



### Professional memberships

Professional Engineers  
Ontario

Previous member &  
current participant  
in Transportation  
Research Board  
Committees on  
Highway Safety  
Performance and  
Safety Data, Analysis  
and Evaluation

The **Traffic Injury Research Foundation (TIRF)** mission is to be the knowledge source for safe road users and a world leader in research, program and policy development, evaluation, and knowledge transfer. TIRF is a registered charity and depends on grants, awards, and donations to provide services for the public.

Visit [www.tirf.ca](http://www.tirf.ca)

Craig Lyon is the Director of Road Safety Engineering at the Traffic Injury Research Foundation. He has a Masters of Applied Science degree from the University of Toronto and a Bachelors of Engineering degree from Toronto Metropolitan University (previously Ryerson). Craig has over 25 years of experience in transportation engineering with a focus on the quantitative analysis of road safety, including the development and evaluation of road safety improvement programs; investigating the safety effects of planning and design decisions; before-after crash investigation studies; and the investigation of vehicle-pedestrian crashes. Past clients include the National Cooperative Highway Research Program, Federal Highway Administration, Transport Canada, the Transportation Association of Canada, the Insurance Institute for Highway Safety, and several States, Provinces and Cities.

### Career and research highlights:

Craig's research interests are in the application of advanced statistical analysis methods to analyze data related to the effects of roadway infrastructure, drivers and administrative policies on safety, including both crash data and surrogate measures of safety. Craig is recognized as an expert in the statistical analysis of safety data and has been a member of the Transportation Research Board Committees on Safety Data, Analysis and Evaluation and Highway Safety Performance.

Craig has authored many reports and articles in the area of road safety and has made significant contributions to the state-of-the-art knowledge found in the AASHTO Highway Safety Manual, including the development of statistical models for predicting crashes; road safety management analysis methods; and the development of crash modification factors (CMFs). Recent projects of note include:

- > Proposed Macro-Level Safety Planning Analysis Chapter for the Highway Safety Manual (NCHRP)
- > Pedestrian Countermeasure Crash Modification Factor Study (FHWA)
- > Decision Making Guide for Traffic Signal Phasing (NCHRP)
- > Understanding and Communicating Reliability of Crash Prediction Models (NCHRP)
- > Guidance for the Development and Application of Crash Modification Factors (NCHRP)
- > Improved Prediction Models for Crash Types and Crash Severities (NCHRP)

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- > Review of Ministry of Transportation Driver Sanction and Remediation Programs (MTO)
- > Safety Evaluation of Access Management Policies and Techniques (NCHRP)
- > Automated Enforcement for Speeding and Red Light Running (NCHRP)
- > Road Safety Audit Case Study Evaluations (FHWA)
- > Evaluation of the Effectiveness of Intersection Safety Cameras and Impacts for Traditional Speed Enforcement (City of Edmonton)
- > A National Guideline for Collision Prone Location Screening (Transportation Association of Canada)
- > Report on Photo-Radar Speed Management Program - Opportunities for Enhancements to Maximize Road Safety Benefits (City of Edmonton)

### Award highlights:

- > Two-time winner of the D. Grant Mickle Award for the best paper award in the areas of operation, safety and maintenance of transportation facilities from the Transportation Research Board.
- > 2012 best paper award of the Transportation Research Board's Committee on Safety Data, Analysis and Evaluation.

### Selected bibliography:

Goughnour, E., Carter, D., Lyon, C., Persaud, B., Lan, B., Chun, P., Hamilton, I., Signor, K. & Bryson, M. (2021). Evaluation of Protected Left-Turn Phasing and Leading Pedestrian Intervals Effects on Pedestrian Safety. Transportation Research Record Volume 2675.

Anarkooli, A., Persaud, B. & Lyon, C. (2021). Improving functional form in cross-sectional regression studies to capture the non-linear safety effects of roadway attributes - Freeway median width case study. Accident Analysis & Prevention Volume 156.

Lyon, C., Persaud, B., Merritt, D. & Cheung, J. (2020). Empirical Bayes Before-After Study to Develop Crash Modification Factors and Functions for High Friction Surface Treatments on Curves and Ramps. Transportation Research Record Volume 2674.

Persaud, B., Anarkooki, A., Almasi, S. & Lyon, C. (2020). Crash Modification Functions for Passing Relief Lanes on Two-Lane Rural Roads. Transportation Research Record Volume 2674.

Lyon, C., Brown, S., Vanlaar, W. & Robertson, R. (2020). Prevalence and Trends of Distracted Driving in Canada. Journal of Safety Research Volume 76.

## TIRF Educational Resources

Action2Zero  
[action2zero.tirf.ca](http://action2zero.tirf.ca)

Alcohol Ignition Interlock  
Curriculum for Practitioners  
[aic.tirf.ca](http://aic.tirf.ca)

Brain on Board  
[brainonboard.ca](http://brainonboard.ca)

Community-Based Toolkit  
for Road Safety Campaigns  
[tirf.ca/projects/  
community-based-  
toolkit-road-safety-  
campaigns](http://tirf.ca/projects/community-based-toolkit-road-safety-campaigns)

Drop It And Drive®  
[diad.tirf.ca](http://diad.tirf.ca)

Drug-Impaired Driving  
Learning Centre (DIDLC)  
[druggeddriving.tirf.ca](http://druggeddriving.tirf.ca)

GDL Framework  
Safety Center  
[gdlframework.tirf.ca](http://gdlframework.tirf.ca)

Sober Smart Driving  
[sobersmartdriving.tirf.ca](http://sobersmartdriving.tirf.ca)

Wildlife Roadsharing  
Resource Centre (WRRRC)  
[wildliferoadsharing.tirf.ca](http://wildliferoadsharing.tirf.ca)

Young and New Driver  
Resource Centre  
[yndrc.tirf.ca](http://yndrc.tirf.ca)