

Executive Summary

Purpose and Scope

Roads are a serious conflict point between wildlife and vehicles. While roads offer a means for human travel and to move freight, they are often developed through wildlife habitats and corridors, fragmenting ecosystems, creating movable barriers in the form of vehicular traffic – all of which increases the likelihood of a wildlife-vehicle crash (WVC). As humans need a connected transportation network to live, wildlife requires an intact and connected network of habitat and corridors that promote movement to survive and thrive.

As the DCHC MPO's planning area, region, and state continue to grow, planning for wildlife crossings will be essential to reduce the likelihood of WVCs as new developments, roads, and the number of vehicles on the road increase. Wildlife crossing countermeasures are a proven mechanism to help ensure connected travel networks for both humans and wildlife. Planning for and implementing wildlife crossing countermeasures throughout the network of habitats and corridors is an important step to increase the safety of humans and wildlife alike.

Goals and Objectives

The goal of the DCHC MPO Wildlife Crossings Planning study is to eliminate fatalities and serious injuries resulting from WVCs by improving the safety of drivers and wildlife. The following steps were identified and implemented to help meet this goal:

1. Establish a Core Technical Team of key stakeholders to help guide the planning process, provide expertise, and strengthen communication and partnerships for wildlife crossing planning.
2. Identify key wildlife crossing sites in the DCHC MPO planning area.
3. Visit, evaluate, and develop recommendations for key wildlife crossing sites. Recommendations include retrofits at existing bridge and culvert infrastructure, strategies to be considered and incorporated into bridge and culvert replacement projects, and the construction of new infrastructure.
4. Develop an implementation strategy for funding and delivering wildlife crossing projects at key crossing sites and provide a framework for conducting a cost-benefit analysis for each project to help guide decision-making.
5. Establish partnerships with a wide range of stakeholders to coordinate and advance wildlife crossing projects and issues. Partners and stakeholders should include parks & recreation and open space departments, transportation agencies, local land trusts, conservation groups, private entities, and state agencies.
6. Adopt recommendations in local, state, and MPO transportation plans and processes –so that all new road and bridge projects that cross wildlife corridors and core areas are informed by the recommendations from the start. This entails the DCHC MPO Board and NCDOT Board of Transportation adopting relevant projects into the CTP and MTP, and local councils and county board of commissioners adopting relevant changes to local ordinances.

Reported Wildlife-Vehicle Crash Data

North Carolina documents reported WVC statistics, which are made available through the North Carolina Department of Transportation (NCDOT) and published in its Animal Related Crashes, County Rankings and Crash Data report. In 2022, 20,098 WVCs were reported statewide, with an estimated comprehensive crash cost estimate of \$486,000,000 (based on NCDOT's 2023 Standardized Crash Cost Estimates for North Carolina).

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The DCHC MPO's counties are among the top 100 counties in North Carolina experiencing the highest number of reported WVCs. Between 2020-2022, Chatham County had 936 reported WVCs (21/100), Orange County had 801 reported WVCs (30/100), and Durham County had 638 reported WVCs (35/100). While these statistics are significant, studies have shown that WVCs are likely underreported and the impact much greater. According to NCDOT's *Wildlife Passage Guidance* document, carcass removal count data from other states shows that crashes are occurring between 5 and 9 times more than what is being reported by state DOTs. While North Carolina does not currently track carcass removals, NCDOT has stated that these findings suggest closer to 100,000 WVCs are occurring annually in the state than what their data shows.

Wildlife Species

The MPO planning area serves as a home and corridor for a variety of wildlife impacted by transportation infrastructure. Common sightings of roadkill along roadways include white-tailed deer (large-sized); turkey vulture and gray fox (medium-sized); and eastern box turtle, eastern gray squirrel, raccoon, and Virginia opossum (small-sized). While numerous species can be found within the MPO's planning area, white-tailed deer are of particular concern in terms of WVCs and the potential for serious injuries and fatalities.

Methodology

The MPO's methodology for its Wildlife Crossings planning process included review of existing literature and plans, data analysis, site identification, and site assessments. Key sources and considerations included coverage of the reported crash and safety data, identified wildlife corridors, transportation structures and locations, land use, and transportation plans. As potential wildlife crossing sites were identified through data analysis, MPO staff and a multidisciplinary team assisting with the project visited each site to conduct a thorough assessment. Countermeasures were developed to help improve wildlife connectivity and reduce WVCs based on each site's assessment.

Public Engagement Process

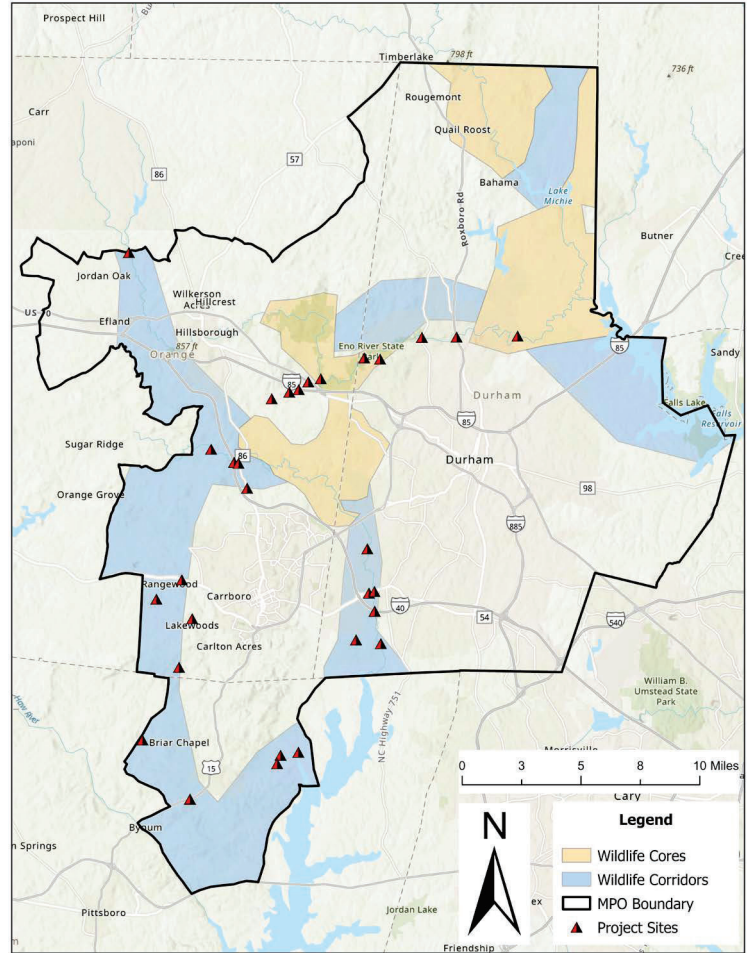
The MPO conducted an extensive public engagement process. Throughout the planning process, updates were presented to the MPO's Technical Committee and Policy Board, as well as to organizations such as the Triangle Connectivity Collaborative and the North Carolina Wildlife Connectivity Coalition. A project webpage was created that included the study's background and purpose, updates, and contact information. A 21-day public engagement period occurred between October 1 - 21, 2024 with eight public engagement events offered throughout the MPO's planning area in virtual, hybrid, and in-person formats, and a survey was conducted to receive public comment. The main themes identified through the 129 survey responses that were received are:

1. Feedback from people's personal experiences shows that building wildlife crossings is important for keeping people and animals safe.
2. Protecting natural areas for wildlife is key in helping animals move around, keeping their habitats safe, and ensuring safe wildlife passage through our transportation network.
3. We need to develop infrastructure that supports wildlife crossings, connects wildlife habitats, and allows people to coexist with wildlife.
4. Based on survey responses, wildlife-vehicle crashes and roadkill impact human physical and mental health, have contributed to financial losses, and have caused animal suffering and death.

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Project Recommendations

The MPO has identified twenty-eight (28) wildlife crossing project recommendations located throughout its planning area as part of this plan. These project recommendations do not represent an exhaustive list of sites within the MPO's planning area that could benefit from wildlife crossing countermeasures to help eliminate fatalities and serious injury crashes related to WVCs and enhance wildlife connectivity. This plan prioritized projects based on its methodology. The GIS analysis included high rates of reported WVCs, wildlife corridor and habitat data, and alignment with NCDOT structures and infrastructure replacement projects. The site assessment process involved an evaluation of each potential site to identify barriers and opportunities for improvement.



Strategies for Funding and Implementation

Several opportunities and methods exist to fund and implement wildlife crossing projects. It is best practice to incorporate wildlife crossing solutions for consideration during the planning phase of transportation projects, such as bridge and culvert replacement projects, as it often will cost less than to retrofit existing structures and sites to address and prioritize safety and promote wildlife movement. Funding for and delivering wildlife crossing projects exists at the federal and state levels, as well as through foundational giving.

Land use is an important consideration in planning for wildlife crossing projects. To reduce the likelihood of ecological dead ends and gaps in an identified wildlife corridor, it is ideal to implement wildlife crossing solutions within and adjacent to natural and managed lands which offer opportunities for wildlife to move and thrive within their natural habitat. Therefore, the acquisition of land to preserve natural areas and implement wildlife crossing solutions is an important step to ensure wildlife connectivity and reduce the likelihood of WVCs.

Wildlife crossing projects can also be realized through partnerships. Agencies such as MPOs, state DOTs, local governments, advisory committees, conservation agencies and organizations, and environmental groups have resources, expertise, and insight that can be leveraged and combined to thoughtfully plan for wildlife crossing projects and achieve shared goals. Partnerships are essential in the planning process.