

## FACT SHEET

# THE DANGERS OF LARGE TRUCKS

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### LARGE TRUCK CRASH FACTS

- ***4,808 people were killed in crashes involving large trucks in 2007, representing about 12-13 percent of all traffic fatalities.*** Of these, 78 percent were occupants of another vehicle, 15 percent were large truck occupants, and 9 percent were non-occupants. An additional 106,000 people were reported injured in those crashes (based on data published in *Traffic Safety Facts 2007 – Final Edition*, National Highway Traffic Safety Administration (NHTSA), 2008).
- ***The annual death toll from truck-related crashes is the equivalent of 52 major airline crashes every year, one crash every week resulting in 95 deaths.***
- ***Large trucks are 9 percent of all vehicles involved in fatal crashes and represent about 12-13 percent of all crash fatalities despite the fact that large trucks make up only 3 percent of all registered vehicles*** (Insurance Institute for Highway Safety (IIHS), 2001-2008; NHTSA, 2001-2008).
- The fatality rate for big combination truck (tractor-trailer) crashes in 2007 was ***2.12 deaths per 100 million vehicle miles traveled (MVMT), more than double the rate for passenger cars*** at 1.02 fatalities per 100 MVMT (NHTSA 2008, Federal Motor Carrier Safety Administration (FMCSA) 2008).
- Even more startling is the extraordinarily high fatality rate for large trucks for every 100,000 registered vehicles. In 2007, the rate of involvement for large truck in fatal crashes was ***more than 3 times the rate for passenger cars*** (NHTSA 2008).
- ***About 3 times as many large trucks are involved in injury crashes than passenger vehicle per 100 MVMT*** (FMCSA 2007).
- ***Passenger vehicle occupants die in record numbers in collisions with large trucks because of the great difference in weight between cars and large trucks.*** In two-vehicle crashes involving passenger vehicles and large trucks, 97 percent of the fatalities were occupants of the passenger vehicle. More than 1 out of every 5 occupant deaths in passenger vehicles that had multi-vehicle fatal collisions in 2002 was the result of crashes involving large trucks (IIHS 2007).
- ***There is no real progress being made in dramatically reducing deaths produced by large truck crashes.*** Fatalities from large truck crashes have remained flat or have increased over the past several years. In 2007, 4,808 people died in large truck crashes, about the same number as in 2002 (4,939 fatalities). NHTSA 2008.
- ***Large truck crashes are seriously underreported to the federal government's motor carrier safety agency.*** The FMCSA's Motor Carrier Management Information System (MCMIS)

crash file receives reports on only 3 of every 4 truck crashes based on the National Governors' Association (NCA) crash reporting system. FMCSA also is missing 2 of every 3 towaway crashes in its data base for heavy trucks greater than 26,000 pounds gross vehicle weight rating. Some states do not submit all NGA reporting system crashes (FMCSA 2004). In addition, the criteria for reporting a serious large truck crash automatically eliminate many crashes from having to be reported.

- ***Big trucks are also regularly operated with safety defects.*** In both 2007 and 2008, ***more than one of every five trucks that were inspected was placed out of service for deficiencies that prevented it from continuing to operate*** (FMCSA 2008, Commercial Vehicle Safety Alliance (CVSA) 2008). The recent Large Truck Crash Causation Study released by FMCSA found that ***29 percent of the trucks studied had brakes out of adjustment*** (FMCSA 2006).
- The large number of truck-related deaths and injuries imposes an enormous personal and financial burden on Americans. ***The costs to society of large truck crashes each year are \$41.5 billion*** (Zaloshnja and Miller 2007). The Zaloshnja and Miller study found that the highest truck crash costs ***are imposed by multi-trailer combination trucks such as Longer Combination Vehicles (LCVs)***.

#### **WHY FREEZE TRUCK SIZE AND WEIGHT?**

By any measure, large trucks are dramatically overrepresented in severe and fatal crashes. Also, despite representing only a very small percentage of vehicles on our streets and highways – about 3 percent -- big, heavy trucks ***are the major cause of road and bridge damage, and they are energy inefficient.***

- ***There are More Trucks and Bigger, Heavier Trucks Than Ever Before.*** Between 1982 and 2002, there was a 42 percent increase in registered large trucks and the mileage they have driven has doubled. Truck vehicle-miles-traveled has continued to increase at an accelerating rate (FHWA Highway Statistics 2007; FMCSA 2008). ***Increases in truck sizes and weights over more than 35 years has never, ever resulted in fewer larger, heavier trucks on U.S. roads.*** It has been repeatedly proven that every time truck weights are increased, ***more*** bigger, heavier trucks are operated shortly after the increases are granted by both states and the federal government. (Truck Inventory and Use Survey; Vehicle Inventory and Use Survey, U.S. Bureau of the Census).
- ***Trucks Keep Getting Bigger.*** Trailer lengths for combination vehicles (tractor-trailers) have continued to grow over the past few decades, moving from an industry standard of 40 feet in the 1960s, to 48 feet in the 1970s, to 53 feet in the late 1980s. Some states even allow 57- and 59-foot trailers. (FHWA 2007). Recent testimony by the American Trucking Associations (ATA) in April 2008 has sought Congressional approval of much bigger and heavier trucks and federal pre-emption of states that refuse to accept longer trailers (ATA April 16, 2008). However, the U.S. DOT is on record as opposing state increases in truck sizes and weights (Western Uniformity Scenario Analysis, 2004). The ATA has nevertheless construed this study to endorse bigger, heavier trucks (ATA Testimony, April 16, 2008).

- ***Bigger Trucks Jeopardize Safety.*** The chances of a big truck crash resulting in deaths and serious injuries increase with each extra ton of weight over the 80,000 pound gross vehicle weight (GVW) limit in federal law. These federal weight limits are used by many states as the upper limit on truck weight on state roads built to lower design and safety standards. A big truck weighing even a legal 80,000 pounds is 50 to 100 percent more likely to be involved in a fatal crash than a truck weighing about 50,000 to 65,000 pounds. (University of Michigan Transportation Research Institute (UMTRI) 1988; FHWA 1997).
- ***Bigger Trucks Require More Stopping Time and Distance.*** A 100,000 pound truck takes 25 percent longer to stop than an 80,000 pound truck. A 120,000 pound truck can travel as much as 50 percent further before stopping than an 80,000 pound truck, especially if these heavy trucks have unadjusted brakes. Truck inspections often find up to one-third of all trucks with out-of-adjustment brakes. Federal standards require passenger cars to stop in 215 feet, but big tractor-trailers are required to stop in only 355 feet (UMTRI, 1983; IIHS 2003; National Academy of Sciences (NAS) 1990; NHTSA 2004; CVSA 2000).
- ***Big, Heavy Trucks are the Major Source of Highway and Bridge Damage.*** The Congressionally-mandated report *Transportation for Tomorrow* found that U.S. highways and bridges are “buckling” under levels of demand unforeseen by engineers who designed them, and that heavy trucks do not pay their fair share for highway and bridge deterioration. (Transportation for Tomorrow, 2007). Increasing truck gross weight radically reduces bridge service life. If a bridge is 50 years old and has a calculated service life of 70 years, increasing the stress placed on the bridge by raising truck gross weight from 80,000 to 88,000 pounds **reduces remaining service life from 20 years to only 2.5 years.** (NCHRP 2003 Report). Many thousands of U.S. bridges are being overstressed because they are posted for higher truck weights than they should safely carry and even those unrealistic limits are often violated. (NCHRP 2003, 2007 Reports).
- ***U.S. Roads and Bridges Are Crumbling and the Backlog Grows.*** The U.S. Has a National infrastructure Grade of “D.” The American Society of Civil Engineers (ASCE) Infrastructure Scorecard, updated for 2009, states that the overall condition and service of America’s road and bridge infrastructure is **D**. (American Society of Civil Engineers National Infrastructure Report Card (ASCE) Report Card 2009). ASCE found that the U.S. needs **\$1.6 trillion over the next 5 years** to bring the nation’s infrastructure up to good condition. (ASCE Report Card 2006). Thirty-three percent of America’s major roads are in **poor** or **mediocre** condition, and 26 percent of America’s bridges are **obsolete**. (The Road Information Program 2006 (TRIP
- ***Highway Bridge Damage is the Single Most Expensive Infrastructure Cost of Allowing Larger, Heavier Trucks.*** Major studies done through the National Academy of Sciences show that **extra-heavy trucks are the major cause of bridge deterioration and reduced service life.** (NCHRP 2003, 2005 Reports). Even small increases in truck gross weight cause dramatic increases in bridge fatigue damage. For example, increasing the weight of a heavy truck by only 10 percent **increases damage by 33 percent.** (NCHRP 2003, 2007 Reports).

- ***The U.S. Has Run Out of Money for the Nation's Bridges.*** According to the U.S. Department of Transportation (DOT), most states substantially underestimate bridge improvement needs and costs. U.S. DOT also found that the extra safety margin built into Interstate bridges years ago has essentially *vanished* because of the growth in the weights and number of overweight trucks. (Western Uniformity Scenario Analysis, U.S. DOT, April 2004). ASCE estimates that the U.S. needs ***\$850 billion alone to repair and upgrade the nation's bridges.*** (ASCE Report Card 2009). The U.S. is underfunding bridges by ***40 percent*** of what is needed. (Transportation for Tomorrow).
- ***Highway Pavement Throughout the U.S. Is Being Destroyed at an Increasing Rate by Extra-Heavy Trucks.*** A single 18,000-pound truck axle inflicts as much damage as 9,600 passenger motor vehicles on the same pavement. (American Association of State Highway and Officials (AASHTO) Road Test, 1962). Even very small increases in axle weights dramatically increase pavement damage rates. Increasing a 20,000-pound single axle to only 22,000 pounds ***increases pavement damage by 50 percent.*** A 20,000-pound single truck axle consumes ***1,000 times more*** pavement life than a 2,000-pound single axle on a mid-sized passenger motor vehicle. (North Carolina DOT 2005; Arizona DOT 2002; FHWA 1997, 2000; NCHRP Reports 2003, 2005; South Dakota DOT, [http://www.sddot.com.docs/SDDOT\\_Truck\\_Briefing\\_2d.pdf](http://www.sddot.com.docs/SDDOT_Truck_Briefing_2d.pdf)).
- ***Big Trucks Don't Pay Their Fair Share for Highway Use and Destruction.*** Studies conclusively and consistently show that U.S. motorists and taxpayers have always subsidized big, heavy trucks. *The Transportation for Tomorrow Report* confirmed earlier FHWA studies that heavy trucks were underpaying their fair share for highway use, that user fee fairness could be achieved through weight-distance taxes, that heavy trucks should pay an infrastructure damage fee, and that the Heavy Vehicle Use Tax – which only contributes \$1 billion annually to the Highway Trust Fund – had not been changed since the early 1980s and should be amended and indexed retroactively to 1997. (Transportation for Tomorrow Report; FHWA Highway Cost Allocation Study, 1997, 2000.) Although the HVUT was raised to \$1,900 in 1982 federal legislation, trucking industry lobbying successfully reduced the fee to only \$550 two years later in a legislative amendment to federal law. Currently, a 100,000-pound truck, such as an overweight tractor-semi-trailer or LCV, ***only pays about 40 percent of its cost responsibility for highway use.*** (Government Accountability Office (GAO) Report, January 2008). The states could virtually eliminate damage caused by overweight trucks if they would adopt lower weight limits on all federally assisted highways and bridges. (GAO Report, July 1979).
- ***Large, Overweight Trucks Waste Fuel.*** Heavy trucks are highly energy-inefficient users of diesel fuel. Trucking uses ***12 times the energy of rail*** to transport freight on a per-ton basis. And rail freight transportation is being underutilized: 88 percent of primary rail corridors are operating under capacity and more freight could be shifted from truck to rail. (Transportation for Tomorrow Report.) U.S. DOT also found that a 5- or 6-axle semi-trailer combination truck weighing 100,000 pounds rather than 80,000 pounds suffered a

**10.4 percent reduction in diesel fuel mileage.** Heavier trucks do not increase trucking productivity – U.S. DOT determined that increasing gross truck weight contributes little to overall freight transportation productivity. (Western Uniformity Scenario Analysis, U.S. DOT, 2004).

- **Allowing Bigger Trucks Will Increase Diesel Fuel Consumption.** A recent report released by the American Transportation Research Institute (ATRI), an arm of the American Trucking Associations, entitled *Energy and Emissions Impacts of Operating Higher Productivity Vehicles – Update: 2008* (ATRI Report), is seriously flawed, especially its claims that heavier trucks are more fuel-efficient. The study has not been peer-reviewed by an impartial group of researchers, and it has not been reviewed by FHWA. Some of the trucks tested for the ATRI Report at higher weights **burned much more fuel and had poorer fuel economy.** The ATRI Report admits that heavier gross weights will require *larger* engines that will **decrease** fuel economy on a miles-per-gallon basis. This will require more, heavier trucks **to burn more diesel fuel than ever before.** (ATRI Report). Major facts impacting the ATRI Report were just ignored, including the high percentage of trucks operating with empty backhauls, or only partially laden, such as Less Than Truckload (LTL) operations that often haul lower weight loads or access terminals after dropping one trailer. Many trucks operating at higher gross weights will operate empty or partially empty much of the time. The percentage of partially empty trucks is based on very limited data, and ranges from 15 percent up to 58 percent for combination trucks. FHWA estimates that up to 29 percent of heavy trucks operate completely empty. Logging trucks, for example, operate empty 44 percent of the time. Some twin-trailer rigs operate empty 40-44 percent of the time. (FAF Freight Traffic Analysis: Chap. 3 – Development of Payload Equivalency Factor, FHWA, July 27, 2007.) These and other concerns offset any claims of improved fuel use, especially from the operation of much bigger diesel engines needed to haul extra-heavy gross weights.
- **The American Public Strongly Opposes Allowing Bigger and Heavier Trucks.** Public opinion polls consistently show that the public is opposed to bigger and heavier trucks on our nation's roads and bridges. A March, 2008 a public opinion poll by Lake Research Partners, a well-respected and well-known polling firm, found that a large majority of the American public opposes relaxing truck safety standards and allowing bigger and heavier trucks on our roads and highways. Sixty six percent of Americans oppose Congress changing the current law to allow increased truck weights and 82% feel that double and triple trailer trucks are less safe and more dangerous than trucks pulling a single trailer. I

***Allowing Bigger, Heavier Trucks Is a Giant Step Backwards for Safety, Infrastructure Protection, Fuel Use and Balanced Transportation Policy***