Local Road Safety Plans

Introduction

A Local Road Safety Plan (LRSP) provides a framework for organizing stakeholders to identify, analyze, and prioritize roadway safety improvements on local and rural roads. The process of developing an LRSP can be tailored to local protocols, needs, and issues. However, safety projects stemming from the plan need to be consistent with Federal and State project funding requirements if those funds will be used for project implementation. Also, the plan should be viewed as a living document that can be continually reviewed and updated to reflect changing local needs and priorities.

Unifying the LRSP with the State's Strategic Highway Safety Plan

Each State has a data-driven and comprehensive Strategic Highway Safety Plan (SHSP) that defines goals, objectives, and strategies to reduce fatalities and serious injuries on all public roads. SHSP development is typically led by the State Department of Transportation (DOT) in collaboration with the Governor's Office of Highway Safety, local governments, law enforcement, educators, emergency services, and other stakeholders and is a major component of the Highway Safety Improvement Program (HSIP).[1]

The HSIP is a Federal-aid program that incorporates a data-driven, strategic approach to improving highway safety that focuses on performance. This program supports highway safety improvement projects that are consistent with the data-driven SHSP and is designed to improve the safety of a road location or feature or to address a highway safety issue; that is, the SHSP provides a strategic direction for a State's safety investment decisions, and the HSIP supports and finances projects specifically targeting roadway and intersection locations by identifying and implementing countermeasures to improve the safety of the site.

The SHSP can specifically include local and rural roads as safety emphasis areas. This makes local and rural road owners important partners in developing an SHSP because nearly 80 percent of all public roads are operated by local or rural governments and approximately 56 percent of all fatalities occur on these roads.[2]

While the SHSP is used as a statewide approach for improving roadway safety, an LRSP can be a means for providing local and rural road owners with an opportunity to address unique highway safety needs in their jurisdictions while contributing to the success of the SHSP. The process of preparing an LRSP creates a framework to systematically identify and analyze safety problems and recommend safety improvements. Preparing an LRSP facilitates the development of local agency partnerships and collaboration, resulting in a prioritized list of improvements and actions that can demonstrate a defined need and contribute to the statewide plan. The LRSP offers a proactive approach to addressing safety needs and demonstrates agency responsiveness to safety challenges.

Developing an LRSP

In developing an LRSP, local and rural road owners should first consider addressing the following questions:[3]

- What is the purpose or goal?
- Which agencies are critical to include during plan development?
- How will safety problems be identified?
- How will improvement strategies be identified? Prioritized? Implemented?
- How will the plan be monitored and updated?

Establish a working group. A wide range of stakeholders from the "4E's" of highway safety should be encouraged to participate in developing an LRSP. The 4E's refers to the engineering, law enforcement, education, and emergency response communities. Stakeholders can also include those with a passion for roadway safety such as parents and civic groups. Local agencies have seen success by designating a safety champion to lead development efforts and identifying a dedicated group of stakeholders to assist in managing the entire process across departments and agencies. This process normally includes planning, implementing, evaluating, and updating.

Review crash, traffic, and roadway data. Stakeholders need to identify and compile relevant safety data to organize the information into categories that highlight an area of concern. These categories could be roadway characteristics, such as horizontal curves; vulnerable users, such as pedestrians; special vehicles, such as bicycles or school buses; or specific crash types, such as head-on crashes. Among the sources of data to include are local law enforcement records, State and local crash databases, local road traffic volumes, and roadway infrastructure records, if available. If data is not readily available, then safety data may become an area of concern of the LRSP, and objectives may include improving data collection.

Local Road Areas of Concern

Common areas of concern are usually related to road attributes, vulnerable road users, special vehicles, and crash types. An example is shown in the table on the next page. Agencies can modify these to reflect their area of concern. Other examples include:

- All-terrain Vehicles
- Horse-drawn Vehicles
- School Zones

The next step in developing the LRSP should be to select the areas of most concern related to causes of fatal and serious injury crash types on local roads for at least a 5-year period, similar to the example shown in the table below. The plan can also identify trends related to shifts in crash types (e.g., distracted driving crashes on the rise) and contributing factors.

Establish goals, priorities, and countermeasures. Stakeholders need to define priorities and identify a safety goal (e.g., reduce 1 fatality and 10 serious injuries per year), identify countermeasures that correlate to each emphasis area, and include costs, benefits, and deployment levels for each countermeasure such that the safety goal is satisfied. Once stakeholders have agreed on safety countermeasures, the plan can isolate and recommend improvements at identified crash locations, corridors, intersections, etc. The plan should include an approach that may be considered spot, systemic, or comprehensive in nature.

- **Spot** countermeasures are applied at specific locations or roadway segments. An example of this would be reconstructing the 10 curves with the highest number of crashes.
- **Systemic** countermeasures are usually low-cost and deployed in a widespread manner. An example would be adding advisory speed plaques to all curves in a region.
- **Comprehensive** countermeasures can include a spot or systemic countermeasure with the addition of outreach and enforcement. An example would be a coordinated speed enforcement program with an accompanying outreach initiative.

Example of Local Road Crash Data for Fatal and Serious Injury Crashes

Fatalities						
Description	2007	2008	2009	2010	2011	Total
Aggressive Driving						
Following too close	0	0	0	0	0	**0**
Too fast for conditions	4	3	4	0	3	**14**
Speed limit exceeded	4	1	2	5	3	**15**
TOTAL for 3 conditions	8	4	6	5	6	**29**
Run-off-Road crashes	5	5	5	6	3	**24**
Unrestrained Occupants[3]	5	4	4	3	6	**22**
Horizontal Curves	6	5	4	2	5	**22**
Alcohol and/or other drugs	4	5	5	4	3	**21**
Collision with Tree	1	3	3	4	2	**13**
Young Drivers – 15-20	2	3	2	1	2	**10**
Distracted Drivers	2	2	2	1	1	**8**
Motorcyclists killed	1	1	1	1	1	**5**
Intersection crashes						
Un-signalized	1	0	0	1	1	**3**
Signalized	1	0	0	0	0	**1**
TOTAL for Intersection Fatalities	2	0	0	1	1	**4**
Head-on Crashes						
Head-on – Non-Interstate	2	0	0	0	2	**4**
TOTAL Head-on	2	0	0	0	2	**4**
Pedestrians killed	1	1	1	0	0	**3**
Unlicensed drivers	2	0	0	1	0	**3**
Commercial Motor Vehicles	0	0	0	1	2	**3**
Collision with Utility Pole	1	0	0	0	1	**2**
Older Drivers – 65-75	0	0	0	1	0	**1**
Older Drivers – 76 or older	0	0	0	1	0	**1**
Work Zones	0	0	0	0	0	**0**
Bicyclists Killed	0	0	0	0	0	**0**
School Buses/School bus signal[4]	0	0	0	0	0	**0**
Total						**176**

Serious Injuries						
Description	2007	2008	2009	2010	2011	Total
Run-off-Road crashes	102	69	76	66	38	**351**
Horizontal Curves	83	59	75	47	41	**305**
Aggressive Driving						
Following too close	3	4	1	2	0	**10**
Too fast for conditions	60	43	46	32	30	**211**
Speed limit exceeded	14	5	10	8	5	**42**
TOTAL for 3 conditions	77	52	57	42	35	**263**
Unrestrained Occupants	50	46	44	28	19	**187**
Collision with Tree	46	36	42	27	23	**174**
Young Drivers – 15-20	37	37	36	21	18	**149**
Distracted Drivers	35	29	29	20	19	**132**
Alcohol and/or other drugs	29	20	34	17	15	**115**
Intersection crashes						
Un-signalized	11	11	3	2	5	**32**
Signalized	5	3	5	7	8	**28**
TOTAL for Intersection Serious Injuries	16	14	8	9	13	**60**
Head-on Crashes						
Head-on – Non-Interstate	22	12	12	4	8	**58**
TOTAL Head-on	22	12	12	4	8	**58**
Unlicensed drivers	22	9	10	8	4	**53**
Motorcyclists Seriously Injured	16	8	6	8	7	**45**
Collision with Utility Pole	7	9	10	12	5	**43**
Older Drivers – 65-75	8	5	2	5	6	**26**
Pedestrians Seriously Injured	9	3	3	4	5	**24**
Commercial Motor Vehicles	3	3	3	4	6	**19**
Older Drivers – 76 or older	5	3	1	0	2	**11**
Work Zones	0	0	0	2	0	**2**
Bicyclists Seriously Injured	0	2	0	0	0	**2**
School Buses/School bus signal	0	0	0	0	0	**0**
Total						**2019**

Implementation and Assessment of the plan. Overall, the LRSP should summarize the needs identified, the safety goal, emphasis areas, and a prioritized list of improvements or activities. Additionally, the plan can identify responsibilities and resources to carry out the plan. Items that may also be documented include the stakeholders and process used to develop the plan, successes realized through similar past or current efforts, and obstacles or challenges related to implementation. The working group should monitor the plan to evaluate effectiveness and relevance over time and should adjust the plan periodically or as needed. The LRSP should include information on this evaluation.

LRSP Example: Clackamas County, Oregon

As a means to support Oregon DOT's Transportation Safety Action Plan (TSAP), Oregon's version of an SHSP, Clackamas County developed an LRSP to reduce fatalities and serious injuries on the county's road network.[4] The county's ultimate goal is to reduce transportation-related fatalities and serious injuries by 50 percent over the next 10 years and to do so by a combination of collaborating with partners from the 4E's and conducting evaluation activities.

County safety stakeholders completed the following steps during LRSP development:

- Comprehensively analyzed approximately 3,900 crashes that occurred on all roadways within the county from 2005 through 2009;
- Identified three main emphasis areas: aggressive driving, young drivers, and roadway departure;
- Established a safety goal: saving 16 lives and preventing serious injuries in a 5-year period (10 percent reduction goal over 5-years);
- Identified countermeasures that corresponded to each emphasis area and associated benefits and costs; and
- Determined short-, mid-, and long-term actions within each of the 4E's.

The process Clackamas County used to develop its County TSAP closely paralleled the process used to prepare Oregon's TSAP and was in accordance with requirements for HSIP funding. The county plans to use the TSAP to guide future projects and efforts to achieve their safety goal.

Resources

The Federal Highway Administration has several resources on its website for the Local and Rural Road Safety Program. These resources include information about crash facts; funding, policy, and guidance; safety programs; and partners and resources and can be found at: http://safety.fhwa.dot.gov/local_rural

Federal Highway Administration, "Highway Safety Facts and Statistics" website. Available at: http://safety.fhwa.dot.gov/facts_stats/

Federal Highway Administration, *Developing Safety Plans: A Manual for Local and Rural Road Owners*, FHWA-SA-12-017 (Washington, DC: March 2012). Available at: http://safety.fhwa.dot.gov/local_rural/training/fhwasa12017/

Federal Highway Administration, "Strategic Highway Safety Plan (SHSP)" website. Available at: http://safety.fhwa.dot.gov/hsip/shsp/

Federal Highway Administration, *Systemic Safety Project Selection Tool*, FHWA-SA-13-019 (Washington, DC: July 2013). Available at: http://safety.fhwa.dot.gov/systemic/fhwasa13019/

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[1] Federal Highway Administration, "Highway Safety Improvement Program" web page. Available at: http://safety.fhwa.dot.gov/hsip/

[2] Federal Highway Administration, *Highway Statistics 2012*, "5.4.1. Vehicle-miles of travel, by functional system," (Washington, DC: 2012). Available at: http://www.fhwa.dot.gov/policyinformation/statistics/2012/vm2.cfm

[3] Federal Highway Administration, *Developing Safety Plans: A Manual for Local and Rural Road Owners,* FHWA-SA-12-017 (Washington, DC: March 2012). Available at: http://safety.fhwa.dot.gov/local_rural/training/fhwasa12017/

[4] Clackamas County Department of Transportation and Development, *Clackamas County Transportation Safety Action Plan*, Project No. 11235.0 (Oregon City, OR: July 2012). Available at: http://www.clackamas.us/transportation/documents/TSAP_Final%20with%20logo%20smaller%20version_2013.pdf