



SHRP2
STRATEGIC HIGHWAY RESEARCH PROGRAM



SHRP 2: Accelerating Solutions for Highway
Renewal, Safety, Reliability and Capacity
WDCSITE September 2010

Authorization for SHRP 2

- *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)* in 2005
- A 7 year \$170M program- original funding \$150M- with 4 focus research areas
- Managed/staffed at TRB, a unit of the National Academy of Sciences
- Program is finite- ends March 31, 2013, but with possible extension due to late re-authorization

Four Focus Areas

- **Safety:** to improve highway safety through better understanding of driver behavior and associated crash risks
- **Reliability:** to provide more reliable travel times by reducing the impacts of non-recurring congestion
- **Capacity:** to develop approaches and tools to systematically integrate environmental, economic and community requirements into new capacity decisions
- **Renewal:** to develop methods that are rapid, cause minimal disruption and produce long-lasting facilities

Safety Project Themes

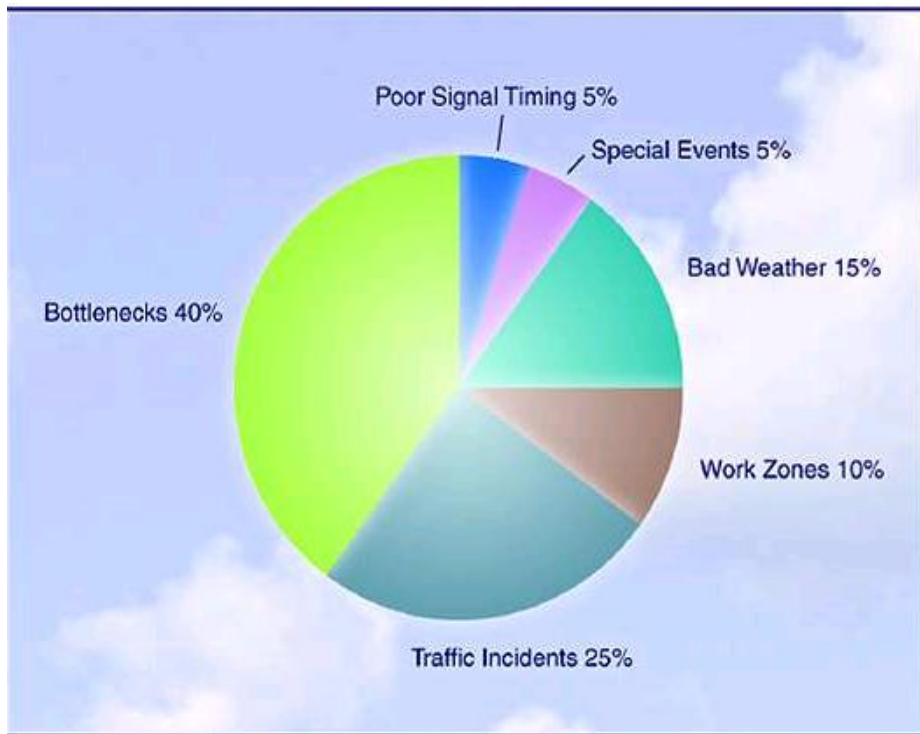
understanding driver behavior and crash risk

- **Naturalistic Driving Study-** instrument vehicles of approx. 3100 volunteer drivers with cameras and other sensors, in 6 US locations over a 2 year period
 - ✓ **Road Data Inventory-** capture road features and geometry via mobile data collection technology
 - ✓ **Data analysis methodologies**
- **Site-Based Video System-** develop a portable, automated video system prototype that is able to track vehicle trajectories at an intersection or on a road segment

Camera Views



Major Sources of Traffic Congestion



- Bottlenecks cause *recurring congestion*
 - The **Capacity** focus area aims to help address these “everyday” problems through collaborative decision-making
- The other five sources generate *non-recurring congestion*
 - The **Reliability** focus area addresses these problems of variability in performance

Capacity Project Themes

better strategic planning

- **Collaborative Decision Making Framework-**
the central product being a web based tool built around key decision points in the planning process supported by tools in:
 - ✓ Community visioning, greenhouse gases, etc
 - ✓ Ecological approaches to the environment
 - ✓ Improved models for analysis of travel behavior
 - ✓ Economic impact analyses of investments

Reliability Project Themes

reducing travel time variability

- Data, Metrics, Analysis and Decision Support
- Institutional Change, Human Behavior and Resource Needs
- Incorporating Reliability in Planning, Programming and Design
- Fostering Innovation to Improve Travel Time Reliability

Renewal

rapid approaches, minimal disruption, long-lived results

- Consistent application of rapid renewal
- **Project delivery-** institutional relationships, integration of disciplines, construction methods, quality controls, risk management and financing
- **Technology-** sensing devices, equipment, bridge and pavement components and systems

Communication/Dissemination

- Progress reports and research results available during the program lifespan
- Website www.trb.org/shrp2/
- Publications
 - ✓ Quarterly and Annual Reports
 - ✓ Program briefs for each focus area
 - ✓ Project briefs for completed projects
 - ✓ Expected products chart