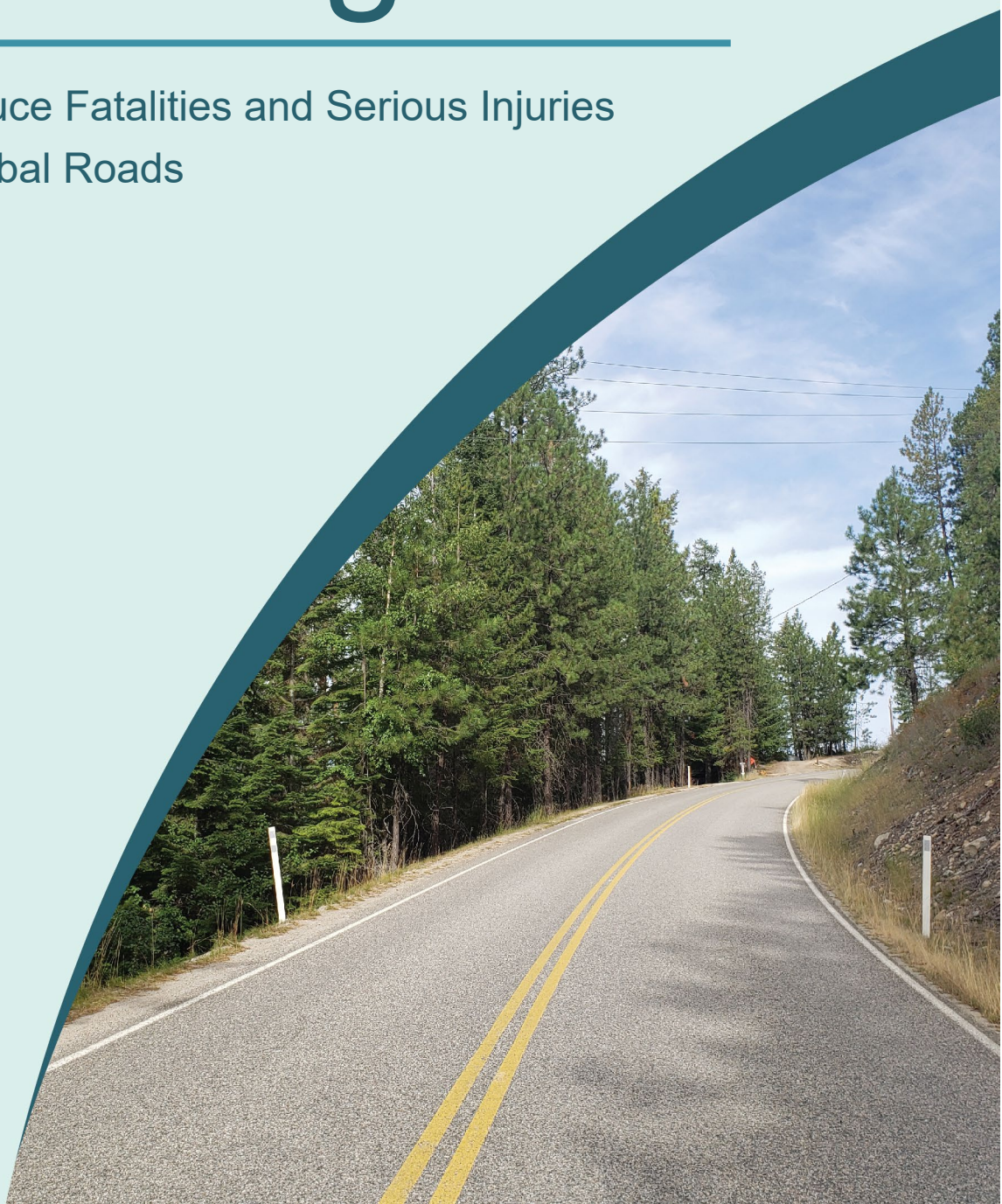
Safety Circuit Rider Programs

Working to Reduce Fatalities and Serious Injuries on Local and Tribal Roads



July 2022

U.S. Department of Transportation
Federal Highway Administration

ZERO IS OUR GOAL
A SAFE SYSTEM IS HOW WE GET THERE

Image Source: Bonner County, Idaho

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16. Abstract

Safety Circuit Rider (SCR) programs exist to support agencies responsible for local and Tribal roads reduce fatalities and serious injuries. Whereas as several States have embraced a full SCR program and have shown recognized safety benefits, other have adopted and implemented aspects of an SCR program and still others have remained reluctant to adopt a program. This report provides the safety impacts of an SCR program through an overview of SCR program history, an overview of activities performed, program structure, program sustainability, and case studies of existing programs.

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List of Acronyms

ADD	Area Development District
APWA	American Public Works Association
BIL	Bipartisan Infrastructure Law
CDC	Center for Disease Control and Prevention
CMAQ	Congestion Mitigation and Air Quality Improvement
CTST	Community Traffic Safety Team
DOT	department of transportation
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
HELPERS	Hazard Elimination Program for Existing Roads and Streets
HRRR	High Risk Rural Roads
HSIP	Highway Safety Improvement Program
KTC	Kentucky Transportation Center
KYTC	Kentucky Transportation Cabinet
LCSI	low-cost safety improvements
LRSP	local road safety plan
LTAP/TTAP	Local/Tribal Technical Assistance Program
MDST	Multidisciplinary Safety Team
Missouri S&T	Missouri University of Science and Technology
MOU	memorandum of understanding
MPO	Metropolitan Planning Organization
MUTCD	Manual on Uniform Traffic Control Devices
NHTSA	National Highway Traffic Safety Administration
NRSS	National Roadway Safety Strategy
PTOE	Professional Traffic Operations Engineer
RPO	Rural Planning Organization
RSA	road safety audit/assessment
RSP	Road Safety Professional
SCR	safety circuit rider
SHSO	State Highway Safety Office

SHSP	Strategic Highway Safety Plan
SP&R	State Planning & Research
SS4A	Safe Streets and Roads for All
SSARP	Systemic Safety Analysis Report Program
STACC	Safety Technical Assistance for Counties and Cities
STIC	State Transportation Innovation Council
T2 Center	Connecticut Training & Technical Assistance Center
T2	Technology Transfer
TMS	Transportation Management System
TSC	Traffic Safety Commission
U.S.C.	United States Code
USDOT	United States Department of Transportation

Executive Summary

The U.S. Department of Transportation (USDOT) has adopted the federal government's new comprehensive National Roadway Safety Strategy (NRSS), a roadmap for addressing the national crisis in roadway fatalities and serious injuries.[1] The NRSS provides concrete steps that USDOT will take to address this crisis systemically and prevent the tragic and avoidable deaths and serious injuries. The NRSS is the first step in working toward an ambitious long-term goal of reaching zero roadway fatalities. The Safe System approach plays a major role in achieving that goal. This approach acknowledges both human mistakes and human vulnerability, and designs a redundant roadway system to protect all users by preventing opportunities for crashes to result in a serious injury or death. The Safe System approach includes five elements to address safety: Safe Road Users, Safe Roads, Safe Vehicles, Safe Speeds, and Post-Crash Care. The zero goal requires action from all levels of government so that road users remain safe traveling the roadways. This too has been a goal of the Safety Circuit Rider (SCR) Program, as the programs have extended their reach to both traditional and non-traditional safety partners.

The purpose of this document is to provide an overview of existing SCR programs to accomplish the following:

- Highlight their contributions to local road safety.
- Identify the different SCR program structures.
- Identify considerations when starting a new SCR program.

The primary goal of the SCR Program is to reduce the frequency and severity of roadway crashes by providing safety-related support to agencies responsible for local and Tribal road safety. SCR programs are typically operated by qualified safety professionals. These individuals are referred to as safety circuit riders. Currently, 27 States have an SCR program or offer safety-related technical assistance similar to an SCR program.

SCR programs include a variety of activities that can be categorized into three areas: training, technology transfer, and technical assistance. Training is typically provided to local, State, and Tribal agencies on a variety of topics often through the Local Technical Assistance Program (LTAP). Training provided by SCR programs focuses directly on road safety. Technology transfer is where the agency is introduced to new and innovative technologies, products, and methods with the goal of becoming standard practice. Technical assistance includes safety-related services to local and Tribal agencies that help advance safety on their roadway system. Typical technical assistance efforts include:

- Conducting crash data analysis.
- Conducting road safety audits or field reviews.
- Assisting local agencies in the development of their local road safety plans.

SCR program impacts on safety can be quantified by measuring changes in local agency safety awareness and through the following performance metrics:

- Increased number of local road safety projects for implementation.
- Increased participation in safety grant programs by local agencies and Tribes.
- Requests for safety related tools.
- Requests for crash data summaries/profiles.

[1] https://www.transportation.gov/NRSS

- Requests for road safety audits and other technical assistance.

Staffing, funding, and sustainability are aspects of an SCR program crucial to achieving its overall purpose. Additionally, effective programs:

- Determine the level of need and support.
- Find continuing support for the SCR program.
- Establish partnerships with stakeholders at various levels.

The SCR programs continuously exhibit noteworthy practices including the following:

- Ohio: The Ohio Local Roadway Database of Installed Proven Safety Countermeasures provides information on where countermeasures are being implemented in the State to inform those who may be pursuing safety related projects.
- Kansas: The Kansas LTAP SCR Local Field Liaison Program provides packets to counties that include funding information, and a Local Field Liaison meets with the counties to discuss the contents.
- Connecticut: The Connecticut Training and Technical Assistance Center in the University of Connecticut established a formal SCR advisory committee to provide input into the development, implementation, and continued growth of its SCR program.
- Colorado: With nearly 60 percent of the traffic fatalities occurring on local roadways, the Colorado Strategic Highway Safety Plan identified its SCR program as a strategy to enhance local road safety.
- Kentucky: Based on crash data, the Kentucky SCR program selects six counties annually to focus its SCR efforts.

Chapter 1 Introduction

The Safety Circuit Rider (SCR) Program is designed to provide safety-related information, training, and support to agencies responsible for local and Tribal roadway safety. While the primary focus is on local and Tribal roads—and therefore local and Tribal agencies—SCR programs also support local and Tribal Technical Assistance Program (LTAP/TTAP) Centers, State transportation agencies, universities, and safety interest groups, all of which can play a significant role in improving road safety. Based on Federal Highway Administration (FHWA) Highway Statistics 2020, local agencies own and operate 66 percent of all public roadways in the United States and 75 percent of rural roads.[2] The National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Report System (FARS) estimates that approximately 40 percent of the nation's traffic fatalities from 2015 to 2019 occurred on locally owned roads.[3] To make significant progress in reducing the number of crashes and fatalities nationally, transportation professionals must improve safety on all public, including local, roadways. The primary goal of the SCR program is to support the safety needs of the local and Tribal road practitioners.

The U.S. Department of Transportation (USDOT) has adopted the Federal government's new comprehensive National Roadway Safety Strategy (NRSS), a roadmap for addressing the national crisis in roadway fatalities and serious injuries.[4] The NRSS provides specific steps that USDOT will take to address this crisis systemically and prevent the tragic and avoidable deaths and serious injuries.

The NRSS is the first step in working toward an ambitious long-term goal of reaching zero roadway fatalities. The Safe System approach (illustrated in Figure 1), which acknowledges human mistakes and human vulnerability and designs a redundant system to protect everyone by preventing crashes and ensuring that if they do occur, they do not result in serious injury or death, plays a major role in achieving that goal. The Safe System approach includes five elements to address safety: Safe Road Users, Safe Roads, Safe Vehicles, Safe Speeds, and Post-Crash Care.

The zero goal requires action from all levels of government to provide safe travel to road users. This too has been the goal of the SCR program, as the programs have extended their reach to both traditional and non-traditional safety partners.

Figure 1. The Safe System approach. (Source: FHWA).

[2] Highway statistics 2020. U.S. Department of Transportation/Federal Highway Administration. (n.d.). Retrieved March 7, 2022, from https://www.fhwa.dot.gov/policyinformation/statistics/2020/.
[3] Fatality and Injury Reporting System Tool (FIRST). National Highway Traffic Safety Administration. (2022) Retrieved March 15, 2022, from https://cdan.dot.gov/query.
[4] https://www.transportation.gov/NRSS.

SCR programs are typically operated by qualified safety professionals who are known as safety circuit riders. The SCR program and the safety circuit riders provide safety-related information, training, and assistance to agencies responsible for local and Tribal roadway safety. SCR programs serve local and Tribal agencies safety needs through technical assistance, training, and technology transfer. While SCR programs' activities focus on safety, LTAP/LTTP Centers often house the SCR programs. SCR programs provide local and Tribal agencies with resources including technical expertise to identify, diagnose, and treat road safety problems.

SCR Program History

In In 2005, FHWA, with assistance from the Office of Federal Lands, identified an opportunity to enhance safety services through LTAP Centers by funding safety circuit rider positions at three LTAP Centers (Florida, Kentucky, and West Virginia) and one TTAP Center (former Northern Plains TTAP Center). FHWA awarded grants for a pilot program through a competitive process. The pilot study assessed the feasibility and usefulness of an SCR program. The assessment determined that the SCR pilot program was a success as the three LTAP Centers continued to fund the SCR positions once the pilot concluded. At the end of the FHWA pilot program in 2006, the following States had SCR programs: Delaware, Florida, Iowa, Kentucky, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Vermont, West Virginia, and Wisconsin.

In 2009, FHWA published the *Safety Circuit Rider Programs Best Practices Guide*.[5] This guide provided State Departments of Transportation (DOTs) and LTAP/TTAP Centers with a resource for implementing or enhancing an SCR program.

The Centers for Disease Control (CDC), in cooperation with FHWA, expanded the 2005 pilot SCR Program in 2013. The CDC and FHWA provided funding for three TTAP centers with a goal to reduce traffic related injuries and fatalities in American Indian and Alaskan native communities.

[5] Gross, F., Nabors, D., Eck, R., & Hood, M. (2009). Safety Circuit Rider Programs Best Practices Guide, FHWA-SA-09-019, https://safety.fhwa.dot.gov/local_rural/training/fhwasa09019/

Existing Programs

The SCR Program has expanded, and more than 20 States developed SCR programs or positions as of 2022. As shown in Figure 2, the following States maintain and contribute to an SCR program: Alabama, California, Colorado, Connecticut, Delaware, Florida, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Virginia, and Washington. Several of these States operate a safety program like an SCR program with dedicated person/s providing local and Tribal agencies safety assistance, but do not use the "Safety Circuit Rider" terminology.

Other States provide various safety-related technical assistance, similar to an SCR program. These States include Arizona, Idaho, Nebraska, New Jersey, New York, North Dakota, Pennsylvania, South Dakota, Tennessee, West Virginia, and Wisconsin.

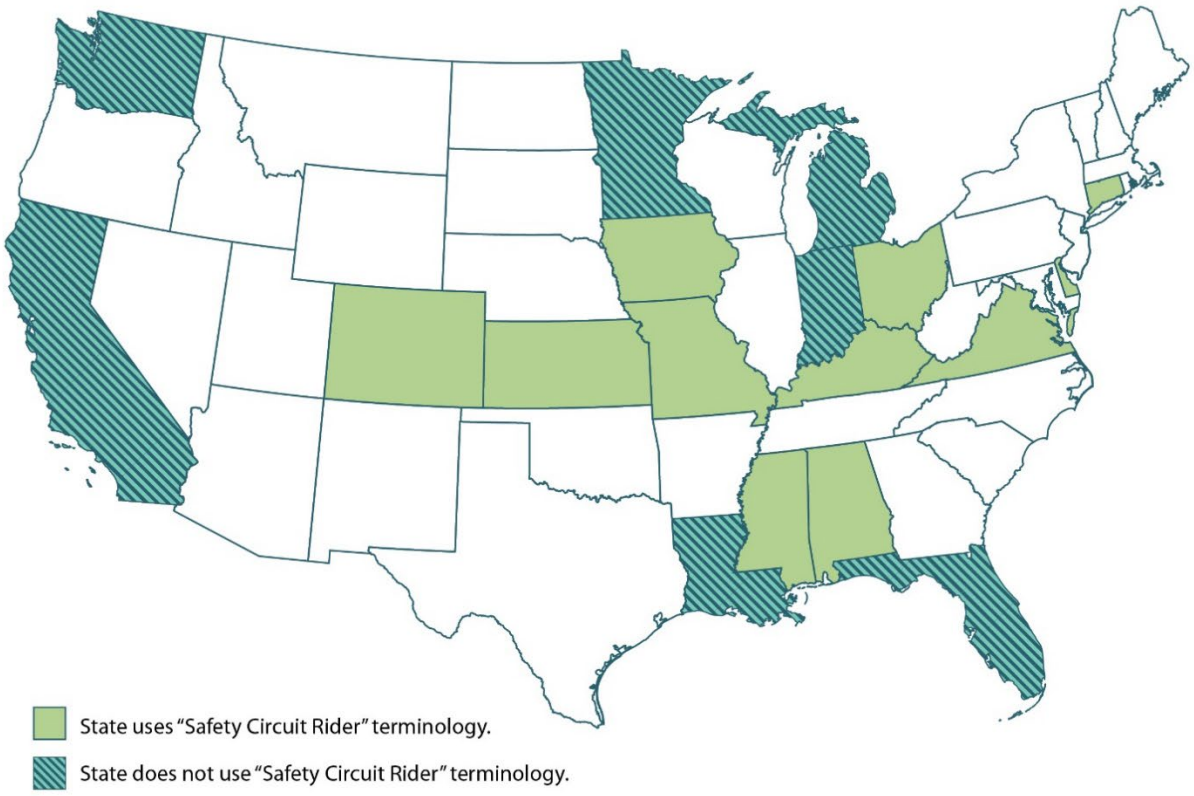


Figure 2. Graphic. States with an SCR program. (Source: FHWA).

Chapter 2 SCR Program Contributions to Local and Tribal Road Safety

State DOTs typically have staffing, technical capacity, and resources to address safety performance on its roadways. Conversely, many local and Tribal agencies often do not have the staff or funding resources to identify, diagnose, and select the appropriate countermeasures to reduce fatal and serious injury crashes on their roadway system. SCR programs provide safety-related support in the form of training, technical assistance, technology transfer, and equipment loans to agencies responsible for local and Tribal road safety. Access to a safety circuit rider is an opportunity to enhance available resources of local and Tribal agencies (e.g., safety-related knowledge and tools), as well as provide additional staff.

Training

Each State has an LTAP Center, and they provide training on a variety of topics focused on local and Tribal agencies. However, the trainings provided through an SCR program is mainly road safety related. Course topics typically include low-cost safety improvements, signing and pavement markings, work zone safety, and flagger training. Additional topics have included safety analysis, road safety audits (RSAs), and Highway Safety Improvement Program (HSIP) project development. The following are notable activities of existing SCR training:

- The Connecticut SCR program created a “Safety Academy” that provides free training on local and Tribal road safety topics. They also created a free “Connecticut Safety Champion” program where local and Tribal agencies and DOT staff earn credit for the trainings taken. Professional development opportunities make this program attractive to participants.
- Florida LTAP conducts an annual survey to determine the safety needs of local and Tribal agencies and then uses the results to develop their training plan.
- The Iowa SCR program conducted numerous safety workshops and conferences. Local agencies can request training online. They also promote FHWA’s Low-Cost Safety Improvements Video Series on their SCR program webpage.[6]
- The Ohio LTAP developed an e-learning catalog. This catalog allows free access to more than 300 online courses on a variety of topics from the Ohio LTAP center. The SCR program provides training on how to perform a curve study, conduct an RSA, and evaluate sign retroreflectivity, which ties into its equipment loan program.
- The Kentucky and Ohio SCR programs provide training for elected officials and others that focus on funding sources for safety projects.
- The Virginia and Alabama SCR programs developed a Road Safety Champion Workshop based on the Road Safety Champion Program from the National Center for

[6] https://iowaltap.iastate.edu/safety-circuit-rider/

Rural Road Safety[7] to improve safety training. Alabama is expanding this to a "train-the-trainer" format.

- Several LTAPs have a Road Scholar Program, which includes a series of classes for the participant to be certified. For example, the Arizona LTAP Road Scholar Program provides three levels of training courses with multiple classes each for municipal employees and supervisors. Other LTAPs offering a Road Scholar program include Colorado, Connecticut, Indiana, Kentucky, Louisiana, Minnesota, Missouri, New Hampshire, Nevada, North Carolina, Ohio, Pennsylvania, and West Virginia.

SCR programs typically provide training in an in-person setting. To account for travel restrictions due to the global pandemic, SCR programs pivoted to a virtual platform to continue to provide critical safety training programs that meet the needs of their local and Tribal agencies. Major benefits include the following:

- Expanded course topics from presenters across the nation.
- Increased participation due to less time required to attend and associated travel costs.
- Ability to accommodate more local and Tribal agencies.

The virtual training environment also presented challenges such as finding the right web-based platform or connectivity issues due to a lack of Wi-Fi access/bandwidth in participant locations. Future training will likely be a combination of in-person and virtual, depending on the needs of the local and Tribal agencies.

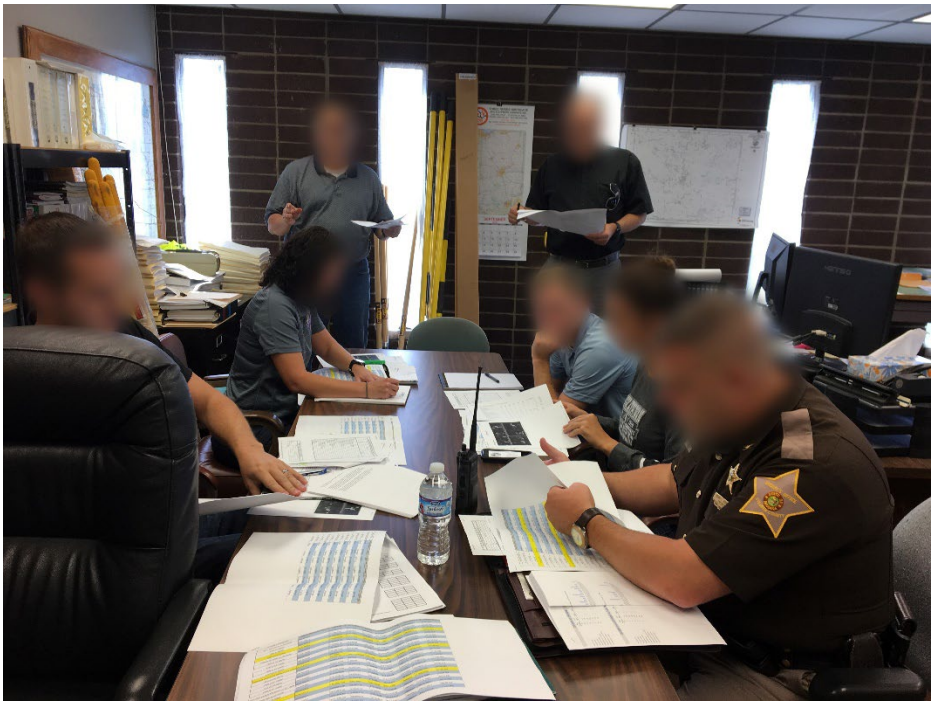


Figure 3. Photograph. Multiple multidisciplinary stakeholders participating in a training. (Source: Indiana LTAP Center).

[7] https://ruralsafetycenter.org/training-education/road-safety-champion-program/

Technology Transfer

Technology Transfer involves the process where new and innovative technologies, products, or methods are introduced and implemented with the goal of making them standard practice. Activities include peer exchanges, workshops, conferences, and equipment loan programs. Equipment loan programs provide items such as retroreflectometers, ball bank indicators, and radar speed detection equipment for use by local and Tribal agencies. The following are some examples of technology transfer activities:

- The Connecticut SCR program developed and offered free work zone safety packages and training (offered to 169 towns) and free speed feedback signs (provided to 119 towns) with approximately $1.6 million in funding from the DOT's High Risk Rural Roads program. The safety circuit rider also provides assistance to local and Tribal agencies to understand the capabilities of the new Connecticut Crash Data Repository.
- The Kansas LTAP has an equipment loan program available for local and Tribal agencies. Available equipment includes a retroreflectometer, speed feedback trailer, ball bank indicators, Safety Edge^{SM} paving shoe, and drones.
- The Ohio LTAP has an equipment loan program available to local and Tribal agencies that includes a dash cam recorder used for RSAs and road sign inventory collection.

Noteworthy Practice

Agency: Ohio

Practice: Countermeasure Database

The Ohio Local Roadway Database of Installed Proven Safety Countermeasures provides information on where countermeasures are being implemented in the State. This resource allows local agencies that are considering a countermeasure to contact their peer agencies that have already implemented the countermeasure to ask questions or get firsthand advice on its implementation.

Technical Assistance

While some counties and many cities employ a full-time licensed engineer, others lack the personnel resources and/or expertise to perform safety reviews and analyses. As a result of resource constraints, local and Tribal governments tend to have limited time to perform safety reviews and analyses. SCR programs provide various services that help advance safety on their roadway system through their technical assistance services. Popular technical assistance

services requested by local and Tribal agencies include help with interpreting crash data and ensuring compliance with horizontal curve signing standards in the Manual on Uniform Traffic Control Devices (MUTCD).[8]

Technical assistance offered by SCR programs will vary based on State priorities and the needs of the agencies but will typically include the following:

- **Data Analysis and Use**. This is a frequently requested safety-related activity by Tribal and local agencies across States. Data analysis ranges from activities such as providing graphs to local and Tribal agency officials showing the crash trends in their county to more detailed analysis and GIS mapping to identify routes and roadway features to address through safety improvements. Connecticut and Colorado SCR programs noted that providing data analysis to the local and Tribal agencies galvanizes their participation in the SCR program leading to safety improvements.
- **Data Collection**. This technical assistance can range from collecting data on the location of traffic signing, pavement marking and sign retroreflectivity measurements, and using a ball bank indicator to determine the advisory speeds for curves. Data collection is one of the highest demand items for technical assistance in Delaware.
- **RSAs**. RSA requests are typically initiated by a local or Tribal agency but may also originate from an elected official or State DOT. Washington State, which operates a local road safety program similar to an SCR program, pre-determines the number of RSAs for a single local agency. The Kentucky SCR program includes two RSAs per focus county as part of the technical assistance documented in the SCR agreement. The agreement also documents the agencies that will participate in the RSAs.
- **Field Reviews**. Field reviews to assess on site conditions are helpful to local and Tribal agencies to identify safety issues and potential solutions. Unlike RSAs which uses a multidisciplinary team, the field review is typically conducted by the safety circuit rider. The West Virginia LTAP conducts field reviews for roadways with identified safety issues, on-street parking, crosswalk location, and intersection safety issues.
- **Local Road Safety Plans (LRSPs)**. Several SCR programs are assisting local and Tribal agencies with the development of LRSPs. The Colorado SCR program assisted with the development of LRSPs by identifying countermeasures with the greatest potential to reduce traffic crashes. For example, Mesa County, Colorado, estimated the reductions in traffic crashes could save the county $3.8 million, which was well-received by county commissioners.
- **Safety Project Application Assistance**. The SCR program in several States (e.g., Indiana, Ohio, Alabama) have provided technical assistance to local and Tribal agencies to help them understand safety project eligibility requirements for safety funding and assist with completing safety project application.

[8] 2009 edition, original, dated December 2009 (PDF). MUTCD 2009 Edition, Original, dated December 2009 (PDF) - FHWA MUTCD. (n.d.). Retrieved March 8, 2022, from https://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm

Figure 4. Photograph. Multidisciplinary team conducting a road safety audit. (Source: Indiana LTAP Center).

There are various avenues in which local and Tribal agencies request SCR program services including:

- **Contacting the safety circuit rider directly**. This is a common method of requesting services, especially when the safety circuit rider is conducting training or attending conferences.
- **Using a generic SCR program email to submit general requests**. Several SCR programs, including Iowa, Alabama, and Missouri, provide an email address on their websites for local and Tribal agencies to request training. This often occurs as a follow up to training that was provided previously.
- **Submitting a formal assistance application**. Alabama's Safety Technical Assistance for Counties and Cities (STACC) program has an application for local and Tribal governments to request technical assistance to address safety concerns or to request related training. The program also provides an example application to assist local and Tribal agencies in completing an application.[9] STACC assistance can include, but is not limited to, network screening, diagnosing safety problems, recommending countermeasures, and supporting road safety reviews.

[9] https://www.eng.auburn.edu/atap/files/stacc-application-example.pdf

Many SCR programs use a combination of these contact methods. In addition to the application method, STACC is structured as an on-demand service to provide assistance to local and Tribal agencies upon request. This is deliberate to avoid agencies misinterpreting that STACC only exists to identify problems on local and Tribal agencies' roadways. Of note, the application has a confidentiality statement indicating that information collected and compiled pursuant to 23 U.S.C. §§130 and 148 and other Federal safety programs is exempt from discovery or admission under 23 U.S.C. §§ 402 and 409. This helps address concerns about liability. When STACC was being developed, the counties expressed concern that technical assistance would produce documentation that would require them to take action despite lacking adequate resources. Alabama Transportation Assistance Program staff overcame this perception by encouraging agencies to view the reports as supporting documents. For example, a report can be used to persuade elected officials to obligate funding for a particular countermeasure. A report can also be included as an appendix to an application for funding.

Table 1 summarizes typical services provided by SCR programs across the country. Note that the listing of States only includes programs that use "Safety Circuit Rider" terminology.

Table 1. Services provided by SCR programs.

State	Training		Technology Transfer			Technical Assistance					
	In-person	Virtual	Equipment Loan Program	Peer Exchanges, Workshops, Conferences	Competition (e.g., Build a Better Mouse Trap)	Data Collection	Data Analysis/Interpretation	Road Safety Audits	Field Reviews	Local Road Safety Plans	Application Process for Project Funding
AL	✓	✓	✓	✓			✓	✓			✓
CO	✓			✓			✓	✓		✓	✓
CT	✓	✓	✓	✓		✓	✓	✓	✓	✓	
DE							✓	✓	✓		
IA	✓		✓	✓			✓	✓			
KS			✓	✓	✓	✓	✓	✓		✓	✓
KY	✓		✓	✓	✓		✓	✓		✓	
MO	✓	✓	✓	✓			✓				✓
OH	✓	✓	✓	✓			✓	✓			
VA	✓	✓					✓	✓			✓

Program Impacts

Determining the roadway safety impact of SCR programs is not an easy task. Crash frequencies can fluctuate based on a number of factors, including traffic volumes, the economy, societal changes (e.g., the pandemic, gas prices), transit ridership, and safety awareness of practitioners is immeasurable. The simplest way of evaluating SCR programs and their potential impacts is to track requests for services over time. The following are example performance measures of services provided:

- Number of training and technical assistance sessions.
- Number of projects initiated as a result of the SCR program activities.
- Number of requests for SCR program support.
- Number of RSAs conducted.
- Number of workshop participants.

The Connecticut SCR program developed a database for SCR program projects that collected the number of local agency visits, RSAs conducted, training provided, documentation of the recommendations made, and follow-up calls or emails to determine what had been implemented. An agency can use a similar tracking method to evaluate the results or outcome resulting from the technical assistance.

While not common, some SCR programs have completed crash-based evaluations of the effectiveness. Kentucky conducted an effectiveness evaluation of its pilot SCR Program. By the end of the first phase of the program in June 2005, the Kentucky SCR program helped to improve 39 roads as a result of the workshop and RSA activities. The involved counties in Kentucky saw a marked improvement in safety through reduced injuries and fatalities. Roadways included as part of SCR program activities recorded a 50-percent crash reduction in 2006, based on the average number of crashes per year in the before and after periods. The before period included 5 years of data and the after period included crash data from the time of implementation in 2005 through 2006. An evaluation using a longer “after” period has not been conducted.

Most of the agencies targeted by SCR program activities have lower volume roads that typically experience lower crash frequencies, making it difficult to determine safety impacts based on crash data alone. However, safety impacts are not limited to quantitative factors. Anecdotal evidence and feedback and improved safety awareness are other key indicators of safety impacts that can be used in lieu of crash-based statistics. The following section provides more detail on these approaches.

Anecdotal evidence and feedback. Agencies that have requested SCR program support can be valuable champions by sharing their experience of the benefits derived from SCR activities. The Indiana program includes impact comments received from local and Tribal agencies in its funding proposals, which typically include compliments from citizens and highlights of safety recommendations that have been implemented.

> *“The four-way stop that you recommended at the intersection of 300E and 400N was well received by the residents in the area. They feel it is much safer than the previous two-way stop.”* - **Starke County Highway Superintendent**

"In my role as Connecticut's State Safety Engineer, I was responsible for the prevention of fatal and serious injury crashes involving all road users on State and local roadways. Since over 80 percent of roadway mileage in CT is owned and maintained by towns and cities, I quickly learned that to reach a Zero Vision goal for CT, that it was critical to engage and work with local agencies. The SCR program in CT filled a gap by providing safety-related information, training, and direct technical assistance to agencies responsible for local roadway safety. The SCR program has changed the safety culture in CT and I'm proud to have been part of that." - **Connecticut DOT State Safety Engineer**

Improved safety awareness. A safety circuit rider can have a positive influence on an agency and its community in terms of a safety culture. While this may be difficult to quantify, the following are examples of improved safety awareness:

- Increases in the number of HSIP applications submitted.
- Increases in number of safety projects.
- Requests for safety tools and equipment.
- Requests for crash data summaries/profiles.
- Requests for RSAs.

SCR programs can assist agencies in understanding and adopting the Safe System approach and improve the safety culture. Through practical Safe System approach examples in training and technical assistance, the safety circuit rider can instruct local and Tribal agency staff and elected officials on ways to integrate the Safe System principles and elements in their safety programs. The Safe System approach aims to eliminate fatal and serious injuries by accommodating human mistakes and keeping impacts on the human body at tolerable levels. The SCR activities consistently address three of the five elements of the Safe System approach—Safe Road Users, Safe Roads, and Safe Speeds.

Chapter 2 Summary

The SCR Program concept was introduced in 2005 as a pilot program funded by FHWA. As of 2022, 10 States had a formal SCR program, and an additional 17 States operated a program or provide technical assistance similar to an SCR program. SCR programs typically provide services that can be classified as training, technology transfer, or technical assistance. Training provided by an SCR program is safety related and normally held in person. In 2020, most safety circuit riders had to pivot to web-based training to continue their services during the pandemic. Going forward, the programs plan to move towards a hybrid approach. Technology transfer introduces new and innovative technologies or methods with the goal of making them standard practice. Related activities include peer exchanges, workshops, conferences, and equipment loan programs. Technical assistance supports local and Tribal agencies with limited resources and includes various services which help advance local and Tribal road safety. Technical assistance offered by SCR programs will vary based on State priorities and the needs of the local and Tribal agencies but typically include data collection and analysis, RSAs, LRSPs, and safety project applications for funding.

Challenges:

- Circumstances may prevent in-person training and technical assistance activities.
- Often, in smaller jurisdictions, low crash frequencies make it difficult to evaluate safety impacts based on crash data alone.
- Quantifying program impacts.

Lessons learned:

- Provide virtual learning options.
- Use anecdotal data/feedback.
- Identify increases in:
  - Safety projects.
  - HSIP applications.
  - Requests for RSAs.
  - Requests for safety tools.
  - Request for crash data summaries.

Chapter 3 SCR Program Structure

SCR program structures vary based on the available resources and the needs of the agencies served. Many of the SCR programs are within the LTAP Center, which is often located within a university center or State DOT. Historically, LTAP/TTAP Centers have provided training and technical assistance, making them a natural place to house an SCR program that uses available resources and processes to administer the program. When the demand for safety-related support is high, it may lead to establishing a safety circuit rider position within the LTAP to provide a greater level of safety-related support. For these SCR programs, the oversight primarily occurs through the LTAP director. For example, Iowa's SCR program is in the LTAP and while they have a dedicated safety circuit rider, the LTAP director provides SCR program oversight and evaluates needs, resource allocation, and staffing and makes changes accordingly.

Some States house their SCR program within the State DOT. Colorado DOT houses the SCR program but works very closely with the LTAP to jointly identify training and appropriate technical assistance. In Connecticut, the SCR program is housed in the CT Training & Technical Assistance Center (T2 Center) at the University and is not managed by the LTAP. The CT T2 Center does, however, look for opportunities for collaboration between the LTAP and the SCR program.

SCR programs have formed advisory groups to provide input into the program. These advisory groups may either be informal or formal and be comprised of partners who have an interest in enhancing local and Tribal roadway safety. They meet on a regular basis to discuss challenges, successes, local and Tribal agency needs, and opportunities for the program to sustain and grow. Connecticut has a formal advisory group that provided input into the development of the SCR program and over time, has continued to monitor and support the program to keep it relevant for its customers. Indiana, Kansas, and Kentucky also use advisory groups to help guide and support their SCR program efforts.

Administration of SCR programs may include agreements with local and Tribal agencies for services to be provided. The Kentucky SCR program works directly with six selected counties annually to provide specific safety services (e.g., crash analysis, RSAs, LRSPs). As part of this effort, the Kentucky SCR program has an agreement with each selected county to conduct RSAs, which includes identifying the roadways to be assessed and the individuals that will participate.

A successful and sustainable SCR program has necessary resources like personnel and funding. This establishes an SCR program capable of filling the needs of local and Tribal agencies that operate with limited safety resources and staff.

Safety Circuit Rider Program Personnel

SCR programs and the services provided vary based on the size and needs of the State and the number of local and Tribal agencies, as well as the available resources. The following sections discuss the staffing needs and resources to support and implement an SCR program.

Identifying a Suitable Safety Circuit Rider

A main challenge to initiating an SCR program is identifying qualified personnel to fill the role of safety circuit rider. The safety circuit rider performs a wide range of duties including training, technical assistance, and technology transfer. These duties require a diverse knowledge in safety including design and operations and understanding the safety needs of different road users (e.g., pedestrians, young drivers, older drivers). The safety circuit rider may work with people at all levels of government including elected officials and practitioners. Therefore, both technical and communication expertise is required.

Characteristics of a Safety Circuit Rider

- *Diverse technical skills in engineering, safety, and operations.*
- *Credibility with local and Tribal roads and other community organizations.*
- *Active in professional associations.*
- *Comfortable speaking before large audiences.*
- *Skilled in interpersonal and written communication.*

Safety circuit riders are also required to travel regularly to provide on-site training and technical assistance and participate in professional development activities, such as conferences and seminars. They must be willing to travel and be comfortable speaking to large audiences. Additionally, good interpersonal communication skills are very important as safety circuit riders are required to interact with diverse personnel and varying levels of safety experts. The role also requires preparation of reports for a variety of technical and non-technical audiences so the individual must have strong written communication skills.

Common characteristics among current safety circuit riders include the following:

- **Diverse skill set**. Safety circuit riders are expected to provide a wide range of technical assistance and training. This may require a general knowledge in the project development process, traffic engineering, highway design, maintenance and construction, and ability to use these skills to promote safety on identified roadways.
- **Established relations with local agencies**. Having an established relationship with local agencies helps with forming partnerships especially during the promotional stage of the SCR program. Former (including recently retired) county or city engineers may have established relationships with other local agencies through local agency associations and other organizations. Former DOT (including recently retired) staff may also have established relationships with the local and Tribal agencies and understand State, Local, and Tribal agency processes. Local and Tribal road issues are often very different from those at the State, so relating to situations at the local and Tribal level is important.
- **Credibility**. Due to the nature of the position (i.e., providing technical expertise), experience and knowledge of roadway safety is expected. Having a professional engineer (PE) licensure or professional certifications will demonstrate that the safety circuit rider has the baseline knowledge in their discipline and may also help with credibility. The Road Safety Professional (RSP) and the Professional Traffic Operations Engineer (PTOE) are two recognized professional certifications.[10]

[10] Certification. Transportation Professional Certification Board. (n.d.). Retrieved March 8, 2022, from https://www.tpcb.org/certification/

- **Comfortable engaging an audience**. The safety circuit rider needs to have strong interpersonal skills. They are required to work well with individuals on technical assistance. However, training often involves a larger audience. Therefore, comfort speaking to and working with a large audience is desirable.

Part-Time versus Full-Time Safety Circuit Riders

There is no set formula for determining staffing levels for a successful SCR program.

It is necessary to determine the number of safety circuit riders needed and whether they will be part-time or full-time employees, and if the services should be provided in-house or by consultants. To do this, States will assess their needs, available resources, the number and types of planned activities, and the expertise required to successfully implement their program. Often the number of safety circuit riders are initially determined by available funding and the size of the State. An SCR program can start small and expand after it is established.

Some SCR programs have a single staff person performing the duties statewide; other programs have multiple safety circuit riders with individuals assigned to specific regions within the State. These individuals may be assisted by support staff. Some States have considered using consultants to perform safety circuit rider duties to keep staffing costs down. For those States/LTAPs that do not have an SCR program or designated individual, other safety staff may conduct tasks similar to an SCR program.

Solutions Used to Staff an SCR Program

- *Include the SCR as an SHSP strategy for addressing Local and Tribal safety.*
- *Seek alternatives sources of funding (e.g., HSIP, STIC, Section 402 grants, and SP&R).*
- *Use contract employees to expedite hiring process and provide flexibility in SCR duties.*
- *Use consultants for specific projects (e.g., LRSP development).*

The following are some examples of how States staff their SCR programs:

Colorado. Colorado's SCR program consists of three team members housed in the Colorado DOT. This team, led by an engineer with extensive experience in traffic engineering and roadway safety previously worked for State DOT and local and Tribal agencies. He works closely with the LTAP to share information and leverage resources.

Connecticut. The Connecticut SCR program includes one full-time safety circuit rider, a part-time program coordinator, and a University of Connecticut student employee. The T2 Center Director provides oversight to the program.

Indiana. Indiana's Hazard Elimination Program for Existing Roads and Streets (HELPERS) program includes a full-time safety position, a half-time technician, and a half-time university student.

Iowa. The Iowa SCR program has a single individual as the safety circuit rider. However, other Iowa LTAP staff—including a Statewide Multidisciplinary Safety Team (MDST) Program facilitator/researcher, administrative event coordinator, and technical training coordinator—provide support for the SCR program. The Statewide MDST Program facilitates the development and operation of local multi-discipline safety teams to help identify and resolve

local road crash causes and enhance crash response practices. These teams include a wide range of local, Tribal, and State safety participants from various backgrounds. These professionals meet on a regular basis to discuss safety topics, problems, projects, and improvements along local and Tribal roadways within regional areas of Iowa. An SCR program task list provides staff roles and responsibilities and is used to distribute work appropriately.

Kansas. The Kansas DOT provided Federal State Planning and Research (SP&R) funds to the Kansas LTAP in 2015 to expand the LTAP services and established an SCR program, now called the "Local Field Liaison Program." The LTAP has a Road Safety Resource Coordinator position and uses part time contract positions titled "Local Field Liaisons" to perform SCR program activities. These two Local Field Liaisons provide part-time traffic engineering services and advice to local and Tribal agencies with limited or no in-house transportation safety engineering resources to conduct these activities. (See Appendix A for a copy of the job description.) The Local Field Liaison position's time is allocated as follows:

- Provide safety engineering related services, including training (80 percent).
- Develop safety and maintenance briefings (10 percent).
- Meet with stakeholders in technology transfer (10 percent).

Kentucky. Kentucky's safety circuit rider is an adjunct professor at the Kentucky Transportation Center. Workshops and RSAs account for about 25 percent of the position's time.

Missouri. The Missouri safety circuit rider is a half-time contract position housed within the Missouri LTAP. (See Appendix B for a copy of the job description.) Having a contract position allowed the LTAP to quickly establish and fill the safety circuit rider position. It also provides more flexibility for performing the necessary duties (e.g., travel to conferences). The safety circuit rider position's time is allocated as follows:

- Assist local and Tribal agencies (45 percent).
- Develop and present training materials, courses, workshops, presentations (35 percent).
- Documentation and reporting (10 percent).
- Miscellaneous responsibilities (10 percent).

Virginia. Initially, the Virginia SCR program started with one full-time person and has since expanded to include a second full-time position with one-year contracts. This additional safety circuit rider extends Virginia DOT's reach statewide and expands the capacity of the local and Tribal agencies.

Program Funding

Funding is a critical challenge to successfully establish, implement, sustain, and expand an SCR program and associated activities. Agencies considering an SCR program should note that the program can begin on a smaller scale and expand incrementally as more funding becomes available. Different costs are associated with various aspects of an SCR program. Obtaining the funding to develop and continue a program requires institutional support and continuous identification of available funding opportunities. Each State SHSP identifies its safety priorities to address traffic related fatalities and serious injuries on all public roads. An SCR program can be included as a strategy in the State SHSP; this has the potential to increase the sustainability of the program with targeted funding as a priority for the State. Funding to support the SCR program does not have to come from a single source.

Finding Support for the SCR Program

Financial support is necessary to administer the program and implement the various activities. Multidiscipline collaboration and aligning the SCR program with other State, local and Tribal programs and initiatives will help garner institutional support of an SCR program. Institutional support helps to obtain the necessary funding as well as establish, promote, and advocate for the program.

This support may come from executive leadership, State safety engineers, State Highway Safety Offices (SHSO), managers of local and Tribal programs, research councils, planning organizations, FHWA Division staff, and others.

The size of the SCR program and the extent of the services provided depend on the available funding. Costs to initiate and operate an SCR program include:

- Employing the safety circuit rider (part-time or full-time).
- Administrative costs (e.g., responding to requests, scheduling appointments, scheduling training, budgets, reporting, publicity/promotion, finding/reserving training facilities).
- Travel costs associated with on-site training and technical assistance.
- Developing and delivering training materials (e.g., informational guides, lecture notes, videos).
- Equipment (e.g., LCD projector/screen, laptops, retroreflectometer, ball bank indicator, traffic counters, radar unit).

Funding proposals should reflect the overall program, staffing, the type of training and technical assistance to be provided, and the potential cost savings from lives saved on the local and Tribal roadway system. If an SCR program is not part of the LTAP, it should still engage the LTAP to leverage resources. A fact sheet that summarizes the program, the costs, and potential funding sources can be helpful when seeking support. Appendix C contains the Indiana proposal for HSIP funding.

The States with SCR programs or activities indicate that they have received funding from a variety of sources—Federal, State, local, Tribal, and the private sector—to support their programs and implement its activities. These have included standard funding program mechanisms and program grants as well as new initiative grants. Some funding sources will require a funding match. Some States may allow for a “soft” match, which can be in the form of labor provided by the participating agency. It is important to leverage the partnerships and relationships that have been fostered as they can assist when pursuing funding for an SCR program and preparing a funding proposal. Local and Tribal chapters of the American Public Works Association (APWA) are also potential viable sources for funding.

Establish Partnerships

Partnerships provide both financial and institutional support to establish and sustain an SCR program over time. This includes funding or cost sharing opportunities, program resources (e.g., staff, equipment sharing, marketing, publications), multidisciplinary collaborations, and program support. Partners can help champion the effort by promoting the SCR program and creating a strong safety culture within the State.

Examples of partners include the following:

- *County and city officials (e.g., mayor, judge).*
- *County Traffic Safety Commissions (TSC)/Community Traffic Safety Teams (CTSTs).*
- *FHWA (Division Office, Office of Safety, Resource Center).*
- *Law enforcement officers.*
- *Local and Tribal Agency roadway departments.*
- *Local and Tribal Area Development Districts (ADDs).*
- *LTAP Center.*
- *Metropolitan Planning Organizations (MPOs).*
- *Municipal workers.*
- *Professional organizations (e.g., Institute of Traffic Engineers).*
- *Public works departments.*
- *Rural Planning Organizations (RPOs).*
- *Safety advocacy groups (e.g., insurance companies).*
- *SHSOs.*
- *State Department of Transportation/Highways or Transportation Cabinet.*
- *Street superintendents.*
- *Universities.*

Based on a review of SCR programs, potential funding sources include the following:

State Transportation Innovation Council (STIC) Incentive Grants. These Federal grant funds support or offset the costs of standardizing innovative practices in a State DOT or public sector stakeholder. Each State can receive up to $100,000 per Federal fiscal year to foster a culture of innovation and make innovative tools and techniques a standard practice (e.g., proven technologies). The program is administered by FHWA's Center for Accelerating Innovation and requires a 20-percent match. Missouri used this initially to help fund its safety circuit rider position.

Technology Transfer (T2). FHWA Division Office manages T2 funds to support research development, technology and innovation transfer, and outreach and communication activities (e.g., peer exchanges, scan tours). These Federal funds are completely reimbursable for travel, otherwise a 20-percent match is required. Ohio LTAP used these funds to acquire e-learning software to provide training under its SCR program. The Connecticut SCR program used these funds to bring National Highway Institute (NHI) training to local and Tribal agencies on road safety topics.

HSIP. The HSIP is a Federally funded program which is administered by each State DOT. The purpose of these Federal funds is to achieve significant reductions in traffic fatalities on all public roads. Engineering services as well as workforce development, training, and education activities that are directly related to and support HSIP implementation efforts are eligible. Other eligible activities include RSAs, improvements in the collection and analysis of data, and transportation safety planning. To qualify for HSIP funding, an SCR program should ensure that its activities support key strategies within the State's SHSP.

The SCR programs in Colorado and Connecticut are included in their States' SHSP and are funded in part with HSIP funds. Connecticut has used HSIP funds for their SCR program since its inception in 2013.

Federal SP&R funds. State DOTs use SP&R funds to support planning and research activities including technology transfer and technical assistance. The funds can be used to support internal agency staff, hire a consultant for assistance, purchase data, or purchase equipment. The procurement of these services, data, or equipment must follow Federal and State procurement rules. LTAP Centers have used SP&R funds to fund training and technical assistance efforts and could be used similarly for SCR program activities. Eligible activities include the following:

- Planning studies.
- Data purchase, collection, and/or analysis.
- Program development activities.
- Performance management activities.
- Coordination/outreach activities.

State and Community Highway Safety Grant Program (Section 402). The SHSOs administer the Federal grant funds to assist States and communities develop and implement behavioral highway safety programs designed to reduce fatal, injury, and property damage crashes. They may only be used for highway safety purposes and at least 40 percent of these funds are required to be used to address local and Tribal road traffic safety issues. Florida and Pennsylvania have used these funds for SCR program activities such as providing training (such as NHI safety courses, including various work zone safety courses). Safety activities have included pavement marking and signing upgrades for local and Tribal roadways. A successful proposal is based on an understanding of the Governor's Highway Safety Office priority needs and how the proposal supports the SHSO's Highway Safety Plan. For more information on how to apply for Section 402 Highway Safety Funds, States should contact their Governor's Highway Safety Representative. A listing is available at https://www.ghsa.org/about/shsos.

Highway Safety Transfer Provision Programs (Sections 154 and 164). The Federal Section 154 is a program that encourages States to enact Open Container laws. Section 164 is a program that encourages States to enact strong repeat impaired driving laws. If States do not have laws in place that meet the requirements of these programs, 3 percent of each program's funds are annually transferred out of a State's Federal-aid highway construction funds and into the State's Section 402 funding. The State can use Section 154 and 164 funds for behavioral safety activities (Section 402) as well as activities eligible for HSIP. For example, although South Dakota does not have an SCR program, South Dakota DOT uses these funds to provide traffic engineering for those local and Tribal agencies that do not have a traffic engineer. Agencies interested in applying for these funds should contact their SHSO as well as the State

DOT to learn more about these funds, how funds are distributed, and eligible activities. Application processes vary by State.

State Funds. State DOTs may have specific State funds available for safety-related activities. As the SCR program focus is on enhancing local and Tribal road safety, safety circuit riders and their activities may be eligible to use these funds. Contact the State DOT to determine available funds and eligibility requirements.

The Iowa Legislature established the Traffic Safety Improvement Program (TSIP) in 1987 with the purpose to implement traffic safety features or perform safety studies and outreach on public roadways statewide to reduce fatalities and serious injuries. The TSIP funding is comprised of 0.5 percent of Road Use Tax Fund and is available to all public entities responsible for public roads and streets. The TSIP funding can be used for projects that come from an SCR program. There are three categories—site specific improvements, traffic control devices, and studies and outreach. Funding for site specific improvements cannot exceed $500,000. The total of each of the other two categories cannot exceed $500,000. Sign replacement, flashing beacons, and traffic signals are examples of traffic control devices that can be funded as part of this program.

Although the California Department of Transportation (Caltrans) does not have a formal SCR program, they are providing services to support local and Tribal road safety that are comparable to what could be done in an SCR program. In 2016, Caltrans established the Systemic Safety Analysis Report Program (SSARP), a State-funded program. The SSARP is intended to support local and Tribal agencies' systemic safety analysis efforts and lead to potential projects for HSIP funding.

LTAP/TTAP Centers. Many existing SCR programs are housed at the LTAP Center within the State. In general, SCR programs provide LTAP Center services with a transportation safety focus. When housed in the LTAP Centers, the Centers provide funding and/or staff support for the SCR program.

Workshop and Course Fees. Some SCR programs charge a nominal fee for some workshops, courses, and other services to cover the costs of the meeting room, materials, and food. Additionally, charging a nominal fee for training achieves a level of commitment from attendees.

Table 2 provides a sample of current funding sources that have been or are being used to financially support the administration of an SCR program.

Table 2. Sample funding sources for SCR program administration.

	State							
Funding Source	CO	CT	DE	IA	KS	KY	MO	VA
SP&R			✓		✓			
HSIP	✓	✓		✓				✓
State						✓		
STIC							✓	

Note: Not a comprehensive list of States or funding sources.

Table 3 provides a sample of funding sources that have been used or are being used for the implementation of the various SCR program activities, as of 2022. The SP&R funds can be used for staffing expenses. The Connecticut SHSP and Colorado SHSP identify their SCR programs as a safety strategy when applying for HSIP funding. The Kentucky Transportation Center (KTC) fully funds their SCR program by annually applying for funding to the Kentucky Transportation Cabinet (KYTC) Secretary, which the KTC Advisory Board approves.

Table 3. Sample funding sources for SCR program implementation.

SCR Program Implementation Activity	Funding Source/Type	Applicable State(s)	Notes
Training	HSIP	CT, CO, IN	-
	NHTSA Section 402	CA, CO	-
	Workshop Fees	FL, NY	Fees vary and cover the costs of the meeting room, materials, and food
	T2	OH	Ohio e-learning software
	SP&R	IN	-
Technical Assistance/ Technology Transfer	State	IA, CO	Iowa Traffic Safety Improvement Program-Road Use Tax (0.50 percent)
	HSIP	Multiple	Data analysis, RSAs.
	SP&R	Multiple	-
	T2	Multiple	-
	NHTSA Section 402	CA, SD	-
	LTAP	IA, IN	-

***Note**: Not a comprehensive list of States or funding sources.*

Program Sustainability

In addition to obtaining funding and appropriate staff, a sustainable SCR program should consider:

- Evolving to meet the needs of the State as well as the local and Tribal agencies.
- Marketing and outreach.

Evolving to Meet the Needs of Customers

States with long-standing SCR programs indicate that continually assessing their program and making changes to meet the States' priorities and address the needs of the local and Tribal

agencies are essential to sustaining the SCR program. This also helps gain agency leadership (e.g., LTAP, DOT) support. FHWA Office of Safety National SCR Program Peer Exchanges held in 2016 and 2021 were instrumental in helping SCR programs evolve and grow by bringing together safety circuit rider practitioners and those interested in starting an SCR program to discuss opportunities, challenges, and lessons learned. Kentucky indicated that the peer exchanges helped them show the value and benefit of their SCR program to KYTC leadership. At each of the Peer Exchanges, the attending States indicated that the peer exchanges helped them learn from each other. Iowa, Kentucky, and Connecticut have sustained their program over a prolonged period and have been a resource to other States as they developed their SCR programs. These States added services to meet the needs of the agencies they serve. This has included adding various training, focusing on emerging safety needs, developing LRSP, and assisting with data analysis and safety improvement project applications. Iowa, for example, performs regular assessment of its SCR program and the local and Tribal agency needs to modify its program. The Kentucky SCR program started with training in its first phase, added RSAs in its second phase, and expanded to later include LRSPs. The Connecticut SCR program modified its work zone safety calendar contest to focus on pedestrian safety, a critical safety issue for the State. Other States with long-standing SCR programs include Indiana and Ohio. Indiana uses an informal advisory committee to help identify needs and evolve to meet those. Ohio used Kentucky's equipment loan program as a basis for development of their program and expanded its use of technology to increase awareness of its SCR program.

An SCR Work Group formed to continue the dialogue initiated during the FHWA Peer Exchanges. This Work Group meets periodically and includes SCR program and LTAP personnel.

Marketing and Outreach

Reaching local and/or Tribal agencies in a State can be a challenge due to the number of and diversity of agencies. To serve these agencies and effectively improve safety—and successfully implement and sustain an SCR program—the State can conduct marketing efforts. Marketing and outreach can be accomplished in a variety of formats including websites, newsletters, conferences, and emails. Examples of how SCR programs have performed outreach include the following:

- Colorado DOT's SCR program has a user-friendly website with appropriate contact information. The program features a logo and branding for consistent messaging. At the program's start, the safety circuit rider aimed to contact a subset of the counties (20 of the 64 counties) in the State, starting with smaller counties. The safety circuit rider initiates contact via phone and follows up with live presentations. The safety circuit rider engages traffic engineers and transportation planning organizations. As a result of outreach efforts, most counties request crash data and the safety circuit rider mines the data and develops graphs to increase ease of understanding.
- In Connecticut, the regional planning agencies are strong partners and facilitate opportunities to meet with the local and Tribal agencies by inviting the safety circuit rider to their transportation committee meetings or other meetings elected officials attend. The SCR program has hosted a "Safety Matters Coffee and Conversation" series that featured the safety circuit rider or other safety professionals. For example, "The Town of Portland, Connecticut's Nationally Recognized Complete Streets Program" was a 1-hour

virtual meeting that allowed local and Tribal agency participants to ask questions about the program. Additionally, a partnership between the Connecticut SCR program and Connecticut DOT provided work zone safety equipment kits and training to each of Connecticut's municipalities. The safety circuit rider's involvement in the program was successful and provided an opportunity to discuss general roadway safety challenges with each agency and share ways the program can be of assistance.

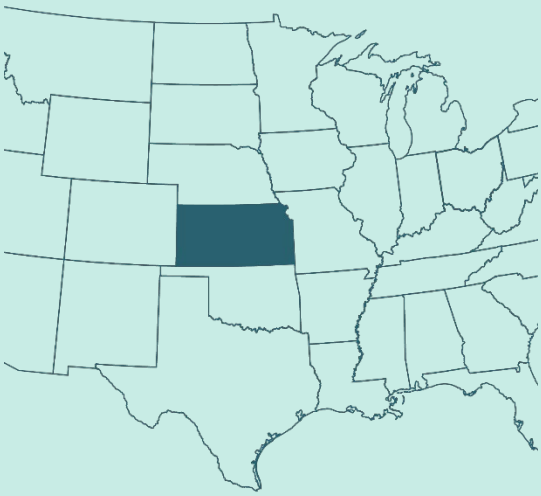
- The Kansas LTAP recently developed a mobile digital application using STIC funding. This application allows users to contact a Local Field Liaison, apply for equipment through the equipment loan program, view upcoming LTAP trainings and conferences, and read newsletters.
- In Missouri, the safety circuit rider participated in the Transportation Safety Advisory Committee to share information about the program. In addition, the safety circuit rider writes an article in the Missouri LTAP newsletter (see Figure 5) each quarter on a different safety related topic (e.g., curves, roadway departure). This keeps the SCR program in the forefront and introduces relevant topics each quarter. The safety circuit rider also traveled to local and Tribal agencies to promote low-cost, easy-to-implement safety strategies. During the pandemic, the LTAP sent a three-minute video to local and Tribal agencies reminding them of available resources and information about the new SCR program. Some local and Tribal agencies have learned about the SCR program through safety data provided by the SCR program. Missouri LTAP's safety circuit rider gathers additional ideas for how to approach local and Tribal agencies from her involvement in the SCR Work Group.

Figure 5. Graphic. A graphic used in the Missouri LTAP Newsletter (3rd Quarter 2020), in which the safety circuit rider authors an article each quarter. (Source: Missouri LTAP Center).

- The Ohio safety circuit rider travels extensively to visit the State's local and Tribal agencies (88 counties and 1,300 townships). When visiting, the safety circuit rider makes an intentional effort to tailor language and terms to the audience. Some staff do not have a transportation engineering background and using plain language assists with discussions. Ohio developed a "How to Explore the Ohio LTAP Website and Find Lots of

Valuable Resources" PowerPoint presentation which provides background information on the LTAP and available resources, such as newsletters.

- The Virginia LTAP has a staff member dedicated to marketing and engaging local and Tribal agencies. Outreach efforts include a quarterly newsletter, email messages to a distribution list with flyers attached, phone calls directly to local and Tribal agencies, and on-site visits to agencies.



Noteworthy Practice

Agency: Kansas

Practice: Outreach During the Pandemic

To continue serving local and Tribal agencies during the pandemic, the Local Field Liaison Program mailed packets to counties with informational material, forms, and a flash drive that included funding information. The LTAP asked the counties to confirm receipt of the packet and then a Local Field Liaison would discuss its contents.

Several challenges exist when marketing an SCR program. Information regarding the SCR program is distributed (but not always sent) to the appropriate contact within the local or Tribal agency. A solution is to include both the elected official and engineering staff on SCR-related correspondence. Reaching all counties can also be a challenge, especially in larger States where in-person outreach is difficult due to distance. Kentucky focuses their SCR program activities by using a data driven approach to identify six counties each year to provide with technical assistance.

Another outreach challenge can be educating (or re-educating) elected officials and the public on safety countermeasures and/or data analyses. Some individuals may not be open to innovations in the transportation safety field, so continued outreach is necessary. Ohio LTAP developed a training course for elected officials called "Show Me the Money" which includes presentations on funding programs that provide financial support for Ohio's local and Tribal roadways. This training provides targeted outreach to those local elected officials who make the funding decisions for the priorities of their jurisdiction.

Strategies that can be implemented to raise awareness of the SCR program include the following.

- Develop a fact sheet that summarizes the program and distribute it to local/Tribal agencies to raise their awareness of an SCR program.
- Provide information on the cost savings from reductions in traffic crashes and share this information during training or presentations.
- Develop graphs, charts, and maps of local data, which helps build interest by local and Tribal agencies. Share this information with local and Tribal transportation officials and offer SCR program assistance to mitigate issues identified by the data.

- Promote national messaging and marketing to increase awareness and have local agencies contact the SCR program.

Specific to the pandemic, in-person outreach was a challenge. Colorado and other States identified activities that could be done via phone call or video conference (e.g., training). They provided crash data to local and Tribal agencies and used SCR program staff to conduct RSAs.

Chapter 3 Summary

The necessary resources for a successful and sustainable SCR program include personnel and funding. The SCR programs vary in how they are staffed. They include part-time and full-time employees that may be permanent or contractual. The safety circuit rider performs a wide range of duties which require diverse knowledge in safety including design and operations and understanding the safety needs of different road users. They may work with people at all levels of government from local and Tribal officials to the State DOT. Therefore, good interpersonal communication skills, the ability to interact with diverse personnel, and the ability to build relationships at the various levels is desirable. They are also required to travel regularly to provide on-site training and technical assistance and participate in professional development activities, such as conferences and seminars. As a result, the safety circuit rider must be willing to travel and be comfortable speaking to large audiences.

Funding of SCR programs come from various sources, including State and Federal funds.

Marketing and outreach activities are essential to implementing and maintaining an SCR program. These efforts can be accomplished through a variety of formats including websites, newsletters, conferences, and emails. Messaging should be tailored to the target audience (e.g., transportation staff, elected officials), promote the importance of safety, and include information about how the SCR program can help an agency reduce fatal and serious injury crashes on their system.

Challenges:

- Hiring/staffing.
- Sustainable funding for SCR program.
- Ensuring that information about an SCR program gets to the right person in a Tribe, city, or county.
- Having the ability for the safety circuit rider to reach all Tribes, cities, or counties.
- Educating elected officials on safety countermeasures.
- Maintaining safety circuit rider presence in States when travel is prohibited or restricted.

Lessons learned:

- Define qualification needed for the safety circuit rider duties.
- Advertise nationally, although it may be beneficial to hire locally.
- Colorado used consultant trainers.
- Look at existing staff for a fit for safety circuit rider position.
- Find innovative and diverse funding mechanisms.
- Maintain accurate contact information for a jurisdiction's transportation staff.
- Include engineering staff and elected officials on SCR-related communication.
- Prioritize outreach to jurisdictions using a data driven process.
- Develop marketing materials and activities (e.g., training) that raises the awareness of elected officials on using data to identify safety issues and effective countermeasures that can be implemented to address safety issues.
- Modify efforts such as training and regional meetings to a web-based format.

Chapter 4 Case Studies

Kentucky

The Kentucky SCR Program is one of four SCR programs established as a FHWA pilot program in 2005 and has been nationally recognized for its efforts. It is housed at the Kentucky Transportation Center (KTC) at the University of Kentucky, which allows access to subject matter experts as needed. Kentucky has 120 counties; however, less than 10 have county engineers. Additionally, there are 418 cities. Many of the 120 counties and 418 cities in Kentucky need technical assistance to improve their road safety. The Kentucky SCR program has positively impacted safety on local and Tribal roadways in over 64 counties since its inception. This has resulted in reductions of traffic related fatalities and serious injuries, improved maintenance of roadways, and implementation of low-cost safety countermeasures. Because of its longevity and success, the Kentucky SCR program is a resource to many States wanting to establish an SCR program.

To initiate the SCR program, Kentucky LTAP staff attended a FHWA-sponsored training program on low-cost safety improvements (LCSI) in 2004. They used that experience to customize course materials and develop a one-day, Kentucky-specific workshop on LCSIs. To launch the Kentucky SCR initiative, a steering committee first identified the six counties with the highest crash numbers. Additionally, the six ADDs, similar to MPOs, with the highest crash numbers hosted workshops provided by the SCR program to disseminate best practices and share information on LCSIs in the counties. The SCR program identified additional counties for workshops and RSAs for the second phase of the SCR program. Later phases of the Kentucky SCR program included developing county LRSPs for the selected counties. Now, the SCR program makes technical assistance available for free to all communities in Kentucky; however, the program continues to select six counties annually to focus its safety efforts.

During the pilot period, the KTC recognized the value of the SCR program and pledged sufficient funding to carry the program through 2006. Since then, the KTC provides funding for the program on an annual basis, although the SCR program is required to reapply annually to renew the KTC funding. The application is submitted to the Secretary of Transportation and approved by the KTC Advisory Board. The Kentucky SCR program provides monthly reports to the KTC.

The safety circuit rider meets with elected officials, county road supervisors, and ADDs from the selected counties and reviews the crash data. They also share this information with other stakeholders, including judges and county road assessors. It is often the first time the county representatives are seeing where their roads are ranked in terms of safety. The safety circuit rider meets with the selected agencies several times over the year and provides free safety resources.

The selected counties each sign an agreement that identifies the focus roads included in the RSA and the participating agencies. This agreement is important because many officials want to analyze more roads than the SCR program typical limit of two roads per county. Kentucky's SCR program conducts half-day training on safety concepts and then conducts the RSA afterwards. Kentucky finds that the local and Tribal agencies learn about different safety

strategies and the RSA process from the SCR program activities and are then able to conduct the process on their own on other roads.

Connecticut

Established in 2013, the Connecticut SCR program is located within the Connecticut T2 Center in the University of Connecticut. The CT LTAP is also a separate entity housed in the T2 Center. This provides great opportunity for collaboration between the two separate units. The Connecticut T2 Center and SCR partners with the DOT and has been involved in the Connecticut SHSP process. This partnership and SHSP involvement were instrumental to obtaining funding and building relationships to support establishing the SCR program.

Noteworthy Practice

Agency: Connecticut

Practice: SCR Advisory Committee

The Connecticut T2 Center established a formal SCR program advisory committee to provide input into the development and implementation of its SCR program. The SCR program advisory committee is comprised of 12 members and meets quarterly to discuss challenges, successes, local and Tribal agency needs, and opportunities for the SCR program. The advisory committee serves as ambassadors for the SCR program that helps sustain and grow the program.

Membership includes local agency public works, the State DOT, the FHWA Division Office, regional planning agencies, UCONN Safety Research Center, AAA Traffic Safety, law enforcement agencies, and elected officials.

Members are asked to “tell a story” during the meetings to illustrate challenges, accomplishments, and impacts of the program. Members are also offered the opportunity to host the meetings, especially if they want to conduct a “show and tell” of a safety project.

T2 Center staff volunteered to participate on the Roadway Departure SHSP subcommittee as a substantial number of fatal and serious injury crashes due to roadway departure were occurring on Connecticut local and Tribal roadways. This led to the T2 Center Director being asked to serve on the SHSP Steering Committee, creating opportunities to collaborate with both DOT

Traffic Engineering and the SHSO. The SCR program was identified as a strategy in the Roadway Departure SHSP emphasis area. Connecticut DOT and FHWA recognized the value of the SCR program and how it could help provide necessary safety services to local and Tribal agencies to advance road safety in the State. This resulted in HSIP funds being dedicated for the SCR program for the initial 2-year program. This funding has continued and is renewed every 3 years. The HSIP funding for the SCR program covers the following:

- 100 percent of the safety circuit rider salary.
- 50 percent of the Program Coordinator salary.
- 10 percent of the Program Director salary.
- Student employee.

A memorandum of understanding (MOU) between the University of Connecticut and the DOT exists for the SCR program. The Kentucky LTAP, a peer partner, was helpful in the initial stages of the development of the Connecticut SCR program by providing advice on lessons learned. The success of the Connecticut SCR program led to a new Traffic Signal Circuit Rider position funded by the Federal Congestion Mitigation and Air Quality Improvement (CMAQ) program.

Connecticut identifies availability of local and Tribal crash data as essential to the success of the SCR program. Without this crash data, it would have been challenging to perform analysis and develop various tools to guide safety activities. The SCR program used a student employee to run crash profiles for all towns in the State. These profiles were sent to planning agencies and local and Tribal elected officials, which led to meetings to discuss the results and implications of the crash data.

Figure 6. Photograph. Available equipment offered through the T2 Center's Equipment Load Program. (Source: Connecticut LTAP Center).

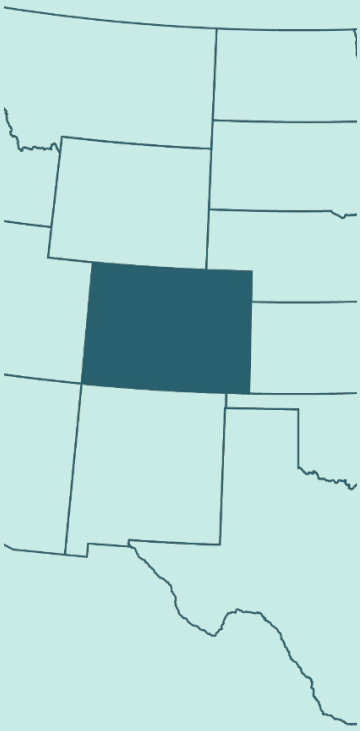
Colorado

Colorado DOT, Colorado LTAP, and the Colorado FHWA Division attended the FHWA Office of Safety SCR Program Peer Exchange in 2016. At that time, Colorado did not have an SCR

program but was interested in establishing one. In 2019, the Colorado DOT—in partnership with the Colorado FHWA Division and the Colorado LTAP—established their SCR program, housing the program within the DOT. The Colorado safety circuit rider works closely with the LTAP, and the SCR program provides general safety program support by serving as a liaison between the Colorado DOT and the LTAP, sharing information and leveraging resources.

Noteworthy Practice

Agency: Colorado



Practice: Safety Circuit Rider in SHSP and Program Deliverables

The SCR program is identified as a strategy in the Colorado SHSP to enhance local and Tribal road safety. This program works toward vision zero in support of the SHSP and is funded with Section 402 and HSIP funds. The mission of the Colorado SCR program is to deliver specific safety related training and to work closely with counties and Tribes to identify, diagnose, and treat safety deficiencies on their road systems. This will be accomplished by providing the following deliverables:

- Provide technical assistance to local and Tribal agencies in the development of LRSPs or Tribal Safety Plans.
- Conduct RSAs to identify safety performance examinations of a road or intersection.
- Organize and/or conduct road safety reviews for local and Tribal agencies.
- Disseminate roadway safety data to local and Tribal road safety stakeholders.
- Conduct local and Tribal road safety data diagnostics, assist in HSIP safety applications, and submittal of project proposals to Colorado DOT.
- Provide training, webinars, and safety workshops (systemic safety) to local and Tribal agencies based on needs and provide safety presentations, demonstrations, and moderator services as requested.

The DOT recognizes one of the benefits of an SCR program is to be a resource to local and Tribal agencies by responding to their questions related to road safety and providing assistance for submitting safety improvement project applications. The SCR program worked with the smaller counties initially because they showed the greatest need due to limited budgets and resources. As with other SCR programs, there is a need to demonstrate the improve safety results of the program. It is important to show the value of the services to the smaller agencies. This value may be shown by the increased number of counties engaged in safety activities.

Iowa

The Iowa SCR program, established in 1989, resides in the Iowa LTAP at Iowa State University. The Iowa SCR program's objective is to provide specific training and technical safety assistance to local and Tribal agencies. Leveraging the strong safety culture in Iowa, the SCR program has continued to adapt and grow to meet the road safety needs of the local and Tribal agencies. The LTAP director recommends starting the SCR program small and grow as resources increase. For Iowa's SCR program, staffing, activities, and resources have changed over time based on the needs of the agencies they serve. A review of the SCR program areas keeps it relevant and of value to its customers. Surveys of needs as well as preferences for training are distributed to customers periodically for feedback.

The Iowa safety circuit rider has provided workshops in locations where local and Tribal agencies have space—in meeting rooms, shops, or garages. The safety circuit rider coordinates the RSA efforts in Iowa. The SCR program also loans equipment to local and Tribal agencies, including a sign retroreflectometer, a mobile speed feedback trailer (see

Figure 7), and digital ball bank inclinometers for determining appropriate speeds at horizontal curves. The Iowa program manager talks about "lives saved" and not crashes, especially when presenting to elected officials.

Figure 7. Photograph. A mobile speed feedback trailer that is available for loan. (Source: Iowa SCR Program).

Indiana

Indiana's HELPERS operates as an SCR program. The program began with limited capabilities, such as helping local and Tribal agencies apply for HSIP funds but grew to offer more activities. The HELPERS staff travels the State to provide training and technical assistance to the local and Tribal agencies (see Figure 8). Typically, when visiting an agency for the first time, the safety circuit rider initiates contact and meets with the highway department unless there is an opportunity to speak with an elected official at an event (e.g., conference). Usually, individuals

at the meeting will provide feedback on the information presented about the SCR program services and are interested in how their county compares to the adjacent counties regarding crashes. The Indiana program tries to compare the same areas since the northern part of the State is different than the southern. HELPERS provides heat maps to the local and Tribal agencies to help identify crash hot spots and assists the agencies with safety improvements from project concept to the funding application. HELPERS also gives presentations on the MUTCD to local and Tribal agencies.

Figure 8. Photograph. Training through the HELPERS Program. (Source: Indiana LTAP Center).

Missouri

The Missouri LTAP and Missouri DOT established and filled a safety circuit rider position in January 2020. The safety circuit rider resides within the Missouri LTAP located at the Missouri University of Science and Technology (Missouri S&T). The LTAP had been interested in establishing an SCR program for several years, motivated by the success and longevity of the Iowa LTAP's SCR program. The LTAP discussed the concept with Missouri DOT whose Local Public Agency Administrator was a valuable champion for an SCR program. The challenge was funding (both initial and long-term) to sustain the position. In 2019, the Missouri LTAP was awarded STIC funding to cover salary and travel for a part-time contract safety circuit rider position for two years. The grant was awarded in fall 2019 with 2 years of STIC funding and required a commitment to assist at least six local agencies. The Missouri LTAP used university sponsored research indirect funds to provide the 20 percent required funding match. Due to pandemic travel restrictions, the SCR program had not used all of the STIC funding, and the remaining available funds will carry the program into 2022. The SCR program is planned to be budgeted in 2023 with additional funding being sought to sustain the program. The long-term goal is to fund a full-time safety circuit rider position using State safety funding. Missouri LTAP considers the SCR program an extension of Missouri DOT and the local public agencies.

The intent is for the SCR program to target smaller local and Tribal agencies with limited resources. The goal for the first year of the Missouri SCR program is to target at least six local and Tribal agencies based on crash data through inventories such as the DOT's Transportation

Management System (TMS). The SCR program works closely with MoDOT and FHWA to identify and address the safety needs of Missouri's local and Tribal agencies. Assistance activities include identifying local road safety concerns and implementing low-cost countermeasures. The SCR program also aims to provide guidance to local and Tribal agencies with limited or no in-house transportation safety engineering resources in applying for additional funding. To assist the local and Tribal agencies with implementation of specific safety countermeasures, the SCR program will be purchasing additional items for the Equipment Loan Program.

Figure 9. Graphic. Logo for Missouri's SCR Program. (Source: Missouri LTAP).

Ohio

The Ohio SCR program is in the Ohio LTAP and started in 2007 with work zone training. The Ohio LTAP is administered as a part of the Ohio DOT's Office of Local and Tribal Programs. The Ohio LTAP has a strong partnership with Ohio DOT's Highway Safety Program and is a signing agency of the State's SHSP. The work zone safety training continues to be the most popular SCR program service requested today.

Ohio SCR recommends highlighting the safety activities a State or LTAP already provides and use the improved local and Tribal road safety results as justification for SCR funding.

The Ohio safety circuit rider's advice to others considering the development of an SCR program is not to wait for funding to become available for the position. States and/or LTAPs should highlight what they already provide and use the improved local and Tribal road safety results as justification for SCR program funding.

The Ohio safety circuit rider travels around the State to implement its SCR program. They have found that beyond the typical safety training, local and Tribal agencies need more training on available funding sources and how to access the funding sources. To further advance safety at the local and Tribal level, the LTAP maintains an Ohio Local and Tribal Roadway Database of Installed Proven Safety Countermeasures, which provides information on where countermeasures are being implemented in the State. This resource allows local and Tribal agencies to contact their peer agencies that have already implemented countermeasures of interest and ask questions or get firsthand advice on its implementation.

The Ohio SCR program developed mobile applications using an in-house intern. Applications developed include for roadside safety hardware, work zone traffic control, and sign installation. These applications accommodate the needs and capabilities of local and Tribal agencies specifically those who are more likely to access resources with electronic devices as opposed to hard copy manuals. Resources are designed with the end user in mind.

Virginia

The University of Virginia's Center for Transportation Studies houses the Virginia LTAP, which launched its SCR program after attending the FHWA Office of Safety SCR Program Peer Exchange in 2016. The Virginia SCR program is modeled after past pilot programs. The SCR program's objective is to assist small localities and Tribes, which maintain a total of approximately 11,000 miles of streets and roadways in the State. To obtain funding, the Virginia LTAP prepared and submitted a one-page document for the Virginia DOT that included information on the training and technical assistance to be provided by the SCR program. This helped gain institutional and financial support. The SCR program partnered with the Virginia Research Council and initially received approval for 2 years of funding. The LTAP considers the safety circuit rider as an extension or extra pair of hands for the Virginia DOT. The Virginia DOT has embraced the SCR program because it extends the agency's reach and expands the capacity of smaller agencies to address roadway safety issues with low-cost safety improvements. The safety circuit rider creates an annual report which helps communicate the program results.

Initial efforts focused on marketing the SCR program to local and Tribal agencies. In 2018, the LTAP hired a full-time safety circuit rider with engineering expertise to begin implementing the Virginia SCR program. The LTAP added a second full-time contract safety circuit rider to the program in 2020. The Virginia SCR program provides three key services: (1) technical assistance (including guidance on low-cost safety improvements and grant and proposal development support for State and federal aid funding), (2) training, and (3) RSAs. The SCR program also allows the LTAP to offer traffic, pedestrian, and transit solutions to cities and towns as well as providing support to assist with funding opportunities for implementation.

Chapter 4 Summary

SCR program managers indicate that programs across the U.S. vary in size, overall process and approach, types of services provided, and depend on a State's needs and available resources. An SCR program can start small and grow as resources become available. Many of the SCR programs are located within an LTAP center as they can leverage those resources and services typically provided by the LTAP. It is important to identify the needs and available resources and leverage partnerships when starting an SCR program. Evaluating the needs of the local and Tribal agencies and the priorities of the State and pursuing a variety of funding sources and partners are important to sustaining an SCR program. Furthermore, it is important to connect the goals of the SCR program to the SHSP and to determine the evaluation metrics of the SCR program from the start. A noteworthy practice identified was to establish a separate advisory board/committee specific to the SCR program and include key stakeholders that can have input into and influence decisions such as funding.

Challenges:

- Limited resources of local and Tribal agencies.
- Buy-in from State and Federal stakeholders.
- Perceived safety need versus actual data results.

Lessons learned:

- Provide credible evidence to FHWA Division and State DOTs on the importance and benefits of an SCR program to local and Tribal road safety.
- Work with the local and Tribal Public Agency office at the State DOT for help with using Federal-aid funds on local and Tribal projects.
- Understand the context, how local and Tribal road safety fits in with State priorities.
- Tell a compelling story.
- Develop partnerships.
- Volunteer for a safety steering committee or something similar.
- Be a part of State SHSP and goals/strategies development. Acknowledge the relevance of local and Tribal road safety to the State and federal vision and goals.
- Offer a class for elected officials.
- Use data to demonstrate priorities/issues and listen and engage elected officials.

Chapter 5 Conclusion

Safety Circuit Rider programs are established for a variety of reasons, but the main goal is typically to reduce the frequency and severity of roadway crashes by providing safety-related support to agencies responsible for local and Tribal road safety. While SCR program support is not limited to local and Tribal agencies, these agencies are typically the focus of the SCR program because they are more likely than State agencies to need safety-related assistance. Often, local and Tribal agency personnel lack formal training or expertise in road safety as a large number of local and Tribal road agencies do not have a designated engineer. Additionally, local and Tribal agencies operate with smaller staffs and fewer resources than State agencies. Access to an SCR program is an opportunity to enhance available resources of local and Tribal agencies (e.g., safety-related knowledge and tools), as well as provide additional staff. As the focus is on technical assistance and training for those responsible for the safety of local and Tribal roads, the SCR program fits well within existing LTAP Centers. Some LTAP Centers continue to provide this type of onsite assistance for the agencies they serve without a formal SCR program albeit on a limited basis. LTAP Centers are not the only option for establishing an SCR program; some States house their SCR program within the State DOT or a university research center.

The new Bipartisan Infrastructure Law (BIL) will impact future potential opportunities to expand/enhance or develop SCR programs to assist local and Tribal agencies in improving their safety programs. Several new discretionary grant programs focus directly on local and Tribal road safety and the continuing HSIP funds for which all public roads are eligible has increased with a set aside for vulnerable road users. The Safe Streets and Roads for All (SS4A) a new discretionary grant program will provide $5 to $6 billion in grants over the next 5 years. This grant funding will support regional, local, and Tribal initiatives to prevent roadway deaths and serious injuries. The BIL will also advance State and local adoption of a Complete Streets design model. Complete Street is safe and feels safe for all road users without compromising connectivity of the roadway network. These opportunities are applicable to the agencies and their roadways which are the primary audience for SCR program activities and may create even heavier demand for technical assistance and training. There are demonstrated safety benefits to SCR programs. Seeing those benefits to local and Tribal road safety, States without an active SCR program should consider developing one.

With over 30,000 local agencies and more than 500 Federally recognized tribes in the nation, SCR programs can lessen the State DOT staff responsibility to address safety on local and Tribal roads. For developing a new SCR Program or planning to expand an existing program consider the following:

- What is the Level of Need?
- Who are the relevant Partners?
- Which Structure would be best for the specific Program?
- What are the Staffing Needs?
- What are the possible sources of Funding?
- What is the expected Program Impact?

The Safety Circuit Rider Group established in 2016 continues to meet every 2 months. This group is led by Iowa's safety circuit rider and continues to be a resource to SCR programs

seeking to expand or improve as well as those States looking to establish an SCR program. The sustainability of this group hallmarks the dedication of the safety circuit riders and the need for the SCR programs to assist in achieving statewide goals of reducing fatalities and serious injuries on all roadways.

This document can serve as a call for action to initiate, improve, and enhance SCR programs nationwide. A perfect storm has developed with alarming increases in fatal crashes combined with dramatic increases in safety funding opportunities. Traffic safety opportunities and challenges are expanding, and with just over half of the states providing SCR programs or their equivalent, now is the time for action.

Appendix A

https://www.kansasworks.com/jobs/11752438

Local Field Liaison

at University of Kansas in Lawrence, Kansas, United States

Job Description

Department:

Transportation Research Center

Location/Division:

University of Kansas Lawrence Campus

Work Location Assignment:

Hybrid

Reg/Temp:

Regular

Employee Class:

U-Unclassified Professional Staff

Position Overview

The Local Roads Support Team to the Kansas Strategic Highway Safety Plan (SHSP) has identified the unique nature of local roads that challenges the ability to reduce crashes in the state:

Local roads are less likely to be built to modern operational and safety standards.

Local governments, particularly those in rural counties, may have less access to professional services and dedicated funding for safety improvements.

Different stakeholders are involved in highway safety decision-making in local agencies (such as city or county commissioners).

There are varying levels of awareness about safety problems and how to address them. Evidence from other states around the country indicates that reductions in crashes on rural roads can be achieved with a coordinated, proactive outreach approach to local agencies that includes safety engineering analysis, on-site technical assistance, and training in safety and operations.

This position will provide traffic engineering services and advice as a local field liaison, particularly targeted to road and bridge agencies and street departments with limited or no in-house transportation safety engineering resources to conduct these activities on their own. The Local Field Liaison will coordinate and provide road safety assessments, identify low-cost safety improvements, assist in developing local road safety plans, and deliver local road safety training. They will work with KUTC Communications and Outreach Coordinator to develop a series of road safety briefs suitable for publication in KUTC newsletters or online to support the Kansas LTAP.

The position will coordinate with other road safety activities provided or funded by the Kansas Department of Transportation to create added value and avoid duplication of effort.

Due to the nature of this work, the successful candidate can expect to travel approximately 8-12 days per month across Kansas.

Job Description

80% - Work directly with county and city public works agencies in Kansas as a part of the Kansas Local Technical Assistance Program (Kansas LTAP). Primary tasks in this duty include: planning and implementing visits to local agencies for coordination of practical road safety assessments, safety engineering analysis and identification of low-cost safety improvements, providing guidance in applying for funding for safety improvements, assistance in the implementation of local road safety plans, answering inquiries from local agencies, distribution of relevant technology transfer materials to local agencies visited, assisting with the equipment loan program and developing reports to key stakeholders. This task will also include the development and delivery of curriculum for roadway safety training for local agency staff, elected officials, and law enforcement officials.

10% - Work with the KUTC Communications and Outreach Coordinator to develop road safety and maintenance briefs, fact sheets, and articles suitable for distribution by Kansas LTAP.

5% - Represent the KUTC with key transportation organizations that are stakeholders in the technology transfer products and services of the KUTC.

5% - Other duties as assigned.

Position Requirements

This position will be a hybrid of on-site work and remote work as deemed by the supervisor.

A valid driver's license.

The ability to perform regular overnight travel approximately 8-12 days per month.

Required Qualifications

A valid Kansas Professional Engineer's (PE) license.

Bachelor's degree plus a minimum of five years of experience working directly for or with local transportation public works agencies.

Experience as a trainer for transportation engineering, highway safety, local road maintenance, or transportation operations topics as evidenced by application materials.

Experience working with pertinent transportation manuals and guidebooks such as The Manual on Uniform Traffic Control Devices, The Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, and the Kansas Handbook of Traffic Control Guidance for Low-Volume Rural Roads as evidenced by application materials.

Experience using engineering judgment in situations that do not comply with standard guidance, as evidenced by application materials.

Experience collecting, analyzing, or using transportation... For full info follow application link.

The University of Kansas prohibits discrimination on the basis of race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, gender identity, gender expression, and genetic information in the university's programs and activities. Retaliation is also prohibited by university policy.

Appendix B

Contract Position Available
Missouri Local Technical Assistance Program (LTAP)

TITLE:	Safety Circuit Rider – Local Field Liaison
TYPE OF APPOINTMENT:	Contract, Continuation subject to availability of sponsored research funding, review, and reappointment
TIME COMMITMENT:	Half-time position – approximately 20 hours/week
COMPENSATION:	Approximately $50/hour
SUPERVISOR:	Director, Missouri Local Technical Assistance Program

Background:

Missouri Local Technical Assistance Program (LTAP) and Missouri Department of Transportation (MoDOT) are promoting local road safety measures through the development of a Safety Circuit Rider (SCR) program designed to provide safety-related information, training, workshops, and direct technical assistance to local agencies responsible for roadway safety. A SCR is being hired on contract under the Missouri LTAP Center as a part-time field liaison. The target audience includes local road and bridge agencies and street departments with limited or no in-house transportation safety engineering resources to conduct these activities on their own. The proposed approach includes traveling to local agencies, promoting and facilitating specific low-cost, easy-to-implement strategies for safety and infrastructure improvements as well as providing guidance on how to apply for additional funding where warranted.

The SCR program is designed to provide safety-related information, training, and support to agencies responsible for local roadway safety. While the primary focus is on local roads and, therefore, local agencies, SCR support can assist Local and Tribal Technical Assistance Program (LTAP/TTAP) Centers, State and local transportation agencies, universities, and safety interest groups, all of which can play a significant role in improving roadway safety. SCR programs can take many forms, including technical assistance, training, and technology transfer. In that sense, SCR programs are similar to the LTAP/TTAP Centers; however, the difference is the SCR activities focus on safety. Providing this onsite, safety-related support meets two needs. First, safety on locally maintained roads is a significant issue nationwide. Second, many local agencies lack the resources or technical expertise to properly identify, diagnose, and treat traffic safety problems.

The SCR is being funded through a Federal Highway Administration (FHWA) State Transportation Innovation Council (STIC*)* Incentive Program. Per the STIC application, the SCR will assist at least six local agencies during the first year. The intention is to secure another year of funding through STIC to maintain the half-time SCR position in year two and then establish a permanent position to ensure the deployment of innovations to local agencies, provide safety-related services, and standardize innovative practices. The long-term goal of the program is to improve local road safety by reducing the number of fatal and injury crashes (including severity) occurring on local roads. SCR is an FHWA Every Day Counts Initiative. For more information, see this link: https://safety.fhwa.dot.gov/local_rural/training/fhwasa09019/

As a SCR, you will have opportunities to:

- Drive down local road fatalities
- Build, create and mold the SCR program in Missouri
- Travel throughout the State with potential for limited out of state travel
- Work remotely from home
- Collaborate with a national safety circuit rider group
- Serve on committees such as the Missouri Coalition for Roadway Safety Infrastructure Subcommittee
- Attend various transportation and safety related conferences

Duties/Responsibilities are based on but not limited to the following:

1. **Assist local public agencies (45%):**
   SCR will provide information and technical assistance to LPAs related to local road safety. As an example, SCR will assist local agencies with informal safety reviews and inform of low-cost countermeasures solutions. Further, the SCR will assist LPAs in the identification of local roadways with high crash rates using a data-driven, systematic approach and suggest appropriate countermeasures. The SCR will also assist local officials with the identification of possible funding sources such as TEAP, TAP, AID Demo, STIC Incentives, BEAP, HSIP, etc. and offer assistance with the application process. In addition, the SCR may be asked to develop a generic application for HSIP funds.

2. **Develop training materials and present courses, workshops, presentations, etc. (35%):**
   SCR will promote technologies and provide educational and technical assistance to LPAs through a focus on local safety training, including topics such as signing and pavement marking per MUTCD, work zone safety, etc. SCR will also plan and facilitate traffic safety workshops on topics such as crash history, safety countermeasures, etc. as well as possibly organize and coordinate multidisciplinary RSA efforts with local agencies. The SCR will incorporate case studies and best practices as appropriate.

3. **Documentation and reporting (10%):**
   SCR will serve as a liaison to local agencies related to helping with safety data and informing on road safety issues. SCR will integrate Model Inventory of Roadway Elements (MIRE) data, intended as a guideline to help transportation agencies improve their roadway and traffic data inventories, into a Transportation Management System (TMS). During the first year, the SCR will be expected to collect and maintain the following data:
   - LPAs being served by program (minimum of six), along with LPA profile; names and addresses of officials involved; crash data analysis of LPAs in program; selected roadway statistics; record of meetings; recommendations of safety improvements, including preliminary cost estimates; anticipated implementation dates of safety improvements
   - Partnerships formed to expand the SCR program

4. **Misc. responsibilities (10%)**
   SCR will promote innovations at the local level to include EDC5 initiatives like Reducing Rural Roadway Departures and Safe Transportation for Every Pedestrian (STEP). SCR will also manage the bicycle and pedestrian safety program (mobile classroom trailer). SCR will convey LPA related information with safety focus to local agencies.

Required Qualifications:

- State of Missouri Professional Engineering license
- Current driver's license for extensive travel in Missouri and limited travel out of state
- Excellent communication skills to interact with elected officials, supervisors, and other transportation officials
- Expertise in local road safety

Preferred Qualifications:

- Experience working with LPAs
- Experience with technical writing in one or more of the following areas: transportation engineering, roadway safety, or local road maintenance
- Experience with establishing priorities in a complex technical environment with competing responsibilities
- Proven record of meeting deadlines

Remuneration:
$50 per hour plus travel reimbursement per University of Missouri guidelines.

To Apply:
Send or email a detailed cover letter that addresses the qualifications for the position and a current resume no later than November 29, 2019 to:

Heath Pickerill, PhD
Director
Missouri Local Technical Assistance Program
710 University Drive, Suite 121
Rolla, MO 65409
pickerillh@mst.edu

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Appendix C

Management of the Hazard Elimination Program for Existing Roads and Streets (HELPERS) Program for Local Public Agencies

by

John E. Haddock, Ph.D., P.E.
Professor, Lyles School of Civil Engineering
Director, Indiana Local Technical Assistance Program
Purdue University

and

Laura Slusher, P.E.
HELPERS Project Manager
Indiana Local Technical Assistance Program
Purdue University

In cooperation with the Indiana Department of Transportation and the Federal Highway Administration

September 2018

Table of Contents

Management of the HELPERS Program for Local Public Agencies

1. Introduction

The Indiana Hazard Elimination Project for Existing Roads and Streets (HELPERS) was developed through a joint effort of the Federal Highway Administration (FHWA), the Indiana Department of Transportation (INDOT), and the Indiana Local Technical Assistance Program (LTAP). HELPERS was developed to assist local public agencies in identifying and mitigating their most hazardous roadway locations through Road Safety Audits, technical assistance, data analysis and training.

This proposal is for Phase IV of the HELPERS program. Completion of Phase III of the HELPERS program will occur on December 31, 2018. The need for the HELPERS program continues as evidenced by the fact that rural roads have the highest fatal crash rate of all Indiana roadways, and local agencies often do not have the expertise or resources needed to adequately address safety issues on the roads they maintain.

The HELPERS program provides a number of services to help local agencies improve the safety of their roads, including Road Safety Audits (RSAs), safety education and outreach, data analyses and dissemination, GIS crash maps, and funding application assistance. Local agencies are grateful for the services provided by the HELPERS program.

2. HELPERS Program Accomplishments

The current HELPERS program has had a number of noteworthy accomplishments, some of which are detailed below. Detailed descriptions of all projects and accomplishments can be found in the biannual progress reports submitted to INDOT and FHWA.

Safety Education and Outreach

The HELPERS program is successful in reaching and educating a number of local agency personnel through a variety of methods. From one-on-one personalized assistance to large conferences and workshops, the HELPERS program has educated hundreds in Indiana on roadway safety.

In spring 2015, HELPERS launched an on-site roadway safety class titled, “Maintaining a Safety Roadway.” To-date, 813 local agency personnel have attended this class to learn how aspects of their everyday jobs directly impact the safety of the traveling public.

In January 2017, HELPERS added another on-site course for local agencies: MUTCD. Local agency personnel learned the basics of how to use the MUTCD. Local agencies who attended MUTCD training were eligible to receive a 2011 Indiana MUTCD at no cost. To-date, HELPERS

has trained personnel in 59 counties and 28 cities/towns on the MUTCD and disseminated a printed MUTCD to those agencies. During this on-site training, discussions about roadway safety are also covered.

Other on-site training revolves around how to conduct safety and traffic studies. HELPERS has taught many local agency personnel how to perform curve studies, speed studies, traffic studies, and intersection studies.

For the past 8 years, the HELPERS Engineer coordinated a very successful and popular safety track at Purdue Road School. The HELPERS Engineer also serves on the planning committee and Executive Board of the Indiana Section of the Institute of Transportation Engineers (IN-ITE). In that role, she helps plan and host successful workshops and seminars involving roadway safety topics and local agency projects.

GIS Crash Maps & CLIP Tool

The HELPERS program has digitized crash information onto GIS maps for local agencies. Local agencies can obtain crash location maps, crash frequency heat maps, and GIS shape files of all crash locations on their roadways.

In order to provide effective and correct crash maps, crash locations are corrected using the Crash Location Improvement Program (CLIP) tool. This tool was developed by The Center for Road Safety at Purdue University through Indiana LTAP's research program and is available to all local agencies.

Increased HSIP Applications

The HELPERS program has significantly increased the number of HSIP project applications from local agencies outside of MPO areas. In the years without a HELPERS program, the Group III and IV HSIP funding was not fully allocated.

County Crash Profiles

The HELPERS program developed crash profiles for the 67 Indiana counties outside of Metropolitan Planning Organization (MPO) areas and for MPO counties by request. These profiles are updated yearly. From these profiles, HELPERS calculated expected crash type averages for comparison purposes, which identified regional rural crash trends within the state.

3. HELPERS Program Objectives

The objective of the HELPERS program is to assist Indiana local agencies to identify and make safety improvements on local roads. This objective will be achieved through the following activities:

- performing site investigations (including RSAs);
- making recommendations for safety improvements;

- identifying and planning systemic improvements;
- evaluating the effectiveness of completed safety projects;
- conducting training and education;
- conducting data analysis;
- facilitating the federal safety funding application process;
- outreach; and
- communicating through newsletter articles and tech briefs.

The HELPERS Engineer will advise local agencies when to request federal aid to implement any suggested safety countermeasures and when to implement low-cost improvements with local forces and funds. HELPERS will also provide training to local agency personnel in best practices for roadway safety.

In order to meet these objectives and continue the progress made by the current HELPERS program, continuation of the HELPERS program funding is required.

4. HELPERS Program Approach

The HELPERS program strives to make regular contact with engineers, highway supervisors, street superintendents and other personnel who operate and maintain local roads. This is done through outreach and training.

Potential safety improvement locations are solicited through this outreach to local agencies and also through data analysis. The HELPERS Engineer will discuss possible countermeasures with the local agency. Depending on the location(s) and the type of improvement(s), the HELPERS Engineer may initiate a Road Safety Audit or may provide a list of low-cost countermeasures the local agency can implement on their own. If an RSA is done, the HELPERS Engineer can assist the local agency in applying for HSIP funds. If an HSIP project is completed, the HELPERS Engineer can assist the local agency in evaluating the effectiveness of the project three years after completion.

The HELPERS program will also perform regular reviews of crash data to identify any trends and determine the need for countermeasures to common safety issues. These data reviews are done through the projects listed in the next section.

The HELPERS Engineer will teach or host training workshops for local agencies in order to increase the safety knowledge of LPA personnel. Part of this training is an effort to increase the number of industry personnel in the state trained in hosting and participating in Road Safety Audits. Safety knowledge will also be disseminated through safety-related Technical Briefs and regular LTAP newsletter articles.

5. HELPERS Program Benefits

The anticipated benefits of the continuation of the HELPERS program is the decrease in crashes and increase in safety on roads owned by local agencies, by providing the local agencies with professional assistance in identifying and correcting safety concerns on their road network, as well as assistance in obtaining federal funding where appropriate to reduce or eliminate these potential hazards. Aside from the financial benefits to the local agency, the road users throughout Indiana benefit directly from the reduction of crashes and the associated crash costs.

Local agency personnel appreciate the value of the technical assistance they receive from the HELPERS program, as evidenced by the comments below.

"The four way stop that you recommended at the intersection of 300E and 400N was well received by the residents in the area. They feel it is much safer than the previous two way stop."

- *Stephen Ritzler, Starke County Highway Superintendent*

"Thanks for your time, looks like I have some improvements to make. Your points are well taken. Thank You!"

- *Lonnie Caffee, Adams County Highway Supervisor*

"Thanks for looking at these. I already have our sign crew correcting the issues. Again Thank You for taking the time to come down and check these out for us."

- *Phil Cornelius, Daviess County Highway Supervisor*

"Thanks Laura. I greatly appreciate you and the LTAP Program. It has been so beneficial for me in my learning curve as superintendent the last 18 months."

- *Bobby Phillips, Jefferson Co Highway Superintendent*

"I'm Ray's Assistant, Robin...I want the record to show that YOU ARE AMAZING!!!!!!!! This information is "over the top", Very Impressive and THANK YOU SOOOOO MUCH!"

Greatly Appreciated,
Robin Stegemiller, Ripley County Highway Dept.

"Thank you so much. I honestly wasn't even sure where to look. This definitely helps."

- *Sarah Farlow, LaGrange County Engineer*

6. Personnel and Duties

Dr. John Haddock, LTAP Director and Purdue University Civil Engineering professor, is the principal investigator for the HELPERS program so is charged with overseeing the financial and technical aspects of the program.

Laura Slusher is the full-time HELPERS Engineer. Approximately 90% of the HELPERS Engineer's time will be split between site investigations (including RSAs), local agency outreach and education, and data analysis and review. The remaining time will be spent in keeping up with

the latest in the field of traffic safety for local agencies, committee participation, project administration, and other LTAP activities as needed.

Tino Atisso is the Data Analyst. He works mainly on GIS mapping, data analysis and other projects. Tino also assists in training students.

Other graduate or undergraduate student assistants will be used as necessary for data analysis, GIS work, and other short-term projects.

7. Schedule and Cost Estimate

The program length is four years with a projected start date of January 1, 2019. The estimated annual cost of the HELPERS program is $288,651 per year, for a total four-year cost of $1,154,604. This budget is based on the spending of the current HELPERS program with additional funds for training workshops.

A summary of the proposed HELPERS program budget for 1/1/2019 – 12/31/2022 is presented in Table 1. Supplies and Services includes items such as office supplies, computer services, and HELPERS vehicle expenses.

Table 1: Proposed HELPERS Budget Summary

Item	Annual Cost	Total Cost
Wages and Fringe Benefits	$ 278,626	$1,114,504
Travel	$ 3,000	$12,000
Supplies and Services	$ 4,125	$16,500
Capital Equipment	$ 500	$2,000
Communications	$ 25	$100
Publications and Duplications	$ 1,125	$4,500
Training Workshops	$ 1,250	$5,000
Total	***$288,651***	***$1,154,604***

8. LTAP Contribution

Indiana LTAP will continue to support the HELPERS program by providing the following:

- Administrative support;
- Support safety-related research for local agencies;

- Use of office space and LTAP equipment;
- Access to Purdue University's programs and software; and
- Web access to host and maintain HELPERS information on the LTAP website.

9. Progress Reports

Progress of the HELPERS program will be documented through reports on a semi-annual basis. The progress reports will detail assistance provided to local agencies and summarize active and completed projects.

U.S. Department of Transportation
Federal Highway Administration

FHWA, Office of Safety

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Image Source: Bonner County, Idaho