



## Bigger Trucks Mean More Dangerous Highways

Proponents of bigger trucks are pushing hard to increase the weight of single-trailer trucks from the current 80,000 pounds to 97,000 pounds. Some groups even want to end the current “freeze” on the expansion of longer combination vehicles – double and triple-trailer trucks.

They say that allowing heavier and longer trucks is a proven way of improving highway safety while maintaining current road standards. Unfortunately, this ignores the conclusions of independent studies, which have shown that there are serious safety concerns with heavier and longer trucks.

### Increased Fatal Accident Risk

- According to the August 2000 US DOT *Comprehensive Truck Size and Weight Study*, LCVs are likely to have fatal accident involvement rates at least 11% higher than today’s single tractor trailers. DOT analyzed the accident experience of twin 28-foot combinations that are legal nationwide today. In DOT’s words:

“[U]nder conditions of generally unrestricted use similar to that of single-trailer combinations, multi-trailer combinations – as they are currently designed and configured – could be expected to experience an 11 percent higher overall fatal crash rate than single-trailer combinations. This finding is significant in terms of the debate on ‘the safety of LCVs.’”

### Crash Severity

- In 2009, 74,000 people were injured and 3,380 killed in crashes involving large trucks. The severity of a crash is a simple matter of the weight of the vehicle and its velocity. When weight increases, so does the severity of the crash meaning that allowing bigger trucks would turn what are now accidents into serious accidents and serious accidents into fatalities.
- LCVs create a larger crash footprint when involved in an accident. One factor contributing to LCVs’ larger footprint is their length. Another factor is the danger of trailer separation. Studies have shown that trucks with multiple trailers are more likely to experience trailer separation. When trailers separate from the vehicle, that extends the area of the crash.

### Stability

- Heavier tractor-trailers will tend to have a higher center of gravity because the extra weight is typically stacked vertically. Raising the center of gravity increases the risk of rollovers. *Comprehensive Truck Size and Weight Study*, US DOT, Volume 3, p. VIII-8, 2000.

- LCVs – especially triples – have unusually poor stability performance. On one measure of stability – rearward amplification or the “crack the whip effect” – triples show more than 200% poorer performance than conventional tractor trailers. *Comprehensive Truck Size and Weight Study*, US DOT, Volume 3, Figure VIII-11, 2000.

### **Braking**

- Increasing truck weight is likely to lead to brake maintenance problems and longer stopping distances. Heavier singles often have an extra axle at the rear of the truck to prevent additional pavement damage, and on that axle are two additional brakes. The US DOT expressed specified concern about the ability to maintain those extra brakes. *Comprehensive Truck Size and Weight Study*, US DOT, Volume 3, p. VIII-10, 2000.
- Adding weight to a truck with brakes that are out of adjustment can lead to substantially longer stopping distances. Roadside inspections show that brake adjustment levels are a serious issue. Since 1998, the Commercial Vehicle Safety Alliance has inspected more than 1.1 million brakes during its annual Operation Air Brake campaigns. Over 17% of the trucks inspected were placed out of service due to braking issues, including 11% that were placed out of service due to brake adjustment defects.

### **Equipment Wear**

- Adding weight to a truck makes it more likely that the truck’s equipment will wear out sooner. Important truck components at risk include the brakes, suspension and tires. Should any of these parts wear out; there is a greater risk of serious accident. In a study on truck crash involvement in Washington State, the Insurance Institute for Highway Safety found that 77% of tractor-trailers involved in crashes had defective equipment.

### **Speed Differential**

- Both heavier singles and longer combination vehicles are likely to have poorer power to weight ratios – they accelerate more slowly and have difficulty maintaining speed on upgrades, increasing speed differentials with other traffic and increasing the risk of accidents. According to a University of Texas study, a 15-mile per hour speed differential increases accident risk nine times.
- Motorists are also more likely to try to avoid heavier and longer trucks. By speeding up, slowing down, or changing lanes to avoid LCVs, motorists will cause conflicts with other traffic that will not show up on accident reports as truck-related incidents.