GENERAL DESCRIPTION

Greenroads is collection of sustainability best practices that apply to roadways. These best practices are divided into two types: required and voluntary. Required best practices, called "Project Requirements" are those that must be done as a minimum in order for a roadway to be considered a Greenroad. Voluntary best practices, called "Voluntary Credits" are those that may optionally be included in a roadway project. Each Voluntary Credit is assigned a point value (1-5 points) depending upon its impact on sustainability. Currently, there are 37 Voluntary Credits totaling 108 points. Greenroads also allows a project or organization to create and use its own Voluntary Credits (called "Custom Credits"), subject to approval of Greenroads, for a total of 10 more points, which brings the total available points to 118.

SCORING

Project teams apply for points by submitting supporting documentation. These documents, which can range from project specifications to field documentation, are verified by an independent review team. Once a project is complete the Greenroads team verifies the application and assigns a Greenroads score based on achieving all the Project Requirements and the number of points earned from the Voluntary Credits. This score may then be used at the owner's discretion and may also be translated to a standard certification level if so desired: the more points earned, the higher the certification level. If a project reaches a certification level it will be able to display the Greenroads logo and appropriate certification graphic.

Greenroads Voluntary Credits are weighted in accordance with a framework that attempts to relate the relative impact to sustainability of each one. Voluntary Credit values are limited to the range of one to five points to limit the influence of poor or controversial valuation. Any weighting scheme is bound to be controversial but such a system is needed in order to quantify a performance metric and make it implementable.

APPLICABILITY

Greenroads is meant to be applicable to both large (e.g., development of a major urban corridor) and small (e.g., a HMA preservation overlay) projects. Thus, not every Voluntary Credit is applicable to every project but most projects should be able to achieve certification without drastically changing their scope. The following briefly discusses two examples in order to provide a general feel for how they are worded and their reasoning. A complete discussion of all Project Requirements and Voluntary Credits can be found on the Greenroads website at: www.greenroads.us.

POTENTIAL USE

Agencies and organizations could use Greenroads in a variety of ways including: (1) a performance metric for roadway design and construction sustainability, (2) a means to define basic roadway sustainability attributes, (3) a means of conferring market recognition on more sustainable roadway projects, (4) a voluntary or required baseline standard to which roadways are design and constructed. Importantly, Greenroads will likely work best as a tool to assist an organization in implementing and assessing its overall sustainability strategic direction.

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No.	Title	Points	Brief Description
Project Requirements (PR)			
PR-1	NEPA Compliance	Req	Conform to NEPA or equivalent
PR-2	Life Cycle Cost Analysis (LCCA)	Req	Perform LCCA for pavement section
PR-3	Life Cycle Inventory (LCI)	Req	Perform LCI of pavement section with computer tool
PR-4	Quality Control Plan	Req	Have a formal contractor quality control plan
PR-5	Noise Mitigation Plan	Req	Have a construction noise mitigation plan
PR-6	Waste Management Plan	Req	Have a formal plan to divert C&D waste from landfill
PR-7	Pollution Prevention Plan	Req	Have a TESC/SWPPP
PR-8	Low-Impact Development (LID)	Req	Use LID stormwater management where applicable
PR-9	Pavement Maintenance	Req	Have a pavement preservation system
PR-10	Site Maintenance	Req	Have a plan for maintaining the site (e.g., landscape, etc.)
PR-11	Educational Outreach	Req	Publicize sustainability information for project
Environment & Water (EW)			
EW-1	Environmental Management System	2	Obtain ISO 14001 certification for general contractor
EW-2	Runoff Quantity	3	Capture stormwater or otherwise reduce runoff quantity
EW-3	Runoff Quality	3	Treat stormwater to a higher level of quality
EW-4	LID/BMP Cost Analysis	1	Conduct an LCCA for stormwater BMP/LID selection
EW-5	Native Revegetation	3	Use native low/no water vegetation
EW-6	Habitat Restoration	3	Create new habitat beyond what is required
EW-7	Ecological Connectivity	3	Connect habitat across roadways (fish/wildlife passage)
EW-8	Light Pollution	3	Discourage light pollution
	EW Subtotal:	**21**	
Access & Equity (AE)			
AE-1	Safety Audit	2	Perform roadway safety audit
AE-2	Intelligent Transportation Systems (ITS)	5	Implement ITS solutions
AE-3	Single-Occupant Vehicle (SOV) Reduction	5	Reduce SOV travelers through quantifiable methods
AE-4	Context Sensitive Planning	5	Plan for context sensitive solutions (Req'd for AE-5 to AE-9)
AE-5	Pedestrian Access	2	Provide/improve pedestrian accessibility
AE-6	Bicycle Access	2	Provide/improve bicycle accessibility
AE-7	Transit Access	5	Provide/improve transit accessibility
AE-8	Scenic Views	2	Provide views of scenery or vistas
AE-9	Cultural Outreach	2	Promote art/culture/community values along roadway
	AE Subtotal:	**30**	
Construction Activities (CA)			
CA-1	Quality Process Management	2	Obtain ISO 9001 certification for general contractor
CA-2	Environmental Awareness Training	1	Provide environmental training
CA-3	On-Site Recycling Plan	1	Provide plan for on-site recycling and trash collection
CA-4	Fossil Fuel Use Reduction	2	Use alternative fuels in construction equipment
CA-5	Equipment Emission Reduction	2	Meet EPA Tier 4 standards for non-road equipment
CA-6	Paving Emission Reduction	1	Use pavers that meet NIOSH requirements
CA-7	Water Use Monitoring	2	Develop data on water use in construction
CA-8	Performance-Based Warranty	3	Warranty on the constructed pavement
	CA Subtotal:	**14**	
Materials & Resources (MR)			
MR-1	Full Life Cycle Assessment (LCA)	2	Conduct a detailed LCA of the entire project
MR-2	Pavement Reuse	5	Reuse existing pavement sections
MR-3	Soil Rehabilitation	1	Use native soil rather than import fill
MR-4	Recycled Materials	5	Use recycled materials for new pavement
MR-5	Regional Materials	5	Use regional materials to reduce effects of transportation
MR-6	Energy Efficiency	5	Improve energy efficiency of operational systems
	MR Subtotal:	**23**	
Pavement Technologies (PT)			
PT-1	Long-Life Pavement	5	Design pavements for long-life
PT-2	Permeable Pavement	3	Use permeable pavement as a LID technique
PT-3	Warm Mix Asphalt (WMA)	3	Use WMA in place of HMA
PT-4	Cool Pavement	5	Contribute less to urban heat island effect (UHI)
PT-5	Quiet Pavement	3	Use a quiet pavement to reduce tire-pavement noise
PT-6	Pavement Performance Monitoring	1	Relate construction to performance data
	PT Subtotal:	**20**	
Custom Credits (CC)			
CC-1	Custom Credits	10	Design your own credit
	CC Subtotal:	**10**	
	Greenroads Total:	**118**	

Achievement Levels	Points	Explanation
Certified	32	PR + 30% of the Voluntary Points
Silver	43	PR + 40% of the Voluntary Points
Gold	54	PR + 50% of the Voluntary Points
Evergreen	64	PR + 60% of the Voluntary Points