Synthesis of Local Road Safety Noteworthy Practices

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16. Abstract This synthesis report summarizes noteworthy practices and lessons learned from pertinent local road safety meetings and reports. Material is drawn from the Local Roads Safety Peer Exchanges held by FHWA in 2012 and 2013, follow-up virtual peer exchanges conducted in 2014 and 2015, and two reports prepared from 2010 to 2013. The reports include *Assessment of Local Road Safety, Funding, Training, and Technical Assistance* and *Noteworthy Practices: Addressing Safety on Locally Owned and Maintained Roads—A Domestic Scan.* To better understand the strategies States use to advance local road safety, this report synthesizes the information from these sources in a single document. The target audiences for this report include State Departments of Transportation (DOT), metropolitan planning organizations (MPO), county and city planners, engineers, and public works officials.			
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1.0 Introduction and Overview

1.1 PURPOSE

This synthesis report summarizes noteworthy practices and lessons learned from pertinent local road safety meetings and reports. Material is drawn from the Local Roads Safety Peer Exchanges held by FHWA in 2012 and 2013, follow-up virtual peer exchanges conducted in 2014 and 2015, and two reports prepared from 2010 to 2013. The reports include *Assessment of Local Road Safety, Funding, Training, and Technical Assistance* and *Noteworthy Practices: Addressing Safety on Locally Owned and Maintained Roads — A Domestic Scan*.

To better understand the strategies States use to advance local road safety, this report synthesizes the information from these sources in a single document. The target audiences for this report include State Departments of Transportation (DOT), metropolitan planning organizations (MPO), county and city planners, engineers, and public works officials.

> A local roadway is defined as a road off the State system, and owned and maintained by an agency other than a State DOT (i.e., city or county road).

State DOTs, MPOs, and local agencies are looking for new strategies to address local traffic safety issues. These agencies also are looking for innovative ways to streamline the process to identify and implement local road safety improvements.

1.2 CHALLENGES

Even when the importance of local road safety is recognized, State DOTs and local agencies face many challenges identifying, prioritizing, administering, and implementing safety improvement projects on local roadways. The Local Road Safety Peer Exchanges and recent reports have documented these challenges in detail. Typical challenges include:

- Limited State funds and resources to provide training, technical assistance, and administrative support;

- Competing interests and priorities for State-maintained roadways and other local transportation and planning issues;

- Lack of data or data analysis skills to meet crash data analysis requirements;

- Low crash rates and fatalities distributed over a vast local road network;

- Difficulty securing matching funds required to participate in Federal-aid programs; and

- Lack of staff or expertise needed to apply for safety funds.

1.3 REPORT ORGANIZATION

This report focuses on summarizing lessons learned and highlighting noteworthy practices in local road safety in four categories:

- Data and Analysis;

- Strategic Highway Safety Plan (SHSP) Involvement;

- Highway Safety Improvement Program (HSIP); and

- Partnerships and Collaboration.

Practices were deemed noteworthy if they improved collaboration, created new partnerships, reduced project costs or staff time, or increased project implementation efficiencies. Relevant noteworthy practices or case studies summarized in previous reports are referenced at the end of each section.

2.0 Data and Analysis

2.1 OVERVIEW

Data and analysis are essential parts of the local road safety process, and are used for identifying locations with potential for safety improvement or crash types to address with systemic improvements. However, the collection and analysis of appropriate safety data can pose challenges for localities, who may lack the necessary data infrastructure, analytical skills, and/or staff resources or agency relationships with which to analyze the information. This section highlights lessons learned and noteworthy practices in the categories of local road safety data collection, access, and analysis. Many States have developed user-friendly online tools, mapping systems, and systemic procedures for collaboration with other agencies. Table 2.1 summarizes noteworthy practices addressed in this section.

Table 2.1   Summary of Data and Analysis Noteworthy Practices

Category	Noteworthy Practice
Data Collection	• Coordinate data collection and format across all State and localities. • Promote the use of electronic applications for crash reporting.
Data Access	• Provide statewide crash databases, with Web-based viewing and specific report access for local agencies.
Data Analysis and Tools	• Combine crash data with other roadway characteristic databases, such as bridge or asset management databases. • Provide training to localities and guidance on the best processes, tools, and analysis methods for the State. • Promote the use of Roadway Safety Audits (RSA) in addition to crash data collection and analyses.

2.2 LESSONS LEARNED

States are making significant changes to safety data management systems as Federal transportation legislation requires safety performance to be managed on all public roads. In any given State, a number of law enforcement agencies are responsible for collecting information on crashes occurring on local roadways. Most States have implemented electronic crash reporting processes in the last five to eight years; therefore, more local crashes are being included in statewide crash databases. However, until the crash report is submitted to the State agency responsible for the data repository, the information is not readily available to planners and engineers.

Due to a number of factors, agencies can encounter challenges with the completeness and accuracy of their crash data. In the 2012 Assessment of Local Road Safety Funding, Training, and Technical Assistance report, around 29 percent of the participating agencies (11 States) cited completeness and accuracy of crash data as a challenge, and 15 percent (6 States) were challenged by a lack of proven data analysis techniques.

Practices and specific activities of State DOTs across the country may differ significantly when it comes to data management for local road safety, but several lessons can be learned from State experiences shared at the peer exchanges:

- State DOTs, MPOs, and localities should clearly define their role and responsibilities in the local road safety data process;

- Consistently agreed upon data formats are crucial to partnerships between agencies for the purposes of data collaboration;

- Agencies can take steps to streamline their data collection and presentation through partnerships with private technology vendors or tools;

- State DOTs with statewide crash databases often have the most streamlined and accessible systems of data access for their localities;

- States should consider combining their local road safety data with other statewide data management systems for ease of access; and

- If not done so already, State DOTs should incorporate geographic mapping tools in their data analysis process to further analyze crash data, spatial locations, and roadway characteristics.

2.3 NOTEWORTHY PRACTICES

Data collection and analysis practices are continually evolving as States identify opportunities to streamline data collection and develop comprehensive analysis tools. This section summarizes the practices identified during the peer exchanges.

Data Collection

Strategies to improve data collection include coordinating data collection and consistency across a State and promoting the use of electronic applications for crash reporting. To promote consistency and timeliness of reporting, several DOTs and local agencies have streamlined their data reporting by developing or using their own mobile applications for phones, tablets, or computers that allow officers to record field data electronically—reducing the time burden of data collection and improving data consistency. Strategies in this area include:

- Washington State DOT (WSDOT) is working to resolve crash data inconsistencies on local roads by collecting latitude and longitude coordinate data, which eliminates data challenges caused by nonstandard naming conventions. WSDOT manages all data collection and reporting for the State

through the MOBILITY database that imports crash data, traffic volumes, functional classification, and other roadway attributes.

- Iowa DOT implemented a program to collect roadway features, structures, and crash data on all public roads. Data collected includes roadway features (horizontal/vertical curves, intersection data, pavement conditions, traffic control devices, drainage structures, right-of-way limits) on State and local roads, and large structures (bridges). Crash data for all local roads is available to the public. Local agencies have access to the crash and roadway feature data for use in the project identification process.

- The Alabama State Highway and Transportation Department (AHTD) recently developed an agreement with the University of Alabama's Center for Advanced Public Safety (CAPS) to implement the eCrash electronic crash form to improve the accessibility and ease of use for crash reporting on local roads. The project involved first converting the location of all crashes on local roads from the link/node location format to latitude and longitude coordinates. This change permits the introduction of a mapping platform within the investigating officer's vehicle that works in unison with the eCrash platform (http://care.cs.ua.edu/eCrash.aspx).

- Colorado DOT (CDOT) has worked with the Statewide Traffic Records Advisory Committee in Colorado to identify strategies, such as creating an online reporting or data exchange tool, to streamline data collection processes and make data more accessible. In the past several years, CDOT has improved crash data availability lags from four years to four months. CDOT has an effort underway to geolocate crashes on all public roads going back five years.

- In Montana, crash reports on the State system are filed electronically, but local agencies submit paper copies. The Montana Highway Patrol is rolling out a Web-based reporting system, called SmartCop, to allow for greater ease of data access. The State will require that the eight largest cities and seven Tribes in Montana use this new crash reporting system for consistency and access.

- New Hampshire's Nashua Regional Planning Council has taken steps to reduce the time delay for crash data collection using Google alerts to manually input crash information into their databases (Google alerts allow you to receive email notifications any time Google finds new results on a topic that interests you). This process allows the agency to use news stories on fatal or serious crashes to identify crashes in the area, and follow up with local agencies for additional information.

Data Access

Crash data collected by State and local law enforcement agencies are typically submitted to a statewide crash database maintained by the State DOT or another agency designated as the data repository. Agency partners and stakeholders may be allowed varying degrees of access to the data based on State legislation and agency policies and procedures.

In States where all crash data is housed in a statewide agency database, local agencies may have to submit official requests to access specific records for their purposes. To address the time and labor involved in selective requests, more State agencies now provide Web-based access to State crash databases. A majority of the databases have query tools, which have been successful in improving data access for local agencies.

- Wisconsin DOT (WisDOT) operates the WisTransPortal System, providing a complete database of reported Wisconsin traffic crash data from 1994 to the current year. WisDOT maintains the database, allowing crash data access to the database to local agencies and the general public, and access to crash reports for government agencies and consultants working on WisDOT projects through online inquiries.

- Iowa DOT has a suite of crash data analysis tools available for cities and counties. The Crash Mapping Analysis Tool (CMAT) is an easy to use crash data software package that includes crash maps, summary reports, and details for individual crashes. The Safety Analysis, Visualization, and Exploration Resource (SAVER) is a fully functional geographic information system (GIS) crash data resource that includes crash maps, collision diagrams, summary reports, and individual crash details.

- Plan4Safety is a decision-support tool created for the New Jersey DOT (NJDOT) and is a multilayered decision-support program for transportation engineers, planners, enforcement, and decision-makers in New Jersey's transportation and safety agencies to analyze crash data in geospatial and tabular forms. Plan4Safety integrates statewide crash data and roadway characteristic data, calculates statistical analyses, incorporates network screening layers and models, and includes visual analytical tools (GIS).

Data Analysis and Tools

State DOTs use a variety of strategies to leverage their data to analyze safety trends and identify potential locations for improvement. The programs, tools, and analysis methods used to support local road safety are similar to the efforts for all public roads; however, many of these tools have been available for use on State-maintained roadways for many years. States have made access to and tools for local road safety data analysis available in more recent years. Common strategies used include software data tools, Web-based tools, GIS or geographic mapping tools, and training.

Geographic Mapping Tools

With the advent of relatively simple geographic mapping tools, new analysis methods and tools have been developed for safety and crash data. As a result, most agencies now incorporate geographic mapping tools in their data analysis process.

In efforts to provide increased data access to local agencies and the general public, a handful of States have had success in providing access to local crash data using

online map-based GIS platforms, rather than providing data only by direct contact such as email inquiries.

- As a result of the University of California's Transportation Injury Mapping System (TIMS) Web tool, California has seen increased accuracy of average HSIP benefit/cost ratios, increased HSIP funding for bicycle and pedestrian projects, and increased HSIP funding for projects. TIMS has several Web-based tools, including a California Statewide Integrated Traffic Records System (SWITRS) query and map, an SWITRS GIS map, an SHSP data viewer, a Safe Routes to School Collision map viewer, Fatality Analysis Reporting System (FARS) visualizations, a Benefit/Cost calculator, and a Motorcycle Collision Map viewer.

Data Analysis Tools that Incorporate Other Roadway Characteristics

In addition to using mapping tools, several tools not only map crash locations, but also evaluate the crash in combination with other factors or databases, such as roadway characteristic databases.

- Michigan DOT (MDOT) developed a Web-based tool called RoadSoft, an asset management system for collecting, storing, and analyzing transportation data, particularly for crash data. Since that time, RoadSoft has expanded its capabilities to include a wide range of data in addition to crash data, including bridges, intersections, pavement markings, signs, and traffic counts. RoadSoft is available to localities at no cost. More than 400 road agencies and consultants use RoadSoft.

- WSDOT manages all data collection and reporting for the State through the MOBILITY database that imports crash data, traffic volumes, functional classification, and other roadways attributes.

- The Rutgers Transportation Safety Resource Center uses Web-based-only crash data tool that gives users the ability to filter by roadway elements. The Plan4Safety Tool is tied to the New Jersey DOT road inventory database; and within the tool, some of the MPOs also have provided mobile applications. For instance, the South Jersey Transportation Planning Organization (SJTPO), developed the "Mapper Mobile," a mobile application that allows for users to map crash locations.

Staff Training and Technical Assistance

To avoid inconsistencies, many State agencies have taken the lead on providing specific crash data analysis training and/or technical assistance to their regional and local agencies. States are promoting the use of tools and analysis of crash data by providing staff training to local agencies.

- A goal of the Local Roads Safety section of the Kansas SHSP is to provide increased training and technical assistance for localities. Kansas Local Technical Assistance Program (LTAP) is developing a course for local agencies on accessing and using crash and roadway data. A focus of the course is on how to use data analysis to apply for funding for improvements.

Other Documented Practices

Table 2.2 shows additional local roads safety data and analysis noteworthy practices documented in recent publications.

Table 2.2   Previously Documented Data and Analysis Practices

Agency	Noteworthy Practice	Publication
Ohio DOT	Crash Mapping Tool (GCAT)—Crash data and analysis portal providing global access to local agencies	Assessment of Local Road Safety Funding, Training, and Technical Assistance
University of California	Transportation Injury Mapping System—Benefit/cost analysis tool for proposed projects	Assessment of Local Road Safety Funding, Training, and Technical Assistance
Ohio LTAP	GCAT and CAM Tool Training—Data and analysis tools training for local agencies	Assessment of Local Road Safety Funding, Training, and Technical Assistance
Louisiana DOT and Development and LTAP	Louisiana Local Road Safety Program—Comprehensive assistance to help local agencies solve local road safety issues	Assessment of Local Road Safety Funding, Training, and Technical Assistance
Tennessee DOT	Road Safety Audit (RSA) Training—Local road safety program trains local agencies and counties on RSAs	Assessment of Local Road Safety Funding, Training, and Technical Assistance
California DOT (Caltrans)	Local Roadway Safety Manual—Comprehensive guide for local agencies to develop HSIP project applications	Assessment of Local Road Safety Funding, Training, and Technical Assistance

3.0 Strategic Highway Safety Plan Involvement

3.1 OVERVIEW

A Strategic Highway Safety Plan (SHSP) is a major component and requirement of the Highway Safety Improvement Program (HSIP) (23 U.S.C. § 148). It is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. An SHSP identifies a State's key safety needs and guides investment decisions towards strategies and countermeasure with the most potential to save lives and prevent injuries.

An SHSP is developed by the State Department of Transportation in a cooperative process with local, State, Federal, Tribal, and private-sector safety stakeholders. It is a data-driven, multiyear comprehensive plan that establishes statewide goals, objectives, and key emphasis areas and integrates the 4 Es of highway safety—engineering, education, enforcement, and emergency medical services (EMS).

Since the inception of SHSPs, many States have seen decreases in fatalities on the State system, but a disproportionate number of fatalities and serious injuries continue to occur on locally owned and maintained roadways. As many States adopt a "Towards Zero Death" or zero-based fatality goals, engaging local agencies in the SHSP has become a critical component of the SHSP implementation process.

When local agencies are involved and engaged in the SHSP, safety strategies can be coordinated and implemented across jurisdictions and on roadways off the State system. Getting and keeping local agency representatives engaged in the process may be challenging due to travel restrictions, location and proximity of locals to statewide meetings, and staff availability.

Table 3.1 summarizes the noteworthy practices States use to involve locals in the SHSP.

Table 3.1   Summary of SHSP Involvement Noteworthy Practices

Category	Noteworthy Practice
Local Agency Participation	• Encourage locals to participate in the planning process • Find ways to accommodate local participation because of the large number of local agencies • Recognize locals may have different priorities than Statewide priorities • Engage emergency services personnel • Engage MPOs and LTAP/TTAPs
SHSP Strategies to encourage the development of local road safety plans and incorporate local road safety issues	• Incorporate local road safety strategies in SHSP • Develop regional safety action plans and action planning committees • Open meetings up to other partnering agencies • Keep SHSP language deliberately broad to facilitate local participation

3.2   LESSONS LEARNED

States participating in the local road safety peer exchanges agreed that to engage locals in the SHSP planning process, incentives must be provided, benefits of participation must be highlighted, local safety priorities must be on the table for discussion, and local safety strategies must be incorporated into the SHSP to encourage participation.

The vast number of local agencies in any given State makes it a challenge to accommodate local participation from every jurisdiction in the SHSP. Many States have found it more manageable to engage the association of county engineers or a municipal association, which allows multiple local agencies to be represented by a single person. Another option is to engage MPOs and rural planning organizations (RPO), which have close working relationships with many local agencies within their boundaries. LTAP also can represent local concerns and provide contacts at local agencies.

Addressing local road safety issues in an SHSP requires paying close attention to the safety priorities of local agencies and finding opportunities to pair local priorities with the statewide initiatives or emphasis areas. This can be achieved through the development of local road safety plans. States have identified strategies to encourage local agency participation in SHSP committees and meetings, and many have developed specific opportunities for locals to identify safety priorities and suggest solutions.

3.3 NOTEWORTHY PRACTICES

SHSPs bring a multidisciplinary group of stakeholders together to address traffic safety using a comprehensive approach. The following practices were identified as methods to engage local agencies in the SHSP and incorporate local road safety strategies.

Local Agency Participation

During the peer exchanges, States discussed various strategies used to encourage local agency participation in SHSP committee, emphasis area, and planning meetings.

The SHSP provides a framework for safety programs and projects, but the committees responsible for implementing the plan provide the conduit for improvements at the State and

> Conduct local agency outreach to identify priority issues.

local levels. States are able to implement more local safety improvements when local practitioners are involved and active in the SHSP process.

- In Idaho, three-quarters of the emphasis area committees is chaired by local agency practitioners. Of those from a local agency, one-third is law enforcement officers and one-quarter is from various special interest groups, such as the motorcycle rider training group, one local highway agency, and a local EMS representative.

- The Washington State SHSP update and implementation process includes both local agencies and Tribes by including local representatives on the Steering Committee and project team, and by convening local safety task forces.

- The Nevada SHSP is led by the Nevada Executive Committee on Traffic Safety (NECTS). This committee comprises directors of the State agencies, federal agencies, and the regional transportation commissions (RTC). Local agencies also are heavily involved at all levels of the SHSP as members of the Critical Emphasis Area (CEA) Teams and the Technical Working Group, which reports to the NECTS. There has been major involvement from local agencies at all levels and from the conception of the State's SHSP. Each CEA team discusses issues relevant to the team, so local issues are brought to the table for discussion and proposed mitigations.

States are taking the SHSP process on the road instead of expecting local agency practitioners to come to meetings held at or near the DOT. Local practitioners are more likely to become involved in the SHSP if the process includes meetings in or near their jurisdictions.

> Recruit local agency practitioners for positions on SHSP committees or as leaders for emphasis area teams.

- A primary goal of the Wisconsin SHSP is to fully incorporate local involvement throughout the process. For the 2011 SHSP update, an open survey targeting the safety community (i.e., county, city, regional agencies, and advocacy groups) formed the foundation to identify 10 priority issue areas for emphasis in the final SHSP. This foundation was strengthened through an invitation-only peer exchange consisting of a variety of leaders in the safety community. Local agencies participated in the peer exchange and provided perspective on local safety priorities. The survey and peer exchange ultimately informed the WisDOT Traffic Safety Council, an interdepartmental committee of safety-oriented WisDOT staff and management, about what priority issue areas to include in the final SHSP. Locally focused emphasis areas and strategies within the SHSP include the improvement of HSIP effectiveness through outreach, education, and training; the encouragement of high-visibility enforcement initiatives; the continuous improvement of data efforts; and the implementation of a robust High-Risk Rural Roads process.

- Colorado DOT recently completed a 10-month SHSP update process. A goal of the update was to increase local participation in SHSP, specifically from jurisdictions represented by MPOs and nonurban transportation planning regions (TPR). To achieve this, CDOT held six outreach meetings across the State and an All-State webinar. Approximately 250 people attended the meetings.

- In Virginia, the recent SHSP revision process was successful in incorporating participation from MPOs, local traffic safety staff, police and fire departments, and nonprofit groups. During the update, Virginia DOT solicited local agencies for ideas, many which were incorporated into regional and statewide plans. This degree of local participation was largely the result of five regional SHSP meetings hosted by VDOT. VDOT has worked to increase local involvement in its SHSP by having district traffic staff contact local counterparts to invite them to attend meetings, and advertising SHSP meetings in VDOT Planning email and newsletters to MPOs. Local stakeholders also were recruited to join emphasis area (EA) teams crafting strategies and actions for each EA.

- Nevada DOT uses Road Show meetings to connect with local jurisdictions every other year. At the meetings, the NDOT and Office of Traffic Safety (OTS) discuss the current SHSP, current issues, and changes they would like to see in the future. A statewide Safety Summit is held in the years NDOT is not conducting road shows to discuss future safety topics with State and local practitioners.

- The Washington DOT SHSP Steering Committee, which is the main decision making body in their SHSP update process, takes in feedback from local partners through a bottom-up approach. Staff visits different geographic areas of Washington to prioritize SHSP emphasis areas according to local needs. For example, in Walla Walla County, commercial motor vehicles are a Priority One

emphasis area, even though they constitute a Priority Three emphasis in the SHSP.

- Alaska DOT and Public Facilities (ADOT&PF) has strong local participation in the development and implementation of their SHSP, including 13 government entities and more than 100 local agencies and Tribal communities. However, many remote communities are not able to be involved in any portion of the SHSP process. To address this problem, Alaska has set up meetings in different areas of the State, which allows more participants to be involved in SHSP development and gives others in the State an opportunity to be heard.

- Kansas formed a Local Road Safety Support Team, including representatives from the 4 Es to develop and implement an updated SHSP. The Local Road Safety Support Team is working to form local safety coalitions modeled after the Destination Safe Coalition, a partnership between local agencies involved in improving transportation system safety. Kansas' updated SHSP includes local roadway safety statistics and specific activities and tools to address crashes on the local system. KDOT revamped its High-Risk Rural Roads Program (HRRRP) to expand the types of improvements eligible for funding. The Data Support Team to the SHSP is working to improve the accessibility, accuracy, and completeness of local roads data.

Often times a representative from a local agency association or organization can serve as a committee or emphasis area team member for the SHSP and provide perspective on their membership's priorities and challenges.

> Engage associations or organizations representing multiple local agencies.

- Upon completion of the Connecticut SHSP, the LTAP became involved in the implementation workgroups for different focus areas. Connecticut LTAP is working with the DOT to find ways to assist local jurisdictions with RSAs, data analysis, and local outreach. The DOT and LTAP also have implemented a Safety Circuit Rider (SCR) program designed to provide safety-related information, training, and support to the many agencies responsible for local road safety in Connecticut. Since the inception of the program, the DOT has conducted more than 60 no-cost training sessions at local agencies. The LTAP also is working with the Connecticut Safety Research Center to develop Web-based tools for mapping and crash data analysis on local roads.

- The Virginia SHSP Steering Committee included an MPO, the Police Association, and State agencies who work with first responders and healthcare providers. These agencies were able to represent statewide, regional, and local priorities. The SHSP update process also included several outreach workshops around the State. Nearly 130 safety stakeholders attended the five regional events and offered their views on State and local traffic safety issues in Virginia.

- Ohio DOT leverages its strong relationship with the County Engineers Association of Ohio (CEAO) and invites CEAO to its quarterly committee meetings to discuss crash trends and possible strategies. ODOT's top emphasis area in the SHSP—improving data access and quality—intentionally applies to all public roads in Ohio rather than just the State-owned roadway system.

SHSP Strategies to Address Local Road Safety

Some States see improving local road safety as a key strategy to reduce fatalities and serious injuries. States can address this priority by including specific local road goals and strategies in the SHSP, or by developing a regional SHSP implementation process.

> Develop local road safety SHSP emphasis areas and/or strategies.

Local road safety can be addressed as an emphasis area in the SHSP or emphasis areas may include relevant local roads strategies.

- The Kansas SHSP includes a Local Roads Safety emphasis area. The six goals for the emphasis area include: 1) make access to Federal and State safety dollars for roads and streets less cumbersome for local agencies by identifying and acting on opportunities to improve efficiencies; 2) maximize benefit from available funds by tying funding to the greatest needs, as indicated by crash data and crash research; 3) improve local public authority (LPA) access to crash data; 4) promote multidisciplinary collaboration and cooperation on safety at local and regional levels to reduce crashes on the local system; 5) train and otherwise assist LPAs in developing safety programs and identifying low-cost strategies; and 6) emphasize to the law enforcement community the important role of law enforcement to improve safety on local roads.

- Two-thirds of fatal and serious injury crashes in Washington State occurs on local roads. Therefore, local issues significantly drive the State's priorities. Local data was analyzed to identify priority emphasis areas for key local jurisdictions versus the statewide plan's emphasis areas. The Target Zero SHSP Program also has designated Target Zero Managers in each county. The Target Zero Managers guide a local task force represented ideally by engineering, enforcement, education, and EMS, as well as other community agencies and organizations with an interest in traffic safety. The task forces coordinate traffic safety local efforts and resources at the local level by tracking data, trends, and issues in their area. They provide a variety of programs, services, and public outreach throughout their communities by working with local partners.

Regionally focused implementation plans and/or committees provide the opportunity for local stakeholders to customize the State's safety priorities to

meet their region's needs and priorities. The regional implementation approach also ensures the statewide SHSP is implemented across the State.

- Montana Department of Transportation (MDT) develops Community Transportation Safety Plans (CTSP) in collaboration with local and Tribal governments and outlines a program to provide technical and financial assistance to local communities. The goal of the CTSP is to identify partnerships, prioritize projects, and develop educational and programmatic strategies to implement and monitor safety assistance to local communities.

- Delaware Valley Regional Planning Commission (DVRPC) staffs the Regional Safety Task Force (RSTF), which meets quarterly and guides the development of the Transportation Safety Action Plan. The Transportation Safety Action Plan began with an analysis of the 22 emphasis areas identified in the National Strategic Highway Safety Plan. For each emphasis area, the plan explains the national and regional context, identifies existing programs in the region, recommends strategies and actions, and lists resources available on the topic. Each meeting of the RSTF is focused on one emphasis area and includes refining a set of actions and reporting back on progress.

- Missouri started a county SHSP process in 2013. To implement the county road safety planning process, MDOT worked with the Mid-America Regional Council (MARC) to organize the planning meetings. Since approximately two-thirds of the costs associated with crashes is associated with behavioral factors, the local safety plans identify enforcement strategies on local corridors and target National Highway Traffic Safety Administration (NHTSA) funds for implementation.

4.0 Highway Safety Improvement Program

4.1 OVERVIEW

Local road safety projects may receive funding and support through the Federal Highway Administration's Safety Improvement Program (HSIP). The goal of the program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on Tribal lands. HSIP, by legislation, requires "a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance" (FHWA. 2015. HSIP Factsheet. http://www.fhwa.dot.gov/map21/factsheets/ hsip.cfm). Moving Ahead for Progress in the 21st Century (MAP-21) allows HSIP funds to be used on projects that are consistent with the SHSP and correct or improve a "hazardous road location and feature, or addresses a highway safety problem." There are many ways that HSIP funds can be used to benefit local road safety, both by State DOTs and local agencies. This section highlights noteworthy practices agencies use to support their local road safety projects and safety initiatives using HSIP. Table 4.1 summarizes noteworthy practices addressed in this section.

Table 4.1   Summary of HSIP Noteworthy Practices

Category	Noteworthy Practice
HSIP Administration	• Involve local agencies in the program process and develop new ways to distribute HSIP information • Encourage MPOs and council of governments (COG) to apply for State HSIP funds • Develop locally focused guidance documents • Improve local safety assistance • Cross reference HSIP project list with STIP
Allocation of HSIP Funds to Localities	• Provide local program staff for HSIP fund delegation • Use RSAs as a basis for project applications • Encourage the use of systemic treatments for HSIP funds
Project Identification	• Provide project identification processes or guidance • Use RSAs to determine site specific safety issues • Develop RSA guidance documents • Use systemic analysis to identify/prioritize projects

4.2   LESSONS LEARNED

The following are a few themes and lessons learned emerged from the peer exchanges and reports in terms of how States apply for, administer, and allocate their HSIP funding for local road safety projects:

- Many local agencies need information and assistance to apply for HSIP projects;

- HSIP funds may be used to provide local road safety support and technical assistance;

- RSAs provide an opportunity for the State DOT and/or LTAP to partner with local agencies to identify potential safety improvement projects; and

- Low-cost systemic improvements serve as a good source for HSIP problem applications for local agencies.

4.3   NOTEWORTHY PRACTICES

The HSIP noteworthy practices shared in recent local road safety documents and the peer exchanges focus on administration strategies to encourage local participation, methods to allocate HSIP funds to local safety improvements, and techniques to identify safety improvements on local roadways. Noteworthy practices on these topics are included in this section.

HSIP Administration

States may use HSIP funds for infrastructure improvements and non-infrastructure projects, such as safety planning, data collection, enforcement, and emergency services. Once a State receives HSIP funding, it programs and allocates the funding based on the priorities established in its SHSP. Because States have different goals, initiatives, and challenges on their local road system, it can be difficult to prescribe a one-size-fits-all practice for State DOTs to allocate their local road HSIP funding. States have used the following strategies to work with their regional and local entities to allocate and administer HSIP funding for local roads:

- To facilitate the development of HSIP projects on local roads, the Vermont Agency of Transportation (VTrans) assists local governments in administering grants and implementing the projects. Safety stakeholders in Vermont have formed the Vermont Highway Safety Alliance to improve the flow of information to the local level.

> States are providing various levels of information and assistance to local agencies.

- Virginia DOT attempts to foster local involvement in project administration, selection, and implementation by conducting outreach on SHSP and MAP-21 HSIP eligible improvements, improving local project proposal and

administration requirements, and conducting local training through an annual Local Workshop.

- Iowa DOT is in the process of developing local county safety plans for 12 counties as a pilot, and 33 additional counties have expressed interest in participating in this program. The county safety plans are funded through the HSIP and coordinated by LTAP.

- To increase local participation in the HSIP, Colorado DOT (CDOT) sent more than 500 letters to local agencies regarding funding availability and eligibility requirements. CDOT is working with the Colorado LTAP to increase local participation in the HSIP program. The Department also created a local agency liaison position at its central office to improve outreach to local agencies.

- The Local Safety Initiative is a free and voluntary effort where Michigan DOT safety engineers work with local agencies to identify areas of concern, conduct field reviews at the locations, provide suggestions for countermeasures, and assist with identifying funding options. Historical trend information based on the SHSP is provided to every participating agency and the intersections and segments/corridors identified focus on the emphasis areas contained in the SHSP.

- Connecticut DOT (CDOT) helps local agencies access HSIP funding through a streamlined application process that uses a one-page application form. Local agencies provide CDOT with the location's accident history, a description of the proposed project, and the estimated timing and cost of the proposed project. CDOT then analyzes the crash data for the local agency. They use the safety performance function methodology to determine high-crash locations and perform benefit/cost analysis to determine which projects should be funded.

Allocation of HSIP Funds to Locals

States use different methods to allocate and distribute HSIP funding to districts, regions, or local agencies for safety projects. The following are examples of States that use percentages or proportions to allocate HSIP funds to their localities:

- In North Dakota, the Local Road Safety Program (LRSP) was established to perform risk assessments on local paved systems in all 53 counties and 12 urban areas within the State. North Dakota DOT provides approximately 50 percent of their HSIP funds for systemic safety improvements on these local roadways.

- In Arizona, 80 percent of HSIP funds are set aside for statewide safety projects, and 20 percent of funds are allocated for local roads. Locals also can apply for the 80 percent of HSIP funds set aside for State projects; these applications must be submitted through Arizona DOT Traffic Safety Section.

- In Washington State, the State portion of HSIP program is managed by a safety executive committee. Local projects are managed by the Local Programs staff,

and close to 70 percent of funds are allocated for local projects (proportionate to the percentage of crashes on local roads).

- In Minnesota, the DOT distributes HSIP funding to each district based on the proportion of fatal and serious injury crashes occurring in the district. District funds are then allocated to local roads and State highways based on the proportion of crashes occurring on the corresponding roadways. Typically, this funding allocation has ranged from 28 percent State highway/72 percent local roadway in the metropolitan area to a 50-percent/50-percent split in another district (http://safety.fhwa.dot.gov/hsip/resources/fhwasa1102/id_mn.cfm).

- Wyoming LTAP has worked with the Wyoming DOT (WYDOT) to develop and implement a methodology to identify, fund, and administer local safety projects. The methodology uses 10 years of crash data and the results of windshield surveys to develop weighting factors for the roadway environment. The factors are combined into crash and geometric ratings, which are then used to prioritize high-risk sites.

Another way that States have allocated HSIP funds to localities is through the use of incentive programs, or partnerships on specific initiatives. Some States use systemic safety programs to target systemwide improvements.

- Nevada DOT (NDOT) allocates $2 million to the High-Crash Location program (both State and local locations), and partners on systemic safety improvements with localities, such as flashing yellow arrows, pedestrian countdown timers, or traffic bumps. NDOT also has been instrumental in rolling out the Highway Safety Manual to local agencies, as well as consultant staff.

Other Project Identification Methods

While crash data analysis (i.e., hot spot analysis or systemic analysis) is the primary source of information used to identify projects, Roadway Safety Audits (RSA) provide an opportunity to partner with local agencies to identify potential safety improvements, especially when limited data is available. RSAs are used to determine the site-specific safety issues and potential countermeasures. While crash data analysis may or may not suggest there is a potential safety issue along a particular roadway, intersection, or corridor, agencies often will conduct an RSA at the site to gather additional data for further analysis.

- In Rhode Island, the Rhode Island Strategically Affordable Roadway Solutions (RI STARS) program evaluates crash data accompanied by congestion data for the purposes of eventually programming short-term improvements. Crash data is overlaid with congestion data and ranked for safety/operations. The top 10 locations are identified for RSAs, and then programmed for short-term improvements.

- Alabama DOT is developing Guidance for Road Safety Assessments and Road Safety Reviews. The purpose of the guide is to document a standard procedure for conducting Road Safety Assessments (RSA) and Road Safety Reviews (RSR) as a strategy to reduce fatal and severe injury crashes in support of Alabama's vision of zero fatalities from highway crashes. The guide provides a resource for local agency practitioners (county and local transportation agencies, law enforcement, etc.), who perform safety assessments, describes their use within various project stages, and outlines a process for incorporating RSAs into ALDOT's routine activities.

- Wyoming LTAP has worked with the Wyoming DOT (WYDOT) to identify low-cost and high-impact projects like signs, striping, rumble strips, and delineation projects for their selected local safety projects. For example, Wyoming has used HRRRP funding to implement a statewide sign program to fund new safety signs for local agencies.

Other Documented Practices

Table 4.2 shows additional local roads safety HSIP administration and funding practices documented in recent publications.

Table 4.2   Previously Documented HSIP Practices

Agency	Noteworthy Practice	Publication
Florida DOT	Local Agency Safety Summit—Annual summit to provide key information on traffic safety issues and resources	Assessment of Local Road Safety Funding, Training, and Technical Assistance
Caltrans	Local Safety Assistance Program Training Support and Local Road Safety Manual—Benefit/cost and HSIP application resources	Assessment of Local Road Safety Funding, Training, and Technical Assistance
Georgia DOT/ Douglas County, Georgia	Douglas County Safety Action Plan—County curve action plan as part of GDOT's Transportation Safety Action Plan Program	Noteworthy Practices Addressing Safety on Locally Owned and Maintained Roads—A Domestic Scan
Minnesota Association of Townships	Township Sign Inventory and Replacement Pilot—Develop and refine the requirements for sign reduction and removal	Noteworthy Practices Addressing Safety on Locally Owned and Maintained Roads—A Domestic Scan
Washington DOT/ Pierce County	Pierce County Safety Program—adopted a systemic approach for local safety project prioritization	Noteworthy Practices Addressing Safety on Locally Owned and Maintained Roads—A Domestic Scan

5.0 Partnerships and Collaboration

5.1 OVERVIEW

A common theme throughout the peer exchanges and recent reports is the wide-reaching benefits of local road safety partnerships and collaboration between State and local agencies. It is imperative that States and local agencies work together to partner towards solutions to their most pressing local road safety issues. This section highlights noteworthy methods that agencies use to develop partnerships and collaborate on various local road safety issues. Table 5.1 summarizes noteworthy practices addressed in this section.

Table 5.1   Summary of Partnerships and Collaboration Noteworthy Practices

Category	Noteworthy Practice
Local Agency Participation	Partner with local agencies and county traffic safety boards
Regional Planning Organization Partnerships	Leverage regional planning contacts to engage local agencies
LTAP/TTAP Partnerships	Leverage LTAP contacts to engage local agencies

5.2 LESSONS LEARNED

Traffic safety improvements require a multidisciplinary, multimodal approach at all levels of planning and development. Whether conducting data and analysis, involving locals in SHSP processes, or implementing local safety programs through the HSIP, State DOTs will develop and maintain partnerships with the local agencies and other stakeholders with a vested interest in traffic safety. The peer exchange participants noted the following takeaways related to partnerships and collaboration:

- Local traffic safety boards or coalitions are a great resource to tap into enthusiasm and information needed to identify and address local traffic safety challenges;

- Regional planning partners such as MPOs and rural planning organizations (RPO) provide an opportunity to collaborate with larger groups of local agencies; and

- LTAPs work closely with local agencies to provide training and technical assistance and can promote partnerships with local agencies.

5.3 NOTEWORTHY PRACTICES

Partnerships and collaboration are key components of traffic safety strategies. The following noteworthy practices were identified.

Regional Planning Organizations, LTAP/TTAP, and Local Partnerships

MPOs, LTAPs, Tribal Technical Assistance Programs (TTAP), other regional planning organizations, and other local-focused organizations (e.g., National Association of County Engineers (NACE), American Public Works Association (APWA)) provide insight into local road safety issues and challenges. Regional planning organizations can play critical roles in collecting comprehensive safety data from all localities in a region, promoting data collaboration, and identifying regional safety issues that might not be apparent otherwise. It is essential that State DOTs partner with regional organizations, both as a liaison to their local agencies, but also to encourage participation in local road safety initiatives or funding opportunities.

- The Montana LTAP/TTAP assists local agencies with road safety by helping locals conduct road safety audits and collect and analyze safety data. The LTAP/TTAP hosts annual conferences to bring together local safety stakeholders and helps local governments access Federal resources and learn about national campaigns such as Towards Zero Deaths.

- In Wyoming, the Wind River Indian Reservation Safety Improvement Plan was developed in conjunction with Wyoming T2 LTAP. The Reservation developed a methodology to identify high-risk locations on Indian Reservation roads and worked with the Tribes to develop a practical safety program that respects Nation sovereignty.

- The Louisiana Local Roads Safety Program provides crash data analysis to locals, MPOs, and Regional Safety Coalitions, upon request. The LRSP also provides training in Low-Cost Safety, RSAs, and other topics in support of SHSP and Regional Safety Coalitions. LRSP safety experts participate in RSAs upon request, and assist with reports and incorporation of recommendations into LRSP projects.

- In Michigan, local agencies are represented on the Governor's Traffic Safety Advisory Commission, which is the body that develops the SHSP and is supported by the action teams. The State is broken up into planning areas, each with its own Traffic Safety Committee (TSC) that allows for easier access to develop and publicize safety strategies. The TSCs vary in makeup from area to area, but typically are multidisciplinary audiences and topics presented at them come from a variety of backgrounds.

6.0 Summary

State DOTs are finding new strategies to improve local road safety. Local agencies vary widely in staff size and expertise, requiring flexibility in local road safety strategies. Some States have a vast local road system, while others maintain the large majority of the system's roadways. The Local Road Safety Peer Exchanges allowed State DOTs; LTAPs; and Tribal, regional, and local practitioners the opportunity to share ideas and discuss local safety challenges. The following sections summarize the major takeaways for each topic area.

6.1 DATA AND ANALYSIS

- State DOTs, MPOs, and local agencies should clearly define their role and responsibilities in the local road safety data process.

- Consistently agreed-upon data formats are crucial to partnerships between agencies for the purposes of data collaboration.

- Agencies can take steps to streamline their data collection and presentation through partnerships with private technology vendors or tools.

- State DOTs with statewide crash databases often have the most streamlined and accessible systems of data access for their localities.

- States should consider combining their local road safety data other statewide data management systems for ease of access.

- State DOTs should incorporate geographic mapping tools in their data analysis process, to further analyze crash data, spatial locations, and roadway characteristics.

6.2 SHSP INVOLVEMENT

- To engage locals in the SHSP planning process, incentives must be provided and benefits of participation must be highlighted.

- Local safety priorities must be on the table for discussion, and local safety strategies must be incorporated into the SHSP to encourage participation.

- States should engage various associations and organizations representing county engineers, municipalities, etc., and partner with LTAPs.

6.3 HIGHWAY SAFETY IMPROVEMENT PROGRAM

- Many local agencies need information and assistance to apply for HSIP projects.

- HSIP funds may be used to provide local road safety support and technical assistance.

- RSAs provide an opportunity for the State DOT and/or LTAP to partner with local agencies to identify potential safety improvement projects.

- Low-cost systemic improvements serve as a good source for HSIP problem applications for local agencies.

6.4 PARTNERSHIPS AND COLLABORATION

- Local traffic safety boards or coalitions are a great resource to tap into enthusiasm and information needed to identify and address local traffic safety challenges.

- Regional planning partners, such as MPOs and rural planning organizations (RPO), provide an opportunity to collaborate with larger groups of local agencies.

- LTAPs work closely with local agencies to provide training and technical assistance and can encourage partnerships with local agencies.