Programme

09.00-10.30

- Introduction
  Purpose, scope and the necessity for road safety evaluations
  Rune Elvik
- State-of-the-art estimation of site-specific safety effects
  Mike Maher
- Discussion
  Reflections upon the usage of the Empirical Bayes approach in road safety evaluations
  Jens Chr. Overgaard Madsen

10.45-12.15

- State-of-affairs
  Recent Danish road safety evaluation studies, practical limitations and challenges
  Stig Hemdorff and Adriaan Schelling
- Controlling for Regression-to-the-mean in road safety evaluations – the utilization of before-before accident counts
  Søren Underlien Jensen

13.15-14.45

- What to do, when state-of-the-art methodology is not applicable?
  Rune Elvik and Mike Maher
- Discussion

15.00-16.30

- Estimating safety effects by controlled experiments
  Jens Christian Overgaard Madsen
- Meta-analysis – How to estimate the likely effects of traffic safety measures
  Rune Elvik
- Discussion
- Summing Up
  Recommendations for future road safety evaluations

Practical information

Venue: Aalborg University
Fibigerstræde 15, Auditorium A
9220 Aalborg E, Denmark

Fee: 3.000 DKK/400 EUR
Includes lunch, tea, coffee and papers/presentations

Registration: Scandinavian participants:
www.trafikdage.dk
Deadline: August 10, 2010

Non-Scandinavian participants may register by email to:
hbm@aalborg.dk

Further information:

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Annual Transport Conference at Aalborg University

Traffic Research Group, Aalborg University

Special session: Road safety evaluation studies

August 24, 2010

Special session:
Road safety evaluation studies

The Traffic Research Group at Aalborg University is proud to invite you to a special session on road safety evaluation studies. The session is held August 24th at Aalborg University as part of the Annual Transport Conference at Aalborg University. The conference has been held annually since 1994 and covers a wide range of topics within the field of transportation and traffic. Over the years more than 5.000 researchers, engineers, planners and consultants within transportation and traffic have participated in the conference. The conference is amongst the largest in Scandinavia offering peer-review of the conference proceedings.

Purpose

The purpose of the special session within road safety evaluation studies is to explore and discuss the gap between state-of-the-art methodology and the practical limitations associated with road safety evaluations. The latter often severely hampering the possibilities of applying state-of-the-art methodology. Therefore one of the main purposes of the seminar is to discuss how the safety effects may best be estimated – especially when state-of-the-art methodology is not applicable. In terms of the latter, the aim is to identify and discuss alternative approaches for estimating safety effects that offer both sufficiently precise estimates of the safety effects and that are readily applicable in practice.

Background

Being able to estimate the likely safety effects of a given treatment is highly important to the future prioritizing of the road safety work. Knowing how given treatments affects accident occurrence and accident severity is fundamental in terms of optimizing the efforts.

Estimating the road safety effects is, unfortunately, a complicated task. In most cases road safety evaluations are based upon a comparison of before and after accident counts. However, directly comparing the accident counts before and after treatment is highly problematic, as the changes in accident occurrence and severity is likely to be influenced by other factors than the treatment under evaluation; e.g. random variation/regression-to-the-mean, general accident trends, changes in traffic volume, road user behaviour etc. Thus comparing before-after accident counts bears resemblance to the solving of one equation with several unknowns.

During the years several methods have been developed for isolating the safety effects of the treatment under evaluation. The quality of these methods varies a great deal. Today, applying the empirical Bayes method is widely regarded as the state-of-the-art approach to estimating the safety effects of applied treatments. However, one is often faced with difficulties in implementing the EB approach because of rapidly declining quality of data on accidents and factors influencing accident levels and accident severity. Consequently, the lack of good quality data and accident models, is likely to force the evaluators into the arms of alternative methods – some more erroneous than others.

Although the EB approach is widely regarded as the state-of-the-art approach, the practical obstacles impairing the applicability of the EB approach still makes the discussion, development and application of alternative approaches highly relevant.

Contents

Current available methods for estimating the safety effects of given treatments will be presented by selected key note speakers. The presentation will act as an introduction to a comprehensive discussion on how to best conduct future road safety evaluations given the access to and quality of data regarding accident occurrence, accident severity, traffic characteristics, road layout etc. In that context the following key questions will be addressed and up for discussion:

- What are the strengths and weaknesses associated with the currently available methods for estimating road safety effects?
- Are some methods more suited for certain types of road safety evaluations than others? If so, which methods should be applied in a given situation?
- What do we do, if state-of-the-art methodology is not applicable? Should we refrain from conducting a road safety evaluation study? Are there alternative methods that may offer an acceptable estimate of the likely safety effects?
- How do we best assess and describe the uncertainties and inaccuracies associated with the estimated safety effects?
- How shall we account for regression-to-the-mean? Shall we always account for regression-to-the-mean?
- How should meta-analysis of road safety effects be performed?
- How do we best determine, if the safety effects of a given treatment varies with e.g. the detailed road layout?
- How can the uncertainties related to the estimated effects of given treatment best be taken into account in the future prioritizing of the road safety work?

Speakers

Rune Elvik, Aalborg University/TOI (Key note/chair)
Mike Maher, University of Leeds (Key note)
Søren Underlien Jensen, Trafitec
Stig Hemdorff, Danish Road Directorate
Adriaan Schelling, Danish Road Directorate
Jens Chr. Overgaard Madsen, Aalborg University