

DRAFT - 05/11/09

SHSP Implementation Process Model

Case Study Supplement

■ Case Study 2-1 – SHSP Operations Manager

Prior to the development of the SHSP, the state DOT 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, the DOT merged its Safety Action Plan into the SHSP and developed its structure based on the ISMP. The DOT 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 the DOT. 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.

The DOT and GOHS developed a MOU 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, DOT, and the other partners and stakeholders. The operations manager was funded by the DOT with HSIP 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.

■ Case Study 2-2 –SHSP Project Seed Money

After the state’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, the state 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.

■ 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.

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

States demonstrating success with implementation of their SHSPs find

collaborative arrangements are the norm and tend to have superior inter/intra-agency communication. Partners talk to one another on a frequent basis building trust and understanding. These collaborations help expand the SHSP’s reach to the broader safety community, and foster the mindset that “we all understand what the safety priorities are.”

Collaborations result 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 state DOT and SHSO. The SHSO includes the DOT Safety Engineer in its annual grant project selection process. This relationship is reciprocated by the DOT. When applications for Safe Routes to School funds do not cover the total available funding, the DOT allows the SHSO to use the remaining funds to implement behavioral programs. The DOT also provides a portion of STP Enhancement Funds to the SHSO for education and outreach programs involving pedestrian safety. The state helps ensure these projects are focused on the SHSP’s goals.

The benefits of the SHSP collaborative approach carry over to other projects as well. Personnel from the MCSAP are intimately involved in SHSP implementation. As a result, the MCSAP is involved in the DOT freight planning process helping to ensure that safety is a factor in the process. This collaboration has led to the adoption of new technologies addressing congestion.

Results

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

■ Case Study 2-4 – Motor Vehicle Administration Partner

The 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. It 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:

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

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

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. At his own initiative, the Administrator determined in January 2007 to designate 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 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.

■ Case Study 2-5 – Emergency Medical Services Partner

Originally, the state’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 EMS agency 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 state EMS agency’s 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 co-chair 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.

The state EMS agency also 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 4 E approach to safety.

■ 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. LTAPs serve as a conduits, transferring highway technology from FHWA, the state DOT, and universities to local transportation agencies. One state is using the LTAP to disseminate information about the SHSP to local jurisdictions.

Key Accomplishments

- LTAP staff routinely promotes 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.

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

In one state, 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 input 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 the state DOT through their involvement with local agencies. State DOT 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 the state 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.

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

To support SHSP implementation at a regional level, the state 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. The state university initially proposed the establishment of a research center to provide local technical assistance and training. FHWA suggested the state DOT be involved as a partner. The DOT recommended that instead of establishing the center to conduct research, it would be more beneficial as an operating entity of the DOT 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 DOT safety and engineering staff.
- Created a safety data warehouse to provide on-line safety data and analysis to local stakeholders statewide.

The TSRC 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 of 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 SCP Network which supports SHSP implementation at the regional level.

The TSRC has partnered with the DOT and the LTAP 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 engineering, and guardrail applications.

Results

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

■ Case Study 2-8 – State Safety Charter

In 2002, to strengthen the commitment to safety, the state DOT 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 the state's commitment to safety and to the collaborative process, lead agency directors signed a MOU, known as the "Safety Charter." The charter was updated in 2005 to align with the SHSP and will be updated as trends change. The charter identifies eight overarching strategies defining the agencies' shared mission and state safety priorities:

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.

- 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
- Ongoing evaluation.

The charter also commits the state to reduce the fatality rate to no more than 1.0 per 100 million vehicle miles of travel or 1,100 per year by the end of 2008.

The charter was signed by the leadership of the DOT, the State Rail Commission, the Public Utilities Commission, 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 contributing resources and to supporting the SHSP goals. The charter formally empowers the DOT and SHSP leadership to manage and implement the SHSP.

■ Case Study 2-9 – Electronic Communication System

In developing the SHSP and following up on its implementation, the state needed a means to efficiently communicate with the members of its Safety Management Task Force. The DOT 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 state university web site to facilitate student-faculty communication utilizing a free, open-source collaboration and courseware management platform. In partnership with the DOT, the state university developed and hosted a web-based communication system specifically for SHSP participants, utilizing the capabilities of the preexisting web-based system.

Key Accomplishments

- Developed effective communication tool with minimal cost to implement and maintain.
- 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 DOT safety coordinator directed specifications and design of the system. Once the concept was established, the university developed and launched the system within a single week. No formal agreement between the state and the university was necessary and no funding was required other than staff time to set up the system. This system supports communication among safety partners outside the DOT which is fundamental to the success of SHSP implementation.

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.

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

Despite a strong Graduated Driver Licensing (GDL) law, the state 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 the state 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 the state 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 between 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.

■ Case Study 3-1 - MOU Among Data Generators

The DOT, DMV, and State Police signed a 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 the state's data systems. Researchers can review current data without personal identifiers within 24 hours of receiving crash reports. The SHSO provides funding for a university research center 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 use statewide to ensure consistency in the number of crashes for each emphasis area and other crash types.

The state 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 SHSO 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.

■ 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, the state created the Enhanced Crash Location and Identification System (ECLIS), a single statewide crash database for use by all agencies. The ECLIS is managed by the DPS which is also responsible for license, citation, and vehicle registration data. The ECLIS 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. The database supports development of SHSP strategies and action plans.

A second element, the Crash Data Analysis (CAM) Tool, is an on-line portal designed to enhance safety analysis capabilities. It allows users to extract crash data by jurisdiction and to create tables, charts, graphs, and collision diagrams. Templates within the CAM Tool facilitate common data 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. DOT staff cleans and maintains the data and provides data analysis support for MPOs and local agencies. The state used \$408 funds to develop the CAM tool.

Results

The state'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 CAM Tool has increased local government and MPO access to crash data and enabled agencies to easily perform basic crash analyses.

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.

■ Case Study 3-3 – Data Decision Support Tool

The state recognized a need to provide transportation safety data in a more user-friendly format. The DOT 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 university 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.

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. Future program capabilities will include network screening, economic analysis, diagnosis, and evaluation. The network screening layer will integrate methodologies currently used by safety engineers to locate high-crash intersections or segments. The software will also include a model to predict crash frequencies and severity for selected roadways.

The Center also provides engineering, planning, training, and outreach services to local governments and assists with crash data analysis to support SHSP implementation. The DOT 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 150 public 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.

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.

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

Because a large number of crashes were occurring off the state system, the DOT 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, the DOT enlisted its various MPOs 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.

The DOT 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 SCP forums for MPOs to help them identify safety needs and deficiencies. As a result of the forums, the DOT 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 state 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.

■ Case Study 3-5 – Data Analysis Strategies

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

Key Accomplishments

- Added an epidemiologist to SHSO 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 SHSO 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, SHSO 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 the DOT to manage data needs for the SHSP.

Results

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

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

Because the fatal crash rate on nonstate highways was higher than on state highways, the state recognized that additional tools were needed to support local safety planning and programming. The 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 the most dangerous intersections 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

- Increased the number and quality of local safety projects.
- Developed local agency analysis capabilities on safety trends including development of charts and maps.
- Aligned local safety efforts with the SHSP.

The software also includes diagnostic tools to analyze crashes 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. The DOT provides funding for the LTAP to offer the software and training at no cost to local agencies.

The DOT local safety initiative's three dedicated staff provide engineering support to local agencies by conducting local crash analysis using the software. Additionally the DOT conducts field reviews of high-risk locations and generates a list of suggested 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

Over 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.

■ Case Study 4-1 - Road Safety Audits

In one state several SHSP emphasis area teams (Keep Vehicles on the Roadway, Intersections, Young Drivers, and Pedestrians) identified RSAs as a strategy to improve safety. Prior to the SHSP, the Office of Planning had developed an RSA program designed around the state's specific roadway standards. To coordinate all RSA activities across the state, the DOT established a Roadway Safety Audit Committee. The committee, made up of senior management and staff from DOT 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 is a member of the SHSP Management Team and coordinates RSA findings with emphasis area action plans.

■ Case Study 4-2 – Emphasis Area Team Facilitators

The state formed 12 emphasis area teams facilitated by SHSO 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.

■ 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, the state 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.

■ 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 one state 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.

The state also has a legislatively mandated Task Force to Combat Driving Under the Influence of Drugs and Alcohol, which examines current impaired driving laws in the state and recommends 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. The emphasis area team and Task Force will continue to collaborate in the future.

To strengthen implementation of the motorcycle section of the SHSP, the state 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.

■ 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, one state has stratified its SHSP approach to focus on the strategies with the greatest expected benefits and manage the level of implementation effort.

Key Accomplishments

- Enabled various types of safety programming to be addressed differently via a tiered approach.
- Allowed safety stakeholders to take advantage of new opportunities.
- Reduced the need to rewrite the SHSP because flexibility is written into the plan.

The safety leadership team in this state 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 agency with the primary responsibility for the issue.

The second tier addresses programs or processes currently underway in the state. 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.

■ 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 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, DOT, 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 state'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 Program (HSP) and it now also reports on SHSP implementation progress. Based on Council input, the Governor submits an annual presentation to the state legislature on HSP and SHSP progress, as well as recommendations for possible legislative actions.

Results

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

■ Case Study 5-1 – MPO Participation in SHSP

Prior to the initiation of the SHSP development process, the state had fully embraced SCP and established working relationships with its MPOs on transportation safety planning. The SHSP process took 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 the state DOT 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 state DOT 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.

■ 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 MPOs 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 nonmotorized. 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 nonmotorized modes from vehicles, crash rates, and whether a project includes countermeasures such as signs and striping to reduce crashes and severity.

The SHSO 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 state 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.

■ 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 one state the DOT chief operating officer modified performance reviews for district DOT 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.

In another state, the DOT chief operating officer took a more quantitative approach to measuring safety progress with the performance reviews for regional 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 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 also are required to conduct quarterly staff meetings to review fatalities and identify action items to address each goal.

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.

Key Accomplishments

- DOT district staff regularly work with local agencies to provide technical assistance on safety and support safety project development.
- DOT district staff efforts are aligned with the SHSP.
- Safety has become institutionalized within the culture of the agency.

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

Historically states focused problem identification analysis on fatal crashes to identify locations for the 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,” the state is adopting a proactive and preventive “safe systems” approach. The SHSP process provided focus and guidance for the DOT’s migration to this approach.

This state has fundamentally changed the way crash problems are addressed leading to a comprehensive approach to the HSIP.

Historically, all or most projects were nominated by regions or districts. Through this new, broader approach, the DOT now analyzes statewide data and the Central Office nominates half of the safety projects statewide. This is a fundamental change in the DOT’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 DOT 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 DOT 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

The state 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.

Key Accomplishments

- Made a paradigm shift to a safe systems approach to HSIP project selection.
- Established a process for the DOT Central Office to nominate HSIP projects based on objective criteria.
- Implemented a process to review all transportation projects with respect to safety and to add safety improvements to the scope where beneficial.
- Achieved high annual expenditures of HSIP obligations.

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

To reduce fatalities and injuries throughout the state, agencies and organizations at the local level need to participate in safety planning. However, many local governments and MPOs have limited staff and resources available to conduct safety studies; therefore the DOT recognized a need to increase safety capacity at the local level.

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.

On a regular basis the DOT 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. The state 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.

The DOT 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.

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.

■ 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 DOT 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. The DOT also wanted to provide more opportunity for local agencies to propose safety projects.

To achieve these goals, the DOT centralized HSIP funding and developed a management process that includes district safety review teams (DSRTs). In each DOT district, a safety review team was formed including DOT representatives from planning, production, highway management, and traffic engineering, as well as representatives from law enforcement agencies and local MPOs. Representatives from the SHSO 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.

To identify high-risk locations and countermeasures, each DSRT reviews a DOT-provided list of intersections and highway segments with high-crash frequencies. Districts are required to perform safety studies to determine crash causes and to develop plans to implement safety improvements. As part of this effort information on high-risk locations is also 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 (such as new signs, pavement markings, and drainage improvements), as well as those that are mid-term and mid-cost (such as 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 also can propose projects with support from the DSRT and receive assistance with safety studies.

A six-member committee at DOT 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;

Key Accomplishments

- Established district-level safety teams to identify hazardous locations and develop projects aligned with the SHSP.
- Developed objective criteria for project identification and prioritization resulting in increased alignment with the SHSP.
- Provided support for safety studies by local governments and MPOs providing more opportunities for local agencies to propose safety projects.

DRAFT - 05/11/09

- 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.

■ Case Study 5-7 – Local Government Assistance

In 2005, one state represented nearly 20 percent of the total increase in motor vehicle fatalities nationally. The DOT 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. The DOT 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. The DOT conducts spot inspections once work begins.

Program eligibility criteria were developed with input from FHWA, DOT 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.

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■ Case Study 5-8 – Focusing HSP Grants Applications

The SHSO recognized the need to institutionalize the link between the HSP and the SHSP through the grant application process. Each year the SHSO conducts grant application seminars for prospective grantees for the upcoming fiscal year. During the seminars, the SHSO 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 SHSO 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 programs should be directly related to the SHSP; it appears every time the grantee enters information about an objective or activity.

SHSO 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 SHSO has seen a concerted effort by grantees to ensure projects are within the scope of the SHSP.

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

The SHSO funds 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 SHSO, 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 SHSO director and staff direct CTSP coordinators to link their programs directly with the SHSP 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.

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

The SHSO partners with police on traffic enforcement efforts as part of its annual 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 SHSO staff. To assist law enforcement with this process, the SHSO 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 SHSO 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.

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

Since data is the foundation of transportation safety planning, the DOT identified data improvement as one of the priority emphasis areas in its SHSP. Each year the 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. This state received a “fair” rating and wanted to improve its “timeliness” rating to receive 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 key SHSP emphasis areas.

The state’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. The state’s 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 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, the state received several hundred thousand dollars in MCSAP incentive funds.

■ 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.

The state's SHSP identified work zone safety as an emphasis area. A team consisting of engineers, law enforcement officers, and 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 work zone safety team develops a comprehensive plan to improve safety and enable improved enforcement for all work zones scheduled by the DOT each year. This multiagency effort incorporates resources and input from the highway patrol, engineering, MCSAP, and the SHSO. 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 DPS 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 DOT 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.

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

The state 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 the DOT, the state trucking association, higher education institutions, the Department of Motor Vehicles, labor groups, private motor carriers, and the SHSO. 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.

Key Accomplishments

- Utilized existing organizational structure to maximize commercial vehicle safety efforts.
- Conducted commercial driver safety belt survey.
- Streamlined court processes through prosecutor education on commercial vehicle regulations.

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.

■ Case Study 5-14 – Enforcement and Engineering Collaboration

DOT 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.

On an ongoing basis, the team collaborates on truck size, 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, the DOT has installed 15 new weigh stations and maintained and enhanced other stations previously targeted for closure. The state has installed 10 locations equipped with wireless weigh-in-motion technology and has funding for installation at seven additional sites. The DOT has installed safe enforcement sites (pull-out stations) where trucks can safely be pulled over for size and weight inspections.

Key Accomplishments

- Developed structure for enhanced collaboration on commercial vehicle issues.
- Increased discussion of truck safety issues to support the SHSP.
- Installed new infrastructure to increase truck regulatory enforcement.

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

Commercial vehicle safety is an emphasis area in the SHSP, with goals including reduced fatigue-related crashes, improved heavy truck maintenance, and 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.

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.

■ Case Study 5-16 – SHSP/HSIP Alignment

Because the target fatal crash rate had not been achieved on the non-DOT portion of the road network the state recognized greater focus on local safety projects was needed. The DOT established 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, the DOT delivered presentations on the SHSP at all 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, DOT 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, the DOT provides a listing of accepted crash reduction factors for commonly submitted projects. The letters also promote submission of nonmotorized projects, which aligns with the SHSP's emphasis area on pedestrians and bicycles. To help with identification of high-risk locations, the DOT provides fatal and serious-injury crash maps by region on the web site. Regional DOT staff work closely with local agencies on project development to make sure all safety projects fit into a SHSP focus area.

Results

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

■ 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, the state 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
<ul style="list-style-type: none">• 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.

The state usually publishes the newsletter following the quarterly meetings of the SHSP implementation team at which 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 SHSO, 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.

■ Case Study 6-2 – SHSP Leadership Summit

As the state 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 MPOs 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 SHSO's CTSP coordinators, who are active in every county in the state, were tasked to assist with the formation of the Summit teams.

Key Accomplishments

- Engaged a wide range of stakeholders at the regional and local levels.
- Achieved increased communication and coordination among safety disciplines.
- Developed new ideas and approaches to SHSP implementation at the local level.

Over 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 DOT's district personnel. One region invested in a radio campaign to promote 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.

■ 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 a goal like these 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” (intra-agency 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 is implementing a comprehensive media/marketing plan to further promote their SHSP. Media campaigns, billboards, and events heighten awareness and support for SHSP programs through a unified marketing plan. Federal 163 (.08) 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.

■ Case Study 6-4 – Legislative Symposium

To enlist the support of state legislators for safety initiatives, the state’s MPOs, with support of the DOT and SHSO, organized and facilitated a statewide legislative symposium. The half-day event was designed to educate legislators about the state’s safety needs and market the SHSP.

Key Accomplishments
<ul style="list-style-type: none">• 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 the DOT on pedestrian and bicycle safety initiatives, by the state police on aggressive driving programs, by MADD on impaired driving, and by the state 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 the state’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 the state’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

The symposium resulted in the initiation or enhancement of numerous transportation safety policies, including several related to enforcement and adjudication. Given the success of the event and the positive response from legislators, the state intends to conduct this symposium annually.

■ Case Study 7-1 – Tracking Local Project Implementation

This state’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 DOT developed a formal process to track district-level progress on safety projects, countermeasures, and studies.

Key Accomplishment

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

The DOT 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 the DOT, and county managers provide status updates on countermeasures for each location.

Results

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

■ 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 DOT has developed two tools to streamline the tracking and evaluation process.

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.

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.

Example of Quarterly Report Entry:

- **Emphasis Area I** – Fixed Object Crashes.
- **Priority Strategy** – Conduct RSAs.
- **Comments** – DOT staff has identified locations and begun RSA reviews. All RSAs are to be conducted by September 2009.

DOT 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

The DOT 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.