

Effectively Incorporating Sustainability in Freight Rail and Transit Design: Using the Envision™ Manual in the Decision Making Process

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In 2010, APWA, ASCE, and ACEC created the Institute of Sustainable Infrastructure (ISI), in partnership with the Zofnass Program for Sustainable Infrastructure at Harvard University, to develop an industry-wide third-party rating system for all infrastructure types. From this, the Envision™ Infrastructure Rating System was developed. As a sustainability tool, Envision™ serves as a holistic framework to help project teams conduct a thorough review of their current sustainability efforts, and suggests strategies to improve project performance and lessen project impacts.

Envision™ is set up as 60 credits covering 5 categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate & Risk. The Envision™ framework is inherently a collaboration tool, bringing all disciplines on a project together to take a holistic, system-wide look at the specific opportunities available to make the project better, and determine if they are viable. Envision™ not only asks “Will we do the right project?” but also, “Will we do the project right?”

Achieving a third-party Envision™ verification award contributes to increased public support and industry recognition for the project. Envision™ verification can help build public trust by demonstrating that project decisions were made for the right reasons and included consideration and improvement of local communities, the wise use of land and resources, extended project lifetime, and documentation of overall sustainability and resiliency. Although the Envision™ rating system can be used to evaluate how sustainable a project is after it is completed, this presentation emphasizes the value in using the Envision™ Manual early during the planning and design phases of project development in order to maximize the inter-relationship between transportation and the environment. This paper will explain how Envision™ can guide transportation and highway project owners and project teams to choose the best possible solutions with respect to sustainability, community improvement, ecological resources, energy, water, siting, and climate risk preparedness.

This paper will describe the implementation of the rating system framework on projects, highlight the results, and identify the lessons learned from this approach. It will include an introduction to the purpose, process, metrics, and possibilities of using Envision™ to guide transportation infrastructure. It will also include a summary of the benefits of using a sustainability rating system to guide project design, team collaboration and stakeholder input.
