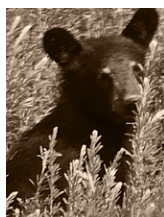


# KENTUCKY'S WILDLIFE-VEHICLE COLLISION REDUCTION PLAN



**FOCUSED CORRIDOR STUDY:**  
US 60 & I-64 IN JEFFERSON,  
SHELBY, & FRANKLIN COUNTIES



## FY 2022-2023 WILDLIFE CROSSINGS PILOT PROGRAM

Submitted by KYTC in partnership with  
Kentucky Department of Fish & Wildlife Resources







**Andy Beshear**  
GOVERNOR

## TRANSPORTATION CABINET

200 Mero Street  
Frankfort, Kentucky 40601

**Jim Gray**  
SECRETARY

July 25, 2023

The Honorable Pete Buttigieg  
Secretary of Transportation  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
Washington, D.C. 20590

Dear Secretary Buttigieg,

The Kentucky Transportation Cabinet (KYTC) is pleased to submit this application for a 2023 Wildlife Crossings Pilot Program (WCPP) grant to fund the *Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan*. If awarded, KYTC will collaborate with the U.S. Fish and Wildlife Service's Kentucky Field office and the Kentucky Department of Fish and Wildlife Resources to identify factors influencing wildlife collisions and potential methods to reduce WVCs across the Commonwealth. As a part of this effort, a pilot project, focused on the US-60/I-64 corridor in Shelby, Jefferson, and Franklin Counties will be completed.

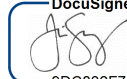
Wildlife crossings have proven successful elsewhere in the country, reducing wildlife-vehicle collisions by connecting fragmented habitats, enhancing wildlife movement, and mitigating the risk to both drivers and animals. By learning from existing projects and adapting these proven strategies to the local context, we hope to create a program tailored to the specific needs and characteristics of Kentucky's wildlife. The proposed statewide WVC reduction plan will develop a collaborative approach to reporting, identifying priority corridors, establishing policies, and create a repository of information and solutions.

The US60/I-64 corridor was chosen as a pilot project due to its high number of vehicle collisions with white-tailed deer. The corridor is also rural in nature and provides a wide range of habitat requirements for deer. These characteristics will allow this project to be a template for future projects in rural areas across the state.

KYTC is taking a proactive approach to create a program that reduces wildlife-vehicle collisions, improving the safety of the traveling public and conserving wildlife across the state. Our goal is to develop a plan that also garners public support and ensures the feasibility of successful implementation.

I appreciate your time and consideration of this Wildlife Crossing Pilot Program grant application to help fund Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan. Kentucky's efforts would signify our commitment to protect and preserve the natural wonders that make our state so special.

Respectfully,  
DocuSigned by:



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Jim Gray

Secretary

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## I. Basic Project Information

The Kentucky Transportation Cabinet (KYTC) enthusiastically submits this application for a Non-Construction Project to develop *Kentucky's first Wildlife-Vehicle Collision (WVC) Reduction Plan* in parallel with a pilot study focused on the US-60/I-64 Corridor that will evaluate segments of US 60 and I-64 between Louisville Metro and Frankfort, Kentucky.

### A. Description

The primary goals of the *Wildlife Crossings Pilot Program (WCPP)* are to save lives, prevent serious injuries, protect motorists and wildlife by reducing WVCs, and improve habitat connectivity for terrestrial and aquatic species. Kentucky shares that vision.

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*KYTC's goal is to implement a strategic planning process statewide that sets a framework in place to protect motorists and wildlife across the Commonwealth.*

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The KYTC intends to coordinate with multiple agencies and environmental experts to develop a process and identify strategies that will provide substantial safety benefits and advance safe, efficient transportation, in an environmentally sustainable manner. The vision is to implement a planning process that has two compatible and beneficial scopes—a Statewide plan and a focused pilot corridor study to identify potential solutions that could be implemented elsewhere within the state. Each would focus on the reduction of WVCs and each would depend on input from multiple agencies and organizations with various expertise.

Through effective collaboration among environmental experts, state agencies, and local communities, this planning study seeks to gather insights from a multitude of perspectives. By understanding the social, economic, and ecological factors at play, the team will endeavor to create a program that protects motorists and safeguards wildlife. Public outreach and education will be a key aspect of the process. Successful implementation of any plan will depend on public support.

### 1. Kentucky's Wildlife-Vehicle Collision Reduction Plan

According to the State Farm Insurance Company's 2022 report on animal collisions,<sup>1</sup> the likelihood of an animal involved claim in Kentucky is 1 in 85. Kentucky ranks 19<sup>th</sup> in the nation for reported animal collisions.

Kentucky has a unique geography with notably diverse physiographical regions (see **Figure 1**). It varies from the soil rich plains in western Kentucky, to a massive karstic sinkhole region that stretches through Mammoth Cave National Park, to the beautiful Inner

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<sup>1</sup> <https://www.statefarm.com/simple-insights/auto-and-vehicles/how-likely-are-you-to-have-an-animal-collision>

## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative

Blue Grass region that supports picturesque horse farms, the Ohio River valley along the northern border, the Knobs around Fort Knox, the rolling terrain of northern Kentucky, and the Appalachian Mountains that encompass the expansive Daniel Boone National Forest, Red River Gorge, Pine Mountain, and much more.

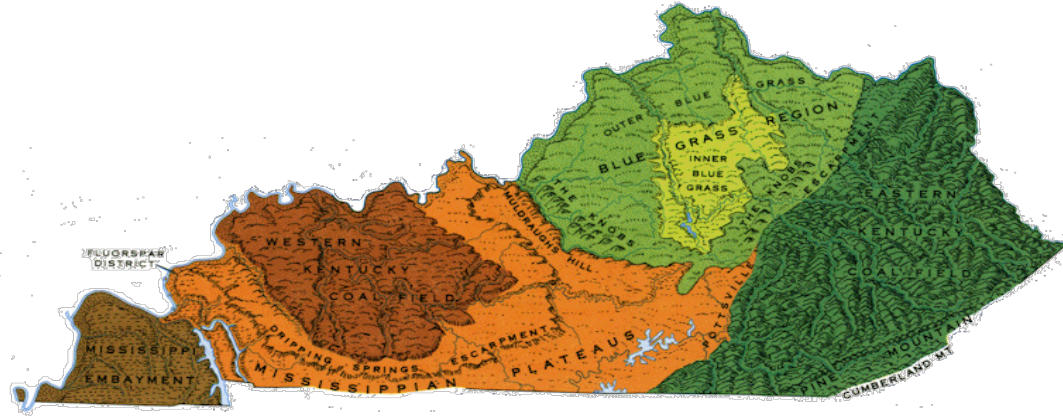


Figure 1. Physiographic Regions of Kentucky (Source: Kentucky Atlas & Gazetteer)

These markedly different regions support different ecologies, farming practices, land use patterns, and tourism and economic activities. But each has at least two commonalities, roadway infrastructure and a substantial amount of wildlife habitat:

- Kentucky's roadway infrastructure consists of approximately 80,000 miles of state and locally owned roads and streets (80% are in rural areas) and more than 14,000 bridges,
- The Commonwealth has robust wildlife and natural areas (48% of the Commonwealth is forested).<sup>2</sup>

While the problems associated with wildlife-vehicle collisions may be common, the approaches to improving them will not be. They will be as unique as Kentucky's physiography. To develop a path forward for roadway safety and wildlife sustainability it is vital to develop *Kentucky's WVC Reduction Plan*.

Designated wildlife crossings have proven successful elsewhere in the country, reducing WVCs by connecting fragmented habitats, enhancing wildlife movement across roadways, and mitigating the risk to both drivers and animals. By learning from existing projects and processes and adapting these proven strategies to the local context, KYTC hopes to create a program tailored to Kentucky's specific needs to reduce these crash types.

The *Wildlife Crossings Pilot Program* provides Kentucky an opportunity to meet the escalating challenges of wildlife habitat fragmentation and road safety. By having a strategic plan toward implementing designated wildlife crossings, the program will aim to

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<sup>2</sup> <https://eec.ky.gov/Natural-Resources/Forestry/Pages/Forest-Facts.aspx>

foster coexistence between humans and animals while preserving the natural heritage of the state. Through assessments, collaboration, and consideration of both ecological and economic elements, this study will lay the foundation to identify sustainable and effective strategies to reduce wildlife-vehicle collisions in Kentucky.

To initiate the study, a comprehensive assessment of the existing road network and its impact on wildlife populations will be conducted. This evaluation will identify key areas where road expansions and high traffic volumes intersect with important wildlife habitats and migration routes. By pinpointing these critical locations, the study can prioritize and allocate resources; accordingly, therefore, maximizing the program's impact.

*Kentucky's WVC Reduction Plan* will also consider the specific habitat requirements of different wildlife species, ensuring planned crossings cater to their unique needs in the varying regions across the state. With the guidance of wildlife ecologists and biologists, the study aims to establish corridors and connectivity between fragmented habitats, facilitating safe movement for various species.

The study will also assess the economic implications and benefits of implementing designated wildlife crossings. It will examine potential cost savings resulting from reduced collisions, healthcare expenses, and vehicle damage. Likewise, it will evaluate potential positive impacts on the tourism industry, as the enhanced conservation efforts stimulate wildlife viewing opportunities and ecotourism throughout the state.

## **2. US 60/I-64 Focused Corridor Study**

As part of the planning process, KYTC has chosen to do a pilot study focused on an area that has a high number of documented wildlife-vehicle collisions. The selected study area includes segments of I-64 and US 60 between Frankfort, Kentucky (the State Capital) and the Jefferson County/Louisville Metro area (the most populous area in the state) and runs through parts of Jefferson, Shelby, and Franklin Counties. The 2020 population for these three counties is a combined 882,600 and is projected to grow by a combined 6% to 961,600 by 2045.<sup>3</sup>

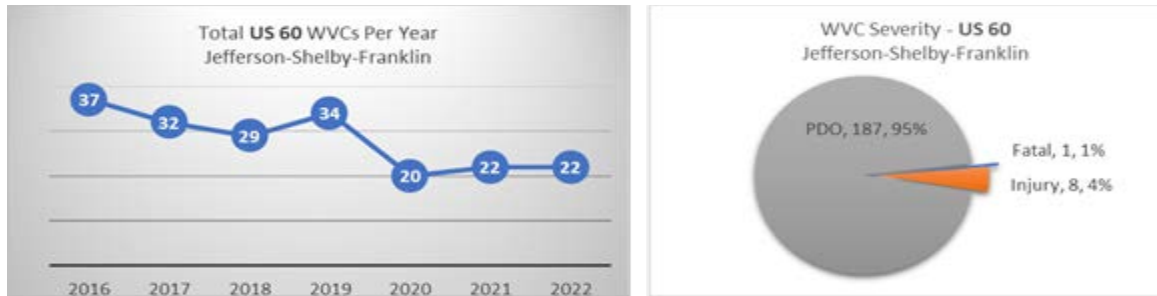
As shown in **Figure 2**, Kentucky State Police (KSP) data (2016 to 2022) indicate that US 60, a two-lane, access by permit facility, signed at 55 MPH, experiences approximately 30 deer collisions per year.

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<sup>3</sup> <http://ksdc.louisville.edu/data-downloads/projections/>

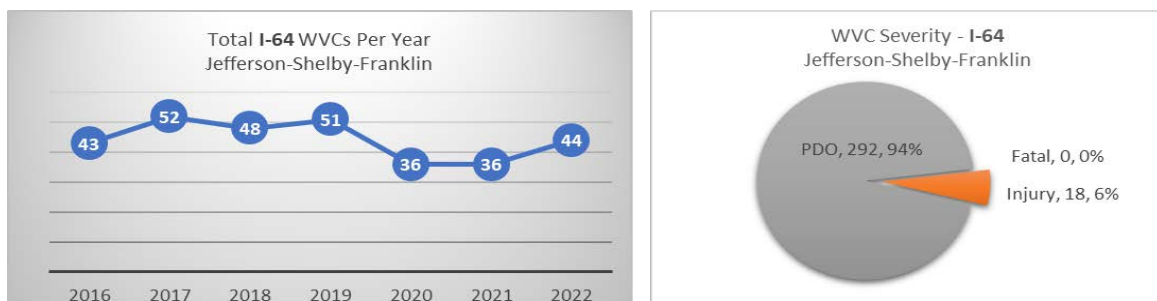


## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative



**Figure 2. US 60 WVC per Year, By Severity (Source: KSP Crash Data 2016-2022)**

KSP data (2016 to 2022) for I-64, a four-to-six lane, controlled-access facility, signed at 70 MPH, experiences approximately 45 deer collisions per year as shown in **Figure 3**.



**Figure 3. I-64 WVC per Year, By Severity (Source: KSP Crash Data 2016-2022)**

The habitat between the two facilities is comparable given the minimal distance between them. I-64 maintains right-of-way (ROW) fencing throughout the study area, while US 60 has no ROW fence within the study area.

In 2021, I-64 carried between 42,400 and 65,800 vehicles/day (vpd) in the proposed study area. Per the KYTC’s Planning Statewide Travel Demand Model (TDM,) by 2045 traffic volumes are expected to increase to 51,500 and 91,400 vpd, respectively. The study area along US 60 carried between 11,100 and 46,200 vpd in 2021, which is expected to increase to 13,800 and 46,200 vpd, respectively, by 2045.

The US 60/I-64 corridor study area was chosen for its higher-than-expected number of collisions with white-tailed deer based on KSP crash data. This area is also home to the “deer cemetery.”<sup>4</sup> Over half of the combined US 60/I-64 corridors, 64.4%, is designated as being in a rural area according to FHWA’s Adjusted Urban Area map.<sup>5</sup> The mix of rural

<sup>4</sup> In a November 21, 2013 and then June 7, 2023 update, the local news station WDRB, news station reported on the “Deer Cemetery” located next to the road, where deer carcasses were piled and later buried. [https://www.wdrb.com/news/pile-of-deer-carcasses-catching-attention-of-drivers/article\\_08f3fc58-89ee-54c7-8288-77e3ec47aebb.html](https://www.wdrb.com/news/pile-of-deer-carcasses-catching-attention-of-drivers/article_08f3fc58-89ee-54c7-8288-77e3ec47aebb.html) and [https://www.wdrb.com/news/deer-carcasses-piled-up-on-i-i-have-been-buried/article\\_60d518c0-7b86-5624-8f94-7bedbbb4e41a.html](https://www.wdrb.com/news/deer-carcasses-piled-up-on-i-i-have-been-buried/article_60d518c0-7b86-5624-8f94-7bedbbb4e41a.html)

<sup>5</sup> <https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=MPO+Boundaries%7CFHWA%20Adjusted%20Urban%20Area>

and urban areas (See **Figure 4**) provides a variety of habitat for deer that will create an interesting case study from which the team can identify problems, correlations, and solutions.

The study process for this corridor will detail the land uses, access points, natural features, and traffic patterns. KYTC's goal will be to identify correlations between these data elements and the WVCs. For example, the team will investigate if certain areas like stream crossings, farms, or wooded lots are more conducive to wildlife access and, in turn, more collisions occur in those areas. This data could provide information for other roadway corridors with similar characteristics throughout the Commonwealth.

The US 60/I-64 Focused Corridor study will also look at the effectiveness of the existing ROW fencing along I-64 in reducing wildlife crossings compared to US 60 which has no fencing. The team will also analyze the Average Daily Traffic (ADT) of both facilities to assess correlations to WVCs.

For this pilot corridor study, the Kentucky Department of Fish and Wildlife Resources (KDFWR) will assist the KYTC in evaluating the area, identifying issues and developing ways to implement solutions. This effort will facilitate the team's work in the creation of *Kentucky's WVC Reduction Plan*.

## **B. Location**

### **1. Kentucky's Wildlife-Vehicle Collision Reduction Plan**

In the heart of the beautiful Commonwealth of Kentucky lies a precious treasure - its rich and diverse wildlife. From the graceful white-tailed deer to the elusive bobcat and the magnificent eastern elk, these creatures call Kentucky home. KYTC owns and maintains over 63,000 lane-miles of pavement, the eighth largest roadway system in the nation. The extensive roadway network, especially through the rural areas of the state (49% of the counties are rural), provide countless opportunities for wildlife-vehicle collisions. Kentucky's human and deer populations, and vehicle miles traveled, are on the rise:

- Per the Kentucky State Data Center, Kentucky's population is expected to grow by 6% from 4.5M in 2020 to 4.8M in 2050.<sup>6</sup> The FIPS code for Kentucky is 21.
- Per the KYTC Planning's Statewide Travel Demand Model (TDM), the forecasted average annual growth rate of vehicle miles traveled (VMT) from 2021-2045 is 1.3%.
- Per the KDFWR, the 2020 statewide deer population estimate was 933,089, which is 13.6% above the 10-year average deer population of 821,608.<sup>7</sup>

It isn't hard to imagine that as these key metrics continue to increase—human population, development, vehicle miles traveled, and deer population—deer-vehicle collisions will be

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<sup>6</sup> <https://louisville.app.box.com/s/ndp7uvqbi6xtsv1sd2ylnvaer02kklq>

<sup>7</sup> <https://fw.ky.gov/Hunt/Documents/2020-2021%20Kentucky%20Deer%20Report.pdf>

on the rise too. Thus, time is of the essence to develop the first *Kentucky WVC Reduction Plan*.

## 2. US 60/I-64 Focused Corridor Study

The US 60 and I-64 corridors are located between Louisville Metro and Frankfort, and both are located in Congressional Districts 4 (85%) and 6 (15%). The FIPS Codes for Jefferson, Shelby, and Franklin counties are 21-111, -211, and -073, respectively. **Figure 4** is a map of the study corridors that also shows the animal collision data along both US 60 and I-64 corridors reported between 2016-2022. As seen in the figure, the facilities run parallel to each other with approximately 7,000 feet separating the two.

- The US 60 western termini of the study will be in Jefferson County/Louisville Metro at MP 12.1 ([38.241692, -85.499795](#)) and the eastern termini will be MP 4.5 in Franklin County ([38.174462, -84.910484](#)), a distance of 32.8 miles.
- The I-64 western termini of the study will be in Jefferson County/Louisville Metro at MP 19.3 ([38.222539, -85.499362](#)) and the eastern termini will be MP 52.8 in Franklin County ([38.158568, -84.900221](#)), a distance of 33.5 miles.



Figure 4. US 60 & I-64 Animal Collisions in Jefferson, Shelby, & Franklin Counties (2016-2022)

### a. Urban/Rural.

US 60 and I-64, from west to east, travel through urban (eastern Louisville), to rural (Shelby County), to urban (Shelbyville), to rural (Shelby and Franklin counties), back to urban (Frankfort). US 60 in the study area is 61% rural, 29% urban, and I-64 is 68% rural and 32% urban, per the FHWA urban service boundaries.<sup>8</sup> Representative views of study corridors are provided in **Figure 5**.

<sup>8</sup> <https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=MPO+Boundaries%7CFHWA%20Adjusted%20Urban%20Area>



Figure 5. Representative Views of Study Corridors

### C. Parties

The KYTC, which is the state Department of Transportation (DOT) for the Commonwealth of Kentucky, has extensive experience with receipt and expenditure of Federal highway programs funds under Title 23 U.S.C. and other Federal funding sources. The



KYTC will have a “strategic partnership” with the Kentucky Department of Fish and Wildlife Resources (KDFWR) during the implementation of the grant and planning process. The KYTC will also collaborate with a host of government, non-government, and academic organizations across the state (See Section III.A.1., p.11) when developing the plan. However, the grant funds will only be used and managed by the KYTC. Any expenses incurred by other parties will be their responsibility, and not reimbursed through this WCPP grant. The KYTC will be the lead agency responsible for all financial and reporting management.

No one agency can be an expert in a comprehensive statewide WVC reduction plan. Thus, Project Team collaboration will be diverse, breaking down silos, learning from each other, having a platform for sharing data, implementing a statewide public campaign and other tools. The goal is to make use of collective diversity to build a unified plan to reduce wildlife-vehicle collisions and enhance wildlife habitat connectivity.

The following non-governmental organizations contacted KYTC to express interest in and offer support to advance a *Wildlife Corridors Pilot Program* effort. In response, KYTC is preparing this grant application and, if awarded, will engage these organizations in the planning process. This proactive communication is indicative of the interest across the state to address the wildlife-vehicle collision issue.

- KDFWR
- Kentucky Conservation Committee
- Kentucky Natural Lands Trust
- The Nature Conservancy of Kentucky
- USFWS
- Bluegrass Conservancy
- American Farmland Trust
- The Kentucky Sportsman Caucus



The KYTC team has also identified a neighboring state connection. The Virginia Department of Transportation (VDOT) is willing to assist with Kentucky's effort. They have been working toward their own WVC planning effort over the last 5 years and have offered to provide guidance, expertise, and research resources to help kickstart Kentucky's program. Furthermore, VDOT has expressed interest in potential bi-state partnership opportunities for designated wildlife crossings along the shared state line. A meeting between the two states is planned for September of this year at Breaks Interstate Park (a bi-state park located partly in southeastern Kentucky and mostly in southwestern Virginia) to begin collaboration.



There is strong support for *Kentucky's WVC Reduction Plan* development effort across the state. In addition to the non-governmental organizations noted above, numerous elected officials (67) have provided letters of support. All are included with this grant application submittal.

## II. Budget Narrative

The KYTC is seeking to develop a WVC reduction planning document estimated to cost \$1,500,000; \$1,000,000 to initiate a statewide planning effort to reduce wildlife-vehicle collisions and \$500,000 for a pilot study on the US-60/I-64 corridor.

KYTC is not seeking funds for the *WVC Reduction Plan* from any other USDOT program or opportunity and is not submitting any other applications for this WCPP grant.

### A. Grant Funds

KYTC's request from the *Wildlife Crossings Pilot Program* (WCPP) available funds is \$1,200,000.

### B. Fund Sources

The state non-federal match will be funded by the Kentucky Road Fund, derived primarily from receipts from motor vehicle usage tax, motor vehicle operators' licenses, fees, and motor fuels taxes. From this fund, the KYTC judiciously and strategically manages expenditures through a tested and proven cash flow model that projects monthly cash availability and expenditures. As an added safeguard, state law mandates a minimum cash "floor" of \$100 million be always kept, but as of this writing the available balance exceeds \$345 million. This reserve demonstrates KYTC's ability to deliver the \$300,000 state share of the total project funding.

### C. Uses of all Project Funding

The project funding would support a planning process estimated to cost \$1,500,000; \$1,000,000 to initiate a statewide planning effort to reduce wildlife -vehicle collisions and \$500,000 for a pilot study on the US-60/I-64 corridor.

Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan  
Project Narrative

Table 1. Project Estimate

Task	Component	WCPP Grant Fund 80%	State Funds 20%	Total Cost
Partnership and Charter Development-- <i>Bringing Organizations Together</i>	KY's WVC Reduction Plan	\$100,000	\$25,000	\$125,000
	US-60/I-64 Focused Study	\$40,000	\$10,000	\$50,000
Existing Conditions-- <i>Crash, Wildlife, Traffic, Land Use, etc.</i>	KY's WVC Reduction Plan	\$160,000	\$40,000	\$200,000
	US-60/I-64 Focused Study	\$80,000	\$20,000	\$100,000
Assessment of Existing Conditions-- <i>Correlations, Causes and Effects</i>	KY's WVC Reduction Plan	\$120,000	\$30,000	\$150,000
	US-60/I-64 Focused Study	\$40,000	\$10,000	\$50,000
Identification of Needs-- <i>Data Collection, Policies, Strategies, Projects</i>	KY's WVC Reduction Plan	\$160,000	\$40,000	\$200,000
	US-60/I-64 Focused Study	\$80,000	\$20,000	\$100,000
Prioritization of Mitigation Strategies	KY's WVC Reduction Plan	\$60,000	\$15,000	\$75,000
	US-60/I-64 Focused Study	\$40,000	\$10,000	\$50,000
Public Outreach Efforts	KY's WVC Reduction Plan	\$120,000	\$30,000	\$150,000
	US-60/I-64 Focused Study	\$80,000	\$20,000	\$100,000
Documentation	KY's WVC Reduction Plan	\$80,000	\$20,000	\$100,000
	US-60/I-64 Focused Study	\$40,000	\$10,000	\$50,000
<b>Total</b>		<b>\$1,200,000</b>	<b>\$300,000</b>	<b>\$1,500,000</b>

Assuming a January 2024 start, the estimate in year-of-expenditures are \$0.9M in 2024 and \$0.6M in 2025.

### III. Project Merit Criteria

#### A. Primary Merit Criteria

##### 1. Criterion 1.1 - Reduction of Wildlife Vehicle Collisions

*Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan's* objective is to undertake planning processes, collaborate with specialists, government, non-government, and academic organizations to collect data, and conduct analyses to identify and prioritize locations for future implementation of WVC mitigation. The team will assess crash data and habitat data to identify the areas within the Commonwealth of highest risk and best conservation opportunities.

One of the two primary goals of the WCPP program is “to save lives, prevent serious injury and protect motorists and wildlife by reducing WVCs...”. The KYTC’s Mission statement is “To provide a safe, efficient, environmentally sound and fiscally responsible transportation system...”. **Safety** is paramount for both the WCPP and the KYTC.

## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative

We understand that judicious implementation of dedicated wildlife crossings throughout the state will not only confer ecological benefits, but also holds the promise of significantly reducing crashes and making Kentucky a safer place to drive.

When wildlife cross roadways they pose a significant hazard to motorists. In 2020, the Kentucky State Police recorded nearly 2,100 highway crashes that involved vehicles striking a deer. On average, in Kentucky there are approximately 3,000 deer collisions per year.<sup>9</sup> Nationwide, Kentucky ranks 19th among states for vehicle-wildlife collisions.

Interactions between wildlife and vehicles are especially common in rural portions of the state. When roadways fragment habitat and migratory pathways, wildlife are forced into dangerous crossings — imperiling both drivers and the animals. WVCs come with a cost. In 2008, per FHWA, the nationwide average of direct monetary cost per deer-vehicle collision was a total of \$6,717.<sup>10</sup> Per the US Inflation Calculator,<sup>11</sup> the cumulative rate of inflation between 2008 and 2023 was 41.7%, which results in a 2023 average cost of \$9,519 per collision with a deer. That is an average cost per year totaling \$28.5 million for Kentucky.

Well-designed wildlife crossings mitigate vehicle-animal collisions. These crossings can take the form of wildlife tunnels, natural bridges (overpasses), culverts, and other creative design solutions. By reconnecting fragmented habitats, they reduce interactions between wildlife and vehicles.

Some of the tasks included in this planning study are collection of data, input from other agencies and organizations, ecological analyses, identification of correlations between causes and effects, and assessment of costs. These will facilitate the development of key strategies to reduce WVCs. Specific goals of *Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan* will be to identify:

1. Locations along Kentucky's roadways where WVCs are excessive
2. Contributing factors
3. Opportunities to mitigate risk
4. Countermeasures to minimize collisions
5. Priority areas for consideration during project development and when programming future roadway funding throughout the state.

To ensure *Kentucky's WVC Reduction Plan* is a success, we must engage as many organizations as possible. Our intent is to involve the following entities during plan development:

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<sup>9</sup> <https://www.kentucky.gov/Pages/Activity-stream.aspx?n=FishandWildlife&prId=504>

<sup>10</sup> <https://www.fhwa.dot.gov/publications/research/safety/08034/exec.cfm>

<sup>11</sup> <https://www.usinflationcalculator.com/>

- **KDFWR** – *already committed as Strategic Partner*
- **Kentucky Transportation Center (KTC)** at the University of Kentucky – *already committed and helped with this application*
- **Kentucky State Police** – clearinghouse for crash data and have provided antidotal information
- **Kentucky Department of Forestry**
- **US Forest Service** – manage lands in the Daniel Boone National Forest, and Jefferson Memorial National Forest
- **US National Parks Services** – Mammoth Cave National Park
- **US Fish and Wildlife Services** – *already committed to participating*
- **Federal Highway Administration – Kentucky Division**
- **Eastern Kentucky University – Department of Wildlife and Biological Sciences** (in eastern Kentucky)
- **Murray State University – Department of Wildlife and Conservation Biology** (in western Kentucky)
- **Kentucky's 12 Area Development Districts (ADDs)** – regional transportation planning
- **Kentucky's Metropolitan Planning Organizations (MPOs)** – Long-Range Metropolitan Transportation Planning (MTPs)

The scope of the planning study for *Kentucky's WVC Reduction Plan* and US 60/I-64 Focus Corridor are outlined below.

**a. Assess the Need**

The primary objective of this planning study is to develop a toolbox of strategies that will meet the critical goals of saving lives, preventing serious injuries, protecting motorists and wildlife and improving wildlife habitat connectivity. Specifically, it will determine the need for designated wildlife crossings in various regions and roadways of Kentucky. This involves extensive research and analysis of wildlife movement patterns, migration routes, and areas of potential conflict with human activities. By understanding the necessity of wildlife crossings, the aim will be to develop effective strategies to mitigate WVCs and ensure the safety of both wildlife and motorists.

**b. Data Collection Methodologies and Analyses**

Better WVC data is needed in Kentucky. WVCs are clearly undercounted in the state, as well as nationwide. For example, in 2021, the total number of deer collisions reported for Jefferson County—Kentucky's most populated county—was 15.<sup>12</sup> This

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12

<https://transportation.ky.gov/Documents/2021%20Reported%20Deer%20Collisions%20FINAL%20Sorted%20Greatest%20to%20Least.pdf>



## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative

lack of data equates to a less than holistic assessment of the problems, which could result in missed opportunities when developing solutions. As a part of the planning process, the team will identify the gaps in data across the state and develop strategies for improvements to the data gathering methods.

At present, Kentucky relies on police reports for wildlife-vehicle collision data. Drivers often do not report animal collisions to the police or insurance companies. An example of a potential supplemental data source for WVC information is connection/communication with KYTC Maintenance crews.

An interview was conducted with the KYTC District 5 Maintenance crews that serve the US 60/I-64 Focus Corridor. That conversation revealed that the removal of animal carcasses from the roadway is rarely reported. The crews remove the hazard and eyesore for the public interest, but data gathering has not been a priority.

However, KYTC's Division of Maintenance has very recently implemented a mobile application (app) called Mobile Work Manager. This app is currently in the testing phase, but when implemented it will allow maintenance crews to provide geographic coordinates and attribute data for a host of items, including WVCs. The project team could explore adding new features to the map to allow maintenance crews to document carcass removal, disposal, and then key details to inform planners. The project team will work closely with KYTC's Division of Maintenance during plan development to ensure consistency in the type and desired details in reports and also learn from them about WVCs as they are often the first to respond to unreported incidents.

Accurate data will help the team prioritize the areas with the highest number of wildlife-vehicle collisions and risk to life. It will also help identify the appropriate safety countermeasures, improve communication with the public, and inform investment needs in areas across the state. As part of the statute, under "Wildlife Crossing Safety" the USDOT has been directed to "Develop a standardized methodology for collecting and reporting wildlife collision and carcass data. Provide a template to help states voluntarily implement the guidance." KYTC will work in concert with that national effort to improve driver safety and reduce animal risk.

Wildlife movement and habitat data is important to understanding the problem that will lead to solutions. This data will allow the team to identify the areas of the highest conservation priority. The team will assist the KDFWR with data collection, like tagging large animals and then tracking them to better understand their mobility and when they cross major roadways.

A long-term goal of this study is to develop a screening tool to find correlations between WVCs and the surrounding environs. Inputs would include habitat connectivity data, traffic data, improved WVCs data land use coding, and other

elements including farming, proximity to perennial stream corridors and wetlands among others. These matrices would guide the identification of high priority areas. The improved data will help point to the safety countermeasures that are specific to locations, demographics, and species in the study area.

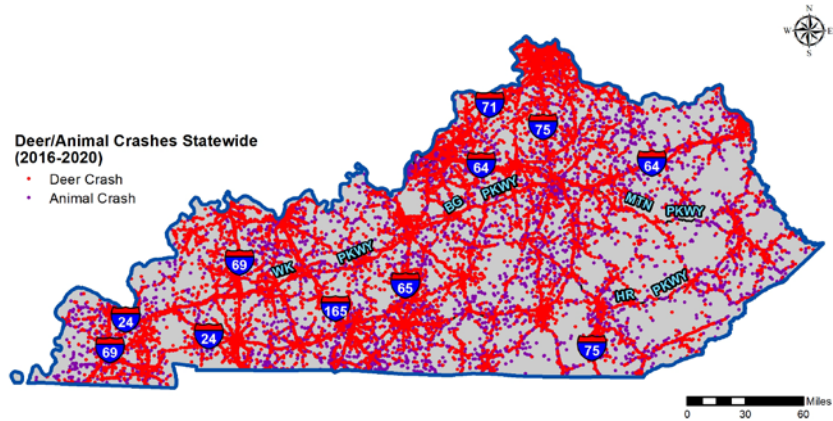


Figure 6. Statewide Animal Crashes (2016-2020)

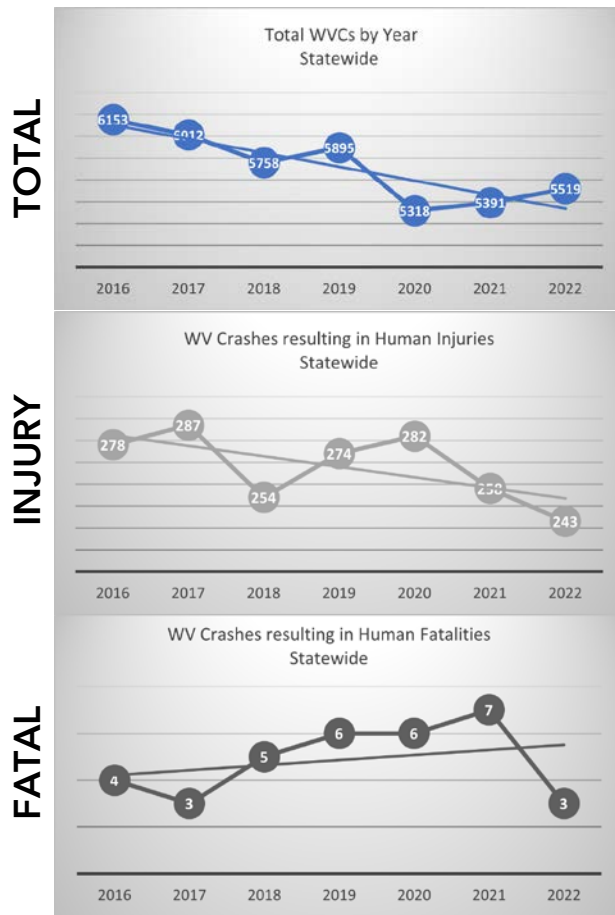


Figure 7. Statewide Wildlife-Vehicle Crashes Per Year (2016-2022)

This map shown in **Figure 6** illustrates some data collection deficiencies.<sup>13</sup> For example, WVCs in Eastern Kentucky appear to be underreported. Most of the WVCs are along the interstates and parkways as opposed to other routes. While this current map is a great start, we recognize that it is not a true representation of the actual conditions. A robust data collection effort will yield a map with more accurate results. This updated map will help identify where to focus on strategies to reduce collisions.

According to KSP data, as shown in **Figure 7**, between 5,300 and 6,200 WVCs occurred each year on Kentucky roadways from 2016-2022. Total numbers of WVCs trended downward statewide from 2016-2022, as did WVCs resulting in human injuries. However, **WVCs resulting in human fatalities trended upward** during the same period. As shown in **Figure 8**, the percentage of WVCs

<sup>13</sup> Interactive map of **Figure 6**, <https://uky-edu.maps.arcgis.com/apps/mapviewer/index.html?webmap=5629e065a7d147dd8333c738701aac99>

## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative

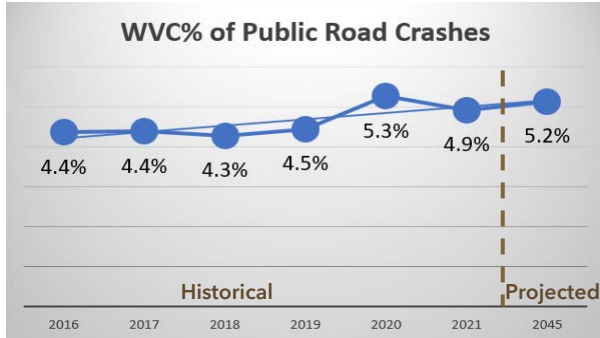


Figure 8. Historical (2016-2021) and Projected (2045) Statewide Percentage of WVCs of all Crashes

As shown in **Figure 9**, fifty-three percent of all reported WVCs occurred on state routes – 65% of fatalities and 58% of injuries. WVCs reported on Parkways (see **Figure 10**) account for 6% of statewide crashes.

on public roads in Kentucky have historically comprised nearly 5% of all crash types and have been on the rise. The percentage of WVCs are projected to continue to increase to 2045.

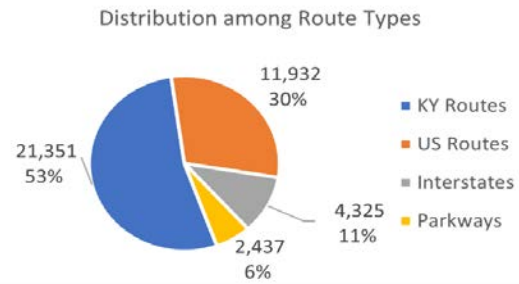


Figure 9. Statewide Wildlife-Vehicle Crashes by Route Type (2016-2022)

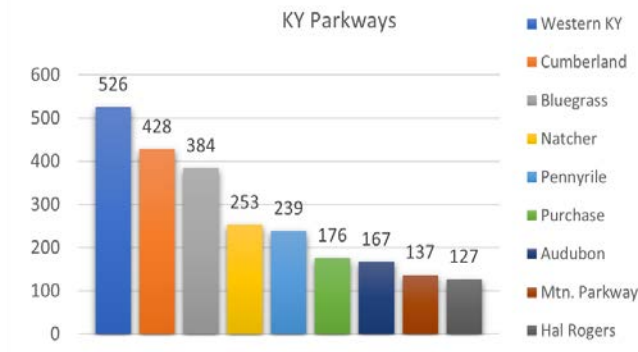


Figure 10. Statewide Wildlife-Vehicle Crashes by Parkway (2016-2022)

### c. Identify Priority Areas

Another objective of this planning study is to identify priority areas where wildlife safety countermeasures, including crossings, would be most beneficial. This will involve conducting detailed field surveys and mapping areas with high wildlife activity and frequent WVCs. By establishing priority areas, the project team can focus attention on locations where improvements are most urgently needed. A possible effect might include a supplement to KYTC Design Policy that states if an area ranks “very high,” for potential WVCs, then future roadway projects in the area must consider the issue of WVC and implement safety measures when feasible. This would enable KYTC to effectively allocate resources and implement designated wildlife crossings where they are most urgently needed.

Lands that are designated to remain in conservation for perpetuity shall be a top priority to study because they are designed to attract more wildlife. Kentucky has a wealth of large natural areas, such as Mammoth Cave National Park, 44 State Parks, two National Forests (including the 2.1-million-acre proclamation boundary of the Daniel Boone National Forest that stretches across 21 counties<sup>14</sup>), more than 85 Wildlife Management Areas, 39 State Nature Preserves (totaling 19,880 acres), 77 Registered Natural Areas, and 13,710 acres in conservation easements. In all, there are some 156,600 acres in conservation<sup>15</sup>. This does not include Federally owned land (most notably Fort Knox and Fort Campbell), which total an additional 1,707,000 acres. Deer are more prevalent in these natural and public-owned areas, because hunting is either not allowed or highly regulated. Most of these areas have major roadways in or near them (see **Figure 11**), thus increasing risk of WVC. Due to the perpetual conservation land use practices in these areas, these locations could rise as top considerations for wildlife crossings, should the data support it.



Figure 11. Deer Approaching Kentucky

#### d. Design Effective Crossings

The planning study also aims to develop design standards for wildlife crossings that are effective in facilitating safe animal movement and minimizing disruptions to human activities. The KYTC has standard drawings for numerous design elements,<sup>16</sup> but none for wildlife crossings. One goal of the study will be to update these drawings to include wildlife crossing countermeasures. This will involve studying various wildlife crossing design types being used across the county, including underpasses, overpasses, and fencing systems. These designs would be evaluated to determine their effectiveness in different landscapes and for diverse types of wildlife. By designing crossings that suit the specific needs and behaviors of varied species, the likelihood of their utilization by wildlife increases.

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<sup>14</sup>

<https://www.fs.usda.gov/dbnf#:~:text=Spread%20across%2021%20counties%20of,2.1%20million%2Dacre%20proclamation%20boundary.>

<sup>15</sup> [https://eec.ky.gov/Nature-](https://eec.ky.gov/Nature-Preserves/Documents/Final%202022%20Annual%20Report_%20annual%20KHLCF_%20biennial%20OKNP%20quadrennial%20Rare%20Plant.pdf)

[Preserves/Documents/Final%202022%20Annual%20Report\\_%20annual%20KHLCF\\_%20biennial%20OKNP%20quadrennial%20Rare%20Plant.pdf](https://eec.ky.gov/Nature-Preserves/Documents/Final%202022%20Annual%20Report_%20annual%20KHLCF_%20biennial%20OKNP%20quadrennial%20Rare%20Plant.pdf)

<sup>16</sup> <https://transportation.ky.gov/Highway-Design/Pages/Standard-Drawings-2020.aspx>



Additionally, an awareness of wildlife-vehicle collisions problems needs to be included in all appropriate KYTC design and planning manuals and training programs, to influence the culture of the KYTC to be proactively thinking about WVC issue and solutions.

**e. Considering Environmental Impacts**

It is important to understand both potential environmental benefits and impacts of wildlife crossings before implementing them. This planning study will assess the social, economic, historic, and ecological implications of constructing wildlife crossings, considering factors such as habitat fragmentation, hydrological impacts, land use, and effects on local flora and fauna. By considering these impacts in the initial planning stages, we can develop mitigation strategies that minimize any negative effects.

**f. Public Outreach and Education**

Engaging the public and stakeholders is an important objective of this planning study. Planning efforts will raise awareness about the need for wildlife crossings, elicit public support, and ensure a clear understanding of the benefits they provide. By involving local communities, government agencies, and relevant organizations, we can secure the necessary support for the successful implementation of *Kentucky's WVC Reduction Plan* and US 60/I-64 Focused Corridor Study.

This planning study intends to assess the need for wildlife crossings in Kentucky, identify priority areas, design effective crossings, consider the environmental impacts, and engage the public in the process. Through these objectives, we strive to develop a comprehensive and effective *Wildlife Crossings Pilot Program* that ultimately promotes safer transportation systems and enhances wildlife conservation within the Commonwealth. See **Criterion 2.4** below for more details and a description of action items.

**2. Criterion 1.2 - Improvement of Terrestrial / Aquatic Habitat Connectivity**

The other of the two important goals of this program is “to ... improve habitat connectivity for terrestrial and aquatic species.” For this reason, the KDFWR will be a strategic partner in development of the plan. KDFWR’s Mission statement is “to conserve, protect and enhance Kentucky’s fish and wildlife resources...” Further, the top goal in their strategic plan is to “Manage for sustainable fish and wildlife population and habitat.” Thus, the KYTC and the KDFWR are the perfect partnership to lead *Kentucky's WVC Reduction Plan* and the US 60/I-64 Focused Corridor Study.

Kentucky is home to a diverse array of terrestrial and aquatic habitats that provide essential resources for its rich wildlife population. However, the increasing fragmentation and degradation caused by unsustainable development of these habitats pose a threat to the overall health and sustainability of Kentucky's ecosystems. Terrestrial and aquatic habitat

connectivity play a vital role in maintaining healthy populations of various species, enabling them to access food, water, shelter, and breeding grounds. The current infrastructure in Kentucky, including roads, highways, and waterways, pose major barriers to wildlife movement. This disruption of natural pathways restricts genetic exchange, reduces foraging opportunities, and increases the risks of WVCs and habitat fragmentation.

*Kentucky's WVC Reduction Plan* will include a comprehensive and research-based approach that will generate critical data on wildlife movement patterns, assess the effectiveness of various crossing structures, and identify prioritized areas for improvement. This program will involve collaboration between government agencies, conservation organizations, and researchers, harnessing their respective expertise to devise practical and cost-effective solutions.

*Kentucky's WVC Reduction Plan* will identify specific species' populations and their habitat connectivity struggles throughout the state, beginning with the US 60/I-64 Focused Corridor Study.

## B. Secondary Merit Criteria

### 1. Criterion 2.1 - Leveraging Investments



The development of *Kentucky's WVC Reduction Plan* would serve as a valuable tool to leverage investments in wildlife conservation and infrastructure development. In an era where state budgets are often stretched thin, it is essential to demonstrate that investing time, expense, and skills in wildlife vehicle collision reduction planning efforts offers substantial long-term benefits. KYTC will allocate \$300,000 to the effort and leverage contributions of the strategic partner, the Kentucky Department of Fish & Wildlife Resources (KDFWR), along with others identified in Criterion 1.1. These organizations will contribute their time and expenses, expertise, data, and passion for the shared vision. Those are valuable contributions that will make the process successful. An element of the plan will be to identify future funding opportunities, such as license plate funds, trust funds, hunting fees, and other grants to help implement strategies. KYTC plans to coordinate with these stakeholders to develop various components of the *Kentucky's WVC Reduction Plan* and will continue the relationship to allow updates to this plan as new data becomes available. By providing planners, designers, policymakers, and investors with concrete data and evidence, a compelling case can be made for allocating resources to this crucial endeavor. Leveraging these investments is not only a win for human safety and economic prosperity, but also for wildlife and their habitats.

## 2. Criterion 2.2 - Economic Development and Visitation Opportunities



Preserving the natural habitat for wildlife is crucial not only from a sustainability perspective but also due to its positive impact on tourism and outdoor recreational activities. Kentucky's rich biodiversity attracts nature enthusiasts and ecotourism.



Figure 12. Bears Crossing Kentucky Road

Tourism's economic contribution measured by visitor spending for retail, entertainment and recreation, food & beverage, transportation, and lodging totaled more than \$11.2 million in 2021<sup>17</sup>. With the implementation of wildlife crossings, other states have witnessed an increase in ecotourism activities. Wildlife enthusiasts, nature photographers, and adventure seekers have traveled to experience firsthand the unique opportunity of observing wildlife in their natural habitats. Similar indirect benefits could happen in Kentucky. By providing safe passage for animals, these crossings will create ideal conditions for ecotourism, allowing visitors to witness a diverse range of wildlife species, including deer, elk, and black bears (see **Figure 12**).

Wildlife crossings help alleviate the economic burden imposed by WVCs. These incidents result in property damage, medical expenses, and even human casualties, leading to significant economic losses—over \$8 billion annually nationwide, according to information presented in the Bipartisan Infrastructure Bill. By reducing the frequency of these collisions through a well-structured program, the state of Kentucky will save considerable resources that can be redirected towards infrastructure development, education, healthcare, and other areas of economic importance.

In addition to the immediate economic benefits, *Kentucky's WVC Reduction Plan* also aligns with long-term sustainable development goals. The preservation of wildlife habitats and migration routes ensures the continuous functioning of natural ecosystems. This, in turn, enhances ecosystem functions such as water purification, climate regulation, and pollination, which are essential for sustaining other industries such as agriculture. By considering the long-term benefits of the program, Kentucky demonstrates its commitment to economic growth that is environmentally responsible and socially inclusive.

*Kentucky's WVC Reduction Plan* development is an essential investment for the conservation of wildlife and economic development. By being proactive in the

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<sup>17</sup> <https://www.kentuckytourism.com/sites/default/files/2022-08/Kentucky%20Tourism%20Economic%20Impact%20-%202021%20-%20CLIENT.pdf>

development of a wildlife crossing strategy, Kentucky is proving its commitment to road safety, supporting its tourism industry, and these efforts will potentially attract environmentally conscious businesses. Embracing this forward-thinking initiative will not only boost the state's economy but also reinforce its commitment to preserving its natural resources for future generations.

### 3. Criterion 2.3 - Innovation



As human activity continues to encroach upon natural habitats, it is important we adopt innovative approaches to reduce negative impacts on our wildlife populations. Innovation lies at the core of this *Wildlife Crossings Pilot Program*, as it challenges traditional approaches to wildlife management and infrastructure planning. Through the integration of advanced technologies and scientific research, this initiative aims to create efficient, effective, and sustainable crossing elements for roads and highways across the Commonwealth.

One specific innovation KYTC is just now deploying is the use of an app titled Mobile Work Manager. This app provides a lot of opportunities to improve the collection speed and accuracy of WVC data to support this planning effort.

Tagging and tracking large animals is not new to KDFWS but doing so to better assess where and when they cross roadways would be new. We look forward to partnering with KDFWS to find creative and innovative ways to collect habitat mobility and connectivity data. This data could be folded into education materials and provided to schools to teach about wildlife migration patterns.

A result of this study will be an interactive website that can be used by partners and the public. Interactive mapping and GIS crowdsourcing will serve as tools for gathering site specific concerns from the public and local governments.

In 2021, a workshop was held in Montana to discuss innovative strategies for wildlife crossings.<sup>18</sup> *Kentucky's WVC Reduction Plan* will explore innovative approaches like those identified in Montana and how they can be incorporated into our plans for wildlife crossings. Strategies can include large animal detection and warning signs and enlarged three-sided culverts. Wildlife exclusion and herding fences will also be considered. These can encourage wildlife into areas that are safe to cross used concurrently with wildlife crossings for target species such as deer and other large wildlife. The KYTC team will look at these, and other creative concepts, that cater specifically to the diverse needs of multiple species and various settings as an innovative approach. By incorporating wildlife-friendly crossings into existing road networks, this initiative will establish a new standard for future transportation projects.

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<sup>18</sup> [Innovative Strategies to Reduce the Costs of Effective Wildlife Overpasses \(largelandscapes.org\)](https://www.largelandscapes.org/)

The WCPP program encourages innovation in the field of ecological conservation. Wildlife crossings not only ensure the safety and protection of wildlife populations but also contribute to the preservation of local ecosystems. As Kentucky pioneers this program, there will be opportunities to conduct extensive research, monitoring, and evaluation of its impact on wildlife movement patterns and habitat connectivity. This knowledge can be shared with ecologists, conservationists, and researchers around the nation, inspiring them to develop innovative strategies to mitigate human-wildlife conflicts and support biodiversity conservation efforts.

#### **4. Criterion 2.4 - Education and Outreach**



By implementing a Wildlife Crossings Pilot Program, Kentucky has the remarkable opportunity to contribute significantly to education and outreach efforts aimed at increasing public awareness about driver safety, wildlife conservation, and the benefits of wildlife crossings. An essential component of this program will be educating the public about the importance of prioritizing motorist safety, reducing impacts on native wildlife and their habitats and fostering a sense of responsibility and propelling change. One example would be to include an WVC education curriculum as part of the KYTC's KY Engineering Exposure Network (KEEN), that has the mission of "teaching Kentucky's youth about engineering."<sup>19</sup>

The success of a WCPP relies on fostering partnerships with local conservation organizations, government agencies, and businesses. An outreach and engagement plan will be developed to provide an opportunity for stakeholders to collaborate. By pooling resources, tapping into existing networks, and leveraging the expertise of those involved in wildlife conservation, the team can effectively increase public awareness about the importance of protecting motorists, preserving wildlife and the benefits of wildlife crossings.

***Kentucky's WVC Reduction Plan*** will include equitable education and outreach efforts to reach all people. These efforts will extend to schools, community organizations, and local media platforms. Organizing educational campaigns, workshops, and interactive programs can engage individuals of all ages and backgrounds. By utilizing social media platforms, websites, and informational brochures, knowledge about motorist safety, wildlife conservation and the benefits of wildlife crossings can be disseminated to a broader audience. As stated above, under Innovation, this plan will allow for the development of an interactive website that will be a tool for the partners and public to access data as well as provide input. Interactive mapping and GIS crowdsourcing will serve as tools for gathering site specific concerns from the public and local governments. The KYTC and the local MPOs and ADDs already use these tools to gather input on future roadway projects,

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<sup>19</sup> <https://transportation.ky.gov/Education/Pages/KEEN.aspx>



and traffic issues. Incorporating WVC information could happen soon after the WCPP funding is secured.

Utilizing the expertise of our strategic partner, KDFWR, wildlife conservationists will help with public outreach, including brochures and website content for other agencies like Kentucky's State Parks and the US Forest Service, to post and share.

## 5. Criterion 2.5 - Monitoring and Research



The planning effort will include a monitoring and research element to ensure that the data, best practices, and the strategies are current and relevant. One widely used monitoring method is the collection and analysis of roadkill data. This approach involves recording and documenting incidents of WVCs, including the species involved, date and time of the collision, and the location. Roadkill data will be collected from local and state law enforcement reports, maintenance crews, and surveys conducted by KYTC Highway Districts throughout the Commonwealth. The collected data can then be used to identify high-risk areas where mitigation measures can be implemented. To complement WVC monitoring methods, researchers often utilize Geographic Information Systems (GIS) to analyze the collected data. GIS technologies allow for the integration of various datasets, such as road networks, land cover types, and collision records. By spatially analyzing this information, researchers can identify patterns, understand the relationships between environmental factors and collision occurrences, and prioritize areas for targeted interventions.

KYTC and our state and federal collaborators will implement periodic updates and revisions to the plan as the program evolves. Attempting to strike a balance between motorist safety and wildlife corridor management requires a dynamic approach where goals and initiatives are reconsidered and added as the research is analyzed and implemented. The project team will continue to monitor and research best practices across the nation. KYTC's vision is for long-term implementation of WVC safety countermeasures. Monitoring and research through the years will make *Kentucky's WVC Reduction Plan* more effective and successful.

## 6. Criterion 2.6 - Survival of Species



The WCPP program's impact extends beyond individual species and encompasses broader ecological interactions. By facilitating the movement of wildlife, these crossings foster ecological connectivity, allowing for the exchange of genetic diversity between different populations. This connectivity enhances ecosystem resilience and functionality by promoting genetic diversity, distributed resource utilization, and effective predator-prey relationships. The maintenance of such ecological processes is vital for the overall health and stability of ecosystems, which in turn supports the conservation of a wide array of species.

The WCPP program represents an initiative to address the negative impacts of human infrastructure on wildlife populations, ultimately contributing to the preservation of biodiversity and ecological integrity.

## IV. Project Readiness

The KYTC Planning and Environmental Project Managers and collaborating organizations are eager to get a consultant team on board to help develop *Kentucky's Wildlife Vehicle Collision (WVC) Reduction Plan* and pilot project/study. As described in the Budget Narrative (Section II) the KYTC has secured the matching funds and will quickly be able to assemble a designated research team with clearly defined duties for each member/organization.

### A. Technical Feasibility

The KYTC will be administering the grant and has considerable experience with receipt and administration of Federal transportation grant funds. Specifically, KYTC has administered projects that have been awarded \$252M of USDOT grant funding since FY2014. KYTC has recently added a Grant Program Branch within the Division of Program Management, whose mission is to implement all elements of the various grant programs. This team will ensure all reporting and commitments of the WCPP grant are carried out as required by the USDOT.

### B. Project Schedule

Upon execution of the USDOT grant agreement, the following tasks as outlined in **Table 2** could begin. We anticipate an approximate 24-month schedule.

Table 2. Estimated Schedule

Task	2024												2025											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Partnership & Charter Development		*				*			*			*					*			*				*
Existing Conditions																								
Assessment of Existing Conditions																								
Identification of Needs																								
Prioritization of Mitigation Strategies																								
Public Outreach Efforts																								
Documentation																								
* = Project Team Meetings																								

### C. Required Approvals

As a planning effort, there are no requirements for this to be in the Kentucky Statewide Transportation Improvement Program (STIP). Likewise, there are no NEPA, right-of-way, design, or construction risks to consider. In short, there are no risks in terms of required approvals, or overall project readiness.

## V. Administration Priorities

KYTC's priorities align with the USDOT Administration Priorities to advance safe, efficient transportation. The development of *Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan* will be aimed at improving the overall safety of the traveling public, by identifying WVC statewide priority corridors and determining potential strategies to mitigate safety risks caused by wildlife crossings.

The plan will aim to advance the primary goals of the WCPP—"to save lives, prevent serious injuries, and protect motorists and wildlife by reducing WVCs, and improve habitat connectivity for terrestrial and aquatic species."

### A. Safety

Safety will be the top priority of *Kentucky's WVC Reduction Plan*. KYTC's vision statement is "To provide a safe, efficient, environmentally sound and fiscally responsible transportation system that delivers economic opportunity and enhances the quality of life in Kentucky." Mitigating WVCs is a way to accomplish this vision and having a plan to reduce their occurrences is our first step. KYTC's planning processes will keep this vision front and center. Designated Wildlife Crossings or other countermeasures can be a vital component of any comprehensive approach aimed at enhancing safety on our roads and highways. Reducing WVCs not only improves the safety of motorists, but also safeguards the well-being of the wildlife populations that inhabit our state.

One of the primary reasons designated wildlife crossings are essential for enhancing safety is their ability to separate wildlife from vehicles. As human development continues to encroach on natural habitats, wildlife populations are forced to come into closer contact with roads and highways, leading to an increased risk of crashes. Providing dedicated routes for wildlife to cross roadways safely will reduce the likelihood of collisions, protecting both humans and wildlife.

As stated in the Project Narrative section, State Farm Insurance Company has ranked Kentucky 19<sup>th</sup> in the nation for reported animal collisions.<sup>20</sup>

### B. Sustainability and Climate Change

With the growing concerns of climate change and the urgency to build a sustainable future, it is vital to explore innovative solutions that address environmental challenges while promoting safety. When *Kentucky's WVC Reduction Plan* is complete, it will offer powerful opportunities to mitigate the negative impacts of roadway infrastructure on wildlife populations, reduce greenhouse gas emissions, promote ecological connectivity, and foster a sustainable and resilient future for Kentucky.

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<sup>20</sup> <https://www.statefarm.com/simple-insights/auto-and-vehicles/how-likely-are-you-to-have-an-animal-collision>

After *Kentucky's WVC Reduction Plan* has been completed, Kentucky can evaluate the suggested countermeasures and take a step towards reducing the ecological impact of transportation and contribute to the global efforts aimed at combating climate change. Dedicated crossings create safe passages for wildlife over or under highways, encouraging animals to traverse these designated areas rather than attempting risky crossings on roads. The WVC reduction program, once implemented should significantly reduce the number of wildlife-vehicle collisions, which improves road safety and also decreases the traffic backups caused by these crashes and emergency response demands. Reducing such backups by mitigating crossing risks would reduce the distribution of greenhouse gases created by idling vehicles in queues.

### C. Equity

*Kentucky's WVC Reduction Plan* will have an equity component. Kentucky ranks sixth in the nation in poverty, with 14.6% of the population living below the poverty line. KYTC uses various methods to reach traditionally underserved populations during the statewide planning efforts it conducts. Valuable input is obtained when all communities are involved. Communication methods used for *Kentucky's WVC Reduction Plan* will include the internet and social media, however, only 88% of households in Kentucky have access to the internet—so more traditional methods will be included during the planning process. These methods can include post cards mailed to residents, flyers posted in public areas, media releases, and public meetings. Transparent communication will promote equity and encourage public participation and support for the program, which will create stronger alliances for wildlife conservation across the Commonwealth.

KYTC understands the diverse needs and priorities of various stakeholders. The planning process will actively engage local communities, government agencies, and environmental organizations to ensure their inputs are considered when evaluating locations and designing wildlife crossings. By involving these different entities and encouraging collaboration, the program will foster a sense of ownership and shared responsibility for wildlife conservation among the stakeholders. This inclusive approach ensures that all groups have a voice in the decision-making process.

### D. Work Force Development

*Kentucky's WVC Reduction Plan* can lead to benefits to workforce development by creating job opportunities. Once *Kentucky's WVC Reduction Plan* has been completed and processes are in place, KYTC intends to pursue future funding for the construction of priority wildlife crossings identified in the plan. The implementation and recommendations made through this program will necessitate the construction, maintenance, and monitoring of wildlife crossings, which requires a skilled workforce. Consequently, it will directly contribute to the creation of new jobs in various sectors, such as engineering, and environmental conservation. These job opportunities will provide employment for Kentucky residents and enhance their skills and

## Kentucky's Wildlife-Vehicle Collision (WVC) Reduction Plan Project Narrative

expertise, subsequently strengthening the Commonwealth's labor force.

The KYTC has a strong commitment to using Disadvantaged Business Enterprises (DBE) and Women Business Enterprises (WBE) on contracting projects. As construction options move toward the procurement phases, our contracting and procurement teams will comply with FHWA's and KYTC's Equity Action Plan and include specific goals for DBE and WBE participation.

In regard to the USDOT's Rural Opportunities to Use Transportation for Economic Success initiative: statewide, 49% of Kentucky counties are rural, and 44% of Kentucky's population live in rural areas,<sup>21</sup> compared to approximately 25% nationally.

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<sup>21</sup> [https://transportation.ky.gov/Planning/Documents/Ch%203%20State%20of%20the%20Commonwealth%20-%20part%201%20\\_pop%20-%20econ%20develop\\_.pdf](https://transportation.ky.gov/Planning/Documents/Ch%203%20State%20of%20the%20Commonwealth%20-%20part%201%20_pop%20-%20econ%20develop_.pdf)