NEVADA DEPARTMENT OF TRANSPORTATION

RESEARCH DIVISION

WILDLIFE VEHICLE COLLISION (WVC) REDUCTION AND HABITAT CONNECTIVITY – COST EFFECTIVE SOLUTIONS

TRANSPORTATION POOLED FUND STUDY TPF-5-358

Key · Points

Project Number:
701-18-803 TO 1

Start Date:
December 18, 2018

Duration:
36 months

Project Cost:
$354,001.00

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Environmental

PROBLEM

During the last 30 years, the first generation of mitigation measures were developed, many of which were based on opinion instead of data, and widely implemented to reduce WVCs with large animals. A meta-analysis of 75 studies showed that a host of taxa were vulnerable to road effects, not only large mammals, but birds, amphibians, and reptiles; and mitigation measures for many of these species need to be better understood.

OBJECTIVE

Revisit any potential improvements to the known 30-40 existing mitigation measures, investigate promising new measures, revisit their cost benefits, and share with TPF partners and their stakeholders new innovations for the transportation sector's tool box. Identify cost effective solutions that will make roads safer for motorists, ensure habitats are connected and protect road-vulnerable wildlife of all sizes.

METHODOLOGY

Develop the second generation of mitigation strategies that are science-based and take into consideration the needs of DOTs and other key stakeholders in transportation project planning and design. Leverage ongoing research on new or emerging technologies, designs and applications to mitigate road impacts on wildlife, and data sets from completed projects that will complement this research.

IMPLEMENTATION POTENTIAL

Research in new design (improvements and modifications) will provide significant savings in construction costs. As the project objectives are achieved, the potential payoff will be quantified in more than just dollars saved and cost-efficiencies. Some examples are: 1) Reduced personnel time as stakeholders can easily reference the Manual. 2) Transportation planning with greater assurances of high WVCs and reduced connectivity. 3) DOTs will have a clear understanding of what measures are tested and proven for specific wildlife. These cost-savings can amount to many millions of dollars. 4) Cost-benefit analysis and decision support (DS) tool has been used by many DOTs to guide them to the most cost-effective locations to mitigate roads in their jurisdictions.

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