



Safety Implementation Assistance Program Update

*Joint Meeting of AASHTO Standing Committee on
Highway Traffic Safety and Subcommittee on
Safety Management*

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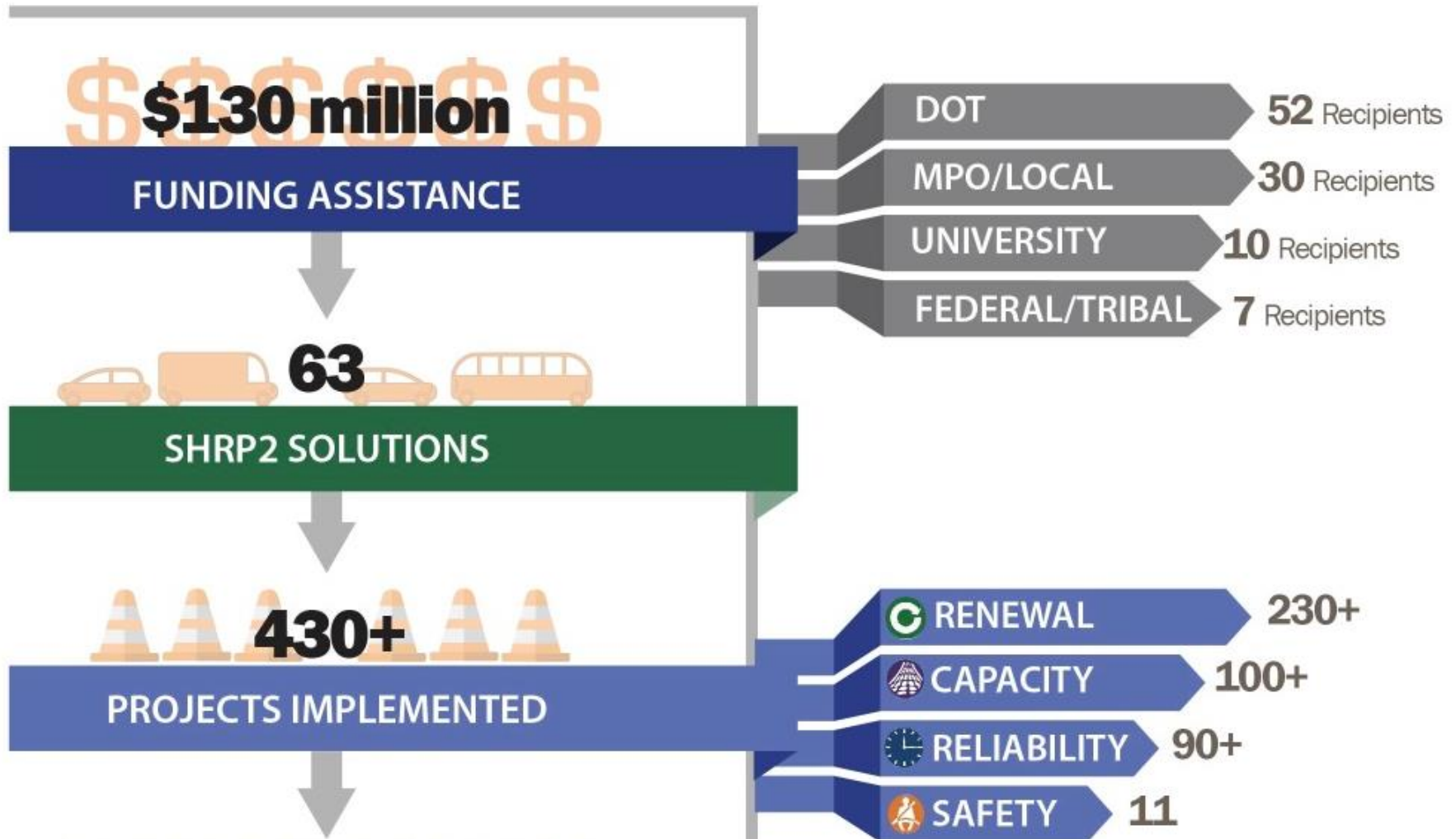


U.S. Department of Transportation
Federal Highway Administration

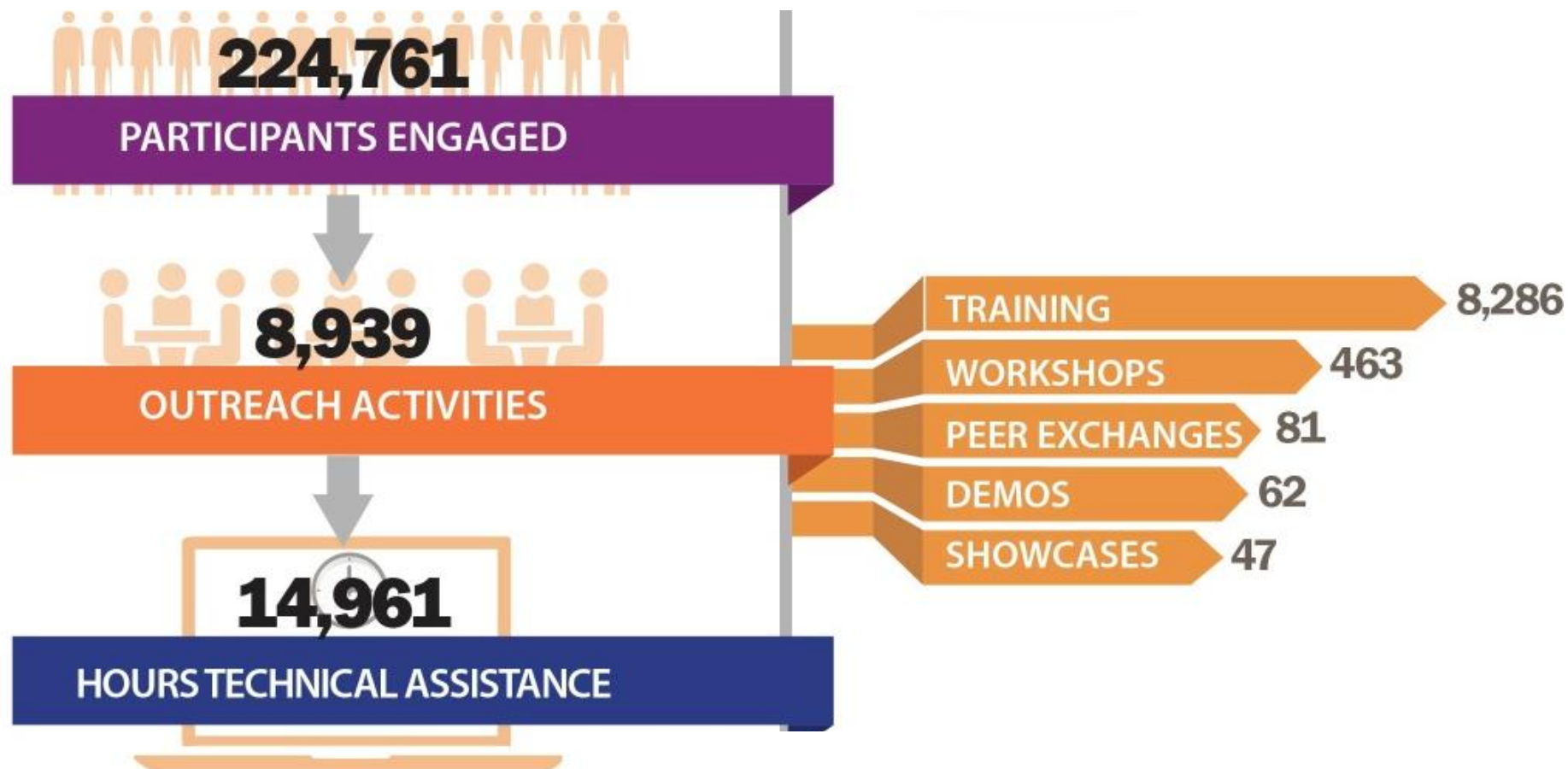


TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

SHRP2 Implementation: INNOVATE – IMPLEMENT - IMPROVE



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SHRP2 Safety Focus Area



Consists of Two Large Databases:

- Naturalistic driving study (NDS) database; and
- Roadway Information Database (RID)

Naturalistic Driving Study (NDS):

- Crash, pre-crash, near-crash, and “normal” driving data
- 3,500+ drivers, 6 sites, all ages

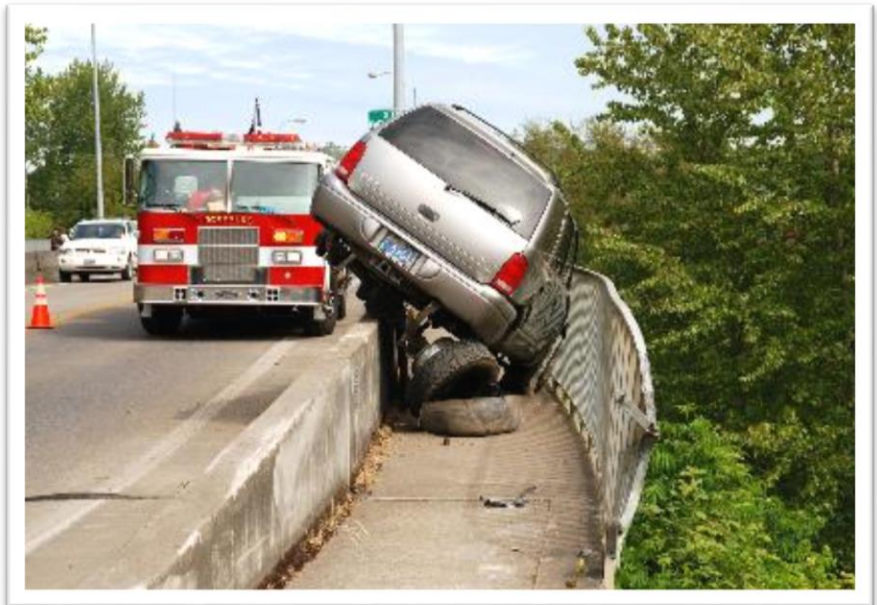
Roadway Information Database (RID):

- NDS trip data can be linked to roadway data from the RID, such as the roadway location, curvature, grade, lane widths, and intersection characteristics.
- These two databases will support innovative research leading to new insights into crash causation.

SHRP2 Implementation Assistance Program (IAP)

Main Objectives

- Utilize IAP to demonstrate the use of the NDS Safety Data
- Increase states' understanding of the potential uses of the data
- Identify safety countermeasures based on research projects
- **Reduce crashes and save lives !**



Role of Safety Task Force (STF)



- Collaborate with FHWA, TRB, and research teams
- Oversee Safety Implementation Assistance Program for AASHTO
- Review research proposals and research findings
- Promote opportunities for State DOTs and their research partners to use the NDS/RID
- Provide a customer/user perspective to TRB Safety Data Oversight Committee (SDOC)

Activities

- Monthly conference calls
- Monitoring progress of teams through series of two interviews – focus on program support, not team evaluation
- Reporting findings to STF, FHWA, and TRB

Concept to Countermeasure - Safety IAP Process

Phase 1 – Proof of concept with a sample reduced data set



Phase 2 – full data set and in-depth research analysis with countermeasure identification



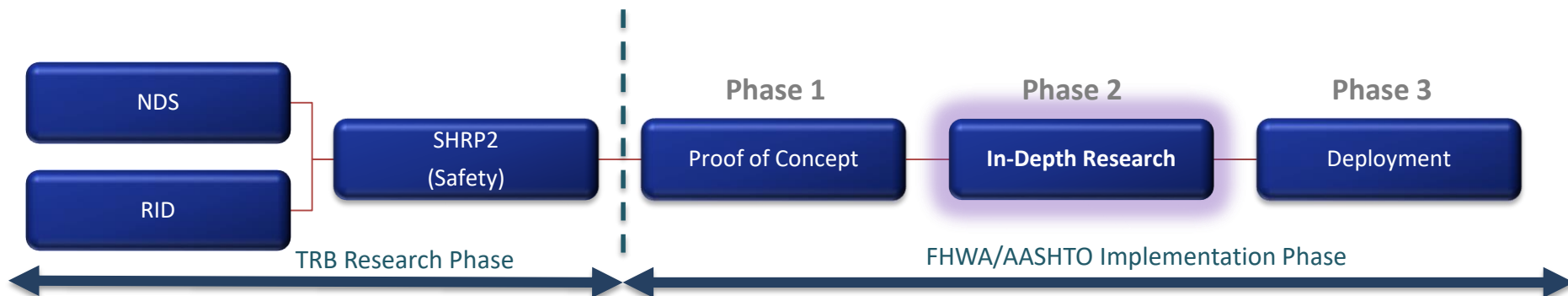
Phase 3 – deployment to adopt, champion or implement countermeasure nationally

Phase 1 Results - Summary

- All teams excited with potential research findings
- **No fatal flaws** in research or ability to use NDS data
- Sample of potential outcomes through POC:
 - New data processing tools
 - New highway lighting standards
 - New crash modification factors
 - New methods for establishing speed limits and advisory speeds
 - New understanding about effectiveness of work zone devices/messaging/campaigns
- 2-year, in-depth research proposals
- Lower-than-expected Phase 2 cost proposals

Phase 2 – In-Depth Analysis

- Selections were announced in December 2015
- **Phase 2 began February 2016**
- Research focused on:
 - Conducting in-depth research and analysis
 - Identifying and refining possible countermeasures

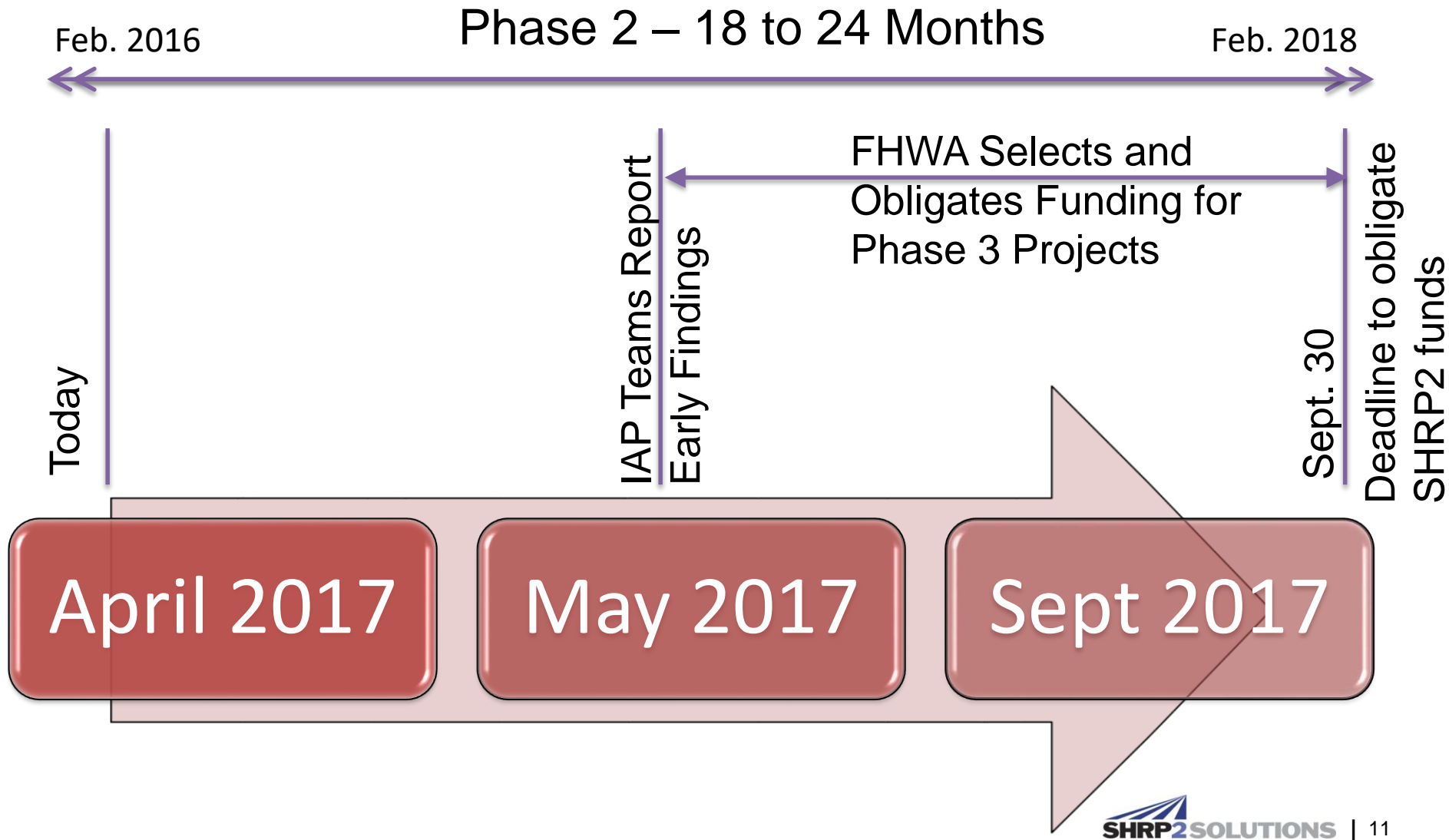


Safety Project Topics

Phase 2 In-Depth Research and Analysis Projects

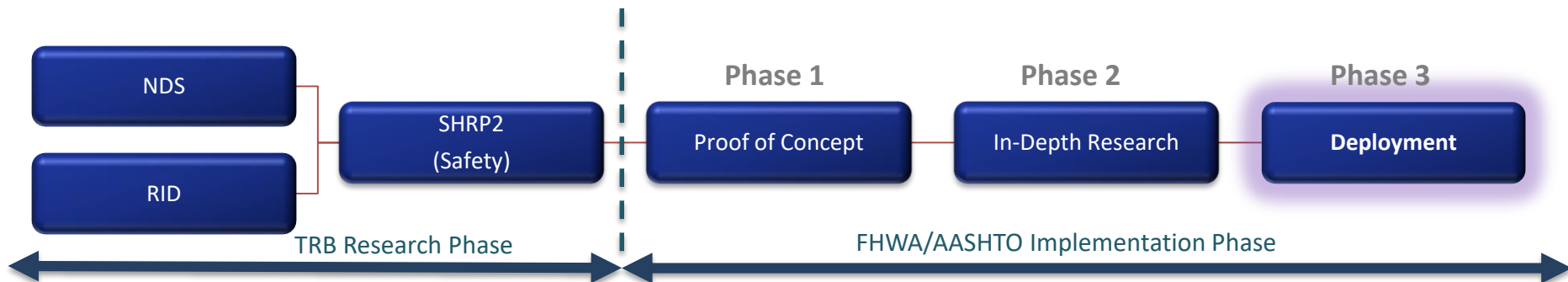
Pedestrian Safety	Florida DOT
Roadway Departure	Iowa DOT
Speeding	Michigan DOT Washington State DOT
Work Zones	Minnesota DOT
Horizontal and Vertical Curves	North Carolina DOT
Interchange Ramps	Utah DOT
Adverse Conditions	Wyoming DOT
Roadway Lighting	Washington State DOT

Phase 2 Schedule



Phase 3 - Implementation

- **Adopt, champion, and implement countermeasures nationally**
- **Integrate findings:**
 - Manuals
 - Guidelines
 - Policies
- **Conduct pilot testing**
- Staggered implementation beginning in October 2017



Monitoring Progress



- Interviews to inform TRB, FHWA and AASHTO Safety Task Force of program progress
- Support program, not evaluate teams
 - Novel data set
 - Many users have limited experienced
 - Understand common experiences
- **Two sets of interviews** conducted during **Phase 1**
- **Two sets of Phase 2** interviews conducted, and completed in Sept 2016 and March 2017

Survey Questions Covered Broad Areas



- Contracts
- Data access, including data sharing agreement and specific data requests
- Technical assistance provided by VTTI and ISU
- Programmatic process improvements
- Specific data issues with NDS/RID

Phase 2 User Interviews

- All teams excited with potential research findings
- Teams used knowledge gained in Phase 1 to obtain larger data sets targeted to their needs
 - **Sample sizes: 1,000's trips; 100's of drivers or sites**
- Concern again expressed about lack of access to crash location data
- VTTI providing quick precise response to inquiries
- Lessons learned:
 - **Provide extra time within contract for data acquisition and analysis**
 - **Surprises are the norm**

Conclusions from Interviews

- Improved clarity and frequency of communication compared to Phase 1
- User experience in Phase 1 allowed teams to consider alternative study designs with more complex combinations of data
- Novice users should expect many iterations on road to acquisition of final data set; this is nature of NDS data analysis
- Users should plan for errors in data; no blame implied, but nature of complexity. When found, errors in NDS quickly corrected.
- NDS tool development needed for common problems (e.g. signal indications; pedestrian presence; spatial analysis)
- Cost drivers for data acquisition and position in the queue for data set development still unavailable

Safety IAP Project Schedule

Schedule	Activity
May 2 – 3, 2017	States report findings to AASHTO's SHRP2 Safety Task Force
May 10 – 11, 2017	Status update presented to TRB SHRP2 Safety Data Oversight Committee
Late May to early June, 2017	AASHTO Safety Task Force reports to FHWA on its findings
June – August 2017	FHWA determines and announces Phase 3 projects
September 30, 2017	Deadline to obligate funding for Phase 3
October 2017 – September 2019	Project findings are implemented

FHWA-AASHTO Resources

- **FHWA SHRP2 website:** fhwa.dot.gov/goSHRP2
- **AASHTO SHRP2 website:** [SHRP2.transportation.org](https://shrp2.transportation.org)
 - Implementation information for AASHTO members
 - Information about SHRP2 safety implementation
- **Safety Implementation Managers:**
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 - Kelly Hardy, AASHTO: khardy@aashto.org