort the Ohio Department of Transportation (ODOT) has developed two tools to streamline the tracking and evaluation process.

Quarterly reports display the priority strategies, give an update on the annual safety goal, and provide the actual number of fatalities to date by emphasis area.

Each emphasis area team leader provides updates on the status of individual implementation activities for each priority strategy. The SHSP steering committee receives a master quarterly report to enable comprehensive tracking of implementation.

### Key Accomplishments

- Developed user-friendly tracking tools enabling the Steering Committee to monitor SHSP implementation progress.
- Established a process for emphasis area team leaders to regularly update SHSP leadership on implementation status.

### Example of Quarterly Report Entry:

**Emphasis Area I** – Fixed Object Crashes.

**Priority Strategy** – Conduct RSAs.

**Comments** – ODOT staff has identified locations and begun RSA reviews. All RSAs are to be conducted by the end of 2009.

ODOT analysts also provide automated quarterly reports to the Steering Committee showing fatalities and incapacitating injuries by emphasis area. The spreadsheet shows fatalities for a three-year period. This report allows the Steering Committee to track fatality and incapacitating injury trends and measure progress against goals.

### Results

ODOT developed user-friendly tracking and evaluation tools to improve the SHSP Steering Committee’s ability to monitor implementation progress. The procedures developed provide relevant and timely information to the Steering Committee so implementation challenges are identified early and can be addressed.

**Contact:** Michelle May  
 Safety Program Manager  
 Ohio DOT  
 614-644-8309  
 Michelle.May@dot.state.oh.us

Federal Highway Administration  
Office of Safety  
1200 New Jersey Avenue SE  
Washington, DC 20590  
<http://safety.fhwa.dot.gov/hsip>  
Publication # FHWA-SA-10-024



*Highway Safety Improvement Program  
Data Driven Decisions*