

Information Report



Service Area	Infrastructure, Development and Enterprise Services
Date	Friday, June 18, 2021
Subject	Wildlife Tunnel Effectiveness Resulting from City-led Road Reconstruction Projects at Niska Road and Eastview Road

Executive Summary

Purpose of Report

This report outlines the effectiveness of wildlife tunnels as a mitigation measure on Niska Road and Eastview Road. A summary of monitoring results and lessons learned is provided to foster continual improvement in future road reconstruction projects that rely on expertise from Engineering, Environmental Planning and Operations staff.

Key Findings

Wildlife tunnels were successfully incorporated into the design and construction of two City-led road reconstruction projects at Niska Road and Eastview Road.

New science and design practices were implemented to protect and enhance the City's natural heritage system and green infrastructure.

Monitoring results indicate that wildlife tunnels are successful in protecting wildlife, provided that wildlife funnel fencing is installed and maintained properly.

The collection of pre- and post-construction data enabled assessment of the effectiveness of wildlife tunnels as a mitigation measure. Data also helped to identify issues with installation and maintenance.

City staff worked effectively across departments to implement cutting edge science and road design, and demonstrated commitment to continual improvement by addressing deficiencies and maintenance issues.

A Road Ecology Guideline is being prepared to provide guidance on appropriate standards for mitigation and maintenance measures to protect wildlife from road mortality where roads bisect habitats.

Financial Implications

Costs for wildlife tunnels, funnel fencing and monitoring are included in the approved capital budget for road re-construction projects, as appropriate.

Report

Details

Guelph's [Official Plan](#) (March 2018 Consolidation) identifies a natural heritage system that includes wildlife crossings to improve biodiversity and connectivity of natural heritage features and areas and ecological functions. Official Plan policy provides direction to implement species-appropriate mitigation measures to minimize the incidence of human-wildlife conflict at locations where wildlife are known or likely to cross roadways.

Over the past decade, City staff have installed wildlife tunnels at five locations across the city through road re-construction projects: Eastview Road, Laird Road, Maltby Road, Niska Road and Stone Road.

Two recent road re-construction projects included wildlife tunnels and wildlife funnel fencing to provide amphibians, reptiles and small mammals safe passage under the roadway: Eastview Road, which was constructed in 2018; and Niska Road, which was constructed in 2019.

Wildlife tunnel and funnel fencing design were based on new road ecology science and engineering solutions to improve the use of the wildlife tunnels by target species.

Post-construction monitoring of the use of the wildlife tunnels has been completed using motion censored wildlife cameras to capture images of wildlife using the tunnels. Road mortality (roadkill) surveys were also completed to assess the effectiveness of the wildlife funnel fencing and differences pre- to post-construction.

At Eastview Road, two years of post-construction monitoring were completed (2018-2019). Data obtained through monitoring indicated a 73% decrease in road mortality of amphibians and reptiles, post-construction. Wildlife tunnel monitoring data documented use of the tunnels by various species of amphibians, reptiles, mammals and birds.

At Niska Road, one year of post-construction monitoring was completed (2020). Data obtained through monitoring indicated issues with the installation of wildlife funnel fencing. Wildlife funnel fencing will be reinstalled in 2021, after which two years of post-construction monitoring will be completed (2022-2023).

City staff from Environmental Planning, Engineering and Operations worked collaboratively to design, construct and maintain new City infrastructure. Interdepartmental relations were fostered, issues were identified, problems were solved and opportunities for improvement were identified.

The [Natural Heritage Action Plan](#) identifies the preparation of a Road Ecology Guideline to support mitigation and enhancement of the natural heritage system as a priority action. Led by environmental planning, with contributions from engineering and operations, this guideline is anticipated to be completed by 2022.

Financial Implications

Costs for wildlife tunnels, funnel fencing and monitoring are included in the approved capital budget for road re-construction projects, as appropriate.

Consultations

This report was developed in consultation with Engineering and Transportation Services, Public Works Operations and Maintenance Services.

Strategic Plan Alignment

Niska Road and Eastview Road reconstruction projects align with the following priorities in Guelph's Strategic Plan:

- Sustaining our future – protecting the green infrastructure provided by Guelph's natural heritage system
- Navigating our future – investing in active transportation and reducing road-related impacts to wildlife
- Working together for our future – demonstrating collaboration and creativity in delivering services
- Building our future – maintaining and improving existing infrastructure to nurture ecological well-being

Attachments

Attachment -1 Photographs of wildlife tunnels and funnel fencing at Eastview Road and Niska Road

Departmental Approval

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