Commission Briefing Paper 4J-02

Implications of Potential Revisions to Truck Size and Weight Standards

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Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the State-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

Truck Size and Weight (TS&W) embodies the politically charged trade-offs between increases in TS&W limits to reduce transportation costs and improve trucking productivity and potential impacts on safety, highway infrastructure, and other freight transportation modes. There have been numerous studies of potential size and weight changes over the years, but none generated a consensus that the benefits of TS&W changes would exceed the costs.

Background and Key Findings

It would strain the limits of this 10 page paper to provide full history, current practices, and policy options encapsulated in TS&W regulations. Rather this paper will only highlight some of the rules, regulations and history as a backdrop to the recent analysis and research on TS&W issues.

The current TS&W regulations are a blend of Federal and State regulations. Federal law controls maximum gross vehicle weights and axle loads on the Interstate System. Current Federal weight limits are 80,000 pounds gross vehicle weight, 20,000 pounds on a single axle, and 34,000 pounds on a tandem axle group.[1] A Federal "bridge formula" controls the allowable weights on different groups of axles to protect bridge structures from overstress. Pavement deterioration increases exponentially with axle loads. Increasing allowable tandem axle loads from 34,000 pounds to 36,000 pounds,[2] a six percent increase, could increase pavement wear by 20-25 percent. The more axles under a vehicle, the less the pavement damage at any given load.[3]

When the Federal limits were imposed in 1956, thirty-three States had laws in effect that allowed higher weights on some highways. Those higher weight limits were "grandfathered" and States were permitted to allow those higher weights on their Interstate highways. Since 1956 many State-specific exemptions, higher than Federal weight limits on the Interstate System, have been

[1] A tandem axle is two or more consecutive axles whose centers are spaced more than 40 inches apart but not more than 96 inches apart. This information and many more frequently asked truck size and weight questions are available at http://vsw.fhwa.dot.gov/qa/qa.jsp?category=23%20CFR%20658.17.
[2] A 36,000 pound tandem would also violate the Federal bridge formula.
[3] This benefit to pavement of adding axles to a group decreases rapidly beyond 4-axles.

enacted. These often pertain only to individual commodities or specific highways. All States may issue permits allowing vehicles carrying non-divisible loads to operate above Federal weight limits on the Interstate System, and a majority also have grandfathered authority to issue divisible load permits.

In 1982, to promote uniformity in State size and weight limits affecting Interstate commerce, minimum Interstate weight limits were added to the maximums already in effect. In addition, Federal minimum length limits for certain combination vehicles were imposed on the 46,000 mile Interstate system and an additional 160,000 mile, State-selected network (creating a National Truck Network).[4] A small number of so-called "barrier States" limited weights on their Interstate and other highways to 73,280 pounds, instead of the 80,000 pounds allowed on the Interstate System since 1975. This became a significant constraint on interstate commerce, and in 1982 all States were required to allow vehicles weighing up to the Federal maximums limits on the Interstate System. In addition States were required to allow tractor-trailer combinations with a single 48-foot trailer or twin trailer combinations with 28.5-foot trailers on the National Truck Network.

Despite Federal efforts to promote some uniformity in State truck size and weight limits, only 7 States apply the federal limits State-wide without modification.[5]

In recognition of the additional infrastructure wear and tear caused by heavy vehicles, the Federal and State governments charge trucks higher user taxes than they do passenger vehicles.[6] Those additional user fees, however, do not cover the additional wear and tear in most cases. The latest Federal Highway Cost Allocation Study found that the most common over-the-road trucks pay only about 80 percent of their cost responsibility. If truck size and weight limits were increased and truck-related wear and tear increased, trucks would pay an even smaller share of their cost responsibility unless truck fees were also increased.

Projected increases in highway, railway and waterway freight are often used as a rationale for TS&W increases. Total truck and rail ton-miles are expected to double from 2004 to 2035.[7] Commercial truck traffic, measured in vehicle-miles traveled, has doubled over the past two decades and vehicle miles traveled by truck are expected to increase over 3 percent per year through 2020, compared with 2.5 percent for passenger vehicles. According to the American Trucking Associations (ATA), the trucking industry operates 1.8 million tractor-trailers and 6.2 million heavy-duty commercial trucks that log over 117 billion miles annually.[8] Data from the Freight Analysis Framework (FAF) estimates that trucks carried about two-thirds of the value of goods and moved 60 percent of the freight tonnage in 2002.

[4] The National Network for Large Trucks (NN), also called the national truck network, comprises the Interstate System and the additional 160,000 miles of State nominated routes.
[5] U.S. Department of Transportation Comprehensive Truck Size and Weight Study, Volume II, p. II-12.
[6] According to the USDOT 1997 Highway Cost Allocation Report, "combination trucks have an average cost responsibility of about 7 cents per mile, more than 10 times the cost responsibility per mile for automobiles" at 0.65 cents per mile.
[7] AASHTO projections provided by Global Insight.
[8] http://www.nitl.org/spring-policy06/TimLynchATAPresentation.pdf

Complex laws and regulations combined with projected freight increases have created a fertile ground for policy makers and researchers to propose changes in truck size and weight limits that would balance system preservation, safety, productivity and mobility. This paper discusses 5 potential revisions, briefly discussing the core of each option and major hurdles or concerns that might be involved in implementation. The options include:

(1) Maintain the Current TS&W Regulations;
(2) Expand Federal Investment in Intermodal Rail;
(3) More Productive Vehicles on Existing Infrastructure;
(4) More Productive Vehicles on Exclusive Truck Lanes; and
(5) Cost Recovery Pricing.

Each option must consider safety, infrastructure, productivity and cost responsibility. Some TS&W proposals do not require trucks to pay their full cost responsibility under the argument that trucks provide economic growth.[9] Over the years, many options have been proposed and examined. The 5 options are chosen to illustrate the complexity of the issues involved in potential revisions to the TS&W standards.

Current Size and Weight Regulations

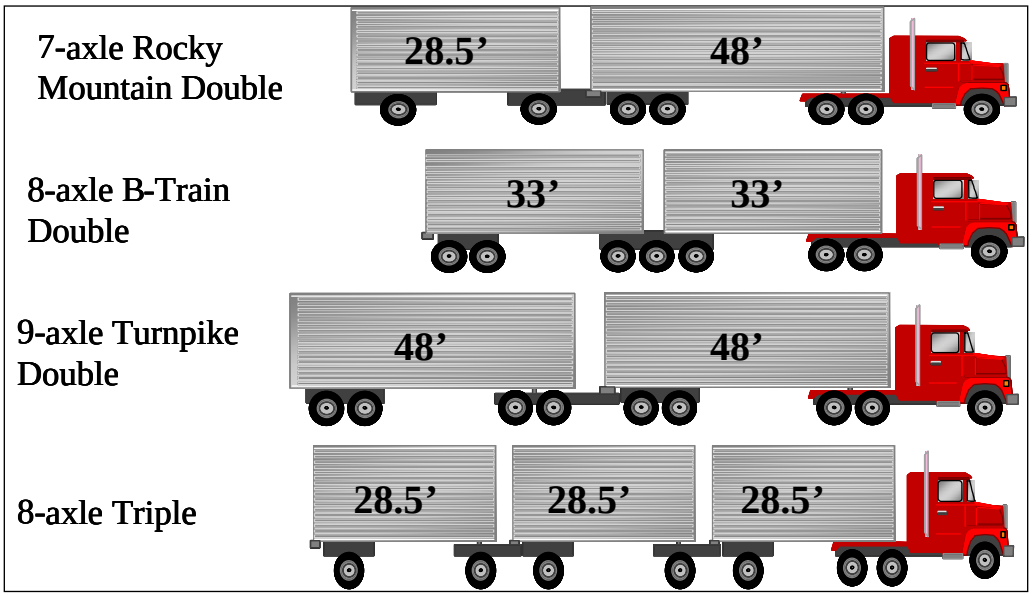
As discussed above, TS&W regulations are a complex combination of Federal and State regulations. The interpretation of TS&W regulations requires a comparison of Federal and State laws. Beginning with the 1956 law, there were only 4 Federal limits - single axle weight, tandem axle weight, gross weight and width. But there was, and is, a separate grandfather right for each of the corresponding maximum weights. Under the first three weight-related limits, thirty-three States have some grandfather exemption to the Federal limits and thirty-seven States have grandfather authority to issue divisible load permits. In 1975 the Federal single-axle, tandem-axle and gross weight limits were increased, and Bridge Formula B was enacted to control the relationship between the spacing and allowable weight on axles and groups of axles.[10] The Surface Transportation Assistance Act of 1982 (STAA) extended Federal law beyond the Interstate System for the first time. States were required to allow vehicles 102 inches wide, semi-trailers at least 48 feet long, and double-trailer combinations with two 28.5-foot trailers. STAA vehicles were allowed to run on the National Network for Large Trucks, which includes the entire Interstate System (46,000 miles) and 160,000 miles of other roads designated by the States in consultation with the Department of Transportation.

Individual States impose various other dimension and weight regulations for different classes of roads. For example many States allow heavier trucks off the Interstate System than are allowed under Federal law on the Interstate System. This not only results in more wear and tear on highways that often are less durable than Interstate highways, but also in more heavy truck traffic on two-lane arterial roads that are not nearly as safe as limited-access Interstate highways. It also leads to enforcement difficulties, for example if a trucker's route requires the use of a short segment of an Interstate highway. The trucker can either choose to travel at 80,000 pounds for

[9] This argument meets stiff resistance from the competing modes of rail and water where such cross subsidization is not available. Economists generally believe that subsidies lead to misallocations of resources.
[10] 23 U.S.C. 127 and 23 CFR 658.

the whole trip or at the heavier State limit and risk a potential violation.[11] Some States have argued for increases in Interstate weight limits to reduce the diversion of truck traffic to other roads with higher weight limits and ease enforcement; an alternative, of course, would be to reduce the higher weight limits off the Interstate System.

Figure 1: Examples of Longer Combination Vehicles with Typical Trailer Lengths



In the 1960s and especially the 1970s, States used their grandfather rights to authorize the operation of multiple-trailer combinations much heavier than the Federal Interstate limits: Longer Combination Vehicles (LCVs) (see Figure 1). The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) placed a freeze on the operations of LCVs. That law defined an LCV as a tractor and two or more trailers or semitrailers operating on the Interstate system with gross-vehicle weights exceeding 80,000 pounds. The legislation allowed LCV combinations in actual and lawful operation under State law on June 1, 1991 to continue in operation, if the State desired. Further, ISTEA prohibited all States from expanding routes or removing restrictions related to LCVs. The "ISTEA freeze" restricts LCVs to 16 States west of the Mississippi River and 5 State turnpikes east of the Mississippi River that allowed these vehicles in 1991. The LCV regulations and operations are not uniform among the States and turnpikes. The USDOT's 2004 Western Uniformity Scenario[12] analyzed a proposal for uniform limits among the 13 participating States. The report concluded that "Strong support from elected officials of States within the region for a change in truck size and weight limits has not been evident to date, and there is no compelling Federal interest in promoting changes that are not strongly supported by the affected States."

[11] Truckers, like all economic agents, weight their expected benefits and costs. If the expected penalty cost is low, either from lax enforcement or low fines, and out-weighted by the financial benefit then violations will be more common.

[12] The Western Uniformity Scenario was a follow-on report requested by the Western Governor's Association and analyzed long doubles up to a 9-axle turnpike double of 129,000 pounds and triple trailer configurations up to 110,000 pounds on a uniform road network (http://www.fhwa.dot.gov/policy/otps/truck/index.htm).

Purpose of Size and Weight Regulations

The 2002 TRB Special Report 267, *Regulation of Weights, Lengths, and Widths of Commercial Motor Vehicles*, provides the principal reasoning behind the creation of TS&W rules:

- Because trucks are the biggest and heaviest users of highway and bridge infrastructure, the size and weight limits set for them define the necessary strengths of pavements and bridges, lane widths, horizontal and vertical alignments that designers and engineers must accommodate in building infrastructure;
- Size and weight limits protect existing infrastructure from excessive wear and tear associated with the operation of trucks exceeding the limits for which the infrastructure was designed;
- Truck dimension and configuration standards affect vehicle handling, stability, and traffic interactions, thus protecting public safety and mitigating traffic congestion impacts;
- Size and weight limits may also serve to control competition between trucks and other freight modes, although this purpose is not always acknowledged; and
- To promote uniformity in interstate minimum standards so as to promote commerce by reducing trucking costs.[13]

The Federal role in truck size and weight regulation was largely motivated by the desire to protect the Federal investment in the Interstate System and allow uniformity in geometric designs.[14] Revisions to Federal standards made in 1982 required States with more restrictive standards to conform to Federal standards. This action removed some restrictive State limits that impeded the flow of commerce and increased trucking costs unnecessarily.

Potential impacts of TS&W increases on the railroad industry have been an issue. However, as noted in Volume II of the *Comprehensive Truck Size and Weight Study*, "Trucks and railroads do not compete head-to-head for each commodity. Typically trucks have a higher concentration of low density high-value items. And, rail hauls more bulk commodities. The rise of truck/rail joint ventures and the use of new intermodal technology have changed the playing field. In many areas, truck and rail traffic can grow in unison, taking advantage of new opportunities in a dynamic marketplace." Modal competition factors into the discussion when changes in regulation confer benefits on one mode for which the mode does not pay the full cost to the public of providing such benefits.

Enforcement of TS&W regulations is a key issue because overloaded trucks contribute significantly to the wear and tear of highway infrastructure and to the costs of maintaining that infrastructure in a good State of repair. Enforcement is particularly important if TS&W limits are increased and legal operations become more damaging. Overweight operations under such circumstances could become even more of a problem.

Potential Options

To illustrate the kinds of truck size and weight policy changes that have been discussed, this section contains a brief discussion of 5 potential revisions to the TS&W standards. The revisions were chosen for discussion purposes only. They do not reflect policies or options that the

[13] TRB, Special Report 267, pp. 15-18
[14] TRB, Special Report 267, p. 18

USDOT endorses or that are necessarily endorsed by any other group. For ease of exposition, the options are treated as stand-alone items, but elements of each could also be combined.

The TRB Special Report 267 summarizes important considerations related to TS&W policy:

- *Opportunities exist for improving the efficiency of the highway system through reform of federal truck size and weight regulations. Such reform may entail allowing larger trucks to operate.* TRB found that present Federal standards are: not based on clear definitions of objectives and analysis of alternatives; poorly suited to the demands of international commerce; and eroded by ever-expanding numbers and types of special exemptions. Freight traffic is bypassing Interstate highways (the safest and most efficient roads) to use secondary roads where limits are less restrictive, but the costs generated by that traffic are higher. TRB notes that the "greatest deficiency of the present environment may be that it discourages private- and public-sector innovations aimed at improving highway efficiency and reducing the cost of truck traffic because vehicle regulations are inflexible and because highway users are not accountable for all the costs they generate."
- *Appropriate objectives for federal truck size and weight regulations are to facilitate safe and efficient freight transportation and interstate commerce, to establish highway design parameters, and to manage consumption of public infrastructure assets.* TRB notes that the evaluation of Federal size and weight regulation should take into account how it affects all costs of highway transportation.
- *Changes in truck size and weight regulations made in coordination with complementary changes in the management of the highway system offer the greatest potential to improve the functioning of the system.* The best way to control the costs of accommodating existing and future truck traffic is by coordinating practices in all areas of highway management: design and maintenance of pavement and bridges; highway user regulations, including vehicle and driver regulations related to safety; and highway user fees. If size and weight increased substantially system wide it could take a major public investment in infrastructure and management to improve the structural capacity of the system to maintain the level of service and safety and mitigate potential damage to bridges and pavements.
- *The methods used in past studies have not produced satisfactory estimates of the effect of changes in truck weights on bridge costs.* Past studies have not evaluated the changes in the risk of bridge failure or in the useful life that would be caused by changes in truck weights. Rather they have estimated the cost of maintaining the existing relationship of legal loads to bridge design capacity.
- *It is not possible to predict the outcomes of regulatory changes with high confidence.*
- *It is essential to examine the safety consequences of size and weight regulation. Research and monitoring needed to understand the relationship of truck characteristics and truck regulations to safety and other highway costs are not being conducted today.*
- *Although violations of size and weight regulations may be an expensive problem, monitoring of compliance with the regulations is too unsystematic to allow the costs involved to be estimated.*

1 - Maintain the Current TS&W Regulations

With a few minor exceptions the TS&W standards discussed earlier in this paper have been in force since 1991, and most date back even earlier. The motor carriers have aligned their

equipment to meet the TS&W standards and to meet the needs of their clients. Large and small carriers compete on a relatively even playing field since the needed equipment is readily available. States have been able to plan, design and maintain their infrastructure for a known standard. States, particularly those with older infrastructure, have had years to upgrade, modify or post roadways and bridges to match the trucks over the last 16 years. So in theory there is no reason to necessarily increase limits for either size or weight.

Proponents of the status quo cite the evidence of the growing number of permits, commodity-specific exceptions and lobbying for increased TS&W as merely part of the public discourse. They believe that regardless of the size and weight limits those activities would continue. Some segments of the trucking industry and some State trucking associations prefer the status quo because increasing size and weight limits would require investment in new equipment and might result in small carriers being competitively disadvantaged since they would not have the reserve capital necessary to purchase the new equipment.

Proponents of the status quo also question the safety of larger and heavier trucks. There is little data upon which to statistically compare the safety of longer combination vehicles with conventional vehicles. While allowing larger trucks could reduce total truck travel and thereby reduce the exposure to crashes, there is uncertainly about the relative safety of the larger, heavier vehicles. Motorist groups have consistently opposed increases in TS&W limits because of safety concerns and discomfort in sharing the road with larger vehicles.

Proponents of changing the status quo argue that the current system is unnecessarily complex. Also, studies of potential truck size and weight changes have generally concluded that freight cost savings from the use of larger, heavier trucks would exceed infrastructure costs; however, whether the added infrastructure costs caused by heavier trucks could be captured by higher taxes on those vehicles has been an issue.

2 - Expand Federal Investment in Intermodal Rail

Shippers choosing between truck and rail often consider a trade-off between price and service. In terms of price-per-ton-mile, rail service is less expensive than truck service. In terms of service quality, truck service offers door-to-door delivery and typically faster deliveries. Trucks and railroads compete directly for intermodal freight, as evidenced by the closeness of the pricing between the modes. For many originations and destinations, intermodal rail is more competitive for shipments moving over 500-700 miles, while trucks dominate shipments moving less than 500 miles.[15]

Although not strictly a truck and size and weight policy option, promoting greater use of rail intermodal service rather than increasing truck size and weight limits may be an option to achieve the common goal of improving freight transportation productivity. There are three different alternatives for intermodal rail investment. The first type is investments to increase the efficiency of rail links and terminals. Examples of these investments include the Alameda Corridor, Chicago CREATE, and the Kansas City Flyover. These investments create efficiencies for both the rail and truck operations in the area – reducing rubber-tire interchanges and at-grade separation of rail and roadway vehicles. These intermodal link investments are often in areas

[15] Bureau of Transportation Statistics, Commodity Flow Survey

with environmental concerns and high urban costs for construction. The second type is operational investments, an example of which is Electronically Controlled Pneumatic Brakes (see Commission Briefing Paper II-D-01 p. 8). The ECP brakes allow both more cars per train and shorter headway between trains. The third type of investment is mainline track expansion.

While these investments may not remove a large percentage of total trucks, rail investment options may be a viable option in certain corridors. Truck and rail operations should be viewed as part of a total picture to provide the U.S. economically efficient freight movement.

3 - More Productive Vehicles on Existing Infrastructure

The USDOT's Comprehensive Truck Size and Weight Study analyzed several scenarios of larger and/or heavier vehicles on the existing infrastructure, including: (a) longer combination vehicles maximized to bridge formula B weights[16]; (b) allowing more gross vehicle weight for a tridem axle at two different weights[17]; (c) triples only[18]; and (d) a western uniformity scenario[19]. The study's scenarios estimated a large diversion of freight from current 53-foot trailers and rail intermodal to the longer and heavier configurations. The analyzed vehicles caused bridge costs to escalate but pavement impact was slightly reduced; both shippers' costs and energy consumption decreased substantially.[20] It is important to note that the scenarios did not test any cost recovery mechanisms for the bridge, geometric, or increased enforcement costs.

4 - More Productive Vehicles on Exclusive Truck Lanes

In 2004, Robert Poole and Peter Samuel updated their 2002 Reason Foundation report analyzing a national system of truck toll roads in "Toll Truckways: Suggested Locations for Pilot Projects."[21] Poole and Samuel choose the truckway locations to ensure that the truckways would be least partially self-sufficient with low building costs (rural interstate with undeveloped medians) and a high percentage of trucks. Key to the viability of these truckways would be allowing longer and heavier vehicles to use them. Without allowing more productive vehicles Poole and Samuel concluded there would not be sufficient incentive for enough truck traffic to use the toll truckways to make them self-supporting. These inter-city truckways would be added to the median of the right-of-way of existing Interstate highways. The roadway would have one lane and 6-foot shoulders in each direction separated by a concrete Jersey barrier in the median, dividing the two directions of truck travel and side barriers to separate the truckway traffic from the mixed-flow lanes. In addition, the truckway would require marshalling yards, access and egress facilities.

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[16] The LCVs nationwide scenario tested on restricted networks 7-axle short doubles up to 120,000 pounds; 9-axle double 53 foot trailers up to 148,000 pounds; 8-axle intermediate double up to 124,000 pounds; and triple trailers up to 132,000 pounds.

[17] The North American Trade Scenarios examined two weights, one consistent with current international operations and the other allowing a container at the International Standards Organization (ISO) limits. The specific weights were a 4-axle single unit trucks at 64,000 or 71,000 pounds; 6-axle tractor-semitrailer at 90,000 or 97,000 pounds; and 8-axle B-train double at 124,000 or 131,000 pounds.

[18] Triples nationwide analyzed 7-axle triple trailers up to 132,000 pounds.

[19] The Western Uniformity Scenario was prescribed by the Western Governor's Association examine a continuous network among 13 States with doubles allowed 129,000 pounds gross vehicle weight and twin 48-foot trailers in addition to triples.

[20] USDOT, Comprehensive Truck Size and Weight Study ,Volume III.

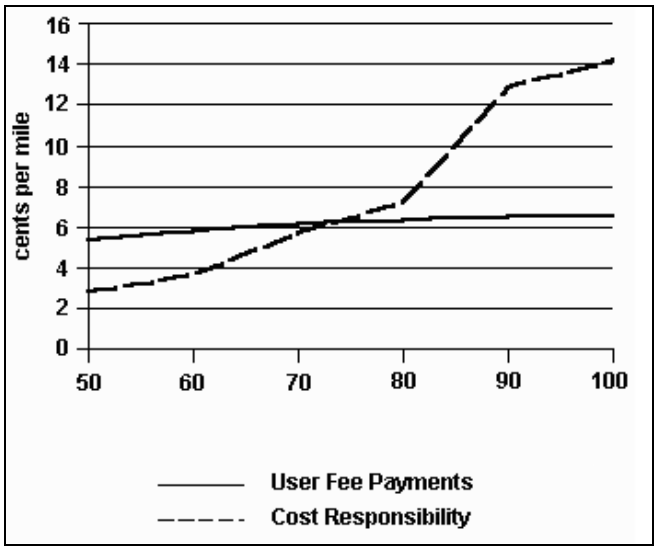
[21] http://www.reason.org/ps316polsum.pdf

Critics have challenged some assumptions in the Toll Truckway report, but toll truckways would be one way to realize the productivity benefits of larger and heavier trucks while reducing potential safety problems associated with interactions between larger trucks and the rest of the traffic stream. Site-specific analysis would be required to determine whether toll truckways would be feasible and desirable in particular corridors. (See Commission paper 4G-03 for more discussion on this issue.)

5 - Cost Recovery Pricing

A scenario of cost recovery pricing could cut across and fit within any of the other 5 options. It is discussed separately to highlight some of its unique considerations and needs. In its boldest form the option would allow carriers to use any truck configuration if they pay the cost of the operation. For example the provisions could allow a gross vehicle weight of 95,000 pounds on a standard 5-axle truck or a 6-axle tridem truck with pavement friendly shocks and other technologies. The 6-axle tridem would be charged less than the standard 5-axle truck thus incentivizing carriers to use the vehicle with the most economical profile from a societal point of view. The growth of low cost GPS and electronic vehicle identification technologies make such a scenario feasible from the enforcement and cost recovery stand point. Since the cost responsibility for 5-axle tractor semitrailers increases rapidly with respect to increased weight (see Figure 2) the user pay scheme could potentially provide incentives for carriers to use infrastructure friendly configurations.

Figure 2: 2000 Comparison of Federal User Fee Payments and Cost Responsibility for 5-axle Tractor Semitrailer at Different Weights[22]



There are several difficulties in implementing such a system in its purest form as described above. First is the assessment of costs. Infrastructure costs can vary widely for a given vehicle depending on its weight and the highway type. Any pricing system would have to be able to take those variations into account. The technology is becoming available to do this, but would be

[22] USDOT, 1997 Federal Highway Cost Allocation Study Summary Report, August 1997, p. 14.

costly to implement immediately. In the longer term if vehicles were already equipped to pay a mileage tax, the incremental cost to collect a weight-distance tax would be lower. The second difficulty would be opposition from the trucking industry that has always opposed weight-distance taxes. The use of new technology could reduce some of their technical arguments against weight-distance taxes, but their general opposition would remain. Federal and State tax collection agencies could also have issues with more complex taxing mechanisms that were more expensive to administer and enforce. Another issue is the potential for more rapid deterioration of the infrastructure. While it is true that fees would be collected to compensate for added wear and tear, but whether those fees would be returned to maintain the highways in a State of good repair is unclear.

Finally, allowing larger, heavier trucks is not only an infrastructure preservation issue, but it can also have safety implications. Without more axles, a longer wheelbase, or other compensating factors, increases in a vehicle's gross weight can raise its center of gravity and make it more susceptible to rollover. Likewise, increases in a vehicle's length may make it less maneuverable and less suited to travel in dense traffic conditions. Thus it likely would not be possible to remove all size and weight regulations and replace them with user charges intended to capture added infrastructure costs.

While there are difficulties in implementing a pricing mechanism to serve as a substitute for size and weight regulations, the principle that different vehicle classes should pay for the infrastructure damage they cause is important. As noted above, the 2000 Federal Highway Cost Allocation Study concluded that many of the heaviest trucks are not paying for the infrastructure costs they create. Many State cost allocation studies have come to the same conclusion. Furthermore fees charged by most States for oversize/overweight permits do not cover the added infrastructure costs associated with permit operations.

Conclusion

Any changes to truck size and weight policy and regulation have cost implications to consider along with extensive coordination requirements throughout the nation. The research that has been conducted over the past 10 years has not given a clear path to the future but has provided critical analysis for consideration. Nearly all of the research has supported the four underpinnings of infrastructure preservation, safety, productivity and mobility. That research has failed to provide proposals for TS&W changes supported by the partners involved in moving freight. One alternative is to conduct further research on some of the elements that may be lacking before making a determination, such as safety implications of LCV operations and critical infrastructure analysis associated with implementing revisions on a particular network. Yet another option would be considering alternatives, such as piloting different configurations on exclusive truck lanes, where safety and productivity would be paramount. In looking at possible changes in TS&W regulations, it is also important to examine modal share, vehicle configurations and designs, and environmental considerations.

CONSOLIDATED COMMENTS FROM MEMBERS OF THE BLUE RIBBON PANEL OF TRANSPORTATION EXPERTS - PAPER 4J-02

One reviewer commented as follows:

This is a very good, well-balanced treatment of a complex and controversial topic. With that in mind, this reviewer offers the following comments:

On page 3, footnote 9 states: "This argument meets stiff resistance from the competing modes of rail and water where such cross subsidization is not available." This is true for rail, not for water. "Barge operators on the inland waterways pay taxes that cover only about 20 percent of the amount the Corps of Engineers spends on navigation projects." (Source: Congressional Budget Office, *Freight Rail Transportation: Long-Term Issues*, January 2006, p. 17.)

On page 5, the paper states "Potential impacts of TS&W increases on the railroad industry have been an issue. However, as noted in Volume II of the Comprehensive Truck Size and Weight Study, "Trucks and railroads do not compete head-to-head for each commodity...." This is true, but as written this statement (combined with the sentences that follow) could be taken to imply that there really isn't much traffic for which railroads and trucks compete. In fact, there is, which is one of the reasons why TS&W is such an important issue for railroads.

Another reviewer commented as follows:

This paper identifies the challenges associated with maintaining or changing the current truck size and weight (TS&W) regulations and concludes that research to date has failed to establish a consensus regarding the benefits and costs of TS&W changes. It recognizes that if TS&W were increased, truck-related wear and tear would also increase and it would take a major public investment to improve the existing infrastructure and management. Consequently, truck user fees would have to increase as well, in a bid to capture the larger share of truck's cost responsibility. However, studies that have investigated potential impacts of larger and/or heavier vehicles on the infrastructure have not included any cost recovery mechanisms. Such mechanisms can be incorporated in exclusive truck lanes and/or truck ways, which could be a promising avenue for meeting changing demand patterns and operational characteristics. The paper synthesizes adequately the state-of-the-practice but could benefit from explicit directions for future research to address ambiguities in the present body of knowledge. Increasing truck sizes and weights can greatly benefit the trucking industry. With separate truck lanes or separate truckways these increases can be effectively pursued.