November 19, 2025

The Honourable Prabmeet S. Sarkaria
Minister of Transportation
Ministry of Transportation of Ontario
777 Bay Street, 5th Floor
Toronto, ON M7A 1Z8

Reference: Engineering-First Modernization of Ontario's Road Design Standards Toward a Safe System Approach

Sent via email to: prabmeet.sarkaria@pc.ola.org

Dear Minister Sarkaria,

The Ontario Society of Professional Engineers (OSPE) advocates for an **engineering-first approach** to transportation safety and design, one that relies on evidence, professional judgement, and proactive planning rather than reactive measures. This philosophy underpins our recommendations to the Ministry of Transportation of Ontario (MTO) for modernizing the *Ontario Traffic Manual (OTM, for all books collectively)* and related policies to prevent collisions and fatalities before they occur.

Despite Ontario's relative success compared to many jurisdictions, road trauma remains a pressing engineering and public health issue. In 2021, 561 Ontarians were killed and more than 30 000 seriously injured in traffic collisions. Approximately 76 percent of these deaths occurred on municipal local and collector roads, streets that connect Ontarians to jobs, education, and community life. These statistics demonstrate that danger is concentrated where people live, walk, and drive daily and that systemic design reform is required to protect all Ontarians.

The recently introduced Bill 56, Building a More Competitive Economy Act seeks to reduce administrative burden and streamline provincial processes. However, curbing automated speed enforcement could unintentionally increase high-risk driving, especially as vehicles continue to grow faster and larger. OSPE stresses that the lasting solution lies in design itself. Particularly, in roads engineered to make safe behaviour the natural and comfortable choice for all users.

The Risks of Maintaining Business-as-Usual

Ontario's current framework remains rooted in warrant- and threshold-based design: safety treatments such as crossings, signals, and geometric traffic calming are implemented only after measurable problems such as high collision counts or traffic volumes emerge. In other words, on our streets, interventions and accommodations are often written in blood.

While this system offers consistency and legal defensibility, it is inherently reactive. It prioritizes vehicle throughput and speed over survivability and safety and does not address risk until it is statistically proven. The cost of this approach is visible in ongoing collisions, rising pedestrian and cyclist deaths, and growing inequity between municipalities with different implementation capacities.

Continuing with business-as-usual carries distinct risks:

- Persistent injuries and fatalities, especially on local and collector roads where exposure is greatest.
- Escalating healthcare and emergency response costs associated with preventable trauma.
- Erosion of public confidence in engineering and governance as communities demand safer streets.

An Engineering-First, Safe System Evolution

An engineering-first approach is not merely a call for new policy, it is a professional framework rooted in the fundamentals of physics, human factors, and system design. This approach aligns with Safe System principles, in which engineers design roads that anticipate human error and minimize crash severity through geometry, context-based speeds, and physical self-enforcement.

Transitioning from a warrant-based framework of the current-day OTM to a Safe System model represents an evolution in engineering practice, not a rejection of it. It replaces thresholds with proactive, risk-based design standards that use engineering judgement, data, and foresight to prevent harm.

International evidence supports this transition:

- Cities such as Hoboken, New Jersey, Oslo, Norway, and Pontevedra, Spain have achieved multi-year periods with zero road deaths by adopting design principles given by Vision Zero, among others.
- Countries such as Sweden and South Korea report sustained fatality reductions of 30 to 40 percent after adopting Safe System principles.

These outcomes were achieved not through additional enforcement, but through engineered road design that inherently limits conflict severity. If enacted, Ontario have truly the best and safest road design in not only North America, but the world. Ontario's roads would not only be safe, but a pleasure to drive on.

Recommendations Stemming from the Engineering-First Approach

1: Establish a Safe System OTM Overhaul Committee

- Members selected by OSPE's professional membership.
- 50 percent Canadian experts (Ontario and other provinces) from municipal, academic, and private sectors, as well as emergency response organization representatives. Private sector experts are to be from differing firms.
- 50 percent international experts (from both Anglosphere and non-Anglosphere) experienced in Safe System implementation.
- Independent review of the committee of all books of the OTM regardless of the length of time since the most previous revision.
- The committee to provide a final report as to what kind of changes were made to it and what kind of supportive policies and laws are needed from the Government of Ontario for all the revisions made.

2: Redefine OTM Criteria from Warrants to Risk Parameters

- Replace volume or collision thresholds with proactive, context-driven criteria reflecting exposure, operating speed, and human-body tolerance.

- The independent review is to focus on collector and arterial roads, with a special emphasis on community zones and school zones for safety as the top design principle and away from warrants and thresholds.

3: Integrate Modern and Proven Dynamic and Geometric Speed Management

- Embed self-enforcing road geometry, protected intersections, and context-appropriate speeds.
- Apply these standards to rural and suburban environments where driving remains essential for access to jobs, family, and education.

4: Support Engineering Tools and Training

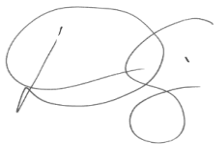
- Provide Ontario engineers with updated guidance and data resources to model risk, predict safety outcomes, and apply modern Safe System methods confidently and consistently.

Conclusion

OSPE's recommendations arise from the profession's duty to protect the public through design excellence and sound engineering science. By embedding an engineering-first approach into Ontario's traffic design standards, the province can significantly reduce deaths and injuries while preserving mobility and efficiency.

This change will demand updated tools, new metrics, and a mindset shift, from measuring traffic flow to managing human risk. But as engineers, we are confident that this evolution will deliver safer, more intuitive, and more efficient roads for all Ontarians.

Sincerely,



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