

TESTING RESEARCH IN THE REAL WORLD

30 STATES PARTICIPATE IN 75 SHRP 2 ACTIVITIES

To become resources that transportation agencies can use with confidence, research results must be tested rigorously, refined, and tested again. With that goal in mind, SHRP 2 is working in partnership with transportation agencies and other partners to learn together how the products of new ideas and strategic research can help meet today's challenges. Examples of such partnerships, including pilot tests and field demonstrations, are noted here. More details are available in the projects database at www.TRB.org/SHRP2.



CAPACITY PROJECTS FOR PLANNING DECISIONS THAT STICK

Integrate Traveler Choice and Network Conditions into Travel Demand Estimates (project C10)

FLORIDA, CALIFORNIA

An advanced model for estimating travel demand that integrates traveler choice and network conditions was tested under real-world conditions in two pilot tests. In Florida, the choices of nonhighway modes are limited and the model emphasizes the changes a traveler makes in response to highway conditions. In California, the community has more mode choices.

Smart Growth (project C16)

GEORGIA, MARYLAND, WASHINGTON

The Thurston Regional Planning Council in Olympia, Washington; the Atlanta Regional Commission; and Maryland SHA beta tested software for analyzing smart growth scenarios.

Pilot Test the Collaborative Decision-Making Framework (project C18)

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

PUGET SOUND REGIONAL COUNCIL, WASHINGTON

MINNESOTA DEPARTMENT OF TRANSPORTATION

PIKES PEAK AREA COUNCIL OF GOVERNMENTS, COLORADO

Four pilots were undertaken to test different aspects of TCAPP*, including performance measurement, integrating economic systems and land use decisions with transportation project planning, considering greenhouse gas emissions in the planning process, and community visioning.

Pilot Test Ecological Approaches to Environmental Protection (project C21)

CALIFORNIA, COLORADO, OREGON, WEST VIRGINIA

In these pilot tests, products for integrating conservation and transportation planning—as well as the collaboration guidance elements of TCAPP*—were applied to improve the integration of conservation and transportation planning approaches to a project, set of projects, or plan.



RELIABILITY PROJECTS TO REDUCE CONGESTION AND IMPROVE TRAVEL TIME RELIABILITY

Improving Traffic Incident Scene Management (project L12)

GEORGIA DOT, INDIANA DOT

DOTs in Indiana and Georgia, as well as people from other agencies that respond to roadway incidents in those states, participated in pilot tests to refine the incident management training course that was developed in this project.

"Train-the-Trainer" Pilot Courses for Incident Responders and Managers (project L32A)

FLORIDA, MONTANA, TENNESSEE, VIRGINIA

Additional pilot tests of the Train-the-Trainer course for incident responders and managers developed in Reliability project L12, in each of these four states. Tennessee also conducted an "Alumni Trainer" event, in which participants from the first Tennessee pilot conducted the training.

*TCAPP is Transportation for Communities—Advancing Projects through Partnerships, a website that integrates many products of SHRP 2 Capacity research. We encourage you to explore the site at www.transportationforcommunitites.com and share your comments in the Colleagues Corner section of the site.



SAFETY PROJECTS TO STUDY DRIVING BEHAVIOR

SHRP 2 Naturalistic Driving Study (NDS)

TAMPA, FLORIDA; BLOOMINGTON, INDIANA; RALEIGH/DURHAM, NORTH CAROLINA; BUFFALO, NEW YORK; STATE COLLEGE, PENNSYLVANIA; SEATTLE, WASHINGTON

DOTs in the six states where driving behavior studies are being conducted provide information to SHRP 2 regarding data on roadway characteristics and features and other data (such as data on incidents, work zones, traffic volumes, and safety campaigns) to support analyses of the NDS.



RENEWAL PROJECTS TO SPEED PROJECT DELIVERY

Improved Technologies for 3-D Utility Location Data (project R01A)

VIRGINIA

Virginia DOT, Virginia Utility Protection Services, and utility companies are participating in a field test of a 3-D utility location data system that was developed in this project.

Utility Locating Utilizing Multi-Sensor Platforms (project R01B)

VIRGINIA, GEORGIA

These pilots will test utility location devices with multiple sensors that are designed to advance the ability to rapidly and reliably locate and identify underground utility lines.

Expanding the Locatable Zone for Underground Utilities (project R01C)

VIRGINIA, GEORGIA

This project is testing prototype technologies for locating buried facilities that are of diverse composition, at depths of up to 20 feet, obstructed or "stacked," and in the challenging road construction environment.

Geotechnical Solutions for Soil Improvement, Rapid Embankment Construction, and Stabilization of the Pavement Working Platform (project R02)

IOWA, KANSAS, OKLAHOMA, TEXAS

IowaDOT, KansasDOT, OklahomaDOT, and TexasDOT participated in field testing to evaluate the performance of stabilized subgrade.

Innovative Bridge Designs for Rapid Renewal (project R04)

IOWA, NEW YORK, VERMONT

The demonstration project in Iowa used accelerated bridge construction (ABC) design elements that were developed by SHRP 2. Additional demonstrations of the SHRP 2 toolbox for ABC are being conducted in New York and Vermont.

Modular Pavement Technology (project R05)

CALIFORNIA, DELAWARE, ILLINOIS, MICHIGAN, MINNESOTA, MISSOURI, NEW JERSEY, NEW YORK, TEXAS, VIRGINIA

These pilot tests included deflection testing of precast concrete pavement sections and a visual application survey of two precast concrete pavement test sections.

Nondestructive Testing to Identify Concrete Bridge Deck Deterioration (project R06A)

VIRGINIA

Various nondestructive testing technologies were evaluated on a bridge in Virginia.

Evaluating the Application of Field Spectroscopy Devices (project R06B)

LOCATIONS TBD

This project will conduct evaluations of field spectroscopy devices that are used to fingerprint commonly used construction materials.

Using Both Infrared and High-Speed Ground Penetrating Radar to Measure Uniformity of New HMA Layers (project R06C)

FLORIDA, MAINE, MINNESOTA, TEXAS, VERMONT, TWO ADDITIONAL PILOT TEST LOCATIONS TBD

These states provided access to paving sites for field demonstrations in infrared and ground penetrating radar NDT techniques to assess hot-mix asphalt density and segregation.

Nondestructive Testing to Identify Delaminations between HMA Layers (project R06D)

KANSAS, MAINE

Kansas DOT and Maine DOT participated in field tests of NDT techniques to detect HMA-layer delamination.

Real-Time Smoothness Measurements on Portland Cement Concrete Pavements During Construction (project R06E)

ARKANSAS, GEORGIA, MICHIGAN, NEW YORK, TEXAS

In each of these states, the DOT hosted field evaluations of real-time smoothness measuring devices for portland cement concrete (PCC).

Development of Continuous Deflection Device (project R06F)

VIRGINIA

Virginia DOT participated in field tests of a continuous pavement deflection device.

Nondestructive Testing Methods for Mapping Defects behind or within Tunnel Linings (project R06G)

COLORADO, TEXAS, VIRGINIA

NDT technologies for tunnel lining inspections were tested on: Chesapeake Bay Bridge Tunnel in Virginia; Washburn Tunnel in Harris County, Texas; and Colorado DOT's Eisenhower Memorial Tunnel, Hanging Lake Tunnel, and No Name Tunnel.

Performance Specifications for Rapid Renewal (project R07)

LOUISIANA, MISSOURI, VIRGINIA

Missouri DOT field tested a specification for performance-based earthworks/pavement foundation using intelligent compaction technology. Performance specifications for concrete bridge decks were tested in Virginia. Additional pilot tests will take place in Louisiana in fall 2012.

Innovative Strategies for Managing Complex Projects (project R10)

COLORADO, MINNESOTA, TWO VALIDATIONS (TBD)

This project conducted a pilot test of a training course in Colorado on five-dimensional project management methods. Another pilot is planned in Minnesota, and two validations are also planned (location TBD).

Strategic Approaches at the Corridor and Network Level to Minimize Disruption from the Renewal Process (project R11)

ARIZONA, IOWA, AND TWO PILOT TESTS TBD

Arizona and Iowa conducted validation tests of a tool to assess optimal project sequencing and determine cost-effectiveness of strategies to minimize, mitigate, and manage road-user costs.

Composite Pavement Systems (project R21)

ILLINOIS, MINNESOTA

The Illinois Tollway Authority designed and constructed composite pavements using the guidance developed in this project. Minnesota DOT participated in a demonstration project that included the construction, data collection, and monitoring of PCC/PCC and HMA/PCC test cells.

Achieving Long Life with Existing Pavements (project R23)

WASHINGTON STATE DOT

Washington DOT pilot tested guidelines for achieving long life with existing pavements, which were based on this research, on a major highway reconstruction project.

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[SEPTEMBER 2012]

CAPACITY PILOTS

Advanced travel demand model (C10A and C10B): California, Florida

Testing tools for analyzing the impacts of smart growth scenarios (C16): Georgia, Maryland, Washington State

Pilot test the TCAPP website (C18): Colorado (Pikes Peak COG), Minnesota DOT, Washington (Puget Sound Regional Council, WSDOT)

Ecological approach to transportation planning (C21): California, Colorado, Oregon, West Virginia

RELIABILITY PILOTS

Test curriculum for cross-discipline incident responder training (L12): Georgia, Indiana

Test Train-the-Trainer curriculum for incident responders (L32A): Florida, Montana, Tennessee, Virginia

SAFETY PILOTS (NDS)

Data collection on driving behavior and roadway characteristics: Tampa, Florida; Bloomington, Indiana; Raleigh/Durham, North Carolina; Buffalo, New York; State College, Pennsylvania; Seattle, Washington

RENEWAL PILOTS

3-D utility location data system (R01A): Virginia

Utility location devices (R01B): Georgia, Virginia

Technologies for locating buried utilities (R01C): Georgia, Virginia

Techniques for stabilizing subgrade (R02): Iowa, Kansas, Oklahoma, Texas

Accelerated bridge construction toolkit (R04): Iowa, New York, Vermont

Deflection testing of precast concrete pavement (R05): California, Delaware, Illinois, Michigan, Minnesota, Missouri, New Jersey, New York, Texas, Virginia

Nondestructive testing to identify concrete bridge deck deterioration (R06A): Virginia

Evaluating the application of filed spectroscopy (R06B)

Nondestructive tests of HMA uniformity (R06C): Florida, Maine, Minnesota, Texas, Vermont

Nondestructive tests of HMA layer delamination (R06D): Maine, Kansas

Measuring PCC smoothness in real time (R06E): Arkansas, Georgia, Michigan, New York, Texas

Development of Continous Deflection Device (R06F): Virginia

Nondestructive testing methods for mapping defects behind or within tunnel linings (R06G): Colorado, Texas, Virginia

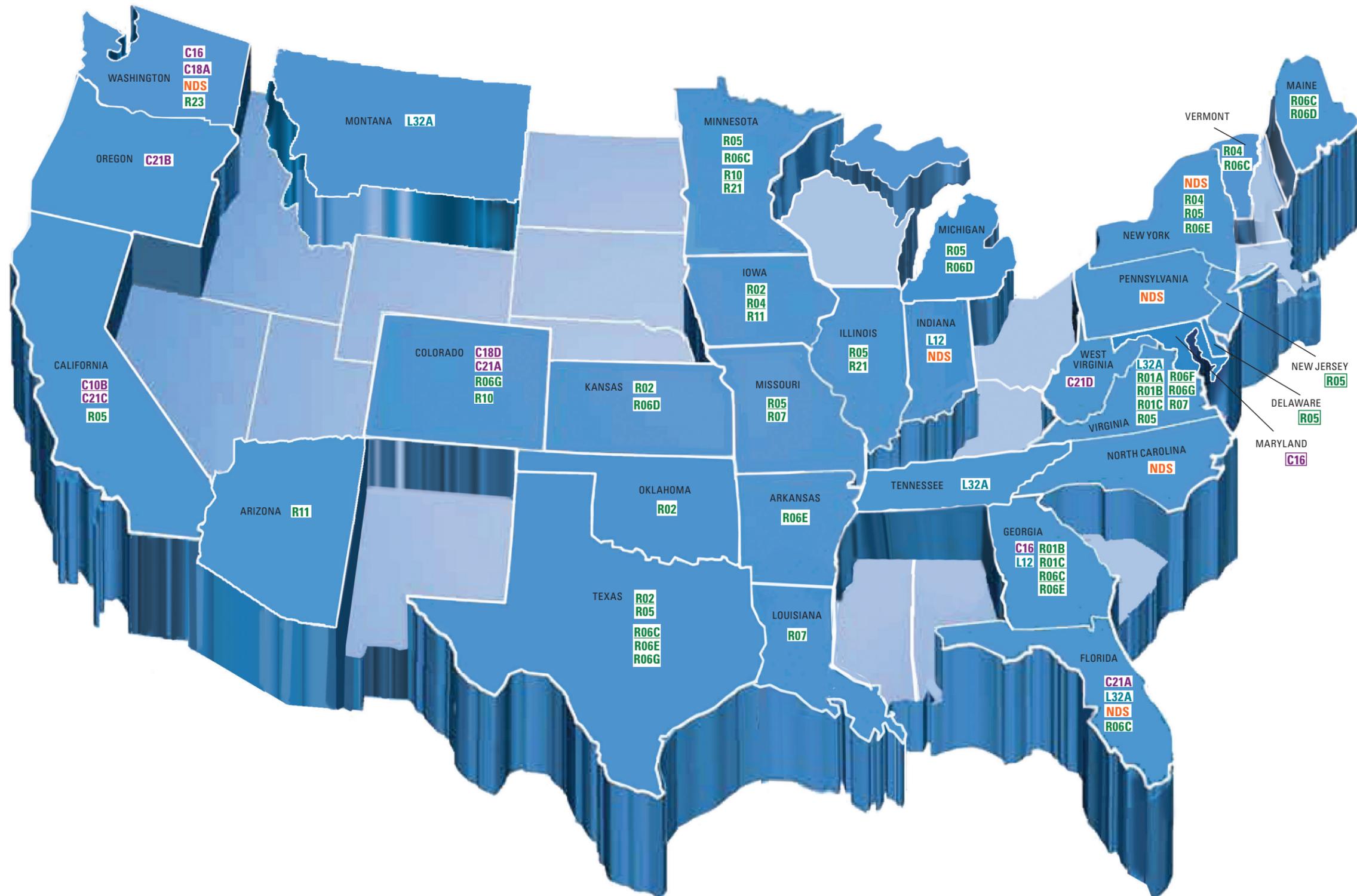
Performance specifications for rapid renewal projects (R07): Louisiana, Missouri, Virginia

Pilot test curriculum for innovative project management methods (R10): Colorado, Minnesota

Validation of a tool to assess optimal project sequencing (R11): Arizona, Iowa

Composite pavement demonstration (R21): Minnesota, Illinois

Achieving long life with existing pavements (R23): Washington State



TCAPP – Transportation for Communities — Advancing Projects through Partnerships is a website for most products of SHRP 2 Capacity research. Visit the site at: www.transportationforcommunities.com