A MODEL **Road Safety Audit Policy**

U.S. Department of Transportation

Federal Highway Administration

Safe Roads for a Safer Future
Investment in roadway safety saves lives

http://safety.fhwa.dot.gov

I.   Introduction

Safety is a top priority of the U.S. Department of Transportation and is central to the work of the Federal Highway Administration (FHWA) Office of Safety. The FHWA Office of Safety provides national leadership and guidance for reducing highway fatalities and making the Nation's roads safer. As part of FHWA's commitment to safety, the Office of Safety maintains a list of Proven Safety Countermeasures. This list includes safety countermeasures that agencies are encouraged to use to improve safety on their road network. The 2008 Proven Safety Countermeasures list included Road Safety Audits (RSA) because of their ability to identify opportunities for safety improvements on all public roads and for all road users.

What is a Road Safety Audit (RSA)?

An RSA is the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team.

- An RSA is a formal safety examination with a structured process, not just a cursory review of the safety of a project.
- An RSA extends beyond a simple standards check to examine the interaction of the many elements contributing to road safety, such as roadway geometry, traffic operations, level of service, road users, and environment.
- An RSA is conducted by an independent team of qualified professionals who have not previously been directly involved in the project.
- RSA team members should be from multiple disciplines representing a range of expertise areas such as safety, law enforcement, operations and/or maintenance.
- An RSA addresses the needs of all road users.

Responsibilities

- RSA Team
- Design Team/Project Owner

1 Identify Projects
2 Select RSA Team
3 Conduct Start-up Meeting
4 Perform Field Reviews
5 Analyze and Report on Findings
6 Present Findings to Owner
7 Prepare Formal Response
8 Incorporate Findings

Figure 1. Eight-Step RSA Process

The Need for and Benefits of RSAs.

The public depends on road agencies to build and maintain safe roads, walkways, and bikeways. RSAs help agencies meet this expectation by enabling the road owner to identify and mitigate safety issues before, during, and/or after roadway construction. In addition to helping reduce crashes and the costs associated with them, pre-construction RSAs can help reduce costs associated with:

- facility redesign and reconstruction to correct safety deficiencies,
- maintenance, and
- liability claims.

What is the Model RSA Policy?

The purpose of the Model RSA Policy is to assist road owners in developing a policy on implementing Road Safety Audits. The model policy is a flexible document that a road agency can use to meet their needs and is consistent with their specific processes, practices, and budget constraints. The Model RSA Policy is not a Federal requirement.

Road owners will find more detailed guidance in the *FHWA Road Safety Audit Guidelines* (Publication No. FHWA-SA-06-06). Guidance has also been developed for RSAs specific to pedestrians, bicyclists, work zones, wrong-way driving, and Federal and tribal lands. All of these resources can be downloaded for free and are available on FHWA's RSA website (http://safety. fhwa.dot.gov/rsa/index.htm).

A State Transportation Agency's RSA policy can be coordinated with the FHWA Division Office and may be incorporated or referenced in State Transportation Agency and FHWA Stewardship and Oversight agreements.

II.   Model RSA Policy

This model policy includes five main sections:

How should this model RSA policy be used?

This model provides sample wording and multiple options to assist a road agency in establishing an RSA policy. Each road agency has its own mandate, culture, characteristics, and staffing and funding constraints. As a result, each road agency should tailor this model RSA policy so that it:

- meets their needs and constraints,
- is consistent with their processes and practices,
- is integrated with other policies and programs within the agency, such as their Strategic Highway Safety Plan (SHSP), Highway Safety Improvement Program (HSIP), crash reduction goals, safety focus areas, and funding sources.

In addition, it may be desirable to consider the policies and programs of parallel road safety organizations, such as the highway safety office or law enforcement, when tailoring this model RSA policy to local conditions.

The model RSA policy consists of three main components.

1. **Basic Elements** – Standard RSA policy language for each of the five main sections.
2. **Options** – Suggestions for more detailed language to include with the RSA policy. Agencies may choose one or more of the options to suit their needs or write their own additional language.
3. **References** – Supporting resources that provide additional guidance.

Figure 2 shows how to use the model RSA policy.

Subsection—Suggested subsections and standard language for the beginning of each.

Section — Basic section of an RSA policy document.

References—Reference to sections of the FHWA *Road Safety Audit Guidelines* and other assistance.

Suggestions — Suggested language (*in italics*) that an agency might want to include in the policy.
Agencies may choose one or more of the options to suit their needs, or they may write their own.

Section 1: RSA Program

1.1. What is an RSA?

A Road Safety Audit (RSA) is a formal safety performance examination of an existing or future transportation facility by an independent, multidisciplinary RSA team.

1.2. Objectives and Organization of the RSA Program

The objective(s) of the RSA program:

Some suggested options (choose one or more of these, or write your own):

- *to make all roads safer for all road users*
- *to reduce overall crashes by _____ percent on audited roads within _____ years following the implementation of improvements resulting from RSAs*
- *to reduce fatal and injury crashes by _____ percent on audited roads within _____ years following the implementation of improvements resulting from RSAs*
- *to reduce the number of crashes per million vehicle miles travelled (MVMT) by _____ percent on audited roads*
- *to reduce the number of crashes per million entering vehicles (MEV) by _____ percent at audited intersections*
- *to achieve a benefit/cost ratio (based on achieved collision reductions and the cost of improvements) of at least _____ within _____ years following the implementation of improvements resulting from RSAs*
- *to perform _____ (number) RSA(s) at each planning and design stage*
- *to perform _____ (number) RSA(s) on existing facilities*
- *to perform _____ (number) RSA(s) in _____ percent of the agency's constituent districts (selected on a rotating basis) every _____ years. In this way, each district will conduct at least _____ RSA(s) every _____ years.*

References

See RSA Guidelines:
- Section 1.3
- Section 3.1
- Section 3.2

Measurable objectives, which are useful for program evaluation, are typically expressed in terms of:
- crash reductions
- benefit/cost ratios
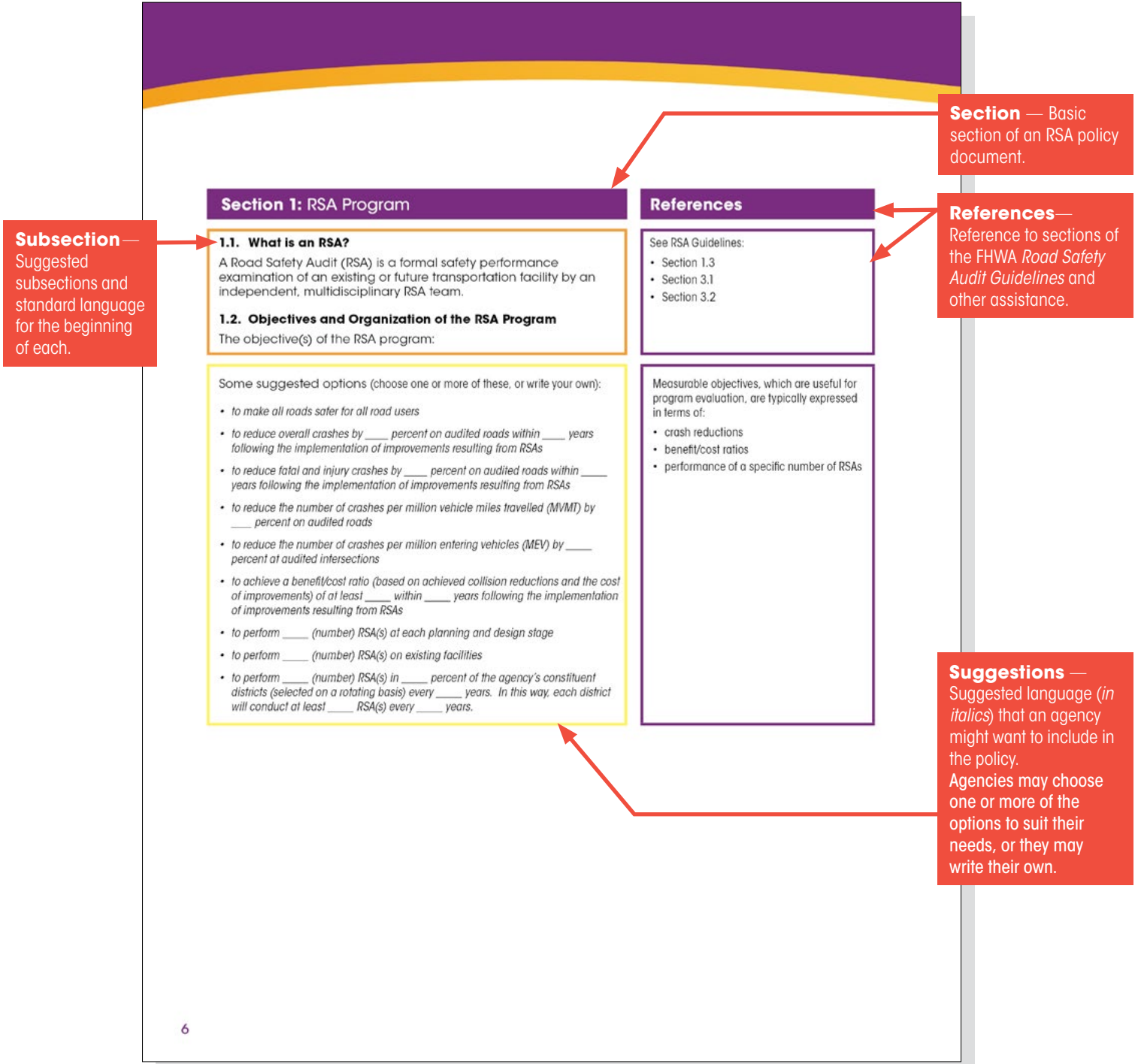- performance of a specific number of RSAs

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Figure 2.   How to Use the Model RSA Policy

Section 1: RSA Program

1.1. What is an RSA?

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Some suggested options (choose one or more of these, or write your own):

- *to make all roads safer for all road users*

- *to reduce overall crashes by _____ percent on audited roads within _____ years following the implementation of improvements resulting from RSAs*

- *to reduce fatal and injury crashes by _____ percent on audited roads within _____ years following the implementation of improvements resulting from RSAs*

- *to reduce the number of crashes per million vehicle miles travelled (MVMT) by _____ percent on audited roads*

- *to reduce the number of crashes per million entering vehicles (MEV) by _____ percent at audited intersections*

- *to achieve a benefit/cost ratio (based on achieved collision reductions and the cost of improvements) of at least _____ within _____ years following the implementation of improvements resulting from RSAs*

- *to perform _____ (number) RSA(s) at each planning and design stage*

- *to perform _____ (number) RSA(s) on existing facilities*

- *to perform _____ (number) RSA(s) in _____ percent of the agency's constituent districts (selected on a rotating basis) every _____ years. In this way, each district will conduct at least _____ RSA(s) every _____ years*

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Measurable objectives, which are useful for program evaluation, are typically expressed in terms of:
- crash reductions
- benefit/cost ratios
- performance of a specific number of RSAs

1.3. Administration of the RSA Program

The RSA Program will be administered by _____
(Department or division)

Administration of the RSA Program will involve:

RSA programs may need an administrative "home", and may be managed on a day-to-day basis by a coordinator or work group.

Some suggested options (choose one or more of these, or write your own):

- *funding (including training funds) for the program*
- *authority to assign staff to be trained in and perform RSAs*
- *authority to liaise with other agencies as needed to develop the RSA program and effect reciprocal RSA agreements*
- *review and evaluation of the effectiveness of the RSA program at regular intervals*
- *The RSA Program will be managed by _____*
  (title of staff or work group
- *Management of the RSA Program will involve (choose one or more of these, or write your own):*
  - *identifying specific projects or facilities to be audited*
  - *establishing RSA training programs for prospective RSA team members*
  - *setting up RSAs*
  - *forming RSA teams*
  - *administering RSA contracts*
  - *receiving and reviewing RSA reports*
  - *following up to ensure that RSA response letters are written*
  - *monitoring the implementation of improvements resulting from RSAs*
  - *reviewing and compiling RSA results to identify possible improvements to the agency's design and operation standards and guidelines*
  - *conducting RSA program evaluation*
  - *liaising with other road agencies to establish reciprocal arrangements for staffing and training*
  - *coordinating the RSA program with similar or parallel road safety initiatives at other levels of government (or other entities within the same level of government) to identify opportunities for joint or cooperative RSA activities*
  - *replying to inquiries from the public, elected officials, and senior management*

Section 2: Criteria for Projects to be Audited

References

Transportation facilities may be audited at one or more of the following stages:

See RSA Guidelines:
- Section 3.5
- Section 5
- Section 6
- Section 7

Some suggested options (choose one or more of these, or write your own):

- *prior to construction (during the planning stage)*
- *prior to construction (during the design stage)*
- *during construction (including the work zone)*
- *at any time they are in operation*

The following criteria identify projects that should be audited:

See RSA Guidelines:
- Section 2.1
- Section 2.2

Criteria may be stated as guidance or requirements. Guidance will allow more flexibility in the application of the criteria.

Some suggested options (choose one or more of these, or write your own):

Project or Facility	RSA during design	RSA during construction	RSA for facilities in operation
intersections or road segments having over _____ crashes / _____ fatal and injury crashes (choose one and insert threshold number) per year over a three-year / five-year (choose one) period			✔
intersections or road segments having over _____ crashes per MEV/MVMT (insert threshold number)			✔
intersections or road segments in the State's "Top 5%" list			✔
projects or improvements receiving funding from a specified source (such as HSIP or HRRR projects) and/or public funding above $_____(insert threshold value)	✔	✔	✔

The suggested options cover the following candidate projects or facilities:

- projects or facilities above a specified crash threshold (existing or forecast crashes)

Project or Facility	RSA during design	RSA during construction	RSA for facilities in operation
all new transportation facilities with a budget exceeding $_____ (insert threshold value)	✔	✔	
all surface improvement projects with a budget exceeding $_____ (insert threshold value)	✔	✔	✔
all bridge reconstruction projects with a budget exceeding $_____ (insert threshold value)	✔	✔	✔
all 3R projects with a budget exceeding $_____ (insert threshold value)	✔	✔	✔
all new projects, regardless of budget	✔	✔	

- projects or facilities above a specified size or value

Project or Facility	RSA during design	RSA during construction	RSA for facilities in operation
all facilities associated with or influenced by new developments	✔	✔	✔
all facilities adjacent to (or influenced by) a substantial change in land use	✔	✔	✔

- developer-led projects

Project or Facility	RSA during design	RSA during construction	RSA for facilities in operation
projects or facilities with AADTs above _____ (insert threshold value)	✔	✔	✔
projects or facilities with peak-hour vehicle volumes above _____ (insert threshold value)	✔	✔	✔
projects or facilities with pedestrian volumes exceeding _____ (insert threshold value)	✔	✔	✔
projects or facilities with cyclist volumes exceeding _____ (insert threshold value)	✔	✔	✔

- projects or facilities above a specified volume threshold (existing or forecast volumes)

Project or Facility	RSA during design	RSA during construction	RSA for facilities in operation
projects or facilities operating at a level of service below _____ (insert threshold value)			✓
projects or facilities adjacent or near to land uses that generate vulnerable road users (such as schools and parks) or special safety concerns (such as stadiums)	✓	✓	✓
_____ (insert number) projects or facilities within each geographic/ administrative area or division	✓	✓	✓
all projects on roadways above _____ (specify functional classification)	✓	✓	✓

- other projects and facilities.

The following criteria identify projects that are normally exempt from RSAs, at the discretion of the RSA Program Manager:

Some suggested options (choose one or more of these, or write your own):

- *new transportation facilities with a budget under $_____*
- *surface improvement projects with a budget under $_____*
- *bridge reconstruction projects with a budget under $_____*
- *3R projects with a budget under $_____*
- *projects or facilities with AADTs below _____*
- *projects or facilities with peak-hour vehicle volumes below _____*
- *projects on roadways below _____ (specified functional classification)*

Section 3: RSA Process

3.   RSA Process

An RSA is a structured examination of the safety performance of a project or facility, with documented results.

Some suggested options (choose one or more of these, or write your own):

- The RSA will follow the eight-step process described in the FHWA Road Safety Audit Guidelines

3.1. Independence and Sourcing of the RSA Team

The members of the RSA Team should have no previous involvement with the project or facility being audited.

Some suggested options (choose one or more of these, or write your own):

The RSA Team may be composed of persons:

- *from other divisions within the road agency (who have no previous involvement with the project)*
- *from other road agencies, especially those having a reciprocal arrangement for staffing RSA teams,*
- *from the private sector*
- *from agencies or organizations contributing specialist expertise, such as maintenance, enforcement, or emergency services*

References

See RSA Guidelines:

- Section 3.1
- Section 4

See RSA Guidelines:

- Section 3.3
- Section 4.2

3.2. Elements of the RSA

Each RSA will include the following:

Some suggested options (choose one or more of these, or write your own): • *a start-up meeting with the RSA team, road owner, and design team (if any)*	See RSA Guidelines: • Section 4.3
• *a field review by the RSA team*	• Section 4.4 • Section 8 (Prompt Lists)
• *identification of safety issues (on the basis of crash data analysis and/or operational, geometric, and human factors issues) by the RSA team* • *suggestions by the RSA team regarding how safety can be enhanced on the project or facility*	• Section 4.5 • Section 8 (Prompt Lists)
• *a preliminary findings meeting with the RSA team, road owner, and design team (if any)* • *a written report by the RSA team providing the results of the RSA*	• Section 4.5 • Section 4.6
• *The RSA Final Report will be written by the RSA team and submitted to the road owner.* • *The road owner is responsible for circulating the RSA Final Report to the appropriate stakeholders and parties, as well as to the agency's RSA coordinator or work group.* • *The RSA team may provide a draft version of the RSA report for comment, prior to finalizing the report. The road owner may provide comments from himself and from any others to whom he circulates the report (such as the design team). To avoid compromising the independence of the RSA process, the road owner's comments should not be directed toward changing the findings of the RSA (in terms of safety issues), unless those issues have been identified using incorrect factual information. The road owner's comments should be directed to correcting or expanding on factual information in the draft RSA report, or to providing input to suggestions (for example, concerning the feasibility of a suggestion developed by the RSA team). To avoid delaying the RSA report, the road owner's comments should be provided within one week of receiving the draft report.*	The RSA policy may include more detailed information concerning the RSA documentation.

3.3. Road Owner's Response

The road owner will review the RSA findings and suggestions.

See RSA Guidelines:
- Section 4.7
- Section 4.8

The road owner response is an important "closure document" for the RSA.

Some suggested options (choose one or more of these, or write your own):

- *The road owner will issue a formal response outlining his agreement or disagreement with the RSA findings, and the proposed actions to be taken in response to the RSA findings.*
- *If no action is to be taken in response to an RSA finding, the road owner should indicate the reason (such as inadequate funding).*
- *The road owner may incorporate RSA recommendations into the audited project or facility.*

3.4. Responsibilities of the Road Owner and RSA Team

The RSA is a cooperative effort involving the road owner and RSA team. Each party will be responsible for the following RSA tasks:

See RSA Guidelines:
- Section 3.4
- Section 4.1

Some suggested options (choose one or more of these, or write your own):

The owner of the project or facility:

- *will identify (some/all) members of the RSA team in consultation with the RSA team leader*
- *will supply necessary materials for use by the RSA team*
- *will set the date of the start-up meeting in consultation with the RSA team leader, and invite attendees (including the design team) to the meeting*
- *will be available to answer questions during the RSA site visit and analysis*
- *will review and respond to the RSA findings, and incorporate improvements to respond to the RSA findings where possible.*

The RSA team:

- *will identify the information needed from the owner for the RSA*
- *will attend the start-up meeting*
- *will analyze data and perform field reviews*
- *will identify safety issues associated with the project or facility*
- *will identify possible mitigation measures to address safety issues associated with the project or facility*
- *will present the RSA findings in a preliminary findings meeting with the owner and those invited by the owner (such as the design team)*
- *will present the RSA findings in a formal report*

Section 4: RSA Program Monitoring & Evaluation

References

The RSA Program will be monitored by _____ (responsible party identified in Section 1.3) every _____ (interval) to ensure that:

See RSA Guidelines:
- Section 2.1
- Section 2.4

Some suggested options (choose one or more of these, or write your own):

- *RSAs are being implemented on projects and facilities that meet the selection criteria*
- *RSA training is being conducted*
- *the quality of RSA teams and RSA final reports are adequate*
- *RSA funding is being effectively utilized*
- *RSAs are resulting in the implementation of safety improvements*
- *the RSA program is working effectively within or alongside the agency's other transportation safety programs and initiatives*

Road owner representatives whose projects have been audited may be contacted to assess the level of acceptance and success achieved by RSAs.

The effectiveness of the RSA program will be evaluated every _____ (interval) by _____ (responsible party identified in Section 1.3) with reference to its measurable objectives stated in Section 1.2 above.

Typically, the main objective of the RSA program is to reduce crashes. The effectiveness of the RSA program may be evaluated using before/after crash comparisons at audited sites (for RSAs of existing facilities only), or by comparing crashes at audited and unaudited sites (for RSAs of existing facilities, or RSAs of projects in the planning or design stages). Evaluation exercises need to be appropriately designed to provide reliable results.

Section 5: Funding Sources

References

5.1. Funding for RSAs

Funding to conduct an RSA can be obtained from:

Some suggested options (choose one or more of these, or write your own):	
FHWA Office of Safety	Grants may be available from the FHWA Office of Safety for specific types of activities based on solicitation of proposals through FHWA Division Offices or LTAP Centers.
FHWA Division Office	Funds are available from FHWA Division Offices for technology transfer activities. There is potential to team with Division Offices using a portion of the technology transfer funds to provide safety-related support to local agencies within the Division.
State Department of Transportation	A State DOT may have specific funds available for safety-related activities.
Highway Safety Improvement Program (HSIP)	The Highway Safety Improvement Program (HSIP) is a core Federal- aid program. The goal of the program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The program is typically administered within each State by the State Highway Agency (typically State DOT) in partnership with the FHWA Division Office. These funds can be used for safety projects on any public road, including engineering services. To qualify for HSIP funding, engineering activities should support key strategies within the State's Strategic Highway Safety Plan (SHSP).
State and Community Highway Safety Grant Program (Section 402)	Section 402 funds are Federal funds administered by the State Highway Safety Office. The purpose of the Section 402 program is to assist States and communities with developing and implementing behavioral highway safety programs. Proposals for 402 funding must be submitted through the State Highway Safety Office. For more information, contact the Governor's Highway Safety Representative.
Local/Tribal Technical Assistance (LTAP/TTAP) Programs	LTAP / TTAP Centers may be able to provide partial or even complete funding to support an RSA using their existing funding mechanisms.

5.2. Funding for Improvements Identified During an RSA

Funding to implement improvements identified during an RSA can be obtained from:
(Suggested options - choose one or more of these, or write your own)

Highway Safety Improvement Program (HSIP)	The HSIP provides Federal funds from FHWA. The program is typically administered within each State by the State Highway Agency (typically State DOT) in partnership with the FHWA Division Office. These funds can be used for safety projects on any public road, including engineering services. To qualify for HSIP funding, engineering activities should support key strategies within the State's Strategic Highway Safety Plan (SHSP).
High Risk Rural Roads (HRRR) Program	Under MAP-21 legislation, a Special Rule requires States with an increase in fatality rates on rural roads to obligate a specified amount of HSIP funds on HRRRs. Projects may be selected on a public HRRR (state or locally owned) to correct or improve hazardous locations or features.
State Department of Transportation	A State DOT may have specific funds available for safety-related activities.
State and Community Highway Safety Grant Program (Section 402)	Section 402 funds are Federal funds administered by the State Highway Safety Office. The purpose of the Section 402 program is to assist States and communities with developing and implementing behavioral highway safety programs. Proposals for 402 funding must be submitted through the State Highway Safety Office. For more information, contact the Governor's Highway Safety Representative.
Transportation Alternatives Program	The Transportation Alternatives Program (TAP), authorized under Section 1122 of MAP-21 (23 U.S.C. § 213), provides funding for projects or activities, including: transportation alternatives, as defined at 23 U.S.C. § 101(a)(29); the recreational trails program under 23 U.S.C. § 206; the safe routes to school program under section 1404 of SAFETEA-LU; and the planning, design or construction of boulevards and other roadways largely in the right-of-way of former Interstate System routes. Funds apportioned under the program to a State per MAP-21, may be used to correct deficiencies that may also address maintenance problems for facilities in the public-rights-of-way (e.g., sidewalks and curb ramps).
Indian Reservation Roads (IRR) Program	IRR Program funds are available for planning, design, construction, and maintenance activities addressing Tribal transportation needs.

III. Additional RSA Resources

Road Safety Audit Guidelines (Publication No. FHWA-SA-06-06): This publication provides a foundation for public agencies to draw upon when developing their own RSA procedures and when conducting RSAs within their jurisdictions. The publication provides basic RSA principles that can be tailored to suit local conditions. The Guidelines include prompt lists to assist RSA teams with identifying safety issues.

Pedestrian Road Safety Audit Guidelines and Prompt Lists (Publication No. FHWA-SA-07-007): This publication provides transportation agencies and RSA teams with a better understanding of the needs of pedestrians in the transportation system when conducting an RSA. The document is an expansion of the pedestrian-related material in the FHWA Road Safety Audit Guidelines. The Guidelines include prompt lists to assist RSA teams with identifying pedestrian safety issues.

Bicycle Road Safety Audit Guidelines and Prompt Lists (Publication No. FHWA-SA-12-018): This publication provides transportation agencies and RSA teams with a better understanding of the safety of cyclists in the transportation system. It presents an overview of basic principles of the safety of cyclists and potential issues affecting cyclists. It also provides information on how to perform an RSA and effectively assess the safety of cyclists. Prompt lists describe safety considerations when conducting an RSA focused on cyclists.

Road Safety Audit: Case Studies (Publication No. FHWA-SA-06-17): To demonstrate the effectiveness of RSAs, the FHWA Office of Safety sponsored a series of ten RSAs. The aim of these case studies was to demonstrate the usefulness and effectiveness of RSAs for a variety of projects and project stages, and in a variety of agencies throughout the United States. The results of the RSAs have been compiled in this case studies document. Each case study includes photographs, a project description, a summary of key findings, and the lessons learned. The aim of this document is to provide state and local agencies and Tribal governments with examples and advice that can assist them in implementing RSAs in their own jurisdictions.

Road Safety Audit Toolkit for Federal Land Management Agencies and Tribal Governments (Publication No. FHWA-FLH-10-0011): The Toolkit is a publication that provides information to Federal Land Management Agencies and Tribes on how to perform an RSA, establish an RSA Program, and incorporate RSAs in the planning process. Worksheets and other sample materials are provided to aid the RSA process. The publication also includes information on the programs and experiences of other agencies to provide examples of the successes and struggles in implementing RSAs and improving safety for all road users.

For More Information:

For more information, visit http://safety.fhwa.dot.gov/rsa/

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