



Alexandre Nolet,  
M.Eng., RSP<sub>1</sub>, P.ENG.



## Expert Summary

Alex is the Director of Transportation Safety and Forensics and a transportation safety engineer with TNS. He has over 16 years of experience in the areas of road user safety, pedestrian and cycling safety, rail safety, transportation engineering, and transportation planning. Alex provides safety consulting services and independent forensic investigations relating to transportation facility design, construction, operations, and maintenance. He has been qualified in the Quebec Court of Justice and British Columbia Human Rights Tribunal as an expert in road safety. He is also certified as a Road Safety Professional Level 1 and is a Professional Engineer in the provinces of Ontario, Québec, British Columbia, and Nova Scotia.

## Specialized Professional Competencies

- Road User and Pedestrian Safety
- Forensic Assessments of Roadway Design, Signage and Maintenance
- Winter Maintenance and Minimum Maintenance Standards
- Human Factors and Positive Guidance
- At-Grade Rail Crossings
- Roadside safety

## Professional Experience

- True North Safety Group: 2018-present
- Paradigm Transportation Solutions: 2017-18
- 30 Forensic Engineering: 2015-2017
- CIMA+: 2008-2014

## Academic Background

- Master of Engineering, Transportation and Planning, University of Toronto, 2014

- Bachelor of Civil Engineering, Laval University, 2008

## Additional Courses

- Deicing, American Association of State Highway and Transportation, 2021
- Anti-icing/RWIS: Weather Basics, American Association of State Highway and Transportation, 2021
- Barriers & the Social Meaning, Center for Inclusive Design and Environment, University of Buffalo, 2021
- Road Safety Professional – Level 1 Certification, 2020
- Snow School, Ontario Good Roads Association, 2015

## Project Experience

### Safety Reviews

**In-Service Road Safety Reviews, Various**  
Conducted office and field investigations to determine collision patterns and potential contributing factors, as well as non-conformance with multiple standards and guidelines.

Recommended countermeasures and corrective actions and conducted a Benefit/Cost analysis. Managed project budgets, schedules, and resource allocation. Project experience includes:

- City of Montréal, Henri-Bourassa and Papineau, ongoing
- City of Montréal, O'Brien and De Salaberry, ongoing
- Niagara Region, Welland Avenue at Lake Street and Lake Street at James Street, 2023
- City of Burlington, Maple Ave & Lakeshore Rd, 2023
- City of London, English St & Queens Ave, 2023
- Durham Region, 7 intersections, 2023
- City of Hamilton, Cannon Street, 2023
- City of Hamilton, Upper Paradise Road, 2023
- City of Hamilton, Stonehenge Dr & Kitty Murray Ln Roundabout, 2023

### **Road Safety Audits**

Conducted audits of various facilities in accordance with the Transportation Association of Canada Road Safety Audit Guide. Project experience includes:

- Laurier Avenue Cycling Modifications, City of Ottawa, 2022
- Woodfield Road Extension, City of Toronto, 2022
- St. Patrick Street Cycling Improvement Road Safety Audit – WSP (City of Ottawa), 2023
- Bank Street Cycling Improvement Road Safety Audit – Robinson Consultants (City of Ottawa), 2023 Ongoing.
- Trillium Line Road Safety Audit – SNC-Lavalin (City of Ottawa), ongoing
- Mackenzie Avenue Cycling Improvement Road Safety Audit – WSP (City of Ottawa), 2023
- Highway 405 Queue and Stopped Vehicle Advisory System – Black & McDonald (Ontario Ministry of Transportation), 2022-23

### **University of Waterloo Transit Terminal Safety Review, Regional Municipality of Waterloo, 2023**

Conducted an assessment of the new transit terminal at the University campus to identify

opportunities for safety improvements associated with interactions between various road user types, including buses, light rail trains, pedestrians, and cyclists.

### **Bayfield Street Safety Review, City of Barrie, 2023**

Safety Review of approximately 3 km of Bayfield Street, including 11 intersections, in support of an Environmental Assessment Study. The study had a substantial focus on access management and interactions with pedestrians and cyclists.

### **Ridge Road Safety Review – City of Hamilton, 2022-2023**

Retained to review the existing roadside conditions along Ridge Road between First Road East and Tapleytown Road and indicate the preferred roadside safety treatments for each site.

### **Scarborough Subway Extension – Metrolinx (Strabag), 2022-2023**

Retained as the Traffic and Transit Quality Manager for the Scarborough Subway Extension project that will comprise the design and construction of 7.8 km of bored tunnel and associated structures from the existing terminal at Kennedy Station to the intersection of Sheppard and McCowan.

### **Safety Review for Macdonald Bridge Bikeway Redevelopment, Halifax, Nova Scotia, 2023**

Safety review for the 30% conceptual design for the redevelopment of the Macdonald Bridge Bikeway Connectors Project in Halifax, Nova Scotia. Used explicit transportation safety principles to identify safety issues and potential remedial measures to improve safety for all users.

### **Transportation Safety Assessment of Franklin Boulevard Redesign: Impacts on St. Benedict Catholic Secondary School, Waterloo Catholic District School Board, 2023**

Retained to complete a transportation safety assessment of the design alternatives proposed by the Region of Waterloo for the reconstruction of Franklin Boulevard, in the vicinity of St. Benedict Catholic Secondary School. The assessment included a review of the impacts of the signalized intersection and roundabout alternatives on student pedestrian safety.

### **Guide Rail Assessment and Prioritization Study, Town of Caledon, 2021**

Retained to conduct a roadside safety assessment of existing conditions based on industry standards and to develop a priority list for the recommended remedial measures at over 300 locations.

### **Video Conflict Analysis**

Safety reviews using video conflict analysis to assess the risk of intersections. Project experience includes:

#### *Safety assessments*

- Riley Communities Mobility Study & Improvements Plan – Urban Systems (City of Calgary), 2023: 5 intersections
- York Region, 2022-23 : 18 intersections
- Durham Region, 2023 : 7 intersections
- Durham Region, 2022 : 6 intersections
- Bruce County, 2020-2022 : 7 intersections,
- Durham Region, 2019 : 7 intersections

#### *Before and After*

- Various safety measures including right-turn-on-red prohibition and leading pedestrian internals (LPIs), York Region, 2022-23, 2022-2024
- LPIs, Transport Canada, 2022-23 : 14 intersections
- Pedestrian crossing of a multi-use trail, Waterfront Toronto, 2023: 1 intersection
- Protected left turn phase, Prince George, 2020: 1 intersection

### **Riley Communities Mobility Study & Improvements Plan - City of Calgary (2022-Ongoing)**

Retained as part of the Urban Systems project team to conduct a planning-level safety review of the intersections and roadways within Calgary's Riley Community, supporting Calgary's Safer Mobility Plan.

### **Victoria Park Avenue Complete Street – Retained – Alta Planning + Design (City of Toronto) – ongoing**

Retained to complete a high-level collision history review of the study corridor. The collision

review involved a quantitative assessment of the collision history and the identification of collision patterns. The study area for this assignment consisted of the 6.4 kilometre-segment of Victoria Park Avenue from Lawrence Avenue East to Gerrard Street East.

### **Operational and Safety Review of Rural Skewed Intersections, City of Ottawa, 2021**

Retained to develop an innovative approach to capture and rank the relative collision risk and severity of sites with low-volume and collision experience, and to select appropriate remedial actions representative of the risk level. The study area consisted of 31 curved-tangential intersections.

### **Operational and Safety Review of Rural Skewed Intersections, Region of Durham, 2019**

Retained to develop an innovative approach to capture and rank the relative collision risk and severity of sites with low-volume and collision experience, and to select appropriate remedial actions representative of the risk level. The study area consisted of 22 curved-tangential intersections.

### **Safety Evaluation of Electronic Advertising Signs in the City of Brampton, 2021**

Retained to review the safety impacts of proposed digital advertising signs installed on both sides of railway overpasses in the City of Brampton.

### **Traffic Operations Safety Study – Region of Halton, 2020**

Retained to review the existing safety programs in place in the Region and to evaluate how it compares to other safety initiatives such as Vision Zero. A total of twenty operational and procedures/practices aiming to reduce the number of injury and fatal collisions were reviewed and updated.

### **Operational and Safety Review of Six Signalized Intersections, Region of Durham, 2021**

Retained to complete a comprehensive safety review of six major signalized intersections. This project involves the review of conflict data collected with cameras and comprehensive field investigations.

**Safety Assessment of Proposed CN Logistics Hub, Milton, Ontario, CN, 2021**

Retained to review the safety effects of the increased traffic and truck volume on the expected travel routes between the CN facility and the major destinations and freeway facilities. The study area includes approximately 100 intersections and midblock segments.

**In-service Road Safety Review – City of Toronto, 2019**

Retained to complete a comprehensive safety review of the road segment of Victoria Park Avenue from Parma Court to Jonesville Crescent/Craigton Drive.

**Tillsonburg Corridor Study – Town of Tillsonburg, 2017**

Retained to conduct a Corridor Management Study for Quarter Town Line. The purpose of this study was to develop economically feasible countermeasures to existing and anticipated traffic operations and safety concerns within the corridor.

**Corridor In-Service Safety Review – City of Calgary, 2017**

Retained to complete a comprehensive safety review of an industrial arterial road corridor, which included three intersections and a number of private accesses.

**Curve Assessment and Warning Sign Recommendations, Region of Halton, 2018**

Retained to assess all curves on Regional roadways against the Ontario Traffic Manual Book 6 – Warning Signs and make recommendations for the non-compliant curves.

**In-Service Road Safety Review of Dundas Street from McLaren Avenue/Pollock Avenue to Franklin Boulevard, Region of Waterloo, 2017**

Retained to conduct a safety review of a 850 metres road section of Dundas Street in Cambridge which included the review of two signalized intersection, one stop controlled intersection, one roundabout and several commercial accesses.

**Safety Assessment of the Don Mills Road and Eglinton Avenue Environs, Wynford Green Limited, 2016**

Comprehensive safety reviews of thirteen intersections located in the surroundings of the proposed development on the existing Celestial Lands in the City of Toronto.

**Ramp Configuration Safety Assessment – First Gulf, 2015**

A quantitative safety assessment of the “hybrid option” ramp configurations between the Gardiner Expressway, Lakeshore Boulevard and Don Valley Parkway in the City of Toronto.

**In-Service Safety Reviews – Region of Halton, 2015**

Comprehensive operational safety reviews of four intersections and two road sections in the Region of Halton.

**Configuration of Safety Analyst Software for Efficient and Effective Safety Management of MTO’s Road Network, Ministry of Transportation Ontario – Head Office, 2012 – 2013**

Configured the Safety Analyst software for efficient safety management of MTO’s road network and developed the training material (PowerPoint slides and hands-on exercises) for a two-day training given to MTO staff.

**Review of Safety Impacts of Static Electronic Advertising Signs and Bus Shelter Scrolling Advertisements, City of Toronto, 2013**

Conducted a before and after study to identify the safety impacts of both static electronic advertising signs and bus shelter scrolling advertisements, and performed statistical calculations to determine whether the signs impact the number of collisions.

**Montreal Speed Limit Assessment, City of Montreal, 2012**

Statistically assessed whether the reduction of the speed limit on local roads in the City of Montreal from 50 km/h to 40 km/h has reduced the operating speed.

**Traffic Engineering Services on Retainer, Ministry of Transportation Ontario, Eastern Region, 2013**

Managed the review and development of a new version of the OTM Book 12 – Justification 6. Justification 6 provides a warrant system for the installation of pedestrian crossings. This project

included a literature review, a survey of municipalities, the development of a new warrant system and a presentation to MTO staff.

#### **Pedestrian Operational Safety Review – Region of Durham, 2015**

A review of pedestrian safety and operations along Victoria Street in the Town of Whitby. The area included GO Transit station and parking facilities, high density residential and recreational facilities.

#### **City of Hamilton Mobility Pedestrian Master Plan, City of Hamilton, 2011**

Involved in the quantitative tasks of this project. Calculated probability of collisions involving pedestrians for road sections and intersections and ranked road elements according to their potential for safety improvements.

#### **Vulnerable Road User Safety**

#### **Warden Corridor Functional Design – Retained – Alta Planning + Design (City of Toronto) – ongoing**

Retained to complete safety improvement opportunities review of the Warden Corridor, which included a safety assessment of a potential trail on a hydro corridor.

#### **Sheppard Avenue Complete Street – Alta Planning + Design (City of Toronto) – 2021-2022**

Retained to complete a safety review of the study corridor. The study area consisted of the road segment of Sheppard Avenue from Bayview Avenue to Leslie Street, including all accesses and intersections within the corridor. This project involved a detailed collision review and field investigations to identify safety issues.

#### **Rural Active Transportation Strategy – City of Burlington, 2021**

Retained to undertake safety reviews of five existing midblock uncontrolled Bruce Trail crossings located in rural areas.

#### **Friendship Trail Road Crossing Study – Fort Erie (Quartek), 2022**

Conducted a peer review of four preliminary trail crossings options that were developed as part of the Friendship Trail Road Crossing Study

#### **Westmount Road Preliminary Risk Assessment – Region of Waterloo, 2020**

Retained to complete a preliminary risk assessment comparing the relative risk between on-road bicycle facilities and an off-road share use path on Westmount Road between Glasgow Street and Erb Street in the Region of Waterloo. The findings were incorporated into the overall decision-making in the planning and design phases of the project.

#### **Preliminary Hazard Assessment at the Aurora GO Station Platform, Metrolinx, and Amec Foster Wheeler, 2016**

Retained to conduct a preliminary hazard assessment of the at-grade pedestrian crossing at the Aurora GO Station platform. The study consisted of a field investigation during peak arrival and departure periods, and an assessment of future operating conditions along with a hazard assessment.

#### **Traffic study for the St. Matthew Catholic School, Toronto District Catholic School Board, 2017-2018**

Conducted a comprehensive operational and safety assessment to determine how to address the traffic congestion and safety concerns on Lavender Road and in vicinity of the school.

#### **Design of a multi-use trail at an at-grade railway crossing, Town of Notre-Dame-des-prairies (QC), 2017-2018**

Retained to determine safety measures that should be implemented in advance of the rail corridor to ensure adequate levels of safety are provided to cyclists and pedestrians travelling on the multi-use trail.

#### **At-Grade Railway Crossing Reviews**

Retained to conduct compliance reviews for each of the railway grade crossings, which involved identifying existing deficiencies, determining the appropriate remedial measures and the associated budget level cost estimate. It also involved identifying eligibility of the safety improvements for federal funding. Such projects were completed for the following road authorities:

- Ministry of Natural Resources and Forestry, Ontario (2023-2024) – 69 crossings
- Region of Durham, Ontario (2023) – 21 crossings



- City of Ottawa, Ontario (2021) – 4 crossings
- Oxford County, Ontario (2020) – 22 crossings
- City of Pickering, Ontario (ongoing) – 16 crossings
- City of Mississauga, Ontario (2017-2018) – 32 crossings
- City of Kamloops, British Columbia (2017-2018) – 22 crossings
- Halifax Regional Municipality (2018) – 28 crossings
- Region of Waterloo (ongoing) – 34 crossings
- City of Grande Prairie, Alberta (2018) – 16 crossings
- Town of Joliette, Québec (2017) – 8 crossings
- City of Woodstock, Ontario (2017) – 6 crossings
- Region of Durham, Ontario (2016-2017) – 30 crossings
- Town of Whitby, Ontario (2017) – 5 crossings
- City of Cambridge, Ontario (2016-2017) – 23 crossings
- City of Waterloo, Ontario (2016-2017) – 18 crossings
- City of Belleville, Ontario (2016)- 25 crossings
- Town of Woolwich, Ontario (2016) – 6 crossings
- Town of Augusta, Ontario (2016) – 2 crossings

### **Whistling Cessation Studies**

Retained to undertake railway train whistle cessation studies, which involved on-site investigation of the crossings by the project team as well as a representative of the railway company. An assessment of the railway crossing for compliance, identification of deficiencies and countermeasures with budgetary level estimates were provided. Such projects were completed for the following road authorities:

- Oxford County, Ontario (2019) – 1 crossing
- Municipality of Shuniah, Ontario (2016) – 1 crossing
- Town of Didsbury, Alberta (2017) – 8 crossings
- Town of Coaldale, Alberta (2017) – 6 crossings

- City of Lacombe, Alberta (ongoing) – 5 crossings

### **Traffic Data Analysis**

#### **Development of Safety Performance Functions and Network Screening, York Region, 2010**

Developed SPFs for road segments and intersections and for various collision types. This project involved a network screening to determine the sites with the greatest potential for safety improvements.

#### **Development of Safety Performance Functions (SPF) and Network Screening, Ministry of Transportation of Quebec, 2013**

Managed the development of SPFs for rural midblock segments and for various collision types. This project included the collection and preparation of the required data (collisions, traffic volume and physical characteristics) and the use of statistical techniques to develop mathematical equations.

#### **Development of Safety Performance Functions (SPF) and Network Screening, City of Mississauga, 2013**

Developed methodologies to estimate AADTs for intersections with no AADT, and modeled SPFs for various collision types and severity.

#### **Development of Safety Performance Functions (SPF) and Network Screening, Halton Region, 2010**

Developed SPFs for road segments and intersections and for various collision types. This project included the collection and preparation of the required data (collisions, traffic volume and physical characteristics) and the use of statistical techniques to develop mathematical equations.

#### **Site Selection for Deployment of Red-Light Cameras, Regional Municipality of Halton, 2012**

Developed a methodology for the identification of the most appropriate 4-leg signalized intersections for red-light cameras deployment. The methodology was also incorporated in the Traffic Engineering Software (TES) to automate the site selection process that could be used in the following years by the Region.

### Site Selection for Development of Red-Light Cameras, Regional Municipality of York, 2013

Developed a methodology to identify the most appropriate 4-leg signalized intersections for red-light cameras deployment. The methodology was also incorporated in the Traffic Engineering Software (TES) to automate the site selection that could be used by the Region in the following years. Managed the field investigation task.

## Professional Societies and Associations

- Member, Professional Engineers of Ontario (PEO)
- Member, Ordre des ingénieurs du Québec
- Member, Engineers, and Geoscientists British Columbia
- Member, Engineers of Nova Scotia
- Chair of the Accessibility Guidelines Committee, CITE (2017-2018)
- President of the Canadian Association of Road Safety Professionals (CARSP) (2019-2021)
- Member, Association Québécoise des transports, AQTR

## Publications/Presentations

- Removing Barriers: Achieving Accessibility in Transportation Systems, ITE Canada, 2023 and 2024
- Big Data & Emerging Technologies, ITE Canada, 2022 and 2023
- Roadway Management course – Risk Management, OGRA, May 3, 2022
- Completing In-Service Road Safety Reviews using Video Based Surrogate Safety Techniques, Transoft, September 2020
- An Innovative Approach to Assessing the Relative Risk at Rural Curved-Tangential Intersections, CARSP, June 2020
- Pedestrian Safety One-Day Workshop, ITE Toronto Section in Thunder Bay, 2020
- Transit Stop: Locating and Designing for Safety, CUTA, October 2019
- Fundamentals and Practical Applications of the AASHTO Highway Safety Manual, ITE Toronto, October 2019

- A Review of Public Right-of-way Accessibility Experiences in Canada, CARSP Conference, Victoria, June 2018
- A Review of Public Right-of-way Accessibility Experiences in Canada, CITE Conference, Edmonton, June 2018
- Bicycle Safety and Risk Management One-Day Workshop, Ontario Traffic Conference, 2017 & 2018 & 2019
- Above Grade – Implications of the New Regulations on Private Owners of At-grade Railway Crossings, Canadian Underwriter, September 2017
- Pedestrian Safety and Risk Management One-Day Workshop, Ontario Traffic Conference, 2017 & 2018 & 2019
- Formation sur la sécurité des piétons sur le réseau routier, One-Day Workshop, « Association québécoise des transports », 2017
- Pedestrian Safety at At-grade Railway Crossings, CARSP Annual Conference, Toronto, June 2017
- La sécurité des passages à niveau, « Association québécoise des transports » Workshop on at-grade railway crossings in Montreal, November 17, 2016
- Les implications du nouveau Règlement sur les passages à niveau, « Association québécoise des transports » Annual Conference in Quebec City, April 2016
- Canada's New Grade Crossings Regulations: Know Your Road Authority's Responsibilities, Municipal World, March 2016

## Expert Testimony

- Qualified as an expert in road safety in the Court of Justice, Quebec
- Qualified as an expert in road safety in the BC Human Rights Tribunal