



A Wildlife Crossing That's Truly Wild



BY [SARAH SCHMIDT](#)
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CITIES & TRANSPORTATION NATURE & WILDLIFE

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A plan to keep cars and animals from colliding on a Colorado highway

More than a million animals are killed each year trying to cross the road in the United States -- far more than just the proverbial deer in the headlights. Black bears, coyotes, bighorn rams, and panthers are among the frequent victims on American highways, and vehicle crashes are considered a major threat to the survival of 21 threatened and endangered species. Wouldn't it be nice if someone would build something to help, like, say... a football-field-sized overpass covered with trees and other vegetation that would let wildlife safely cross a six-lane highway?



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Animal collisions on the roads cost \$8 billion each year. Proposals like this one could reduce those impacts. Images by MVVA-HNTB

That's exactly what a team of landscape architects, engineers, and ecologists have proposed for a stretch of Interstate 70 between Vail and Denver, Colorado, known as the West Vail Pass. Their wildlife bridge was selected last month in a competition sponsored by the **Western Transportation Institute** and the **Woodcock Foundation** to help reduce animal-vehicle collisions. Now it's up to the Colorado Department of Transportation whether the \$8 million project will be incorporated into its future building plans. OnEarth spoke with Robert Rock, a landscape architect with **Michael Van Valkenburgh Associates** in New York, about his team's winning design.

Why are so many animals killed along I-70 in Colorado? There are big stretches of protected habitat on each side of the highway. The interstate is sometimes called the Berlin Wall for wildlife. You have the White River National Forest on the south side and then a patchwork of wilderness and recreational areas to the north, plus the nearby ski resorts, so all kinds of animals -- coyotes, elk, mountain lions -- want to get from place to place. Canada lynx, which are a threatened species, have also been killed on the road. The surrounding area is becoming more developed, too, which is creating additional habitat fragmentation. But this isn't just a problem in this one spot -- it's a growing problem across the country. A lot of it has to do with humans encroaching on more and more habitat, but climate change is also affecting migration patterns. As ecosystems are disrupted, animals need to travel further to find places where they can survive, and that means crossing highways.

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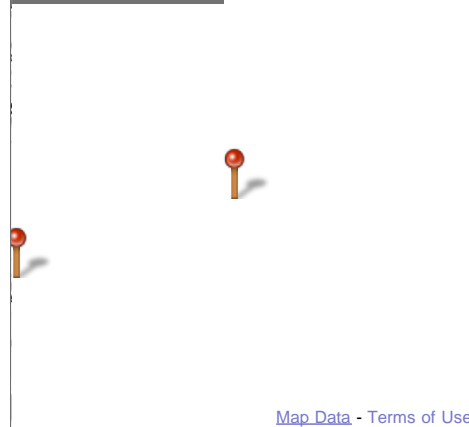
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Everyone seems to think of "road kill" as some sort of punch line. Do you think we need to take this issue more seriously? Definitely, because if I say, "Hey I want to build a bridge for animals," people think that sounds foolish. On the other hand, when everyone saw the "Miracle on the Hudson" -- a conflict between a single airplane taking off in New York and some Canada geese -- they started taking bird strikes much more seriously. But that was just one interaction. Granted, in a single instant, it affected 200 people, and it could easily have killed them all. But the economic impact of animal migration to the airline industry comes to only \$600 million a year as opposed to the \$8 billion from road collisions. And this is not to diminish the safety threat from bird strikes, but animal-vehicle crashes happen so much more often and have much more economic impact. It's ongoing, so there's not the shock value, but it's still a huge problem, not some fringe issue.

How do you design something that you can be sure animals will use? Will they be aware that they're crossing a bridge? It's designed more to be a trail of breadcrumbs for them. The crossing itself will be very knitted into the surrounding woodland. It's a 190 by 336 foot vaulted concrete overpass -- about the size of a football field -- but it will be planted with a sampling of native species -- so it will be like the surrounding habitat zone, but really heavily treed, heavily vegetated. From the animals' perspective, they'll just see the plant species they dwell and forage in. There will be bands of open meadow with some fescue grasses and sedges, then shrubs and trees -- sub-alpine fir and lodgepole pine, and of course some aspen, so in the fall there will be that beautiful yellow dappling the landscape. The difference is that there will be acres worth of habit hyper-concentrated into the crossing.

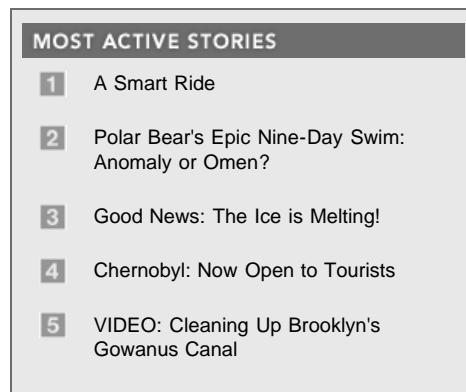
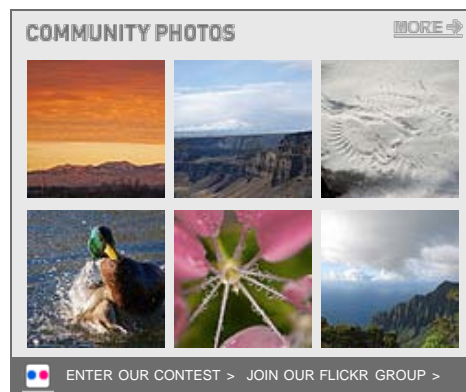
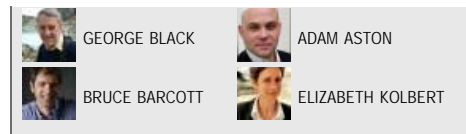
So it would be like a big buffet for them? Yes, we do expect them to be drawn by the food sources, but we'll also have fencing along the highway that will funnel them to the crossing. That will be a key element. And we'll be able to build that fencing with trees killed by the mountain pine beetle which has infested the area due to warmer temperatures caused by climate change.

Would people driving under the wildlife bridge notice the difference between this and a normal overpass? They should. It will be overpass-like in a way because the part they will see on the underside will be concrete, but the structure is made up of curved pieces that will fit together in a simple, origami-like pattern.

Had you ever designed anything to please animals before? No. A big part of our work has been urban parks, but this involved a very intense collaboration between us, the engineering firm HNTB, which focused on the structural aspects involved in building the bridge, and a team of ecologists called Applied Ecological Services. We often take a naturalistic approach with our parks and incorporate native species, but this made me think much more practically about landscaping. We did a lot of research, walked the site with the ecologists and mapped the activity of the wildlife. We weren't just waving our hands around and placing trees in a painterly way.


Are there many other bridges like this that you could use for inspiration? Not in the U.S. They use them a lot in Europe and Canada, and they're really effective, but still, it's tricky because we have to adapt for this ecosystem. When we would ask ecologists something like, how wide will this have to be for an elk to use it, they couldn't really say.

So how do you know that this would work? To tell the truth, we will be learning as we go to some extent. But that's kind of the point. We've made it very adaptable so it can be modified after it's built. Pieces can be added or take away, so if, say, we need to make it wider in a spot or smaller in a spot, we can. Plus the whole design can be modified for other locations, because we hope that if and when this is built, it will be the first of many.



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 Sarah Schmidt has written about solar power for The New York Sun, excess vegetables for Plenty, and old houses for This Old House, as well as a number of other topics for The New York Times, New York Magazine, Budget Living and Cookie. She lives in... [READ MORE >](#)

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