FHWA’s Sustainable Highways Initiative And Self-Evaluation Tool

Michael Culp
Team Leader for Sustainable Transport and Climate Change
Office of Planning, Environment & Realty
APWA Sustainability Conference - Portland, OR
June 29, 2011

Agenda

- Overview of Sustainability and Highways
- Pilot Test Version of Self Evaluation Tool
- Pilot Testing
- Next Steps
What is a Sustainable Highway?

- Satisfies functional requirements
  - Fulfills transportation goals and needs (e.g. congestion reduction)
  - Addresses development and economic growth
- Avoids, minimizes, reduces impacts
  - Environment
  - Consumption of resources
- Addresses environmental, economic, and social equity dimensions (triple bottom line)
- Sustainability addressed throughout the project lifecycle

The Triple Bottom Line
Sustainability and the Project Lifecycle

- For sustainability to be fully integrated into highway and transit programs, it must be considered throughout the project lifecycle.
- Must address sustainability from planning through operations.

Examples of Sustainable Practices

- **System Planning**
  - Integrated Planning
  - Mitigation banking
  - Fiscal planning
- **Project Development**
  - Cost Benefit Analysis
  - Construction Equipment Emission Reduction
  - Recycling and Reuse of materials
- **Operations and Maintenance**
  - Strong asset management
  - Roadside vegetation management
What about Other Modes?

- Primary focus is highways
- All modes considered in SP criteria prior to modal selection
- Transit, pedestrians & bikes intersect and support highways and are included in SP & PD criteria
- Transit also considered to the extent that the system uses the highway or roadway system (bus, BRT, use of HOV facilities)

INVEST
(Infrastructure Voluntary Evaluation Sustainability Tool)

FHWA’s Sustainable Highways Self-Evaluation Tool
INVEST Goals

- Encourage sustainable highway practices
  - Internal improvement
  - External recognition
- Help agencies measure sustainability and quantify tradeoffs
- Provide a framework for communicating with stakeholders about sustainability
- Establish a method for evaluating sustainable highways

Overview of INVEST

- Voluntary Web-based Tool
- Lists “sustainable criteria” based on best practices for three project phases:
  - Systems Planning
  - Project Development
  - Operations and Maintenance
- Each criterion assigned a point value based on expected sustainability impact
- In coordination with ASCE/ACEC/APWA effort
- Other sustainable highways tools used as references
  - (GreenLITES, I-LAST, Greenroads)
Significant Changes from Beta to Pilot Test Version

- Focuses on the Project Development (PD) criteria only
  - Beta Version included System Planning and O&M
- Greatly simplifies criteria and scoring
  - 1-page write-ups for each criterion
  - Combined or eliminated criteria (e.g., combined stormwater-related criteria)
- Makes scoring smaller projects easier
  - Basic Version - includes criteria that would be more appropriate for rehabilitation, resurfacing, and minor reconstruction projects.
  - Extended Version - includes larger number of criteria than basic version and is available to score larger reconstruction and new construction projects.
- Reduces the Number of Criteria by Eliminating or Consolidating Criteria
  - Basic Version = 20 Criteria
  - Extended Version = 30 Criteria

Project Development Criteria

| PD-1 | Cost Benefit Analysis |
| PD-2 | Highway and Traffic Safety |
| PD-3 | Context Sensitive Project Development (or equivalent) |
| PD-4 | Lifecycle Cost Analysis |
| PD-5 | Freight Mobility |
| PD-6 | Educational Outreach |
| PD-7 | Tracking Environmental Commitments |
| PD-8 | Habitat Restoration |
| PD-9 | Stormwater |
| PD-10 | Ecological Connectivity |
| PD-11 | Recycle & Reuse Materials |
| PD-12 | Create Renewable Energy |
| PD-13 | Site Vegetation |
| PD-14 | Pedestrian Access |
| PD-15 | Bicycle Access |
| PD-16 | Transit & HOV Access |
## Project Development Criteria

<table>
<thead>
<tr>
<th>PD-17</th>
<th>Historical, Archaeological, and Cultural Preservation</th>
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<tbody>
<tr>
<td>PD-18</td>
<td>Scenic, Natural, or Recreational Qualities</td>
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<tr>
<td>PD-19</td>
<td>Low-Emitting Materials</td>
</tr>
<tr>
<td>PD-20</td>
<td>Energy Efficient Lighting</td>
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<tr>
<td>PD-21</td>
<td>ITS for System Operations</td>
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<tr>
<td>PD-22</td>
<td>Long-Life Pavement Design</td>
</tr>
<tr>
<td>PD-23</td>
<td>Reduced Energy and Emissions in Pavement Materials</td>
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<tr>
<td>PD-24</td>
<td>Contractor Warranty</td>
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<tr>
<td>PD-25</td>
<td>Earthwork Balance</td>
</tr>
<tr>
<td>PD-26</td>
<td>Construction Environmental Training</td>
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<tr>
<td>PD-27</td>
<td>Construction Equipment Emission Reduction</td>
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<tr>
<td>PD-28</td>
<td>Construction Noise Mitigation</td>
</tr>
<tr>
<td>PD-29</td>
<td>Construction Quality Plan</td>
</tr>
<tr>
<td>PD-30</td>
<td>Construction Waste Management</td>
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## Website Walk-thru

[www.sustainablehighways.org](http://www.sustainablehighways.org)
Pilot Test Version of the FHWA Sustainable Highways Self-Evaluation Tool

Welcome!

This website represents a significant revision of the FHWA Beta tool, released in the Fall of 2010. The development team has received many valuable stakeholders’ comments on the Beta tool, and have made some significant changes to improve the tool and address many of the comments.

A few of the major modifications:

- Focus on the evaluation of specific projects through the Project Development (PD) credits. The System Planning and Operations and Maintenance credits will be revised and released later.
- Develop specific credits and templates. These modifications have been completed.

What do you want to do?

Learn
- A guided tour through this website to learn about sustainable highways and integrating sustainability best practices into Project Development.

Browse
- If you want to browse the tool:

Scorecard

Scoring a Project

This Tool will allow you to create a project scorecard and self-evaluate projects. The first step is to login or register so that we can save your data for your future visits. Then you’ll be prompted to select a Project Scorecard and be taken to the Self-Evaluation Tool.

The Pilot Test version of the FHWA Sustainable Highways Self-Evaluation Tool has four Project Scorecards for evaluation of projects. The website has been set up to enable selection of the project type which pre-identifies applicable credits for consideration. The two project scorecards that are available for testing include:

1. Basic Scorecard (20 Credits)

- Small reconstruction and bridge replacement projects that do not expand capacity of the roadway
- Preservation projects (SR) for extending service life of existing facilities and for safety enhancements
- Rehabilitation projects (R) for restoring pavement structure, ride quality, and road safety

2. Extended Scorecard (40 Credits)

- New construction for a new roadway facility or structure where nothing of its type currently exists
- Major reconstruction projects that add travel lanes to an existing corridor or bridge

Download

All Credits

Basic Scorecard

Extended Scorecard

Project Score

0

Your Ratings Not Rated

Help Me Build It

Display All Credits

Show All Credits by triple bottom line

Home > Scorecard
PD-1: Cost Benefit Analysis

1 year

Cost Benefit Analysis

PD-1: Cost Benefit Analysis

Questions

Using cost benefit analysis, does the net present value of expected users' benefits exceed full life-cycle costs?

- Yes (0 points)
- No (1 point)

Save
Scorecard

Your Scorecard has been pre-filtered to show only the applicable credits for your Basic or Extended Project. Currently scored credits for your project are displayed below. To filter the credits or view all, use the Help Me Build It section.

To score a credit, click on the credit and go to the score tab. Answer the questions and the Self-Evaluation Tool will help add up your points. Your Total Score will be shown in the upper right-hand box and will indicate if you have reached one of the achievement levels.

All your entries will be saved and available when you return.

To reprint a copy of your current scorecard, you may print the page. If you want to download a PDF copy of a basic scorecard, click Download Scorecard to the right.

If you’d like to switch projects, select a project above to jump to a different Project Scorecard or create a new project.

Project: Test Project – Basic

Scorecard (Basic)
## Thresholds by Project Category

<table>
<thead>
<tr>
<th></th>
<th>Number of Points Required for Each Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic Scorecard</td>
</tr>
<tr>
<td>Total # of Points Possible</td>
<td>85</td>
</tr>
<tr>
<td>BRONZE (30%)</td>
<td>26-33</td>
</tr>
<tr>
<td>SILVER (40%)</td>
<td>34-42</td>
</tr>
<tr>
<td>GOLD (50%)</td>
<td>43-50</td>
</tr>
<tr>
<td>PLATINUM (60%)</td>
<td>51+</td>
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### INVEST

Pilot Testing
Pilot Selection and Funding

Timing
- Responses due July 8

Selection
- Projects will be selected to achieve a group that represents variation in types and scales of project (size and scope), as well as geographic location.

Funding
- Anticipated that 10 awards will be made at up to $25,000 each.
- 100% non-Federal match is required; in-kind contributions such as staffing can be counted towards the match requirement.
- The amount of funding awarded will be based on the project size and complexity.

Pilot Testing of INVEST

- Testing will be done on the Project Development (PD), System Planning (SP) and Operations & Maintenance (OM) criteria
- Objectives for Conducting the Pilot Testing
  - Provide input on how to make tool easier to use
  - Obtain input on further refinement to criteria
  - For calibration of scoring and achievement levels
- Schedule for Pilot Testing
  - July thru October 2011
Pilot Testing Process

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Duration</th>
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<tbody>
<tr>
<td>1</td>
<td>Solicitation and selection of Pilot Test projects and programs</td>
<td>4 weeks</td>
</tr>
<tr>
<td>2</td>
<td>Pilot Test owner coordination and agreement</td>
<td>2 weeks</td>
</tr>
<tr>
<td>3</td>
<td>Review Pilot Test instructions and participation in orientation webinar</td>
<td>2 weeks</td>
</tr>
<tr>
<td>4</td>
<td>Preparation, organization and material collection for agency workshop</td>
<td>2 weeks</td>
</tr>
<tr>
<td>5</td>
<td>Conduct pilot test self-evaluation workshop for each project or program</td>
<td>1 day</td>
</tr>
<tr>
<td>6</td>
<td>Prepare summary of results and feedback</td>
<td>2 weeks</td>
</tr>
<tr>
<td>7</td>
<td>Participation in webinar on Pilot results and feedback</td>
<td>1 day</td>
</tr>
</tbody>
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Next Steps

For Sustainable Highways Program
- Continue strong coordination within FHWA and with partners and stakeholders
- Create program structure, partner on key program/research gaps

For INVEST
- Revise additional criteria
  - Revise O&M criteria - July
  - Revise System Planning criteria - August
- Pilot Testing
  - Call for Pilot Projects (PD criteria)- June
  - Call for Pilot Programs (SP & OM) - July
- Weighting & Scoring Review - ongoing
- Updates to Website - ongoing
- Version 1.0 Release - December 31, 2011
Thank You!

Michael Culp  
Michael.culp@dot.gov

Connie Hill  
Connie.hill@dot.gov

Heather Holsinger  
Heather.holsinger@dot.gov