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The Honorable T.F. Scott Darling, III
Administrator
Federal Motor Carrier Safety Administration
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Request for Comments; Commercial Driver's Licenses; Proposed Pilot Program to Allow Persons Between the Ages of 18 and 21 with Military Driving Experience to Operate Commercial Motor Vehicles in Interstate Commerce; Docket No. FMCSA-2016-0069

Dear Mr. Darling:

The Insurance Institute for Highway Safety (IIHS) welcomes the opportunity to comment on the pilot program to allow certain individuals ages 18-20 with military driving experience to operate commercial motor vehicles in interstate commerce, which was required by the Fixing America's Surface Transportation Act. Because the data show that drivers in this age group typically have much higher crash risk than older drivers, IIHS urges the Federal Motor Carrier Safety Administration (FMCSA) to conduct the strongest possible study of the safety effects of this pilot program. The agency also should be wary of generalizing the results for this special group of younger drivers to other younger drivers.

Lower driving age means higher crash rates

The research is very clear; younger drivers have higher crash risk. This elevated risk exists for fatal crashes, injury crashes, and property-damage-only crashes. And the higher risk is due to more than just lack of experience. A number of studies have shown that younger drivers have higher crash risk than older drivers with equivalent experience (McCartt et al., 2009).

Crashes of young truck drivers resemble crashes involving other young drivers — in particular, with more single-vehicle crashes than seen among older drivers (Blower, 1996; Ulmer et al., 1997). A study of U.S. truck drivers found those younger than 19 had a rate of fatal crashes per mile traveled 339 percent higher than those of drivers of all ages, and drivers ages 19-20 had a crash rate 516 percent higher than those of all ages (Campbell, 1991). Two studies in Michigan found approximately a 500 percent increase in injury crashes per mile traveled and 300-390 percent increases in property-damage-only crash risk associated with truck drivers younger than 21, compared with drivers of all ages (Blower, 1996; Blower et al., 1990). A study of U.S. enlisted personnel found soldiers ages 18-20 were 390 percent more likely to be hospitalized for motor vehicle injury, compared with those older than 40 (Bell et al., 2000).

Collect data from a variety of sources and require onboard monitoring systems

With a sample size of 200, it may be difficult to detect crash effects using the proposed prospective cohort study design because crashes are relatively rare events. However, past research suggests that crash effects would be large and thus may be statistically significant in this study. Other factors that have been shown to increase crash risk, namely vehicle defect violations, are not as rare and present additional opportunity to investigate a surrogate of crash risk under the current study design and sample size goal. The study should collect data on all vehicle inspections, or even require regular CVSA Level I inspections of both study and control trucks. Moreover, while it is promising that both study and control drivers will be required to use electronic logging devices to record hours driven and vehicle miles travelled, FMCSA would be able to build a better risk profile of drivers by additionally requiring the use of onboard monitoring systems (e.g., to record hard braking events, swerves) for both study and control drivers. Such

devices have been shown to positively affect safety-relevant behaviors while subjects are monitored (Farah et al., 2013; Farmer et al., 2010) and thus should be applied to both study and control drivers. This would lower the overall risk of the pilot program without creating a bias between the two groups.

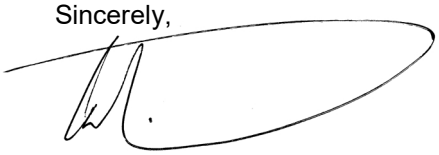
Study group drivers should be excluded from the study when they turn 21
While not methodologically necessary, this restriction would prevent a situation in which the majority of person-years of the study group consists of drivers who otherwise would be eligible to obtain a commercial driver's license and drive interstate routes. This restriction would ensure the focus remains on the expressed purpose of the pilot program, which is to determine if drivers younger than 21 with prior military truck driving experience can safely operate large trucks in interstate commerce. When a study driver is excluded, his or her matched control driver also should be excluded beginning at that point in time.

Further specify experience requirements for selecting control drivers
To minimize potential bias, it is important that study drivers and control drivers differ as little as possible beyond the study question. FMCSA should specify the experience criteria by which control drivers are matched to crash drivers beyond saying that they have comparable training and experience. In particular, these requirements should ensure that control drivers haul similar cargo along similar routes and operate similar trucks as study drivers. Furthermore, FMCSA should consider ways to ensure the sample of volunteer control drivers for each participating carrier is representative of the carrier's other similarly experienced drivers in terms of safety markers such as rates of crashes, violations, or other infractions.

Results should not be used to expand interstate truck driving to non-military 18-20 year-olds
While the potentially extensive training and time-on-task experience of military truck drivers has afforded this opportunity to study them, it also means that any results observed are not transferable to 18-20 year-olds without the same experiences offered by the military. Additionally, there are likely other biases of unknown net direction associated with military experience, or with the choice to pursue military service, which could affect the internal validity of this study as well as its generalizability.

To summarize, research shows that expanding interstate truck operation to drivers younger than 21 is a bad idea in terms of safety. Younger truck drivers have injury and fatal crash rates per mile traveled that are 4-6 times those of older truck drivers, which represents a staggering human cost of conducting this experiment. In conducting this pilot program, it is important that drivers are carefully monitored and scientific soundness is optimized. Experience driving for the military may involve more training and time-on-task, but as shown by Bell et al. (2000), there is a strong age effect for active duty truck drivers as well. The results of this pilot program should not be generalized.

Sincerely,



Eric Teoh
Sr. Statistician

References

Bell, N.S.; Amoroso, P.J.; Yore, M.M.; Smith, G.S.; and Jones, B.H. 2000. Self-reported risk-taking behaviors and hospitalization for motor vehicle injury among active duty army personnel. *American Journal of Preventive Medicine* 18(3S):85-95.

Blower, D. 1996. The accident experience of younger truck drivers. Ann Arbor, MI: University of Michigan Transportation Research Institute.

Blower, D.; Lyles, R.W.; Campbell, K.L.; and Stamatiadis, P. 1990. The Michigan heavy truck study. Lansing, MI: Michigan Office of Highway Safety Planning.

Campbell, K.L. 1991. Fatal accident involvement rates by driver age for large trucks. *Accident Analysis and Prevention* 23:287-95.

Farah, H.; Musicant, O.; Shimshoni, Y.; Toledo, T.; Grimberg, E.; Omer, H.; and Lotan, T. 2013. The first year of driving: Can an in-vehicle data recorder and parental involvement make it safer? *Transportation Research Record* 2327:26-33.

Farmer, C.M.; Kirley, B.B.; and McCartt, A.T. 2010. Effects of in-vehicle monitoring on the driving behavior of teenagers. *Journal of Safety Research* 41:39-45.

McCartt, A.T.; Mayhew, D.R.; Braitman, K.A.; Ferguson, S.A.; and Simpson, H.M. 2009. Effects of age and experience on young driver crashes: review of recent literature. *Traffic Injury Prevention* 10:209-19.

Ulmer, R.G.; Williams, A.F.; and Preusser, D.F. 1997. Crash involvements of 16-year-old drivers. *Journal of Safety Research* 32:527-32.