Truck Safety Alert:

The Rising Danger from Trucks, and How to Stop It

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AMERICAN ASSOCIATION for JUSTICE
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Table of Contents

Executive Summary

According to the Federal Motor Carrier Safety Administration (FMCSA), the rate of truck accidents and fatalities has begun to creep up after several years of decline. In 2011, the most recent year for which data are available, 3,757 people died in collisions with trucks, an 11.2 percent increase over 2009's record low. Nearly three times as many people die in truck accidents as die in aviation, boating and railroad accidents combined.

The nearly 11 million trucks that travel U.S. roads each year make up only 4.7 percent of all passenger vehicles, yet are involved in 12.4 percent of all fatal crashes. Fatalities (per miles driven) are 17 percent higher for trucks than for passenger vehicles.

Truck Crashes in 2011

3,341 large truck crashes involving at least one fatality

3,757 people killed

3.1% of truck crashes involving hazardous materials

This escalating safety issue is driven by an economic model that is fundamentally unsound. Truck drivers – compensated by miles driven, not hours worked – are pushed to ignore safety measures, delay repairs and drive in a fatigued state. Despite the significant and increasing amount of money devoted to trucking inspection, the task of reducing the risks from dangerous trucks is proving too much for regulators. There are simply too many dangers for inspectors to catch.

The civil justice system is vital in holding negligent trucking companies accountable, and provides compensation to those killed or injured by unsafe trucks. However, archaic insurance rules undermine the economic incentives to safety provided by the courts. The insurance market itself is unable to function properly – offering lower premiums to safe companies and higher premiums to companies with dangerous histories – because outdated minimum insurance levels keep premiums artificially low for even the most dangerous companies.

As the number and size of trucks on U.S. roads grows, so does the danger to other road users. Fundamental, market-based change is needed if thousands of innocent people are not to die in vain.

Truck Safety in America

In 2009, 76-year-old truck driver Donald Creed killed 10 people, including two families of four, on Interstate 44 in Oklahoma when his 40,000 pound rig barreled into several cars that had slowed for a previous minor collision. Creed had only five hours of sleep when he started his run at 3 a.m., and had been driving for 10 hours when the accident happened. He never even applied his brakes.

Accidents like the one in Oklahoma occur for a variety of reasons, but many are preventable, and often are a direct result of trucking companies violating safety standards to cut corners and maximize profits. Serious violations of safety standards – fatigued drivers, overloaded trucks, shoddily maintained brakes and tires – are endemic throughout the industry.

The aftermath of the June 2009 crash in Oklahoma that killed 10 people. As a result of a civil action brought by the families of the victims, the truck driver's employer, Associated Wholesale Grocers, changed its driver training and safety programs.

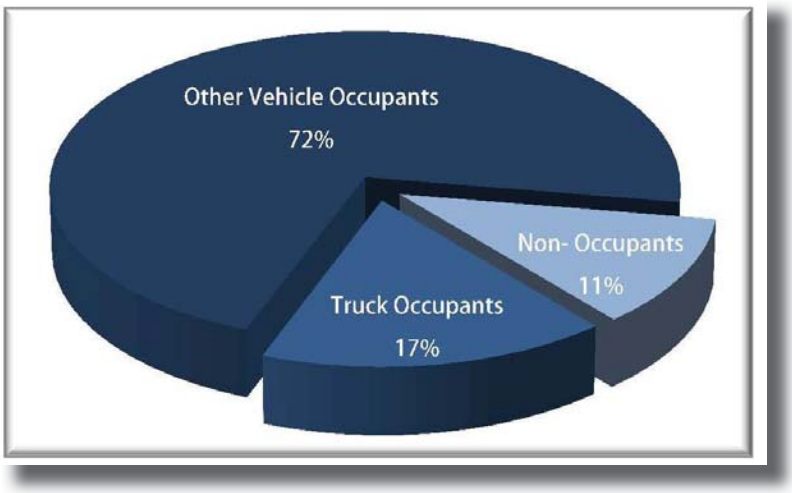
Trucks are the predominant means of freight transportation in the United States, with a 67 percent market share.[1] The nearly 11 million trucks that travel U.S. roads each year make up only 4.7 percent of all passenger vehicles, yet are involved in 12.4 percent of all fatal crashes. Fatalities (per miles driven) are 17 percent higher for trucks than for passenger vehicles.[2]

According to the Federal Motor Carrier Safety Administration (FMCSA), the rate of truck accidents and fatalities has begun to creep up after several years of decline. In 2011, the most recent year for which data are available, 3,757 people died in collisions with trucks and 80,000 more were seriously injured.

Nearly three times as many people die in truck accidents as die in aviation, boating and railroad accidents combined.

The death toll marked the second straight year fatalities rose, and an 11.2 percent increase over 2009's record low. Fatalities in truck crashes increased across all categories, with the greatest increase being the 21 percent increase in truck occupant fatalities in multivehicle crashes. Such fatalities have now increased 40 percent since 2009.[3] Nearly three times as many people die in truck accidents as die in aviation, boating and railroad accidents combined.[4]

Not surprisingly, the vast majority of people killed in accidents with trucks are the occupants of cars that are hit. A passenger in a vehicle that collides with a truck is five times more likely to die than the truck driver. In fatal two-vehicle crashes involving a passenger vehicle and a large truck, 97 percent of the deaths were the occupants in the passenger vehicles.[5] Nor should people believe that trucking accidents are mostly an issue on highways. More fatal crashes happen on minor roads than on interstates and freeways.[6]



Truck crash deaths by vehicle occupancy, 2011

Not only are truck crash fatalities creeping up, their numbers have the potential to get significantly higher. The number of trucks on the road set to increase, and so is their size.[7] The trucking industry has been lobbying the U.S. Congress for legislative changes to allow trucks to weigh up to 97,000 pounds on interstate highways, an increase of 20 percent over the 80,000 pound limit set in 1982. Several state governors have been recruited to call for acceptance of more "doubles" and "triples" – multiple trailers hitched together – which can reach 120 feet, more than double the current 53 foot limit on most interstates. Such trucks would require as many as six axels, be longer than a Boeing 737, and 20 times heavier than the average passenger vehicle.[8] Studies have found that double trailers are two to three times more likely to be involved in crashes as other rigs.[9] Triple trailers are banned in many states because of safety concerns, including their propensity to tip and sway into oncoming traffic, and increased braking distances.[10]

The financial cost of unsafe trucks and their resulting crashes is astounding. FMCSA research has found that in today's dollars, a fatal truck crash costs about $4.3 million in direct costs.[11] There are also often overlooked environmental costs associated with crashes. Trucks are involved in 90 percent of accidents that cause 2.5 hours or more of congestion delay. These accidents cause increased fuel consumption due to longer engine run times, stop-and-go traffic and idling. The typical crash causes an additional 122 tons of carbon dioxide, 15 tons of nitrogen dioxide, eight tons of volatile organic compounds (VOC), and four tons of sulfur dioxide and particulate matter. In 2007, the U.S. Department of Transportation (DOT) estimated that the increase in vehicle emissions – not to mention the emissions associated with refining and distributing that wasted fuel – cost approximately $3.7 billion a year.[12]

An Unsafe Economic Model

The economic model of compensation for truck drivers is fundamentally unsafe. Truck drivers face increasing pressure to ignore safety measures, delay repairs and drive in a fatigued state.

Almost all intercity truck drivers are paid by the mile rather than an hourly wage. Such compensation schemes do not account for the time spent loading and unloading, which often involves long waits. Drivers frequently underreport loading times in order to preserve hours legally available for driving. The end result is an economic incentive for unsafe driving.

The economic reality all but mandates risk taking. Truck drivers routinely neglect safety measures, delay repairs, and work longer than legally allowed because their mileage rate compensation is too low to sustain basic living expenses. Truck drivers have little option but to operate in conditions that expose themselves and everyone on the roads to greater and greater risk. Low driver wages and poor working conditions create an unnecessarily hazardous situation that has real cost in both dollars and lives.[13]

These types of work pressures account for an estimated 13,000 truck crashes every year.[14] According to a Bureau of Labor Statistics (BLS) census of fatal occupational injuries, the fatality rate among workers across all industries was 3.5 fatalities per 100,000 workers. In the trucking industry it was 24 deaths per 100,000 workers.[15]

In 2004, new rules were put into place regarding the number of hours truck drivers could operate. Among other provisions, the rules mandated that interstate commercial truck drivers not drive more than 11 hours in one shift or 60 hours in one seven-day period. However, surveys by the Insurance Institute for Highway Safety (IIHS) have found that after the rule changes, drivers actually spent more time driving and reported more instances of falling asleep at the wheel. Approximately 20 percent of truck drivers admitted to dozing at the wheel at least once a month after the rule changes as opposed to approximately 13 percent before the changes. About one-third of drivers admitted to forging the hours they work in the logbooks that inspectors review for violations. Some truck drivers refer to logbooks as "comic books" because they are so easily falsified.[16]

The end result is a truck industry that is a risk to everyone. The National Transportation Safety Board (NTSB) estimates driver fatigue is a factor in at least 30 percent of truck crashes.[17] Research shows the risk of a crash increases twofold after eight hours of consecutive driving, and driver fatigue is the leading contributing factor in truck driver deaths from crashes.

Tired drivers are not the only problem. Legal and illegal drug and alcohol use is a factor in an estimated 65,000 truck crashes a year.[18] The NTSB has reported gaps in drug and alcohol testing enforcement and the medical fitness of commercial drivers. A random analysis of truck drivers by the Government Accountability Office (GAO) found 22 percent were driving while receiving disability benefits for epilepsy, alcohol addiction or drug dependence. Many drivers were also found to be job hopping to avoid recognition of a positive drug test, in some cases driving hazardous material for over a year.[19]

Type of Substance Abuse	Truck Crashes	Percent of all Crashes
Prescription drug use	37,000	26.3%
Over the counter drug use	24,000	17.3%
Illegal drug use	3,000	2.3%
Alcohol	1,000	0.8%
TOTAL	65,000	46.7%

The Tip of the Iceberg

The dangers of unsafe trucks and fatigued drivers are not new. Regulators and authorities put a great deal of resources into attempts to make the roadways safer. In 2011, the FMCSA found over seven million violations during roadside inspections. In approximately 980,000 of those cases, the violation resulted in the driver or truck being placed out of service.[20]

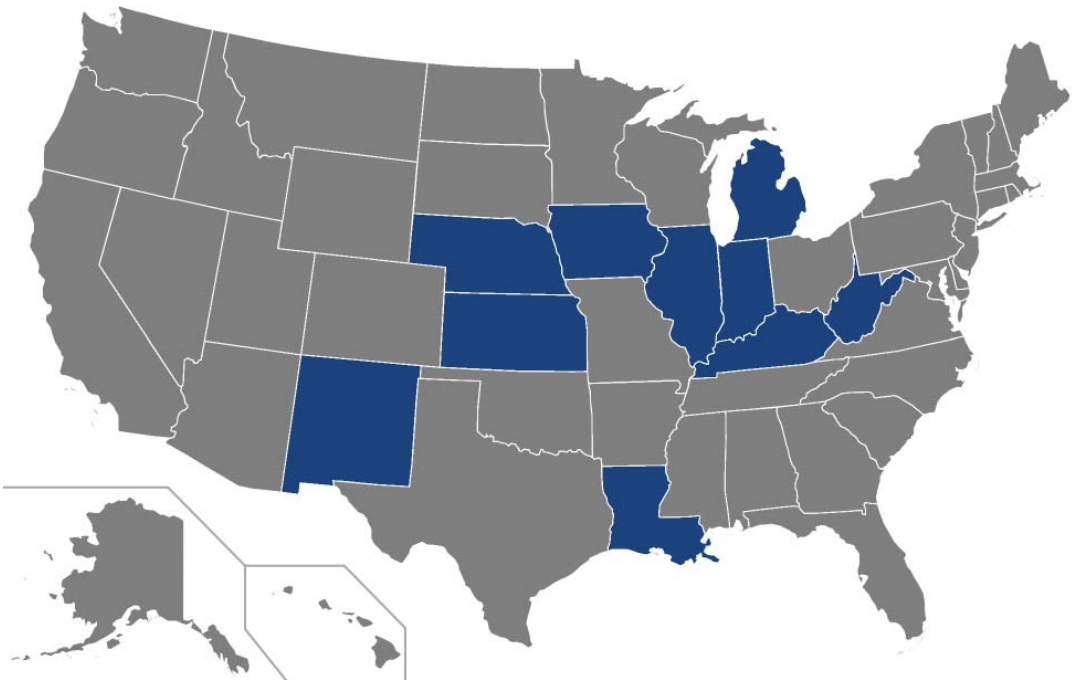
However, there is every reason to believe these identified alerts are just the tip of the iceberg and that there are far more dangers on the road than inspections can ever catch. In a special inspection "sweep" in 2012, FMCSA identified 287 drivers in violation of drug and alcohol regulations, and 128 truck and bus companies that had hired drivers who had tested positive for illegal drugs or had failed to institute drug and alcohol testing.[21] Similarly, during a 2012 brake safety sweep, federal, state, provincial and local safety inspectors placed one in seven inspected trucks out of service for brake issues. But these sweeps scattered across the country lasted two weeks or less, and targeted a fraction of

The Truth About a "Satisfactory" Safety Rating

A 2006 Dallas Morning News investigation found trucks from TXI, a major Texas trucking company with more than 150 trucks and a history of safety problems trucks, had been pulled over 40 times, failed 29 percent of inspections for such problems as defective brakes, bald tires or broken wheel rims, been involved in two fatal crashes and 31 crashes resulting in injuries in just two years, yet continued to be rated as "Satisfactory" by FMCSA.

A 2005 GAO report found that "nearly one-third of commercial motor vehicle crashes that states are required to report to the federal government were not reported, and those that were reported were not always accurate, timely, or consistent."[22]

total truck traffic. Many more unsafe trucks were never identified. A 2009 study of over a million lines of data on truck violations previously unavailable to the public found more than 28,000 trucking companies, representing more than 200,000 trucks, operating on U.S. roads with safety violations. These violations included defective brakes, bald tires, loads that dangerously exceeded weight limits, and drivers with little or no training or drug and alcohol dependence.[23]



The 10 states with the highest percentage of carriers with Unsafe Driving alerts are Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Nebraska, New Mexico, and West Virginia.[25]

Though these statistics are staggering, they are not a sign that unsafe trucks and companies are being weeded out. The trucking industry is characterized by small firms with shifting ownerships and management structures that even when placed out of service are "reincarnated" and continue to operate.[24] The FMCSA has long battled these so-called "chameleon" companies that change their names and re-register to avoid penalties or to scam shippers and carriers.

The volume of new company applicants combined with an oversight system made up of disparate databases has made reincarnation an almost impossible challenge for regulators. A lack of resources and the sheer number of applicants for carrier licenses means the agency checks for chameleons among bus companies and household movers, but the FMCSA does not check the 97 percent of applicants that are truck companies for potentially dangerous chameleons.[26] As hard as it is for regulators to catch a company operating with dangerous disregard for safety, the reality of reincarnation is that regulators may have to

catch that same company again and again.

With more than 10 million trucks on the road, an economic model that encourages risk-taking and a raft of ever-shifting targets, inspecting authorities must deal with an impossible "needle in a haystack" scenario. There are simply too many dangers to catch.

The Ineffectiveness of Technology and Inspections

A variety of technologies exist that could make trucking far safer, although in many instances carriers cite them as too cost-prohibitive to install. The FMCSA has estimated Forward Collision Warning Systems would prevent between 8,597 and 18,013 rear-end crashes a year, saving between $122,650 (for property-only damage) and $1,056,221 (for a fatal accident) per crash. Roll Stability Control (RSC) systems would prevent as many as 2,037 crashes in which trucks rollover during a curve, and Lane Departure Warning systems would prevent more than 8,000 collisions, rollovers, and sideswipes.[27]

According to the IIHS, a combination of four technologies: side view assist, forward collision warning/mitigation, lane departure warning/prevention, and vehicle stability control, would prevent as much as 28 percent of all truck crashes annually (107,000 crashes), and save as many as 835 lives.[28] However, the trucking industry has resisted widespread adoption of such technologies citing cost, despite research showing cost/benefit ratios that would save as much as $9 for every $1 spent.[29]

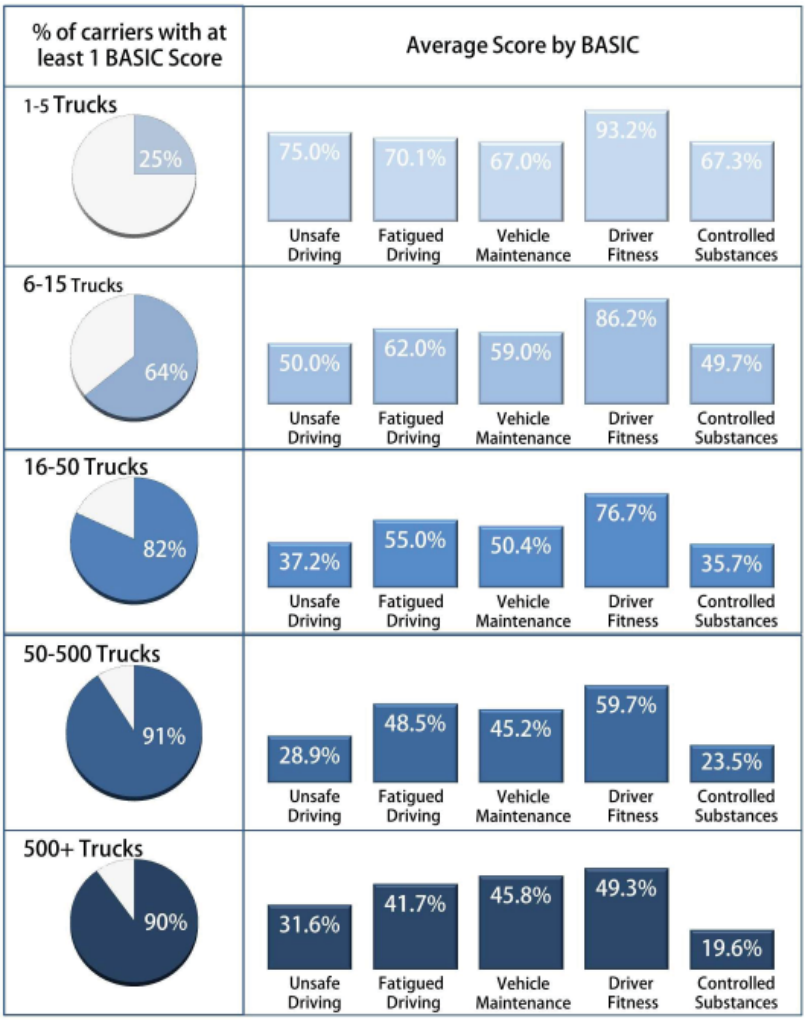
Because the trucking industry will not comprehensively adopt safety measures itself, the burden of making road travelers safer in the current environment falls to inspectors and the FMCSA. In order for the agency to enhance its ability to identify risky carriers, the FMCSA developed the Compliance, Safety and Accountability Program (CSA). The CSA scores driver safety by seven Behavioral Analysis and Safety Improvement Categories (BASICs):

- **Unsafe driving**: Speeding, reckless driving, improper lane changes, and inattention.
- **Fatigued driving**: Exceeding the federal hours-of-service regulations, maintaining an incomplete or inaccurate logbook, and operating a commercial motor vehicle (CMV) while ill or fatigued.
- **Driver fitness**: Failure to have a valid and appropriate commercial driver's

license and/or being medically unqualified to operate a CMV.

- **Alcohol and drugs**: Use or possession of controlled substances/alcohol.
- **Vehicle maintenance**: Problems with brakes, lights, and other mechanical defects, and failure to make required repairs.
- **Cargo security**: Size and weight violations, dropped cargo, or unsafe handling of hazardous materials.
- **Crash indicator**: Histories or patterns of high crash involvement, including frequency and severity, based on information from state-reported crashes involving CMVs.

The CSA program has been in development since 2004, but it has been dogged by controversy since its first release in 2010. A particular sticking point has been CSA's allocation of fault in crashes involving large trucks. Currently, the CSA does not distinguish between those accidents in which a truck was at fault and those in which a car or other factor is at fault. This is because, statistically, accidents are a significant predictor of future problems, no matter who is at fault.[30] Trucking industry representatives oppose CSA's lack of allocation of fault in truck crashes and are seeking an option for a no-fault determination.[31]



More problematic is that FMCSA cannot maintain oversight of all carriers. CSA only has scores for 25 percent of small fleets – the fleets that are more likely to have problem drivers.[32]

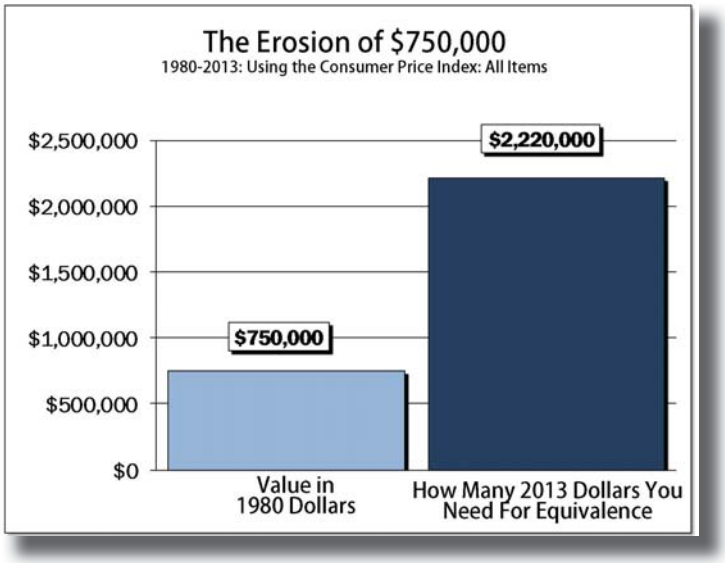
As such, inspection data vastly overrepresent carriers with large fleets and underrepresent the large number of carriers that operate only a small number of trucks. FMCSA segments out data from firms with fewer than five inspections, and clean

inspections are also removed, rendering inspection data an inherently inaccurate representation of true safety levels. The end result is that smaller carriers appear to have fewer – but higher – BASIC scores, while large carriers appear to have more – but lower – scores.[33]

The Market Solution

All the inspectors in the world may not make the trucking industry safe, but the insurance market can. In a properly functioning insurance market, operating unsafe trucks would result in higher insurance costs. Because truck crashes tend to be high-impact, high-cost events, insurers would be motivated to adjust the rates they charge according to risk. With accidents often resulting in millions of dollars in damages, unsafe trucking companies would quickly find themselves faced with impossibly high premiums. In contrast, trucking companies with safe operations would find lower insurance premiums. Carriers would have an economic incentive to maintain safety measures, conduct timely repairs and ensure their drivers were operating as safely as possible. By adjusting the economics of behavior, this market mechanism would make for a far more comprehensive safety solution.

However, this solution is sabotaged by outdated insurance requirements. The FMCSA requires that carriers only carry insurance for up to $750,000 per incident. This unrealistically low level of insurance is a leftover from the Reagan era, has not changed in 33 years, and has not been adjusted for inflation, despite the fact that these days many accidents exceed these limits. These outdated standards artificially disrupt the insurance market. Insurance companies cannot truly rate carriers based on their safety records because the true impact of unsafe operations – damages from liability – are artificially limited.



The archaic insurance limits are dramatically unjust. You would need $2,220,000 of coverage in 2013 dollars to equal the $750,000 coverage of the basic minimum liability requirement of 1980.[34] And with the increase in health care costs over the years, even this amount would arguably be lower than its 1980 equivalent. Adjusting for medical care inflation, you would need

$4,422,000 to equal the minimum liability requirements put in place more than 30 years ago. Put another way, if the value of today's limits had been in place in 1980, the maximum insurance requirement would have been approximately $250,000.

For trucks carrying hazardous material, the insurance requirements have similarly stayed static for a third of a century. Hazmat insurance requirements are stuck at the 1980 level of $1 million, equivalent to $3 million in today's dollars, or nearly $6 million when adjusted for medical inflation.

The low insurance requirements also serve to encourage "reincarnation," as carriers can choose bankruptcy when faced with damages beyond their limits and then simply change names and carry on as before with the same unsafe fleet. If insurance requirements were set at appropriate levels, carriers could not operate with bankruptcy as a back-pocket option. As mentioned, currently the FMCSA cannot check the 97 percent of applicants that are truck companies because of a lack of resources.[35] A properly functioning insurance market would give an incentive to insurance companies to price out unsafe companies and close the loophole for unsafe companies to reopen under new names. Insurance companies, at least the successful ones, would run the check that the FMCSA is currently too

According to the FMCSA, 38 percent of carriers are responsible for 90 percent of all fatal crashes

stretched to perform.

Safe carriers and the public at large are presently responsible for the cost of unsafe trucks. Large carriers are often self-insured, and, because they pay the full cost of losses, in effect subsidize unsafe carriers. According to the FMCSA, 38 percent of carriers are responsible for 90 percent of all fatal crashes.[36] Meanwhile society bears the real cost of the risk.[37] In many cases – particularly when multiple people are killed or injured – the $750,000 policy minimum is far too inadequate to pay for all parties medical bills, which often forces the burden on entities such as Medicare, and thus on taxpayers.

Raising these insurance limits to their proper levels – and adjusting them for inflation in the future – would bring back the economic incentives for trucking companies to embrace safety. Even the American Transportation Research Institute – essentially the research arm of the trucking industry – recognizes the need to "strengthen the legal nexus between negligence and liability," although ironically its solution is to limit damages even further, which would do the opposite.[38]

Unlike inspections or new technologies, it is a solution that requires no extra expense on behalf of taxpayers.

Conclusion

There is little question that we will continue to rely on trucks to transport the majority of the nation's freight for the foreseeable future. The percentage of freight traveling by truck is expected to rise to 70 percent within 10 years.[39] By 2023, we can expect 12 billion tons of goods to travel by truck each year. This means the country's already straining infrastructure will see more trucks driving alongside more cars.

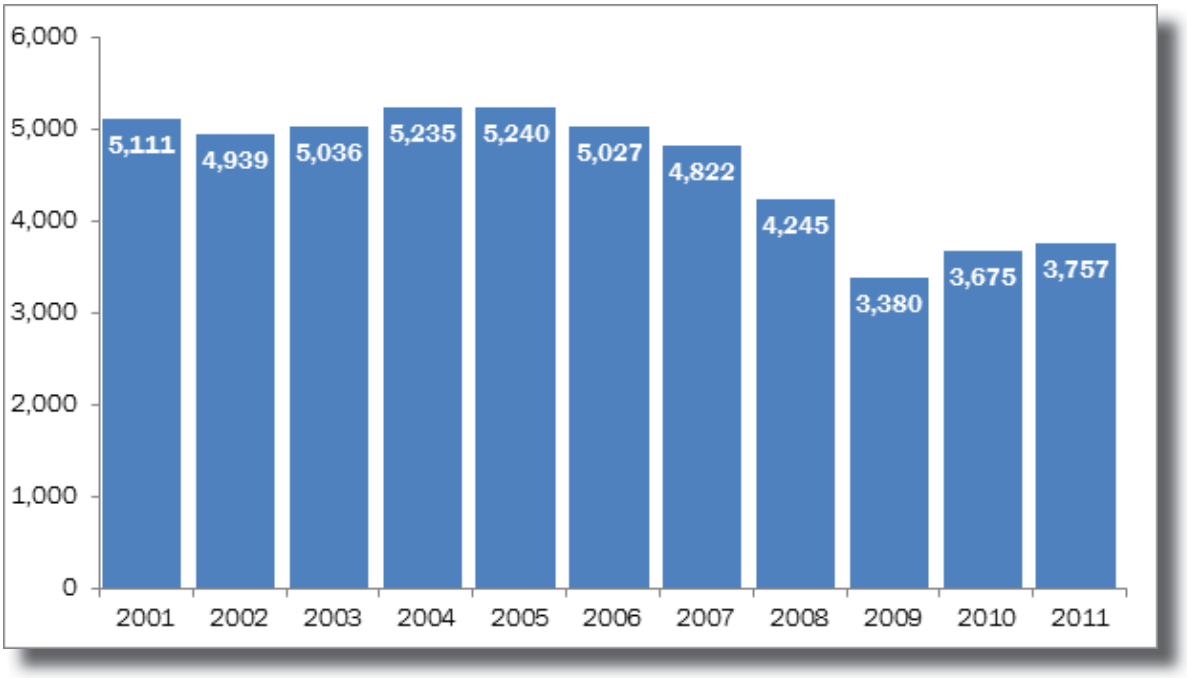
If the current approach to safety is maintained, this future will also involve billions spent on imperfect regulation and hundreds of thousands of people injured. At current levels, the regulators of 2023 will have spent $6 billion over 10 years to catch unsafe trucks, but will still have only targeted a fraction of the millions of trucks on the road. And if the current growth in the fatality rate for truck accidents continues, 58,000 more people will lose their lives.

The future, thus, holds the threat of more of the same, a prospect heightened by the apparent satisfaction both regulators and trucking industry representatives have expressed towards current levels of safety.

The irony is we can make great strides towards increased safety without the kneejerk reaction of throwing more inspectors on the roads. A greater attention to the underlying economic incentives inherent in the industry offers the chance of far more effective safety mechanisms that do not take up ever-increasing resources. Restoring minimum insurance requirements to their originally intended levels would immediately bring to bear the economic pressures of the insurance market and the full accountability of the civil justice system. An emphasis on the realities of truck drivers' work and compensation – not just logged hours – and this simple act of changing insurance requirements, would immediately insert financial, market-based incentives to safety that offer more hope than any number of "brake sweeps."

Appendices

Large Truck Fatalities



Fatal Truck Crashes by State, 2011 (FARS)

State	Total
Alabama	87
Arizona	57
Arkansas	82
California	248
Colorado	42
Connecticut	13
Delaware	9
District of Columbia	2
Florida	194
Georgia	154
Hawaii	3
Idaho	18
Illinois	109
Indiana	111
Iowa	48
Kansas	57
Kentucky	82
Louisiana	71
Maine	16
Maryland	37
Massachusetts	28
Michigan	58
Minnesota	49
Mississippi	58
Missouri	90
Montana	24
Nebraska	27
Nevada	24
New Hampshire	8
New Jersey	49
New Mexico	42
New York	107
North Carolina	108
North Dakota	30
Ohio	105
Oklahoma	95
Oregon	48
Pennsylvania	150
Rhode Island	1
South Carolina	77
South Dakota	10
Tennessee	86
Texas	381
Utah	20
Vermont	6
Virginia	69
Washington	27
West Virginia	32
Wisconsin	68
Wyoming	24
Total	**3,341**

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