SHRP2 SOLUTIONS
TOOLS FOR THE ROAD AHEAD

# Implementing Eco-Logical (C06)

***Better environmental and highway outcomes through integrated planning***

## Challenge

A more holistic view of the Endangered Species Act has emerged in recent years to address expanding ecosystem and watershed restoration and species recovering needs. Transportation agencies recognize the value in this and the ecological and economic benefits of integrating environmental considerations into highway planning. At the same time, stakeholders expect more from government agencies in terms of avoiding impacts to ecosystems and using transportation projects as a way to support ecosystem recovery. The benefits of integrating ecosystem-level environmental considerations into highway planning are widely recognized, and there is an immediate need for practical guidance on how to implement these approaches cost-efficiently.

A team of eight Federal agencies developed the report **Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects**, which demonstrates how integrating environmental priorities at the planning level can accelerate development of projects and permitting while avoiding or minimizing environmental impacts that require future mitigation. However, ecology-based approaches must be easier to implement, more practical, and a priority for managers if the benefits outlined in Eco-Logical are to be more widely realized by the transportation community. There is a need for practical guidance on how to implement these approaches cost-efficiently.

## Solution

SHRP2 has developed an Integrated Ecological Framework (IEF), a nine-step, science-based process that helps practitioners identify ecological priorities within a region and make timely decisions about highway enhancements, enabling mutually-beneficial solutions for transportation and the environment. The framework provides clear, practical steps to enhance integration and to support an ecological approach to environmental stewardship.

The solution includes tools and resources to help make ecological approaches a priority such as conducting ecological assessments, developing ecosystem services crediting, building collaborative interagency relationships and usable data collections, and developing organizational strategies. It also provides guidelines and model agreements to support integrating conservation, planning, and environmental permitting into an agency's ecosystem approach.

## Benefits

In addition to improved environmental outcomes, organizations that apply the IEF will minimize the time and costs associated with planning and regulatory decision making. Utilizing the IEF well in advance of large maintenance projects or new construction can expedite planning and permitting processes so construction can begin more quickly. In the short term, the IEF provides practical guidance on selecting and using the most appropriate effective data, methods, tools, and processes to achieve an integrated, landscape-scale approach to transportation decision making. Over time, the IEF can foster better collaboration and information-sharing among highway and resources agencies, resulting in roadways that are wildlife-friendly and can better withstand potential weather damage.

### *Save Lives*

***Using the IEF means that environmental issues and priorities are addressed early in the planning and development stages. Early detection and resolution of potential problems can reduce or eliminate negative impacts on both people and the environment.***

### *Save Money*

***These tools will enhance an agency's ability to forecast environmental impacts, which will improve overall project delivery. Mitigation obligations can be resolved before they become critical path issues, costs can be managed, and risks can be reduced. The IEF process will save Federal dollars and prevent unnecessary costs in the long-term.***

### *Save Time*

***The IEF fosters collaboration early in the planning stage, enabling state DOTs to minimize or entirely avoid time-consuming mitigation activities during the project development process.***

CAPACITY

**One of four SHRP2 focus areas, Capacity products help transportation organizations to systematically integrate environmental, economic, and community requirements into the analysis, planning, and design of new highway capacity.**

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

## 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.

## 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

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### 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.