

Committee on Ecology and Transportation Newsletter

Transportation Research Board Committee ADC30

February 2013



View from the Chair

Alex Levy, Chair Ecology and Transportation Committee

Reading the Tea Leaves

by Alex Levy, Senior Ecologist, Arcadis US

Another year has come to an end and another year rolls around. Even without soothsaying, it's a sure bet that the year ahead will be marked with dramatic and newsworthy events, groundbreaking discoveries, tedious — if bewildering — political brinkmanship, and even the resolution of some long-held ideological differences.

Though some things are certain to remain, including the ties that bind the community-of-practice that — just over a decade ago — laid the foundation for what is today the TRB Ecology and Transportation Committee. And in 2013 we'll experience the second time in our committee's life as a third of our membership rotates to enable the perpetuity of ideas and the renewal of enthusiasm for the fulfillment of our mission. We'll also encounter an opportunity for renewal as we revisit the Triennial Strategic Plan and rededicate our energy toward satisfaction of the always-evolving suite of research needs that beckon practice-ready results for an increasingly connected and impatient world. The onset of the summer solstice will find us mining the entire planet for some of those practice-ready results from the fringes of the Arizona desert, where we'll convene our mid-year meeting in cooperation with the 2013 International

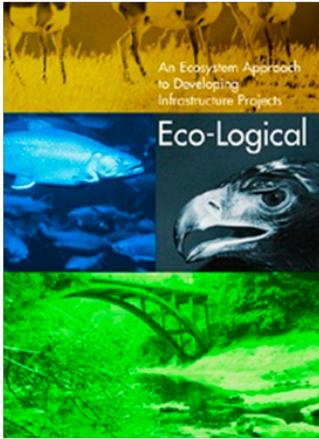


Conference on Ecology and Transportation (www.icoet.net).

As with Aldo Leopold's extolling of ecology of stewardship in his seminal work, *A Sand County Almanac*, every friend and member of the TRB Ecology and Transportation Committee serves from a common and fundamental ethic that we honor humanity's "relation to land and to the animals and plants which grow upon it." Whether woman or man, veteran practitioner or neophyte, we are caretakers-all; a group of passionate and driven individuals with a zeal for leaving the world at least a little better for having lived in it.

Bringing Ecological and the Integrated Ecological Framework to the public and DOTs

By Jimmy Kagan, Director of the Oregon Biodiversity Information Center



A number of members of the Transportation and Ecology subcommittee have been involved in the development of a SHRP2 Capacity project, which was focused on helping implement the Eco-Logical Interagency Agreement. The project research resulted in the development of a nine-step Integrated Ecological Conservation and Transportation Planning Framework (“the Framework”)

designed to support and promote integrated transportation and conservation planning while expediting transportation project delivery. Using the steps in the Framework, state transportation agencies (DOTs), metropolitan planning organizations (MPOs), and resource agencies work together during long-range planning to identify strategic transportation program needs, their potential environmental impacts and conservation opportunities in the state, ecoregion or watershed.

The Framework promotes the use of programmatic tools to increase regulatory predictability during project development while furthering regional conservation goals. It is a comprehensive, dynamic process that will promote the integration of regulatory and non-regulatory authorities and strengthen the opportunity to achieve ecosystem health. And it builds on ongoing efforts around the country to develop watershed and landscape plans which conserve nature and focus infrastructure development in the best locations.

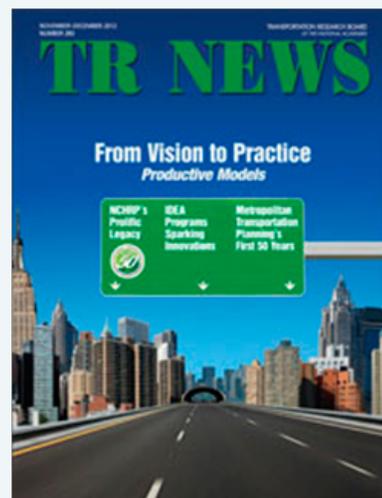
Over the last year, committee members Bethaney Bacher-Gresock, Julianne Schwarzer, and Jimmy Kagan have been involved in putting together webinars, workshops and training to spread the ideas about the project, and to help develop tools for DOTs to implement the framework in their day-to-day work. The project has been selected for additional pilot funding by Federal Highways, and to date, pilots have been completed in Colorado, Michigan, Oregon, California, West Virginia, and Virginia. Current efforts include building on regional information planning efforts such as the Western Governor’s Wildlife Corridors and Crucial Habitat Project’s Crucial Habitat Assessment Tool (CHAT, <http://www.westgov.org/wildlife/380-chat>) and EPA’s EnviroAtlas (<http://www.epa.gov/research/healthscience/health-nationalatlas.htm>, formerly the National Atlas of Ecosystem Services); as well as working with the new Army Corps of Engineer’s wetlands functional planning rule to promote targeted mitigation.

TR News to Feature the Environment

By Julianne Schwarzer, Environmental Protection Specialist, U.S. Department of Transportation Volpe National Transportation Systems Center

The highly-acclaimed TR News will feature an issue devoted to Environmental Sustainability. Many TRB committees are focusing their research efforts on addressing the triple bottom line of sustainability- environmental, economic, and social values. Transportation agencies throughout the country have adopted sustainability goals and are putting innovative practices in place to accomplish those goals. Critical to making progress in sustainable practices is the acceptance of the general public.

The environmental aspects of sustainability in transportation offer examples where the outcomes can be clearly recognized by the general public as improving their quality of life. To highlight some of these examples, we have solicited topic suggestions from the TRB Environment and



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Energy Section, the TRB Transportation and Sustainability Committee, and the environmental committees/subcommittees from the TRB Rail, Freight Systems, Marine and Aviation Groups.

Proposed articles and associated sidebars include the following:

- “Environmental Sustainability in Transportation-Improving the Quality of Life”
- “Integrating Vegetation and Green Infrastructure into Sustainable Transportation Planning”
- “The Development and Deployment of INVEST, FHWA’s Self-Evaluation Tool for Sustainable Highways”
- “Eco-Logical in Practice: Implementing the Eco-Logical Approach from 2006 to the Present”
- “Colorado Leads the Way in Creating a Multi-Agency Sustainability Framework”
- “Water Quality Implications of Stormwater Culvert Rehabilitation Technologies”
- “Soundscapes- the qualitative aspects of noise and quality of life issues”
- “Noise and Natural Sounds in our National Parks”
- “Reducing Noise at the Source”
- “Quieter Pavements for our Roads”
- “Effective Noise Barriers: A North Carolina DOT Case Study”
- “DelDOT’s Role in Improving Delawarian’s Quality of Life- Use of Recycling Materials/Techniques to improve Sustainability”
- “Sustainability Evaluation: A Societal Quality of Life Focus in Transportation and Land Use Decision Making”
- “Making the Case: Fitting Livability into a Sustainability Framework”
- “Paths, Roads and Rails to a Better Life: How Transportation Infrastructure Can Constrain or Expand Opportunities for High Quality of Life in Cities and Rural Areas
- “The Role of Sustainability in the Future of Aviation System Planning”
- “Sustainable Aviation Guidance Alliance: Stakeholder Collaboration Yields a Sustainability Resource for the Aviation Industry and Beyond”

This exciting issue is truly a collaboration of the modes, and will feature contributions from the following committees:

- Transportation and Air Quality, ADC 20
- Ecology and Transportation, ADC 30
- Transportation-related Noise and Vibration Committee, ADC 40
- Waste Management and Resource Efficiency in Transportation Committee, ADC 60
- Transportation and Sustainability Committee, ADD 40
- Environmental Impacts of Aviation Committee, AV030

Look for the final publication in September/October of this year.

Investigation of Herptile Highway Crossings

By Harold G. Hunt, Senior Environmental Planner, Division of Research, Innovation, and System Information, California Department of Transportation

The Caltrans Research Program has completed a preliminary investigation of highway crossings for herptiles (Reptiles and Amphibians). This investigation provides a comprehensive overview of historical and existing research and practices for this highly specialized type of roadway crossings. For this study, we interviewed experts and reviewed pertinent literature on amphibian and reptile crossings. The effort indicated that crossing solutions are often site-specific and depended on the habitat and life history species requiring protection, along with the local ecology and the planned or existing roads in question. Balancing the needs to prevent animal deaths and main-

tain connectivity is another complicating factor. No single guidance document that we found encompassed all of these factors and provided unambiguous design guidance for herptile crossings. Additionally, little information was found on the cost of providing for herptile crossings. There are, however, a number of studies that can help inform future work on California species. A list of contacts, pertinent literature, and other resources were developed to help with future work. The preliminary investigation report is available at: http://www.dot.ca.gov/research/research-reports/preliminary_investigations/docs/herptile_highway_crossings_pi2012-11-2.pdf Caltrans would like to thank all of those who provided information for this effort.

Engineering With Nature – A Process to Improve Sustainable Practices on the Marine Highways

By Marcia Bowen, Normandeau Associates Inc.

Safe in our silos, we often do not venture outside of our mode. It should come as no surprise that practitioners in other disciplines are coming up with practices that are aligned with much of our Committee's focus. Engineering With Nature (EWN) has been developed for navigational improvement projects in our marine highways. EWN is the intentional integration of natural processes and engineering to efficiently and sustainably deliver water-borne infrastructure improvements in a collaborative fashion. EWN was developed by the US Army Corps of Engineers Navigational Branch and was an outgrowth of a Netherlands-based program Building with Nature (www.ecoshape.com) that has a similar focus of working with natural aquatic processes. EWN uses a science-based collaborative process to organize and focus stakeholders, resulting in more broadly acceptable projects.

Some examples of EWN projects include the strategic placement of dredged material, relying on natural transport processes to build nearshore habitats. In Galveston Bay, dredged materials were used to create 4,250 acres of salt marsh, a six-acre bird breeding sanctuary, and 118 acres of oyster reefs. Rock placed during navigational dredging was



Breeding Pelicans at Evia Island, Galveston Bay

used to create an artificial reef in the Cape Fear River, NC. Dredged material was also placed in the Missouri River to reduce flow and create avian habitat. EWN continues to gain support as a mind-set among our federal partners at the Corps of Engineers.



A light moment during the business meeting of our committee at the Annual Meeting.

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Normandeau Associates, Inc.