

## **SHRP 2 Safety Data Update #1**

The following is the first in a series of brief updates on the implementation of the SHRP 2 safety database, the main product of the Safety focus area of the SHRP 2 Program. Additional updates will be provided approximately every two weeks.

### About the SHRP 2 Safety Data

The central goal of SHRP 2 Safety was research to address the role of driver performance and behavior in traffic safety. This included developing an understanding of how the driver interacts with and adapts to the vehicle, traffic environment, roadway characteristics, traffic control devices, and the environment. It also included assessing the changes in collision risk associated with each of these factors and interactions. This information will support the development of new and improved countermeasures with greater effectiveness.

The resulting database, which exceeds 2 petabytes in size—about the size of two million 1-gigabyte USB flash drives—will provide a wealth of information regarding driving behavior, lane departures, and intersection activities, which are anticipated to be of interest to transportation safety researchers and others for decades. It is important to note that all privacy protections promised regarding participants and their data will continue even after the study ends. Researchers must establish a data-sharing agreement that guarantees privacy is maintained. In many cases, approval of qualified researcher's plans for data use by Institutional Review Boards (IRBs) will be required for them to use the data due to the involvement of human subjects.

### Objectives for and Governance of "Phase 1" of Safety Data Implementation

During the time the SHRP 2 research program was being conducted, a Federal Advisory Committee Act (FACA) committee was put in place to provide advice on long-term stewardship of the SHRP 2 safety data. The Long-Term Stewardship Committee recommended a multi-phase approach, including a five-year period since dubbed "Phase 1" during which the safety data would not be moved so a more complete knowledge base on data demand and use and resources required could be built to help guide the remainder of implementation. "Phase 1" is in many ways an experimental operational period for the safety data but one during which a variety of important safety research projects will be underway using the database.

Activities in Phase 1 are governed by a Memorandum of Understanding (MOU) executed on June 26, 2014 by four partners: the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Organizations (AASHTO), the National Highway Traffic Safety Administration (NHTSA), and the Transportation Research Board (TRB) of the National Research Council (NRC). A cooperative agreement between FHWA and TRB provides funding for Phase 1 activities by TRB staff, committees, and contractors. The objective of this Cooperative Agreement is to promote conditions under which SHRP 2 Safety Data will be available to qualified users during Phase 1, and gain experience and data to support decisions about implementation and oversight of the data after the Phase 1 Program.

A Safety Data Oversight Committee (SDOC) has been established to provide policy guidance for Phase 1. Members include executives from state transportation agencies, representatives from the automotive industry, academic experts on “big data” and information technology, and experts on traffic safety research. Ex-Officio members include representatives from the four MOU partners.

Technical advice to the SDOC has been provided and will continue to be provided to the SDOC by several Expert Task Groups (ETGs). One ETG has been in place since the middle of 2014 and has provided extensive advice to the SDOC on statements of work for database management contracts, a request for information (RFI) released in January 2015, and data sharing and privacy protection policies for the safety data. This first ETG includes a variety of technical experts on information technology, databases, human factors research, transportation safety, statistics, and “big data”. Additional ETGs may be developed as needed to address issues such as privacy protection, user community development and outreach, and sustainable business models for database operations beyond Phase 1.

Both the SDOC and the ETG include representatives from the health care industry, which has considerable expertise in analyzing large, complex datasets that contain data with privacy protection considerations.

#### Types of Issues to be Addressed During Phase 1

Many issues associated with the SHRP 2 safety data will be addressed during Phase 1. Some of the most important of these are outlined in the Cooperative Agreement and include:

- Data usage, research interests, and potential market for the data;
- Institutional structures and responsibilities;
- Costs, users’ willingness to pay, possible funding sources, cost-sharing, and user-fee structures;
- Types of facilities, skills, management processes, and technologies for user access and protection of personally identifying information in the data;
- Performance measures for data marketing, delivery, dissemination, and access; protection of personally identifiable information; and effectiveness of user tools and support;
- Information may be generated through selected testing of options, within the constraints of the Phase 1 Program; and,
- Options for future (beyond Phase 1) implementation and oversight of the SHRP 2 Safety Data Program including pros and cons for each option.

#### More Information to Come

These updates on Phase 1 of the implementation of the SHRP 2 Safety Data will be published in the TRB e-Newsletter every few weeks over the next months. Future topics to be covered in updates will include:

- Early Input to the Program
- Overall Approach to Phase 1
- The InSight website and Opportunities for Students to Use the Safety Data
- The geospatial Roadway Information Database (RID)
- User Community Development
- Examples of Current Database Use

For more detailed information on the safety data, visit the InSight web site at:

<https://insight.shrp2nds.us/>

For more detailed information on the completed SHRP 2 safety research program, visit:

<http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Pages/Safety-153.aspx>

This link may change once the SHRP 2 research program officially ends on March 31, 2015.

#### E-Mail List

A SHRP 2 Safety Data e-mail list is being developed will be used to provide occasional updates.