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July 14, 2006

Honorable David A. Cole, Commissioner  
Maine Department of Transportation  
16 State House Station  
Augusta, Maine 04333-0016

Dear Commissioner Cole:

I have received and carefully reviewed your letter to me dated June 12, 2006. I do not agree with the major claims of your letter about the safety benefits of heavier trucks on the remaining portions of I-95 in Maine. In addition, your arguments on the acceptable stresses placed on Maine's bridges do not withstand close scrutiny. I also remain concerned about the safety of extra-heavy trucks because past studies consistently demonstrate that placing extra weight on combination trucks increases their risk of having crashes. Because I have lost a son in a truck crash I have paid the ultimate price for misdirected government action in support of the trucking industry's agenda at the expense of public safety.

**FICTION: Heavier Trucks Will Result in Fewer Trucks.** In your first paragraph, you argue that heavier trucks on the remainder of I-95 will produce safer operations because when "[c]arrying more cargo, there would be fewer vehicles needed thereby further reducing vehicular interactions that lead to crashes."

**FACT: This claim has no credibility whatsoever.** First, productivity forecasts for Maine and for other states predict rapid growth in freight tonnage over the next several years that will result in substantial increases each year in the number of heavier trucks permitted on Maine's highways. The State of Maine's own freight analysis forecasts an increase in heavy truck volume by 54 percent by the year 2020. No state that has raised truck weights has ever experienced a reduction in the number of trucks in subsequent years. In fact, the opposite always occurs. This has been documented in several places, including studies conducted by the Federal Highway Administration, freight tonnage and truck traffic forecasts performed by several state departments of transportation, as well as being cited in the Transportation Research Board Special Report 267, *Regulation of Weights, Lengths, and Widths of Commercial Motor Vehicles*, National Research Council, 2002.

Opening the remainder of the untolled sections of I-95 to 5-axle combinations at 88,000 pounds and 6-axle combinations at 100,000 pounds will only result in more overweight trucks on I-95 and growing traffic on Maine's non-Interstate highways. In fact, the study to which you refer in your second paragraph that was conducted on heavier trucks on I-95

(*Study of Impacts Caused by Exempting the Maine Turnpike and New Hampshire Turnpike from Federal Truck Weight Limits*, June 2004), did not conclude that opening all of I-95 to heavier trucks would reduce traffic of these heavier trucks on Maine's non-Interstate highways.

**FICTION: Heavier Trucks Are Just as Safe as Lighter Trucks.**

**FACT: Maine has no critical data that can show that crash frequency and severity of the heavier 5- and 6-axle trucks being allowed everywhere in Maine apart from the non-tolled sections of I-95 are the same, much less better, than trucks conforming to the current axle and weight limits of 23 U.S.C. § 127(a).** Studies have shown repeatedly that overloading trucks with higher axle and gross weights than currently permitted under federal law result in an increased risk of crashes for these extra-heavy trucks. For example, this safety problem was identified in the two first Working Papers commissioned by the Federal Highway Administration as the governing research findings for the 1999 *Comprehensive Truck Size and Weight Study*.<sup>1</sup> Similarly, TRB Special Report 267, which I referred to above, concluded that there were no safety data showing that heavier trucks of *any* configuration that exceeded current federal Interstate highway axle and weight limits were just as safe as trucks complying with federal law. Overloaded big trucks take longer to stop, are more difficult to control, and have a higher chance of suffering rollover crashes, as Fancher and Campbell show in the referenced Working Papers. Furthermore, in crashes involving a truck and a passenger vehicle, 98 percent of the fatalities are the occupants of the passenger vehicle. Car occupants are always the loser in crashes with big trucks and the safety of Maine residents will be jeopardized with the current proposal by your department.

**FICTION: Heavier Trucks Can Safely Stress Maine's Bridges.** On page 2 of your letter you state that Maine's bridges both on and off the Interstate are being acceptably and safely stressed by the heavier trucks you allow everywhere except on the untolled sections of I-95.

**FACT: This clearly is not true, and, in fact, Maine's bridges are increasingly deteriorating because of extra-heavy truck loads.** Moreover, Maine's funding shortfalls have become more serious, and a growing backlog of unmet bridge repair and replacement needs is not being addressed by the state. As to your argument for overstressing Maine's HS20 bridges, let me remind you that Maine is not only allowing 100,000 pounds trucks on these bridges designed for 72,000 pounds, but is also allowing 88,000 thousand pounds trucks with up to 44,000 pounds on a tandem axle. These trucks are also using H20 and even H15 bridges, and no axle spacing on a standard 5-axle semi-trailer combination can stay within Bridge Formula B with a tandem axle at 44,000 pounds and 88,000 pounds gross vehicle weight. Many current and recent studies on bridge overstress, including those performed by state highway agencies such as the June 2006 study performed by the Washington State Department of Transportation<sup>2</sup> have

confirmed the more rapid and severe deterioration of HS20 bridges due to extra-heavy truck weights. This and several more studies cited in a note<sup>3</sup> show that the safety margin originally built into Interstate bridges from stressing HS20 bridges by up to 5 percent over the inventory weight rating has evaporated, and that bridge needs in many states have worsened and are accelerating, as they clearly are in Maine, due to the practice of ratcheting truck weights upward on existing, older Interstate bridges.

In addition, your letter fails to mention the serious infrastructure backlog and unmet bridge funding needs that have been documented by your own Department of Transportation as well as by the Maine Better Transportation Association.<sup>4</sup> The American Society of Civil Engineers 2005 Infrastructure Report Card *rated Maine as having one of the worse bridge restoration and replacement problems in the U.S.*<sup>5</sup> Moreover, a report issued by the Federal Highway Administration in April 2004 demonstrated that damage to highway bridges by states allowing extra-heavy trucks represents the most expensive infrastructure cost in the U.S.<sup>6</sup> This same report also emphasizes from the start that most states are substantially underestimating bridge improvement needs and costs because of the generous way they rate bridges. Maine is a case in point, according to your own arguments. Maine is clearly and dangerously overstressing already damaged bridges in the face of increasing funding shortfalls to address bridge deterioration, even on its Interstate highways.

**FICTION: Changes in Truck Fatalities Don't Tell the Whole Story About the Tragic Loss of Lives in Big Truck Crashes.**

**FACT:** As a parent who lost my son and three of his friends in a truck crash I would like to personally respond to the statement in your letter that “any change in small numbers can exaggerate trends from year to year.” These are real lives lost and real parents grieving for their children no matter how small or large the number and no matter how the state tries to explain or justify these fatality trends.

Your own State of the State report from Maine DOT in 2002 emphasizes that truck crashes continue to rise in Maine each year as a result of more freight being diverted from rail to trucks. This is corroborated by the figures on Maine truck crashes for the years 1999-2003. In 1999, Maine reported 623 fatal and non-fatal truck crashes in the state. By 2003, that number had nearly tripled to 1,705 crashes.

One of the main reasons for the increase in truck crashes in Maine is the growing use of heavier trucks that have increasingly displaced safer rail transport of freight in favor of freight movement by highway. As I mentioned earlier, this fact along with your own Department's forecasts for highway freight growth show decisively that not only will the population of extra-heavy trucks continue to expand on the Maine Turnpike, but that it will also expand on Maine's non-Interstate highways as well. There will be no decline in the numbers of trucks using Maine's secondary and township roads. Finally, allowing extra-heavy trucks on the untolled sections of I-95 will affect the state economically. In the study you refer to in your letter commissioned by Maine that was released in 2004,

*Study of Impacts Caused by Exempting currently non-Exempt Maine Interstate Highways from Federal Truck Weight Limits*, the authors concluded that extending the current overweight truck exemption from the Maine Turnpike to all of the state's Interstate highways would cause overweight truck traffic on I-95 to increase while overweight truck traffic on the Turnpike would decrease. The fact is that allowing extra-heavy trucks on the rest of I-95 will reduce toll revenues on the southern Turnpike portion of Maine's I-95.

It is unfortunate for the residents of Maine that state officials, working in close collaboration with trucking interests, are determined to allow giant, overweight combination trucks on all of Maine's highways and ignore all contrary evidence that this is more dangerous than restricting these extra-heavy trucks to lower axle and gross weights. The evidence is also clear that Maine is overstressing its bridges, including both H15, H20, and HS20 bridges throughout the state while facing a crisis in funding that has forced the state to defer capital improvement work plans over the next year. That capital improvement plan already can be viewed as having inadequate funding levels even before the decision was made to defer these badly needed projects.

Maine currently has one of the highest fuel tax levels in the nation, with diesel fuel assessed at 27 cents per gallon and gasoline tax at 25.2 cents per gallon. As pointed out in the recent The Road Information Program (TRIP) report on Maine,<sup>7</sup> all sources of funding in the state, including revenues from the fuel taxes, are inadequate for the capital improvement needs for Maine's roads and bridges. Maine has allowed trucks up to 100,000 pounds on the state's non-Interstate highways for many years and on the Maine Turnpike since the late 1990s. Yet, even the state's fuel taxes and their recent increases in the 21st century continue to reflect almost no difference between the gasoline tax paid by motorists and the diesel fuel tax that is paid by heavy trucks.

Since heavy commercial vehicle user fees and the diesel fuel tax are not based on actual highway cost responsibilities in Maine, the dramatic increase in heavy truck weights on all of Maine's highways, except for untolled portions of I-95, have already substantially increased both the extent and the rate of the destruction of Maine's highway and bridges. This means that the increased costs of restoring Maine's infrastructure are regarded as an economic externality by the trucking industry that is imposed on other, non-trucking highway users. As the U.S. Department of Transportation emphasizes in its concluding chapter of the 2004 study, *Western Uniformity Scenario Analysis*, which I already have cited, when "heavy trucks do not pay the full costs of their operations, other motorists must make up the difference."<sup>8</sup> The study continues by terming these extra cost burdens as inequitable, and that these expanding practices of allowing extra-heavy trucks "contributes to an uneven playing field for railroads and other competitors." The study also emphasizes in the same location that "[b]efore any action is taken with respect to changes in truck size and weight limits that could increase highway improvement needs, plans for financing those improvements should be developed that include how the longer, heavier trucks responsible for additional costs would contribute to paying those costs."

Unfortunately for Maine families there is little evidence that Maine is taking any major steps to ensure adequate infrastructure funding for the state's road and bridge needs. At the same time, you are anxiously moving ahead to accelerate the damage caused by bigger, heavier trucks while the trucking industry dramatically underpays its fair share for the use and destruction of Maine's roads and bridges.

Maine updated a 1982 cost allocation study in 1989. That updated study found that single-unit trucks, especially 4-axle trucks and 6-axle combination trucks were significantly *underpaying* their cost responsibility. That study recommended several mechanisms to improve equitable cost responsibility, including increasing heavy vehicle permit fees and increasing the differential between the diesel and the gasoline fuel tax in Maine.<sup>9</sup> None of these recommendations were adopted and the commodity permit fees recommended for improved cost responsibility equity were abolished in the early 1990s while the weight and number of extra-heavy trucks continued to increase with the approval of the Maine Department of Transportation.

Furthermore, the Maine Legislature requested new cost responsibility information from Maine's Department of Transportation for different vehicle classes. Table 2 of the report from the Maine legislature shows that even at 80,000 pounds gross vehicle weight, a 5-axle semi-trailer combination is underpaying its fair share of highway user costs by *28 percent each year*, or \$1717. As for cars and small trucks, they are overpaying their fair share by *a staggering 36 percent*, or \$285 per passenger vehicle. These findings, of course, are based on heavy trucks conforming to the state's weight laws. However, the *Maine legislature report found that violations of even the generous weight limits on Maine highways are both chronic and pervasive, and that enforcement was poor.*<sup>10</sup>

In short, Maine's motorists are increasingly subsidizing the permissive use of extra-heavy trucks on Maine's highways and bridges, and their lives are increasingly threatened by big trucks because of the state's lack of adequate enforcement of truck weight laws.

I am distressed that the State of Maine is pursuing federal legislation that threatens the safety of our residents and is an enthusiastic partner in the trucking industry's agenda to push for higher weight limits state by state. Based on past history, the trucking industry will go to Congress for a federal law increasing truck weights nationwide, once several states like Maine raise their weight limits. Apparently, Maine is willing to sacrifice the safety of its citizens and visitors to the state, as well as the protection of its enormous infrastructure investment, in exchange for increased trucking industry productivity – an industry that does not pay its fair share for the costs of the increased destruction of Maine's roads and bridges. These productivity increases are achieved by allowing giant, overweight trucks on all of Maine's roads and bridges, from tiny township roads to I-95. Instead of mistakenly championing bigger, heavier trucks as a solution to safety, Maine government officials should be looking at actions and laws that will improve safety so that other families are spared the loss of a loved one.

Sincerely,

Steve Izer

Cc: Members of the Maine Congressional Delegation  
The Honorable John Elias Baldacci, Governor of Maine

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<sup>1</sup> Fancher, P.S.; Campbell, K.L. 1995. "FHWA Comprehensive Truck Size and Weight (TS&W) Study. Phase 1 - Synthesis." "Vehicle Characteristics Affecting Safety and Truck Size and Weight Regulations." Working Papers 1 and 2 Combined. 45 p. Report No. FHWA Docket No. 95-5.

<sup>2</sup> *Legal Load Limits, Overweight Loads, and Pavements and Bridges*, Washington State Department of Transportation, June 2006.

<sup>3</sup> Many bridge engineers do not agree that overstressing a bridge as a routine practice is acceptable. See, e.g., Ghosn and Moses, "Bridge Load Models and Truck Weight Regulations," American Society of Civil Engineers, 1991.

Several states do not use the "operating rating" criterion for bridge stress under which the stress in bridge members is not allowed to exceed 75 percent of the level of stress at which the member would "yield" (deform), but instead use a more conservative "inventory rating" that allows bridge members to experience only 55 percent of yield stress. Maine is indulging bridge overstresses by extra-heavy trucks and is essentially rationalizing excessive stress in exchange for the productivity advantages for the trucking industry gained by overstressing Maine's HS-20 bridges.

- Many overstressed bridges suffer dramatic reductions in structural service life due entirely to extra-heavy truck loads. Many studies over the years have shown this to be true. Overstressing a bridge with excessive weight has been shown to be a third-power function so that small increases over design stress values causes very large and more rapid deterioration of structural capacity. For example, see, *Comprehensive Truck Size and Weight Study – Phase I – Synthesis: Bridges and Truck Size and Weight Regulations, Working Paper 4*, prepared for FHWA, Battelle Team, February 1995; "Chapter V – Bridge, *Comprehensive Truck Size and Weight Study*, FHWA, 1999.
- The recent study, *Western Uniformity Scenario Analysis – A Regional Truck Size and Weight Scenario Requested by the Western Governors' Association*, U.S. Department of Transportation, April 2004, points out that damage to highway bridges represents the single most expensive infrastructure costs of allowing larger, heavier trucks on the nation's highways and that most states substantially underestimate bridge improvement needs and costs because of the generous manner in which they rate bridges for excessive loads. The study also states that the extra safety margin of Interstate bridges constructed years ago has essentially vanished because of overweight trucks. The U.S. DOT in this study openly stated its opposition to increases in truck sizes and weights.
- Maine is also allowing 100,000 pound trucks to traverse scores of non-Interstate H-15 bridges that are being overstressed by 30 percent or more. Moreover, the letter simply ignores the serious bridge rehabilitation and replacement needs that are unmet in Maine that are documented in the following note.

<sup>4</sup> ► *State of the System Report*, prepared by the Maine DOT Systems Management Division in November 2002, points out that Maine has a very large percentage of its bridges that are more than 60 years old and will be in need of restoration or replacement over the next decade. The report indicates that bridge improvement needs are rapidly coming due for post-Depression-era bridges over the timeframe of 2002-2010. The report also stresses that the overall bridge sufficiency rating on the Interstate system had *declined* over the preceding several years. Finally, the report points out near the end that the current level of funding will not address capital improvement needs on Maine's bridges and that Maine will face a rising demand for funding bridge work over the next 15 years.

► The Maine Better Transportation Association has 22 single-spaced pages of deficient bridges in Maine in a 2005 report. Several of the deficient bridges are I-95 and I-395 bridges that the Commissioner of Maine DOT states as acceptably overstressed and wants to open to use by overweight trucks.

► *Losing Ground: A Report on the State of Maine's Highway Fund*, Maine Better Transportation Association, July 2005, chronicles decades of neglect and deterioration of Maine's bridges, including decay to the point of requiring emergency responses by a Maine DOT already underfunded for basic state infrastructure needs. Numerous bridges in Maine have been posted for years at lower weight limits because they have deteriorated and funds are not available to restore or replace them.

► The Summary of the Maine Governor's Capital Transportation Funding Working Group published on January 31, 2006, states that Maine faces a funding and infrastructure crisis. In the fall of 2005, the Maine DOT was forced to defer transportation projects, including many bridge projects, worth \$130 million or 20 percent of Maine DOT's 2006-2007 Capital Work Plan because of unprecedented increases in costs and other funding shortfalls.

► That statement of project deferrals for the Maine DOT 2006-2007 Capital Work Plan was published in November 2005 and repeats the narrative that deferral of pressing infrastructure improvements, including bridge work, will be necessary because of underfunding.

<sup>5</sup> *Infrastructure Report Card 2005 – Maine*, American Society of Civil Engineers, 2006, <http://www.asce.org/reportcard/2005/index.cfm>.

<sup>6</sup> “Western Uniformity Scenario Analysis – A Regional Truck Size and Weight Scenario Requested by the Western Governors’ Association,” *op. cit.*.

<sup>7</sup> *Maine's Roads and Bridges: An Analysis of Maine's Transportation Systems to Meet the State's Need for Safe and Efficient Mobility*, The Road Information Program (TRIP), October 2005.

<sup>8</sup> “Western Uniformity Scenario Analysis,” *op. cit.*, XI-1.

<sup>9</sup> See, *Final Report of the Task Force on Rail Transportation*, State of Maine, 120<sup>th</sup> Legislature, Second Regular Session, November 2002, p. 16.

<sup>10</sup> *Id.*, Table 3 and p. 18.