Bipartisan Infrastructure Law: Making our highways safer for people and wildlife

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ARC
NEW THINKING | NEW METHODS | NEW MATERIALS | NEW SOLUTIONS

An innovative partnership supporting awareness, science, and design of wildlife crossings

arc-solutions.org
Today’s roadmap

1. Wildlife and roads
2. Wildlife crossing funding & policy opportunities
3. Wildlife crossing success stories
U.S. road network
What does 8 billion miles look like?

Source: Wikimedia commons
Total U.S. Crashes Versus Crashes Involving Animals, 1990–2004

(Huijser et al. 2008)
Ecological impacts of a road

(Steven P. Brady)
If we build them, will they come?
ROADWAYS & WILDLIFE

THE PROBLEM
- Roadways fragment habitat, restricting wildlife's access to food, water, shelter and mates.
- Wildlife crossing attempts increase wildlife-vehicle collisions.
- Wildlife-vehicle collisions are costly and too often fatal.
- Restricted movements can decrease genetic diversity and wildlife's ability to adapt to a changing climate.

A SOLUTION
Highways are safer when wildlife are separated by crossing structures, such as overpasses, underpasses and fencing.

EFFECTIVE? Absolutely!
Data collected from studies of crossing structures with wildlife fencing throughout North America indicate up to an 86-97% DECREASE in wildlife-vehicle collisions upon affected roadways.

HOW TO HELP
- Investigate highway projects in your state and their potential to make roads safer for wildlife and people.
- Recommend science-based mitigation measures to your State Department of Transportation.
- Consider joining a local conservation group working to reduce the barrier effect of roads on habitat connectivity.
- Get involved with county or local-level initiatives that create safe passage for wildlife and motorists.

WORTH THE COST? Yes!
The costs of collisions to society often outweigh the costs of building wildlife crossing structures. Placing structures along road segments with as few as 5.1 deer collisions per mile per year creates net public benefits.

Every Year in the United States
1-2 Million Wildlife-Vehicle Collisions Cause...
- > 200 human fatalities
- > 26,000 injuries
- ~ $9.7 Billion in costs

Average Cost of a Collision by Species (In 2016 US Dollars)
- $7,600 Deer
- $20,079 Elk
- $35,327 Moose

% Reduction in Collisions
- Reflectors: 0%
- Whistles: 0%
- Standard-Warning Grates: 0%
- Fencing + Underpasses: 26%

Produced by Alyson Morris, Rob Ament and Renee Callahan
For More Information Please Visit: arc-solutions.org

ARC
The Center for Large Landscape Conservation
Why should you care?

Bipartisan Infrastructure Law (BIL) (Pub. L. 117-58)

H.R. 3684, Infrastructure Investment and Jobs Act

- Passed the Senate (69-30) on August 10, 2021
- Passed the House (228-206) on November 5, 2021
- Signed into law by President Biden on November 15, 2021
$350M Wildlife Crossing Pilot Program

- Establishes a $350 million, 5-year pilot program for competitive grants to:
  - Reduce wildlife-vehicle collisions while
  - Improving habitat connectivity for terrestrial and aquatic species
- **Eligible entities:** State DOTs, Tribes, FLMAs, MPOs, local governments, RTAs, special purpose districts and combos of the above
- **Secondary selection considerations** include projects that:
  - Leverage non-federal funds (including public-private partnerships)
  - Support local economies and improved visitation opportunities
  - Incorporate innovative technologies
  - Provide education and outreach opportunities
  - Include monitoring and research
Surface Transportation Block Grant Program

Total funds available = $72B over 5 years *(including $7.2B TAP set-aside)*

Eligible projects expanded to include:

- Construction of wildlife crossing structures
- Projects and strategies designed to reduce WVCs, including project-related planning, design, construction, monitoring, and preventative maintenance
Nationally Significant Multimodal Freight & Highway Projects (INFRA)

Total Funding = $8B over 5 years
+ $6B subject to future appropriations

Eligible projects expanded to include:

- **Wildlife crossing projects**

- Increases funding for “small projects” from 10% to 15%

- Expands selection criteria to include “the effect of the proposed project on safety on freight corridors with significant hazards, such as … **wildlife crossing onto the roadway** …”

- Grant considerations include “enhancement of freight resiliency to natural hazards or disasters, including … **wildlife crossing onto the roadway** …”
Rural Surface Transportation Grant Program

• $2B over 5 years
• Projects to improve quality of life including increased highway connectivity, safety, reliability, and economic growth in rural areas
• Competitive grant program, including wildlife crossings and strategies to reduce wildlife-vehicle collisions
• Eligible applicants include States, Tribes, regional transportation planning organizations, local governments, and combos of the above.
Federal Lands Transportation Program

Total funding = $2.2B over 5 years

- **Doubles annual cap** on FLTP funds from $10 to $20 million per year for projects to reduce WVCs while maintaining connectivity
- Project leads are required to consider, to the maximum extent practicable, use of locally adapted native plant materials; and designs that minimize runoff and heat generation.
Bridge Investment Program

Total funding =

$12.5B over 5 years
+
$3.3B subject to future appropriations

Eligible projects include:

▪ “a project to replace or rehabilitate culverts for the purpose of improving flood control and improved habitat connectivity for aquatic species.”

▪ 5% annual FY cap on grants for eligible projects consisting solely of culvert replacement or rehabilitation
Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)

- **New definitions:** “Natural infrastructure” and “protective features,” including lengthening bridges, replacing culverts with bridges, or upsizing culverts

- **Hybrid funding:**
  - $7.3B in formula funding; $1.4B in § 176(d) discretionary grants

- **Program goal:** To mitigate the risk of recurring damage, or the cost of future repairs, from extreme weather events, flooding, or other natural disasters.

- **Eligible entities include:** State (or political subdivision of a State) • MPO • Local government • Special purpose district or public authority with a transportation function • Indian Tribe • Federal land management agency (applying jointly with State(s)) • Different eligibilities apply for at-risk coastal infrastructure grants

- **Expanded eligibility:** “Protective features” are also eligible under these programs:
  - National Highway Performance Program (§ 11105)
  - Emergency Relief Program (§ 11106)
  - Surface Transportation Block Grant Program (§ 11109)
National culvert removal, replacement, and restoration grant program

- **$1B total over 5 years**
- **In general.** Competitive grants for projects to replace, remove, and repair culverts or weirs to improve or restore anadromous fish passage
- **Eligible entities:** (1) States; (2) local governments; or (3) Tribes
- **Grant awards.** Priorities include:
  - Projects that improve fish passage for—
    - Anadromous fish stocks listed as endangered or threatened (TES), or that could reasonably become listed
    - Anadromous fish stocks identified as prey for TES or protected species, including Southern resident orcas or
    - Anadromous fish stocks identified as climate resilient stocks
  - Projects that open up more than 200 meters of upstream habitat before the end of the natural habitat
- **Other.** Up to 80% Federal share. Technical assistance available to Tribes and underserved communities.
Pollinator-friendly highways

• $10M total over 5 years
  subject to future appropriations
  
• **In general.** Provides grants to benefit pollinators on roadsides and highway rights-of-way, including the planting and seeding of native, locally-appropriate grasses and wildflowers, including milkweed.

• **Eligible entities:** (1) State DOTs, (2) Tribes

• **Grants.** Plans “deemed to be satisfactory” shall receive a grant. The total amount received depends on how many pollinator-friendly practices are included, up to $150,000.

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Not funded in FY22
Transportation Alternatives Program (TAP)

$7.2B over 5 years
- **Eligible applicants** include Tribes, States (if requested by another eligible entity), metropolitan planning organizations, local governments, NGOs, etc.
- **Eligible projects include** environmental mitigation related to habitat connectivity, including projects to reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.
New wildlife-related policy provisions

• Expanded definition of “Construction”
• Wildlife-Vehicle Collision Reduction & Habitat Connectivity Improvement Program
• National Bridge & Tunnel Inventory & Inspection Standards to assess terrestrial & aquatic passage
• National & State Freight Plans to include strategies to decrease freight impacts on wildlife habitat
• NHS projects to consider FHWA Wildlife Crossing Handbook when developing design criteria
• § 503 Research & Technology expanded to include measures to reduce WVCs
• § 515 Advisory Committee membership expanded to include wildlife and road ecology experts
• § 516 Research & Development priority areas expanded to include Animal Detection Systems
Definition of “Construction”

“Construction” revised to include “improvements that reduce the number of wildlife-vehicle collisions, such as wildlife crossing structures.”
WVC and Carcass Data Standardization + Voluntary National Template

Data Standardization

- FHWA “shall develop a quality standardized methodology for collecting and reporting spatially accurate wildlife collision and carcass data” (as practicable given technology and cost)
- Survey existing methods and sources
- Consult with DOI, USDA Forest Service, Tribal, State, local governments, AFWA, AASHTO and others

Voluntary Template

- FHWA shall also:
  - Develop a voluntary standardized national template based on the methodology, and
  - Encourage the template’s voluntary implementation
Voluntary Guidance

National Threshold Guidance
- The Secretary is tasked with establishing voluntary guidance that includes a threshold for determining whether a highway shall be evaluated for potential wildlife-vehicle collision (WVC) reduction measures
- Guidance to take into consideration—
  - Number of WVCs
  - Highway-related wildlife mortality and traffic effects on
    - Threatened and endangered species
    - Species of Greatest Conservation Need
    - Species included in State Wildlife Action Plans
    - Medium and small terrestrial & aquatic species
  - Habitat connectivity values
  - Barrier effect of the highway

Joint Statewide Transportation & Wildlife Action Plan
- Updated Report to Congress to include guidance for developing a voluntary joint statewide transportation and wildlife action plan to—
  - address WVCs and
  - improve habitat connectivity for terrestrial and aquatic species.
- Guidance to be developed in consultation with voluntarily participating FLMAs, state DOTs & DOWs, and Tribes
The Wonderful World of Wildlife Crossings
VT: Monkton Wildlife Crossing

Vermont

Project partners include: Town of Monkton, Monkton Conservation Commission, Lewis Creek Association, U.S. Fish and Wildlife Service, University of Vermont, Vermont Reptile and Amphibian Atlas, Defenders of Wildlife, and the Davis Conservation Foundation. In 2017 the Project was recognized by the Federal Highway Administration with an Environmental Excellence Award for “exemplary achievement ecosystems, habitat, and wildlife.”
Project Partners include: National Wildlife Federation, Caltrans, National Park Service, Santa Monica Mountains Conservatory/ Mountain Recreation and Conservation Authority, Resource Conservation District of the Santa Monica Mountains. In addition, the partners and the Caltrans project team are working with a group of crossing experts from across the world, including Living Habitats, ARC Solutions, the Western Transportation Institute at Montana State University, the Road Ecology Center at UC Davis, and more.
Project partners include: The Nature Conservancy and the New York State Department of Transportation, both of which are also members of a larger international collaborative known as the Staying Connected Initiative. The Staying Connected Initiative is a network of more than 65 transportation and natural resource agencies, non-profit organizations and others working together to maintain and enhance habitat connectivity for wildlife across an expansive 80-million-acre forested landscape shared by the U.S. and Canada.
CA: Sierra National Forest
Yosemite Toad Crossing

California

The Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the “Bipartisan Infrastructure Law”) is a once-in-a-generation investment in our infrastructure that will help grow the economy, enhance U.S. competitiveness, create good jobs, and build our safe, resilient, and equitable transportation future.

www.fhwa.dot.gov/bipartisan-infrastructure-law/
“We spend $8 billion a year running over wildlife. If we took that cost and quartered it, we could build 200 animal crossings a year, and the problem of roadkill would disappear within a generation.”

Ted Zoli, Bridge Engineer, MacArthur Fellow,
ARC Competition, Co-lead on Winning Design

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