

North American Wildlife Crossing Design Contest

ARC

Executive Summary

by

Rob Ament

Western Transportation Institute

College of Engineering

Montana State University

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Initiated by the Western Transportation Institute and the Woodcock Foundation, ARC was a partnership-driven wildlife crossing infrastructure design competition that engaged the best and most innovative international, interdisciplinary design teams—comprised of landscape designers, architects, engineers, ecologists, and other experts—to create the next generation of wildlife crossings for North America’s, and perhaps the world’s, roadways. The project drew mounting support throughout the course of the competition, bringing together thirty two sponsors from federal and state agencies, universities, professional associations and non-profit organizations in the U.S. and Canada including the Federal Highway Administration (FHWA), Research Innovation and Technology Administration (RITA), and AASHTO spell out.

Growing scientific research shows the importance of wildlife crossings and their effectiveness at reducing wildlife-vehicle collisions. In Banff National Park in Alberta, Canada, a continuous series of 22 underpasses and two overpasses has resulted in an 80 percent reduction in total wildlife fatalities because wildlife was allowed to roam free, uninterrupted by a major Canadian transportation corridor. There have been approximately 240,000 documented crossings of these structures by 11 species of large mammals, - including wolf, grizzly bear, elk, lynx, mountain lion, and moose. While crossing structures have demonstrated great success in protecting both wildlife and drivers, their use in the U.S. is limited, due in large part to the high cost and long design and construction process.

“I think the next generation of these structures can be built for less, can be more innovative, and have better ecological sensitivities.”

~ Tony Clevenger, WTI Research Ecologist, who initiated the concept of the ARC competition

Launched in June 2010, the competition raised international awareness around wildlife movement and protection while promoting feasible, buildable, context-sensitive and compelling design solutions for safe, efficient, cost-effective, and ecologically responsive wildlife crossings. In the first phase of the competition, thirty-six interdisciplinary teams submitted Expressions of Interest describing their approaches for designing an overpass for the competition site near West Vail Pass on Interstate Highway 70 in Colorado. This mountainous site was chosen for its challenging location along a busy, high elevation interstate highway in the midst of the Rocky Mountains and its importance as a corridor for numerous species of wildlife including wolves and Canada lynx. In September 2010, ARC announced the selection of five finalist teams whose members represented more than a dozen firms in four countries. The teams traveled to Colorado to view the West Vail Pass site in person. After carefully studying the road features and geometry, as well as the wildlife habitats, the finalists created their final designs.

“This international competition both establishes and inspires a new category of public infrastructure that is both responsive and responsible to environmental concerns. The ARC competition addresses a global problem with a Colorado-based solution that will demonstrate the importance of international cooperation.”

~ Jared Polis (D-CO), Colorado Congressman

A world-class jury of five leading experts in landscape architecture, engineering, transportation, and ecology, chaired by Harvard University Graduate School of Design's Charles Waldheim, unanimously selected HNTB with Michael Van Valkenburgh Associates, Inc. (HNTB+MVVA) as the competition winner. The New York City design firm was chosen for their use of ordinary materials, such as concrete, in an extraordinary way. Their design was cost-effective, modular, easy to construct, provided greater material control, and used a unique built-in drainage system. The award was presented at the National Academies' Transportation Research Board's 90th Annual Meeting in Washington, D. C. last January.

While the 2010 competition has concluded, ARC continues to be an interdisciplinary partnership working to facilitate new thinking, new methods, new materials, and new solutions for wildlife crossing structures. The goal is to ensure safe passage for both humans and animals on and across our roads. Through science, design, and strong, diverse partnerships, ARC will remain a forum for creative collaborations and surprising synergies.

To learn more about ARC Solutions please visit: <http://www.arc-solutions.org/>