INVEST
ECONOMIC • SOCIAL • ENVIRONMENTAL

StateRoute 30 Ultimate - Jan 30, 2019

Module: Project Development
Points: 57
Achievement Level: Silver

All Scorecards

Criteria | Points

PD-01 Economic Analyses — 0/5

Using the principles of benefit-cost analysis (BCA) or economic impact analysis (EIA), provide evidence that the benefits, including environmental, economic, and social benefits, justify the full life-cycle costs.

PD-01.1a Was a benefit-cost analysis (BCA) for the project completed using minimum acceptable industry practices?
No (0 points)

PD-01.1b Was an Economic Impact Analysis (EIA) completed that meets all the listed requirements?
No (0 points)

Scoring Notes
The planning and design for the SR 30 project was started in 2005 long before ADOT EP started the Sustainable Transportation Program using INVEST as a scoring tool.

Next Actions
Determine if a BCA and/or an EIA are required to meet ADOT Sustainability requirements for the SR 30 project.

PD-02 Lifecycle Cost Analyses — 0/3

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.

PD-02.1a Was an LCCA performed for all pavement structure alternatives in accordance with the method described in the FHWA's Technical Bulletin for Life-Cycle Cost Analysis?
No (0 points)

PD-02.1b Was an LCCA performed for all stormwater infrastructure alternatives considered?
No (0 points)

PD-02.1c Was an LCCA performed for the project's major feature (bridges, tunnels, retaining walls, or other items not listed in the preceding options) for each of the alternatives considered?
No (0 points)

Scoring Notes
None

Next Actions
Determine if the LCCAs noted in this module are required to meet ADOT Sustainability requirements for the SR 30 project.

PD-03 Context Sensitive Project Development — 7/10

Deliver projects that harmonize transportation requirements and community values through effective decision-making and

thoughtful design.

PD-03.1 Did the project development process generally follow the six-step CSS framework described in NCHRP report 480 and NCHRP report 642, or an equivalent process?
Yes (2 points)

PD-03.2 Did the project development process feature a "cradle-to-grave" project team that included planners, traffic engineers, public involvement specialists, design engineers, environmental experts, safety specialists, landscape architects, right-of-way staff, freight experts, construction engineers, and others to work on projects who worked together to achieve the desired CSS-based vision for the project?
Yes (1 point)

PD-03.3 As a result of CSS-influenced project development process, were external "champions" for the project created in the affected community who were engaged and proactive in supporting it?
No (0 points)

PD-03.4 Was acceptance achieved among project stakeholders on the problems, opportunities, and needs that the project should address and the resulting vision or goals for addressing them?
Yes (1 point)

PD-03.5 Do project features consider the appropriate scale of the project?
Yes (1 point)

PD-03.6 Did the project remove objectionable or distracting views?
No (0 points)

PD-03.7 Did the project integrate context sensitive aesthetic treatments?
Yes (1 point)

PD-03.8 Were aethetics for structural items incorporated into the design of the project?
Yes (1 point)

Scoring Notes
CSS principles were incorporated into the design around the constraints that were identified to the extent possible. ADOT typically landscapes and adds art to structures on every freeway project, so credit is taken for that normal course of project development.

Next Actions
None

PD-04 **Highway and Traffic Safety** 0/10

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.

PD-04.1 Were human factors considerations incorporated?
The project relied solely on published design and operational performance standards during the project development process. (0 points)

PD-04.2 Was awareness built among the public regarding contributing factors to crashes?
No (0 points)

PD-04.3 Does the agency conduct explicit consideration of safety using quantitative, scientifically proven methods?
No (0 points)

PD-04.4 Was a statistically reliable, science-based method used to evaluate the safety effectiveness of the implemented project?
No (0 points)

Scoring Notes
No statistically reliable, science-based method was used during this study to evaluate any element of the project. However, ADOT's design guidelines were applied and they inherently account for many safety factors. When these design guidelines are coupled with

experienced engineering judgement and appropriate application, this creates a safe facility. It should be noted that this is not a final design. It is a scoping level study and associated documentation meant to define a corridor for a new limited access freeway type facility, which are inherently safer that local surface streets to move vehicles.

Next Actions
Determine if a quantified safety analysis will be required for any future phase of this project.

PD-05 **Educational Outreach** 2/2

Increase public, agency, and stakeholder awareness of the integration of the principles of sustainability into roadway planning, design, and construction.

PD-05.1 Did this project incorporate public educational outreach that promotes and educates the public about sustainability by installing or performing a minimum of two different elements from Table PD-05.1.A?
Yes (2 points)

Scoring Notes
At least two of the criteria in Table PD-05.1.A were applied to this project, including the project website, and the development and evaluation of the alternatives to minimize impacts and harmonize with the community's vision.

Next Actions
None

PD-06 **Tracking Environmental Commitments** 0/5

Ensure that environmental commitments made by the project are completed and documented in accordance with all applicable laws, regulations, and issued permits.

PD-06.1a Was a comprehensive environmental compliance tracking system used for the project and related facilities?
No (0 points)

PD-06.2 Has the principal project constructor assigned an independent environmental compliance monitor who will provide quality assurance services and report directly to and make recommendations to the regulatory and Lead Agencies?
No (0 points)

Scoring Notes
ADOT does not have a formal comprehensive Environmental Compliance Tracking System (ECTS). It uses multiple systems to comply with State and federal requirements each year. ADOT is moving toward identifying all environmental commitments on a single list, as OM-06 alludes to in the ADOT O&M Invest Module (April 2016), but this has not yet been fully established.

Next Actions
Overall, ADOT recognizes the need to comprehensively define what it needs to track for environmental purposes and integrate this tracking into its existing processes. Need to keep current on ADOT's progress on developing an ETCS.

PD-07 **Habitat Restoration** 5/7

Avoid, minimize, rectify, reduce, 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.

PD-07.1 Was project-specific mitigation or mitigation banking used on this project? Use Table PD-07.1.A to determine the points earned.
2 Points (2 points)

PD-07.2 Were high quality aquatic resources (HQAR) avoided or were the impacts minimized on this project? Use Table PD-07.2.A to determine the points earned.
1 Point (1 point)

PD-07.3 Were high quality environmental resources avoided or were the impacts minimized on this project? Use Table PD-07.3.A to determine the points earned.

2 Points (2 points)

Scoring Notes
The Salt, Gila, and Agua Fria Rivers are located within the SR 30 Study Area but only have intermittent annual flow. Much of the natural riparian habitat has been disturbed by other uses such as quarry operations. The Tres Rios Flow Regulated Wetlands Complex is a HQAR located between 99th and 91st Avenues and adjacent to the COP 91st Avenue WWTP. The SR 30 RBA was aligned to avoid impacts to this complex and is located within 100' of its boundary, which is worth a total of 4 points. Additionally, the RBA includes a drainage facility to drain away storm water from the complex on its western boundary.

Next Actions
Verify this module was scored accurately with ADOT.

PD-08 **Stormwater Quality and Flow Control** 3/6

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.

PD-08.1 Did the project treat at least 80% of the total runoff volume? Use Tables PD-08.1.A and PD-08.1.B to determine points.
No (0 points)

PD-08.2 Did the project manage the flow from at least 80 percent of the total runoff volume, and is flow control based on controlling peak flows or durations from the project site? Use Tables PD-08.2.A and PD-08.1.B to determine points.
3 Points (3 points)

Scoring Notes
Given the location of SR 30 in relation to the Salt, Gila, and Agua Fria Rivers and other resources that include the Tres Rios wetlands and levee in the SR 30 Study Area, drainage was an important consideration in the development of the storm water management system. The flow control was based on a peak flow basis using a worst-case scenario of a 100-year flood, although the ADOT standard is a 50-year event. For water quality, the on-site storm water collection system was developed based on ADOT Best Management Practices. Runoff collected in the catch basins would be conveyed in storm drains. First flush volumes are treated for both sedimentation and petroleum products with the basins, but the volume of water treated does not exceed 80% of the total runoff volume, so no credit is applicable. With regards to managing the runoff volume, this project is managing 100% of the flows from the project site, and in addition, is collecting and managing the off-site flows that cross the corridor. This provides flood control protection for all property from the project corridor south to the Salt and Gila Rivers. This constitutes far great managed flow protection than 124%, thus the 3 point score.

Next Actions
Unless ADOT's Best Practices for water quality changes, no additional actions are anticipated.

PD-09 **Ecological Connectivity** 3/4

Avoid, minimize, or enhance wildlife, amphibian, and aquatic species passage access, and mobility, and reduce vehicle-wildlife collisions and related accidents.

PD-09.1P Was a site-specific ecological assessment of the roadway project using GIS data or regional expertise conducted?
Yes (0 points)

PD-09.1 Were methods used to minimize impacts to ecological connectivity? Use Table PD-09.1.A to determine points.
2 (2 points)

PD-09.2 Did the project team engage natural resource and regulatory agencies throughout the planning process and ensure consistency with broader planning goals and objectives?
Yes (1 point)

Scoring Notes

The Recommended Build Alternative was selected over the Southern Alternative which would have been located in close proximity to the Salt River. Also ADOT is in the process of preparing a BE to both minimize and avoid biological impacts from the SR 30 project. Wildlife connectivity was evaluated in the BE and Draft EA. The USFWS and ADEQ have been involved throughout the SR 30 planning and environmental process.

Next Actions
Include the BE when it is finalized and approved.

PD-10 **Pedestrian Facilities** 0/3

Provide safe, comfortable, convenient, and connected pedestrian facilities for people of all ages and abilities within the project footprint.

PD-10.1P Were all facilities upgraded to meet ADA standards and do responses below exclude any projects to upgrade facilities to ADA standards?
No (0 points)

Scoring Notes
Bicycle and pedestrian facilities in the corridor generally fall into two categories—those that fall on the arterial roadways and those that have dedicated trails or paths. The intent of the SR 30 corridor is to perpetuate and/or accommodate existing and planned bicycle and pedestrian facilities that cross the corridor based the cities' general plans and roadway classification maps. These facilities would not be installed as part of the SR 30 project itself, however.

Next Actions
Verify with ADOT.

PD-11 **Bicycle Facilities** 0/3

Provide safe, comfortable, convenient, and connected bicycling facilities within the project footprint.

PD-11.1 Were missing bicycle connections installed per master plan or other relevant documents?
No (0 points)

PD-11.2 Were bicycle features installed that are safe, comfortable, convenient and connected?
No (0 points)

Scoring Notes
Bicycle and pedestrian facilities in the corridor generally fall into two categories—those that fall on the arterial roadways and those that have dedicated trails or paths. The intent of the SR 30 corridor is to perpetuate and/or accommodate existing and planned bicycle and pedestrian facilities that cross the corridor based the cities' general plans and roadway classification maps. These facilities would not be installed as part of the SR 30 project itself, however.

Next Actions
Verify with ADOT.

PD-12 **Transit and HOV Facilities** 2/5

Promote the use of public transit and carpools in communities by dedicating existing facilities to those uses, upgrading existing lanes, or providing new transit and high occupancy vehicle (HOV) facilities.

PD-12.1 Were Transit and HOV facilities installed on this project that are consistent with the need, purpose, and appropriateness for transit and HOV access within the project footprint? Use Table PD-12.1.A to determine points.
2 Points (2 points)

Scoring Notes
The third phase of the SR 30 project, which is not yet programmed, implementation would widen the 3+0 section constructed in the second phase to a 4+1 section (four general purpose lanes and one HOV lane in each direction) in the median of SR 30 when travel demand warrants it, and when funding is available. The fourth and final phase would involve a high capacity transit corridor, the space for which is being preserved inside the SR 30 ROW footprint for some future date.

Next Actions
Continue to monitor the status of phases 3 and 4 of the SR 30 project.

PD-13 **Freight Mobility** 3/7

Enhance mobility of freight movements, decrease fuel consumption and emissions impacts, and reduce freight-related noise.

PD-13.1 Were freight facilities installed on this project consistent with the need, purpose, and appropriateness for freight mobility within the project footprint? Use Table PD-13.1.A to determine points.
3 Points (3 points)

Scoring Notes
SR 30 satisfies PD-13.1g as this is a new limited access freeway with grade separated crossings and interchanges with arterials and a dry river crossing of the Agua Fria River. This new facility will reduce the truck traffic on the local arterial system and would provide an alternate route to I-10, which currently accommodates a high percentage of trucks with a poor level of service during peak times.

Next Actions
None.

PD-14 **ITS for System Operations** 3/5

Improve the efficiency of transportation systems through deployment of technology and without adding infrastructure capacity in order to reduce emissions and energy use, and improve economic and social needs.

PD-14.1 Were one or more allowable ITS applications installed? Use Table PD-14.1.A to determine points.
At least 1 application in 3 separate categories (3 points)

Scoring Notes
This score is based on the ITS application typically used on the Phoenix freeway system that is constructed, operated, and maintained by ADOT. Specifically, items PD-14.1d, g, and i.

Next Actions
Verify all ITS applications for the SR 30 project.

PD-15 **Historic, Archaeological, and Cultural Preservation** 2/3

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.

PD-15.1P Is any part of the project or resource listed in the NRHP or been determined eligible for the NHRP by a State, Local, or Tribal Historic Preservation Officer?
Yes (0 points)

PD-15.1 Has an effort been made to minimize impacts, avoid impacts, or enhance features?
PD-15.1b Measures have been taken to specifically avoid impacts to the features from PD-15.1P. (2 points)

Scoring Notes
The last 4 build alternatives evaluated prior to the selection of the Recommended Build Alternative - North, Center, Hybrid, and South - each affected approximately the same number of archeological or historic features, so the effort was primarily to minimize impacts.

Next Actions
N/A

PD-16 **Scenic, Natural, or Recreational Qualities** 0/3

Preserve, protect, and/or enhance routes designated with significant scenic, natural, and/or recreational qualities in order to enhance the public enjoyment of facilities.

PD-16.1P Is any portion of the project along one of America's Byways®, a State Scenic Byway, an Indian Tribe Scenic

Byway, or other route that was designated or officially recognized as such?
No (0 points)

Scoring Notes
None are located within or near the SR 30 Study Area.

Next Actions
N/A

PD-17 **Energy Efficiency** 3/8

Reduce energy consumption of lighting systems through the installation of efficient fixtures and the creation and use of renewable energy.

PD-17.1 Were energy needs evaluated for the project?
No (0 points)

PD-17.2 Was the energy consumption on the project reduced through the installation of energy efficient lighting and signal fixtures and through the installation of autonomous, on-site, renewable power sources?
Yes (0 points)

> **PD-17.2 Points are awarded based on the percentage of reduced power use. Based on Table PD-17.2.A, how many points did the project earn?**
> 2 Points (2 points)

PD-17.3 Was a plan established for auditing energy use after project completion as part of operations and maintenance?
Yes (1 point)

Scoring Notes
Score based ADOT Sustainable O&M INVEST Report, April 2016 and specifically OM-02: Electrical Energy Efficiency and Use, regarding energy reduction plan development,goals, and progress monitoring for transportation facility operations and maintenance.

Next Actions
Verify with ADOT.

PD-18 **Site Vegetation, Maintenance and Irrigation** 6/6

Promote sustainable site vegetation within the project footprint by selecting plants and maintenance methods that benefit the ecosystem.

PD-18.1P Does all site vegetation use non-invasive species only, use non-noxious species only, use seeding that does not require consistent mowing for a viable stand of grass, and minimize disturbance of native species?
Yes (0 points)

> **PD-18.1 Based on Table PD-18.1.A, how many points did the project earn? Points for features are additive, however this criterion shall not exceed a total of 3 points.**
> 3 Points (3 points)

> **PD-18.2 Based on Table PD-18.2.A, how many points did the project earn for vegetative maintenance? Points for features are cumulative, however this scoring requirement shall not exceed a total of 3 points.**
> 3 Points (3 points)

Scoring Notes
This criterion is a major success area for ADOT for many years and is continuing to implement new, more robust actions going forward

Next Actions
Verify with ADOT.

PD-19 **Reduce, Reuse and Repurpose Materials** 0/12

Reduce lifecycle impacts from extraction and production of virgin materials by recycling materials.

PD-19 Points for different methods are cumulative; however, this criterion shall not exceed a total of twelve points. Points exceeding twelve will not contribute to overall score.
I understand. (0 points)

PD-19.1 Was remaining service life increased through pavement preservation activities? Points are awarded per Table PD-19.1.A.
No (0 points)

PD-19.2 Was the amount of new pavement materials needed reduced? Points are awarded per Table PD-19.2.A.
No (0 points)

PD-19.3 Was remaining service life increased through bridge preservation activities? Points are awarded per Table PD-19.3.A.
No (0 points)

PD-19.4 Was remaining service life increased through retrofitting existing bridge structures? Points are awarded per Table PD-19.3.A.
No (0 points)

PD-19.5 Were existing pavements, structures, or structural elements reused for a new use? Points are awarded per Table PD-19.5.A.
No (0 points)

PD-19.6a Were foundry sand or other industrial by-products used in pipe bedding and backfill?
No (0 points)

PD-19.7 Was a project-specific plan for the recycling and reuse plan developed as described?
No (0 points)

Scoring Notes
The ADOT Pavement Management System (OM-7) and Reuse & Recycle (OM-4) criteria for the ADOT O&M Report seem geared to managing existing pavement through the ADOT O&M program and recycling materials from ADOT maintenance shops, as opposed to project-specific actions. Also, SR 30 would be constructed on new ROW, where no existing pavement, structures, bridges, etc. exist. It was noted in the ADOT Sustainable Transportation Program Case Study Using INVEST, where over 50 projects were INVEST-scored, for PD-19: Reduce & Reuse Materials and PD-20: Recycle Materials that improved waste management and materials recycling guidance would be incorporated into ADOT Standard Specs for Road & Bridge Construction. The specs on the ADOT website, however, are dated 2008.

Next Actions
Verify with ADOT.

PD-20 **Recycle Materials** 1/10

Reduce lifecycle impacts from extraction, production, and transportation of virgin materials by recycling materials.

PD-20 Points for different methods are cumulative; however, this criterion shall not exceed a total of ten points. Points exceeding ten will not contribute to overall score.
I understand. (0 points)

PD-20.1 Was RAP or RCA used in new pavement lifts, granular base course, or embankments? Points are awarded per Tables PD-20.1.A or PD-20.1.B.
1 (1 point)

PD-20.2 Were pavement materials recycled in place using cold-in-place recycling, hot-in-place recycling, and full depth reclamation methods? Points are awarded per Table PD-20.2.A.

No (0 points)

PD-20.3 Did the project reuse subbase granular material as subgrade embankment or as part of the new subbase? Points are awarded per Table PD-20.3.A.
No (0 points)

PD-20.4 Did the project relocate and reuse at least 90 percent of the minor structural elements, including existing luminaires, signal poles, and sign structures that are required to be removed and/or relocated onsite?
No (0 points)

PD-20.5 Did the project salvage or relocate existing buildings?
No (0 points)

Next Actions
Verify with ADOT.

Scoring Notes
The top 1-inch of surfacing will be a asphalt-rubber wearing surface that uses off-site recycled bit rubber for PD-20.1. The SR 30 project would be constructed on new ROW, where no existing pavement, bridges, etc. exist, other than the existing local street network. It was noted in the ADOT Sustainable Transportation Program Case Study Using INVEST, where over 50 projects were INVEST-scored, for PD-19: Reduce & Reuse Materials and PD-20: Recycle Materials that improved waste management and materials recycling guidance would be incorporated into ADOT Standard Specs for Road & Bridge Construction. The specs on the ADOT website, however, are dated 2008.

PD-21 **Earthwork Balance** 1/5

Reduce the need for transport of earthen materials by balancing cut and fill quantities.

PD-21.1a Are the design cut and fill volumes or the actual construction cut and fill volumes balanced to within 10%?
No (0 points)

> **PD-21.1b Are the design cut and fill volumes or the actual construction cut and fill volumes balanced to within 10% if construction banking is used?**
> No (0 points)

PD-21.2 Has an earthwork management plan been established, implemented and actively managed on this project?
No (0 points)

PD-21.3 Has topsoil been preserved or reused on this projet?
Yes (1 point)

Scoring Notes
Due to shallow groundwater, this project requires about 90% of the material to be imported borrow so no credits for balance can be taken. The project is planned is a heavily agricultural area so existing topsoil will be stripped and reused as applicable on the new slopes.

Next Actions
None

PD-22 **Long-Life Pavement** 7/7

Minimize life-cycle costs by designing long-lasting pavement structures.

PD-22 Points for different methods are cumulative; however, this criterion shall not exceed a total of seven points. Points exceeding seven will not contribute to overall score.
I understand. (0 points)

PD-22.1 Which of the following describes how long-life pavement was used on this project?
Long-life pavement was used for at least 75 percent of the surface area of regularly trafficked lanes. (5 points)

PD-22.2 Was the asphalt density of 100 percent of the total new or reconstructed pavement increased to a minimum of 94

percent?
No (0 points)

PD-22.3 Was a performance-based pay incentive for pavement smoothness used on this project?
Yes (2 points)

Scoring Notes
The Design Elements section of the DCR states that the entire ultimate SR 30 roadway typical section would be paved with long-lasting PCCP and overlaid with a rubber asphalt friction course. The friction course may have to be replaced every 10-15 years, but the PCCP materials traditionally last at least 40 years in the Phoenix area. ADOT standard specifications includes a pay incentive for pavement smoothness for both PCCP and the friction course.

Next Actions
Record future actions here. For example, "Coordinate with HQ and ensure specifications meet requirements."

PD-23 **Reduced Energy and Emissions in Pavement Materials** 0/3

Reduce energy use in the production of pavement materials.

PD-23 Points for different methods are cumulative; however, this criterion shall not exceed a total of three points. Points exceeding three will not contribute to overall score.
I understand. (0 points)

PD-23.1 Was at least 50 percent of the total project pavement material (by weight) a low-energy material from asphalt production?
No (0 points)

PD-23.2 Was at least 50 percent of the total project pavement material (by weight) a low-energy material from cement production?
No, or it did not meet the minimum requirements in the options above. (0 points)

PD-23.3 Was at least 50 percent of the total project pavement material (by weight) a low-energy material from concrete production?
No, or it did not meet the minimum requirements in the options above. (0 points)

Scoring Notes
Since project has not been built yet, it is not possible to know exactly which materials plants were used and what mix designs were approved. No credit can be taken at this time, but may be able to add as construction occurs.

Next Actions
Update as applicable once construction is complete and materials and material production is know.

PD-24 **Permeable Pavement** 0/2

Improve flow control and quality of stormwater runoff through use of permeable pavement technologies.

PD-24.1and2P Does the project include a maintenance plan for permeable pavements and are permeable pavements placed in areas where no sand will be used for snow and ice control or pavement sealing?
No (0 points)

Scoring Notes
ADOT does not use permeable pavements for their roadways at this time.

Next Actions
None.

PD-25 **Construction Environmental Training** 1/1

Provide construction personnel with the knowledge to identify environmental issues and best practice methods to minimize

impacts to the human and natural environment.

PD-25.1 Did the owner require the Contractor to plan and implement a formal environmental awareness training program during construction to ensure the project stay in compliance with environmental laws, regulations, and policies?
Yes (1 point)

Scoring Notes
It is assumed that ADOT provides this training to construction personnel and contractors based on the ADOT Sustainability Implementation Report Using INVEST, April 2014. The scoring summary for criterion PD-25: Construction Environmental Training stated that a training program was under development at the time the final report was prepared.

Next Actions
Verify with ADOT.

PD-26 **Construction Equipment Emission Reduction** 0/2

Reduce air emissions from non-road construction equipment.

PD-26.1 Were one or more methods implemented to reduce non-road emissions? Points are awarded per Table PD-26.1.A.
No (0 points)

Scoring Notes
The ADOT Sustainability Implementation Report Using INVEST, April 2014, stated discussions would be had with ADOT executive management as a means to implement this criterion. Could not find anything that it has been implemented to-date.

Next Actions
Coordinate with ADOT on the status of this criterion, regarding the ADOT Sustainable Transportation Plan.

PD-27 **Construction Noise Mitigation** 0/2

Reduce annoyance or disturbance to surrounding neighborhoods and environments from road construction noise.

PD-27.1 Is the contractor required to establish, implement, and maintain a formal Noise Mitigation Plan (NMP) during roadway construction?
No (0 points)

PD-27.2 Has the contractor monitored noise and the effectiveness of mitigation measures at the receptors throughout construction to ensure compliance with the NMP?
No (0 points)

Scoring Notes
The ADOT Sustainability Implementation Report Using INVEST, April 2014, stated discussions would be had with ADOT executive management as a means to implement this criterion. Could not find anything where it has been implemented to-date.

Next Actions
Coordinate with ADOT on this criterion's status, regarding the ADOT Sustainable Transportation Plan.

PD-28 **Construction Quality Control Plan** 5/5

Improve quality by requiring the contractor to have a formal Quality Control Plan (QCP).

PD-28.1 Is the Contractor required to plan and implement quality control measures throughout construction with care and for materials above and beyond what is typically required by specifications and regulations?
Yes (3 points)

PD-28.2 Does the contract leverage the use of Quality Price Adjustment Clauses to link payment and performance of the constructed products?
Yes (2 points)

Scoring Notes

ADOT construction contracts specifically pay for a contractor quality control item to ensure quality compliance beyond field inspection. Furthermore, ADOT will pay premiums for material quality that far exceeds the minimums.

Next Actions
None

PD-29 **Construction Waste Management** 0/4

Utilize a management plan for road construction waste materials to minimize the amount of construction-related waste destined for landfill.

PD-29.1 Is the contractor required to establish, implement, and maintain a formal Construction and Demolition Waste Management Plan (CWMP) during roadway construction, or its functional equivalent?
No (0 points)

PD-29.2 Can the owner demonstrate that a percentage of the construction waste has been diverted from landfills?
No, or diverted less than 50 percent of the construction waste from landfills (0 points)

PD-29.3 Were excess materials hauled directly to other project sites for recycling on those projects?
No (0 points)

Scoring Notes
It was noted in the ADOT Sustainable Transportation Program Case Study Using INVEST, where over 50 projects were INVEST-scored, that the requirements of this criterion would be incorporated into ADOT Standard Specs for Road & Bridge Construction. The specs on the ADOT website, however, are dated 2008.

Next Actions
Coordinate with ADOT of the status of this criterion, regarding the ADOT Sustainable Transportation Plan.

PD-30 **Low Impact Development** 0/3

Use low impact development stormwater management methods that reduce the impacts associated with development and redevelopment and that mimic natural hydrology.

PD-30.1 Did the project use effective BMPs or stormwater management techniques that mimic natural hydrology to treat pollutants? Use Tables PD-30.1.A and PD-30.1.B and PD-30.1.C to determine points.
No (0 points)

Scoring Notes
This criterion was not included as part of the ADOT Sustainability Implementation Report Using INVEST, April 2014, or the ADOT Sustainable Transportation Program Case Study Using INVEST. Could not find anything where it has been implemented to-date.

Next Actions
Coordinate with ADOT on this criterion's status, regarding the ADOT Sustainable Transportation Plan.

PD-31 **Infrastructure Resiliency Planning and Design** 0/12

Respond to vulnerabilities and risks associated with current and future hazards (including those associated with climate change) to ensure transportation system reliability and resiliency.

PD-31.1 Did the project incorporate consideration of climate change at a project-specific level in project development and environmental reviews?
No (0 points)

PD-31.2 Did the project incorporate future consideration of climate change effects in the design process?
No (0 points)

PD-31.3 Did the project mitigate the effects of GHG emissions through design efforts above and beyond requirements and regulations?
No (0 points)

Scoring Notes
This criterion was not included as part of the ADOT Sustainability Implementation Report Using INVEST, April 2014, or the ADOT Sustainable Transportation Program Case Study Using INVEST. Although ADOT has developed a Sustainable Resilience Plan as part of its Sustainable Transportation Plan,could not find anything where it has been implemented to-date at the project level based on this criterion.

Next Actions
Coordinate with ADOT on this criterion's status, regarding the ADOT Sustainable Transportation Program and project-level resilience actions for climate change.

PD-32 **Light Pollution** 0/3

To safely illuminate roadways while minimizing unnecessary and potentially harmful illumination of the surrounding sky, communities, and habitat.

PD-32.1 Were the uplighting ratings met on this project per Table PD-32.1.A?
No (0 points)

PD-32.2 Were the backlighting ratings met on this project per Table PD-32.2.A?
No (0 points)

PD-32.3 Were the glare ratings met on this project per Table PD-32.3.A?
No (0 points)

Scoring Notes
This criterion was not included as part of the ADOT Sustainability Implementation Report Using INVEST, April 2014, or the ADOT Sustainable Transportation Program Case Study Using INVEST. Could not find anything where it has been implemented at the project level to-date. Special lights poles that minimize uplighting under the Goodyear airport runway approach around Estrella Parkway is noted in the concept design, but is only necessary in that area. This does not appear to receive any credit from the guidance.

Next Actions
As final design evolves, this metric should be revisited with the help of a lighting engineer to determine if additional credit can be gained.

PD-33 **Noise Abatement** 3/5

Reduce traffic noise impacts to surrounding communities and environments.

PD-33 Points for different noise abatement methods are cumulative; however, this criterion shall not exceed a total of five points. Points exceeding five will not contribute to overall score.
I understand. (0 points)

PD-33.1 Was a specialized noise barrier used on this project?
No (0 points)

PD-33.2 Were traffic system management techniques used to reduce existing noise levels?
No (0 points)

PD-33.3 Were buffer zones provided for adjacent noise sensitive receptors?
No (0 points)

PD-33.4 Were quiet pavements used on the project? Use Table PD-33.4.A to determine the points earned.
Yes, 3 points. (3 points)

PD-33.5 Were plantings used as a sight screen to separate noise receptors from the project?
No (0 points)

Scoring Notes
This criterion was not included as part of the ADOT Sustainability Implementation Report Using INVEST, April 2014, or the ADOT

Sustainable Transportation Program Case Study Using INVEST. ADOT has a Quiet Pavement and Noise Program as part of its Sustainable Transportation Program, but it does not include specifics required for PD-33.4 - Design Quiet Pavements. Provided a score of 3 points at this time based on ADOT's used of rubberized asphalt as a means to reduce traffic noise in Arizona for nearly 100% of the freeway pavement area and no exceedances of 98 dBA.

Next Actions
None

PD-IN-01 **Example** 0/1

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-01 **Lisa Reid Test Innovation 1** 0/3

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-01 **Test** 0/1

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-01 **test test test** 0/3

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-01 **test test** 0/1

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-01 **test test test** 0/3

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-02 **test test test** 0/1

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-02 **test test test test** 0/1

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?

PD-IN-03 **test test test test test** 0/2

Scoring Notes

Next Actions

What is your score for this Innovative Criteria?