Maurice Masliah, Ph.D.

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Summary

I have specialized in human factors and road safety as a senior researcher or project manager for different civil engineering firms continuously from 2001 to 2017. In 2017, I started my own consulting practice, Headlight Consulting Inc.

I have been certified as an instructor for the National Highway Institute (NHI), the training arm of the Federal Highway Administration (FHWA) in the United States. I am a three-time recipient of the Certificate of Excellence (2010, 2012, and 2013) from NHI "for exemplary service and dedication to providing high quality instruction of critical training to the transportation workforce". Since 2018, I have been a sessional lecturer for the graduate level course *MIE1414 Human Factors in Transportation* at the University of Toronto.

Education

Ph.D., Human Factors, Mechanical and Industrial Engineering, University of Toronto, 2001

M.S., Human Factors, Industrial Engineering, University of Washington, 1995

B.A., Statistics & Psychology, The College, University of Chicago, 1992

Professional Affiliations

Human Factors and Ergonomics Society (HFES), Member *2001 – present*

Certifications

- Road Safety Professional (RSP) Behavioral, Level 2 (Certificate Number 7)
- Certification Program: Part One Basic Certification
- Certification Program: Part Two Workplace Specific Hazard Training
- Infrastructure Health & Safety Association (IHSA) Commercial Motor Vehicle Collision Investigation

Experience Summary

Human Factors and Road Safety

- Performed numerous road safety audits and reviews of roundabouts, intersections and highway corridors for MTO and for York Region. Responsible for data analysis, field visits, documentation, countermeasure identification, and presentation of findings.
- Researched Ottawa bus-train collision that occurred between an OC Transpo double-decker bus and a Via Rail train. Recommended safety improvements. Study undertaken for the City of Ottawa.
- Project Manager for the *Light Rail Warning Systems Safety Review* report for Sound Transit in Seattle, WA.
- Researcher for the Transit Cooperative Research Program TCRP Report 137 *Improving Pedestrian and Motorist Safety Along Light Rail Alignments*.
- Human factors lead for the Union Station Bus Terminal Safe System of Work project.
- Project Manager for the review of the Temporary Conditions Traffic Management Manual for MTO. This manual is responsible for specifying advance notification signing, advance warning signing and

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alternative route signing. Responsible for the survey of similar jurisdictions, for stakeholder consultations, and for the review of human factor considerations.

- Performed comprehension and legibility testing of Pan Am wayfinding signage for MTO. Developed a testing plan, conducted field observations, evaluated signage using human factors considerations, and conducted field testing to assess the comprehension, conspicuity, and legibility of various Pan Am sign designs.
- Program Panel Member for Transportation Research Board's National Cooperative Highway Research Program (NCHRP) Report 600 *Human Factor Guidelines for Road Systems*, and Behavioral Traffic Safety Cooperative Research Program (BTSCRP) Report 1 Using Electronic Devices While Driving: Legislation and Enforcement Implications.
- Conducted a Digital Signs Bylaw Safety Review for the City of Sault Ste. Marie. Provided technical review and guidance on the City's proposed digital signs bylaw with special attention to safety concerns. Worked with Council members to provide guidance on message duration, message transition, and minimum setback from intersections.
- Surveyed, researched, developed and presented safety related performance measures for road preservation programs for the BC Ministry of Transportation & Infrastructure.
- Project Manager for the *Desktop Reference for Crash Reduction Factors* for the Federal Highway Administration (FHWA). This has become the largest collection of estimates of the effectiveness of engineering treatments for improving road safety ever assembled as part of the CMF Clearinghouse.
- As a sub-consultant to MRIGlobal, conducted a heuristic evaluation of the safety software *SafetyAnalyst*. *SafetyAnalyst* is the premier road safety software available through the American Association of State Highway and Transportation Officials (AASHTO).
- Conducted a human factors safety review of a high collision divided intersection on Highway 1 for the Saskatchewan Ministry of Highways and Infrastructure.
- As a sub-consultant to Groupe S.M. Inc., conducted human factors technical reviews as part of the road safety audit of the new 45 km Autoroute 30 toll highway in Montréal QC.
- Co-author and Project Manager for the National Cooperative Highway Research Program (NCHRP) for their NCHRP Report 501 *Integrated Safety Management Process*. The report documents the organizational structure, process, strategies, and goals for all road safety stakeholders to help stakeholders work towards common objectives and achieve greater net benefits than working separately. The research from this project influenced the development of strategic highway safety plans in every US state.
- Project Manager and facilitator for the Arizona Department of Transportation *Strategic Highway Safety Plan.*
- Provided facilitation, crash data analysis, and strategic plan development for the states of Pennsylvania, Kentucky, and Utah.

Teaching

- Sessional instructor at the University of Toronto for the graduate course *Human Factors in Transportation* in the Department of Mechanical and Industrial Engineering.
- Course instructor for the NHI since 2006. Have taught in numerous states. Courses include:
    - New Approaches to Highway Safety Analysis (3 day course)
    - Highway Safety Improvement Program Manual (2 day course)
    - The Science of Crash Modification Factors (3 hour online course)

- Using the Interactive Highway Safety Design Model (12 hour online course)

- Developed case study training material for *A Driver's Needs Approach to Signing* course for the Ontario Ministry of Transportation.
- Revised the FHWA *Human Factors Workshop* with current examples about driver limitations and capabilities.

Statistics

- Developed mathematical models (known as safety performance functions) to describe the relationship between traffic volume, roadway characteristics, and the expected number of crashes. Applied these models using the empirical Bayes method to perform network screening for Halton Region, Durham Region, Toronto, Kingston, Markham, Calgary, Edmonton, and for the Ontario Ministry of Transportation (MTO). Safety network screening allows jurisdictions to prioritize locations for safety improvements in order to achieve the largest possible benefit for a given budget.
- Researcher and Project Manager for NCHRP Web-Only Document 92 *Pavement Marking Materials and Markers: Real-World Relationship between Retroreflectivity and Safety over Time*.

Human Factors and Road Safety

Highway 3 Widening Project, Ministry of Transportation (Ontario)
Retained by Dillon Consulting Limited to provide Road Safety Audit services for the design and construction of 15.6 km widening of Highway 3 from 1.2 km east of Essex Road 23 to 1.1 km east of Essex Road 34 in the County of Essex, Ontario. Subcontracted as a human factors expert as part of the Road Safety Audit team for the proposed modifications to the realignment of South Talbot Road & the No. 5 Drain Culvert. Services provided on an on-call basis.

Gardiner Expressway Rehabilitation, Section 2, Grascan
Human factors expert on a team of independent road safety auditors reviewing and assessing the design and construction plans for the rehabilitation of the Gardiner Expressway in Toronto, Section 2, Dufferin to Strachan. The Gardiner Expressway is a partially at-grade and elevated controlled access municipal expressway that extends along the south portion of the City of Toronto. Included in the audit requirements were ensuring that the Exhibition GO Station access was maintained for both pedestrian and cyclist access. Special considerations were required during the annual CNE activities. Participated in the road safety audits of both the construction designs and in-service field visits.

Human Factors Comprehension Testing of Rail Crossing Signage, County of Northumberland
Contracted by AECOM Canada Ltd. to conduct human factors comprehension testing for a proposed new sign to accompany a redesign of an at-grade highway-railway crossing on Prince Edward Street, in Brighton, ON. Followed OTM Book 1B Sign Design Principles for sign testing. Three signs were tested with 200 participants each. Responsible for the human factors methodology, analysis, and documentation.

QEW/Credit River Improvement Project, Ministry of Transportation (Ontario)
Woods was retained by EDCO to provide Road Safety Audit services for the design and construction QEW / Credit River Improvement project. Human factors expert on the Road Safety Audit team. This project included both design and construction stages field review phases.

In-service Road Safety Reviews and Road Safety Audits of Toronto's Cultural Corridors, City of Toronto
Responsible for the human factors assessments of several of the highest profile streets within the City of Toronto. Reviewed roadway collision data (bus, streetcar, vehicle, bicycle, and pedestrian), conducted field visits, identified countermeasures to improve safety, and presented findings to the City of Toronto staff. The scope of this project consisted of 4 km on Yonge St (Davenport Road to Queens Quay), 4 km of Eglinton

Avenue East (Kennedy Road to Markham Street), 2 km on Bayview Avenue (Rosedale Valley to Front Street East), 2 km on Bloor Street West (Bathurst Street to Yonge Street), 2 km on Jarvis Street (Bloor Street East to Queens Quay), and 1 km on John St (Stephanie Street to Front Street West).

Metrolinx vivaNext Highway 7 Bus Rapid Transit (H2-West, H2-East) Road Safety Audit
Conducted the human factors review of the Bus Rapid Transit facilities for two separate sections of the York Viva Bus Rapid Transit project on Highway 7 in Markham, Ontario. The review analyzed the initial, 60%, and 90% design drawings as part of the Road Safety Audits. The sections were approximately 8 km and 5 km in length. The audits were conducted in accordance with the Transportation Association of Canada (TAC) Road Safety Audit Guide.

Ministere des Transports du Quebec, Autoroute 30 Road Safety Audit, Groupe S.M. Inc.
Provided the human factors technical review for the road safety audit of the new 45 kilometre Autoroute 30 in Quebec. The project included several interchanges with new and existing facilities and numerous structures, including a large crossing of the St. Lawrence River as well as culverts, ramps, ramp terminal intersections, and a Toll Plaza.

Metrolinx Eglington Crosstown LRT: Allen Station Road Safety Audit
Conducted the human factors review for the Allen station. The station is complex in design and the road safety audit covered interaction between vehicles, buses, pedestrians, and cyclists. The proposed design alternatives were subjected to a risk assessment following the guidance provided in the Transportation Association of Canada (TAC) Road Safety Audit Guide.

Safety Performance Review of Highway 401 Off-ramp and Dixon Road Intersection, Ministry of Transportation (Ontario)
Responsible for conducting a safety review and geometrical improvement study for the intersection. Major tasks included examining collision history, a series of field investigations, a review of human factors elements and a review of signage, pavement markings, visibility, illumination, and geometrical elements. Improvements included signing where drivers are looking and changes to the approach angle to slow drivers down.

March Road At-Grade Crossing Review, City of Ottawa
Human factors consultant on the peer review team for CIMA (the prime consultant). The purpose of this project was to identify and evaluate measures to discourage traffic from stopping within the March Road at-grade rail crossing Reviewed the core team's report and documentation of comments/questions and participated in a meeting with the City of Ottawa to review the report and findings.

Light Rail Warning Systems Safety Review, Sound Transit, Seattle, Washington
This project conducted an inventory and evaluation of industry best practices, provided recommendations for mitigating light rail operational noise impacts and considered alternative methods that would continue to meet safety standards while reducing noise. Provided a summary of how audible and non-audible on-board and wayside warning devices are used to warn pedestrians, cyclists and motorists of oncoming light rail vehicles. Warning bells are installed on trains and at pedestrian crossings to alert pedestrians and cyclists to oncoming transit vehicles, but members of the community identified the bells as a source of noise. In the case of Rainier Valley, the noise levels from the bells and signals required residential sound insulation as mitigation to meet Federal Transit Administration (FTA) criteria.

Light Rail Service Pedestrian and Vehicle Safety, Transit Cooperative Research Program
Wrote the winning proposal, amplified the research plan, and developed a plan for quantitatively assessing the safety impact of transit signal priority in relation to the number of vehicle conflicts. Surveyed every light rail transit (LRT) agency in the U.S. and Canada, and helped facilitate the LRT site visit in Salt Lake City, Utah.

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In-Service Road Safety Audits, Project Manager & Human Factors Expert, Regional Municipality of York
Conducted numerous in-service road safety audits under a retainer assignment for York Region. (York Region Project Manager: Nelson Costa. Bloomington Road in the Preston Lake Community, Dalton Road between Baseline Road and High Street, and Major Mackenzie Drive between Highway 27 and Islington Avenue, and Yonge St in Aurora).

York Region Strategic Road Safety Program, Regional Municipality of York, ON
Retained to assist in re-establishing and strengthening working partnerships with key safety stakeholders in York Region. Key safety stakeholders include York Regional Police and York's Public Health Department among others. The work also included data analysis to identify safety emphasis areas and set realistic goals for improving safety for all road users across the Region. A key outcome was the development of a specific action plan for each emphasis area with resources, timelines, and anticipated safety improvement.

Riverside Drive Road Safety Audit, City of Toronto
Conducted a road safety review of Riverside Drive from Bloor Street to South Kingsway, a two-lane residential road approximately 1.7 km in length. Issues addressed included, traffic calming, cyclists, pedestrians, and through traffic. Countermeasures reviewed and recommended included: sidewalks, raised intersections, textured travel surfaces (unit pavers), chicanes, smaller curb radii, and realigned intersections. Project included both a day and night field view, collision analysis, and a review of public complaints.

Vision Zero, City of Toronto
Reviewed five years of collision data, prepared graphs, and facilitated stakeholder meetings to provide input for the City of Toronto's Vision Zero plan. Emphasis areas proposed for the City included speeding, vulnerable road users (pedestrians and cyclists), and intersections.

Road Safety Audit for the Re-imagining of Yonge Street Project, City of Toronto
Conducted a road safety review of Yonge Street from Sheppard to Finch as part of the Re-imagining of Yonge Street project. Reviewed and graphed the collision data including cyclists and pedestrian collisions. Responsible for the human factors analysis as part of a multi-disciplinary team for the field visit. Provided recommendations on the safety of the various designs that including reducing the number of vehicle traffic lanes to provide protected bike lanes and wide pedestrian sidewalks.

Saskatchewan Ministry of Highways and Infrastructure, Human Factors and Safety Review Commission. Highway No. 1 at Whitewood
Conducted a human factors safety review of the Highway 1/Highway 9 intersection at Whitewood for the Saskatchewan Ministry of Highways and Infrastructure. The Highway 1 and 9 intersection is a complex, high crash location with multiple contributing factors impacting safety. The human factors safety review examined crash history, traffic volumes, geometrics and signing. The review included a literature review on rural high-speed divided highways. Day and night site visits were conducted as part of the field assessment. The final report made ten safety recommendations for improving safety at the intersection including an innovate approach using post-mounted delineators to provide drivers with additional information as to the distance away and the length of the intersection.

Highway 48 Safety Review, Ministry of Transportation (Ontario)
The Ministry received notices from the public about concerns with safety at three locations along Highway 48 (between Mount Albert Road and Holborn Road). The concerns mainly involved requests for signals at Highway 48 and Queensville Side Road (West), sight distance constraints at the Mount Albert Creek Bridge, and a no passing zone in front of the private drive entrance to 21034 Highway 48. The safety review consisted of gathering and reviewing available data, conducting a site visit, checking and interpreting design standards, traffic warrants and guidelines, and liaising with stakeholders from other agencies. Conducted the collision data analysis and participated in the field visits.

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Review of the Temporary Conditions Traffic Management Manual, Ministry of Transportation (Ontario)
The purpose of this project was to make recommendations on what changes are needed to update the Temporary Conditions Traffic Management Manual (TCTM Manual). The TCTM Manual is responsible for specifying advance notification signing, advance warning signing, and alternative route signing. Project Manager for this assignment and responsible for a survey of similar jurisdictions, for stakeholder consultations, and for a review of human factor considerations. Recommendations included a switching from TC-64 signs to digital signs to provide drivers with temporary conditions information.

Comprehension & Legibility Testing of Pan Am Wayfinding Signage, Ministry of Transportation (Ontario)
The Ministry of Transportation of Ontario (MTO) wanted to optimize the temporary wayfinding signage that was to be installed during the Pan Am games in 2015. Since almost all aspects of the temporary signs were non-standard, MTO required a human factors assessment and field demonstration as part of the sign development process. The aim was to improve the signs' comprehension and legibility. Developed a testing plan, conducted field observations, evaluated results using human factors considerations, and conducted user testing to assess the comprehension, conspicuity, and legibility of the various Pan Am sign designs.

Comprehension Testing of a Queue Warning System for Highway 401, Ministry of Transportation (Ontario)
As part of overall safety improvements for Highway 401/Gardener's Road interchange in Kingston, conducted user testing of queue warning messages in both English and French. Developed sign messages were created by overlaying the messages onto Google Streetview images. Tested sign message comprehension through a survey of 800 drivers. Testing led to improvements in the queue warning messaging that was shown to be understood by a larger portion of the population.

A Driver's Needs Approach to Signing, Ministry of Transportation (Ontario)
Part of the team which developed A Driver's Needs Approach to Signing course. This two-day course emphasizes the human factors involved in signing through an in-depth examination of numerous case studies. The case studies include real-world examples of curves, passing lanes, highway transitions, intersections, interchanges, traffic calming and pedestrians. Responsible for writing the initial drafts of the course and for editing and digitizing the 100 gigabytes of video recorded in the development of the course.

Human Factors Workshop, Federal Highway Administration
As a sub consultant to Westat, revised presentation material for the one-day human factors workshop used by the Federal Highway Administration (FHWA) staff to provide training to Departments of Transportation. The revisions included a) development of human factor case studies, b) sections on driver detection and identification, decision and response, and c) information about human factors in practice.

Union Station Bus Terminal Safe System of Work, IBI and Metrolinx
Part of the Wood team that conducted a safety assessment of risk related to the entrance and exit of the new Union Station Bus Terminal scheduled to become operational fall 2020. Responsible for the human factors review and led the memo reports related to three risk areas: 1) Injury to members of the public and contracted staff at Lake Shore Boulevard entrance / exit; 2) Members of the public, contractor, or employee injured by vehicular movement; and 3) Understanding the required level of support to safely assist bus operations and ensure marshalling staff have a reasonable mental and physical workload. Reviewed design drawings, conducted a site visit, and participated in numerous video calls with the clients to produce recommendations to reduce risk.

Digital Signs Bylaw Safety Review, City of Sault Ste. Marie
Provided technical review and guidance on the proposed digital signs bylaw in the City. Specifically addressed safety concerns. Worked with Council members to provide guidance on message duration, message transition, and minimum setback from intersections.

SafetyAnalyst: Comprehensive Highway Safety Improvement Model
Specified the user-centred design process for the development of the software for the SafetyAnalyst analytical tools. The design process allows for iterative design, early user testing, and a focus on user tasks and requirements.

Mountain View Corridor Road Safety Audit, Utah Department of Transportation
Participated in a multidisciplinary team that undertook the pre-opening field review of the Mountain View Corridor four-lane divided highway near Salt Lake City, Utah. Identified potential safety improvements regarding guidance on curves and the removal of culvert hazards.

Crash Reduction Factors Desktop Reference, Federal Highway Administration
Managed a team of five people responsible for researching and delivering the Crash Reduction Factor Desktop Reference for the Federal Highway Administration (FHWA). This project included delivery of the Intersections, Traffic Signals, Roadway Departure, and Pedestrian Issue Briefs. The crash reduction factor tools were presented at a national web conference attended by state and federal safety practitioners.

Safety Related Performance Measures for Road Preservation Programs, BC Ministry of Transportation & Infrastructure
Safety performance measures provide a means to justify roadway upkeep expenditures for maintenance and rehabilitation projects. The BC Ministry of Transportation & Infrastructure project included a literature review and a survey of state and provincial governments designed to determine safety performance measures that are available and/or in use. Developed safety performance measures, specified corresponding data requirements, and suggested a publishing methodology suitable for use by the Ministry. The project also identified impediments and challenges involved in gathering the data and developing the measures.

Strategic Highway Safety Plan, Arizona Department of Transportation
Retained for the development of Arizona's *Strategic Highway Safety Plan*. One of two facilitators present at two different workshops designed to develop the state's strategic safety plan by building consensus among stakeholders from numerous state agencies. Stakeholders at the workshops included representatives from engineering, enforcement, education, and emergency services.

Integrated Road Safety System, City of Ottawa
Reviewed existing ideas from City of Ottawa regarding integrated safety management. Prepared presentation materials and assisted in conducting a one-day workshop involving city police, health, engineering, the mayor's office, and MTO and TAC representatives.

Strategic Road Safety Action Plan, City of Hamilton, Ontario
Developed a strategic safety program to improve road safety in the City of Hamilton. Facilitated meetings among key stakeholders responsible for road safety. The result was the City of Hamilton Strategic Road Safety Action Plan. The plan included testing for the over-representation of certain types of collision (for example, aggressive driving, intersection collisions, and collisions involving vulnerable users). The plan identified the types of collision most in need of consideration (known as "emphasis areas"), identified appropriate countermeasures and treatments, and detailed the expected safety effectiveness. For each area of safety concern, the plan identified countermeasures and treatments, and their corresponding safety effectiveness. Built consensus among the stakeholders and provided technical support to representatives from the different stakeholder agencies. This plan led to City of Hamilton receiving the ITE 2009 Edmund R. Ricker Award for Transportation Safety.

Utah Traffic Records Improvement Plan, Dye Management Group, Inc., Utah
Provided technical expertise in the areas of safety, databases, and strategic planning to the Dye Management Group which was developing a Traffic Records Information Systems Strategic Plan for the Utah Department of Public Safety. The plan presents Utah's goals and priorities regarding improvements for the

state's highway safety data and traffic records systems, and provides a four-year guide for the Utah Traffic Records Advisory Committee (UTRAC) and its member agencies. The plan identifies six main emphasis areas and 18 goals as part of Utah's commitments to improving current systems and addressing existing issues.

Integrated Management Process to Reduce Highway Injuries and Fatalities Statewide
Wrote, researched, and designed processes for NCHRP 17-18 (5) "Integrated Management Process to Reduce Highway Injuries and Fatalities Statewide" that forms part of the Implementation of the AASHTO *Strategic Highway Safety Plan*. Conducted an online survey of highway safety professionals to assess best practices with respect to Safety Management Systems. The data gathered from the survey was used to develop the Integrated Safety Management System. Conducted workshops in Mississippi, Michigan, and Missouri. The workshops gathered feedback from representatives of various State agencies responsible for highway safety and provided a forum for discussing organizational structure, safety processes, and analytical tools for safety analysis. The project provided technical support to 26 States seeking to establish comprehensive highway safety plans.

Teaching

MIE1414 Human Factors in Transportation, University of Toronto
Sessional instructor since 2018 for the graduate level course *Human Factors in Transportation* in the Department of Mechanical and Industrial Engineering at the University of Toronto. This course covers the human factors behind road user capabilities and limitations related to vision, information processing, driver adaptation, lane departure collisions, intersection collisions, bicycle collisions, young and older drivers, fatigue, and driverless vehicles. Course participants get to work on forensic human factors through a mock legal case where they take on the role of a human factors expert witness.

MIE237 Statistics, University of Toronto
Sessional instructor in 2025 for the second year undergraduate level course in the Department of Mechanical and Industrial Engineering at the University of Toronto. This course covered data gathering methods (observational vs. experimental), modeling for inference vs. prediction, data visualizations, two sample estimation and hypothesis testing, choice of sample size, fitting distributions to data, goodness of fit tests, simple linear regression and correlation, multiple linear regression, model building and model assessment, design and analysis of single and multi-factor experiments, analysis of variance, fixed and random effects models, and multiple comparisons.

Science of Crash Modification Factors, Federal Highway Administration
Project manager for the Science of Crash Modification Factors course, a web based three-hour course developed for the National Highway Institute, the training arm of FHWA. Led the development of the course from initiation to completion. The course covers the measurement of safety, understanding how crash reduction factors (CRFs) are derived, and understanding how to determine the quality of a CRF.

New Approaches to Highway Safety Analysis, Federal Highway Administration
Instructor for the New Approaches to Highway Safety Analysis course developed for the National Highway Institute (NHI). The course covers the Highway Safety Improvement Program (HSIP) process, safety engineering principles, safety engineering practices such as network screening, and human factors issues related to traffic and road safety. I am the only NHI instructor who covers both the network screening and human factors sections of the course. The course provides participants with an explanation of the latest methods for identifying the causes of collisions and selecting cost-effective safety improvements.

Road Safety Evaluation of Countermeasures, Institute of Transportation Engineers
Led the development of two 1.5-hour web seminars for the Institute of Transportation Engineers (ITE). Also presented the courses. The courses provide an introduction to the Empirical Bayes methodology for

evaluating countermeasures. Topics covered include regression-to-the-mean and quantifying safety as the expected number of crashes.

Statistics

Traffic Data Collection using Recorded Video, Ministry of Transportation (Ontario)
The objective of this project was to collect and 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). Nineteen cameras were installed at seven locations which covered seventy-four lanes of traffic. Developed the tools and conducted the analysis to evaluate and compare different methods of automated traffic counting. Produced graphics that conveyed immense amounts of data in an easy to understand format that allowed decision makers to understand the differences between the automated traffic counting providers.

Collector Roadway Network Safety Evaluation, City of Toronto
Developed safety performance functions for the City of Toronto. Conducted the safety network screening of all 1,293 collector road segments in the city. Conducted the statistical testing and model development, presented the findings to the City officials, and wrote the final report. The project used five years of crash, traffic volume, and roadway inventory data to prioritize the collector roads in terms of their potential for safety improvement. The prioritization allowed the City to introduce cost effective safety countermeasures and treatments.

Red Deer Safety Program, City of Red Deer, Alberta
The City of Red Deer required an update to their Traffic Safety Action Plan. The new plan includes eight emphasis areas (intersections, aggressive driving, snow related, restraint usage, commercial vehicles, pedestrians & cyclists, impaired driving, and motorcycles). Conducted high proportion testing to identify over-representation of areas of crash concern. For each emphasis area, the plan identified countermeasures and treatments, and provided information regarding their safety effectiveness. The project also included on-site safety reviews conducted at ten different intersection locations throughout the city. As part of the safety reviews, provided training to city representatives, involved the representatives in the site visits, and conducted a final presentation to senior management.

Safety Database, Colorado Department of Transportation, Dye Management Group, Inc.
The Colorado Department of Transportation wished to develop a plan for their Colorado Traffic Records Virtual Data Warehouse (TRVDW). Provided technical expertise in the areas of safety, databases, and strategic planning to Dye Management Group who were the consultants for the Colorado State Traffic Records Advisory Committee (STRAC). The project included the following objectives: defining business needs, identifying and analyzing potential solutions including reviewing best practices from other states, selecting a preferred solution approach, and developing an implementation plan for the preferred approach.

Network Screening of Urban Signalized Intersections, City of Calgary
Project Manager responsible for developing safety performance functions and network screening procedures for signalized intersections for the City of Calgary. The project resulted in a "potential for safety improvement" ranking of signalized intersections based on safety performance functions for 2008. The safety performance functions could be updated as additional data became available. The purpose of the ranking was to enable the city to prioritize safety reviews on a scientific basis.

Development of Safety Performance Functions and Network Screening Process, City of Edmonton
Responsible for developing safety performance functions and network screening procedures for signalized intersections for the City of Edmonton. The project resulted in a "potential for safety improvement ranking" of signalized intersections based on safety performance functions for 2004. The safety performance

functions could be updated as additional data became available. The purpose of the ranking is to enable the city to prioritize safety reviews on a scientific basis.

NCHRP Project 17-28: Pavement Marking Materials and Markers: Safety Impact and Cost-Effectiveness
Project manager and lead researcher for NCHRP Project 17-28. During Phase I of the project, wrote the literature review sections on safety and human factors. Wrote the section on the survey of States' striping practices, and the Phase II work plan included in the interim report. In Phase II, led the development of retroreflectivity models of pavement marking and marker performance. Working with Dr. Ezra Hauer, applied an innovative approach that consisted of studying longitudinal pavement markings and markers in terms of the relationship between retroreflectivity and safety over time. The final report was submitted seven months ahead of schedule and has been published as NCHRP Web Document 92.

Development of Safety Performance Functions and Network Screening Tools, City of Kingston
Project manager responsible for developing safety performance functions for signalized intersections in the City of Kingston. Designed software tools that would enable the City to conduct network screening on the City's entire road network (intersections and roadway segments), and wrote the final report.

Intersection Operational Performance Assessment Study, Ministry of Transportation (Ontario)
Project manager for a research group retained to develop the statistical methodology for five different network screening methods for the Ministry. Conducted a network screening of 500 signalized and unsignalized intersections. Provided design guidance, testing and feedback on the final network screening software tool delivered to the Ministry. Developed presentation materials and documentation for a one-day course and two half-day courses on network screening.

Employment

President – Headlight Consulting Inc., Toronto, Ontario *May 2017 to present*

Sessional Lecturer – University of Toronto, Toronto Ontario *January 2018 to present*

Project Manager – CIMA Canada Inc. Mississauga, Ontario *Jan 2013 – Apr 2017*

- Provided expert witness written reports for fifteen collision legal cases including reviews of the Ontario Minimum Maintenance Standards, impaired driving, speeding, nighttime visibility, and driver expectation.
- Conducted Road Safety Audits and In-Service Road Safety Reviews for numerous public municipalities in Ontario
- Conducted safety network screening for Toronto, Kingston, Halton Region, and the Saskatchewan Ministry of Highways and Infrastructure.
- Managed the development of a safety training video for the Federal Highway Administration

Senior Researcher | Professional Associate – HDR | iTRANS *Aug 2001 – Jan 2013*
Richmond Hill, Ontario

- Developed and implemented safety management systems for numerous jurisdictions in Canada and the USA
- Conducted safety network screening for numerous jurisdictions across Ontario.
- Conducted safety research for FHWA, NCHRP, TCRP, and other public agencies

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Lecturer - York University, Toronto, Ontario *Fall 2001, Spring 2002, Summer 2002*

- Instructor for the computer science course COSC 2461 User Interfaces.
- Course content covered both implementation and design of graphical user interfaces (GUIs).

Staff Software Developer - IBM, Toronto, Ontario *Sep 2000 – Jun 2001*

- Designed layouts for IBM Java and XML software editors.
- Conducted user testing and evaluation of IBM java-based development tools.
- Supported IBM internal User-Centered Design tools through user testing and prototyping.
- Developed, tested, and analyzed surveys to gather user feedback on IBM software.

Engineer - Secom Trust Systems Co., Ltd., Tokyo, Japan *Sep 1995 – Aug 1996*

- Wrote and modified Japanese software to be Windows compliant.
- Programmer for the Nurse Scheduling program.

Laboratory Graduate Fellowship - U.S. Dept. of Energy, Hanford, Washington *Jun 1994 – Aug 1994*

- Designed and programmed a 3D graphical simulator for the Light Duty Utility Arm robotic system.
- Conducted usability testing on the operator's interface for the Light Duty Utility Arm, preventing late contract revisions which would have had heavy cost and schedule impacts.

Economist - RCF Economic & Financial Consulting, Chicago, Illinois *Jun 1992 – Sep 1993*

- Assisted in formulating an optimal pricing strategy for the U.S. Postal Service.
- Developed five year volume forecasting software for the U.S. Postal Service.
- Wrote and edited testimony used in U.S. Postal Service rate cases.

Publications

Masliah, M. "Five Reasons to Retain a Traffic Safety Human Factors Expert". Expert Institute. December 10, 2020.

Masliah, M., Ibrahim, A., Bacquie, R. "Pedestrian and Bicyclist Crash Experience at Interchange Ramp Junctions in Ontario". Transportation Research Board 90th Annual Meeting Paper # 11-0319, 2011.

Cleghorn, D., Clavelle, A., Boone, J., Masliah, M., Levinson, H. S. "Improving Pedestrian and Motorist Safety Along Light Rail Alignments", Transit Cooperative Research Program Report 137, 2009

Bahar, G., Masliah, M., Wolff, R., Park, P. "Desktop Reference for Crash Reduction Factors", Federal Highway Administration, Report Number FHWA-SA-07-015, September 2007.

Masliah, M., Bahar, G., Hauer, E. "Application of Innovative Time Series Methodology to Relationship Between Retroreflectivity of Pavement Markings and Crashes", Transportation Research Board Annual Meeting 2007 Paper #07-0655, 2007.

Masliah, M., Bahar, G., Erwin, T., Tan, E., Hauer, E., "Pavement Marking Materials and Markers: Real-World Relationship Between Retroreflectivity and Safety Over Time", Transportation Research Board, NCHRP Web-Only Document 92, 2006.

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Testimony History

Case	Jurisdiction	Type
2025		
ELMER BAILEY, Plaintiff, v. BROWARD COUNTY, SOUTHWEST AIRLINES COMPANY, HUNT CONSTRUCTION GROUP, INC. MOSS & ASSOCIATES, HUNT MOSS, CORGAN ASSOCIATES, INC., HDR ENGINEERING, INC., CENTRAL FLORIDA EQUIPMENT RENTALS, INC., Defendants. CASE NO.: CACE-22-001407	Broward County, Florida	Deposition
LOUIS DONDE and CONSTANCE OPITZ, Plaintiffs, vs. THE RADIUS PROJECT MASTER ASSOCIATION, INC., FIRST INTERNATIONAL REALTY MANAGEMENT CORP, H&R BLOCK EASTERN ENTERPRISES, INC., Defendants. CASE NO.: CACE-22-014283	Broward County, Florida	Deposition