SHRP2 Implementation

2014 in Review

How SHRP2 Solutions are improving the way we do business











Leading with Innovation



MIKE HANCOCK Secretary, Kentucky Transportation Cabinet

Transportation Cabinet President, AASHTO

ne of my emphasis areas as AASHTO's president during the past year was to promote innovation as it relates to state departments of transportation and industry practices. I am happy to report that during 2014, AASHTO, together with FHWA, has made incredible strides in placing innovation into the hands of the states through the SHRP2 program. As transportation professionals, we are seeing the fruits of our labor through expedited program delivery and enhanced project efficiencies. Our customers, the traveling public, are beginning to notice these innovations and appreciate what we are doing.

The Kentucky Transportation Cabinet is proud to be a leader in championing six of these efforts. Through SHRP2, we are testing and using new pavement rehabilitation techniques that will save us time, energy, and money; we are replacing bridges in just a few weeks' time rather than 18 to 24 months; and we will be using new tools to improve our traveltime reliability.

SHRP2 offers us innovations in every aspect of what we do planning, project management, utilities and railroad coordination, construction, operations, and inspections. As leaders in the transportation community, we must continue to stay ahead of the curve and push forward with the smart solutions being offered by FHWA and AASHTO. I urge my colleagues to continue to implement these products, and to make a longterm commitment to become an advocate and champion of the program in the years ahead.

This "SHRP2 Implementation: 2014 in Review" will provide you with a snapshot of the accomplishments of the past 12 months. I hope the information will provide you with a full understanding of the exciting innovations we have at our fingertips.

Programs like the second Strategic Highway Research Program, Every Day Counts, and others successfully leverage new ideas, introduce modern technologies, and deploy innovative approaches to deliver transportation across America. From coast to coast, transportation agencies are engaged in the deployment of SHRP2 Solutions—and, by the close of 2014, we will have more than 250 transportation projects underway, initiated through the SHRP2 Implementation Assistance Program. Into 2015, AASHTO and FHWA, in partnership, will continue to roll out SHRP2 Solutions, and we encourage continued support."

—JEFFREY F. PANIATI, Executive Director Federal Highway Administration

The positive response by states to the Implementation Assistance Program, and the enthusiastic work that has already started on projects across the country, illustrate to us that state, Federal, and local transportation agencies understand the real benefits that the SHRP2 products and a culture of innovation can bring to their programs."

> —BUD WRIGHT, Executive Director, AASHTO

Implementing SHRP2

Implementation of products developed through the second Strategic Highway Research Program (SHRP2) began in earnest in 2012 with planning sessions, training, and outreach activities. Then, in January 2013, the FHWA/AASHTO Implementation Assistance Program (IAP) was launched.

During the past year, transportation agencies, including state and local DOTs, metropolitan planning organizations, and Federal agencies, have ramped up their efforts to implement numerous products, processes, and strategies now available. Some of these implementation activities are a direct result of the IAP, others are being delivered as a combined effort of SHRP2 and other programs such as the Every Day Counts initiatives and AASHTO's Innovation Initiative.

As examples:

- Training, workshops, use of design plans, showcases, agency program assessments, and risk assessments are already underway as a result of the first rounds of products offered last year through the FHWA/AASHTO Implementation Assistance Program.
- **Pavement** is being placed, **bridges** built, and **environmental** planning and permitting is progressing all with the use of new SHRP2 tools and strategies.
- Work is also proceeding in states that received assistance this year to use a range of new products that will help DOTs assess economic impacts of transportation projects, perform nondestructive testing, better select geotechnical solutions, and manage utility and railroad conflicts.
- Efforts to use important **safety** data to change the way we program funds and design projects are also in progress.
- The National Traffic Incident Management Responder Training Program exceeded its goal of training 50,000 responders six months early. As of November, more than 69,000 responders have been trained in 49 states, and a new goal of 100,000 trained has been set. This effort will go far in enhancing the safety of the nation's highways and the lives of our responder communities.
- This year a new website was built in support of transportation systems management and operations, and it will become the portal for the new National Operations Center of Excellence – an effort set in motion through the SHRP2 program.
- Transportation agency staff from across the country participated in implementation planning workshops for 13 SHRP2 Solutions in 2014. At the workshops, held in Washington, DC, participants assessed product readiness; suggested goals, tactics, and strategies for implementation; and offered guidance and insight into how the products could be communicated and "marketed" to recommended target audiences.

Funding commitments of \$169 million have already been made to deploy these activities, including more than \$60 million from the states' State Planning and Research Funds. The AASHTO Implementation Task Force has helped guide these efforts. The Task Force will meet again in 2015 to assess and guide the completion of the implementation process.

SHRP2 Implementation Goals

- Advance our ability to improve roadway safety.
- Increase the use of innovative methods for planning, renewing, and operating the nation's highway system.
- Incorporate the use of SHRP2's innovative products into the routine practices of state and local transportation agencies.
- Ensure that implementation costs are financially attractive and the products are administratively feasible to implement.
- Clearly demonstrate the value of implementing the SHRP2 Solutions.





The FHWA/AASHTO Implementation Assistance Program

The Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), and the Transportation Research Board (TRB) have worked collaboratively to advance SHRP2 since its inception. TRB was largely responsible for the management of the research efforts, while FHWA and AASHTO have primary responsibility for implementing SHRP2 products. In January of 2013, FHWA and AASHTO launched the SHRP2 Implementation Assistance Program (IAP) designed to assist Federal, state, and local transportation agencies in deploying the SHRP2 products. Under the IAP, a wide range of product implementation activities is made available to transportation agencies by providing both financial and technical incentives as well as subject matter expertise. Although state DOTs have been the primary recipients and users of the SHRP2 products, many other stakeholders, including local highway agencies, metropolitan planning organizations, FHWA Federal Lands offices, and resource agencies, among others, are also using or benefiting from SHRP2 innovations.

Proof of Concept Pilot	Lead Adopter	User Incentive
• Technical support is available for piloting products to evaluate readiness for widespread implementation.	 Technical and/or financial support is made available for early adopters to offset implementation costs and mitigate risks. 	 Technical and financial assistance is available for implementation support activities.
 Contractor support may be provided to recipients to collect data and evaluate the product. 	 Recipients are required to provide specific deliverables designed to further refine the product and possibly "champion" the product to other states and localities. 	 The incentives can be used to conduct internal assessments, build capacity, implement system process changes, organize peer exchanges, and offset other implementation costs.

The IAP offers SHRP2 products at three levels of engagement:

Since 2013, SHRP2 Solutions have been offered to transportation agencies in four separate implementation rounds that include 24 products or bundles of products. More than 400 applications were received from 49 state DOTs, the District of Columbia, 38 metropolitan planning organizations, and several tribal communities as well as local transportation agencies, and the FHWA Federal Lands Highway divisions.

Each IAP "offering" reflects the recommendations made by the participants of the Implementation Planning Workshops, as well as FHWA and AASHTO product leads. The workshop participants include state, local, and other transportation professionals, metropolitan planning organization officials, and private sector consultants and contractors, and so reflect the views of "hands-on" users.

Selections are based on the geographic diversity of participants, demonstration of a culture within the agency to implement new products or processes, past interest or participation in similar implementation efforts, a high commitment to making institutional or organizational changes, commitment to conduct demonstration workshops, and a willingness to share their experiences with their peers.







Where We've Been — Presentations

SHRP2 outreach – aimed at building awareness for the entire program and interest in the IAP specifically – has included presentations at key meetings, individual visits with state DOTs, and exhibits at major conferences. Here are a few examples of where AASHTO and its member DOTs have actively engaged our audience in 2014.

Sample Presentations

- TRB Annual Meeting, January 2014:
 - Georgia Experience with SHRP2 Georgene M. Geary and Genetha Rice-Singleton, Georgia DOT
 - Insights from the SHRP2 Reliability Products in Virginia John Miller, Sarah Rhodes, Shabbir Hossain, and Celik Ozyildirim, Virginia DOT; Thomas Jefferson Planning District Commission, Virginia
 - Use of SHRP2 Products in the Real World Matt Shands, Minnesota DOT
 - Caltrans SHRP2 Implementation Experiences Joe Horton, California DOT
- AASHTO Subcommittee on Systems Operations and Management, March 2014:
 - Presentation by Gummada Murthy, AASHTO
- AASHTO Spring Meeting, May 2014; AASHTO Annual Meeting, November 2014:
 - SHRP2 Implementation Update to the Standing Committee on Highways, and Technology Implementation Group (now called AASHTO's Innovation Initiative): Pam Hutton, AASHTO, and Ken Jacoby, FHWA
- SHRP2 Oversight Committee, June 2014:
 - Presentations on Capacity, Renewal, Reliability, and Safety
- AASHTO Standing Committee on Bridges and Structures, June 2014:
 Implementation and SHRP2 bridge-related projects: Barton Newton, California DOT
- AASHTO Standing Committee on Traffic Engineering, June 2014:
 - Update on Implementation, Mark Wilson, Florida DOT
- Western Association of State Transportation Officials, July 2014:
 Presentation by John Halikowski, Director, Arizona DOT
- AASHTO Subcommittee on Materials, July 2014:
 - Presentation by King Gee, AASHTO
- Mid America Association of State Transportation Officials, July 2014:
 - SHRP2 Solutions in Freight, Jennifer Murray, Wisconsin DOT
 - Safety and SHRP2 Solutions, Sandra Larson, Iowa DOT
 - SHRP2 Pavement Preservation Solutions, Jon Chiglo, Minnesota DOT
- AASHTO Subcommittee on Construction, August 2014:
 - Presentation by Jim McDonnell, AASHTO
- AASHTO Standing Committee on Highway Traffic Safety-Safety Management, September 2014:
 - Presentation by Dean Kanitz, Michigan DOT
- Southeastern Association of State Highway and Transportation Officials, August, 2014:
 - Session moderated by Louisiana Secretary of Transportation and Development, Sherri LeBas
 - Arkansas and SHRP2, Scott E. Bennett, Arkansas DHTD
 - Florida's Experience with Risk Management and Organizing for Reliability, Ananth Prasad, Secretary, Florida DOT
 - Performance Specifications, Lyndi Blackburn, Alabama DOT
- AASHTO Subcommittee on Transportation Communications, August 2014:
 - Kentucky and SHRP2, Chuck Wolfe, Kentucky Transportation Cabinet
 - Michigan's SHRP2 Experience, Jeff Cranson, Michigan DOT
- Association of Metropolitan Planning Organizations:
 - Presentations by Matt Hardy, AASHTO, and James Garland, FHWA

Where We've Been — Exhibits and State Visits

Sample of Exhibit Booths	State	Visits	
Western Association of State Highway and Transportation Officials	2013	2014	
AASHTO Spring and Annual Meetings	TennesseeKentucky	MississippiPennsylvania	
Southeastern Association of State Highway and Transportation Officials	oortation Officials • Missouri • Florida • Wisconsin		
Mid America Association of State Transportation Officials	 Florida Wisconsin Nebraska California West Virginia 	 Vermont Ohio Weaming 	
National Sheriffs Association	 California West Virginia Connecticut 		
National Association of County Engineers	Louisiana	 North Carolina Illinois 	
American Society of Civil Engineers		Virgin IslandPuerto Rico	
Transportation Research Board Annual Meeting		OklahomaAlabama	
Association of Metropolitan Planning Organizations		VirginiaKansas	
		ArkansasDelaware	



States Are Implementing SHRP2

The Vermont Agency of Transportation (AOT) has been a very active participant in SHRP2. Currently it is a lead adopter for three products including working on a new process to expedite project delivery (C19). The DOT is also developing performance specifications (R07) for reclaimed pavements and bases, and will begin work on efforts to identify and manage utility conflicts (R15B). More than 1,300 incident responders have been trained across the state under the National Traffic Incident Management Responder Training Program (L12).

Lyndi Blackburn, Assistant State Materials and Test Engineer, Alabama DOT, offered an overview of her state's approach to implementing performance specifications (R07) at this summer's meeting of the Southeastern Association of State Highway and Transportation Officials (SASHTO). Alabama is a lead adopter for this product and for two pavement products - one to enhance quality control on asphalt pavements (R06C), the other to improve PCC pavement smoothness during construction (R06E). The DOT hosted a showcase of the Pavement Preservation for High-Traffic Volume Roadways (R26) at the National Center for Asphalt Technology in June.

In Arizona, several transportation agencies are using SHRP2 products. The Arizona DOT is actively engaged in implementing eight products, as both lead adopter and with user incentives. Working with AZTech, a regional partnership in the Phoenix area, the DOT has been a pioneer in using the new assessment process and tools to better organize their operations capability (L01/L06). In August, AZDOT Director John Halikowski represented the SHRP2 perspective on a panel at the Western Association of State Highway and Transportation Officials annual meeting. At the local level, the Maricopa Association of Governments is supporting freight demand modeling (C20) and is a lead adopter along with the DOT on expediting product delivery (C19). In addition, in December, the Gila River Indian Community will sponsor a showcase for *Innovative Bridge Designs* (R04) near Phoenix.

The **lowa** Department of Transportation will investigate the roles of drivers' responses to roadway characteristics as part of its effort to implement the safety data developed through SHRP2. Iowa is also implementing six other solutions, including tools to advance the DOT's operational capability (L01/06), two bridge-related products, new project management strategies, the new GeoTechTools website (R02), and processes to reduce utility conflicts. Sandra Larson, the Iowa DOT Systems Operations Bureau Director, is the vice chair of the AASHTO Safety Task Force and presented on SHRP2 at the recent Mid America Association of State Transportation Officials meeting in July.

Michigan has been a leader in implementing *Eco-Logical*, allowing the state to bring all its environmental resources together in support of a major reconstruction project. MDOT is also using project strategies (R10) for a complex interstate project, and the utility conflict matrix. Several MDOT staffers have presented their experiences using SHRP2 products at AASHTO meetings and conferences. The SHRP2 Oversight Committee is chaired by MDOT Director Kirk Steudle. As part of the safety implementation, MDOT's researchers will study speed limits and driver behavior.

Wyoming is focusing its SHRP2 implementation on safety. The DOT is assessing how weather conditions affect speed and driver behavior. Wyoming has been very active in support of the National Traffic Incident Management Responder Training Program developed through SHRP2. As of November, more than 1,700 incident responders have been trained through the program.

Missouri hosted a showcase for bridge engineers, contractors, and others as part of the construction of a bridge in Columbia, Mo, using SHRP2 innovative bridge designs (R04). Missouri is among the vanguard of champions for SHRP2, implementing nine SHRP2 products, including six renewal products to address pavements, bridges (R04 and R06A), soils (R02), and new performance specifications (R07). By November, more than 1,600 incident responders have been trained using the National Traffic Incident Management Responder Training Program.

Florida is a strong proponent of innovation and the DOT is championing numerous SHRP2 products. At the recent SASHTO meeting, the state's Secretary of Transportation, Ananth Prasad, provided information on two efforts – to improve operations (L01/06) and to bolster the state's risk management efforts (R09) using SHRP2 products. The state is sponsoring a safety research project on interactions between pedestrians and drivers. The DOT is also a lead adopter in implementing new nondestructive testing techniques for concrete bridge decks (R06A), and several other products to assess freight (C20), improve travel-time reliability, and expedite product delivery (C19).

SHRP2

Implementation Is Bringing New Processes, Strategies, and Opportunities to Transportation Agencies



State	Agency	SHRP2 Product Name	Round	Method of Participation
ΑΙΑΒΑΜΑ	DOT	Performance Specifications for Rapid Renewal	2	IAP R07 Lead Adopter
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	DOT	Tools to Improve PCC Pavement Smoothness During Construction	4	IAP R06E Lead Adopter
ALASKA	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	DOT	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
ARIZONA	DOT	Tools to Organize for Reliability	1	IAP L01/L06 Lead Adopter
	AZTech (Regional Partnership)	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	Gila River Indian Community DOT	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	MPO	Expediting Product Delivery	2	IAP C19 Lead Adopter
	DOT	Expediting Product Delivery	2	IAP C19 Lead Adopter
	Maricopa Association of Governments	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Behavior-Based Modeling)
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Pavement Renewal Solutions	3	IAP R23 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	Federal Lands Highway	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
ARKANSAS	DHTD	Expediting Product Delivery	2	IAP C19 User Incentive
	DHTD	Railroad-DOT Mitigation Strategies	2	IAP R16 Lead Adopter
CALIFORNIA	Caltrans	Implementing Eco-Logical	1	IAP C06 User Incentive
	Association of Monterey Bay Area of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 User Incentive
	Southern California Association of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 User Incentive
	Caltrans	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	Caltrans	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	Caltrans	Expediting Product Delivery	2	IAP C19 User Incentive
	MPO	Expediting Product Delivery	2	IAP C19 User Incentive
	Caltrans	Railroad-DOT Mitigation Strategies	2	IAP R16 User Incentive
	Caltrans	Pavement Renewal Solutions	3	IAP R23 Lead Adopter
	San Diego Association of Governments	Advanced Travel Analysis Tools (part of C10/C04/C05/C16 bundle)	4	IAP C04/C05 Lead Adopter

State	Agency	SHRP2 Product Name	Round	Method of Participation
	Metropolitan			
CALIFORNIA	Transportation Commission	Advanced Travel Analysis Tools (part of C10/C04/C05/C16 bundle)	4	IAP C10 Proof of Concept
	Caltrans	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
COLORADO	Pikes Peak Area Council of Governments (MPO)	Implementing Eco-Logical	1	IAP CO6 Lead Adopter
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Railroad-DOT Mitigation Strategies	2	IAP R16 Lead Adopter
	DOT	Nondestructive Testing for Tunnel Linings	4	IAP R06G Proof of Concept
CONNECTICUT	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
DELAWARE	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
DISTRICT OF COLUMBIA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
FLORIDA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	1	IAP R09 Proof of Concept
	DOT	Expediting Product Delivery	2	IAP C19 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	2	IAP R09 Lead Adopter
	DOT	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
GEORGIA	Atlanta Regional Commission	Implementing Eco-Logical	1	IAP C06 Lead Adopter
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	1	IAP R09 Proof of Concept
	DOT	Project Management Strategies for Complex Projects	1	IAP R10 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	Atlanta Regional Commission	Advanced Travel Analysis Tools (part of C10/C04/C05/C16 bundle)	4	IAP C10 Proof of Concept
HAWAII	DOT	Precast Concrete Pavement	3	IAP R05 Lead Adopter
	Federal Lands Highway	Service Life Design for Bridges	4	IAP R19A Lead Adopter

State	Agency	SHRP2 Product Name	Round	Method of Participation
IDAHO	IDH	Railroad-DOT Mitigation Strategies	2	IAP R16 User Incentive
	IDH	Tools to Improve PCC Pavement Smoothness During Construction	4	IAP R06E Lead Adopter
ILLINOIS	Illinois Tollway	Precast Concrete Pavement	3	IAP R05 Lead Adopter
	DOT	Transportation Project Impact Case Studies	4	IAP C03 User Incentive
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
INDIANA	Ohio/Kentucky/Indiana Regional Council of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 User Incentive
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Transportation Project Impact Case Studies	4	IAP C03 User Incentive
	DOT	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Tools to Improve PCC Pavement Smoothness During Construction	4	IAP R06E Lead Adopter
IOWA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
	DOT	Service Life Design for Bridges	4	IAP R19A Lead Adopter
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
KANSAS	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Precast Concrete Pavement	3	IAP R05 Lead Adopter
KENTUCKY	Ohio/Kentucky/Indiana Regional Council of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 User Incentive
	Kentucky Transportation Cabinet	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	Kentucky Transportation Cabinet	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	Kentucky Transportation Cabinet	GeoTechTools	3	IAP R02 User Incentive
	Kentucky Transportation Cabinet	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
	Kentucky Transportation Cabinet	Pavement Renewal Solutions	3	IAP R23 Lead Adopter
	Kentucky Transportation Cabinet	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept

State	Agency	SHRP2 Product Name	Round	Method of Participation
LOUISIANA	DOTD	GeoTechTools	3	IAP RO2 User Incentive
	DOTD	Pavement Renewal Solutions	3	IAP R23 User Incentive
	DOTD	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
MAINE	DOT	Implementing Eco-Logical	1	IAP C06 Lead Adopter
	DOT	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 User Incentive
	DOT	Performance Specifications for Rapid Renewal	2	IAP R07 Lead Adopter
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Proof of Concept (Ground Penetrating Radar)
MARYLAND	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Behavior-Based Modeling)
	DOT	Advanced Travel Analysis Tools (part of C10/C04/C05/C16 bundle)	4	IAP C10 Proof of Concept
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
MASSACHUSETTS	DOT	Project Management Strategies for Complex Projects	1	IAP R10 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	DOT	Expediting Product Delivery	2	IAP C19 Lead Adopter
	DOT	GeoTechTools	3	IAP R02 User Incentive
	Southeastern Regional Planning and Economic Development District	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
MICHIGAN	DOT	Implementing Eco-Logical	1	IAP C06 Lead Adopter
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	Federal Lands Highway	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Project Management Strategies for Complex Projects	1	IAP R10 Lead Adopter
	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
MINNESOTA	DOT / MnRoad	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	2	IAP R09 Lead Adopter
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Pavement Renewal Solutions	3	IAP R23 Lead Adopter
	DOT	Reliability Data and Analysis Tool (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept

State	Agency	SHRP2 Product Name	Round	Method of Participation
MISSISSIPPI	DOT	GeoTechTools	3	IAP R02 User Incentive
MISSOURI	DOT	Implementing Eco-Logical	1	IAP C06 User Incentive
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	DOT	Performance Specifications for Rapid Renewal	2	IAP R07 Lead Adopter
	Mid-America Regional Council	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
MONTANA	Federal Lands Highway	Project Management Strategies for Complex Projects	1	IAP R10 Lead Adopter
NEBRASKA	NDOR	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Limited Technical Assistance
	NDOR	Expediting Product Delivery	2	IAP C19 User Incentive
	NDOR	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Proof of Concept (Ground Penetrating Radar)
NEVADA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
NEW HAMPSHIRE	DOT	Implementing Eco-Logical	1	IAP C06 User Incentive
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
NEW JERSEY	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Pavement Renewal Solutions	3	IAP R23 User Incentive
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
NEW MEXICO	DOT	Project Management Strategies for Complex Projects	1	IAP R10 Lead Adopter
NEW YORK	International Transportation Technology Coalition	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	Capital District Transportation Committee	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Pavement Renewal Solutions	3	IAP R23 User Incentive
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept

State	Agency	SHRP2 Product Name	Round	Method of Participation
NORTH CAROLINA	Winston-Salem MPO	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	Durham-Chapel Hill- Carrboro Metropolitan Planning Organization	The Effect of Smart-Growth Policies on Travel Demand (part of C10/C04/C05/C16 bundle)	4	IAP C16 User Incentive
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
NORTH DAKOTA	DOT	Pavement Renewal Solutions	3	IAP R23 User Incentive
ОНЮ	Ohio/Kentucky/Indiana Regional Council of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 User Incentive
	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	NE Ohio (NOACA)	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Advanced Travel Analysis Tools (part of C10/C04/C05/C16 bundle)	4	IAP C10 Proof of Concept
	DOT	Tools to Improve PCC Pavement Smoothness During Construction	4	IAP R06E Lead Adopter
OKLAHOMA	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
OREGON	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	2	IAP R09 Lead Adopter
	Portland Metro MPO	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Behavior-Based Modeling)
	DOT	The Effect of Smart-Growth Policies on Travel Demand (part of C10/C04/C05/C16 bundle)	4	IAP C16 User Incentive
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Service Life Design for Bridges	4	IAP R19A Lead Adopter
PENNSYLVANIA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	2	IAP R09 Lead Adopter
	DOT	Railroad-DOT Mitigation Strategies	2	IAP R16 Lead Adopter
	Delaware Valley Regional Planning Commission	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	Delaware Valley Regional Planning Commission	The Effect of Smart-Growth Policies on Travel Demand (part of C10/C04/C05/C16 bundle)	4	IAP C16 User Incentive
	DOT	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT	Tools to Improve PCC Pavement Smoothness During Construction	4	IAP R06E Lead Adopter
	DOT	Nondestructive Testing for Tunnel Linings	4	IAP R06G Proof of Concept

State	Agency	SHRP2 Product Name	Round	Method of Participation
PENNSYLVANIA	DOT	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	DOT	Service Life Design for Bridges	4	IAP R19A Lead Adopter
RHODE ISLAND	DOT	Tools to Organize for Reliability	1	IAP L01/L06 Lead Adopter
	DOT	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Guidelines for the Preservation of	1	IAP R26 Lead Adopter
	Rhode Island Statewide Planning Program	High-Traffic-Volume Roadways Transportation Project Impact Case Studies	4	IAP C03 User Incentive
	Rhode Island Statewide Planning Program	Tools for Assessing Wider Economic Benefit of Transportation	4	IAP C11 Lead Adopter
SOUTH CAROLINA	DOT	Expediting Product Delivery	2	IAP C19 User Incentive
SOUTH DAKOTA	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Expediting Product Delivery	2	IAP C19 User Incentive
	DOT	Railroad-DOT Mitigation Strategies	2	IAP R16 Lead Adopter
	DOT	Freight Demand Modeling and Data	3	IAP C20 Proof of Concept (Local Freight Data)
	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
TENNESSEE	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	Guidelines for the Preservation of	1	IAP R26 User Incentive
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	New Composite Pavement Systems	4	IAP R21 Lead Adopter
TEXAS	North Central Texas Council of Governments (MPO)	Implementing Eco-Logical	1	IAP C06 Lead Adopter
	DOT	Railroad-DOT Mitigation Strategies	2	IAP R16 User Incentive
	DOT	Precast Concrete Pavement	3	IAP R05 Lead Adopter
	DOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter
	DOT	New Composite Pavement Systems	4	IAP R21 Lead Adopter
UTAH	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Pavement Renewal Solutions	3	IAP R23 User Incentive
	DOT	Transportation Project Impact Case Studies	4	IAP C03 User Incentive
	DOT	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept
VERMONT	AOT	Expediting Product Delivery	2	IAP C19 Lead Adopter
	AOT	Performance Specifications for Rapid Renewal	2	IAP R07 Lead Adopter
	AOT	Identifying and Managing Utility Conflicts	3	IAP R15B Lead Adopter

State	Agency	SHRP2 Product Name	Round	Method of Participation
VIRGINIA	Charlottesville- Albemarle MPO	Implementing Eco-Logical	1	IAP C06 Lead Adopter
	DOT Virginia Center for Transportation Innovation and Research	Tools for Assessing Wider Economic Benefits of Transportation	4	IAP C11 Lead Adopter
	DOT Virginia Center for Transportation Innovation and Research	Nondestructive Testing for Concrete Bridge Decks	4	IAP R06A Lead Adopter
	DOT Virginia Center for Transportation Innovation and Research	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	Federal Lands Highway	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
	DOT Virginia Center for Transportation Innovation and Research	Service Life Design for Bridges	4	IAP R19A Lead Adopter
WASHINGTON	DOT	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Lead Adopter
	Whatcom Council of Governments (MPO)	Tools to Organize for Reliability (Product Bundle)	1	IAP L01/L06 Limited Technical Assistance
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 Lead Adopter
	DOT	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Local Freight Data)
	Western Federal Lands Highway Division	GeoTechTools	3	IAP R02 User Incentive
	DOT	Reliability Data and Analysis Tools (Product Bundle)	4	IAP L02/L05/L07/L08/C11 Proof of Concept
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data - 2 separate projects	4	IAP Safety Proof of Concept
WEST VIRGINIA	DOT	GeoTechTools	3	IAP R02 User Incentive
	DOT	Technologies to Enhance Quality Control on Asphalt Pavements	4	IAP R06C Lead Adopter (Infrared)
WISCONSIN	DOT	Innovative Bridge Designs for Rapid Renewal	1	IAP R04 Lead Adopter
	DOT	Guidelines for the Preservation of High-Traffic-Volume Roadways	1	IAP R26 User Incentive
	DOT	Freight Demand Modeling and Data Improvement	3	IAP C20 Proof of Concept (Behavior-Based Modeling)
	DOT	Precast Concrete Pavement	3	IAP R05 Lead Adopter
	DOT	Managing Risk in Rapid Renewal Projects	4	IAP R09 User Incentive
	DOT	Project Management Strategies for Complex Projects	4	IAP R10 User Incentive
WYOMING	DOT	Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	4	IAP Safety Proof of Concept

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