



Andrew Shan,
B.A. Sc., EIT



Expert Summary

Andrew is a Transportation Safety Analyst with TNS, and an Engineer-In-Training (EIT). He possesses a strong knowledge of transportation and traffic safety, conflict and collision analysis, intersection design, and speed limits. Andrew graduated from the University of Toronto with a degree in Civil Engineering. He has helped deliver the Vision Zero Road Safety Strategic Plan for the Region of Peel, as well as the Neighbourhood Area Speed Limit Project for the City of Mississauga. Andrew is an active committee member of the Toronto chapter of the Institute of Transportation Engineers (ITE) as the current website director. In 2022, Andrew was the winner of the Institute of Transportation Engineers (ITE) Canada Bunt & Associates David Tam Memorial Award for young transportation engineers. At TNS, Andrew provides transportation safety technical support to projects and expert opinions related to transportation system design, operations, and maintenance.

Specialized Professional Competencies

- Transportation Safety
- Collision and Speed Analysis
- Intersection Design
- Posted Speed Limits

Professional Experience

- True North Safety Group: 2021-present
- City of Mississauga: 2020-2021
- BA Consulting Group: 2019
- Regional Municipality of Peel: 2018-2019

Academic Background

- B.A.Sc. Civil Engineering, Transportation, University of Toronto, 2020

Project Experience

Safety Reviews

In Service Road Safety Reviews – Durham Region, 2023

Retained along with Transoft Solutions to undertake In-Service Road Safety Reviews (ISRSR) at seven intersections across the Region. Transoft Solutions collected conflict analysis data, vehicular speed data, and traffic volume at each intersection. TNS analyzed the outputs and included the key road safety review findings in individual reports.

In-Service Road Safety Reviews for Two Corridors - City of Hamilton, 2023

Conducted in-service road safety reviews for the Cannon Street and Upper Paradise Road Corridors in the City of Hamilton. This project included an initiation meeting, field investigations, and meetings to discuss draft reports and to present our final reports to city staff and high-level management.

In Service Road Safety Review – Region of Peel, 2022

Conducted detailed collision analysis at ten locations, primarily along Dixie Road, to evaluate safety concerns and provide recommendations for improvement.

McLaughlin Road Corridor Safety Review – City of Mississauga, 2021

Conducted collision analysis, data summaries, and infrastructure inventory at six intersections and six road segments for a corridor safety review.

Video Conflict Analysis

Utilized recorded conflict data to conduct conflict and speed analyses at various intersections. Prepared reports to summarize key findings and safety issues, and suggest potential remedial measures. Project experience includes:

Safety assessments

- Region of Waterloo Right Turn Review, 2023: 6 intersections
- Riley Communities Mobility Study & Improvements Plan – Urban Systems (City of Calgary), 2023: 5 intersections
- York Region, 2021-23 : 18 intersections
- Durham Region, 2023 : 7 intersections
- Durham Region, 2022 : 6 intersections
- Bruce County, 2022 : 1 intersection

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

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 – 69 crossings
- Region of Durham, 2023 – 21 crossings

Synchro Modelling

Created traffic simulation models for various safety reviews to review existing traffic conditions and assess the impact of potential geometric changes.

- Niagara Region, Carlton Street, 2023 - 2024
- Town of Cobourg, Various intersections, 2023 - 2024
- City of London, Queens Avenue & English Street, 2023
- City of Burlington, Maple Ave & Lakeshore Rd, 2023
- City of Hamilton, Cannon Street, 2023
- City of Hamilton, Upper Paradise Road, 2023
- City of Hamilton, Upper Wentworth Street, 2023

Traffic Data Analysis

TES Deployment – MTO, 2023

Projected historical PDCS volumes to current volumes.

TES Deployment – City of Lethbridge, 2023

Converted historical traffic data to various formats and years by calculating and utilizing different factors.

Digital Advertising Displays

Conducted studies to identify the impacts of electronic advertising signs, and performed calculations to determine whether the signs impact collision frequency.

- Pattison, Martin Street, Milton, 2023
- Pattison, Bromsgrove Road, Mississauga, 2023
- RCC Media, Brampton, 2021

Other Projects

Rural Roadway Curve Warning Study – Region of Niagara, 2023-ongoing

Conducted desktop reviews and field investigations of 345 rural curved roadways, assessed curve existing conditions against OTM Book 6, delivered reports of findings and recommendations. Prepared approximately 150 work orders for the municipality.

School Crossing Guard Warrant Exposure Index – City of Vaughan, 2022

Development of an exposure index for the City's School Crossing Guard Program, based on spring and fall traffic data collection and analysis, and site visits. Delivered technical report.

Neighbourhood Area Speed Limit Project – City of Mississauga, 2020-2021

Conducted site investigations for signage inventory and stakeout markings, as well as created work orders for sign and post installation. Drafted

By-law changes for implementation of 40 km/h posted speed limits in neighbourhood areas, and 30 km/h posted speed limits in school zones and Community Safety Zones.

Rogers Centre Simulation Model – City of Toronto, 2019

Modelled the traffic network of Toronto's Entertainment District in PTV Vissim to program signal timings within the network and synchronized multiple intersections to run simultaneously.

Vision Zero RSSP, Regional Municipality of Peel, 2018-2019

Analyzed historical pedestrian collision and fatality data to assess trends and create heat maps. Assisted with the implementation and approval of the Vision Zero Road Safety Strategic Plan by designing multimodal safety countermeasures as part of the Vision Zero Task Force.

Signalized Pedestrian Crossover, Regional Municipality of Peel, 2018-2019

Performed site investigations to determine the ideal location for a pedestrian crossover (PXO) on Kennedy Road. Designed signals, crossover and concrete ramp to meet Ontario Traffic

Manual (OTM) and AODA standards. PXO provided a retirement residence with access to a bakery and transit stops.

Professional Societies and Associations

- Engineer-In-Training, Professional Engineers of Ontario (PEO)
- Website Director, Toronto Chapter, ITE Canada
- Member, Ontario Society of Professional Engineers (OSPE)
- Member, Toronto Chapter, Young Professionals in Transportation (YPT)