

GoSHRP2 website has the answers

GoSHRP2 offers extensive product resources and helpful technical materials for DOTs and MPOs interested in using SHRP2 Solutions to advance their programs and processes. Information is available on the overall program as well as on individual SHRP2 products, including benefits, product descriptions, and links to original research. Online applications and tips are also available at the site: <http://www.fhwa.dot.gov/goshrp2/GetInvolved/ImplementationAssistance>. Information on SHRP2 for AASHTO members is also available at <http://SHRP2.transportation.org>.

Transportation Agencies Using FHWA/AASHTO Implementation Assistance to Implement SHRP2 Solutions	
Product by Round	State/Entity
Round One	
Implementing Eco-Logical (C06)	Association of Monterey Bay Area of Governments (CA MPO), Caltrans, Southern California Association of Governments (CA MPO), Pikes Peak Area Council of Governments (CO MPO), Atlanta Regional Commission (GA MPO), Idaho DOT, Ohio/Kentucky/Indiana Regional Council of Governments (OH/KY/IN MPO), MaineDOT, MI DOT, MoDOT, NHDOT, North Central Texas Council of Governments (TX MPO), Charlottesville-Albemarle (VA MPO)
Tools to Organize for Reliability (Product Bundle) (L01/L06)	AZTech (AZ Regional Partnership), ADOT, Caltrans, CDOT, DDOT, FDOT, GDOT, Iowa DOT, INDOT, KDOT, MD SHA, MI DOT, MoDOT, NHDOT, NJDOT, NDOT, Niagara International Transportation Technology Coalition (NY MPO), OH DOT, NE Ohio (NOACA), OR DOT, PennDOT, RIDOT, SDDOT, TDOT, UDOT, Whatcom Council of Governments (WA MPO), WSDOT
Innovative Bridge Designs for Rapid Renewal (R04)	AZ Gila River Indian Community DOT, Caltrans, KYTC, MaineDOT, MI Seney National Wildlife Refuge, MoDOT, NDOR, RIDOT, WisDOT
Managing Risk in Rapid Renewal Projects (R09)	FDOT, GDOT
Project Management Strategies for Complex Projects (R10)	GDOT, MassDOT, MI DOT, MT Federal Lands Highway, NMDOT
Guidelines for the Preservation of High-Traffic-Volume Roadways (R26)	ADOT, DDOT, DELDOT, GDOT, KYTC, MassDOT, MaineDOT, MnDOT/MnRoad, MoDOT, PennDOT, RIDOT, TDOT, WSDOT, WisDOT
Round Two	
Expediting Product Delivery (C19)	AHTD, ADOT, AZ MPO, Caltrans, CA MPO, FDOT, Idaho DOT, MassDOT, NDOR, SCDOT, SDDOT, VTrans
Performance Specifications for Rapid Renewal (R07)	ALDOT, MaineDOT, MoDOT, VTrans
Managing Risk in Rapid Renewal Projects (R09)	FDOT, MnDOT, OR DOT, PennDOT
Railroad-DOT Mitigation Strategies (R16)	AHTD, Caltrans, CDOT, Idaho DOT, PennDOT, SDDOT, TxDOT
Round Three	
Freight Demand Modeling and Data Improvement (C20)	Maricopa Association of Governments (AZ MPO), FDOT, MD DOT, Mid-America Regional Council (MO MPO), Winston-Salem (NC MPO), Capital District Transportation Committee (NYMPO), Portland Metro (OR MPO), Delaware Valley Regional Planning Commission (PA MPO), SDDOT, WSDOT, WisDOT
GeoTechTools (R02)	ADOT, CONNDOT, FDOT, Iowa DOT, KYTC, LaDOTD, MassDOT, MS DOT, MN DOT, MoDOT, NJDOT, NYSDOT, UDOT, WA Western Federal Lands Highway Division, WVDOT
Precast Concrete Pavement (R05)	HDOT, Illinois Tollway, KDOT, TxDOT, WisDOT
Identifying and Managing Utility Conflicts (R15B)	Iowa DOT, KYTC, MI DOT, NHDOT, OK DOT, SDDOT, TxDOT, VTrans
Pavement Renewal Solutions (R23)	ADOT, Caltrans, KYTC, LaDOTD, MnDOT, NJDOT, NYSDOT, NDDOT, UDOT
Round Four	
Transportation Project Impact Case Studies (C03)	Illinois DOT, INDOT, Rhode Island Statewide Planning Program, UDOT
Advanced Travel Analysis Tools (Product Bundle) (C04/C05)	San Diego Association of Governments (CA MPO)
Integrated Travel Demand Modeling (C10)	Metropolitan Transportation Commission (CA MPO), Atlanta Regional Commission (GA MPO), MD DOT, OH DOT
Tools for Assessing Wider Economic Benefits of Transportation (C11)	Caltrans, CONNDOT, INDOT, Southeastern Regional Planning and Economic Development District (MA MPO), Rhode Island Statewide Planning Program, UDOT, VDOT Virginia Center for Transportation Innovation and Research
The Effect of Smart-Growth Policies on Travel Demand (C16)	Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (NC MPO), OR DOT, Delaware Valley Regional Planning Commission (PA MPO)
Reliability Data and Analysis Tools (Product Bundle) (L02/L05/L07/L08/C11)	FDOT, Illinois DOT, KYTC, MD DOT, MnDOT, NCDOT, TDOT, WSDOT
Nondestructive Testing for Concrete Bridge Decks (R06A)	FL DOT, Iowa DOT, IN DOT, LaDOTD, MoDOT, OR DOT, PennDOT, VDOT Virginia Center for Transportation Innovation and Research
Technologies to Enhance Quality Control on Asphalt Pavements (R06C)	For GPR: MaineDOT, NDOR; for IR: ALDOT, Alaska DOT, Illinois DOT, Maine DOT, MoDOT, NJDOT, NCDOT, VDOT Virginia Center for Transportation Innovation and Research, VA Federal Lands Highway, WVDOT
Tools to Improve PCC Pavement Smoothness During Construction (R06E)	ALDOT, Idaho DOT, INDOT, OH DOT, PennDOT
Nondestructive Testing for Tunnel Linings (R06G)	CDOT, PennDOT
Managing Risk in Rapid Renewal Projects (R09)	AK DOT&PF, ADOT, AZ Federal Lands Highway, FDOT, PennDOT, WisDOT
Project Management Strategies for Complex Projects (R10)	AK DOT&PF, ADOT, Iowa DOT, NCDOT, NHDOT, WSDOT, WisDOT
Service Life Design for Bridges (R19A)	HI Federal Lands Highway, Iowa DOT, OR DOT, PennDot, VDOT Virginia Center for Transportation Innovation and Research
New Composite Pavement Systems (R21)	TDOT, TxDOT
Safety: Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data	FDOT, Iowa DOT, MI DOT, MnDOT, NCDOT, NVDOT, NYSDOT, UDOT, WSDOT, WYDOT



SHRP2: Implementation Assistance Program



States begin implementing SHRP2

All states are now implementing SHRP2 Solutions, through the Implementation Assistance Program, training, workshops, and technical assistance. More than 250 projects are underway across the country. Together, these projects will illustrate the fundamental benefits of the SHRP2 program – offering real solutions to the challenges state Departments of Transportation (DOTs) are facing to improve safety, better manage and expedite projects, and save scarce financial resources.

This brochure offers some examples of how state DOTs are approaching the implementation of several of the new products, and the value and benefits they expect to receive from them.

“We are now moving from abstract processes developed through research into concrete actions that will show real results. We are very pleased to see how engaged state DOTs are in implementing these new innovative products and practices, and look forward to working closely with them to provide assistance and support to ensure success.”

— AASHTO Executive Director
Bud Wright



The FHWA/AASHTO Plan – Helping you solve real challenges

Transportation agencies are working hard to build better projects faster, cheaper, and more safely. Through the second Strategic Highway Research Program (SHRP2), a new body of knowledge now exists to support practitioners in the work they do every day in planning, designing, and building the nation’s transportation infrastructure. Implementing this new research often requires a change in approach or use of a new tool. Because trying something new can come with its own set of challenges, the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) have launched an Implementation Assistance Program to help state transportation agencies and other potential early adopters leverage the full benefits of SHRP2 Solutions with the support they need to ensure success.

SHRP2 support offered at different participation levels

At least twice a year, FHWA and AASHTO solicit applications to implement a limited number of SHRP2 Solutions. The program provides up to three levels of support for each SHRP2 product and offers technical and financial assistance for implementation.

The general selection criteria includes 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.

Proof of Concept Pilot	Lead Adopter	User Incentive
<ul style="list-style-type: none"> Technical support is available for piloting products to evaluate readiness for widespread implementation. 	<ul style="list-style-type: none"> Technical and/or financial support is made available for early adopters to offset implementation costs and mitigate risks. 	<ul style="list-style-type: none"> Technical and financial assistance is available for implementation support activities.
<ul style="list-style-type: none"> Contractor support may be provided to recipients to collect data and evaluate the product. 	<ul style="list-style-type: none"> Recipients are required to provide specific deliverables designed to further refine the product and possibly “champion” the product to other states and localities. 	<ul style="list-style-type: none"> The incentives can be used to conduct internal assessments, build capacity, implement system process changes, organize peer exchanges, and offset other implementation costs.

Ensuring a cleaner Lake Erie

The Challenge: Western Lake Erie is experiencing environmental degradation with large dead zones despite numerous conservation efforts to reduce farm runoff and other pollutants. As a result, the Michigan DOT is paying careful attention as it plans to reconstruct 20 miles of I-75 that run along Lake Erie. I-75 is the busiest truck corridor in Michigan, and the project involves more than 40 acres of wetland impacts, water quality issues, and impaired streams. Coordination with numerous resource agencies, particularly the U.S. Army Corps of Engineers, will require detailed planning if the project is to stay on track.

The Solution: As a lead adopter for *Implementing Eco-Logical* (C06), MDOT is partnering with the Southeast Michigan Council of Governments and the Michigan Natural Features Inventory to develop a Regional Ecosystem Framework that can be used by local, state, and Federal agencies and interested environmental groups. Each partner has a specific role, from building data sets and performing field work to conducting conservation planning and outreach. The nine-step process included in *Implementing Eco-Logical* will enable the partners to develop conservation priorities not only for this project, but also for future activities in the western Lake Erie watershed.

Contact: Margaret Barondess, Manager, Environmental Section, Bureau of Highway Development, Michigan DOT, 517-335-2621, barondessm@michigan.gov.



Milkweed plants along I-75. Milkweed is a state-listed threatened and endangered species. / Dave Schuen, Michigan DOT

Optimizing Tennessee's freeway capacity

The Challenge: Four major metropolitan areas in Tennessee experience heavy congestion due to commuter traffic. Tennessee is also the hub for FedEx and shares its borders with eight other states, resulting in significant local and through truck traffic. A growing population is adding more pressure on the existing roadway infrastructure.

The Solution: Tennessee DOT is already zeroing in on efforts to optimize the state's systems operation and management capabilities through a new Traffic Operations Division, which includes traffic incident management and traffic management centers, as well as an ITS section and traffic engineering. As a lead adopter for *Organizing to Improve Travel-time Reliability* (L01/06), Tennessee will expand this effort to help Tennessee drivers achieve more reliable travel times while maximizing freeway capacity. Through the *Reliability* self-assessment process, existing practices and gaps for moving ahead will be identified, and an action plan developed. This process will allow TDOT to build more consistency into its operations program, standardize its statewide system, and save money by bringing the state's ITS design functions in-house. Tennessee has also been heavily engaged in another SHRP2 Solution, the *National Traffic Incident Management Responder Training Program*. Already more than 140 instructors and 1,000 incident responders have been trained in this comprehensive interdisciplinary program that enables roadways to be cleared of accidents more quickly and safely.

Contact: Brad Freeze, Director, Traffic Operations Division, Tennessee DOT, 615-350-3306, Phillip.b.freeze@tn.gov.



Traffic Congestion / Tennessee DOT

Building bridges in Northern California with SHRP2

The Challenge: The Fort Goff Creek Bridge is located in a remote part of Northern California along the Klamath River in a severe climate area where freeze-thaw cycles as well as heavy salting are common. Replacing the bridge and adjacent culvert posed a problem for the California DOT because the nearest batch plant was a significant distance from the site.

The Solution: By incorporating *Innovative Bridge Designs* (R04) into its Fort Goff Creek Bridge streambed restoration project, Caltrans will use precast elements to save time and improve quality. The project makes extensive use of the *Design* toolkit, and will allow the channel section and stream bed beneath the highway to be restored to a more natural state. Using precast



Fort Goff Creek Bridge / Caltrans

elements will reduce the number of days needed for one-way traffic control, and the construction can be finished in one season. Caltrans hopes that the use of this SHRP2 product will help advance its goal of standardizing Accelerated Bridge Construction in order to reduce on-site construction delays, minimize the use of detours, and decrease costs.

Contact: Dorie Mellon, Associate Bridge Engineer, Structure Policy and Innovation, Caltrans, 916-227-8268, dorie.mellon@dot.ca.gov.



Rhode Island and Pennsylvania use SHRP2 to cope with aging infrastructure and high traffic volumes

The Challenge: Pennsylvania and Rhode Island's roadway networks are aging and underfunded. Compounding these problems is the fact that existing pavement treatments are not lasting due to especially high volumes of traffic.

The Solution: By using the guidelines outlined in *Preservation of High-Volume Roadways* (R26) and its pavement management database, PennDOT has already completed tests of several pavement options. Lancaster, PA, was the site for four test sections using a flexible micro-surfacing product; also completed are pilots using polymer modified thin overlay and asphalt rubber gap-grade mix at two other locations. PennDOT officials report that the Lancaster site is already showing differences in pavement resilience.



Pavement Operations / Pennsylvania DOT

The Rhode Island DOT will conduct a field verification of candidate sites and pavement conditions to identify areas where it can employ four treatments using green asphalt technology: asphalt rubber gap-graded overlay; asphalt rubber chip seal; asphalt rubber stress absorbing membrane interlayer; and asphalt rubber crack seal.

Both states are lead adopters and hope to identify strategies that will extend their roadways' treatment life, improve pavement performance, increase the intervals between treatments, and save money. RI DOT Director Mike Lewis adds, "We want to expand the thinking of our employees and contractors to using different treatment options beyond the 'usual suspects.'"

Contact: In Rhode Island, Colin Franco, Associate Chief Engineer, RI DOT, 401-222-2524, ext. 4110, cfranco@dot.ri.gov. In Pennsylvania, Steven Koser, Section Chief, Pavement Testing and Asset Management Section, PennDOT, 717-787-7908, skoser@pa.gov.



Using SHRP2 with innovative alternative delivery systems

The Challenge: The Georgia DOT is in the process of constructing 29.7 miles of new reversible barrier-separated managed lanes in the northwest corner of Atlanta. The total cost for the design-build-finance project is estimated at \$840 million. The GDOT has identified numerous complexities associated with the project. As examples, although GDOT has project management responsibility for design and construction, the Georgia State Road and Tollway Authority has responsibility for the tolling portion. The financial plan includes various sources of funding, such as regular Federal Aid, specially appropriated State Motor Fuel proceeds, funds from the Transportation Infrastructure Finance and Innovation Act, and private financing.



Georgia Highway / Georgia DOT

The Solution: *Managing Complex Projects* (R10) comes at just the right time to assist the Northwest Corridor project. GDOT will expand the more typical management considerations of technical, schedule, and cost to include finance and context. As a lead adopter, GDOT will be training all their project managers in the Office of Innovative Program Delivery in the methods and tools included in the product, and will be part of peer-to-peer exchanges with other states. GDOT officials also expect these new tools will enable them to implement alternative technical concepts and other special items not associated with traditional design-bid-build projects, and will help them develop the best management strategies for use of this product now and on future GDOT major projects.

Contact: Darryl VanMeter, State Innovative Program Delivery Engineer, Georgia DOT, 404-631-1703, dvanmeter@dot.ga.gov.