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SAFETY & OPERATIONS DEPARTMENT
FACSIMILE TRANSMISSION COVER SHEET

Please deliver the following pages to:

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ADDITIONAL COMMENTS:

Alex

This is just some of the LCV safety data I mentioned to you. I will call you to discuss.

Dave O.

Total Number of pages (including cover sheet): 6

- In Nevada in 2000, just .02 percent of vehicles involved in an accident were triples.[1] Of the more than 36,000 accidents in Montana in 2001, including 1,326 accidents involving trucks, just one accident involved a triple. The year before, there were two triples accidents in Montana, in 1999 there was one, and in 1998 there were none. [2] In Colorado, of the 4,226 accidents involving trucks in 2000, just nine involved triples; none of the triples accidents involved a fatality.[3]

- The average DOT recordable accident rate for all carriers nationwide in 2001 was 0.763 recordable accidents per million miles traveled. Conway reports their triples recordable accident rate from 1999-2002 as 0.432; UPS' triples recordable rate for 2002 was 0.153.

- The overall fatal accident rate for trucks is 2.1 per 100 million miles (2001). Since 1990, Roadway Express has logged 155 million triples miles and experienced one fatal accident involving a triple, for a fatal accident rate of 0.65 per 100 million miles.

- A Canadian study found that LCVs have an accident rate that is five times lower than the rate for tractor-semitrailers.[4]

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[1] Nevada Department of Transportation.
[2] Montana Department of Transportation.
[3] Colorado State Patrol.
[4] Woodrooffe and Assoc. *Longer Combination Vehicle Safety Performance in Alberta 1995 to 1998*, March 2001.

U.S. Department
of Transportation

**Federal Highway
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October 1996

Accident Rates For Longer Combination Vehicles

Publication No: FHWA-MC-97-003

Technical Report Documentation Page

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16. Abstract

The objectives of this study were two-fold: (1) to determine the relative accident rates, in accidents per million vehicle miles of travel, of longer combination vehicles (LCV's) and Non-LCV's; and (2) to determine, to the extent possible, the relative accident rates for LCV and Non-LCV subgroups, including Tractors-Semitrailers, STAA Doubles, Rocky Mountain Doubles, Turnpike Doubles, and Triples.

The study methodology consisted of site visits to commercial motor carriers which operate LCV's. Mileage and accident data, covering periods of up to five years, were collected from participating carriers and used to calculate and compare accident rates for LCV and Non-LCV configurations. When practical, comparisons in accident rates among LCV subgroups were also calculated. The differential impacts, if any, which key external factors — area, route, terrain, time-of-day, and driver experience — had on LCV and Non-LCV accident outcomes were also assessed. The severity of LCV versus Non-LCV accidents was examined as well.

This final report documents the results of these investigations.

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5.0 SUMMARY AND CONCLUSIONS

In this study, the accident rates for LCV's and Non-LCV's were found to be different, and the differences were statistically significant. Among the 75 carriers studied, the LCV accident rate (0.88) was one-half the Non-LCV rate (1.79). There were also differences in the rates of accidents among LCV subgroups: STAA Doubles Over 80K had the highest rates (2.21) of any vehicle configurations examined; Rocky Mountain Doubles had the lowest rates (0.79), followed by Triples (0.83) and Turnpike Doubles (1.02). Differences in rates among the LCV subgroups, however, were not found to be statistically significant.

LCV's and Non-LCV's had equal probabilities of being involved in fatal crashes. However, LCV's were 50 percent less likely than Non-LCV's to be involved in accidents when fatal and injury crashes were examined in tandem. When LCV accidents occurred, the outcomes were decidedly more severe; the average number of fatalities per LCV accident was 90 percent higher than for each Non-LCV crash. Also, LCV accidents resulted in much higher tow-away rates than Non-LCV accidents.

LCV's were half as likely as Non-LCV's to be involved in collisions and non-collisions. Rocky Mountain Doubles were less likely than Turnpike Doubles and STAA Doubles Over 80K to be involved in collisions and, this time, the differences in rates were statistically significant. Among non-collision incidents, LCV's were more susceptible than Non-LCV's to vehicle overturns and separation-of-unit accidents.

What explains the differences in LCV and Non-LCV accident rates? Although several key external factors were examined in this study, no combination of factors came close to deciphering the results. One reason that explanatory factors were not detectable may relate to the size of subgroups within the study sample. For instance, although 40 percent of the sampled carriers operated fleets of 1-20 vehicles, these carriers accrued only two percent of the total VMT. Consequently, representation of smaller carriers in the sample may not have been large enough for differences in accident rates by fleet size to be discerned, even if those differences, in fact, existed.

A second reason that explanatory factors were not detectable may relate to the relative homogeneity of the population of carriers currently operating LCV's. These carriers operate predominantly in rural areas on arterial roads, possess far better safety fitness records than the carrier population at-large, and tend to assign exceptionally-experienced drivers to all their vehicles, whether LCV's or Non-LCV's. Hence, the high degree of congruity among the LCV carrier population may have confounded some of the analyses.

On this last point, the issue of driver experience merits discussion. A relationship in the data, in fact, existed between driver experience and accident rates — drivers with more experience tended to have fewer accidents. However, because the LCV and Non-LCV drivers had virtually identical professional experience, and yet the accident rates for the two groups were so very different, the "message" the data send — namely, that driver experience alone does not explain the total difference in accident rates — cannot be easily ignored.

Nevertheless, when the carriers participating in this study were asked, at the end of the site visits, to speculate about the primary factors influencing LCV safety, they overwhelmingly stated that the *driver* was key; that only the most-skilled, most-experienced drivers were assigned to LCV's. To reconcile these carrier statements with the study's quantitative findings, one is tempted to postulate that *driver experience* is an insufficient measure of a conglomeration of more complicated factors called, say, *driver maturity and driver skill*. This premise possibly warrants examination in future research.

There are several items which should be noted regarding the carrier population examined in this study. First, based on the validation analyses performed, it is reasonable to conclude that the carrier sample used here is reflective of the LCV carrier population identified by the 19 States. Secondly, no representation may be made, on the basis of study findings, regarding the extent to which the list of carriers furnished by the States actually comports with the universe of carriers operating LCV's.

Finally, these study findings make no predictions about the commercial vehicle accident rates which would result from changes in restrictions on LCV operations, or expansion of the carrier population utilizing LCV's. Rather, the findings represent a *snapshot* of accident rates as experienced during a six-year period by a relatively elite group of carriers functioning in predominantly rural settings. The carriers studied have, on average, safety fitness records vastly superior to the nation's carrier population at-large.