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TITLE: Accident and Conviction Rates of Visually Impaired Heavy Vehicle Operators

DATE: January 1987

AUTHOR(S): Patrice N. Rogers, Michael Ratz, and Mary K. Janke

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PROTECT OBJECTIVE:

To compare the traffic records of visually impaired commercial drivers to those of visually nonimpaired commercial drivers.

SUMMARY:

This study was designed to determine whether waiving the federal static acuity standard adversely impacted traffic safety. Drivers for whom the standard was waived could drive commercially only within California. Two-year accident and conviction rates of visually impaired commercial heavy-vehicle operators (class 1 or 2 licensees) were compared to those of a sample of visually nonimpaired commercial heavy-vehicle operators. Nonimpaired drivers met current federal acuity standards (corrected acuity of 20/40 or better in both eyes), while impaired drivers had substandard static acuity and were classified as either moderately (corrected acuity between 20/40 and 20/200 in the worse eye) or severely (corrected acuity worse than 20/200 in the worse eye) impaired. California and total mileage estimates for Class 1 and Class 2 drivers obtained in a mailed questionnaire did not differ significantly between impairment groups. However, other potentially biasing factors remained and are discussed. Analysis of covariance, with age as a covariate, revealed that on subsequent two-year driver records the visually impaired drivers had significantly, and substantially, more total accidents and convictions than did the nonimpaired drivers. Severely impaired drivers had directionally worse driver records than did the moderately impaired drivers on three of the four traffic safety measures assessed, but these differences were not statistically significant. Study findings led to qualified support for the stricter federal standard, particularly in the case of the severely impaired heavy-vehicle operator.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

The federal "Commercial Motor Vehicle Safety Act of 1986" was implemented in California in 1989. This act was intended, in part, to insure the fitness of commercial drivers and to establish minimum testing standards. But because the act was interpreted as allowing states to set separate medical standards, DMV policy with regard to issuance of waivers for visually impaired commercial drivers remained unaltered following the act's implementation. The restriction to intrastate commercial driving is now (as of late 1991) printed directly on the driver's license.

SUPPLEMENTARY INFORMATION:

This report was cited by the FHW A in a report entitled Visual Disorders and Commercial Drivers in which consideration was given to modifying the federal vision standard. Also see Rogers and Janke (1992). Performance of visually impaired heavy-vehicle operators. *Journal of Safety Research*, 23(3) 159-170.