

Successes In Stewardship

November 2012

FHWA Supports Roadway Sustainability with INVEST

In recent years, the concept of sustainability has gained attention due to increasing concerns over limited environmental and economic resources. The Federal Highway Administration (FHWA) explains sustainability as a commitment that encompasses economic, environmental, and social considerations. According to that definition, sustainable development generates economic growth through the sound use of fiscal resources, avoids or mitigates environmental impacts, and works to ensure an equitable distribution of benefits to society. The Sustainable Transport and Climate Change Team of FHWA's Office of the Natural Environment is leading the [Sustainable Highways Initiative](#), an effort to showcase the Agency's existing sustainability-related programs while encouraging transportation agencies to consider sustainability in roadway systems nationwide.



INVEST

ECONOMIC • SOCIAL • ENVIRONMENTAL

FHWA's INVEST helps transportation agencies identify ways to make roadway projects more sustainable. (Courtesy of FHWA)

INVEST as a way to identify best practices in roadway sustainability, communicate with stakeholders and decisionmakers about sustainability, and develop methods for conducting self-assessments and prioritizing areas for improvement.

INVEST 1.0 is the culmination of two years of testing and development. FHWA initially launched a beta version of INVEST in fall 2010, modified it based on feedback, and released a pilot test version in fall 2011. After an additional round of testing and feedback, FHWA updated the tool and released version 1.0 in October 2012.

Sustainability and the Highway Lifecycle

According to the FHWA Sustainable Transport and Climate Change Team, transportation agencies should consider sustainability throughout the life of a highway. INVEST includes three separate self-evaluation scorecards that each correspond to a different part of the highway lifecycle: System Planning, Project Development, and Operations and Maintenance. Agencies may choose to use one or more of the scorecards to evaluate different aspects of their programs. The scores allow an agency to gauge the effectiveness of its sustainability efforts, track improvement, and communicate successes to external stakeholders. The three scorecards are described below.

System Planning

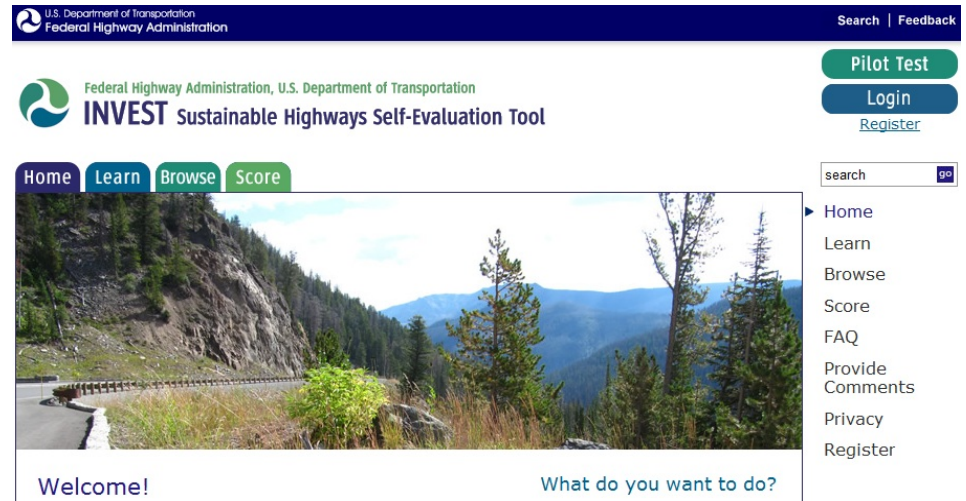
The System Planning scorecard focuses on agency-wide management and planning of roadway networks and evaluates the policies, procedures, and systems in place to manage an entire planning portfolio, rather than a single project. There are 17 criteria within this scorecard. For example, in the "Integrated Planning: Natural Environment" criterion, agencies may earn points for integrating metropolitan and/or statewide transportation planning with environmental plans, engaging natural resource agencies, applying system or landscape-scale evaluation techniques such as the [Eco-Logical approach](#), and demonstrating sustainable outcomes. An agency might also use the "Financial Sustainability" criterion to evaluate and document that financial commitments made in transportation planning documents are reasonable and affordable. Within

To support roadway sustainability efforts, FHWA released version 1.0 of the [Infrastructure Voluntary Evaluation Sustainability Tool \(INVEST\)](#) in October 2012. This voluntary, web-based, self-evaluation tool is intended to help transportation agencies incorporate sustainability throughout the decisionmaking process and advance projects that yield economic, environmental, and social benefits. Agencies may use

that criterion, points are awarded for advanced revenue forecasting and cost estimating processes that incorporate risk, contingencies, and lifecycle costs.

Project Development

The Project Development scorecard focuses on the development of a specific project once the agency has determined the general need for transportation improvements, and has identified a solution to address that need. The 29 criteria in this scorecard deal with issues such as environmental review and the planning, design, and construction decisions related to a specific project. An agency might use this scorecard to identify ways to minimize construction-related impacts through the use of the “Construction Equipment Emission Reduction” criterion, and other related criteria.



INVEST is available free at www.sustainablehighways.org. (Courtesy of FHWA)

Operations and Maintenance

The Operations and Maintenance scorecard focuses on the management, operation, and maintenance of existing transportation networks. The 14 criteria in this scorecard include topics such as pavement management systems and traffic control infrastructure maintenance. An agency might use the “Road Weather Management Program” criterion to help implement sustainable policies and procedures for maintaining safe road surfaces in adverse conditions.

Roadway Sustainability: Highway 156 in Monterey Bay, California

The Transportation Agency for Monterey County (TAMC) used the pilot test version of INVEST to evaluate the [State Route 156 West Corridor Project](#) during its planning phase. Route 156 is a gateway for tourists traveling from the San Francisco Bay Area to the Monterey Peninsula. TAMC is seeking to reduce congestion, improve safety, and restore neighborhood access by realigning and widening the corridor. The entire project team participated in the self-evaluation process, including TAMC management, the sustainability liaison, and the environmental and design practitioners. Team members considered the full list of criteria, discussed current practices, and reviewed current and planned activities in order to determine an appropriate score for each criterion.

In the process of scoring, TAMC identified key areas for improvement, including public education, economic analysis, energy-efficient lighting, quality control during construction, and the reduction of emissions from asphalt as it is laid. In addition to identifying improvements, INVEST also helped TAMC validate the sustainable features of the project and communicate with stakeholders about them. These features include habitat preservation and restoration, best practices for stormwater procedures, maintenance of ecological connectivity, and tracking of environmental commitments. After using INVEST during the planning phase of the project, TAMC plans to implement its new ideas, and then use the tool again in the design and construction phases. For information on another agency that has used INVEST, please refer to the [case study on the Minnesota Department of Transportation](#), available on the FHWA Sustainable Highways website.

The Future of INVEST

INVEST is an important part of FHWA’s ongoing efforts to advance the triple bottom line of sustainability: economy, environment, and society. Now that FHWA has launched INVEST 1.0, FHWA’s Division Office and Resource Center staff will assist transportation agencies in using the tool by offering training opportunities, peer exchanges, research assistance, and other guidance to help them improve the sustainability of their projects and programs. Subject matter experts at FHWA will monitor the criteria and scoring, stay abreast of the state of the practice, and advise the INVEST team of necessary updates. FHWA will also rely upon feedback from users to improve the tool, which will continue to evolve over time. Users may submit comments or questions to sustainablehighways@dot.gov.

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Look What's New!

- FHWA's Office of Project Development and Environmental Review has developed the [Planning and Environmental Linkages for Historic Preservation](#) report, along with a series of best practices that focus on historic resources, to support the goals of the Every Day Counts (EDC) initiatives. The streamlining practices identified in the report and detailed in the case studies also have the benefit of improving stewardship through early consideration of historic preservation factors in planning and project development.
- The FHWA Office of the Human Environment's Livability Team will offer a webinar entitled "Effective Practices in Planning for Livable Communities at Metropolitan Planning Organizations" (MPO) on November 13, 2012 from 1:00 - 2:30 p.m. Eastern. The webinar will explore several innovative MPO programs that promote livability as a follow up to a 2010 FHWA/Federal Transit Administration Transportation Planning Capacity Building Program sponsored [peer exchange](#). To register for the webinar, [click here](#).

Successes in Stewardship is a Federal Highway Administration newsletter highlighting current environmental streamlining and stewardship practices from around the country. To subscribe, visit http://environment.fhwa.dot.gov/sis_registration/Register.aspx or call 617-494-2092.