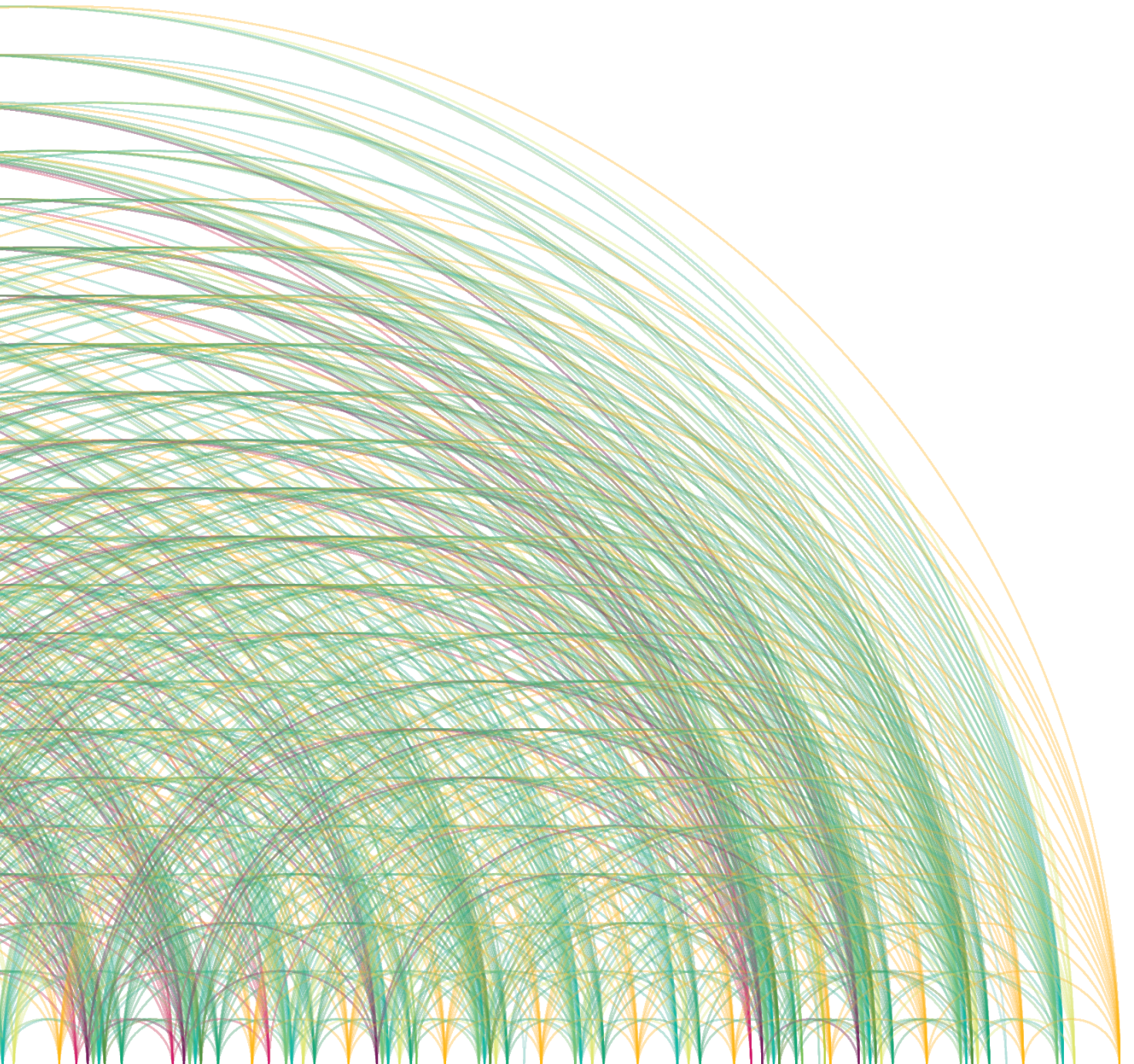
ARC

SPECIAL PUBLICATION

FREQUENTLY ASKED QUESTIONS ABOUT WILDLIFE CROSSINGS



A quick glance at a United States road map reminds us that it is an amazing example of engineered infrastructure. This network of more than 4 million miles allows us to transport ourselves and the things we need to sustain our collective way of life.

Despite being an asset for people, this same network is a major source of disruption for native wildlife that coexist on the landscape with us. Roads fragment natural landscapes, creating barriers to the movement of wildlife. As animals navigate their habitats, they cross roadways to access food, shelter, and mates, endangering themselves and creating a risk to motorists. Even though the physical footprint of roads only accounts for about 1% of the total U.S. land area, their overall effect on the environment is projected to extend to roughly 20% - or 1/5th - of our lands.

Q: How much do collisions involving wildlife cost?

The costs of wildlife crossings are diffused across property damage, health care, road maintenance, and loss of wildlife. The estimated cost of wildlife-vehicle collisions to Americans is more than $8 billion annually (in 2007 dollars).

Q: How many injuries and deaths do wildlife-vehicle collisions cause?

Wildlife-vehicle collisions result in more than 200 human deaths and 26,000 human injuries annually.

Q: How many wildlife-vehicle collisions occur each year?

An estimated 1-2 million crashes occur annually between motorists and large wildlife in the United States - or about one every 26 seconds. This figure does not include the tens to hundreds of millions of smaller animals killed each year in collisions that do not result in human injury or property damage, and thus are typically not reported or counted.

The human need to get to where we are going safely and quickly has become a basic expectation of modern society. Just as road infrastructure designed for motorists enables people to travel efficiently wherever they need to go, infrastructure designed for wildlife can similarly facilitate the safe movement of animals across landscapes. A range of mitigation options exists to prevent wildlife-vehicle collisions, each with unique advantages and disadvantages.

WILDLIFE CROSSING STRUCTURES

Q: What is a wildlife crossing structure?

A wildlife crossing is a structure designed or retrofitted to facilitate the safe movement of wildlife across a roadway.

Q: Why are wildlife crossing structures built?

The two main objectives of wildlife crossing mitigation efforts are to:
reduce vehicle collisions involving wildlife that lead to human deaths and injuries, property damage and wildlife mortality and to reconnect habitats for wildlife populations.

Q: What are the types of wildlife crossing structures?

There are two main types of wildlife crossings. Structures that allow wildlife to pass above a roadway are referred to as overpasses, and structures that allow wildlife to pass below a roadway are called underpasses.

Q: What about installing fences to keep wildlife off roads?

Although installing fencing to prevent wildlife from entering roadways may prevent collisions, it also blocks animals from accessing important habitats and resources necessary for survival.

Q: What type of wildlife crossing is best?

It depends! Each crossing is designed to serve the target animal for a specific location or to accommodate the majority of wildlife that reside in or move through an area. Wildlife crossing structures also may be designed from a motorist safety standpoint for target animals, such as large ungulates like moose, elk, or deer, or for species with the highest conservation concern.

Wildlife crossing structure design, size, and placement influence how different animals respond to structures. Some species prefer large, open structures, while others prefer more enclosed structures with less light. Wildlife crossing structures designed for multiple species maximize biodiversity conservation.

Q: How do animals find crossing structures?

Wildlife crossing structures are typically constructed in combination with fencing. Fencing keeps animals off roadways and funnels them to structures, greatly enhancing the effectiveness of wildlife crossing structures. In contrast, fencing alone (without crossing structures) creates a barrier that can keep animals away from important habitat areas, potentially jeopardizing their survival.

FREQUENTLY ASKED QUESTIONS

Wildlife crossings are a proven solution to the problem of wildlife-vehicle collisions. In addition to allowing motorists and wildlife to travel safely on and across our roads wildlife crossings offer additional benefits to society and the environment.

Q: How do we know animals use crossing structures?

There is a rich body of research on the effectiveness of wildlife crossings. One of the world's longest running efforts is a 17-year study that monitored 23 out of 40+ crossings in Banff National Park in Canada. During the course of that study, researchers documented more than 185,000 crossings by 11 large and medium-sized animals, including grizzly and black bears, cougar, Canada lynx, coyotes, wolves, deer, elk, bighorn sheep, moose, and even wolverines. You can read a summary of the report here.

Q: Do wildlife crossings work to reduce collisions with wildlife?

When properly designed and sited, wildlife crossings with fencing have been shown to effectively reduce WVCs by up to 97%. This means that a road that saw 100 crashes last year could see as few as 3 after mitigation.

WILDLIFE CROSSINGS: BENEFITS

Q: How do wildlife crossings contribute to human well-being?

Wildlife crossings with fencing have been shown to effectively reduce motorist crashes involving wildlife by up to 97%, reducing human deaths and injuries, and making our roads safer for people. Mitigated roadways may also create a sense of motorist well-being and lessened worry when driving. When surveyed, the public repeatedly has placed an intrinsic value on public investments where our natural resources are protected and preserved, especially when doing so also meets the dual needs of safe roadways for both people and wildlife.

Q: How do wildlife crossings save money?

By reducing wildlife-vehicle collisions (WVCs), crossing structures also reduce the societal costs of those crashes, including lost lives, injuries and property damage. Where the total cost of such crashes is higher than the total expense of building a wildlife crossing structure, it actually costs society less to solve the problem of WVCs by building a crossing, than it costs to do nothing.

Q: How do wildlife crossings reconnect habitats?

Wildlife crossing structures and fencing allow wildlife to safely move across highways, which helps ensure that their local and regional populations remain stable.

Q: How do wildlife crossings save lives?

With 1-2 million large wild animals killed by vehicles every year, wildlife mortality due to roads can significantly lower population sizes, and potentially jeopardize their survival in the long-term, especially for smaller wildlife populations. By physically separating wildlife from traffic, crossing structures also protect individual wild animals from death or injury.

Q: Why is preserving wildlife movement important?

Roadways can act as barriers that pen wildlife into smaller fragments of land, limiting their access to water, food, mates and other life needs. These smaller populations may suffer from a smaller gene pool and less gene flow. Wildlife crossing structures allow individual animals to disperse and mate with individuals in other populations, increasing gene pool size and flow.

FREQUENTLY ASKED QUESTIONS

Roadkill is not simply “bad luck” or an unfortunate consequence of driving, but an avoidable cost and a preventable loss. We know there are solutions that work; what we need is political will and social awareness to implement proven solutions in the right places.

Q: Why is it important to address this issue now?

Unlike many problems we face as a society, we have proven solutions to solve this problem today. There is simply no time like the present to take on the challenge of protecting the 200 drivers that will die this year as a result of a collision with wildlife, not to mention the tens of thousands of injured motorists, billions of dollars in property damage, and millions of wildlife deaths.

Q: Won’t new technologies fix this problem?

Although competing priorities do exist, and new technologies, such as on-board pedestrian, bicyclist and animal detection systems and self-driving cars, may help greatly in the coming decades to reduce crashes with large animals, they are unlikely to address medium and small-sized wildlife. These fixes also won’t happen overnight, and indeed it could be decades before these new technologies exist in even half of the cars on the road. And while increased deployment of mass transit systems will help reduce the number of cars on our roads, those systems are unlikely to eliminate the 89% of wildlife-vehicle collisions estimated to occur on two-lane roads.[1]

Q: Why aren’t more crossings being built?

The answer is complicated. First, most people either don’t know about crossings or they don’t know that they work. Second, it’s not unusual for transportation agencies to think that it’s not their job to save wildlife, or for wildlife agencies to think that it’s not their job to fix roads. Finally, it’s a lack of funding, which means that wildlife crossing projects compete with bridges, pavement and potholes for scarce transportation dollars.

[1] Huijser, M. P., McGowen, P. T., Clevenger, A. P., & Ament, R. (2008). Wildlife-vehicle collision reduction study: best practices manual.

When people learn that there are proven solutions to the problem of wildlife-vehicle collisions, they want to know what they can do: How can they help get wildlife crossings built in their communities? How can they help protect wildlife by reducing the number of animals being killed by cars where they live? The answer is that there are lots of ways to help advance safe passage in your community, depending on how involved you want to be!

Q: How can I help to advance policies that support wildlife crossings?

The U.S. Congress is in the process of reauthorizing our nation's federal transportation law, which expires on September 30, 2021. Please consider calling up your federal Representative and U.S. Senators to let them know this issue is important to you, and that you support dedicated federal funding for wildlife crossing structures to make our nation's roads safer for people and wildlife.

Q: What can I do to support wildlife crossings in my community?

A number of states already have existing coalitions of people working to reduce motorist crashes involving wildlife. Search online search to see if your state or community has a local coalition you can join. If not, consider starting a group of your own!

Q: How can we teach kids about wildlife movement and wildlife crossings?

A number of organizations have developed curricula with fun and educational activities for grade school and middle school students. Please reach out to us at ARC Solutions to learn more.

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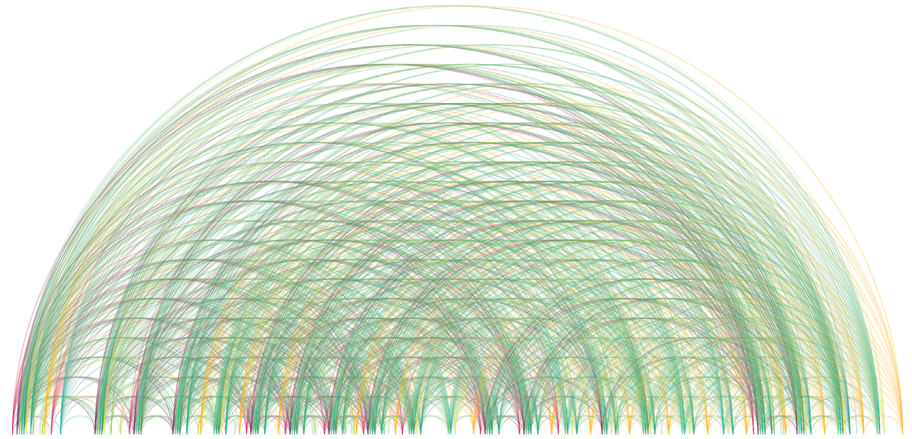
NEW THINKING | NEW METHODS | NEW MATERIALS | NEW SOLUTIONS



About ARC Solutions

ARC Solutions is an international network whose mission is to identify and promote leading-edge solutions to improve human safety, wildlife mobility and long-term landscape connectivity. We do this by fostering innovation in the placement, design and construction of wildlife crossings. We know these are solutions that work, and we seek to share this knowledge to build support for safe passage. ARC is a partnership network of nonprofit, private, public, academic, and philanthropic partners in the U.S. and Canada and is fiscally sponsored by the Center for Large Landscape Conservation in Bozeman, Montana.

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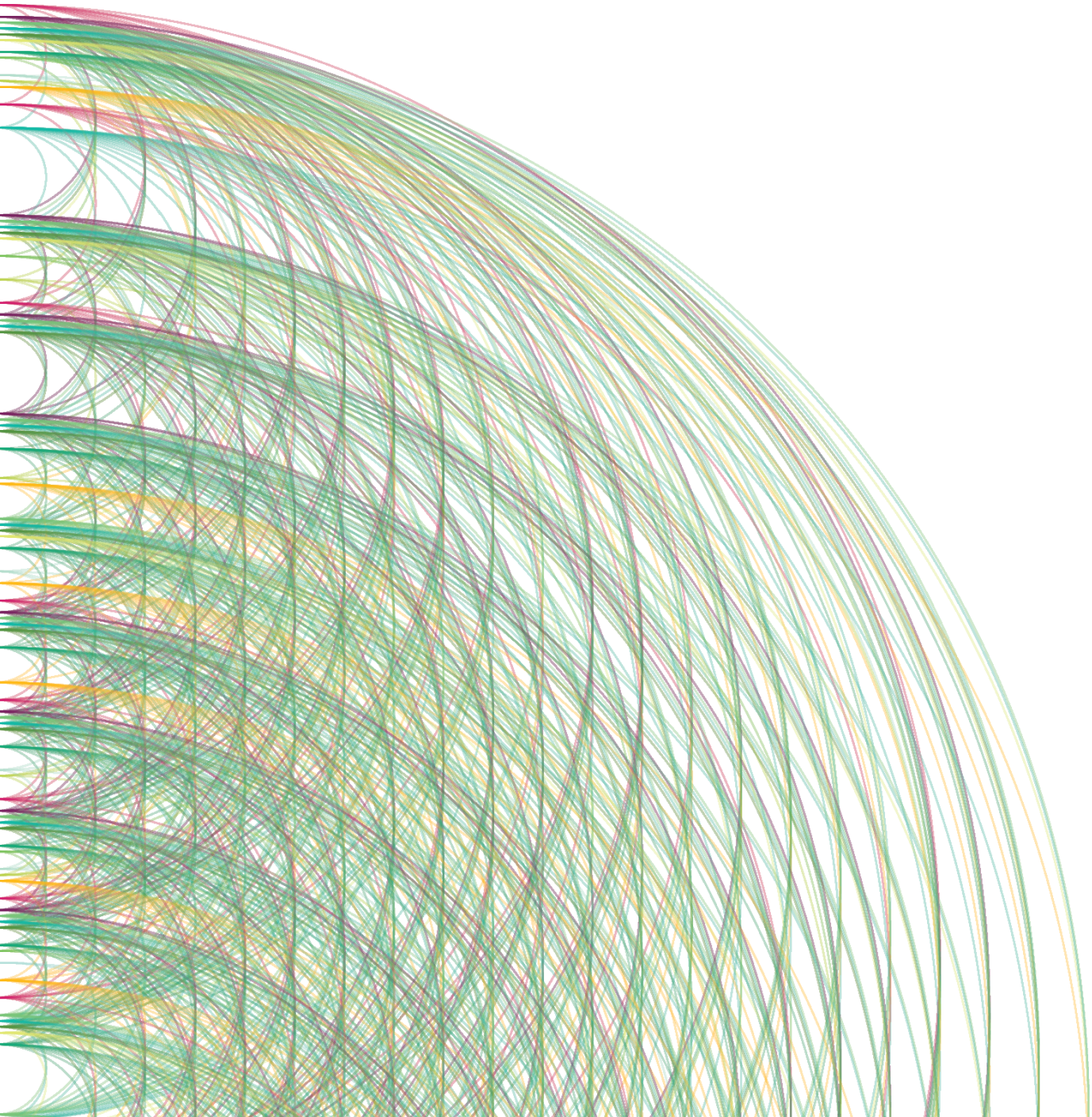

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