CURRICULUM VITAE

Abdulrahman Madani, BSCE, M.Eng., P.Eng.

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EXPERT SUMMARY

Mr. Abdulrahman Madani is a Senior Associate with the Transportation team at 30 Forensic Engineering. He holds a Bachelor of Science in Civil Engineering from the University of Sharjah and a Master of Engineering from McMaster University, specializing in geometric design, risk and reliability assessment, and highway safety. His work at 30FE includes planning and safety-focused assignments involving geometric design reviews, sightline assessments, traffic conflict evaluations, safety reviews and assessments, and municipal design assessments for pedestrian, cycling, and school zone environments across Canada.

Mr. Madani has also contributed extensively to winter and seasonal maintenance for roadways, trails, and pedestrian facilities. Prior to joining 30FE, he worked in the Transportation sector for the Government of Dubai, developing expertise in traffic safety, work zone management, traffic protection plans, road user protection measures, policy updates, and Vision Zero initiatives. Mr. Madani is a licensed Professional Engineer in the province of Ontario.

SPECIALIZED PROFESSIONAL COMPETENCIES

- Assessment of traffic and roadway safety using standards of care, applicable manuals, and best practice guidelines
- In-service safety studies, reviews and audits for intersections, corridors, and other roadway facilities
- Seasonal maintenance operations and standards of care assessment for roadways, active transportation facilities, private roadways, and parking lots
- Geometric design and safety assessment of highways, active transportation facilities, trails, and bikeways
- Safety and design assessments and reviews for active transportation facilities, including accessibility standards and regulations for outdoor/exterior routes.
- Parking lot maintenance, management, design, and configuration assessments and evaluations
- Assessment and evaluation of temporary road conditions and relevant work zone standards, regulations, and best practices
- Safety and design assessments of pedestrian crossing, pedestrian integrated facilities, and school zone crossings
- Safety and design assessments for emerging mobility modes, including regulatory compliance, operating facilities, risk evaluation, and collision analysis for e-bikes and e-scooters

- Engineering assessment of the Long Combination Vehicle (LCV) program and route permit applications
- Roadway illumination and streetlight design, including post-installation assessments
- Intersection design features, control strategies, sightlines assessment, and safety analysis
- Network screening and collision analysis to determine collision prone locations, ranks, and severity types for road safety audits
- Risk and reliability assessment for the highway geometric design using statistical analysis
- Economic evaluation of the traffic safety countermeasures using Benefit-Cost analysis and Net Present Value method
- Travel demand analysis and modeling using socio-economic data
- Strategic safety and planning policies that influence overall traffic safety outcome
- Safety assessment in winter on roads, parking lots, driveways, sidewalks, and trails
- Safety assessments related to road design, urban street and intersection design, design and maintenance for active transportation facilities, operational and maintenance safety for private road and parking lots

ACADEMIC BACKGROUND

Master of Engineering in Civil Engineering, Transportation, McMaster University, Hamilton, Ontario, 2022

Bachelor of Science in Civil and Environmental Engineering, University of Sharjah, Sharjah, UAE, 2017

ADDITIONAL COURSES

Road Safety Audit, Ontario Good Roads Association (OGRA), September 2025

Ontario Traffic Manual Book 7: Temporary Conditions Training Certificate, May 14, 2025

Snow School, Ontario Good Roads Association (OGRA), September 2024

Advanced Snow Management Program, Snow & Ice Management Association, July 2023

Data collection, design, and operation of ITS, ITE McMaster Chapter, Hamilton, Ontario, April 2022

Framing traffic safety, McMaster University, Hamilton, Ontario, March 2022

PROFESSIONAL EXPERIENCE

30 Forensic Engineering

Senior Associate, Transportation
2026 – Present, Toronto, ON

- Investigator for transportation operations and maintenance files for public, legal, and insurance sector clients
- Assessment of winter maintenance operations for private and public properties, including roadways, parking lots, driveways, plazas, and private walkways

- Conduct comparative analyses of minimum maintenance standards, the Highway Traffic Act, OTM manuals, and other guidelines related to winter maintenance incidents and collisions
- Assessment of collisions under temporary work conditions on highways, roads, sidewalks, and cyclist facilities to ensure safety
- Statistical analysis of historical collision data to identify patterns and assess underlying factors that contribute to collisions on highways, intersections, and pedestrian crossings
- Examination of street illumination and assessment of visibility on highways, intersections, and midblock crossings
- Conduct grade crossing design and safety investigations, including assessment of protection systems
- Perform rail corridor protection and trespassing mitigation investigations, along with design evaluations
- Review roadside design, evaluate roadway safety conditions, and assess the performance and placement of roadside protection devices
- Intersections safety assessment in rural and urban areas
- Assessment of the appropriateness of stop signs, speed limits, warning signs, and pavement markings on highways and intersection approaches
- Safety assessment of pedestrian and cyclists integrated facilities
- Assessments of visibility and sightlines of road curvature, and vertical alignments on roads and highways
- Assessments of road geometry and safety for private roads and access driveways
- Transportation safety and traffic engineering peer review services
- Intersection microsimulation, spatial analysis of collision trend and influencing factors in ArcGIS, preliminary analysis of street design, and collected data using 3D scanner

Associate, Transportation
2022 – 2026, Toronto, ON

Road and Transportation Authority (RTA)

Assistant Engineer
2018 – 2021, Dubai, UAE

- Issued temporary construction permits related to projects within the right-of-way, like work zone traffic management, temporary construction fencing and access points on a daily basis
- Inspected sites and proposals for the design and adjustment of access points and external pavements for upcoming and existing projects to raise the level of traffic safety according to the standards
- Monitored road diversions weekly, to control vehicular and pedestrian traffic to ensure safe and effective work zones
- Led a Unified Inspection Team responsible for issuing Building Completion Certificates as per the authority standards
- Coordinated with consultants/contractors and the relevant authorities at the RTA and facilitated obtaining the required NOCs

Sharjah Science Museum

Instructor
2015 – 2018, Sharjah, UAE

- Conducted scientific experiments for visitors with static electricity, liquid nitrogen, and organized planetarium shows
- Collaborated with different museums to conduct World Space Day and Science Summer Camps for kids and teens
- Managed a team of hosts for exhibition hall and assisted visitors by offering exploratory tours around the museum
- Investigated the most recent scientific experiments and reported the results in presentations to the Education Department

PROFESSIONAL SOCIETIES AND ASSOCIATIONS

- Professional Engineers Ontario (PEO), Member
- Institute of Transportation Engineers, Member
- Ontario Good Roads Association (OGRA), Member

AWARDS AND ACHIEVEMENTS

- The leading Right-of-Way Inspector for the year 2018, Roads and Transportation Authority, Dubai, UAE, February 2019

RESEARCH AND SPEAKING ENGAGEMENTS

- "Current Trends in Road Authority Liability," 30 Forensic Engineering, Continuing Legal Education Session, April 2026
- “Transportation Safety and Litigation Risk for Private Properties,” 30 Forensic Engineering, Continuing Legal Education Session, March 2026
- Transportation Equity: Developing Solutions for Social Inclusion, Institute of Transportation Engineers (ITE), Canada, 2025
- Madani A., “Calibration of Geometric Design Guidelines to Account for Drivers' Mental Workload, Department of Civil Engineering,” McMaster University, Hamilton, ON, July 2022
- “Transport Inequality and Transportation Poverty Seminar,” Transport Policy course. McMaster University, Hamilton, ON, April 2022
- “Re-Envision of HSR Route 16: Low-Cost Planning Solutions for Improved Ridership,” Transit Modeling and ITS course, McMaster University. McMaster University, Hamilton, ON, April 2022
- “Speeding and Vision Zero,” 30 Forensic Engineering Session, Society of Public Insurance Administrators of Ontario, Kitchener, Region of Waterloo, December 2022