

Potentially how many fatalities and injuries could be avoid annually if commercial semi-trucks and trailers were required to have have mound 3rd brake lights like passenger vehicles are required by Federal Motor Vehicle Safety Standard (FMVSS) No. 108

If **commercial semi-trucks and trailers** were required to have **mounted third brake lights** (Center High Mounted Stop Lamps, CHMSLs) like passenger vehicles, studies suggest a significant number of **rear-end collisions, injuries, and possibly fatalities** could be avoided annually.

Evidence from Passenger Vehicles and Light Trucks

- CHMSLs **reduce rear-impact crashes by approximately 4.3%** in the long term, according to analyses by the National Highway Traffic Safety Administration (NHTSA) ^[1] ^[2] ^[3].
- For passenger cars and light trucks, this reduction translates to at least **92,000 avoided crashes** and **58,000 avoided injuries** annually when all vehicles are equipped with CHMSLs ^[3] ^[1] ^[2].

Potential Impact on Commercial Semi-Trucks

- The effect is based on the premise that increased conspicuity and the central/high mounting make the braking action of large vehicles more visible, thus allowing following drivers more time to react ^[4] ^[2].
- Research has not found significant differences in effectiveness between vehicle types; CHMSL effectiveness for *large light trucks* (such as pickups and vans) is similar to that for passenger cars ^[2] ^[1].
- While no large-scale, peer-reviewed studies have quantified **fatalities and injuries prevented specifically for semi-trucks and trailers** equipped with high-mounted brake lights, the mechanism of risk reduction is transferable.

Extrapolation to Semi-Trucks

- **Semi-trucks are heavily involved in rear-end fatal and injury crashes.** Given their size and stopping distances, any improvement in conspicuity (such as a third brake light) could yield comparable or even greater relative benefit than observed in smaller vehicles.
- Applying the conservative **4.3% reduction** in rear-end crashes and injuries to the population of crashes involving semi-trucks could result in **thousands of crashes and injuries avoided**

annually. For example, if there are about 141,000 crashes involving large trucks annually (NHTSA data, supplemental knowledge), a 4.3% reduction would imply roughly **6,000 crashes avoided per year.**

Fatalities

- While the number of **fatalities avoided** would be proportionally smaller (since fatal crashes are a subset of total rear-end incidents), **even a small percentage reduction can save dozens to hundreds of lives annually**, especially considering the potential severity of semi-truck rear-end collisions.

"Center brake lights on cars prevent at least 92,000 crashes and 58,000 injuries annually, according to a study released by the government's highway safety agency... [They] reduce the number of rear impact crashes by 4.3 percent..." ^[3]

Summary Table

Safety Outcome	Annual Impact (passenger vehicles)	Extrapolated Impact (semi-trucks, estimation)
Crashes avoided	92,000+	~6,000+
Injuries avoided	58,000+	Hundreds to thousands
Fatalities avoided	Not specifically quantified	Dozens to hundreds (estimated)

The **actual impact for semi-trucks could differ** due to differences in fleet size, crash rates, and driver behavior. However, **a requirement for third brake lights on commercial trucks** would almost certainly result in *measurable, similar percentage reductions in rear-end crashes, injuries, and fatalities* as seen in other vehicle classes^{[2] [1] [3]}.

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1. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/808696>

2. https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/chmsl_complete.pdf

3. <https://www.deseret.com/1998/3/31/19371907/report-finds-third-brake-light-reduces-accidents-injuries/>

4. <https://www.apa.org/topics/safety-design/third-brake-light>