



# Supporting Safe Passage of Wildlife and Fish on our Nation's Transportation System

Infrastructure Investment and Jobs Act  
Advisory Services Policy Brief #11

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, provides an infusion of much-needed capital in our nation's infrastructure, enabling states, counties, tribes, and cities to bring our aging roads and bridges into a state of good repair and invest in the future. Beyond "traditional" transportation infrastructure that moves people and goods, the IIJA also prioritizes the safe movement of wildlife through funding for wildlife crossings and improved fish passage. This policy brief discusses the IIJA programs that enhance safety of the road-traveling humans as well as the road-crossing animals.

## About HDR's Advisory Services

The Advisory Services team has over 250 management consultants with premium, strategic advice that is rooted in the practical, solid-state service that our infrastructure clients around the world have come to expect. We have expertise in funding and finance, economics and decision analysis, strategic planning and policy, sustainability and resiliency, strategic communications and business improvement.

Advisory Services professionals review infrastructure policy developments and prepare summaries of key provisions to help keep our clients informed of the changing landscape in Washington, D.C.

To review past Advisory Services Policy Briefs and sign up for future updates on federal policy and funding programs, please visit our [website](#).

## Wildlife Crossings Explained

Wildlife crossings facilitate the safe movement of wildlife across roads and increase motorist safety. The Federal Highway Administration published the [Wildlife Crossing Structure Handbook](#) in March 2011, "providing key background information on defining the overall wildlife-vehicle interaction problem, the needs to be addressed, and offer[ing] a multitude of tangible solutions to plan, design, construct, monitor and maintain effective critter crossings." The handbook reflects the importance of understanding the human/animal interface on our roadways as a public policy problem that affects the safety of human travelers and the safety of many animal species. According to [researchers](#), over the last 50 years, animal mortality from vehicle collisions has increased 400%. [FHWA research](#) found that animal-vehicle crashes also account for approximately 5 percent of all reported motor vehicle collisions. Beyond the animal mortality and risk to human safety, our highways, train tracks, and other linear transportation



infrastructure can disrupt migratory animals’ patterns by creating an obstacle to historic migration pathways and fragmenting their natural habitat. Considering all of this, crossings that enable safe passage of animals over or under roadways are more important than ever. Reinforcing this point are the findings of Congress in the IJIA that “greater adoption of wildlife-vehicle collision safety countermeasures is in the public interest” because:

- There are more than 1 million wildlife vehicle collisions in the U.S. each year
- Wildlife-vehicle collisions present a danger to human safety and wildlife survival, as well as a persistent concern that results in tens of thousands of injuries and hundreds of fatalities on the roadways of the U.S.
- The total annual cost associated with wildlife-vehicle collisions has been estimated to be \$8.34 billion
- Wildlife-vehicle collisions are a major threat to the survival of species, including birds, reptiles, mammals and amphibians

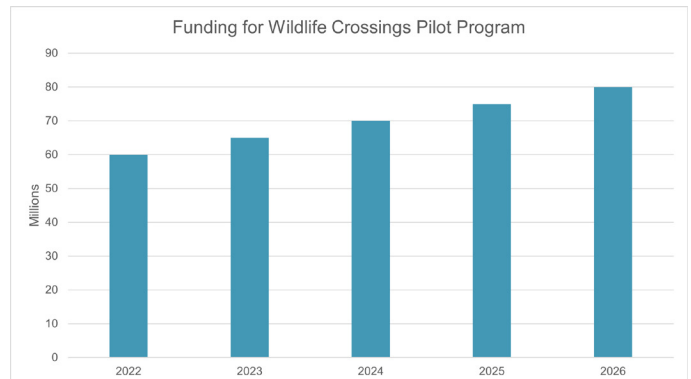


## IJIA Investments in Wildlife Crossings

### Wildlife Crossing Pilot Program

Based on those congressional findings, the IJIA authorizes a competitive wildlife crossing pilot program that funds projects to reduce wildlife-vehicle collisions and improve habitat connectivity for terrestrial and aquatic species. Eligible grant recipients include state departments of transportation, metropolitan planning organizations, local governments, and special purpose districts such as port authorities, Indian tribes, or federal land management agencies. This pilot program is funded through the highway trust fund at \$350 million over the five-year term of the bill, starting with \$60 million in 2022 and increasing by \$5 million increments as shown in **Figure 1**.

**Figure 1 - Annual funding for Wildlife Crossings Pilot Program**





## Wildlife-Vehicle Collision Reduction and Habitat Connectivity Improvement

In addition to the grants awarded under the pilot program, the IIJA also directs the USDOT to conduct a study into the state of the practice for reducing collisions between motorists and wildlife. USDOT must complete the study within 18 months of the IIJA enactment (i.e., May 2023) and it must include a discussion of the:

- Causes of wildlife-vehicle collisions
- Impacts of those collisions
- Impacts of roads and traffic on federally listed threatened and endangered species as well as state listed species of greatest conservation need, and species identified in state wildlife plans, and medium and small terrestrial and aquatic species
- Economic evaluation of the costs and benefits of installing highway infrastructure and other measures to mitigate damage to wildlife, including the effect on jobs, property values and economic growth
- Recommendations for preventing wildlife-vehicle collisions, including recommended best practices, funding resources, or other recommendations
- Guidance developing joint statewide transportation and wildlife action plans

## National Culvert Removal, Replacement and Restoration Grant Program

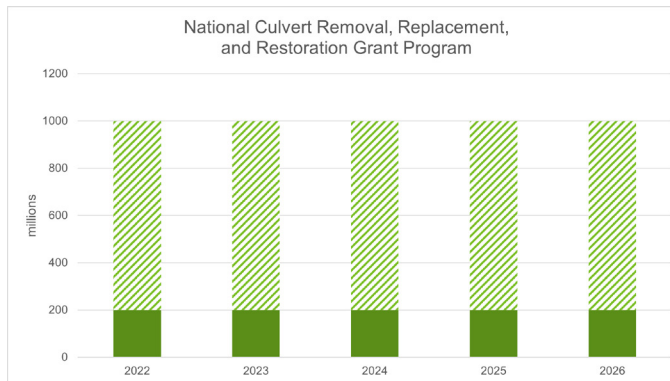
The newly established Office of Multimodal Freight Infrastructure and Policy in the Office of the Secretary at USDOT will administer this program that targets projects that replace, remove, or repair culverts or weirs that would meaningfully improve or restore fish passage for anadromous fish. USDOT will coordinate with the U.S. Fish and Wildlife Service to prioritize projects that:

- Improve fish passage for anadromous fish stocks listed as an endangered or threatened species under the federal Endangered Species Act, anadromous fish stocks that could reasonably become listed, anadromous fish stocks that are prey for endangered or threatened species, or anadromous fish stocks identified as climate resilient stocks
- Open up more than 200 meters of upstream habitat before the end of the natural habitat

Anadromous fish are fish that emerge as fry in freshwater, spend most of their lives in saltwater and return to freshwater to spawn. Anadromous fish species include salmon, lamprey, and some species of sturgeon and trout.

The National Culvert Removal, Replacement and Restoration Grant Program is funded with advance appropriations at \$200 million per year with the potential for another \$800 million per year subject to annual appropriations (indicated by the hatched area) in **Figure 2**. If fully funded on an annual basis, this program would provide up to \$1 billion each year in discretionary funds to improve fish passage through culverts and other draining structures.

**Figure 2 - Appropriated and authorized funding for the National Culvert Removal, Replacement, and Restoration Grant Program**



## Other Programs Supporting Wildlife Crossings

Beyond the establishment of new discretionary programs and directed research targeting wildlife crossings, the IIJA also authorizes wildlife crossings as an eligible expense in several other programs as well as making subtle policy changes to existing law. Key summaries are included below:

- Title 23 of United States Code (USC) Section 101 is amended to include “improvements that reduce the number of wildlife-vehicle collisions, such as wildlife crossing structures” as part of the definition of construction under the federal-aid highway program.
- Wildlife crossing structures are now eligible expenses under the [Surface Transportation Block Grant Program](#).
- The Nationally Significant Multimodal Freight and Highway Projects program, also known as INFRA, now includes wildlife crossing projects as an eligible project type. Changes to the program also include the consideration of how wildlife crossing onto the roadway may affect safety on freight corridors and additional wildlife crossings as a potential enhancement of freight resilience to natural hazards.



## What Does This Mean and How Can We Help?

The emphasis Congress placed on wildlife crossings in the IJA articulates the importance of effectively designing our transportation network to support a safe coexistence with animals of all sizes. Although the funding amounts aren't as large as with other programs, the hundreds of millions of dollars in dedicated funding represents a momentous change for this somewhat specialized discipline.

HDR's team of designers, biologists, planners and others can assist clients in evaluating and understanding wildlife movement and how our transportation infrastructure

contributes to wildlife-vehicle collisions. Solutions are developed by collecting and analyzing the best available science that informs design of wildlife-friendly transportation corridors. Our team will site and design wildlife crossings that maximize effectiveness while meeting technical specifications and controlling cost, matching the right design with the biological needs of the species. Post-construction, our teams can develop and deploy monitoring strategies to assess effectiveness and make refinements as necessary to optimize the crossing structure and other mitigation strategies.

### OUR EXPERTS CAN SUPPORT:

#### PLANNING SERVICES

- Wildlife Habitat Use and Movement Modeling
- Pre-Construction Camera Trap Studies
- Geospatial and Statistical Analysis
- Federal, State and Local Permitting
- Facilitation and Collaboration Support

#### DESIGN SERVICES

- Design and Engineering of Crossing Structures
- Wildlife Fencing and Vegetation and Terrain Modification Strategies
- Intelligent Transportation System (ITS) Solutions
- Variable Message Signs

#### MONITORING SERVICES

- Pre- and Post-Construction Wildlife Monitoring
- Construction Monitoring
- Collision Analysis
- Adaptive Management Consultation

For more information, please contact:



**John McPherson**  
 Transportation Environmental Services Director  
 John.McPherson@hdrinc.com



**Mark Traxler**  
 Environmental Scientist  
 Mark.Traxler@hdrinc.com



**Gabriel Kopp**  
 Western Region Fisheries Business Class Leader  
 Gabriel.Kopp@hdrinc.com



**Kelley Jorgensen**  
 Ecosystem Restoration Practice Leader  
 Kelley.Jorgensen@hdrinc.com



**Nathan Jones**  
 Senior Biologist  
 Nathan.Jones@hdrinc.com



**Kevin VerWeire**  
 Environmental Project Manager  
 Kevin.Verweire@hdrinc.com



**Becky Holloway**  
 Senior Environmental Biologist  
 Becky.Holloway@hdrinc.com



**Michael Garello**  
 Fisheries Business Class National Technical Director — Fisheries Ecohydraulics  
 Mike.Garello@hdrinc.com



**Eric Beightel**  
 Principal Infrastructure Policy/ Environmental Strategist  
 Eric.Beightel@hdrinc.com