



FHWA INVEST

And the Harbor Bridge Project



FHWA's Sustainable Highways Initiative



The Sustainability Triple Bottom Line

Source: www.sustainablehighways.org

“The Sustainable Highways Initiative supports programs and activities conducted across the Federal Highway Administration to facilitate balanced decisionmaking among environmental, economic, and social values—the triple bottom line of sustainability.”

–U.S. DOT FHWA

What is INVEST?

Infrastructure Voluntary Evaluation Sustainability Tool (INVEST)

- Voluntary, web-based tool designed to help transportation agencies integrate sustainability into programs and projects
- Three modules designed to evaluate the full lifecycle of transportation programming:
 - Systems Planning
 - Project Development
 - Operations and Maintenance



Source: www.sustainablehighways.org

Systems Planning

- Evaluates an agency's system-wide transportation planning and programming efforts such as:
 - Statewide Long Range Transportation Plans
 - Metropolitan Transportation Plans
 - Unified Planning Work Program

Project Development

- Applicable to all phases of project development:
 - Early planning
 - Alternatives analysis
 - Environmental documentation
 - Preliminary and final design
 - Construction

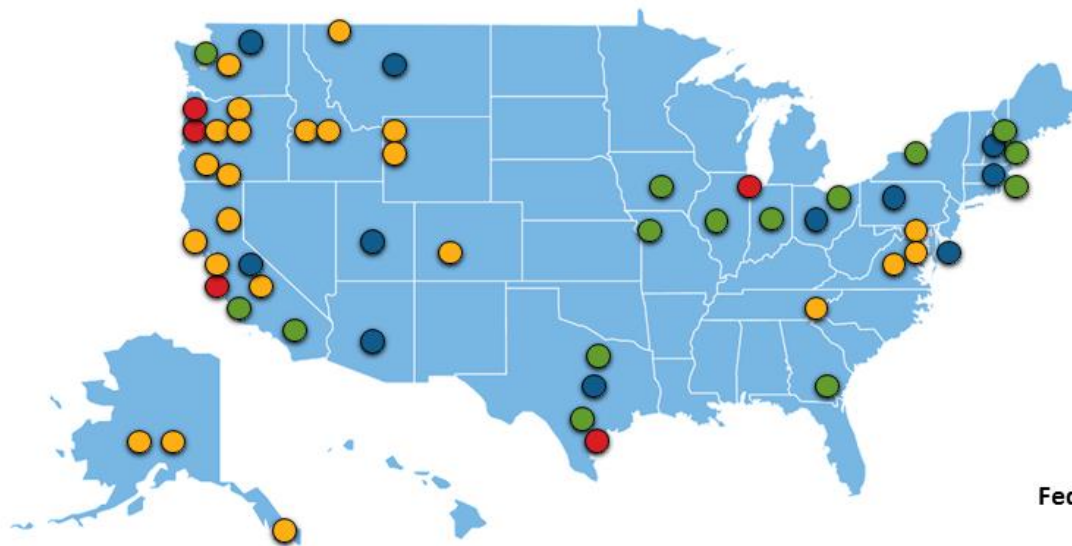
Operations & Maintenance

- Applicable to an agency's internal and system operations
- Criteria related to asset management and maintenance activities

Three modules for evaluating full lifecycle of transportation services.

Nationwide Implementation of INVEST

INVEST Implementation Sites



By the Numbers

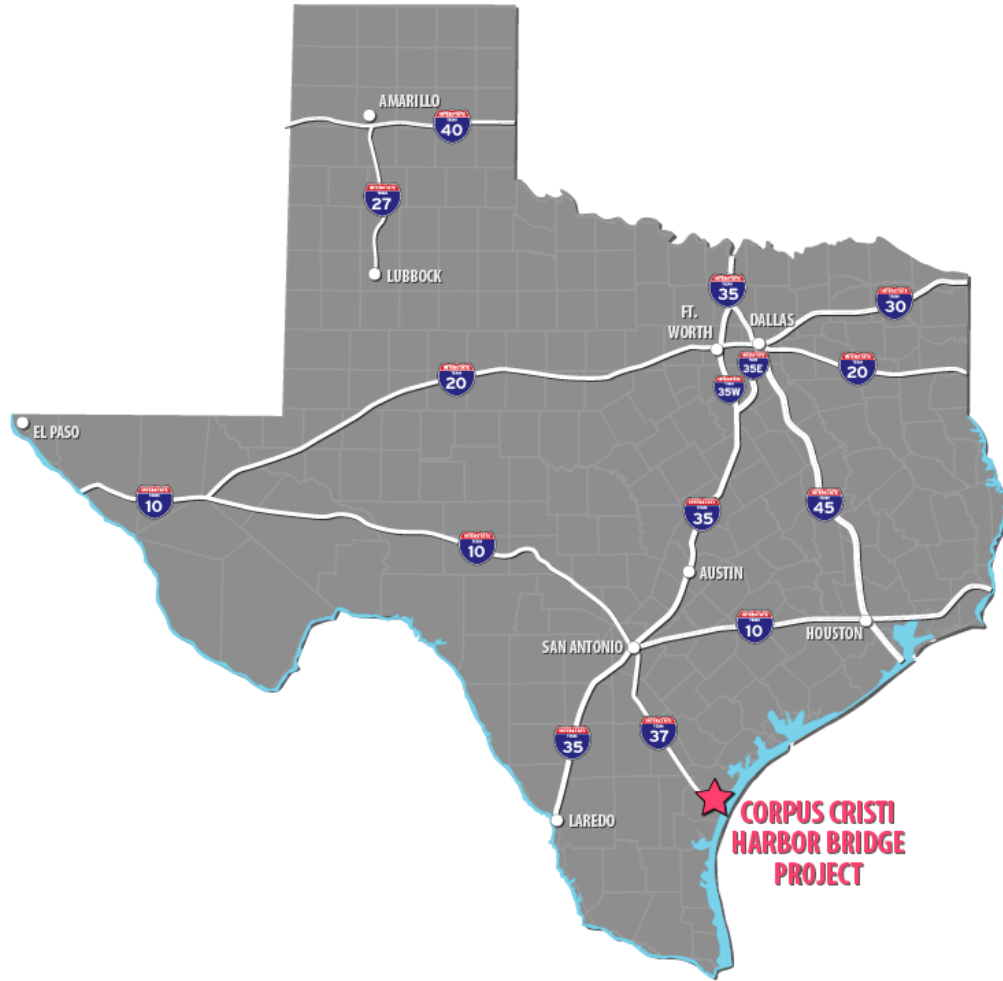
58 INVEST implementation projects
In 26 states and DC

By 31 agencies, including:

- 11 state DOTs
- 14 MPOs
- Federal Lands Highway Divisions (all 13 divisions)
- 5 other transportation agencies

- State DOT ●
- MPO ●
- Federal Lands Highway ●
- Other ●

Harbor Bridge Project Location



Harbor Bridge Project

Existing Harbor Bridge



Rendering of Future Harbor Bridge



INVEST and the Harbor Bridge Project Timeline

- July 2014 – Harbor Bridge Project developer teams attend INVEST Workshop in Corpus Christi, TX
- August 2014 – INVEST Project Development pre-scoring workshop
- August - October 2014 – RFP and Technical Provisions updated for consistency with INVEST criteria
- October 2014 – Final RFP issued
- April 2015 - Conditional award of Harbor Bridge to Flatiron/Dragados JV



INVEST Pre-scoring Workshop

Project Development Achievement Levels							
Achievement level	Fraction of Total Points Possible	Points Required					
		Paving	Basic Rural	Extended Rural	Basic Urban	Extended Urban	
	Platinum	60%	34	57	69	63	76
	Gold	50%	29	48	58	53	63
	Silver	40%	23	38	46	42	50
	Bronze	30%	17	29	35	32	38

Source: www.sustainablehighways.org

Harbor Bridge Project Examples from Pre-scoring Workshop

Invest Criteria	Points Available	Scoring Notes	Achievable Score
PD-02 Lifecycle Cost Analyses	1 to 3	Can get at least 1 point for Life Cycle Cost Analysis (LCCA) of bridges. An additional point for LCCA of stormwater is achievable.	2
PD-07 Habitat Restoration	1 to 3	Can get 1 point for efforts to minimize wetland impacts (adding cross-culverts as part of permit). An additional 2 points are achievable through implementation of a “restoration plan.”	3
PD-13 Freight Mobility	1 to 7	Can get 2 points for overpass clearance improvements for shipping. An additional 4 points are achievable by implementation of a no-idling policy and signage and provision of new dedicated truck delivery parking area.	4
PD-23 Reduced Energy Emissions in Pavement Materials	3	Can get 3 points. TxDOT uses warm mix asphalt	3

INVEST and Harbor Bridge Sustainability Plan Requirements for the Proposal

- Describe the proposer’s approach and commitment to sustainable design, construction, operational, and maintenance practices;
- Describe how a “Platinum” rating will be achieved for the INVEST Project Development module;
- Describe how a minimum of a “Silver” rating will be achieved for the INVEST Operations and Maintenance module; and
- Describe how the following sustainability categories will be addressed: Energy and Energy Efficiency; Community and Environmental Justice; Green Building; Waste Reduction and Recycling; Green Project Administration; Materials and Resources; Construction Practices; and Education and Demonstration of Energy Efficiency.

- Commitments incorporated into contract
- Monitor commitments included in sustainability plan during construction
 - Flatiron/Dragados JV committed to achieving “Platinum” INVEST rankings for Project Development and Operations & Maintenance
- Post development scoring of Harbor Bridge Project
 - Attainment of “Platinum” INVEST ranking for Project Development
 - Attain minimum of “Platinum” INVEST ranking for Operations & Maintenance

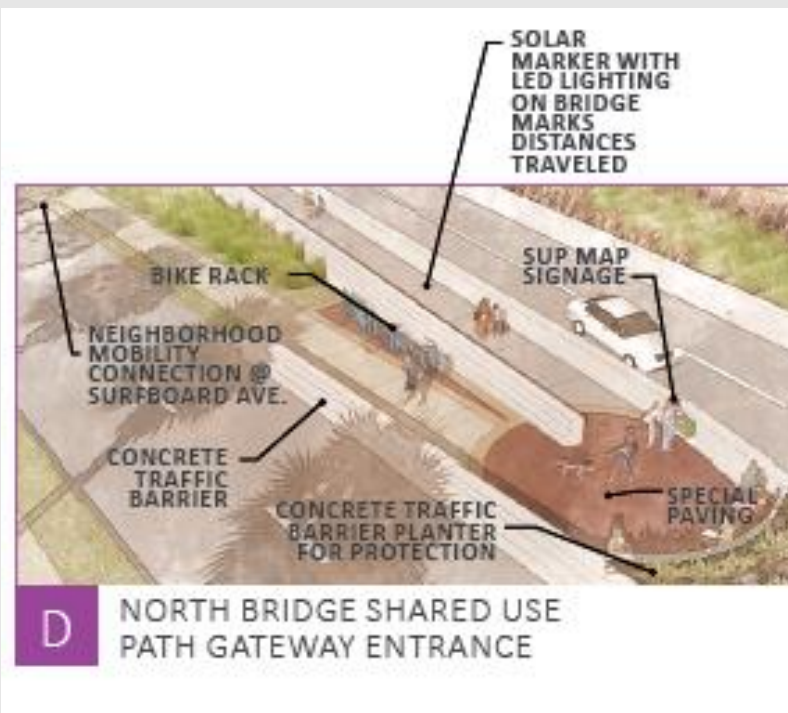
Sustainability Plan – Energy Efficiency Demonstration Projects

- All lighting fixtures LED
- Solar powered path lighting with solar brick pavers and solar markers on shared use path
- Energy-generating wind sculpture

ROADWAY LIGHTING

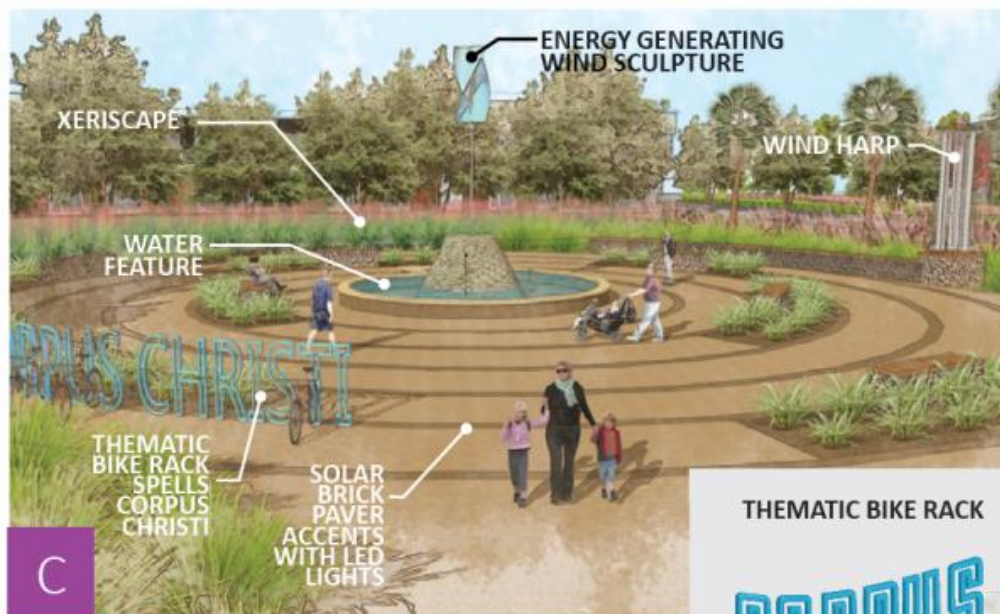


SOLAR FEATURES ON SHARED USE PATH



Sustainability Plan – Energy Efficiency Demonstration Projects

COMMUNITY PLAZA WITH ENERGY GENERATING WIND SCULPTURE



COMMUNITY PLAZA CONCEPT



Sustainability Plan – Additional elements

- Use of high strength, low permeability concrete mix
- Waste reduction and recycling
 - Benches at belvedere and landscaped areas made from recycled materials
 - Re-use of sign structures on new alignment
 - Re-use of concrete from interchange bridges as crushed stone in landscape
- Train construction personnel about project's sustainability initiatives
- Utilize temporary and permanent best management practices (BMPs)
- Minimize and mitigate impacts to minority and low-income communities
- Minimize air quality degradation during construction
- Use of native plants in landscaping

Harbor Bridge Project

- Main span cable-stayed bridge
- 1,655 feet long



Rendering of Future Harbor Bridge



Rendering of Future Harbor Bridge



Harbor Bridge Project

Rendering of Future Harbor Bridge

“Our Sustainability Plan is focused on establishing, implementing, and maintaining sustainability initiatives that will benefit the immediate and long-term interests of the Corpus Christi community.”
-Flatiron/Dragados JV



Questions?

Contact Information

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