

## DROWSY DRIVING, HOURS OF SERVICE, AND COMMERCIAL VEHICLE SAFETY

In April, 2000, the Federal Motor Carrier Safety Administration (FMCSA) released a proposal to change the federal hours of service regulations for commercial drivers. The current Hours of Service (HOS) rules, dating back to 1939 (with minor modifications in 1962), allow 10 hours of driving followed by at least 8 hours off. This type of scheduling does not fit into a 24-hour day, and can result in drivers suffering from fatigue and drowsiness resulting from disruption of the natural circadian rhythms of the body. The proposed changes for long-haul and regional drivers are based around a 24 hour period and allows 14 hours of work (with two hours of break time) and 10 consecutive off-duty hours.

Neither the trucking industry nor traffic safety advocates are entirely pleased with the proposed changes. The increased

length of the allowed driving shift displeases safety advocates. Figure 1 shows the increasing risk of fatal fatigue crashes with increased hours of driving. The timing and use of the proposed 2-hour break could prove critical to safe driving performance.

### The Safety Problem

Jim Hall, Chairman of the National Transportation Safety Board (NTSB), wrote the following in a 1999 letter to DOT Secretary Rodney E. Slater:

“Although generally accepted as a factor in transportation accidents, the exact number of accidents due to fatigue is difficult to determine and likely to be underestimated.”

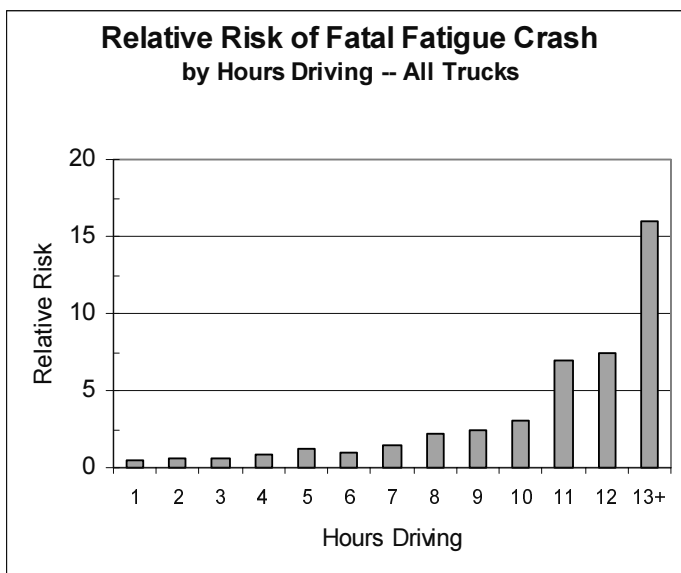
The FMCSA notes that as many as 50% of all crashes are due to mental lapses or general inattention, and that although fatigue is not involved in all of these crashes, it clearly contributes to many of them. Their tentative estimate is that 15% of all truck-involved fatal crashes have fatigue as either a primary or secondary factor. This translates into 755 fatigue-related annual commercial vehicle fatalities and 19,705 injuries.

### Projected Crash Reduction

The FMCSA estimates that the proposed changes to the HOS rules could result in a 5% minimum reduction in commercial vehicle crashes based on providing drivers with:

*This issue of Policy Notes was written by Mark Joerger, Transportation Economist, ODOT Policy Section, and does not necessarily reflect the views of the Oregon Department of Transportation or the Policy Section. Author can be reached at (503) 986-2847 or by email at mark.d.joerger@odot.state.or.us*

Figure 1 - Source: FMCSA



### Oregon Department of Transportation, Policy Section

John Merriss, Interim Policy Section Manager  
Mill Creek Office Building, Suite 2 - 555 13th Street NE  
Salem, Oregon 97301-4178 - (503) 986-3466

- a 24-hour rest/work cycle rather than the current 18 to 23 hour cycle;
- opportunities for two additional hours to sleep;
- a mandatory “weekend” off-duty that includes two midnight to 6 a.m. periods; and
- reduced daily duty time.

### American Trucking Associations Comments

The ATA has responded quite unfavorably to the proposed changes in HOS rules. ATA President Walter B. McCormick, Jr. believes that the changes would result in increased truck traffic on our highways that would more than offset any safety gain:

“This proposal could mean a 50% increase in the number of refrigerated and dry van trucks on our already-crowded highways; that translates into as many as 180,000 additional drivers and trucks on the road just to keep the current economy moving. This all adds up to a threat to the U.S. economy and American jobs.”

The ATA also points out that the truck-related highway fatality rate has been falling, despite increased trucking mileage.

### Drowsy Driving Crash Identification

Unlike alcohol-related crashes, there is no breath or blood test available to gauge levels of sleepiness at a crash site. But sleepiness and alcohol share many factors in driver impairment: increased reaction time, reduced vigilance, inattention, and poor information processing. Much of the evidence of drowsy driving crashes comes from combined inferential clues, such as:

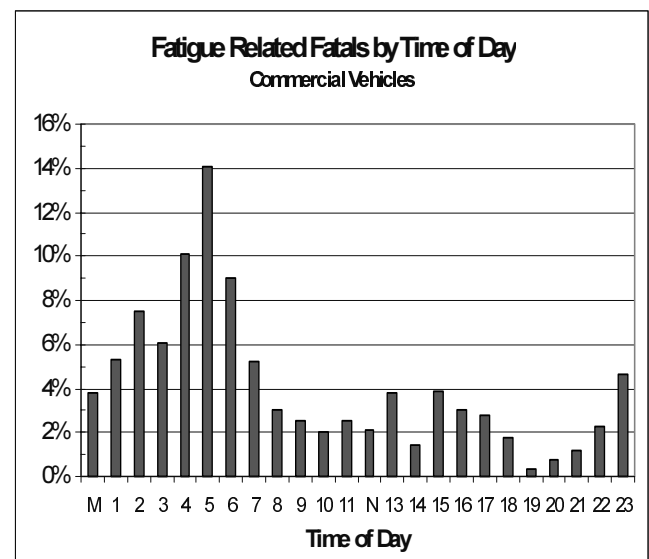
- Crash occurs late night/early morning or mid-afternoon.
- A single vehicle leaves the roadway.
- The driver does not attempt to avoid the crash.
- The driver is alone in the vehicle.

### Sleep Cures Sleepiness

The best countermeasure available to reduce sleepiness is — to no-one’s surprise — sleep, says a National Highway

Traffic Safety Administration (NHTSA) expert panel. Getting adequate sleep, abstaining from all alcohol when sleepy, and avoiding driving between midnight and 6 a.m. are key factors in remaining alert at the wheel. Figure 2 shows the danger periods for fatigue-related fatal crashes by commercial vehicles. Note the rising fatalities from late evening to early morning and the smaller peak mid-afternoon.

Figure 2 – Source: FMCSA



The panel notes that some remedial approaches to stave off sleepiness, such as consuming caffeine (about two cups of coffee worth) or taking a short nap (15 to 20 minutes) can reduce sleepiness for a short time. The panel also notes that other commonly accepted remedial measures such as brief exercise, listening to the radio, or opening the windows have no support in the scientific literature as being effective.