

**Abstract for:**

**Annual Scientific Seminar of the NTSA: Theories and research methods in road traffic safety science**

**Methodological problems in developing accident modification functions**

This paper discusses methodological problems in developing accident modification functions. An accident modification function is a function that models systematic variation in the effects of a road safety measure. A number of such functions have been developed and are briefly reviewed in the paper. These include functions that model the effects of converting junctions to roundabouts, building bypass roads, and performing speed enforcement, as well as functions modeling the relationship between the speed of traffic and the number of accidents and the relationship between the radius of horizontal curves and their accident rate. Developing such functions raise a number of methodological issues. The following issues are discussed in the paper: (1) The choice of independent variables; (2) The level of data aggregation; (3) In what sense the functions are empirically testable, (4) how best to represent the uncertainty of the functions, and (5) The possibility of giving a causal interpretation of the functions. These issues are illustrated using the functions developed as cases.