

# Green



A Blog About Energy and the Environment

January 24, 2011, 8:16 AM

## For Wildlife, a Safe Highway Crossing

By MATTHEW L. WALD



ARC Project

.A proposed crossing designed by Michael Van Valkenburgh & Associates with HNTB Engineering and Applied Ecological Services.



As I report in Monday's Times, a nonprofit group has awarded a \$40,000 prize to an architecture firm for the design of a bridge intended to carry wild animals across a major interstate in Colorado.

What's so special about it? The answer, according to officials who set up the competition, is that bridges for animals are different from the ones that highway departments habitually build. Vehicle bridges are narrow and strong, typically able to support two, four or six lanes of heavy trucks, while bridges for wildlife will never have to hold more than a few thousand pounds of elk, deer or bears. But the wildlife bridges need to be inviting to the animals and preferably wider.

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Wildlife crossings are an old idea, but most are culverts, or extensions of bridges that carry a highway over a river or stream. An exception is a bridge over the Trans-Canada Highway where it slices through the Banff National Park in Alberta, Canada.

The bridge in Banff is considered a success because it reduced the collision rate by about 80 percent. But the structure itself is not an ideal model for use elsewhere, according to the experts at [ARC, the group that carried out the competition](#) that ended on Sunday.

A Canadian researcher involved in the ARC competition, Nina-Marie Lister, called the bridge in Banff "a standard old Ministry of Transport bridge," built strong enough to support heavy truck traffic even though there is no way for trucks to drive over it. (At either end is woodlands, not roads.) And while it has a "green toupee on top," she said, it is not designed to blend into the landscape.

The winning design for the Vail site, by the firm Michael Van Valkenburgh & Associates, is four times wider than the bridge at Banff. Made of precast concrete panels that are snapped into place and covered with foliage, it is broad enough to allow for lanes that look like forests, shrubs and meadows.

Ms. Lister, a professor of design and urban planning at Ryerson University in Toronto who is spending a sabbatical year as a visiting professor at Harvard, described the bridge as "an entirely new type of infrastructure" whose design would reduce construction costs.

Animal-vehicle collisions themselves cost about \$8 billion a year, according to ARC, and the number of collisions has been increasing. The National Safety Council counts about 100 human fatalities a year in vehicle collisions with animals, and the number of injuries to humans is much higher.

The competition, which ended on Sunday, attracted 36 submissions involving more than 100 architecture firms from nine countries. Here's a video about the project:

[ARC: International Wildlife Crossing Infrastructure Design Competition](#) from [ARC](#) on [Vimeo](#).

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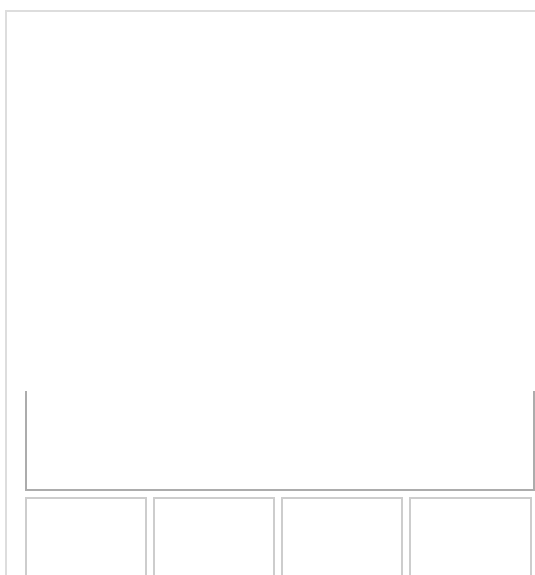
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19 Readers' Comments [Post a Comment »](#)

ALL COMMENTS HIGHLIGHTS READERS' RECOMMENDATIONS REPLIES

Oldest | Newest

1. Tom Naperville  
January 24th, 2011 9:13 am

**Seems like a great idea!**

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2. RC Pompano Beach FL  
January 24th, 2011 9:14 am

**My non-professional reaction to the construction of such crossings is that it's a common-sense good idea.**

It might create some employment... an ancillary benefit.

"Miles of fences on either side of the highway would funnel animals to the bridge."

One must assume that these zones, and the crossings, will be "no-hunting-allowed" areas. Otherwise, it would be somewhat self-defeating. Poaching could be a potential issue. Plus, the particular aroma of bipeds may send the creatures on their way, to look for the fence endings. Can't blame them. That particular aroma has compelled me to the same thing on more than one occasion.

On a more levity-like note, perhaps these crossings could become an inspiration for bipedal animals. The vision of black bears, cougars, bobcats, elk and deer, wolverines, wily fox, wolves, and coyotes, all traversing the bridges in harmony, could set a nice precedent. The bear, raising his massive paw in greeting to his old friends the doe and the little fawns... the cougar politely growling an early morning greeting to the fox... the wolverine and the wolf discussing possible shared ancestors... and so on. Utopia. I know... rather juvenile.

"All my writing is about the recognition that there is no single reality. But the beauty of it is that you nevertheless go on, walking towards utopia, which may not exist, on a bridge which might end before you reach the other side." -- Marguerite Young

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3. Greenpa Minnesota  
January 24th, 2011

I like it. :-) Inevitably, some will cry that we can't afford such luxuries- but; there's an excellent chance this kind of project actually makes hard economic sense for the

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**Pedestrian bridge**  
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9:14 am  
community. The price of car-wildlife collisions is not only wrecked cars and higher insurance premiums for all, it's also, quite predictably, dead or crippled humans. The cost to the community of paying for lifetime care for a paraplegic or two is horrendous in terms of dollars, and wasted humanity.

Excellent! Maybe we could live WITH the world.

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4. PeterT  
Seattle, WA  
January 24th, 2011  
9:14 am  
...and how does one prevent hunters from exploiting the entry and exit points for the causeway ? They create a killing zone that can be taken advantage of. Will there be an exclusion zone for hunting in an arc at either end, in order to give wildlife a chance to get back into the wilderness ?

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5. Tom  
New York  
January 24th, 2011  
10:12 am  
I loved this piece. ARC is made up of wonderful people committed to all the core values of Democrats. I admire their respect for not only human life, but also for the environment and wildlife.

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6. James M  
Brooklyn, NY  
January 24th, 2011  
10:12 am  
Closer to home, there's a similar set of three bridges across Interstate 78 in the Watchungs. The bridges (opened in 1986) were a concession to groups that opposed construction of the highway right through the park. The bridges are part road and part 'park' with the latter now all overgrown making them fairly obvious from the highway below. Not as obvious is that they too were built to carry much lighter loads than a normal highway overpass as evidenced by the very wide spacing between bridge beams.

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7. Heart  
Colorado  
January 24th, 2011  
10:13 am  
RC's comment isn't childish. There is a concern about concentrating prey to the benefit of predators. Such a bridge doesn't instantly produce the "peaceable kingdom."

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8. CharlesHearn  
New York  
January 24th, 2011  
11:10 am  
These corridors are needed throughout the U.S. having lived in Co an driven across the country playing a roadkill spotting game with a single digit point system our scores got into the hundreds really fast. Often we would see a down deer or raccoon and then a dead scavenger birds next to it, one more example of the less obvious mortal consequences producing infrastructure that penalizes natural behavior. This looks like a shovel ready project for some stimulus money, if there is any left...

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9. Annette  
NYC  
January 24th, 2011  
11:10 am  
As someone who had an **extremely** serious accident involving a deer and then an oncoming tractor trailer, just over the PA/OH border back in 2002, I absolutely applaud this idea. Having made the trip from NYC to Cleveland and back at least 4-5 times a year ever since I was 6 years old, my biggest fear, as a life-long animal lover, was hitting any animal. Always seeing dead deer on the side of the road, my heart ached for them, but it never dawned on me what happened to the vehicle that hit them....until mine was that vehicle.

With my parents in the back and my sister in the front, I hit a deer who appeared, quite literally, out of nowhere. I cut the wheel - hard - to my left to try to miss it (I did not) and lost control of my car, plowing from the right lane of Rt 80

West, across the left lane, down into the v-shaped grassy embankment, then catapulting into oncoming traffic on Rt 80 East, where we were hit by an oncoming tractor trailer just before we were about to careen back into the embankment.

My mother suffered internal injuries requiring surgery and had bleeding & swelling of the brain, along with countless broken ribs; she was in ICU for two weeks and out of work for more than two months. My father, having been partially ejected from the car when the rear windshield exploded, was in ICU for almost a week, also with numerous broken ribs. Had they been wearing seatbelts in the back seat, they would have been killed upon impact, as the truck hit right behind my door (2-door coupe) and seatbelts would have held them in place; instead, they were bounced around and severely injured, but they are still with us today, thank God. My sister and I, in the front, walked away with minor injuries. I didn't even know I had hit the deer until I saw my car the next day - I thought I had missed it. For those of you who think it would've been better to hit it head-on, I thought the same thing, but emergency and medical professionals told me otherwise: they'd seen too many accidents in which the deer comes through the windshield, onto the driver/passenger, and the results were typically far worse than what we suffered.

Safe ways for animals to cross highways would save untold millions, both in lives, and in dollars. My car was totaled, and we had to sue my insurance company to pay for my parent's medical bills (they tried to claim "no-fault"). The settlement was roughly \$250K, and at least 1/2 of that was due for immediate bills. The balance is still being used, nine years later, for residual medical issues resulting from too many broken bones that still cause pain & suffering. As for me, I was plunged into an awful depression - I blamed myself for almost killing my family - and had to go into therapy, which was more \$\$\$\$ . And mine is only one example. Sadly, I know we're not the only ones; we're just part of the awful annual statistics.

I can only hope ALL states are able to come up with such alternatives....we will all benefit, human and animal alike.

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[10.](#) PW  
Colorado  
January 24th,  
2011  
11:11 am

To clarify something that the author said, there's closer to half-a-dozen wildlife bridges in the Banff area over the Trans Canada highway, not just one. In addition, there are a number of wildlife tunnels under the highway.

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[11.](#) James  
Northern  
Nevada  
January 24th,  
2011  
11:11 am

Re #2: "The bear, raising his massive paw in greeting to his old friends the doe and the little fawns... the cougar politely growling an early morning greeting to the fox..."

The cougar quickly learning that he can just lie in wait by the bridge to leap on the deer funneled to him by miles of fence, the coyotes doing likewise with smaller animals...

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[12.](#) RC  
Pompano  
Beach FL  
January 24th,  
2011  
12:47 pm

#11 James

I agree. After having read the article, I envisioned the predators figuring out the bridge "system"... and developing a "system" of their own... turning the bridge into a one-shop-stop all you can eat buffet... with the bridge becoming a fur-flying fury to behold. Animal Planet would pay for the upkeep of high-tech cameras to be in place (including night-vision)... and functioning 24/7.



Hence, my subtle satire/parody.

Whadda ya think? Perhaps... too subtle?

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13. Dave  
Chicago  
January 24th,  
2011  
3:56 pm

This is the most ridiculous thing I've seen in a long time. If animals were smart enough to use a bridge to cross the road, they wouldn't be dashing out in front of 18-wheelers. Mark my words, 100 yards down the road from this structure will be the normal assortment of roadkill.

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14. James  
Northern  
Nevada  
January 24th,  
2011  
3:56 pm

Re #12: "Whadda ya think? Perhaps... too subtle?"

Way too subtle. The problem with trying to parody ideas like that is that you just can't ever catch up with the outer fringe of reality, let alone pass it :-)

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15. RC  
Pompano  
Beach FL  
January 24th,  
2011  
8:06 pm

#12

I've rarely been described as being " Way too subtle".

Perhaps there's hope for me yet... if I can just catch up to life on the "lunatic fringe"... with the hope of one day passing over the Bifröst Bridge.

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16. PW  
Colorado  
January 25th,  
2011  
5:37 am

Re: #12 & 13... Along with the overpasses and underpasses, the highways are fenced off effectively "funneling" wildlife to the safe crossings. The success of this approach has been well documented in Banff where all off the crossing points have cameras enabling the research community to track their use. I learned at the Banff National Park Visitors Center this past summer that their were 80,000 "crossings" in 2009. To comment #12, they haven't seen an increase in predation at the crossing sites, and to comment #13, what I find ridiculous is your comment! You obviously haven't spent time in the West...

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17. oldokie  
Portland, OR  
January 25th,  
2011  
5:37 am

Instead of a bridge over the highway why not a highway tunnel under the migration route which would leave it more natural?

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18. RC  
Pompano  
Beach FL  
January 25th,  
2011  
10:13 am

#16 PW

Thanks for pointing out that predation at the crossing sites hasn't increased. I assume that there is a system in place that can actually track the predatory behavior at the crossing sites. Perhaps by the various game commissions in the particular areas.

You probably gathered that for the most part, that my comment(s) were toung-in-cheek.

I like the idea... so far.

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19. David  
Santa Fe, NM  
January 30th,

Re:17,  
Would cost much more.

2011  
7:58 am

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