The Truth about Overweight Trucks

In September 2015, Representative Reid Ribble (R-WI) introduced legislation in order to allow states to increase the maximum weight of commercial motor vehicles (CMVs) from 80,000 pounds to 91,000 pounds by requiring a sixth axle. Although the measure was defeated in the House (187-236), various organizations and associations have continued their attempts to increase truck size and weight. These groups claim that such an increase would ultimately reduce the number of trucks on the road and thereby decrease congestion, greenhouse gas emissions, and pavement damage all while improving productivity. However, several studies conducted by the Transportation Research Board and the U.S. Department of Transportation have concluded otherwise.

- According to U.S. DOT's 2015 Comprehensive Truck Size and Weight Limits Study,[1] the study team found that the crash involvement rate for the six-axle alternative truck configurations in Idaho, Michigan, and Washington State were consistently higher than the rate for the five-axle control truck. For Washington State, the crash rate for six-axle trucks was 47% higher than the control truck, while Idaho's crash involvement was 99% higher and Michigan's was 400%.
- The U.S. DOT Study concluded that a 91,000 lb., six-axle configuration would negatively affect more than 4,800 bridges, costing $1.1 billion.
- Almost all bridges on the interstate system are built to HS-20 stress specifications which are designed to allow a semitrailer combination with a GVW of 36 tons with 8,000 pounds on the steer axle and 32,000 pounds each on the tractor drive axle and trailer axles. Overstress created by increase size and weight creates the possibility of severe damage, or even collapse, caused by a single extreme overloading event.
- According to FHWA, 27% or 1 in every 4 bridges in the U.S. are considered structurally deficient or functionally obsolete. Damage to highway structures represents the most critical infrastructure cost of allowing larger and heavier trucks on the nation's highways. All of the studies performed by the FHWA, the TRB, and several universities in the last ten years that examined potential impacts of truck size and weight increases have found that the estimated damage to bridges would be the greatest single infrastructure cost to be caused by larger, heavier trucks.[2]
- The U.S. DOT Study found that a 91,000 lb., six-axle configuration would negatively affect rail-bound freight and thus divert more than 2.3 million tons of freight to trucks every year.
- A study by Dr. Carl Martland in 2007 concluded that an increase in truck weight to 90,000 lbs. could divert 10-15% of short line and regional railroad freight to trucks. Dr. Martland's follow up study in 2010 found that the same increase could divert more than 33 percent of general rail freight traffic. Such a modal shift would increase wear and tear on our nation's crumbling

[1] https://ops.fhwa.dot.gov/freight/sw/map21tswstudy/technical_rpts/vol1technicalsummary.pdf

[2] U.S. Department of Transportation, *Comprehensive Truck Size and Weight Study,* Publication Number: FHWA-PL-00-029 (Summary Report), pg. V-1.

infrastructure.[3]

- If heavier trucks are permitted there will be significant pressure for all carriers to provide this capacity. The cost to add an additional axle is around $7,400-$8,000, plus two days of downtime at a cost of $800 per day, which would place the total cost at $10,500. OOIDA members collectively own and operate 240,000 trucks. Thus the estimated expense to OOIDA members is $2,520,000,000.
- An increased number of axles would result in higher toll fees for truckers. To consider the impact of these costs in a real-world application, OOIDA calculated the cost for a truck running a very typical lane from Lake Station, IN to Buffalo, NY. This trip is 498 miles each way (with 152 miles of I-90 not tolled in Ohio) for a travel time of approximately 8 hours. This round trip could easily be run a total of two times a week. The cost for a five-axle vehicle to run this route each way is $84.40, while the cost for a six-axle vehicle is $105.75, an increase of $21.35 one way. If this route was run four times a week, the increase is $85.40 per week or $4,440 over a year.

For all six scenarios, the U.S. DOT found that bridges on the National Highway System (NHS) would require posting, strengthening, or replacement. The two scenarios with the highest increase were scenarios 2 and 3 which allow for a sixth axle. The table below demonstrates the number of bridges that would have posting issues for each scenario. A threshold Rating Factor (RF) value of 1.0 established a potential need for bridge strengthening or replacement. Bridges requiring improvement action on the Interstate System (IS) and the NHS were flagged for improvement when a rating factor equal to or less than 1.0 was observed.

Table 1: Projected Number of Bridges with Posting Issues for the Entire NHS Inventory

Number Of Bridges In The National Bridge Inventory		Load Rating Results					Projected Number Of Bridges W/ Posting Issues For Entire Inventory	
# of IS Bridges in the NBI	# of Other NHS Bridges in the NBI	# of IS Bridges Rated	# of Other NHS Bridges Rated	Vehicle Config-uration	IS Bridges Rated w/ RF < 1.0 (percent)	Other NHS Bridges Rated w/ RF < 1.0 (percent)	# of IS Bridges w/ Posting Issues	# of Other NHS Bridges w/ Posting Issues
45,417	43,528	153	337	Scenario 1	3.3	5.0	1,485	2,194
				Scenario 2	3.3	7.7	1,485	3,360
				Scenario 3	4.6	9.5	2,080	4,135
				Scenario 4	2.6	3.0	1,185	1,293
				Scenario 5	2.0	0.9	890	387
				Scenario 6	6.5	5.6	2,970	2,455

[3] Carl D. Martland, *Estimating the Competitive Effects of Larger Trucks on Rail Freight Traffic* (Sep 2007); Martland, *Estimating the Effects of Larger Trucks on Rail Freight Traffic: Final Report* (Oct 2010)