City of Hamilton

Report for Information

To:	Chair and Members Public Works Committee
Date:	April 13**,** 2026
Report No:	PW26032
Subject/Title:	Rural Road Safety Report
Ward(s) Affected:	9, 10, 11, 12, 13, 15

Recommendations

That Report PW26032 respecting Rural Road Safety, **BE RECEIVED** for information.

Key Facts

- This report presents the results of Hamilton's rural road safety review and the new Rural Road Safety Toolbox.
- Rural road safety concerns in Hamilton are increasing due to higher traffic volumes, higher speeds, and mixed rural road use.
- The Transportation Division retained CIMA+ to complete a jurisdictional scan, systemic safety review, and pilot case studies.
- There are limited industry resources for managing rural roadway safety, and Hamilton's Rural Road Safety Toolbox represents a leading municipal approach.

- The Rural Road Safety Toolbox will be integrated into the City's Vision Zero program to support ongoing safety improvements on rural roadways.

Financial Considerations

There are no financial implications associated with this report. There are no new financial implications associated with this report. The consulting assignment authorized by Council was funded from the Automated Traffic Enforcement Reserve #112203, at an upset limit not to exceed $150,000, as previously approved. Any future capital or operating costs associated with implementation of site-specific countermeasures identified through the Rural Road Safety Toolbox will be funded from existing budgets or subject to future Council approval through applicable capital, operating, or program-specific reports.

Potential future funding opportunities may also be available to support rural roadway safety initiatives. For example, Good Roads has proposed a five-year, $207 million provincial program that may become available in 2027. The Rural Road Safety Toolbox would support the development of funding applications and help position the City to pursue future external funding opportunities, where available.

Background

On December 2, 2024, the Public Works Committee approved a motion respecting rural roadway safety and provided the following direction:

a) That the Transportation Division be authorized and directed to complete a jurisdictional scan and consulting assignment to review best practices and other available tools that could be effective in enhancing road safety for all road users on Hamilton's rural roads and report back in Q3 2025;

b) That all costs associated with the rural road safety consulting assignment and jurisdictional scan be funded from the Automated Traffic Enforcement Reserve #112203 at an upset limit, including contingency, not to exceed $150,000; and

c) That the General Manager of Public Works and City Clerk be authorized and directed to execute any required agreement(s) and ancillary documents, with such terms and conditions in a form satisfactory to the City Solicitor.

Report PW26032 has been prepared in response to this direction. Although the report is being presented later than the Q3 2025 reporting date set out in the motion, the additional time was necessary to complete the work in a manner that fulfilled the intent of Council's direction and produced a meaningful, practical, and defensible approach to improving safety on the City's rural road network.

Analysis

Rural areas in Hamilton have experienced increasing traffic volumes and higher operating speeds in recent years, resulting in growing safety concerns, particularly within hamlets and built-up areas located along rural corridors. These corridors often accommodate a mix of passenger vehicles, agricultural equipment, farm vehicles, heavy trucks, pedestrians, cyclists, and other vulnerable road users.

While conventional engineering guidance may support higher speed limits based on roadway geometry and operating conditions, such guidance does not always fully reflect the context of rural communities or the realities of mixed road use. In Hamilton's rural environment, the absence of sidewalks, limited shoulder width, constrained sightlines at unsignalized intersections, roadside hazards, and speed differentials between slow-moving vehicles and general traffic can all contribute to increased safety risk. Ongoing industrial and employment-related development adjacent to rural communities is also expected to continue increasing traffic volumes on parts of the rural road network.

As traditional urban traffic calming measures are often not directly transferable to rural settings, the Transportation Division retained CIMA+ to undertake a jurisdictional scan, literature review, and technical assessment to identify best practices and develop a Rural Road Safety Toolbox tailored to Hamilton's rural road network. The resulting technical findings, process, and toolbox framework are attached to Report PW26032 as Appendix "A". Due to the technical scope of the assignment, including the environmental scan, systemic safety review, field investigations, and development of the Rural Road Safety Toolbox, completion extended beyond the original reporting target.

The assignment included:

- jurisdictional scan and literature review of rural road safety practices and counter measures;
- development of a Rural Road Safety Toolbox for use by the Transportation Division;
- a systemic safety review of Hamilton's rural road network; and
- field investigations and pilot case studies at ten selected rural locations to demonstrate application of the toolbox.

The jurisdictional scan and literature review completed by CIMA+ confirmed that speeding and run-off-road collisions are the predominant rural road safety concerns across peer agencies, with other recurring issues including winter driving conditions, intersection-related collisions, farm vehicle interactions, cyclist interactions, wildlife collisions, rear-end collisions, and distracted driving. A total of 13 agencies participated in the jurisdictional scan, including eight Canadian agencies, four American agencies, and one Australian agency.

The assignment also confirmed that most peer agencies assess rural road safety using a combination of collision data, public concerns, speed studies, safety audits, traffic volumes, and systemic or network screening approaches. This is generally consistent with the City's current approach to reviewing rural road safety concerns. The review further confirmed that Hamilton already employs many of the engineering

countermeasures commonly used by peer agencies, including enhanced signage, roadway delineation, intersection improvements, shoulder enhancements, and roadside hazard mitigation.

The environmental scan also identified common implementation challenges across jurisdictions, including limited funding and infrastructure, mixed traffic in high-speed rural environments, and the difficulty of prioritizing rural projects where severe risk may exist despite lower collision volumes. The consistency between the literature review and direct input from participating agencies confirms that these issues are widely recognized and reinforces the applicability of the findings to Hamilton's rural road network.

In addition to engineering-based countermeasures, the consultant's review found that education and enforcement strategies can strengthen rural road safety outcomes when combined with engineering interventions. The literature review noted that integrated approaches also involving enforcement, public education, and outreach can provide stronger results than standalone measures, while recognizing that implementation of engineering-based measures in rural settings can be constrained by geography, available resources, and operational complexity.

Rural Road Safety Toolbox

The primary outcome of this assignment is the development of a Rural Road Safety Toolbox for use by the Transportation Division. The toolbox is intended to support the review of rural road safety service requests, initial screening of identified issues, in-service road safety reviews, and site-specific investigations by providing a structured, evidence-based framework to identify potential safety issues and match them with context-appropriate countermeasures.

The development of the Rural Road Safety Toolbox also responds to an identified gap in available industry resources. While various rural road safety guides, best practices, and technical references exist, there are limited resources that provide a fully developed and municipally applicable framework specifically tailored to the unique operating conditions and safety issues of rural municipal road networks. In this respect, the

toolbox represents a progressive approach that positions Hamilton as a municipal leader in this area. The Transportation Division have also received interest from other municipalities and regions in the toolbox and its overall framework, reflecting broader recognition of its potential value as a practical and transferable approach once finalized and endorsed by Council.

In practical terms, the toolbox provides the Transportation Division with a consistent process for moving from identification of a rural safety concern to diagnosis of likely contributing factors, to selection of potential countermeasures appropriate to the specific roadway context.

The toolbox was developed using both national and international best practices and Hamilton-specific considerations, including field investigations on the City's rural road network and reference to existing City guidance such as the Complete Streets Guidelines and the City's Draft Traffic Calming Policy. This ensures that the toolbox is not only grounded in evidence, but also tailored to the City's operational context and existing practices.

The Rural Road Safety Toolbox is organized as a series of diagnostic scenarios and decision matrices that consider:

- facility type (e.g. roadway segment, signalized intersection, or unsignalized intersection);
- facility subtype (e.g. two-lane rural road or stop-controlled intersection);
- collision type or issue type (e.g. single motor vehicle, angle, rear-end, speeding, or sightline concern); and
- diagnostic "yes/no" questions that guide Roadway Safety staff toward potential countermeasures based on observed site conditions.

In addition to the decision matrices, the toolbox includes a proposed framework for staff application, a range of diagnostic scenarios organized by facility and issue type, supporting thresholds to assist in identifying collision patterns and speeding concerns, and lists of potential countermeasures. Based on site-specific inputs such as roadway

geometry, traffic control, operating speeds, collision history, and roadside conditions, the toolbox generates a list of recommended countermeasures ranging from lower-cost operational improvements to more substantial infrastructure interventions.

The toolbox is intended as a guidance and decision-support tool to support professional engineering judgment and more consistent Roadway Safety review of rural road safety concerns. It is not intended to function as a prescriptive standard or mandatory requirement for all locations, and its application will continue to depend on site-specific conditions and data, roadway function, operating environment, and the nature and magnitude of the safety concern.

Systemic Safety Review and Pilot Case Studies

As part of the assignment, CIMA+ also completed a systemic safety review of Hamilton's rural road network. Unlike traditional hotspot analysis, this approach focuses on identifying locations that exhibit common risk factors associated with severe collisions, rather than relying solely on historical collision frequency at a single site. This methodology is particularly valuable on rural road networks, where collision frequency may be low but the severity potential can be high.

The systemic safety review included the identification of focus collision types and facility types, evaluation of common risk factors, and assignment of risk scores based on the number and magnitude of those risk factors. The review considered factors such as traffic volumes, speed environment, roadside conditions, and roadway geometry, and generated a prioritized inventory of higher-risk rural segments and intersections for further review.

Ten locations from the prioritized inventory were selected as pilot case studies and assessed through field review using the Rural Road Safety Toolbox. These case studies were used to validate the toolbox's diagnostic pathways and countermeasure recommendations and confirmed that the toolbox provides a practical, adaptable, and technically sound framework for reviewing rural road safety concerns. The pilot case

studies are provided in Appendix A, Section 5, and the ten locations are listed below for reference:

- Wilson St E between Montgomery & Lower Lions Club
- Highway No. 52 N between North of Jerseyville Roundabout & Mineral Springs
- Highway No. 8 between Glover & Lewis
- Centre Rd between Concession 7 & Concession 8
- Carlisle Rd between Highway No. 6 and Wildberry
- Ridge Rd between Seventh & Sixth
- Mud St E @ Second Rd E
- Centre Rd @ Concession 8 E
- Upper James St @ White Church Rd W
- Regional 56 Rd @ Rymal Rd E

Next Steps and Future Application

Going forward, the Transportation Division will use the Rural Road Safety Toolbox to support the review of rural roadway safety requests, in-service safety reviews, and location-specific investigations. This will improve consistency, transparency, and defensibility in how rural road safety concerns are assessed and how context-appropriate countermeasures are identified. The toolbox also supports the City's Vision Zero program and will serve as a key resource in the ongoing management of rural roadway safety.

Where future site-specific improvements are identified through application of the toolbox, implementation will continue to be considered on a case-by-case basis, subject to technical review, operational feasibility, available funding, and future Council approval, where required.

Rural road safety measures may range from relatively simple treatments, such as signage and pavement markings, to more complex interventions, such as full roadway reconstruction. Existing budgets can generally support the implementation of lower-cost,

less complex measures, while more complex improvements would require dedicated approved funding. The effectiveness of implemented measures will continue to be monitored through standard roadway safety analysis. In addition, the 2023/2024 Annual Collision Report includes a new component focused on rural road safety. Furthermore, the Transportation Division will consider the enhancement to public education regarding rural road safety and opportunities for enforcement with Hamilton Police Services.

Potential future external funding opportunities may also support implementation. For example, Good Roads has proposed Safe Roads, Strong Communities, a five-year, $207 million provincial program beginning in 2027 to deliver proven, evidence-based safety improvements, such as guardrails, rumble strips, improved lighting, and winter operations upgrades. The Rural Road Safety Toolbox would support the development of future funding applications and help position the City to pursue available funding opportunities.

Alternatives

As this is a report for information respecting work completed in response to previous Council direction, there are no alternatives associated with this report.

Relationship to Council Strategic Priorities

The recommendation in this report is in direct alignment with Council Priority 2: Safe & Thriving Neighbourhoods, Outcome 2: Make sure people can safely and efficiently move around by foot, bike, transit or car. The development and intended use of the rural road safety toolbox aids in meeting the goals and objectives of the City’s Vision Zero (2019-2025) Action Plan.

Previous Reports Submitted

There are no previous reports associated with the content of this report.

Consultation

The following key stakeholders have been consulted concerning the development and content of this report:

- Transportation Planning, Planning and Economic Development
- Staff Sergeant Traffic Safety Branch, Hamilton Police Services
- Hamilton Strategic Road Safety Committee

Appendices and Schedules Attached

Appendix A: CIMA+ Rural Road Safety Report

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