

TITLE: Accidents, Mileage, and the Exaggeration of Risk

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PROJECT OBJECTIVE:

To correct a common misinterpretation of the accidents-per-mile measure. The assumption that accidents should be proportional to miles driven is shown to be invalid and to exaggerate the accident risk of low-mileage groups.

SUMMARY:

This paper argues that the usual interpretation of accidents per mile as a measure of risk exaggerates the apparent risk of low-mileage groups--for example, teenagers and the elderly. The assumption of a linear proportional relationship between mileage and accidents is shown not to fit obtained data. Neither, the paper states, would it be expected to fit hypothetical data derived from a "standard driver" or a group of equally competent drivers driving different numbers of miles. People driving low mileages tend to accumulate much of their mileage on congested city streets with two-way traffic and no restriction of access, while high-mileage drivers typically accumulate most of those miles on freeways or other divided multilane highways with limited access. Because the driving task is simpler, the accident rate per mile is much lower on freeways and, beyond a certain point, a person driving half as many miles as another would be expected to have considerably more than half as many accidents. This and other considerations led to the author's suggestion that an induced exposure approach would be a more valid method of correcting accident rates for mileage.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

Not applicable.

SUPPLEMENTARY INFORMATION:

This paper was not published as a DMV report. The journal reference is Janke, M. K., Accidents, mileage, and the exaggeration of risk. *Accident Analysis & Prevention*, 23(2,3), 183-188, 1991.