SHRP2 SOLUTIONS
TOOLS FOR THE ROAD AHEAD

Pavement Renewal Solutions (R23)

Guidelines to using existing pavements in-place and achieving long life

Challenge

Highway agencies need guidance to help better understand when and where it can be beneficial to use existing pavements to speed rehabilitation project delivery. Use of existing pavement can reduce cost; however, it is not always a viable solution. By being able to identify projects where this technique can be successful, highway agencies can apply the process with more confidence, and reap the benefits of lower cost, and more rapidly rehabilitated facilities.

Solution

An interactive web-based pavement design scoping tool provides much-needed guidance for deciding where and under what conditions to use existing pavement as part of roadway renewal projects. It includes approaches for employing existing pavements in-place to ensure longer service life for roads using asphalt, concrete, and innovative materials. The product also identifies new alternatives to renewal approaches; and examines the advantages and disadvantages of each approach, the circumstances under which each should be considered, different construction techniques, and methods for integrating recycled materials with adjacent materials and road structures.

This guide will help transportation agencies make better decisions with regard to pavement renewal projects by using existing pavement as part of the design. Transportation agencies, drivers, highway workers, contractors, and taxpayers will benefit from time savings based on rapid reuse of existing materials, reduced costs for new pavement, and an accelerated construction process. Washington DOT has utilized the recommendations offered in this guide, and has realized a 30 percent cost savings and a 50 percent reduction in user delay costs over the life of the new pavement. This approach delivers long-lasting value by promoting durable and dependable roads, while reducing the environmental footprint because less new pavement is required.

Benefits

- Decreased use of new pavements.
- Shorter construction time, resulting in reduced exposure of travelers and construction workers to work zone hazards.
- A better return on investment based on longer pavement service life.
- Reduced environmental footprint, based on decreased use of new materials.

The Implementation Assistance Program

Implementation assistance is available to help State departments of transportation (DOTs), metropolitan planning organizations (MPOs), and other interested organizations deploy SHRP2 Solutions. A range of opportunities is available to raise awareness of SHRP2 Solutions and to encourage early adoption of these products. Application periods are offered approximately twice per year. Each product selected for implementation assistance has the potential to deliver more efficient, cost-effective programs to meet the complex challenges facing transportation today.

Save Lives

Shorter construction periods reduce risks and enhance safety for the traveling public and construction workers.

Save Money

Reusing existing pavement reduces costs, including hauling and dumping costs, and shrinks construction timelines.

Save Time

Reusing existing pavement, alleviating the need to remove and dispose of it offsite, expedites projects. The traveling public experiences fewer traffic delays because of shorter construction windows.

RENEWAL

One of four SHRP2 focus areas, Renewal products help transportation organizations rapidly build and restore highway infrastructure that lasts longer while minimizing user disruption and delay.

Continued on next page.

Visit: www.fhwa.dot.gov/GoSHRP2
Learn more about products, case studies, and implementation assistance.

How can you learn more?

Visit: www.fhwa.dot.gov/GoSHRP2

- Additional product information
- Information about how this product is being used in the field
- Contact information for peers who are familiar with this product
- Links to research reports

Contacts

Steve Cooper (FHWA)
stephen.j.cooper@dot.gov

Tom Deddens (FHWA)
tom.k.deddens@dot.gov

Evan Rothblatt (AASHTO)
erothblatt@aashto.org

About SHRP2 Implementation

The second Strategic Highway Research Program (SHRP2) is a partnership of the Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), and the Transportation Research Board (TRB). TRB completed the research, and now FHWA and AASHTO are jointly implementing the resulting SHRP2 Solutions that will help the transportation community enhance productivity, boost efficiency, increase safety, and improve the reliability of the Nation's highway system.