

**Case Study:**

**George V. Voinovich Bridge/Cleveland Innerbelt Corridor**

**Cleveland, Ohio**

**Lead Agency:** Ohio Department of Transportation

**INVEST Module:** Project Development (PD)

**Link:** [www.Innerbelt.org](http://www.Innerbelt.org)

*This case study was updated in March 2017 to reflect information on the completed bridge. The first version of the case study was posted in April 2014.*

When building the largest bridge project in its history, the Ohio Department of Transportation (ODOT) turned to INVEST to make sure they made this massive project as sustainable as possible. ODOT replaced the Cleveland Innerbelt Bridge on I-90, now called the George V. Voinovich Bridge in two phases – the first was construction of the westbound bridge, completed in 2013; the second phase, design and construction of the eastbound bridge, began in 2014 and finished in 2017. ODOT used FHWA’s sustainability self-assessment tool, INVEST, to score the first phase to see if the project was meeting its goals. ODOT found the process so valuable that for the second phase of the project they included sustainability, as measured by INVEST, as one of the criteria for scoring contractor proposals for the design-build contract. This provided a strong incentive for bidders to incorporate sustainability while keeping costs competitive. In fact, the winning bidder committed to an “INVEST Platinum” level of sustainability with a bid \$19 million below the ODOT engineer’s estimate.



A view of the eastbound bridge when it was near completion in September 2016.

Throughout the project, ODOT and the contractor kept track of sustainability progress with INVEST as they made key decisions. The result - a more sustainable bridge. A few highlights, along with the INVEST criteria to which they relate, include:

- 100% of the old Innerbelt Bridge was either reused or recycled (PD-19 Reduce, Reuse and Repurpose Materials, PD-20 Recycle Materials, and PD-29 Construction Waste Management)
- “Green” bulkhead walls along the Cuyahoga River provide food, shelter and oxygen for fish (PD-7 Habitat Restoration)
- The East 9th Street extension offers heavy trucks a new route into the Flats, reducing traffic at the Carnegie/Ontario intersection (PD-13 Freight Mobility)
- LED lighting reduces energy use by 57% (PD-17 Energy Efficiency)

- The inclusion of Intelligent Transportation Systems (ITS) improves mobility and safety (PD-14 ITS for System Operations)
- The project included building a portion of the towpath trail on the west side of the river and an all-purpose trail on the east side, allowing for alternative modes of transportation around the city (PD-10 Pedestrian Facilities and PD-11 Bicycle Facilities).

### **Phase I: Using INVEST to see if the project was meeting its goals**

The high priority bridge replacement project involved a coast-to-coast interstate highway and affected a historic district and a high traffic sports complex. As such, ODOT saw achieving sustainability goals as critical, and targeted major savings in fuel, steel, water, and waste. ODOT used INVEST to validate sustainability achievements for Phase I of the project and found that the project was meeting and exceeding its goals. In fact, Phase I of the project:

- Saved more than 100,419 gallons of diesel fuel – enough to power a big-rig from Cleveland to Salt Lake City and back, 145 times.
- Recycled more than 5,658,078 pounds of steel, about the weight of 1,414 average-size sedans.
- Saved 22 million gallons of water, enough to power a shower around the clock for almost eight years.
- Prevented more than 125,143 cubic yards of waste from entering landfills – more than twice the concrete it took to build First Energy Stadium – home of the Cleveland Browns.

The Phase I project scored 59 points on the urban extended scorecard of the INVEST project development module, achieving the Gold level. It scored particularly well on *PD-03: Context Sensitive Project Development*, *PD-8: Stormwater*, and *PD-29 Construction Quality Control Plan*. For instance, the project received the maximum number of points under PD-08 Stormwater for each of the three categories (water quality, flow control, and low-impact development). These outcomes are particularly important as the project is located in a combined stormwater-sewer area, meaning that when rainfall exceeds the system's capacity sewage discharges directly into rivers and streams. The bridge project separated stormwater from combined sewers draining 20 acres, treating the separated runoff with extended detention basins and reducing pollution to the Cuyahoga River.

### **From Retrospective to Prospective INVEST Evaluation**

Using INVEST retrospectively, after construction of the Phase I project, showed that Phase I achieved a high level of sustainability – INVEST Gold. ODOT went further for Phase II and used INVEST prospectively. ODOT incorporated INVEST requirements into the contracting process and used INVEST rescoring to keep track of sustainability progress at decision points throughout project planning and construction. The approach paid off, with Phase II achieving INVEST Platinum.

### **Phase II: Incorporating INVEST into Contract Documents and Design-Build Process**

#### **Including INVEST Requirement in RFP Provided Strong Incentive for Bidders to Incorporate Sustainability while Keeping Costs Competitive**

ODOT issued a Request for Proposals (RFP) for the design-build contract for Phase II of the project, the east-bound bridge, in 2013. The RFP required the contractor to develop a sustainability plan and use INVEST to

demonstrate sustainability achievements. ODOT asked contractors to state in their proposals how many INVEST points they could deliver and commit to achieving a certain sustainability level.

Specifically, the RFP stated:

*“The sustainability plan shall identify the number of points that the Project will score as determined in a joint Developer/Department/FHWA INVEST workshop following the INVEST 1.0 Project Development Module and using the Urban Extended scorecard. The Proposer shall indicate the number of points that the Project will score as follows: points scored that are attributable to previous Department work, points scored by the Developer executing the Project Scope, and points that will be provided by the actions of the Developer.”*

In the Value Based Design Build Process ODOT used the technical score for each proposal, which was made up of a total of 100 possible points: sustainability (5 points), quality management (25 points), project management (20 points), design (20 points), construction phasing and approach (15 points), community relations (10 points), and disadvantaged business enterprise (DBE) and on-the-job training (5 points). The INVEST requirement was included in the sustainability score.

After the ODOT scoring teams scored each proposal on technical approach, ODOT opened the price proposals. ODOT then selected the winning contractor team using a best value formula with price contributing to 70 percent of the final score, schedule 10 percent, and technical score 20 percent.

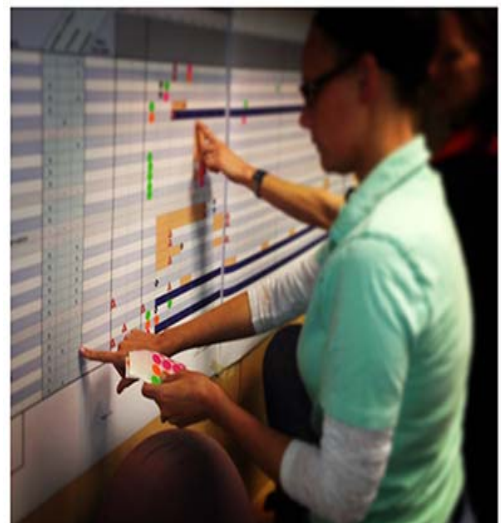
The winning contractor committed in their technical proposal to achieving a Platinum INVEST rating and bid \$273 million, \$19 million below the ODOT official engineering estimate of \$292 million. As such, the Value Based Design Build Process yielded a winning proposal with higher sustainability and lower cost than previously estimated.

As shown in Attachment 1, the winning contractor committed to achieving 95 INVEST points out of a total possible of 126. This is 47 points over the baseline required by the scope. 17 of those points were attributed to previous ODOT work while 30 points were ones that the contractor would bring through their actions. For example, the contractor proposed to follow a five minute idling policy and use construction equipment with engines meeting US EPA Tier 3 standards, scoring two points under *PD-26 Construction Equipment Emissions*. The contractor included a sustainability-focused sub-contractor in their proposal to conduct life cycle cost and benefit cost analyses, facilitate incorporation of sustainability practices, and track progress towards meeting sustainability goals. The winning contractor’s INVEST score was the highest of the three bidders.

### **INVEST Eco-Charrette Brings Sustainability Influence into Numerous Decisions**

After award of the project, the developer, ODOT, and FHWA held an eco-charrette to discuss how to implement sustainability practices in the Phase II project using the INVEST framework.

As ODOT engineer Matt Perlik explained, “The tone of the eco-charrette was a professional challenge. We defined the challenge



Members of the Ohio Department of Transportation and Trumbull-Great Lakes-Ruhlin contracting team participated in an eco-charrette to discuss how to implement sustainability practices in the Phase II project using the INVEST framework.

and let the engineers and contractors loose. The engineers and contractors involved seemed to respond well to defining sustainability for this project when they were graded on how well they did.” ODOT also made it clear at the eco-charrette that they would hold the contractor to their commitment to achieve an INVEST Platinum rating. At the eco-charrette, the developer and ODOT reviewed each of the INVEST Project Development criteria in break out groups as shown below based on subject matter expertise.

1 – Administrative Criteria	2 – Ecological Services Criteria	3 – Transportation & Site Access	4 – Civil & Bridge Materials	5 – Construction Management Criteria
<ul style="list-style-type: none"> <li>• PD1 Economic Analysis</li> <li>• PD2 Lifecycle Cost Analysis</li> <li>• PD3 Context Sensitive Project Development</li> <li>• PD4 Highway and Traffic Safety</li> <li>• PD5 Educational Outreach</li> <li>• PD6 Tracking Environmental Commitments</li> </ul>	<ul style="list-style-type: none"> <li>• PD7 Habitat Restoration</li> <li>• PD8 Stormwater</li> <li>• PD9 Ecological Connectivity</li> <li>• PD15 Historic, Arch, Cultural Preservation</li> <li>• PD16 Scenic, Natural, Rec. Qualities</li> <li>• PD17 Energy Efficiency</li> <li>• PD18 Site Vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• PD10 Pedestrian Access</li> <li>• PD11 Bicycle Access</li> <li>• PD12 Transit and HOV Access</li> <li>• PD13 Freight Mobility</li> <li>• PD14 ITS for System Operations</li> </ul>	<ul style="list-style-type: none"> <li>• PD19 Reduce and Reuse Materials</li> <li>• PD20 Recycle Materials</li> <li>• PD21 Earthwork Balance</li> <li>• PD22 Long-life Pavement Design</li> <li>• PD23 Reduced Energy and Emissions in Paving Materials</li> </ul>	<ul style="list-style-type: none"> <li>• PD24 Contractor Warranty</li> <li>• PD25 Construction Environmental Training</li> <li>• PD26 Construction Equipment Emissions</li> <li>• PD27 Construction Noise Mitigation</li> <li>• PD28 Construction Quality Control Plan</li> <li>• PD29 Construction Waste Management</li> </ul>

The groups looked at each scoring criterion and determined if obtaining the credit for the project was *Yes* (it is in the project), *Probable Yes* (it is likely and under consideration), *Probable No* (it is unlikely but still under consideration) and *No* (it has been evaluated and is not in the project or is not applicable). Responsible parties were identified to follow-up on action items after the workshop to help gather any necessary information to finalize that scoring criterion. As the project was design-build, there were many scoring items that were not be able to be fully scored until later in the project. By bringing together all the key people from the contractor and ODOT to walk through nationally vetted transportation sustainability criteria, the eco-charrette enabled the team to integrate sustainability into the numerous decisions to be made during the life of the project.

As ODOT district project manager Dave Lastovka explained, “The workshop enlightened all the decision-makers at ODOT and the contractor team who will be making thousands of decisions on the project over time. Now they will be making those decisions while tracking their progress using INVEST, yielding a more sustainable outcome. It’s not an after-thought.” Lastovka continued, “You can see people’s competitive nature come out. They wanted to get more points.”

Following the eco-charrette, the project stood at 67 *Yes* points, 22 *Probable Yes* points and 17 *Probable No* points, as shown in Attachment 2. This meant that for the team to achieve a Platinum score (76 points minimum), the team would need to move 9 of the *Probably Yes* points to *Yes* over the course of the project’s design and construction. For the team to achieve its original goal of earning 95 points, the team would need to move all 22 *Probable Yes* and 6 *Probable No* points to *Yes*.

As an example of how the eco-charrette impacted decision-making, while discussing the criterion *PD-20 Recycle Materials*, the contractor noted that the project would score one point for using 15 percent recycled asphalt pavement, but would not receive the four additional points available for using greater than 50 percent, because ODOT standard specifications currently only allow for a maximum of 15 percent recycled content. ODOT staff then responded that the specifications allow the contractor to go beyond 15 percent in consultation with the ODOT engineer. The group then assigned a member of the contractor team to explore with asphalt vendors what percentage of recycled content is available and then speak with ODOT about whether higher levels should be integrated into this project. As a result, the project incorporated a higher recycled content, averaging 20 percent, resulting in greater sustainability. This conversation would not likely have happened without the INVEST eco-charrette.

### **Schedule Overlay, Clear Responsibilities, and Progress Tracking Ensured Sustainability Considered at the Right Times**

As the project progressed, the team met every six months as project decisions were made to re-score the project with INVEST and track progress towards sustainability goals. The team used the INVEST website *Scoring Notes*, *Next Actions*, and *Upload Supporting Documents* functions as well as an activity report to track scoring, documentation, issues that must be resolved, and action items needed for the team to move forward in evaluating and resolving each criterion.

Some INVEST criteria require early consideration during design (such as INVEST criterion *PD-10 Pedestrian Access*). By contrast, others require on-going tracking for the duration of construction (such as INVEST criterion *PD-29 Construction Waste Management Plan*). To ensure that each criterion is addressed at the optimal time, the contractor team developed a sustainability schedule intended to overlay the project schedule. The schedule highlighted action items and key dates to ensure that the team made efficient use of time and that windows of opportunity to fulfill INVEST criteria were not missed. This is particularly key for a large project in which decisions are spread out over a long period of time. The INVEST program for the Phase II bridge project began in October 2013. Most major INVEST-related tasks required were completed by August 2014. Several items requiring on-going tracking continued beyond August 2014, concluding in 2017.

To ensure clear lines of responsibility, the project team assigned lead and support roles for each INVEST criterion to individuals in eleven task forces by issue area. The task forces (demolition, structure, viaduct, etc.) and the criteria for which they were responsible are indicated in the scorecard in Attachment 2. The sustainability sub-contractor led the sustainability task force and coordinated the INVEST effort.

### **Key Outcomes of Using INVEST**

- By including a requirement on INVEST in the RFP for the design-build contract, ODOT provided a strong incentive for bidders to incorporate sustainability practices in their proposal while keeping costs competitive.
- The collaborative workshop with the developer, ODOT, and FHWA using the INVEST framework enabled the key players to identify specific opportunities for sustainability improvements. With an early project eco-charrette, these key project decision-makers were able to consider sustainability while making numerous project decisions.



- The Phase 2 George V. Voinovich Bridge project had better economic, social, and environmental outcomes than would otherwise have occurred. A few highlights of Phase 2 sustainability achievements include:
  - *PD-3 Context Sensitive Project Development.* This criterion involves working with the public to make decisions regarding the project. The strategy was used in items such as the decorative crowd wall, part of the city’s new front door, and the creation of a new neighborhood park where the bridge touches down on along the west side.
  - *PD-19 Reduce and Reuse Materials.* The project reused 2,338 tons of rebar and 13,044 tons of concrete.
  - *PD-21 Earthwork Balance.* The contractor reduced the need for the transportation of earthen materials (soil). All earthwork material excavated on the job was used as fill in other areas within the job limits. No material was hauled away as “excess fill” or “waste” to an off-site location. Similarly, no offsite material was used as fill on the project.
  - *PD-29 Construction Waste Management.* Diverted more than 75% of construction waste. 100% of the old Innerbelt Bridge has been either reused or recycled. The steel has gone to a recycling facility. The concrete has been crushed for use on this or other projects. Some of the trees that had to be removed for the project were used in a signature art piece in a downtown hotel, while others found a new home in the new Cleveland Metropark Zoo tiger exhibit.
- These outcomes go above and beyond minimum requirements while maintaining affordability.



A sculpture in a downtown hotel made out of trees that had to be removed for the project.


		FHWA INVEST Certification Program TGR / CCG2 Score Card					
Criteria	Description	Detail	Max. Pts.	Prev. ODOT Points	Scope Execution Points	TGR Points	TGR Planned Effort
PD-01	Economic Analysis	Using the principles of benefit-cost analysis (BCA) or economic impact analysis (EIA), provide evidence that the user benefits, including environmental, economic, and social benefits, and justify the full life-cycle costs.	5	0	0	5	Sustainability Consultant to prepare a BCA or a EIA.
PD-02	Life Cycle Cost Analysis	Reduce life-cycle costs and resource consumption through the informed use of life-cycle cost analyses of key project features during the decision-making process for the project.	3	0	0	3	Complete a life-cycle cost analysis of pavement alternates, stormwater infrastructure, and bridges & retaining walls.
PD-03	Context Sensitive Project Development	Deliver projects that harmonize transportation requirements and community values through effective decision-making and thoughtful design.	5	1	2	1	Use the NCHRP Report 480 and 642 6 Step Framework. Continue the interaction of an inter-disciplinary team started by ODOT.
PD-04	Highway and Traffic Safety	Safeguard human health by incorporating science-based quantitative safety analysis processes within project development that will reduce serious injuries and fatalities within the project footprint.	10	3	3	2	Use NCHRP Report 600 to evaluate, document and incorporate interactions between road users and the roadway. Safety audits and awareness programs will be done.
PD-05	Educational Outreach	Increase public, agency, and stakeholder awareness of the integration of the principles of sustainability into roadway planning, design, and construction.	2	0	0	2	Include Sustainability as part of our public involvement; K-12 school presentations and professional presentation.
PD-06	Tracking Environmental Commitments	Ensure that environmental commitments made by the project are completed and documented in accordance with all applicable laws, regulations, and issued permits	5	2	2	1	Use a comprehensive environmental tracking system to assist communications from the planning stage through maintenance.
PD-07	Habitat Restoration	Avoid, minimize, and compensate the loss and alteration of natural (stream and terrestrial) habitat caused by project construction and/or restore, preserve, and protect natural habitat beyond regulatory requirements.	3	0	0	0	The amount of restoration or preservation for this project is unknown at this time.
PD-08	Stormwater	Improve stormwater quality from the impacts of the project and control flow to minimize their erosive effects on receiving water bodies and related water resources, using management methods and practices that reduce the impacts associated with development and redevelopment.	9	2	2	2	Treat run-off (80%); control flow (80%) and have effective BMPs.
PD-09	Ecological Connectivity	Avoid, minimize, or enhance wildlife, amphibian, and aquatic species passage access, and mobility, and reduce vehicle-wildlife collisions and related accidents.	3	0	1	1	Conduct a site specific ecological assessment (NEPA). Avoid impacts of the project on the local ecology.
PD-10	Pedestrian Access	Improve the safety and convenience of pedestrian networks for people of all ages and abilities by providing or enhancing facilities within the project footprint.	2	0	1	1	Improve existing features of safety, comfort, connectivity and aesthetics for pedestrians that access the project.
PD-11	Bicycle Access	Promote bicycling in communities by providing or enhancing safe and convenient bicycling facilities within the project footprint.	2	0	1	1	Constructing the Tow Path bike trail and improving safety, comfort, connectivity and aesthetics for bikers.
PD-12	Transit and HOV	Promote use of public transit and carpools in communities by providing new transit and high occupancy vehicle (HOV) facilities	5	0	0	0	No HOV lanes are planned for this project.
PD-13	Freight Mobility	Enhance mobility of freight movements, decrease fuel consumption and emissions impacts, and reduce freight-related noise.	7	2	2	2	Install signage indicating a no idling policy. AASHTO safety improvements. Physical accommodations for freight vehicles.
PD-14	ITS for Systems Operations	Improve the efficiency of transportation systems without adding infrastructure capacity in order to reduce emissions and energy use, and improve economic and social needs.	5	1	1	1	Emergency signal preemption; dynamic message signs/highway advisory radio; ITS infrastructure backbone; road weather management; streaming video; data archiving
PD-15	Historical, Archeological and Cultural Preservation	Preserve, protect, or enhance cultural and historic assets, and/or feature National Scenic Byways Program (NSBP) historic, archaeological, or cultural intrinsic qualities in a roadway.	3	0.5	1	1	TGR will install historic sandstone material from the original viaduct on the west slope
PD-16	Scenic, Natural or Recreational	Preserve, protect, and/or enhance routes designated with significant scenic, natural, and/or recreational qualities in order to enhance the public enjoyment of facilities.	3	0.5	1	1.5	The amount of scenic, natural or recreational qualities available for this project are limited, Tremont ATC will enhance public enjoyment.
PD-17	Energy Efficiency	Reduce energy consumption of lighting systems through the installation of efficient fixtures and the creation and use of renewable energy.	8	2	2	2	Reduce power consumption through lighting. Establish a base line for comparison. Prepare for ODOT to audit energy use after construction.
PD-18	Site Vegetation	Promote sustainable site vegetation within the project footprint that does not require long-term irrigation, consistent mowing, or invasive/noxious weed species removal.	3	0	1	2	Non mechanical maintenance; no long term irrigation; use native plant species; management plan for maintenance.
PD-19	Reduce and Reuse	Reduce lifecycle impacts from extraction and production of virgin materials by recycling materials.	8	1	2	3	Use one or more of the following: coal ash, fly ash, foundry sand, slag, and construction and demolition materials.
PD-20	Recycle Materials	Reduce lifecycle impacts from extraction, production, and transportation of virgin materials by recycling materials.	8	1	2	3	10% recycled materials in pavement
PD-21	Earthwork Balance	Reduce the need for transport of earthen materials by balancing cut and fill quantities.	3	0	0	3	balance 10% of earthwork quantities, Tremont ATC
PD-22	Long Life Pavement Design	Minimize life-cycle costs by designing long-lasting pavement structures.	5	1	3	0	40+ year life for 75% of pavement structures. AASHTO standards.
PD-23	Reduce energy and emissions in Pavement materials	Reduce energy use in the production of pavement materials.	3	0	0	0	The ability to reduce the energy and emissions in pavement materials for this project is unknown at this time.
PD-24	Contractor Warranty	Improve quality and minimize life-cycle costs by promoting the use of extended contractor warranties for pavement.	3	0	0	0	5 year contractor warranty
PD-25	Construction Environmental Training	Provide construction personnel with the knowledge to identify environmental issues and best practice methods to minimize impacts to the human and natural environment.	1	0	0	1	Developed for work force environmental training using video & written materials.
PD-26	Construction Equipment Emissions	Reduce air emissions from non-road construction equipment.	2	0	0	2	5 minute idling policy and use of Tier 3 engines
PD-27	Construction Noise Mitigation	Reduce or eliminate annoyance or disturbance to surrounding neighborhoods and environments from road construction noise, and improve human health.	2	0	0	2	Develop Noise Mitigation Plan during construction and monitor for compliance, Tremont ATC.
PD-28	Construction Quality Control	Improve quality by requiring the contractor to have a formal Quality Control Plan (QCP).	5	0	2.5	2.5	Develop & Execute Construction Quality Control Plan.
PD-29	Construction Waste Management	Utilize a management plan for road construction waste materials to minimize the amount of construction-related waste destined for landfill.	3	0	1	2	Develop Construction Waste Management Plan and divert at least 50% of waste from landfills.
			126	17	30.5	47	
			94.5	*** PLATINUM ***		Overall combined INVEST Score	

Figure 3-4. INVEST Program Certificate.

# INVEST Scorecard

George V. Voinovich Bridge CCG2

## Total Project Score

Yes	?Y	?N	No			Points Possible	Demolition	Structure	Viaduct	Quality	Administration	Safety	DBE	Civil / Utilities	Mgmt. Of Traffic	Sustainability	Public Info.
67	22	17	20		<b>Project Development Criteria</b>												
2	3			PD 1	Economic Analysis	5		X	X	X	X			X		X	
1	2			PD 2	Lifecycle Cost Analysis	3		X	X	X	X			X		X	
5				PD 3	Context Sensitive Project Development	5					X				X	X	
5	5			PD 4	Highway and Traffic Safety	10			X		X	X		X	X		X
2				PD 5	Educational Outreach	2					X				X	X	
5				PD 6	Tracking Environmental Commitments	5				X	X				X	X	
3				PD 7	Habitat Restoration	3					X				X		
3	3		3	PD 8	Stormwater	9					X			X			
3				PD 9	Ecological Connectivity	3			X		X			X		X	X
2				PD 10	Pedestrian Access	2			X		X			X	X		X
2				PD 11	Bicycle Access	2			X		X			X	X		X
		1	4	PD 12	Transit and HOV Access	5			X		X						
4	1		2	PD 13	Freight Mobility	7		X	X		X				X		X
1	2	2		PD 14	ITS for System Operations	5					X	X		X	X		X
3				PD 15	Historical, Archaeological, and Cultural Preservation	3	X				X						X
3				PD 16	Scenic, Natural, or Recreational Qualities	3	X	X	X				X	X		X	X
		6	2	PD 17	Energy Efficiency	8								X			
2	1			PD 18	Site Vegetation	3			X		X			X		X	
4	4			PD 19	Reduce and Reuse Materials	8	X	X			X		X	X		X	
2	1		5	PD 20	Recycle Materials	8	X	X	X		X			X		X	
3				PD 21	Earthwork Balance	3	X	X	X		X			X			
		5		PD 22	Longlife Pavement Design	5			X	X						X	
		3		PD 23	Reduced Energy and Emissions in Paving Materials	3	X	X	X	X	X	X	X	X	X	X	X
			3	PD 24	Contractor Warranty	3											
1				PD 25	Construction Environmental Training	1					X	X				X	X
2				PD 26	Construction Equipment Emission Reduction	2	X	X	X		X					X	X
1			1	PD 27	Construction Noise Mitigation	2	X	X	X		X				X	X	
5				PD 28	Construction Quality Control Plan	5				X	X						X
3				PD 29	Construction Waste Management	3	X	X	X				X	X			

X Lead Role  
X Support Role

Attachment 2: Invest Scorecard. Following the eco-charrette, the project stood at 67 Yes points, 22 Probable Yes points, and 17 Probable No points. To achieve a Platinum score, the team will need to move 9 of the Probably Yes points to Yes over the course of the project's design and construction. The project team assigned INVEST criteria to task forces by issue area (demolition, structure, viaduct, etc.).