

'Greenroads' rates sustainable road projects (w/ Video)

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Greenroads evaluates a road's environmental and social impacts. It assigns points for such things as using local or recycled materials, managing runoff and providing wildlife corridors. Credit: University of Washington

Road construction is a more than \$80 billion annual industry in the United States. Yet nothing comparable to the LEED rating system for buildings, or the Energy Star system for appliances, exists for highways and roads.

University of Washington researchers and global engineering firm CH2M Hill today unveiled Greenroads, a rating system for sustainable [road](#) design and construction. Environmental, economic and social impacts are included. The system outlines minimum requirements to qualify as a green roadway, including a noise mitigation plan, storm-

water management plan and [waste management](#) plan. It also allows up to 118 points for voluntary actions such as minimizing light [pollution](#), using recycled materials, incorporating quiet pavement and accommodating non-motorized transportation.

"The LEED [Leadership in Energy and Environmental Design] system has been really successful and has achieved a lot," said lead author Steve Muench, a UW assistant professor of civil and environmental engineering. "Roads are a big chunk of the construction industry that has an opportunity to participate more fully in sustainability practices. I think there's a lot of opportunity there."

The first complete version of Greenroads is now available at www.greenroads.us. Muench presented the project today at the Transportation Research Board's annual meeting in Washington, D.C.

The rating system was developed during the past three years by the UW Greenroads team and collaborators at CH2M Hill.

Greenroads' aims are threefold: to recognize companies already using sustainable methods; to provide a catalog of ideas for greener practices; and to offer an incentive for agencies and companies to build more environmentally friendly roads. The system can be used either for new road projects or for upgrades on existing roads.

"This helps our industry become more sustainable and shows the public that we can deliver sustainable roadways," said Tim Bevan, west region technology manager at CH2M Hill. "To some, it has not been perceived to be that important, but more and more we're finding the public is concerned about the environmental impacts of roadways."

A number of government agencies have already expressed interest in the project, including the Oregon Department of Transportation and the

British Columbia Ministry of Transportation and Highways.

Managers can have their projects rated for a fee by contacting the Greenroads team. Right now, limited staff means only some projects can be rated. In the long term, the team hopes to allow qualified third-party consultants to do the ratings.

"We've had a lot of positive response," Muench said. "It's quickly becoming something that needs to be more than a research project."

Greenroads originated in 2007 when Martina Söderlund, a graduate student from Sweden, came to the UW through the Valle Scholarship and Scandinavian Exchange Program.

"She was interested in sustainability and I was interested in roads, so we put our heads together and came up with this," said Muench, who was Söderlund's adviser for her master's thesis.

Now that the thesis has evolved into a complete document, the team is hoping to get feedback on the system's ease of use, choice of credits and the point value assigned to each credit.

"This first version is just a starting point. We'd like to know what industry thinks of the system and get their help in developing it further," Muench said.

Provided by University of Washington

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