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Implementation Assistance Application for Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data

[Read the Product Page](#)

Background

The SHRP2 safety data consists of the Naturalistic Driving Study (NDS) database and the Roadway Information Database (RID). The Naturalistic Driving Study compiled 2 petabytes of data from 3,150 drivers aged 16-80 while they traveled nearly 50 million miles under actual driving conditions. The effort compiled an unprecedented amount of detailed data of actual driver behavior under normal conditions, near-crash, and crash events. The database includes detailed video of the driver and the roadway. Also included were data on the vehicles' speed, acceleration, braking, and other maneuvers.

Information such as seatbelt usage and the presence of alcohol is available. Linked to the trip data are roadway data such as the roadway location, curvature, grade, lane widths, and intersection characteristics. Also provided are environmental data such as time of day and weather. These two databases will allow an unprecedented amount of research leading to new insights in crash causation and identification of safety countermeasures.

FHWA is partnering with the American Association of State Highway and Transportation Officials (AASHTO) and the Transportation Research Board (TRB) to solicit promising research leading to the development of new or improved safety countermeasures, driver education efforts, and enforcement strategies using the SHRP2 safety data. AASHTO's identified objectives are to support research leading to promising new countermeasures, to demonstrate the use of the SHRP2 safety data, and to familiarize AASHTO members with the safety data and its potential.

Working in conjunction with AASHTO, FHWA is particularly interested in proposals addressing one of these five broad areas.

- 1. Driver Speed:** What driver speed reactions, considerations, or adjustments occur under various roadway and/or environmental changes? Specific factors examined could be traffic control devices, work zones, school zones, transitional speed zones, weather elements, adjacent vegetation, or other factors.
- 2. Roadway Features and Driver Performance:** How do certain roadway features influence driver performance or behavior? Specific factors examined could be roadway lighting, signage, pavement markings, rumble strips, stop bars, super-elevation, clear zones, or other features.
- 3. Preceding Contributory Events:** What and how do driver characteristics, behavior, and performance tend to precede crashes and near-crash events? What commensurate actions tend to prevent near-crashes from resulting in crashes?

Read Product FAQs

These frequently asked questions address key questions applicants may have about the Concept to Countermeasure product.

4. **Vulnerable Road Users:** How do drivers interact with vulnerable road users, for example, pedestrians, bicyclists, or motorcyclists?
5. **Intersections:** How is negotiation performance at either rural or urban intersections influenced by roadway elements, driver characteristics or driver behaviors? Specific factors examined could be at grade intersections on rural expressways, lighting conditions, turn lanes, medians, signs or pavement markings, signalized versus unsignalized intersections, by the presence of pedestrians, by driver age, or other driver characteristics.

FHWA and AASHTO also strongly encourage well-reasoned proposals in other safety topic areas, and are willing to consider any well formulated project proposals of interest to States, including but not limited to the five areas listed above. However, priority will be given to research topics that are not duplicative of SHRP2 safety data research likely to be conducted by other organizations.

Leadership Endorsement

Each application submitted from an organization or agency must have the endorsement of the Chief Executive Officer or designee. The letter of endorsement is submitted **as an attachment to the application**. Guidance for creating an endorsement letter appears in the application below.

Priority Ranking

When multiple applications are submitted from an organization or agency, each application must have a designated priority ranking. Please rank all applications in one grouping including all product submissions from your agency. For purposes of ranking do not separate your organization's applications into categories for individual products, or levels of incentives such as Lead Adopter or User Incentive.

For example, if your agency submits four applications; two applications for R06C, one for C03/C11, and one for R10, your agency must rank each application in priority order from 1 to 4, with 1 as the highest priority and 4 as the lowest priority. For your convenience, you will find a box later in this application to designate the priority ranking. FHWA and AASHTO will take into consideration the agency's rankings when reviewing and evaluating the applications for implementation assistance. Your priority ranking should be expressed as "X of Y," as in "1 of 4."

Available Implementation Assistance

FHWA is soliciting proposals to conduct SHRP2 safety data research and analysis that are likely to lead to implementable countermeasures or promising new behavioral strategies.

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| Phase I: | Proof of Concept phase. In Phase I, State agencies and their research partners would acquire a reduced dataset and test its use for meaningful analysis of crash or near crash causation and potential countermeasures. |
| Phase II: | If Phase I findings are promising, then a Phase II for additional research may be funded using a complete dataset. |
| Phase III: | If Phase II is successful, then a Phase III for development and implementation of the countermeasure/s will be funded solely at the discretion of FHWA if it and AASHTO believe the findings to be promising. |

Application Deadline: June 27, 2015

Phase I proposals that are accepted may receive up to \$100,000 in financial assistance as well as technical assistance incentives.

- In Phase I, State agencies and their research partners must demonstrate the capability to conduct meaningful research that is likely to advance the understanding of driver behavior contributing to highway crashes or near crashes, and the potential for the development of subsequent countermeasures or policy changes.
- Applicants must secure through their own initiative a reduced data set from a SHRP2 safety data provider. The scale and scope of the data needed to demonstrate a proof of concept is considerably less than the full data set that would be needed to conduct Phase II-level research. Based on past experience, data acquisition costs could be as high as one third of the total Phase I cost; it will depend upon the type of data needed to demonstrate the proof of concept. These costs should be factored into the Phase I budget for the project. Since no additional Phase I funds will be provided for data acquisition, applicants should plan accordingly.
- The applicant will need to demonstrate the proof of concept with the funds received from the SHRP2 Implementation Assistance Program (IAP) and any additional funds they wish to provide.
- Phase I will last for nine months beginning on January 1, 2015, the date the NDS data is expected to be fully linked to the RID data. Phase I closes on September 30, 2015. Successful applicants not using linked roadway and NDS data that are available prior to December 31, 2014, may start when authorized, but the closing date for all proof of concept work is September 30, 2015.

- Successful applicants should be prepared to become certified through an Institutional Review Board (IRB) process for human subject research. Depending on the type of data the researchers will need to access, this process can take months and applicants need to plan accordingly.
- Phase I deliverables will include the proof of concept; a refined research approach, schedule, and detailed cost estimate for Phase II; and a plan with rough cost estimates for how Phase III could be carried out in anticipation of a successful Phase II. The cost of accessing and extracting SHRP2 safety data from a SHRP2 safety data provider must be included in the Phase II cost estimate.

Phase II will be authorized to proceed by FHWA, in conjunction with AASHTO, only upon successful completion of Phase I, and a determination that the continuation of the research will lead to practical research results and/or findings. There is no guarantee that a Phase I project will advance to Phase II.

- Phase II will consist of in-depth and detailed analysis of the research question using a complete SHRP2 safety dataset necessary for this more involved research. Phase II efforts are expected to result in findings and recommendations relative to potential new insights into crash causation; identification of a potential new countermeasure or substantial improvements to existing countermeasures; or potential changes to national standards, design guides, or manuals such as the Manual on Uniform Traffic Control Devices (MUTCD), Highway Safety Manual, and AASHTO's Green Book. The potential for no implementable result should be extremely low.
- Phase II will end with a detailed plan and cost estimate for implementation of the recommendations of the Phase II research during Phase III.

Phase III, the deployment phase, may be authorized by FHWA, in conjunction with AASHTO, if warranted by the Phase II research and if funding is available. Phase III activities would not include additional database research. Instead, it is anticipated that Phase III could include further engineering, development of safety campaigns, or other activities that will support or lead to the implementation of the findings. For instance, implementation may consist of integrating the findings into the appropriate manuals, guidelines or policies, or countermeasure development and pilot testing. If the result of the research is a countermeasure, it could be included in the portfolio of products advanced in the IAP.

As the intent of this SHRP2 implementation assistance is to go from concept to countermeasure, State agencies must confirm in their application that if their research proposal advances through Phase III they will commit to actively advancing its findings through implementation. This could be through piloting the countermeasure, serving as a case study for it, or championing its integration into national design guides, standards, policies, or manuals.

AASHTO will recommend to FHWA the selection of Phase I proof of concept proposals based upon:

- The proposer's demonstrated understanding of the problem and the need for research that will lead to an industry change.
- The merit of the proposed research approach and experiment design.
- The likelihood that the research will lead to implementable findings.
- The experience, qualifications, and objectivity of the research team in the same or closely related problem areas or research type (use of NDS-like data).
- The plan for ensuring application of results.

Although no State match is required, consideration will be given to projects that cost share. Shared costs can be provided through eligible Federal-aid funds, pooled funds, State resources, in-kind contributions or other sources.

Applicants must include in their Phase I budget costs to meet in person with the Task Force at the conclusion of Phase I to present research findings and to discuss possible Phase II options. This meeting will likely occur in Washington D.C.

Requirements

The requirements of this solicitation include:

- Applicants must be State transportation agencies, although they are encouraged to partner with private- and public-sector researchers.
- The applicants must demonstrate use of the unique SHRP2 safety data and illustrate why research results could not be derived using existing non-naturalistic data sets.
- Applicants may submit more than one application but must prioritize their requests.
- Public and private sector researchers can participate with one or more State transportation agencies.
- Selected State transportation agencies will be responsible for all Federal-aid requirements related to the implementation assistance funding.
- To reduce the complexity and risk to applicants, FHWA is pursuing a phased approach with up to three phases.

Application Form

Follow these steps to apply for implementation assistance:

1. Review all background information
2. Download the [Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data](#) application form; and save it to your computer in order to iterate, revise, and secure approvals before uploading the final application and [Leadership Endorsement Letter](#) to this site
3. Once you have completed the form and secured the required Leadership Endorsement Letter, return to this page and complete the contact information fields below
4. Upload the completed application form and Leadership Endorsement Letter
5. Click submit; you will receive an email confirmation that includes the uploaded endorsement letter and application form, be sure to only hit the submit button one time

Attach letter of endorsement from CEO or designee

no file selected

[View Leadership Endorsement Guidance](#)

Attach completed application form. Be sure you are attaching the application form that matches this application.

no file selected

Download the [Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data](#) application form.

Number of applications your organization is submitting to Round 4

Rank this application relative to the total

Contact Information

Point of Contact

Title

Business Phone

Business Email

Organization

Type of Organization

State

Do you wish to subscribe to receive GoSHRP2 Email Updates?

Be sure to click submit only one time.

SHRP2 Implementation Assistance Program

Round 4 Application Form - *Application period closes June 27, 2014.*

Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data

FHWA Product Lead Name: Aladdin Barkawi, Aladdin.Barkawi@dot.gov, 202-493-3312

This SHRP2 Solution is part of Round 4 of the Implementation Assistance Program. For more information about this product or about applying for implementation assistance, visit the Implementation Assistance Program page (<http://www.fhwa.dot.gov/GoSHRP2/ImplementationAssistance>) or this product's application page (where this form originated) on the GoSHRP2 website.

Point of Contact:

The SHRP2 Implementation Assistance Program is designed to foster peer learning, and as a result, applicants are encouraged to share their experience implementing SHRP2 products with others. By submitting this application, your organization grants permission to FHWA to publish and distribute the name and business email address of a **staff member from the applying organization** who is familiar with the project. Please provide:

POC Name: Provide your response here.

POC Business Email Address: Provide your response here.

Questions:

1. Summary

In 1000 words or less summarize three critical points: 1) What research question you propose to pursue; 2) why this research is likely to result in findings that could lead to effective countermeasures to reduce crashes; and 3) your team's capabilities to complete the research.

Provide your response here.

2. Research Question and Supporting Data Set

Explain in no more than 500 words, what data you plan to acquire for Phase I and what safety topic or area of research will be pursued.

Provide your response here.

3. Research Approach

Explain in no more than 1500 words your Phase I research approach and objective, and why it is likely to prove your research concept and merit a complete Phase II data set and research investigation. Also, explain why the SHRP2 Safety Data is the appropriate data

for this research question or questions, and why research results cannot be derived using existing non-naturalistic data sets.

Provide your response here.

4. **Qualifications**

Summarize in no more than 1000 words the qualifications and experience of your research team. Resumes and additional qualifications may be added as appendices.

Provide your response here.

5. **Institutional Review Board (IRB) Compliance**

Summarize in no more than 1000 words your team's experience with human subject research and its ability to develop a compliant IRB plan.

Provide your response here.

6. **Schedule**

Awards are likely to be announced in August 2014. Complete Naturalistic Driving Study and Roadway Information data are expected to be available by December 31, 2014. Non-personally identifying data from the SHRP2 Insight website will be available prior to December 31, 2014. Explain in 500 words or less your team's management structure, a proposed schedule, and the team's approach to completing Phase I by September 30, 2015.

Provide your response here.

7. **Budget**

Provide a summarized budget for Phase I, including an estimated cost for acquiring a reduced data set and for presenting Phase I results to a panel in Washington, D.C. Explain any proposed cost sharing or in-kind contributions. Spreadsheets, task lists, and timelines may be added as appendices.

Provide your response here.

As a reminder:

1. Review all background information located on this product's application page.
2. Once you have completed this form and secured the required Leadership Endorsement Letter, return to application page and complete the contact information fields.
3. Upload this form and the Leadership Endorsement Letter to the page. **Be sure you are attaching the form to the correct application page.**
4. Click "Submit;" you will receive an email confirmation that includes the uploaded endorsement letter and application form.
5. Application period will close June 27, 2014.

For more information or to find this product's application page, visit the Implementation Assistance Program page (<http://www.fhwa.dot.gov/GoSHRP2/ImplementationAssistance>) on the GoSHRP2 website.