



## Giovani Bottesini

M.Eng., RSP1, P.Eng.



### Expert Summary

Giovani Bottesini has over 12 years of diversified experience in the Transportation field, including traffic enforcement and operations, research, and public service at the municipal level. Giovanni has delivered numerous projects related to transportation planning, traffic engineering, traffic safety, and traffic data management. Giovanni is a licensed Professional Engineer in the Province of Ontario and certified by the Transportation Professional Certification Board as a Road Safety Professional Level 1.

### Specialized Professional Competencies

- Road Safety Reviews
- Traffic Impact Studies
- Parking Studies
- Winter Maintenance

### Professional Experience

- True North Safety Group: 2023-present
- City of Richmond Hill: 2021-2023
- CIMA+: 2012-2021
- Regional Municipality of York: 2012
- NAVIGATS Inc.: 2011-2012
- City of Porto Alegre, Brazil: 2002-2006 and 2009-2010

### Academic Background

- Diploma, Transportation Engineering Technology, Mohawk College, 2013
- M. Eng., Road Safety, Federal University of Rio Grande do Sul, Brazil, 2010

- B.Eng., Civil Engineering, Federal University of Rio Grande do Sul, Brazil, 2008

### Project Experience

#### *TRAFFIC SAFETY*

**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 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
- City of Toronto, Danforth Avenue, 2020
- Halton Region, 10 intersections, 2020
- Peel Region, 16 intersections, 2019
- City of Toronto, 3 Corridors, 2019
- City of Ottawa, Merivale Road & Meadowlands Drive, 2018
- Regional Municipality of Niagara, Four Mile Creek Road & Line 3 Road, 2018
- City of Guelph, Victoria Road & Eramosa Road, 2017
- Regional Municipality of York, Highway 11, 2017
- Regional Municipality of York, York Durham Line Roundabout, 2017
- Regional Municipality of Niagara, 20 Locations, 2016
- City of Toronto, Yonge Street & Finch Avenue, 2016
- City of London, 12 urban intersections, 2015
- City of Hamilton, Red Hill Valley Parkway, 2015
- Regional Municipality of Halton, 6 locations, 2015
- City of St. Catharines, Decew Road, 2014

**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.

**Danforth Avenue In-Service Road Safety Review, City of Toronto, 2020**

In-Service Road Safety Review of 6 km of Danforth Avenue, between Broadview Avenue and Victoria Park Avenue, including approximately 50 intersections (25 signalized). The safety review is a component of The Danforth Study, a high-profile Complete Streets project with a strong focus on improving safety for vulnerable road users. The recommendations from the safety review will be used as inputs for the development of design options for the corridor.

**Highway 401 Brockville Safety Assessment, Ministry of Transportation Ontario, 2020**

Conducted collision analysis and field investigation to identify safety concerns and recommended improvements as part of the rehabilitation/widening of a 4-kilometre section of Highway 401 in Brockville. Red Hill Valley Parkway Before & After Analysis, City of Hamilton, 2020 Analysis of collision records before and after the completion of resurfacing work on the Red Hill Valley Parkway to investigate whether the resurfacing resulted in collision reductions.

**Walton Street Reconstruction, Municipality of Port Hope, 2020**

Intersection capacity analysis for existing, ultimate and construction detours, including traffic volume forecasts and diversions; parking utilization survey planning and analysis.

**Transportation Operations and Safety Study, Regional Municipality of Halton, 2019 – 2020**

Comprehensive traffic safety study including collision history review, network screening and systemic safety review to identify Region-wide collision trends, collision-prone locations, and risk factors. Development of a 5-year implementation plan for safety countermeasures.

**Traffic Safety Study, City of Markham, 2019 – 2020**

Comprehensive traffic safety study including collision history review, network screening and systemic safety review to identify City-wide collision trends, collision-prone locations, and risk factors. The study will support the future adoption by the City of a Vision Zero traffic safety strategy.

**Pedestrian Crossing Review – Greenbank and Brooklin, Ministry of Transportation Ontario, 2019**

Review of the need for and feasibility of pedestrian crossing treatments at two Highway 7/12 locations: Greenbank, in the Township of Scugog (rural highway through community), and Brooklin, in the Town of Whitby (urban highway through urban community with on-street parking and commercial land use). Both reviews included pedestrian crossing studies, collision history review, intersection operational analysis, field investigation, and development / evaluation of multiple alternatives.

**QEW Interchange Safety Reviews – Grimsby and Fort Erie, Ministry of Transportation Ontario, 2019**

Safety review of the QEW interchanges at Christie Street / Ontario Street / Maple Avenue, in the Town of Grimsby, and at Bowen Road, at the Town of Fort Erie. Reviewed collision history, intersection operations, sight distances, signage and pavement markings, and road user conflicts.

**St. Pierre Interchange Safety Performance Evaluation, City of Montréal, 2019 – 2020**

Comparison of safety performance of Do-Nothing Option + 3 redesign alternatives for the St. Pierre interchange (Route 138 @ Route 20) using FHWA's Interactive Highway Safety Design Model (IHSDM) software. Route 117 Safety Performance Evaluation, Ministry of Transportation Québec, 2019 Prediction of future safety performance, using MTQ and Highway Safety Manual SPFs, of 3 design alternatives for approximately 13 km of Route 117 near Laval.

**Lincoln Alexander Parkway Guide Sign Review, City of Hamilton, 2019**

Review of guidelines for interchange guide signs for temporary and permanent conditions on the Lincoln Alexander Parkway

interchanges at Mohawk Road and at Upper Wentworth Street as alternatives to the overhead sign supports that were removed due to structural concerns. Provided recommendations for temporary ground-mounted signs with consideration to geometric and traffic conditions (e.g. weaving section), as well as to spacing of other existing signage, and investigated potential for adoption of ground-mounted signage on a permanent basis (including roadside safety considerations).

**Highway 3 Operational Performance Review, Ministry of Transportation Ontario, 2019**

Safety review of approximately 22 km of Highway 3 between Essex and Leamington as part of an Environmental Assessment for the widening of Highway 3. Conducted review of collision history, field investigation, and evaluation of multiple design alternatives (20-year future safety performance) using Safety Performance Functions and Collision Modification Factors.

**County Road 18 Safety Review, Northumberland County, 2019**

Safety review of County Road 18 in the vicinity of Telephone Road and Danforth Road West. Reviewed collision history, intersection operations, operational speeds, sight distances, signage and pavement markings, roadside safety devices, and road user conflicts.

**County Road 45 Traffic Study, Northumberland County, 2019**

Operational and safety review of County Road 45 between the Highway 401 interchange and 6 km north thereof. Reviewed collision history, speed limits and operational speeds, sight distances and need of exclusive left-turn lanes at select intersections, signage and pavement markings, and potential traffic impacts of a future development in the study area to assist the County define terms of reference for an eventual Traffic Impact Study.

**County Road 2 Speed Review, Northumberland County, 2019**

Review of existing speed limits and operational speed of County Road 2 (Albert

Street West) in Hastings. Development of alternatives for speed limit modifications and accompanying speed management / traffic calming measures.

**Finch West LRT Project Highway 400 Bridge Crossing Rehabilitation Road Safety Audits, Mosaic Transit Constructors, 2019**

Conducted a Road Safety Audit of initial design of Highway 400 Bridge Rehabilitation. The design stage audit included a review of design drawings and preparation of a Road Safety Audit Report identifying safety related deficiencies and suggestions to remove/mitigate those deficiencies and/or improve safety.

**Highway 401 Expansion Project – Credit View Road to Regional Road 25 Road Safety Audits, West Corridor Constructors, 2019**

Conducted a Road Safety Audit of initial design of Highway 401 Expansion Project. The design stage audit included a review of design drawings and preparation of a Road Safety Audit Report identifying safety related deficiencies and suggestions to remove/mitigate those deficiencies and/or improve safety.

**Red Hill Valley Parkway Roadside Safety Review, City of Hamilton, 2018**

Completed an inventory and condition inspection of all roadside safety devices (guide rails) and unprotected hazards along the Red Hill Valley Parkway and develop recommendations for maintenance, replacement, upgrade, removal, or new guide rail installations, as well as mitigation of hazards. Completed a review of geometric design on mainline curves and ramps and recommended countermeasures to reduce frequency and severity of collisions.

**School Safety Zone Design, City of Toronto, 2018**

Coordination and technical guidance of technical staff to produce maps with enhanced school safety zone signage and pavement markings for approximately 100 schools.

**School Safety Review, City of Toronto, 2019**  
Comprehensive safety review of four schools in the City of Toronto, including office and

field investigation. Focus on identifying safety concerns and recommending countermeasures to improve safety of student arrivals and departures, including improvements to sidewalks and crossing locations, pick-up and drop-off areas, cycling infrastructure, and traffic operations.

**Highway 401 Cobourg to Colborne Safety Assessment, Ministry of Transportation Ontario, 2018**

Conducted collision analysis and field investigation to identify safety concerns and recommended improvements as part of the rehabilitation/widening of a 19-kilometre section of Highway 401 between Cobourg and Colborne.

**Main Street Road Safety Audit, City of Ottawa, 2018**

Conducted a detailed investigation of existing conditions along Main Street, between Colonel By Drive and the Rideau River, to identify opportunities for safety improvements following the road's recent reconstruction as a 'complete street'. Provided recommendations relating to geometry, signage, roadside safety, bicycle and pedestrian facilities, and access management, to mitigate the severity and number of reported collisions and near misses.

**Road Safety Audit of BRT Preliminary Design, City of London, 2018**

Conducted a detailed review of preliminary design drawings for the City of London Bus Rapid Transit system. Identified opportunities for design improvements relating to safety of all road users, including pedestrians, cyclists, transit users and motor vehicle occupants.

Guide Rail Inspection, Assessment and Design, Regional Municipality of York, 2018  
Condition assessment of approximately 180 guide rail systems on 41 Regional Road sections to determine the need for maintenance, replacement, upgrade, removal, or new guide rail installations. Production of design drawings for guide rail systems following MTO Roadside Safety Manual and Ontario Provincial Standards for Roads and Public Works.

**School Area Study, Municipality of Wawa, 2018**

Conducted a detailed investigation of existing conditions in the vicinity of three schools in the Municipality of Wawa, identifying opportunities to improve safety of students. Recommendations provided included revisions in signage and pavement markings, provision of additional active transportation facilities, and revisions to parking regulations in the vicinity of the schools.

**Transportation and Pedestrian Safety Action Plan, Town of Whitby, 2017**

Assessed existing conditions of the Downtown Whitby road network with respect to pedestrian and bicycle safety, including existing facilities and their condition, cyclist and pedestrian behaviour, and opportunities for improvement.

**Roadside Safety Assessment & Guide Rail Design, Highway 407 ETR, 2015, 2016, 2017**

Roadside safety assessment of various freeway locations to determine the need for hazard protection. Design of guide rail system following MTO Roadside Safety Manual and Ontario Provincial Standards for Roads and Public Works.

**King Street & Scugog Street Intersection Review, Municipality of Clarington, 2017**

Review of geometry, lane configuration and traffic operations, and development of short- and long-term options to address long queues and vehicular conflicts at the intersection.

**Argyle Street & Haddington Street Intersection Review, Haldimand County, 2017**

Evaluated four alternatives for operational and safety improvements at the intersection of Argyle Street & Haddington Street, including Intersection Pedestrian Signal (IPS), two signalized intersection layouts, and a mini-roundabout. Evaluated all alternatives with respect to traffic safety, traffic operations, pedestrian safety, and access concerns, and ranked alternatives based on a cost-effectiveness ranking.

**Guide Rail Inspection, Assessment and Design, Regional Municipality of York, 2017**

Condition assessment of over 60 guide rail systems on 28 Regional Road sections to determine the need for maintenance, replacement, upgrade, removal, or new guide rail installations. Production of design drawings for guide rail systems following MTO Roadside Safety Manual and Ontario Provincial Standards for Roads and Public Works.

**Fermor Avenue Road Safety Audit, City of Winnipeg, 2016**

Conducted a detailed investigation of existing conditions on the Fermor Avenue corridor between St. Anne's Road and Archibald Street to identify opportunities for safety improvements as part of the road's rehabilitation project. Provided recommendations relating to geometry, signage, roadside safety, bicycle and pedestrian facilities, and access management, to incorporate safety improvements into the development of design alternatives.

**McNabb Street Safety Study, City of Sault Ste. Marie, 2016**

Evaluated eight alternatives for safety improvements at McNabb Street near Algoma Avenue, ranging from simple signage improvements to more complex options including intersection realignment, roundabout, and reduction of number of lanes. The City indicated concerns with collisions along a horizontal curve, as well as potential speed and impaired driving issues. Provided recommendation of preferred alternative based on criteria including collision protection, speed/impaired driving mitigation, intersection visibility, pedestrian safety, and access to local streets.

**Bradford West Gwillimbury Waste Transfer Station Review, County of Simcoe, 2016**

Review of existing conditions and proposed site reconfiguration with regard to excess queuing on Line 12. Development, evaluation and recommendation of alternatives to address safety concerns associated with excess queues.

**Dorchester Drive Operational and Safety Review, Town of Grimsby, 2016**

Conducted an operational and safety review to assess concerns from residents relating to traffic volumes, speeds and collisions along Dorchester Drive. The review included a field investigation and Bluetooth data collection and analysis to determine whether cut-through traffic was a considerable concern.

**Horseshoe Valley Road Peer Review, County of Simcoe, 2014 – 2016**

Undertook peer reviews of truck climbing lane warrant analysis and roundabout concepts conducted by other consultants and provided recommendations to further improve the analysis.

**Road Network Safety Audit, Municipality of Clarington, 2016**

Conducted a roadside safety assessment of the entire rural road network utilizing video and GIS data to identify potential hazards. Provided short-and long-term recommendations relating to guiderail installation or replacement, hazard removal or delineation, as well as safety improvements for selected intersections.

**Traffic Calming Design Services – Emperor Street/Seward Drive, Town of Ajax, 2015**

Evaluation of existing conditions along the entire extension of Emperor Street and Seward Drive; research and identification of potential traffic calming measures; development of 3 alternatives and subsequent evaluation to determine the most suitable set of traffic calming measure for each site.

**Town Wide Speed Limit Review, Town of Caledon, 2015**

Recommended speed limits for all roads under the Town's jurisdiction based on the Transportation Association of Canada's (TAC) guidelines. Conducted a field investigation to collect relevant physical characteristics of all arterial/collector roads and a sample of local roads. Reviewed TAC's recommended speed limits and applied engineering judgement, including network & corridor consistency, road function/classification, borderline cases, etc.

**Pine St & Pleasant Dr Operations and Safety Review, City of Sault Ste. Marie, 2015**

Reviewed collisions, volumes, speeds and potential vehicle-pedestrian conflicts at the intersection. Provided recommendations related to speed reduction, including electronic speed feedback signs and traffic calming measures.

**Roadside Safety Assessment & Guide Rail Design, Regional Municipality of York, 2015**

Roadside safety assessment of approximately 32 lane-kilometres of regional roads to determine the need for hazard protection. Production of design drawings for guide rail systems following MTO Roadside Safety Manual and Ontario Provincial Standards for Roads and Public Works.

**Ninth Line Traffic & Roadside Safety Review, Regional Municipality of York, 2015**

Review and assessment of the portion of Ninth Line surrounding Musselman's Lake. Conducted both office and field investigations and proposed a list of proactive collision mitigation measures in a written report, including sight line improvements, signage, pavement markings, and roadside safety measures.

**Kelson Avenue Speed Limit Review, Town of Grimsby, 2014**

Review of speed limit on Kelson Avenue North using Transportation Association of Canada's Guidelines for Establishing Posted Speed Limits; assessment of road geometry, traffic operations and speed data.

**Guide Rail Inventory and Assessment, City of St. Catharines, 2014**

Inspection of over 200 guide rail systems and database restructuring and update for prioritizing implementation of repairs and upgrades.

**Annual Road Safety Report, 2010 – 2011, Regional Municipality of Niagara, 2012**

Development of two annual road safety reports. The reports contain a comprehensive review of collisions occurring in 2010/2011. The report will be used as a benchmarking tool for the Region, in addition to providing stakeholders with



information on the current state of road safety in the Region.

**Highway Safety Manual Courses, Navigats Inc., 2011 – 2012**

Assistance in the preparation and delivery of courses on AASHTO's Highway Safety Manual (HSM) to road safety professionals in the provinces of Ontario and Alberta.

Development of case studies with real data to help participants familiarize themselves with HSM's predictive methodology, including the use of Safety Performance Functions (SPF), Collision Modification Factors (CMF), Empirical Bayes Method (EB), and Benefit-Cost Analysis.

*TRAFFIC IMPACT STUDIES/  
ENVIRONMENTAL ASSESSMENTS*

**Clarkson Road & Lakeshore Road Environmental Assessment, City of Mississauga, 2020**

Safety performance assessment of the offset intersection of Clarkson Road & Lakeshore Road, including safety evaluation of alternative design options.

**University Avenue Environmental Assessment, City of Windsor, 2018**

Completed a traffic operations and safety review of a 3-kilometre section of University Avenue West between Huron Church Road and McDougall Street. The operational review included 12 signalized intersections and investigated the potential for reducing the cross section to provide and/or improve bicycle and pedestrian facilities. The safety review included a detailed field investigation to identify potential safety concerns, and the development of recommendations with a particular focus on active transportation facilities.

**Burnhamthorpe Road Environmental Assessment, City of Mississauga, 2018**

Intersection operational analysis, including traffic volume forecasting for future horizon years, and safety performance assessment of the Burnhamthorpe Road corridor between Ninth Line and Winston Churchill Boulevard.

**Mohawk Road Environmental Assessment, City of Hamilton, 2018**

Completed capacity analysis at the intersections of Mohawk Road between McNiven Road to Filman Road to investigate the impacts of converting the current 2-lane cross section to a 3-lane cross section

**George Reynolds Drive Environmental Assessment, Municipality of Clarington, 2018**

Completed traffic volume forecasts and intersection operational analysis for six intersections in Courtice to assess the impacts of extending George Reynolds Drive from Harry Gay Drive to Hancock Road. The review also considered the qualitative benefits of the proposed extension on community integration, active transportation, and transit and emergency services.

**Halton Noise and Traffic Impact Study Peer Review, Halton Region, 2015 – 2018**

Conducted numerous comprehensive traffic impact study peer reviews as part of retainer with Halton Region. Assess trip generation, modal split, distribution, assignment, Synchro/Simtraffic analysis, parking assessments, safety reviews, access assessments, and ensure traffic impact study fully complies with guidelines required by respective road authority.

**CN Milton Logistics Hub Traffic Impact Study Peer Review, Halton Region, 2017**

Conducted comprehensive peer review of two traffic impact study reports: Terminal Road Access Study Report and Transportation Considerations Report. Assessed whether the studies fully comply with Region's guidelines and industry practice and standards.

**Highway 101 Road Diet, Municipality of Wawa, 2017**

Evaluation of operational and safety impacts of converting a section of Highway 101 (Mission Road) from a 4-lane cross section to a 2-lane cross section with bicycle and two-way left-turn lanes. Reviewed capacity and level of service at 3 unsignalized intersections along the study area; conducted a qualitative assessment of safety implications of the proposed cross section; recommended lane configurations at

intersections, including transitions between midblock sections and intersection approaches. Additionally, reviewed requirements for pedestrian crossing treatments based on OTM Book 15.

**Coleraine Drive Grade Separation Environmental Assessment, Regional Municipality of Peel, 2017**

Evaluation of impacts resulting from a proposed railway crossing grade separation on Coleraine Drive, in Bolton, including traffic forecasts and redirection due to the closure of some intersections, operational analysis using Synchro/SimTraffic software, comprehensive traffic safety assessment, recommendations relating to active transportation and access management.

**Ottawa Street Master Plan Transportation Assessment, City of Hamilton, 2017**

Review proposed design of Ottawa Street between Main Street East and Barton Street, as part of the City's efforts to improve mobility for all users and create a more livable and transit/pedestrian oriented movement. The proposed design included the inclusion of curb bump-outs and the modification to parking regulations along the corridor. The assessment consisted of a review of potential impacts to traffic operations and safety, including the feasibility of providing pedestrian crossovers, a parking study, and discussions with City staff in order to refine the proposed design.

**St. David's Road Active Transportation Environmental Assessment, Regional Municipality of Niagara, 2016 – 2017**

Conducted active transportation facility selection for St. David's Road between Highway 406 and Collier Road based on OTM Book 15 criteria, with consideration to connectivity to an MTO facility west of the study area. Conducted a comprehensive safety assessment of existing conditions, including sight distance and roadside safety assessments. Conducted intersection operational analysis using Synchro/SimTraffic software to determine the need for auxiliary lanes at St. David's Road & Collier Road, and the right-of-way needs to implement them in

conjunction with the proposed active transportation facility.

**Highway 7 Perth Transportation Engineering Study, Ministry of Transportation Ontario, 2016**

Operational review of the Highway 7 corridor through Perth urban area using Synchro software, in support of a Transportation Engineering Study Report (TESR) update.

**Northern Avenue Road Diet, City of Sault Ste. Marie, 2016**

Evaluation of operational and safety impacts of converting a section of Northern Avenue from a 4-lane cross section to a 2-lane cross section with bicycle and two-way left-turn lanes. Reviewed capacity and level of service at 5 signalized intersections along the study area; conducted a qualitative assessment of safety implications of the proposed cross section; recommended lane configurations at intersections, including transitions between midblock sections and intersection approaches. Additionally, reviewed modified traffic patterns resulting from a new access to the P-Patch subdivision and evaluated its impacts at the intersection of Northern Avenue and Pine Street.

**Bruce Nuclear Generating Station Traffic Impact Study Update, Bruce Power, 2016**

Update of a Traffic Impact Study to include Spring, Summer, and Fall volume variations. Review of 5 signalized and unsignalized intersections to confirm or expand on previous recommendations for road improvements.

**North Park Street Road Diet, City of Brantford, 2016**

Evaluation of operational and safety impacts of converting a section of North Park Street from a 4-lane cross section to a 2-lane cross section with bicycle and parking lanes. Reviewed capacity and level of service at 10 intersections along the study area; conducted a qualitative assessment of safety implications of the proposed cross section; recommended lane configurations at intersections, including transitions between midblock sections and intersection approaches.



**Sherwood Community Centre and Library Traffic Impact Study, Town of Milton, 2016**  
Development of the Transportation Impact Study, for submission to the Town of Milton and the Region of Halton, for a community centre and public library, including trip generation, distribution and assignment, evaluation of future scenarios and safety review.

**Concession 3 Road TIS Update, Municipality of Clarington, 2016**

Update of a Traffic Impact Study for Concession Road 3 between Regional Road 57 and Liberty Street, including Trip Generation, Distribution and Assignment to the road network, operational review of different intersection control alternatives (including two-way stop control, all-way stop control, traffic signals and roundabout). Provision of recommendations for intersection traffic control, lane configuration, and bicycle treatments.  
Technical Lead

**Hamilton Pipeline Trail Study, City of Hamilton, 2015**

Evaluation and recommendations related to pedestrian & bicycle facilities for short- and long-term scenarios at locations where the proposed trail intersects or overlaps with the City's road network. Conducted a field investigation and attended a Public Information Centre to answer questions from residents and stakeholders.

**Fallsview Boulevard Environmental Assessment, City of Niagara Falls, 2014**

Evaluation of traffic operations for five design alternatives to address future operational shortcomings expected at the offset intersection of Fallsview Boulevard & Ferry Street. Design alternatives included signaling the intersection, converting from 4-leg offset to 3-leg intersection, realigning intersection, and converting to a roundabout. Operational impacts were evaluated for a study area containing nine intersections, with particular emphasis on the Ferry Street corridor, along which signal coordination is required.

**Sidney Street EA, City of Belleville, 2014**

Traffic demand projections and operational review of the intersections of Sidney Street & Bell Boulevard and Sidney Street & Tracey Street using Synchro/SimTraffic software; intersection configuration recommendations for the 2031 horizon year.

**Highland Creek Treatment Plant EA: Truck Route Assessment, City of Toronto, 2014**

Evaluation of potential biosolids hauling routes from the Highland Creek Wastewater Treatment Plant to Highway 401, based on 15 different criteria associated with Operational, Safety and Community impacts.

**Southward Community Park Transportation Impact Study, Town of Grimsby, 2013-2014**

Development of the Transportation Impact Study, for submission to the Region of Niagara, for a soccer & baseball fields complex, including trip generation, distribution and assignment, evaluation of future scenarios, safety review, internal circulation and parking facilities.

**Vaughan Metropolitan Centre Transportation Study Review, Ministry of Transportation Ontario, 2013**

Third party peer review of the Transportation Study for Vaughan Metropolitan Centre, including review of overall approach to the study; overall assumptions utilized; development of traffic volumes; results of operational analysis; etc.

**Bender Street/Falls Avenue Class EA Study, Regional Municipality of Niagara, 2012**

Analysis of new intersection configuration using Synchro/SimTraffic software, including the Rainbow Bridge exit, and evaluation of resulting traffic impacts.

*DATA ACQUISITION, ANALYSIS & QUALITY CONTROL*

**Mechanical Sidewalk Clearing Data Collection, City of Toronto, 2020**

Planning and management of GIS field data collection of existing obstructions on approximately 1,200 km of sidewalks in the City of Toronto. The data will be used to develop an action plan for addressing the obstructions to allow mechanical snow clearing of sidewalks by City staff.

**Parking Regulation Data Collection, City of Hamilton, 2018**

Planning and management of GIS field data collection of existing parking regulations on approximately 2,000 km of urban roads in the City of Hamilton.

**Sequential Warning Lights Evaluation, Ministry of Transportation Ontario, 2014 – 2015**

Conduct field data collection for assessing operational and safety benefits of lane closures with Sequential Warning Lights in construction areas.

**Joint Merge and OTM Book 7 Traffic Control Comparison, Ministry of Transportation Ontario, 2014**

Conduct field data collection, including video capture using high quality COHU HD cameras, AIMC-2100 micro-computers to identify driver merging behavior; and Bluetooth detector receivers to monitor travel time through each section of the construction area, and allow calculation of speed and delay. Two distinct studies were conducted on Highways 403 (Brantford) and 406 (St. Catharines).

**Video Analytics Traffic Data Collection, Ministry of Transportation Ontario, 2014**

Long term data collection to evaluate traffic data at select locations and to produce traffic volume data in 15 minute intervals for every lane of traffic during three different project phases (Summer 2014, Fall 2014, and Summer 2015). Data collection was completed using high quality COHU HD cameras and AIMC-2100 micro-computers; monitoring and maintenance of camera setups to ensure ongoing data collection.

**Traffic Data Management Tool, City of Hamilton, 2013**

Quality control and compatibility assurance of various traffic count data sources with the MS2 system, in order to ensure effective upload to a new database interface for City of Hamilton's traffic counts.

**Sault Ste. Marie Origin-Destination Study, Ministry of Transportation Ontario, 2013**

Setup and execution of license plate origin-destination study using Miovision ALPR cameras.

**Off-Road Vehicle Survey, Ministry of Transportation Ontario, 2013**

Analysis of off-road vehicle and snowmobile user habits in the Province of Ontario, including spatial and temporal trends, and their opinions and knowledge about legislation, safety, trail quality and funding, etc.

**Traffic Volume Production 2010, Ministry of Transportation Ontario, 2012**

Data processing and analysis producing traffic pattern Pseudo-Curves, PDCS data supplementation and analysis, trending methodologies, and GWR method.

*POLICY UPDATES*

**Highway Safety Manual Update, National Cooperative Highway Research Program, 2020**

Developed sample problems for inclusion in the second edition of the Highway Safety Manual – Macro Level Safety chapter.

**Traffic Calming Design Guidelines, City of Ottawa, 2017**

Developed a design guide tailored to the City's existing traffic calming policies. This guide provides an overview of traffic calming measures that can be considered in the City of Ottawa, provides design guidance, and it lists the procedures necessary to evaluate and implement each measure.

**On-Street Parking Policies and Procedures Update, City of Guelph, 2017**

Conducted review of current legislation and guidelines, jurisdictional scan, and best practices survey, and provided recommendations to update the City's on-street parking policies and procedures, including a simplified process for staff to review requests from the public. Prepared a "Draft On-Street Parking Policy" document.

**Traffic Calming/Speed Management Guide Update, Transportation Association of Canada, 2016**

Conducted literature review to update and expand traffic calming measures in the TAC manual, including applicability, expected benefits and disbenefits, and design elements to consider.

**Ontario Default Speed Limit Consultation, Ministry of Transportation Ontario, 2015**  
Analyzed responses to a survey with general public, transportation agencies and associations regarding four alternatives for changing (or maintaining) the current 50 km/h default speed limit in the Highway Traffic Act.

**Traffic Calming Warrant Update, Town of Ajax, 2014**  
Update of traffic calming warrant including best practices research, review of warrant criteria and ranking system, expansion of toolbox of traffic calming measures and pilot testing of proposed warrant.  
Ontario Traffic Manual Book 6 Update, Ministry of Transportation Ontario, 2013  
Assistance in the update of OTM Book 6 – Warning Signs.

#### *TRAFFIC SIGNALS*

**Pedestrian Signal Timing Review, Regional Municipality of Durham, 2012**  
Selection and pairing of Durham intersections with similar ones in other jurisdictions. Evaluation of the utilization of different methods for calculating pedestrian signal timing.

**Red Light Camera Feasibility Study, Regional Municipality of York, 2012**  
Field review, office review and data analysis for the selection and prioritization of 40 locations to install red light cameras.

#### *PARKING STUDIES*

**Downtown Parking Utilization Study, Town of Milton, 2016**  
Review of public parking facilities inventory within the study area and determination of survey routes, staff required, and production of maps and data collection forms. Technical analysis for the parking utilization study, including occupancy, duration and turnover, of existing downtown municipal parking.

**Downtown Parking Utilization Study, City of Burlington, 2013**

Review of public parking facilities inventory within the study area. Field supervision and technical analysis for the parking utilization study, including occupancy, duration and turnover, of existing downtown municipal parking facilities including the Locust Street parking structure.

#### *EXPERT OPINION* *Various*

**Review of collision-related documentation and assessment of compliance with standards and guidelines, including:**

- Winter maintenance standards and best practices;
- Signage and pavement markings;
- Geometric design;
- Roadside safety; and
- School crossings.

## Professional Societies and Associations

- Member, Professional Engineers of Ontario (PEO)
- Road Safety Professional Level 1