



Mayor & Members of Council
City of Toronto
Attention: City Clerk

July 24, 2026

Re: 2 Whitney Ave., Council Meeting 43 (July 29-31, 2026), Item #CC 43.30
Our file: 25174

Dear Honorable Mayor & Members of Council,

Regarding this Council meeting item pertaining to 2 Whitney Ave., I have been asked to do an independent and detailed safety assessment regarding the wall that has been built at this property, including the proposed compromise changes. Attached is my signed and stamped engineering report. In brief, I found that:

- The incident brick wall, as is, is in violation of the 2007 TAC Geometric Design Guide for Canadian Roads, due to significantly obstructing the view of drivers at the intersection. The Approach Sight Distance and the Departure Sight Distance at this intersection are both severely deficient due to the obstruction posed by the wall.
- This severe visibility obstruction poses a significant safety hazard to the travelling public and is likely to result in a foreseeable significant increase in collisions.
- The wall, as-built, was in violation of numerous stipulations of the Encroachment Agreement between the City of Toronto and Ms. Michele McGrath.
- The analysis in the email from Mr. Asayas of the City of Toronto is incomplete and contains technical errors. Mr. Asayas did not conduct an Approach Sight Distance analysis at all. His Departure Sight Distance analysis used an incorrect design speed with an observation point that was too far forward for safe use of the intersection by pedestrians and vulnerable road users.
- The proposed compromise to reduce the height of wall sections W1 through W6, inclusive, to 1.2 m above the adjacent ground will not address the visibility safety hazard

at this intersection. Those wall sections must either be removed, or reduced to a height of 1.0 m or less.

- The wall pillar posts at the corner pose the same visibility obstruction as the full wall height and cannot be left as is, unless liability exposure from a significant and foreseeable increase in collisions at this intersection is deemed acceptable by the City. The wall pillar posts near the corner must either be removed, or reduced to a height of 1.1 m or less.
- The row of hedges on the inside of the wall, within 20 m of both curbs at the intersection, pose a significant visibility safety hazard and must be either removed or maintained at a 1.0 m height or less to provide an acceptable level of visibility at this intersection for drivers and vulnerable road users.

If there are any questions regarding these findings, I would be pleased to answer those questions.

Sincerely,



Jason Young, B.E.Sc., M.A.Sc., P.Eng.





INTERSECTION VISIBILITY ASSESSMENT

File Reference: Toronto Preservation Board
Agenda Item PB47.9
2 Whitney Ave. Structure – Intersection Visibility Assessment

Location: 2 Whitney Ave.
Toronto, ON

Your File: Agenda Item PB47.9

Our File: 25174

Report Date: July 22, 2026

Prepared for: Toronto Preservation Board

Investigator:

Jason Young, B.E.Sc., M.A.Sc., P.Eng.



TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
1.0 EXECUTIVE SUMMARY	2
2.0 INTRODUCTION	3
2.1 Background and Scope	3
2.2 List of Provided Documents	3
2.3 Qualifications of Authors and Expert's Duty	3
3.0 SITE FINDINGS & ANALYSIS	5
4.0 CONCLUSIONS	13
APPENDICES	
Curriculum Vitae	

1.0 EXECUTIVE SUMMARY

This report describes our road design and sight visibility assessment findings regarding a property renovation project at 2 Whitney Rd. in Toronto. The following is a synopsis of the findings discussed in this report:

- The incident brick wall is in violation of the TAC Geometric Design Guide for Canadian Roads, due to significantly obstructing the view of drivers at the intersection. The Approach Sight Distance and the Departure Sight Distance visibility requirements for this intersection are both severely deficient due to the obstruction posed by the wall.
- The severe visibility obstruction caused by the incident wall poses a significant safety hazard to the travelling public at this intersection.
- The incident wall, as-built, was in violation of numerous stipulations of the Encroachment Agreement between the City of Toronto and Ms. Michele McGrath.
- The overall height of the wall posts is currently 2.0 m above the adjacent grass level, or 2.25 m above road level.
- The analysis in the email from Mr. Asayas of the City of Toronto is incomplete and contains technical errors. Mr. Asayas did not conduct an Approach Sight Distance analysis at all, and his Departure Sight Distance analysis used an incorrect design speed with an observation point that was too far forward to allow for safe usage of the intersection for pedestrians and vulnerable road users.
- The proposed compromise to reduce the height of certain wall sections to 1.2 m above the adjacent ground will not address the reduced visibility safety hazard at this intersection.
- The wall pillar posts at the corner pose the same visibility obstruction as the full wall height and cannot be left as is, unless a significant and foreseeable increase in collisions at this intersection is deemed acceptable by the City.
- The row of hedges on the inside of the wall, within 20 m of both curbs at the intersection, pose a significant visibility safety hazard and must be either removed or maintained at a 1.0 m height or less to provide an acceptable level of visibility at this intersection for drivers and vulnerable road users.

2.0 INTRODUCTION

2.1 Background and Scope

As part of a residential renovation project at 2 Whitney Ave. in Toronto, Michele McGrath entered into an encroachment agreement with the City of Toronto regarding a proposed property wall to be built at the edge of the property at the corner of the intersection of Whitney Ave. and Glen Rd. The property wall was subsequently built. It has been alleged that the built wall does not comply with numerous aspects of the encroachment agreement.

Advantage Forensics was asked to conduct an independent engineering assessment of the road design and intersection visibility safety implications of this property wall.

The analysis and findings of this report are based on a review of the documents listed below, a review of publicly available aerial and street-view photos of the site, and a site exam conducted by the author.

2.2 List of Provided Documents

We have reviewed the following provided documents pertaining to this matter:

- Encroachment Agreement between City of Toronto and Michele McGrath, dated Oct. 3, 2024.
- Traffic Management Plan for Glen Road, dated July 2018
- City of Toronto Report for Action to Toronto Transportation Board, dated Sept 10, 2025
- Email from Mr. Kristoffer Asayas, City of Toronto, to City Councillors, dated Jan. 20, 2025
- City of Toronto Report for Action to Toronto Preservation Boards, dated July 6, 2026
- City of Toronto Report for Action to Toronto Preservation Board, dated July 21, 2026
- Tab 9 – Permit Drawing Set for McGrath Residence, dated June 22, 2026
- Tab 10 – Wall Construction Detail Enlargements from June 22, 2026 drawing
- Tab 12 – Encroachment Schedule 1A & 1B Enlargements from June 22, 2026 drawing

2.3 Qualifications of Authors and Expert's Duty

The primary author of this report is Jason Young, B.E.Sc., M.A.Sc., P.Eng. The author has been a licensed professional engineer in the Province of Ontario since 2002. The author has been qualified as a forensic expert on 30 occasions by the Superior Courts of Ontario, Quebec, Prince Edward Island, Florida, and California, and on 5 occasions at Ontario Arbitrations and Judicial Courts, including the field of Road Design. The author has been the lead investigator on more

than 3000 forensic investigations, including over 300 road design assessment cases involving intersection safety and intersection visibility.

Mr. Young has a Bachelor's degree in Mechanical Engineering and a Master's degree in Biomedical Engineering. Mr. Young has been retained by municipalities across Ontario, by Police, by transit authorities, by plaintiffs, by insurers, and by the Ministry of Transportation representing His Majesty The King as an expert in Road Design. Mr. Young is a long-standing member and technical paper reviewer for the Canadian Association for Road Safety Professionals (CARSP). Mr. Young has taught a variety of professional courses, guest lectures and seminars in Road Design at Ontario municipal training courses and at Ontario lawyer and insurance association seminars. Mr. Young has published industry magazine articles on Road Design and has been a featured guest expert in the media across Canada on Road Design factors in collisions.

The author acknowledges his duty to provide expert opinion evidence within his field of expertise that is scientifically based in an unbiased, ethical, and professional manner. The author's Curriculum Vitae summarizing all education, training and experience related to Road Design is attached.

3.0 SITE FINDINGS & ANALYSIS

This section describes our analysis and findings regarding the incident location, based on our review of the provided documents and our site exam conducted on Dec 8, 2025.

The area in question is in a suburban residential area and consists of a T-intersection with Whitney Ave. running primarily east-west and Glen Rd. running primarily north-south (Figure 1). Whitney Ave. approaches the intersection from the east and has a stop sign at the intersection. Traffic on Glen Rd. has the right-of-way through the intersection. The property in question (2 Whitney Ave.) is located on the northeast corner of the intersection.

Whitney Rd. is 2 lanes wide with no centreline and a posted speed limit of 30 km/h. The road has curbs and sidewalks on both sides. The road curves significantly to the right for westbound traffic at the intersection. Glen Rd. has 1 marked lane in each direction with a dashed yellow centreline, bicycle sharrows in both directions, and a posted speed limit of 30 km/h. The road has curbs and sidewalks on both sides. Both roads are flat at the intersection. Both roads are classified by the City of Toronto as local roads. The area has a very high volume of pedestrian use due to the park on the opposite side of the street.



Figure 1: Google Earth aerial view (taken July 2021) of the incident area (north is up).

Driver Visibility – Approach Sight Distance

Figure 2 illustrates the driver view from Whitney Ave., taken 25 m set back from the intersections of westbound Whitney Ave. and southbound Glen Rd., corresponding to the required location for the Transportation Association of Canada's (TAC 2007)¹ 'Approach Sight Distance' sight visibility measurement for one-way stop or two-way stop intersections. From that location, the incident brick wall, as is, blocks the entire view of southbound traffic, which is a violation of the Approach Sight Distance requirement for intersections, and which poses a safety hazard to the travelling public. Approach Sight Distance is a requirement for intersections of this nature, allowing vehicles travelling on the through road an opportunity to see the approaching vehicle on the intersecting road that may not stop for the stop sign. For a posted speed limit of 30 km/h with an assumed design speed of at least 40 km/h, a clear line-of-sight triangle across the corner of the intersection must be provided for at least 35 m north of the point of intersection of the lanes. The incident brick wall blocks that visibility and is in violation of the TAC Geometric Design Guide for Canadian Roads. The Asayas analysis did not consider Approach Sight Distance at all, only Departure Sight Distance (see next section).



Figure 2: Site exam photo, looking west on Whitney Ave. toward the intersection, taken 25 m back from the intersection of the westbound lane and the southbound lane. The incident brick wall completely blocks the view of southbound traffic from this location.

¹ Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads, 2007 update, Part 2, Section 2.3.3.2.

Driver Visibility – Departure Sight Distance

Figure 3 illustrates the driver view from Whitney Ave., taken from a position 2 m back from the centre of the stop line, corresponding to the driver's perspective with the front bumper of the vehicle stopped over the centre of the stop line. This location corresponds to the required location for the Transportation Association of Canada's (TAC 2007)² 'Departure Sight Distance' sight visibility measurement for one-way stop or two-way stop intersections. From that location, the view of southbound vehicles on Glen Rd. was obstructed by the brick wall and was limited to only 27 m north of the centre of the westbound lane on Whitney Ave. This is a violation of the Departure Sight Distance requirement for intersections and poses a safety hazard to the travelling public. Departure Sight Distance is a requirement for intersections of this nature and allows the stopped vehicle at the stop line sufficient visibility to be able to use the intersection safely and decide whether or not it is safe to turn into the intersection. For a posted speed limit of 30 km/h with an assumed design speed of at least 40 km/h, a clear line-of-sight triangle across the corner of the intersection must be provided for at least 87 m north of the centre of the westbound lane. The incident brick wall, as is, blocks that visibility and is in violation of the TAC Geometric Design Guide for Canadian Roads.



Figure 3: Site exam photo, looking north from a stopped position on Whitney Ave., with the camera 2.0 m back of the stop line, corresponding to the front bumper being stopped at the stop line. The incident brick wall limits the view of southbound vehicles to only 27 m north of the centre of this lane.

² Ibid, Part 2, Section 2.3.3.2.

Even from a fully pulled-forward position, with the front of the vehicle encroaching halfway into the pedestrian crossing and with the driver's eye positioned above the stop line, the visibility from that perspective was still obstructed by the incident brick wall, limiting the visibility of southbound vehicles to only 43 m north of the centre of the westbound lane. The visibility obstruction posed by the incident brick wall poses a significant safety hazard to westbound drivers stopped at this intersection, attempting to turn left to travel south on Glen Rd.

The Asayas analysis, which appeared to be based on aerial photos only, clearly showed that the line-of-sight of a driver stopped properly at the stop line was blocked by the new brick wall. The second aerial photo in the Asayas email, which claimed to show a clear line-of-sight for a driver in a pulled-forward position, contained two errors:

- First, the diagram showed a driver-eye position located exactly over the first pedestrian crossing line, meaning that the front end of the vehicle would be fully blocking the pedestrian crossing at that point. This would pose a safety hazard to pedestrians and cyclists, and is a clear violation of the TAC Geometric Design Guide for Canadian Roads. That would not be classified as a "slight encroachment". Intersection visibility requirements are not measured in that manner.
- Second, the Asayas distances for the visibility triangle requirement appear to be based on a 30 km/h design speed, which is incorrect. For a local, wide, paved suburban road with a posted speed limit of 30 km/h, the assumed design speed (which is the speed of the 85th percentile fastest driver on that road) should be at least 40 km/h which is 10 km/h above the speed limit. Using a design speed of 30 km/h to assess visibility at this location would result in a safety hazard due to insufficient visibility.

Encroachment Agreement Conditions

The Encroachment Agreement between the City of Toronto and Michele McGrath, dated Oct. 3, 2024, had a number of stipulations regarding the building of this proposed property wall. Based on our site exam measurements, a number of those stipulations were violated by the as-built wall, as follows (referenced by Section number in the Agreement):

- Section 5(2)a: The wall encroachment was required to not obstruct vehicular sight lines. As discussed in the above two sub-sections, both of the relevant sight line requirements for intersections were violated with significant deviation from the applicable standards.
- Section 5(2)b: The wall encroachment was required to not impede or pose a hazard or potential hazard to pedestrian or vehicular traffic. As discussed in the above two sub-sections, the deficient sightlines at the intersection that were due to the presence of the wall posed a significant safety hazard to vehicular traffic at this intersection.

- Section 5(2)h: The wall encroachment was required to not violate the 1.0 m minimum clearance from the existing utility poles and sign posts. We measured the distance from the as-built wall to the existing utility poles and to the stop sign post. The as-built wall was only 18 cm (i.e. 0.18 m) from the stop sign post (Figure 4), which was in violation of that clause of the Agreement.



Figure 4: Site exam photo, of the minimal clearance (18 cm) between the stop sign post and the wall.

Wall Height

The as-built overall height of the wall at the intersection is currently 2.0 m above the adjacent grass level, measured both on the Whitney Ave. side and the Glen Rd. side (2.0 m for the large square pillar posts and 1.9 m for the wall, see Figure 2 above). The grass level was 0.1 m above the municipal sidewalk level and the sidewalk curb was 0.15 m high, so the top of the wall posts were 2.25 m above the road pavement. These measurements are from the wall as is, without the proposed addition of metal spikes above the wall.

The July 6, 2026 Report for Action Memo, along with the accompanying provided drawings, dated June 22, 2026, state that a compromise has been proposed by the City and homeowner to reduce the height of the current wall to '1.2 m above grade' (i.e. above the adjacent ground) in those sections bordering the intersection. Since those sections of wall are currently 1.9 m above the adjacent ground, this means that those sections will be cut down in height by 0.7 m. The proposal states that the square pillar posts will remain at their current height (i.e. 2.0 m above grade, and 2.25 m above road pavement), and that the metal spikes will be installed on top of the reduced-height wall.

I note that the other wall sections on Glen Rd., north of the intersection, are already 'half wall height' and are 1.0 m above grass level (or 1.25 m above road level). Figure 5 below shows my site exam photo, taken during the winter, from driver-eye height in the southbound lane of Glen Rd., only 43 m north of the centre of the westbound lane of Whitney Ave. The 'half wall height' north of the intersection can be seen in this photo and closely represents what is being proposed for the rest of the wall. Three critical points are evident from this photo:



Figure 5: Site exam photo from driver-eye height in the southbound lane of Glen Rd., only 43 m north of the centre of the westbound lane of Whitney Ave., taken during the winter.

1. A 1.2 m wall will still block the view of at least the bottom 80% of sedans, coupes, motorcyclists, and adult cyclists, and close to 100% of the view of children cyclists or e-scooter users on the road. The typical height of sedans and coupes ranges from 1.4 to 1.5 m. For SUVs, minivans, and pickup trucks (heights range from 1.7 to 2.1 m), the 'half wall' height will block the view of the bottom 60% to 70% of those vehicles. The TAC standards for intersection visibility (both Approach and Departure Sight Distance) do not allow any partial obstructions within the required visibility triangle. The proposed 'half wall' height will not solve the visibility issue for vehicles, cyclists, or other vulnerable road users.
2. The large square wall pillar posts at the corner appear next to each other from this driver approach, along with the hydro pole between them, fully blocking the view of stopped vehicles at the stop line on Whitney Ave. The wall pillar posts at the corner pose the same visibility obstruction as the full wall height and cannot be left as is, unless a significant and foreseeable increase in collisions at this intersection is deemed acceptable by the City.

3. The row of hedges next to the inside of the wall, which retain their leaves during winter, are about 10 feet tall and dense, fully blocking the driver view across the corner of the intersection, even where the wall is half height and no pillar posts are present. This row of hedges is slated to remain in place in the compromised proposal cited above. The visibility safety issue at this intersection will not be solved until this row of hedges is removed or maintained at a 1.0 m height or less, at all locations within 20 m north of the north curb of Whitney Ave. and 20 m east of the east curb of Glen Rd.

As such, the proposed compromise will not address the safety hazard at this intersection and is likely to result in a foreseeable increase in collisions involving both vehicles and vulnerable road users. As a case in point, consider Figure 6 which shows the southbound driver view from only 33 m north of a large cargo van at the stop line that is present in this photo but 99% obstructed from view by the wall, the large pillar posts, and the hedge. Figure 7 shows the view of that same large cargo van after advancing to only 23 m north of the van, with the front wheels of the van now on the first pedestrian crossing line and the front end of the van now blocking about half of the pedestrian crosswalk.



Figure 6: Site exam photo from driver-eye height in the southbound lane of Glen Rd., only 33 m north of the large cargo van at the stop line, with only the front edge of the bumper visible (arrow).



Figure 7: Site exam photo of the same large cargo van in Figure 6, taken from driver-eye height only 23 m north of the van, with the front wheels of the van now on the first pedestrian crossing line.

4.0 CONCLUSIONS

Based on our investigation, we have reached the following conclusions:

- The incident brick wall, as is, is in violation of the TAC Geometric Design Guide for Canadian Roads, due to significantly obstructing the view of drivers at the intersection. The Approach Sight Distance and the Departure Sight Distance visibility requirements for this intersection are both severely deficient due to the obstruction posed by the wall.
- The severe visibility obstruction caused by the incident wall, as is, poses a significant safety hazard to the travelling public at this intersection.
- The incident wall, as-built, was in violation of numerous stipulations of the Encroachment Agreement between the City of Toronto and Ms. Michele McGrath.
- The overall height of the wall posts is currently 2.0 m above the adjacent grass level, or 2.25 m above road level, without the addition of the proposed metal spikes.
- The provided analysis in the email from Mr. Asayas of the City of Toronto is incomplete and contains technical errors. Mr. Asayas did not conduct an Approach Sight Distance analysis at all, and his Departure Sight Distance analysis used an incorrect design speed with an observation point that was too far forward to allow for safe usage of the intersection for pedestrians and vulnerable road users.
- The proposed compromise to reduce the height of certain wall sections to 1.2 m above the adjacent ground will not address the reduced visibility safety hazard at this intersection.
- The wall pillar posts at the corner pose the same visibility obstruction as the full wall height and cannot be left as is, unless a significant and foreseeable increase in collisions at this intersection is deemed acceptable by the City.
- The row of hedges on the inside of the wall, within 20 m of both curbs at the intersection, pose a significant visibility safety hazard and must be either removed or maintained at a 1.0 m height or less to provide an acceptable level of visibility at this intersection for drivers and vulnerable road users.



PRACTICE AREAS

Collision Reconstruction

- Human Factors:
 - Perception Reaction Time
 - Nighttime Visibility
 - Road Design Assessment & Signage
- Biomechanics
- Crash Data Recorder Analysis
- Pedestrian & Cyclist Collisions
- Video Analysis
- Winter Maintenance Assessment
- Tractor Trailer Collisions
- Snowmobile Collisions

Personal Injury Claims

- Human Factors:
 - Slips, Trips & Falls
 - Staircase & Building Code Assessment
 - Coefficient of Friction Testing
 - Signage & Warnings
- Biomechanics
- Waterparks, Pools & Waterslides
- Sports Facility Design
- Zip Lines & Challenge Courses
- Snow Tubing & Ski Incidents
- Playground & Inflatable Play Structure Incidents
- Trampoline & Gymnastics Incidents
- Wheelchair & Segway Falls
- Ladder Falls
- Video Analysis

Product Investigations

- Patent Infringement
- Human Factors:
 - Product Warnings & Labels
 - Anthropometrics
- Failure Analysis & Product Testing

ACADEMIC BACKGROUND

Masters Degree in Biomedical Engineering, University of Toronto, 1998

- Graduate Courses in Human Factors, Advanced Dynamics, Physiology, Advanced Mechanics of Materials

Bachelors Degree in Mechanical Engineering, University of Western Ontario, 1996

- Courses in Physics, Dynamics, Mechanical Design, Biomechanics, Materials, Manufacturing, Mechatronics, Advanced Fluid Dynamics, Hemodynamics, Aerodynamics, Advanced Calculus

EMPLOYMENT HISTORY

Advantage Forensics Inc., Toronto

President, April 2012 to present

Lead investigator on 1700+ collision reconstruction, personal injury & product investigation cases

Giffin Koerth Inc., Toronto

Forensic Engineer, Head of Personal Injury Assessment Team, July 2002 to April 2012

Lead investigator on 1200+ collision reconstruction, personal injury & product failure cases

Algood Casters Ltd., Toronto

Mechanical Engineer, January 1999 to June 2002

Conducted failure analysis & destructive testing, developed standards, designed injection molding & stamping dies

Centre for Studies in Aging, Toronto

Researcher, September 1996 to October 1998

Contributed to collision dynamics studies, wheelchair design, human factors studies & balance studies

Hand & Upper Limb Clinic, St. Joseph's Health Centre, London

Student Researcher, September 1995 to April 1996

Developed prototype strength tester, contributed to biomechanics studies

COURT QUALIFICATION

- Qualified by Courts of Ontario, Quebec, P.E.I., California & Florida (29 occasions) as expert in:
 - Collision Reconstruction
 - Human Factors (including reaction time, collision avoidance & signage)
 - Biomechanics
 - Road Design & Winter Maintenance
 - Slips, Trips & Falls
 - Waterslide Design Assessment & Testing
 - Mechanical Engineering
- Qualified by Ontario arbitrations (4 occasions) as expert in:
 - Collision Reconstruction & Bicycle Collisions
 - Human Factors
 - Slips, Trips & Falls
 - Mechanical Engineering

PROFESSIONAL SOCIETIES & ASSOCIATIONS

P.Eng., Professional Engineers Ontario, since 2002

P.Eng., Association of Professional Engineers & Geoscientists of Alberta, since 2021

P.Eng., Engineers & Geoscientists British Columbia, since 2025

Human Factors & Ergonomics Society (HFES), since 2003

- Forensics Conference Program Co-Chair, 2016 to 2018
- Technical paper reviewer for Annual Conference, 2009 to 2020

Canadian Association for Technical Accident Investigators & Reconstructionists (CATAIR), since 2002

Canadian Society for Biomechanics (CSB), 2004 to 2009, 2022 to present

Canadian Association of Road Safety Professionals (CARSP), since 2009

- Technical paper reviewer for Annual Conference, 2017 to present

Canadian Certified Playground Inspector, 2017 to 2023

Zip Line & Challenge Course Level 2 Certified Inspector, ACCT, 2013 to 2021

York University Mechanical Engineering Curriculum Advisory Committee, 2019 to 2024

Society of Automotive Engineers (SAE), 2003 to 2008

National Floor Safety Institute (NFSI) B101.4 barefoot slip resistance standard technical lead, 2013 to 2020

American Society for Testing & Materials (ASTM) Standards Committee:

- E17: Vehicle - Pavement Systems (voting member, joined 2012)
Tire Friction, Pavement Friction
- E30 Forensic Science (voting member, joined 2008) & E58 Forensic Engineering (joined 2008)
Forensic Practice, Product Defects, Vehicular Incidents
- E54: Homeland Security (voting member, joined 2018)
Security Equipment, Personal Protective Equipment
- F06: Resilient Floor Testing (voting member, joined 2012)
Slip Resistance, Test Methods
- F08: Sports Equipment & Facilities (voting member, joined 2012)
Biomechanics, Sports Facility Design, Playground Surfacing
Bicycles, Fitness Equipment, Archery, Baseball, Pickleball, Gymnastics, Trampolines, Wrestling
- F13: Pedestrian Safety & Footwear (voting member, joined 2005)
Traction, Footwear, Walkway Surfaces
- F15: Consumer Products (voting member, joined 2012)
Pools, Bathtubs, Showers, Bath Seats
Furniture, Beds, Cribs, Change Tables, Strollers, Highchairs, Bouncers, Swings, Gates
Playground Equipment, Toy Design, Scooters, Skateboards
Auditorium Seating, Window Fall Prevention
Stun Guns
- F24: Amusement Rides & Devices (voting member, joined 2012)
Design, Manufacture, Maintenance, Inspection & Operations
Water Rides, Special Rides, Adventure Attractions
- F27: Snow & Water Sports (voting member, joined 2012)
Snow Tubing Task Group Chair, since 2024
Skis, Snowboards, Bindings, Ski run padding/markings
Water Sports Equipment

- F45: Driverless Automatic Guided Vehicles (2015 to 2022)
Autonomous Docking, Navigation, Object Detection & Protection

ADDITIONAL COURSES & TRAINING

- Collision Reconstruction Training:
 - "PC-Crash 15.1 New Features", MEA, June 2025
 - "PC-Crash Best Practices", MEA, Jan 2025
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, Mar to Oct 2023
 - "Modern Motor Vehicle Data: The How, Who, What, Where and Why", CARSP Webinar, Sept 2022
 - "Introduction to BERLA-iVE Vehicle Forensics" Seminar, Advantage Forensics, Toronto, Dec 2021
 - "Electrical Diagnostic Testing of Vehicles" Seminar, Advantage Forensics, Toronto, Jan 2021
 - "Correlation of Spedometer Readings with EDR Data" Seminar, Advantage Forensics, Toronto, Sept 2020
 - "Ontario Pedestrian Crash Causation Study", Ministry of Transportation Webinar, July 2020
 - "Vehicle Control History Data" Seminar, Advantage Forensics, Toronto, July 2020
 - "Motorcycle Collision Reconstruction" Seminar, Advantage Forensics, Toronto, July 2020
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, June to July 2020
 - "Detailed Vehicle Profile Crush Measurements", Laser Tech Webinar, July 2020
 - "Driver Checking Failures Towards Pedestrians & Cyclists: An On-road Study", CARSP Webinar, June 2020
 - "PC-Crash Expert Course: Staged Collisions", MEA, Apr 2020
 - "PC-Crash 12.0: Latest Features", Advantage Forensics, Toronto, Apr 2020
 - "Lessons Learned from Using Driving Simulators to Improve Driver Behaviour", CARSP Webinar, Mar 2020
 - "Preventing Collisions with Wildlife", CARSP Webinar, April 2019
 - "Tire Forensics & Accident Reconstruction", CATAIR, Toronto Police College, June 2017
 - "WREX 2016 Collision Reconstruction Conference", WREX, Orlando, May 2016
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, Jan to Mar 2016
 - "Extracting Commercial Vehicle EDR Black Box Recorders", Origin & Cause Webinar, Feb 2016
 - "PC-Crash Essentials Course: Latest Features", MEA, Nov 2015
 - "PC-Crash Essentials Course: Vehicle Controls", MEA, Nov 2015
 - "PC-Crash Expert Course: Rollovers", MEA, Sept 2013
 - "PC-Crash Expert Course: Tractors & Trailers", MEA, Apr 2013
 - "Examining Hybrid Electric Vehicles", Advantage Forensics, Toronto, Dec 2012
 - "Commercial Vehicle Event Data Recorder Downloading", Giffin Koerth, Toronto, Jan 2012
 - "Crash Data Retrieval System Technician Certification", CATAIR, Toronto, Mar 2010
 - "PC-Crash 8.1 Advanced Workshop Course", MEA, Toronto, Mar 2009
 - "Advanced Driver Training Course", BMW, Toronto, Sept 2005
 - "Collision Reconstruction, Technology & Application", CATAIR, Burlington, Aug 2003
- Road Design/Maintenance Training:
 - "Good Roads Annual Conference", Good Roads Association, Toronto, Apr 2023
 - "Traffic Safety Analysis", Advantage Forensics, Toronto, Feb 2022
 - "Roadway Lighting Design", Illumination Engineering Society Webinar, Aug 2020
 - "An Innovative Approach to Assess Risk at Curved-Tangential Intersections", CARSP Webinar, June 2020
 - "Measuring Road Safety Improvements Using Video Based Conflict Analysis", CARSP Webinar, June 2020
 - "Traffic Trends & Safety in a COVID-19 World", Transportation Research Board Webinar, June 2020
 - "Identifying Road Design Issues" Seminar, Advantage Forensics, Toronto, May 2020
 - CARSP Road Safety Conferences, CARSP, June 2018 & June 2009
 - "Childhood Road Traffic Injuries in Canada", CARSP Webinar, Jan 2018

- “Geometric Design Guide for Canadian Roads”, Transportation Association of Canada Webinar, May 2017
- “Vision Zero Road Safety” CARSP Webinar, Feb 2017
- “Minimum Maintenance Standards – 2013 Revisions”, Ontario Good Roads Association Webinar, March 2013
- “Designing & Signalizing Turn Lanes for Safety”, Institute of Transportation Engineers Webinar, Nov 2008
- “Practical Urban Road Maintenance Course”, C.S. Anderson Road School, May 2008
- Human Factors & Biomechanics Training:
 - “KITE ENABL Research Projects Update”, Toronto Rehab University Health Network, Toronto, June 2025
 - ASTM F13 Pedestrian Safety & Footwear Standards Committee Meetings, 2014 to 2025
 - ASTM F08.53 Helmets & Headgear Standards Committee Meeting, Toronto, May 2025
 - Canadian Society for Biomechanics Annual Conference, Aug 2024
 - “Vision & Walking”, ASTM F13 Seminar, June 2024
 - “Biomechanics of Gait: Walking, Slipping, Tripping, Misstepping”, ASTM F13 Seminar, June 2024
 - “Alcohol Effect on Driver Reaction Time”, Advantage Forensics Seminar, Toronto, May 2023
 - Slips, Trips & Falls International Conferences, June 2023, Feb 2020, June 2017
 - “The Role of Fatigue in Accidents”, HFES Webinar, Nov 2022
 - HFES Forensic Practitioners Group Meeting, Sept 2022
 - HFES Annual Conferences 2021, 2018, 2017, 2016, 2013, 2011, 2009
 - “Scientific Foundations of Bloodstain Pattern Analysis”, IABPA Webinar, July 2021
 - International Ergonomics Association Slip, Trip & Fall Technical Committee Meeting, June 2021
 - “Metatarsal Fracture Characterization”, University of Waterloo Webinar, June 2021
 - “Bloodstain Pattern Analysis Essentials”, US Dept. of Justice Webinar, June 2021
 - “Alcohol & Drug Impaired Driving Conference”, CARSP Webinar, Sept 2020
 - “Cell Phone Use & Driving”, Advantage Forensics Seminar, Toronto, Aug 2020
 - “Correlation of Injury Patterns in Pedestrian Fatalities with Collision Dynamics”, CARSP Webinar, July 2020
 - “Applying Human Factors Principles to Rural Intersection Safety”, CARSP Webinar, June 2020
 - “Looming Detection Thresholds for Collisions”, Advantage Forensics Seminar, Toronto, June 2020
 - ASTM C21 Ceramic Tile Standards Committee Meetings, May 2020
 - “Forensic Case Studies in Human Factors”, Advantage Forensics Seminar, Toronto, Apr 2020
 - “Truck Drivers’ Perceptions of Unsafe Driving Behaviours”, University of Victoria Webinar, Feb 2020
 - “Driver Distraction: Recent Data & Research”, CARSP Webinar, Dec 2019
 - “Truck Driver Vibration Exposure, Fatigue & Health”, CRE-MSD, University of Waterloo Webinar, Feb 2019
 - “Military Footwear Standards” U.S. Department of Defence Webinar, Jan 2018
 - “RCMP Cannabis Impairment Evaluation”, CARSP Webinar, Sept 2017
 - ASTM F08.51 Biomechanics Standards Committee Meetings, May 2017 & May 2014
 - “Biomechanics & Insurance Claims”, OIAA Conference, Toronto, Feb 2014
 - “Barefoot Friction, Slip-Resistance & Footwear”, Biomechanical Tribology Research Consortium, Nov 2013
 - “Driver Distraction”, SAE Webinar, July 2011
 - “Human Factors Experts in Forensic Investigation & Litigation”, HFES Webinar, June 2011
 - “Sports Injury Concussions & Resort Liability Series”, McCague Borlack, Toronto, 2010, 2012, 2013, 2019
 - “Slip & Fall Prevention Research & Discussion”, Tile Council of America Webinar, July 2008
 - “Slip Resistance & Safety of Walking/Working Surfaces”, ASSE Webinar, June 2006
 - “Estimating Driver Perception & Response Times”, CATAIR, Oshawa, Dec 2002
- Forensic Video Analysis Training:
 - “Speed from Video – Module 1” Course, Lightpoint, Nov 2024
 - ASTM E30.12 Digital & Multimedia Evidence Standards Committee Meeting, Oct 2021
 - “Reverse Projection – Integrating Video with 3D Point Clouds” Webinar, INPUT ACE, Oct 2021

- "Video Interrogation – Codecs, Containers & Raw Video" Webinar, iNPUT ACE, Sept 2021
- "Emerging Trends in Video Evidence" Webinar, iNPUT ACE, July 2021
- "Video Analysis: Aspect Ratio, Resizing & Interpolation" Webinar, iNPUT ACE, June 2021
- "Forensic Video Analysis: Video Literacy" Course, iNPUT ACE, June 2021
- "Photogrammetry & Video Analysis" Seminar, Advantage Forensics, Toronto, Feb 2021
- "Video Evidence Analysis: Equipping Investigators with Modern Tools", iNPUT ACE Webinar, Feb 2020
- "iNPUT ACE Forensic Video Analysis" Seminar, Advantage Forensics, Toronto, Jan 2020
- Product Safety & Event Safety Training:
 - ASTM F08.66 Sports Facilities Standards Committee Meetings, May 2014, May 2017, May 2025
 - ASTM F08.30 Fitness Products Standards Committee Meeting, Toronto, May 2025
 - ASTM F08.44 Pickleball Equipment & Facilities Standards Committee Meeting, Mar 2025
 - Advanced Security Awareness Training Course, Toronto, Nov 2022
 - "Advancing & Evaluating UAS for Defence", University of Mass. Lowell NERVE Center, Oct 2022
 - "Segway Navigation & Rider Proficiency", San Francisco, California, Aug 2022
 - "Three Steps to Preventing Machine Injuries", Underwriters Laboratory Webinar, March 2021
 - "Security Skills Training & Tactical Threat Assessment" Workshop, M.I.P. Security, Toronto, Feb 2021
 - "Failure Analysis in Product & Mechanical Systems" Seminar, Advantage Forensics, Toronto, June 2020
 - CPR Certification & AED Training Course, Toronto, Mar 2020
 - "Stop the Bleed" Trauma Treatment Course, Toronto, Mar 2020
 - Aerial Lift & Platform Certification, Nov 2018
 - ASTM F08.17 Trampoline Standards Committee Meetings, May 2017 & May 2014
 - ASTM F15.22 Toy Safety Standards Committee Meetings, 2012 to 2016
 - "Safer Infant Sleep Products", Australian Safe Communities Foundation Webinar, Sept 2012
 - "Introductory Segway Training", San Antonio, Texas, Oct 2009
- Playground, Zip Line, Challenge Course, Waterpark, Pool, Snow Sports & Amusement Ride Training:
 - ASTM F15.29 Playground Standards Committee Meetings, 2014 to 2025
 - ASTM F08.63 Playground Surfacing Systems Standards Committee Meeting, Toronto, May 2025
 - ASTM F27 Snow & Water Sports Standards Committee Meeting, Lake Tahoe, California, Jan 2025
 - ASTM F27 Snow & Water Sports Standards Committee Meeting, Keystone, Colorado, Jan 2024
 - "Transferring Practical Waterslide Knowledge from Waterparks to Community Swimming Pools" Webinar, Lakeview Aquatic Consultants, Dec 2023
 - "Recreational Hydraulics: Wave Simulation & Waterslides" Webinar, Australian Water School, Nov 2023
 - "Pool Owner Safety 101" Webinar, International Code Council, Aug 2023
 - "Water Safety Tips for All Ages" Webinar, Boston Children's Hospital, June 2023
 - "Australian Water Safety Strategy 2030" Webinar 3-part series, Australian Water Safety Council, May 2023
 - ASTM F15.09 Home Playground Equipment Standards Committee Meetings, 2021
 - "Zip Line & Challenge Course Inspector Training Conference & Certification", ACCT, Harrisburg, Mar 2017
 - "Pennsylvania Amusement Ride Safety Conference", Harrisburg, Mar 2017
 - "Canadian Certified Playground Inspector Course", CPSI, Edmonton, Feb 2017
 - "Zip Line & Challenge Course Inspector Training Conference & Certification", ACCT, Baltimore, Aug 2013

LECTURES & TEACHING ENGAGEMENTS

- TV/Radio/Media Guest Expert:
 - "Investigating the Deadly Manitoba Highway Crash", CBC News, June 2023
 - "Manitoba crash: 15 dead in tragic highway collision near Carberry", Global News Winnipeg, June 2023
 - "Municipal Liability Exposure from Collisions", Good Roads Association Podcast, Oakville, Nov 2022

- “Close Up Radio Spotlights Advantage Forensics“, Close Up TV & Radio, New York, Aug 2022
 - “Columbia Icefield Crash: Seatbelts Could Have Saved Lives“, Global Evening News Edmonton, July 2020
 - “Crews Working to Remove Tour Bus in Fatal Jasper Rollover“, Global News Hour Edmonton, July 2020
 - “Jasper Bus Crash Investigation Likely to Have 3 Focuses: Mechanical Engineer“, Global News, July 2020
 - “Stratford Area Collision Claims Two Lives“, CBC Radio London & CBC Radio Kitchener-Waterloo, Aug 2018
 - “Hwy 401 Prescott Bus Collision – Highway Design“, CBC Radio Ottawa, June 2018
 - “Investigating the Humboldt Collision“, CBC Radio, CBC News, CTV News, National Post & TSN, Apr 2018
 - “Humboldt Crash: How to Design a Safe Highway Intersection“, Macleans Canada, Apr 2018
 - “Pedestrian Collisions Increasing“, Global Evening News, Oct 2015
 - “Nighttime Pedestrian Collisions“, CBC Metro Morning, Oct 2015
- Conference/Panel Invited Speaker:
 - “Anatomy of a Trial“, Ontario Bar Association Conference, Toronto, June 2024
 - “Snow Tubing“, ASTM F27/National Ski Areas Association Winter Conference, Keystone, Colorado, Jan 2024
 - “Reimagining Our Roads“, Good Roads Association Conference, Toronto, Apr 2023
 - Program Developer: “Examining & Cross-Examining Experts“, Advocates Society, Toronto, 2010 to 2024
 - “Nighttime Photography & Videography“, HFES Human Factors Conference, Austin, Oct 2017
 - “Cross-Border Testifying“, HFES Human Factors Conference, Austin, Oct 2017
 - “Barefoot Friction Testing & Research“, Slips, Trips & Falls International Conference, Toronto, June 2017
 - “Collision Biomechanics & Injury Assessment“, WREX Conference, Orlando, May 2016
 - “Inspecting Vehicle Interiors for Injury Assessments“, WREX Conference, Orlando, May 2016
 - “Emerging Sources of Electronic Evidence“, Ontario Bar Association Conference, Toronto, June 2014
 - “Black Boxes: 2013 & Beyond“, CIAA Ontario AGM Conference, Grand Bend, June 2013
 - “Advanced Analysis of Slip, Trip & Fall Claims“, CIAA Ontario AGM Conference, Grand Bend, June 2013
 - “Human Factors in Pedestrian & Cyclist Collisions“, Aviva Regional Conference, Niagara Falls, Oct 2009
 - “Investigating Accident Reconstruction & Personal Injuries“, The Canadian Institute, Toronto, Feb 2007
 - “Property Claims & Risk Management“, Ontario Bar Association Conference, Toronto, Jan 2006
- Teaching Appointments:
 - Forensic Biomechanics, University of Toronto MIE439 guest lecturer, 2017, 2021 to 2024
 - Human Factors Case Studies, University of Toronto MIE345 guest lecturer, 2013 to 2018, 2022
 - Grade 12 Calculus & Vectors - University stream, Daniel T. Gordon High School, since 2020
 - Biomechanics, University of Toronto MSE431 guest lecturer, 2017
 - Biomechanics & Musculoskeletal Disorders, University of Toronto MIE240 guest lecturer, 2013 to 2018
- Professional Course Instructor:
 - “Signs & Lines“ Course, Good Roads Association, University of Guelph, 2023 to present
 - “Municipal Liability in Road Design & Maintenance“ Course, Good Roads Association, 2022 to present
 - “Collision Biomechanics“ Course, CATAIR, Aug 2018
 - “Advanced Collision Reconstruction: Crush Energy, Rollovers & Biomechanics“ Course, CATAIR, June 2016
 - “Intersection Safety“ Course, Ontario Traffic Council, Markham, Nov 2011 & Nov 2010
 - “Practical Urban Road Maintenance“ Course, C.S. Anderson Road School, 2009 & 2010
- Seminar presenter:
 - “Understanding & Using the RESPONSE Software“, Advantage Forensics Workshop Series, 2024 to 2025
 - “Collision Injury Biomechanics“, Hatzoloh EMS Seminar, Sept 2024
 - “Bathtub Slip-Resistance Standards“, Advantage Forensics Workshop, Nov 2023
 - “Advanced Patent Infringement Investigation“, Advantage Forensics Workshop, Nov 2023
 - “Pedestrian Posture Effect on Impact Dynamics“, Advantage Forensics Journal Club, Jan 2023
 - “Nighttime Visibility Site Investigations“, Advantage Forensics Workshop, Jan 2023

- “Advanced Collision Avoidance Analysis”, Advantage Forensics Workshop, Apr 2020 & Nov 2021
- “Handling Cross-Examination Under Pressure”, Expert Eye Consulting Seminar, Oct 2021
- “The New Minimum Maintenance Standards”, Aviva, Clyde & Co., Black Sutherland, others, 2014 to 2020
- “Delta-v from Curb impacts”, Advantage Forensics Workshop, June 2020
- “Use of PC-Crash, Infotainment & Navigation Data for Injury Claims”, Oatley Vigmond, May 2020
- “Expert Witness Training Series”, Advantage Forensics Workshop, Apr & May 2020
- “Momentum Analysis & Crush Energy Analysis”, Advantage Forensics Workshop, Jan 2020
- “How to Safely Examine a Hybrid Electric/Electric Vehicle”, Advantage Forensics Workshop, Mar 2019
- “Retaining Experts on Claims”, Beard Winter Insurance Event, Toronto, Feb 2019
- “Crash Data Recorder & Infotainment Evidence”, Black Sutherland, Beard Winter & others, 2017 to 2019
- “Advanced Analysis of Slips, Trip & Falls”, Aviva, Hughes Amys, Travelers & others, 2002 to 2019
- “Injury Risk vs. Delta-V for Drivers & Pedestrians”, Grillone Bekiaris, Oct 2014
- “Collision Reconstruction: PC-Crash Theory”, Advantage Forensics Workshop, Jan 2016
- “Left-turn Accelerations at Intersections”, Advantage Forensics Workshop, Dec 2015
- “Nighttime Collision Investigation”, Hughes Amys, Nov 2013 & Kingsway Insurance, Feb 2009
- “Segway Rider Introductory Training”, Advantage Forensics Workshop, Nov 2012
- “Collision Reconstruction & Human Factors”, Bergel Magence, Aviva, TTC & others, 2007 to 2017
- “School Injury Claims”, Ontario School Board Insurance Exchange, Guelph, Dec 2011

JOURNAL PAPERS & PUBLICATIONS

- “Setting the Thin White Line of Municipal Liability”, Good Roads Quarterly, Nov 2022
- “Human Factors Analysis of a Waiver: A Case Study”, 65th HFES Conference, 2021
- “Categorizing Unintended Acceleration Collisions from EDRs”, 28th CARSP Conference Proceedings, 2018
- “Nighttime Photography & Videography: Techniques & Tips”, 61st HFES Conference Proceedings, 2017
- “Practical Tool for Ambient Illumination Comparisons at Dusk/Dawn”, 60th HFES Conference, 2016
- “Standardized Ambient Illumination Factor for Night Collisions”, WREX conference poster, 2016
- “Collision Data Recorders: What Can Big Brother See?”, WP Magazine, April 2016
- “The Hitchhiker’s Guide to Having Your Hand Run Over”, HFES Newsletter, Vol. 32(1), Feb. 2016
- “Practical Method for Forensic Testing of Fall Impact Effects on Human Spine”, 57th HFES Conference, 2013
- “Nighttime Collisions – The Dilemma of the Invisible Pedestrian”, WP Magazine, June 2013
- “The Changing World of Collision Fraud Investigation”, WP Magazine, May 2013
- Contributor to Standards:
 - ASTM F2774 “Practice for Manufacturing Quality Control of Consumer Trampoline Bed Material”
 - ASTM F2970 “Design, Manufacture, Installation, Operation, Maintenance & Inspection of Trampoline Courts”
 - ASTM F381 “Standard for Components, Assembly, Use & Labeling of Consumer Trampolines”
 - ASTM F3101 “Standard for Unsupervised Public Use Outdoor Fitness Equipment”
 - ASTM F3105 “Standard for Externally Loaded Strength Training Equipment”
 - ASTM F2374 “Standard for Design, Manufacture, Operation & Maintenance of Inflatable Amusement Devices”
 - ASTM F3493 “Standard Practice for Measuring Dynamic Characteristics of Water Slide Systems Using Instrumented Humans”
 - ASTM F1679 “Standard for Using a Variable Incidence Tribometer”
 - ASTM F2508 “Standard for Validation, Calibration & Certification of Walkway Tribometers”
 - ASTM E3176 “Standard Guide for Forensic Engineering Expert Reports”



- NFSA B101.4 "Standard for Measuring the Wet Barefoot Condition of Floors"
 - ANSI A-A-55617 & A-A-55619 "Medium & Heavy Duty Industrial Caster Standard"
 - ANSI/RESNA Wheelchair Standards Vol. 1 & 2
 - ASTM WK92433 "Practice for the Design of Adventure Attractions"
 - ASTM WK63322 "Premises Design Considering Snow/Ice Management for the Reduction of Pedestrian Falls"
 - ASTM WK89102 "Specification for Impact Attenuation of Ski Area Padding"
- "The Slip Tester", Claims Canada, Feb 2012
- "Painted Concrete Surfaces: Slippery or Not?", Claims Canada National Claims Manual, Feb 2012
- "Foot Placement in Oblique Stair Descent", 55th HFES Conference Proceedings, 2011
- "Visibility of Tractor Trailer Reflective Strips", 53rd HFES Conference Proceedings, 2009
- "Snowmobile Deceleration: Ejected Occupant Scenarios", 19th CARSP Conference Proceedings, 2009
- "What is a 'Human Factors' Expert Anyway?", Claims Canada, April 2009
- "Road Design Issues in Motor Vehicle Collisions", Without Prejudice, Dec 2008
- "Transportation Engineering: Forensic Engineering of Collisions", Transportation Talk, CITE, Fall 2008
- "Validation of Dynamic Models for Power Wheelchairs using Working Model", Masters Thesis, University of Toronto, Oct 1998, and published in RESNA Conference Proceedings, 1998
- "Design of a Portable Elbow Torque Meter for Clinical Use", Undergraduate Thesis, University of Western Ontario, 1996



PRACTICE AREAS

Collision Reconstruction

- Human Factors:
 - Perception Reaction Time
 - Nighttime Visibility
 - Road Design Assessment & Signage
- Biomechanics
- Crash Data Recorder Analysis
- Pedestrian & Cyclist Collisions
- Video Analysis
- Winter Maintenance Assessment
- Tractor Trailer Collisions
- Snowmobile Collisions

Personal Injury Claims

- Human Factors:
 - Slips, Trips & Falls
 - Staircase & Building Code Assessment
 - Coefficient of Friction Testing
 - Signage & Warnings
- Biomechanics
- Waterparks, Pools & Waterslides
- Sports Facility Design
- Zip Lines & Challenge Courses
- Snow Tubing & Ski Incidents
- Playground & Inflatable Play Structure Incidents
- Trampoline & Gymnastics Incidents
- Wheelchair & Segway Falls
- Ladder Falls
- Video Analysis

Product Investigations

- Patent Infringement
- Human Factors:
 - Product Warnings & Labels
 - Anthropometrics
- Failure Analysis & Product Testing

ACADEMIC BACKGROUND

Masters Degree in Biomedical Engineering, University of Toronto, 1998

- Graduate Courses in Human Factors, Advanced Dynamics, Physiology, Advanced Mechanics of Materials

Bachelors Degree in Mechanical Engineering, University of Western Ontario, 1996

- Courses in Physics, Dynamics, Mechanical Design, Biomechanics, Materials, Manufacturing, Mechatronics, Advanced Fluid Dynamics, Hemodynamics, Aerodynamics, Advanced Calculus

EMPLOYMENT HISTORY

Advantage Forensics Inc., Toronto

President, April 2012 to present

Lead investigator on 1700+ collision reconstruction, personal injury & product investigation cases

Giffin Koerth Inc., Toronto

Forensic Engineer, Head of Personal Injury Assessment Team, July 2002 to April 2012

Lead investigator on 1200+ collision reconstruction, personal injury & product failure cases

Algood Casters Ltd., Toronto

Mechanical Engineer, January 1999 to June 2002

Conducted failure analysis & destructive testing, developed standards, designed injection molding & stamping dies

Centre for Studies in Aging, Toronto

Researcher, September 1996 to October 1998

Contributed to collision dynamics studies, wheelchair design, human factors studies & balance studies

Hand & Upper Limb Clinic, St. Joseph's Health Centre, London

Student Researcher, September 1995 to April 1996

Developed prototype strength tester, contributed to biomechanics studies

COURT QUALIFICATION

- Qualified by Courts of Ontario, Quebec, P.E.I., California & Florida (29 occasions) as expert in:
 - Collision Reconstruction
 - Human Factors (including reaction time, collision avoidance & signage)
 - Biomechanics
 - Road Design & Winter Maintenance
 - Slips, Trips & Falls
 - Waterslide Design Assessment & Testing
 - Mechanical Engineering
- Qualified by Ontario arbitrations (4 occasions) as expert in:
 - Collision Reconstruction & Bicycle Collisions
 - Human Factors
 - Slips, Trips & Falls
 - Mechanical Engineering

PROFESSIONAL SOCIETIES & ASSOCIATIONS

P.Eng., Professional Engineers Ontario, since 2002

P.Eng., Association of Professional Engineers & Geoscientists of Alberta, since 2021

P.Eng., Engineers & Geoscientists British Columbia, since 2025

Human Factors & Ergonomics Society (HFES), since 2003

- Forensics Conference Program Co-Chair, 2016 to 2018
- Technical paper reviewer for Annual Conference, 2009 to 2020

Canadian Association for Technical Accident Investigators & Reconstructionists (CATAIR), since 2002

Canadian Society for Biomechanics (CSB), 2004 to 2009, 2022 to present

Canadian Association of Road Safety Professionals (CARSP), since 2009

- Technical paper reviewer for Annual Conference, 2017 to present

Canadian Certified Playground Inspector, 2017 to 2023

Zip Line & Challenge Course Level 2 Certified Inspector, ACCT, 2013 to 2021

York University Mechanical Engineering Curriculum Advisory Committee, 2019 to 2024

Society of Automotive Engineers (SAE), 2003 to 2008

National Floor Safety Institute (NFSI) B101.4 barefoot slip resistance standard technical lead, 2013 to 2020

American Society for Testing & Materials (ASTM) Standards Committee:

- E17: Vehicle - Pavement Systems (voting member, joined 2012)
Tire Friction, Pavement Friction
- E30 Forensic Science (voting member, joined 2008) & E58 Forensic Engineering (joined 2008)
Forensic Practice, Product Defects, Vehicular Incidents
- E54: Homeland Security (voting member, joined 2018)
Security Equipment, Personal Protective Equipment
- F06: Resilient Floor Testing (voting member, joined 2012)
Slip Resistance, Test Methods
- F08: Sports Equipment & Facilities (voting member, joined 2012)
Biomechanics, Sports Facility Design, Playground Surfacing
Bicycles, Fitness Equipment, Archery, Baseball, Pickleball, Gymnastics, Trampolines, Wrestling
- F13: Pedestrian Safety & Footwear (voting member, joined 2005)
Traction, Footwear, Walkway Surfaces
- F15: Consumer Products (voting member, joined 2012)
Pools, Bathtubs, Showers, Bath Seats
Furniture, Beds, Cribs, Change Tables, Strollers, Highchairs, Bouncers, Swings, Gates
Playground Equipment, Toy Design, Scooters, Skateboards
Auditorium Seating, Window Fall Prevention
Stun Guns
- F24: Amusement Rides & Devices (voting member, joined 2012)
Design, Manufacture, Maintenance, Inspection & Operations
Water Rides, Special Rides, Adventure Attractions
- F27: Snow & Water Sports (voting member, joined 2012)
Snow Tubing Task Group Chair, since 2024
Skis, Snowboards, Bindings, Ski run padding/markings
Water Sports Equipment

- F45: Driverless Automatic Guided Vehicles (2015 to 2022)
Autonomous Docking, Navigation, Object Detection & Protection

ADDITIONAL COURSES & TRAINING

- Collision Reconstruction Training:
 - "PC-Crash 15.1 New Features", MEA, June 2025
 - "PC-Crash Best Practices", MEA, Jan 2025
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, Mar to Oct 2023
 - "Modern Motor Vehicle Data: The How, Who, What, Where and Why", CARSP Webinar, Sept 2022
 - "Introduction to BERLA-iVE Vehicle Forensics" Seminar, Advantage Forensics, Toronto, Dec 2021
 - "Electrical Diagnostic Testing of Vehicles" Seminar, Advantage Forensics, Toronto, Jan 2021
 - "Correlation of Spedometer Readings with EDR Data" Seminar, Advantage Forensics, Toronto, Sept 2020
 - "Ontario Pedestrian Crash Causation Study", Ministry of Transportation Webinar, July 2020
 - "Vehicle Control History Data" Seminar, Advantage Forensics, Toronto, July 2020
 - "Motorcycle Collision Reconstruction" Seminar, Advantage Forensics, Toronto, July 2020
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, June to July 2020
 - "Detailed Vehicle Profile Crush Measurements", Laser Tech Webinar, July 2020
 - "Driver Checking Failures Towards Pedestrians & Cyclists: An On-road Study", CARSP Webinar, June 2020
 - "PC-Crash Expert Course: Staged Collisions", MEA, Apr 2020
 - "PC-Crash 12.0: Latest Features", Advantage Forensics, Toronto, Apr 2020
 - "Lessons Learned from Using Driving Simulators to Improve Driver Behaviour", CARSP Webinar, Mar 2020
 - "Preventing Collisions with Wildlife", CARSP Webinar, April 2019
 - "Tire Forensics & Accident Reconstruction", CATAIR, Toronto Police College, June 2017
 - "WREX 2016 Collision Reconstruction Conference", WREX, Orlando, May 2016
 - "Collision Reconstruction Journal Review Seminar Series", Advantage Forensics, Jan to Mar 2016
 - "Extracting Commercial Vehicle EDR Black Box Recorders", Origin & Cause Webinar, Feb 2016
 - "PC-Crash Essentials Course: Latest Features", MEA, Nov 2015
 - "PC-Crash Essentials Course: Vehicle Controls", MEA, Nov 2015
 - "PC-Crash Expert Course: Rollovers", MEA, Sept 2013
 - "PC-Crash Expert Course: Tractors & Trailers", MEA, Apr 2013
 - "Examining Hybrid Electric Vehicles", Advantage Forensics, Toronto, Dec 2012
 - "Commercial Vehicle Event Data Recorder Downloading", Giffin Koerth, Toronto, Jan 2012
 - "Crash Data Retrieval System Technician Certification", CATAIR, Toronto, Mar 2010
 - "PC-Crash 8.1 Advanced Workshop Course", MEA, Toronto, Mar 2009
 - "Advanced Driver Training Course", BMW, Toronto, Sept 2005
 - "Collision Reconstruction, Technology & Application", CATAIR, Burlington, Aug 2003
- Road Design/Maintenance Training:
 - "Good Roads Annual Conference", Good Roads Association, Toronto, Apr 2023
 - "Traffic Safety Analysis", Advantage Forensics, Toronto, Feb 2022
 - "Roadway Lighting Design", Illumination Engineering Society Webinar, Aug 2020
 - "An Innovative Approach to Assess Risk at Curved-Tangential Intersections", CARSP Webinar, June 2020
 - "Measuring Road Safety Improvements Using Video Based Conflict Analysis", CARSP Webinar, June 2020
 - "Traffic Trends & Safety in a COVID-19 World", Transportation Research Board Webinar, June 2020
 - "Identifying Road Design Issues" Seminar, Advantage Forensics, Toronto, May 2020
 - CARSP Road Safety Conferences, CARSP, June 2018 & June 2009
 - "Childhood Road Traffic Injuries in Canada", CARSP Webinar, Jan 2018

- “Geometric Design Guide for Canadian Roads”, Transportation Association of Canada Webinar, May 2017
- “Vision Zero Road Safety” CARSP Webinar, Feb 2017
- “Minimum Maintenance Standards – 2013 Revisions”, Ontario Good Roads Association Webinar, March 2013
- “Designing & Signalizing Turn Lanes for Safety”, Institute of Transportation Engineers Webinar, Nov 2008
- “Practical Urban Road Maintenance Course”, C.S. Anderson Road School, May 2008
- Human Factors & Biomechanics Training:
 - “KITE ENABL Research Projects Update”, Toronto Rehab University Health Network, Toronto, June 2025
 - ASTM F13 Pedestrian Safety & Footwear Standards Committee Meetings, 2014 to 2025
 - ASTM F08.53 Helmets & Headgear Standards Committee Meeting, Toronto, May 2025
 - Canadian Society for Biomechanics Annual Conference, Aug 2024
 - “Vision & Walking”, ASTM F13 Seminar, June 2024
 - “Biomechanics of Gait: Walking, Slipping, Tripping, Misstepping”, ASTM F13 Seminar, June 2024
 - “Alcohol Effect on Driver Reaction Time”, Advantage Forensics Seminar, Toronto, May 2023
 - Slips, Trips & Falls International Conferences, June 2023, Feb 2020, June 2017
 - “The Role of Fatigue in Accidents”, HFES Webinar, Nov 2022
 - HFES Forensic Practitioners Group Meeting, Sept 2022
 - HFES Annual Conferences 2021, 2018, 2017, 2016, 2013, 2011, 2009
 - “Scientific Foundations of Bloodstain Pattern Analysis”, IABPA Webinar, July 2021
 - International Ergonomics Association Slip, Trip & Fall Technical Committee Meeting, June 2021
 - “Metatarsal Fracture Characterization”, University of Waterloo Webinar, June 2021
 - “Bloodstain Pattern Analysis Essentials”, US Dept. of Justice Webinar, June 2021
 - “Alcohol & Drug Impaired Driving Conference”, CARSP Webinar, Sept 2020
 - “Cell Phone Use & Driving”, Advantage Forensics Seminar, Toronto, Aug 2020
 - “Correlation of Injury Patterns in Pedestrian Fatalities with Collision Dynamics”, CARSP Webinar, July 2020
 - “Applying Human Factors Principles to Rural Intersection Safety”, CARSP Webinar, June 2020
 - “Looming Detection Thresholds for Collisions”, Advantage Forensics Seminar, Toronto, June 2020
 - ASTM C21 Ceramic Tile Standards Committee Meetings, May 2020
 - “Forensic Case Studies in Human Factors”, Advantage Forensics Seminar, Toronto, Apr 2020
 - “Truck Drivers’ Perceptions of Unsafe Driving Behaviours”, University of Victoria Webinar, Feb 2020
 - “Driver Distraction: Recent Data & Research”, CARSP Webinar, Dec 2019
 - “Truck Driver Vibration Exposure, Fatigue & Health”, CRE-MSD, University of Waterloo Webinar, Feb 2019
 - “Military Footwear Standards” U.S. Department of Defence Webinar, Jan 2018
 - “RCMP Cannabis Impairment Evaluation”, CARSP Webinar, Sept 2017
 - ASTM F08.51 Biomechanics Standards Committee Meetings, May 2017 & May 2014
 - “Biomechanics & Insurance Claims”, OIAA Conference, Toronto, Feb 2014
 - “Barefoot Friction, Slip-Resistance & Footwear”, Biomechanical Tribology Research Consortium, Nov 2013
 - “Driver Distraction”, SAE Webinar, July 2011
 - “Human Factors Experts in Forensic Investigation & Litigation”, HFES Webinar, June 2011
 - “Sports Injury Concussions & Resort Liability Series”, McCague Borlack, Toronto, 2010, 2012, 2013, 2019
 - “Slip & Fall Prevention Research & Discussion”, Tile Council of America Webinar, July 2008
 - “Slip Resistance & Safety of Walking/Working Surfaces”, ASSE Webinar, June 2006
 - “Estimating Driver Perception & Response Times”, CATAIR, Oshawa, Dec 2002
- Forensic Video Analysis Training:
 - “Speed from Video – Module 1” Course, Lightpoint, Nov 2024
 - ASTM E30.12 Digital & Multimedia Evidence Standards Committee Meeting, Oct 2021
 - “Reverse Projection – Integrating Video with 3D Point Clouds” Webinar, INPUT ACE, Oct 2021

- "Video Interrogation – Codecs, Containers & Raw Video" Webinar, iNPUT ACE, Sept 2021
- "Emerging Trends in Video Evidence" Webinar, iNPUT ACE, July 2021
- "Video Analysis: Aspect Ratio, Resizing & Interpolation" Webinar, iNPUT ACE, June 2021
- "Forensic Video Analysis: Video Literacy" Course, iNPUT ACE, June 2021
- "Photogrammetry & Video Analysis" Seminar, Advantage Forensics, Toronto, Feb 2021
- "Video Evidence Analysis: Equipping Investigators with Modern Tools", iNPUT ACE Webinar, Feb 2020
- "iNPUT ACE Forensic Video Analysis" Seminar, Advantage Forensics, Toronto, Jan 2020
- Product Safety & Event Safety Training:
 - ASTM F08.66 Sports Facilities Standards Committee Meetings, May 2014, May 2017, May 2025
 - ASTM F08.30 Fitness Products Standards Committee Meeting, Toronto, May 2025
 - ASTM F08.44 Pickleball Equipment & Facilities Standards Committee Meeting, Mar 2025
 - Advanced Security Awareness Training Course, Toronto, Nov 2022
 - "Advancing & Evaluating UAS for Defence", University of Mass. Lowell NERVE Center, Oct 2022
 - "Segway Navigation & Rider Proficiency", San Francisco, California, Aug 2022
 - "Three Steps to Preventing Machine Injuries", Underwriters Laboratory Webinar, March 2021
 - "Security Skills Training & Tactical Threat Assessment" Workshop, M.I.P. Security, Toronto, Feb 2021
 - "Failure Analysis in Product & Mechanical Systems" Seminar, Advantage Forensics, Toronto, June 2020
 - CPR Certification & AED Training Course, Toronto, Mar 2020
 - "Stop the Bleed" Trauma Treatment Course, Toronto, Mar 2020
 - Aerial Lift & Platform Certification, Nov 2018
 - ASTM F08.17 Trampoline Standards Committee Meetings, May 2017 & May 2014
 - ASTM F15.22 Toy Safety Standards Committee Meetings, 2012 to 2016
 - "Safer Infant Sleep Products", Australian Safe Communities Foundation Webinar, Sept 2012
 - "Introductory Segway Training", San Antonio, Texas, Oct 2009
- Playground, Zip Line, Challenge Course, Waterpark, Pool, Snow Sports & Amusement Ride Training:
 - ASTM F15.29 Playground Standards Committee Meetings, 2014 to 2025
 - ASTM F08.63 Playground Surfacing Systems Standards Committee Meeting, Toronto, May 2025
 - ASTM F27 Snow & Water Sports Standards Committee Meeting, Lake Tahoe, California, Jan 2025
 - ASTM F27 Snow & Water Sports Standards Committee Meeting, Keystone, Colorado, Jan 2024
 - "Transferring Practical Waterslide Knowledge from Waterparks to Community Swimming Pools" Webinar, Lakeview Aquatic Consultants, Dec 2023
 - "Recreational Hydraulics: Wave Simulation & Waterslides" Webinar, Australian Water School, Nov 2023
 - "Pool Owner Safety 101" Webinar, International Code Council, Aug 2023
 - "Water Safety Tips for All Ages" Webinar, Boston Children's Hospital, June 2023
 - "Australian Water Safety Strategy 2030" Webinar 3-part series, Australian Water Safety Council, May 2023
 - ASTM F15.09 Home Playground Equipment Standards Committee Meetings, 2021
 - "Zip Line & Challenge Course Inspector Training Conference & Certification", ACCT, Harrisburg, Mar 2017
 - "Pennsylvania Amusement Ride Safety Conference", Harrisburg, Mar 2017
 - "Canadian Certified Playground Inspector Course", CPSI, Edmonton, Feb 2017
 - "Zip Line & Challenge Course Inspector Training Conference & Certification", ACCT, Baltimore, Aug 2013

LECTURES & TEACHING ENGAGEMENTS

- TV/Radio/Media Guest Expert:
 - "Investigating the Deadly Manitoba Highway Crash", CBC News, June 2023
 - "Manitoba crash: 15 dead in tragic highway collision near Carberry", Global News Winnipeg, June 2023
 - "Municipal Liability Exposure from Collisions", Good Roads Association Podcast, Oakville, Nov 2022

- “Close Up Radio Spotlights Advantage Forensics“, Close Up TV & Radio, New York, Aug 2022
- “Columbia Icefield Crash: Seatbelts Could Have Saved Lives“, Global Evening News Edmonton, July 2020
- “Crews Working to Remove Tour Bus in Fatal Jasper Rollover“, Global News Hour Edmonton, July 2020
- “Jasper Bus Crash Investigation Likely to Have 3 Focuses: Mechanical Engineer“, Global News, July 2020
- “Stratford Area Collision Claims Two Lives“, CBC Radio London & CBC Radio Kitchener-Waterloo, Aug 2018
- “Hwy 401 Prescott Bus Collision – Highway Design“, CBC Radio Ottawa, June 2018
- “Investigating the Humboldt Collision“, CBC Radio, CBC News, CTV News, National Post & TSN, Apr 2018
- “Humboldt Crash: How to Design a Safe Highway Intersection“, Macleans Canada, Apr 2018
- “Pedestrian Collisions Increasing“, Global Evening News, Oct 2015
- “Nighttime Pedestrian Collisions“, CBC Metro Morning, Oct 2015
- Conference/Panel Invited Speaker:
 - “Anatomy of a Trial“, Ontario Bar Association Conference, Toronto, June 2024
 - “Snow Tubing“, ASTM F27/National Ski Areas Association Winter Conference, Keystone, Colorado, Jan 2024
 - “Reimagining Our Roads“, Good Roads Association Conference, Toronto, Apr 2023
 - Program Developer: “Examining & Cross-Examining Experts“, Advocates Society, Toronto, 2010 to 2024
 - “Nighttime Photography & Videography“, HFES Human Factors Conference, Austin, Oct 2017
 - “Cross-Border Testifying“, HFES Human Factors Conference, Austin, Oct 2017
 - “Barefoot Friction Testing & Research“, Slips, Trips & Falls International Conference, Toronto, June 2017
 - “Collision Biomechanics & Injury Assessment“, WREX Conference, Orlando, May 2016
 - “Inspecting Vehicle Interiors for Injury Assessments“, WREX Conference, Orlando, May 2016
 - “Emerging Sources of Electronic Evidence“, Ontario Bar Association Conference, Toronto, June 2014
 - “Black Boxes: 2013 & Beyond“, CIAA Ontario AGM Conference, Grand Bend, June 2013
 - “Advanced Analysis of Slip, Trip & Fall Claims“, CIAA Ontario AGM Conference, Grand Bend, June 2013
 - “Human Factors in Pedestrian & Cyclist Collisions“, Aviva Regional Conference, Niagara Falls, Oct 2009
 - “Investigating Accident Reconstruction & Personal Injuries“, The Canadian Institute, Toronto, Feb 2007
 - “Property Claims & Risk Management“, Ontario Bar Association Conference, Toronto, Jan 2006
- Teaching Appointments:
 - Forensic Biomechanics, University of Toronto MIE439 guest lecturer, 2017, 2021 to 2024
 - Human Factors Case Studies, University of Toronto MIE345 guest lecturer, 2013 to 2018, 2022
 - Grade 12 Calculus & Vectors - University stream, Daniel T. Gordon High School, since 2020
 - Biomechanics, University of Toronto MSE431 guest lecturer, 2017
 - Biomechanics & Musculoskeletal Disorders, University of Toronto MIE240 guest lecturer, 2013 to 2018
- Professional Course Instructor:
 - “Signs & Lines“ Course, Good Roads Association, University of Guelph, 2023 to present
 - “Municipal Liability in Road Design & Maintenance“ Course, Good Roads Association, 2022 to present
 - “Collision Biomechanics“ Course, CATAIR, Aug 2018
 - “Advanced Collision Reconstruction: Crush Energy, Rollovers & Biomechanics“ Course, CATAIR, June 2016
 - “Intersection Safety“ Course, Ontario Traffic Council, Markham, Nov 2011 & Nov 2010
 - “Practical Urban Road Maintenance“ Course, C.S. Anderson Road School, 2009 & 2010
- Seminar presenter:
 - “Understanding & Using the RESPONSE Software“, Advantage Forensics Workshop Series, 2024 to 2025
 - “Collision Injury Biomechanics“, Hatzoloh EMS Seminar, Sept 2024
 - “Bathtub Slip-Resistance Standards“, Advantage Forensics Workshop, Nov 2023
 - “Advanced Patent Infringement Investigation“, Advantage Forensics Workshop, Nov 2023
 - “Pedestrian Posture Effect on Impact Dynamics“, Advantage Forensics Journal Club, Jan 2023
 - “Nighttime Visibility Site Investigations“, Advantage Forensics Workshop, Jan 2023

- “Advanced Collision Avoidance Analysis”, Advantage Forensics Workshop, Apr 2020 & Nov 2021
- “Handling Cross-Examination Under Pressure”, Expert Eye Consulting Seminar, Oct 2021
- “The New Minimum Maintenance Standards”, Aviva, Clyde & Co., Black Sutherland, others, 2014 to 2020
- “Delta-v from Curb impacts”, Advantage Forensics Workshop, June 2020
- “Use of PC-Crash, Infotainment & Navigation Data for Injury Claims”, Oatley Vigmond, May 2020
- “Expert Witness Training Series”, Advantage Forensics Workshop, Apr & May 2020
- “Momentum Analysis & Crush Energy Analysis”, Advantage Forensics Workshop, Jan 2020
- “How to Safely Examine a Hybrid Electric/Electric Vehicle”, Advantage Forensics Workshop, Mar 2019
- “Retaining Experts on Claims”, Beard Winter Insurance Event, Toronto, Feb 2019
- “Crash Data Recorder & Infotainment Evidence”, Black Sutherland, Beard Winter & others, 2017 to 2019
- “Advanced Analysis of Slips, Trip & Falls”, Aviva, Hughes Amys, Travelers & others, 2002 to 2019
- “Injury Risk vs. Delta-V for Drivers & Pedestrians”, Grillone Bekiaris, Oct 2014
- “Collision Reconstruction: PC-Crash Theory”, Advantage Forensics Workshop, Jan 2016
- “Left-turn Accelerations at Intersections”, Advantage Forensics Workshop, Dec 2015
- “Nighttime Collision Investigation”, Hughes Amys, Nov 2013 & Kingsway Insurance, Feb 2009
- “Segway Rider Introductory Training”, Advantage Forensics Workshop, Nov 2012
- “Collision Reconstruction & Human Factors”, Bergel Magence, Aviva, TTC & others, 2007 to 2017
- “School Injury Claims”, Ontario School Board Insurance Exchange, Guelph, Dec 2011

JOURNAL PAPERS & PUBLICATIONS

- “Setting the Thin White Line of Municipal Liability”, Good Roads Quarterly, Nov 2022
- “Human Factors Analysis of a Waiver: A Case Study”, 65th HFES Conference, 2021
- “Categorizing Unintended Acceleration Collisions from EDRs”, 28th CARSP Conference Proceedings, 2018
- “Nighttime Photography & Videography: Techniques & Tips”, 61st HFES Conference Proceedings, 2017
- “Practical Tool for Ambient Illumination Comparisons at Dusk/Dawn”, 60th HFES Conference, 2016
- “Standardized Ambient Illumination Factor for Night Collisions”, WREX conference poster, 2016
- “Collision Data Recorders: What Can Big Brother See?”, WP Magazine, April 2016
- “The Hitchhiker’s Guide to Having Your Hand Run Over”, HFES Newsletter, Vol. 32(1), Feb. 2016
- “Practical Method for Forensic Testing of Fall Impact Effects on Human Spine”, 57th HFES Conference, 2013
- “Nighttime Collisions – The Dilemma of the Invisible Pedestrian”, WP Magazine, June 2013
- “The Changing World of Collision Fraud Investigation”, WP Magazine, May 2013
- Contributor to Standards:
 - ASTM F2774 “Practice for Manufacturing Quality Control of Consumer Trampoline Bed Material”
 - ASTM F2970 “Design, Manufacture, Installation, Operation, Maintenance & Inspection of Trampoline Courts”
 - ASTM F381 “Standard for Components, Assembly, Use & Labeling of Consumer Trampolines”
 - ASTM F3101 “Standard for Unsupervised Public Use Outdoor Fitness Equipment”
 - ASTM F3105 “Standard for Externally Loaded Strength Training Equipment”
 - ASTM F2374 “Standard for Design, Manufacture, Operation & Maintenance of Inflatable Amusement Devices”
 - ASTM F3493 “Standard Practice for Measuring Dynamic Characteristics of Water Slide Systems Using Instrumented Humans”
 - ASTM F1679 “Standard for Using a Variable Incidence Tribometer”
 - ASTM F2508 “Standard for Validation, Calibration & Certification of Walkway Tribometers”
 - ASTM E3176 “Standard Guide for Forensic Engineering Expert Reports”



- NFSA B101.4 "Standard for Measuring the Wet Barefoot Condition of Floors"
 - ANSI A-A-55617 & A-A-55619 "Medium & Heavy Duty Industrial Caster Standard"
 - ANSI/RESNA Wheelchair Standards Vol. 1 & 2
 - ASTM WK92433 "Practice for the Design of Adventure Attractions"
 - ASTM WK63322 "Premises Design Considering Snow/Ice Management for the Reduction of Pedestrian Falls"
 - ASTM WK89102 "Specification for Impact Attenuation of Ski Area Padding"
- "The Slip Tester", Claims Canada, Feb 2012
- "Painted Concrete Surfaces: Slippery or Not?", Claims Canada National Claims Manual, Feb 2012
- "Foot Placement in Oblique Stair Descent", 55th HFES Conference Proceedings, 2011
- "Visibility of Tractor Trailer Reflective Strips", 53rd HFES Conference Proceedings, 2009
- "Snowmobile Deceleration: Ejected Occupant Scenarios", 19th CARSP Conference Proceedings, 2009
- "What is a 'Human Factors' Expert Anyway?", Claims Canada, April 2009
- "Road Design Issues in Motor Vehicle Collisions", Without Prejudice, Dec 2008
- "Transportation Engineering: Forensic Engineering of Collisions", Transportation Talk, CITE, Fall 2008
- "Validation of Dynamic Models for Power Wheelchairs using Working Model", Masters Thesis, University of Toronto, Oct 1998, and published in RESNA Conference Proceedings, 1998
- "Design of a Portable Elbow Torque Meter for Clinical Use", Undergraduate Thesis, University of Western Ontario, 1996