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BEFORE THE SENATE COMMITTEE ON PUBLIC WORKS

SUBCOMMITTEE ON TRANSPORTATION

ON

PROPOSAL TO RELIEVE COMMERCIAL VEHICLE OPERATORS

FROM BURDENS IMPOSED BY THE ENERGY CRISIS.

February 20, 1974

Mr. Chairman and members of the Subcommittee

I am Norbert T. Tiemann, Federal Highway Administrator. I appreciate this opportunity to discuss with the Subcommittee, the Department of Transportation size and weight recommendations for relieving the trucking industry, the shippers who rely on it, and in a very real sense, the consuming public in general, from the serious effects of the energy crisis.

The energy crisis manifests itself in the commercial highway transportation area in both direct and indirect ways. Directly, there is a documented shortage of gasoline and diesel fuels. This shortage shows up both in unavailability of fuel, and in increased prices for the fuel available. This may in turn result in either immobility or unprofitable operations for the trucking industry, to the grave economic detriment of

the public they serve. These problems are well recognized, and are under direct attack by other executive branch agencies, under the fuel allocation mandates recently enacted by Congress.

One Federal response to the energy shortage was the enactment of the Emergency Highway Energy Conservation Act, which established the 55 mph limit on the nation's highways, including the Interstate System. In those States in which the general speed limit was 65 mph, it may be safely assumed that average truck speeds will drop commensurately with the upper limit, resulting in an average increase of 10 to 15 percent in freeway travel times. On highways other than Interstate, or limited access roads, the increase in travel time may not be as great.

However, there is an evident loss of productivity. This loss of productivity translates into a reduction in the total trucking capacity available, on the order of 8 percent over all highways. Segments of the trucking industry and the shipping community have voiced serious complaints about this situation.

In real terms, this means that a run which could have been completed in 10 hours previously, may now take 11 hours. The difficulty is that, as a practical matter, the Motor Carrier Safety Regulations issued under Part II of the Interstate

Commerce Act prohibit one driver from driving over 10 hours a day. The carrier is now faced with the necessity of using two drivers, or relays, or of abandoning the service, all with adverse economic consequences. While we have the power to change these hours-of-service regulations, under the transfers of authority from the ICC in the Department of Transportation Act, the foundation of the rules is in safety considerations. We have in progress, studies which seem to indicate that driver fatigue is a safety factor which cannot be compromised without unacceptably increasing the existing risks of large scale accidents. Of course, we carefully consider any and all proposals for detail improvements in the hours-of-service rules, but it is doubtful that any change in those rules alone could closely approach a solution to the problem.

One possible course of action is to increase the existing weight limitations on the Federal-aid Interstate System. This cannot be done by administrative action, but will require legislation. Our recommendations for relief today are not intended as an overall revision of the Federal weight limitation on a long run basis, but rather are directed toward providing temporary immediate relief to sectors of the economy suffering, in part, due to governmental action.

Under existing law, vehicles using the Interstate System are limited to a maximum single axle weight of 18,000 pounds, a maximum tandem axle weight of 32,000 pounds, and a maximum

gross weight of 73,280 pounds. Widths are limited to 96 inches. However, under a grandfather clause, which permits States to retain higher 1956 limits, 22 States presently permit maximum single axle weights in excess of 18,000 pounds, 24 States permit tandem axle weight in excess of ~~73,280~~<sup>32,000</sup> pounds. Off the Interstate System, 11 States permit greater widths or weights.

Legislation to provide relief from these limits should take into account the configuration of vehicles which use, or could use, the Interstate System. These include the straight truck and the tractor-semitrailer combination as the most common vehicles in use. Other combinations are possible. A straight truck may pull a full trailer, or the tractor may pull a semitrailer and a full trailer of various lengths. In this last category, twin 27 foot and twin 40 foot cargo trailers are in use. The 27 foot twins are permitted in 33 States and are called "Western Doubles," while the 40 foot twins are permitted on certain turnpikes under strict regulation and are called "Eastern Doubles." Of course, trailers in combination need not be of identical length, and an 18 foot long full trailer called a "pup" is sometimes towed behind a 40 to 45 foot semitrailer.

The empty curb weight of a tractor-semitrailer rig is generally in the neighborhood of 20,000 pounds. Approximately

4,000 pounds must be added for refrigerated trailers which move perishables. When full trailers are added to a configuration, the weight increases generally according to added length of the empty combination. Thus, approximately 1/5 to 1/4 of the presently permissible gross weight is tare, or non-revenue producing dead vehicle weight.

An increase of 10 percent in allowable gross weight to about 80,000 pounds would thus enable seven trucks to carry the payload now carried by eight, assuming a high-density commodity. A 20 percent increase in gross weight to approximately 88,000 pounds would enable four trucks to do the work of five, assuming again a high-density commodity. Of course such increases of this magnitude could not be obtained without increases in State permitted lengths where the commodity is of low density, since full cubic capacity of the vehicle would be obtained before the weight limit was reached.

Length is not now regulated by Federal law. As regulated by State law, it ranges from a low of 55 feet to a high of 75 feet. Some States will not allow combinations other than the tractor-semitrailer. Virtually, all existing straight trucks and semitrailers fall well within this range. Most, if not all, tractor-semitrailers and tractors towing twin 27 foot trailers would fall within the 65, 70, and 75 foot

limitation now imposed by 23 of the States. The twin 40 foot trailers are in use on only a limited number of Eastern toll roads, under highly controlled conditions. Their overall length is in the neighborhood of 96 to 105 feet. Thus, a Federally-encouraged increase in some State length limitations offers the possibility of increasing productivity through increases primarily in cubic capacity, and also to some extent in gross weight.

Our legislative proposal, which will be submitted very soon, would provide relief to truckers and shippers on a temporary basis by increasing the existing Federal weight limits with the bounds imposed by manageable vehicle lengths. To encourage the States to prompt action it would require, as a condition of approval of further Federal-aid projects within a State, that the State raise its limits to 20,000 pounds on a single axle, 34,000 pounds on a tandem axle, and set gross weights in accordance with the familiar bridge formula. Since the bridge formula employs vehicle wheelbase as one of the determinants of gross weight, overall length would be set at 70 feet.

It also provides that States may not prohibit the various possible combinations of vehicles that I mentioned above as long as their overall length still falls within the allowable 70 foot length limitation. However, width of vehicles would

remain unchanged at 96 inches, as would the section 127 grandfather clause which provides for certain States that the July 1, 1956, higher limitations on weight and width in those States might continue to apply. The duration of this temporary measure is tied directly to the Emergency Highway Energy Conservation Act, P.L. 93-239, and would expire with it at the latest on June 30, 1975.

The net effect of this proposal is to require the States to allow, for the time that the 55 mph speed limit is in effect, the Interstate System operation of existing tractor-semitrailers loaded approximately 10 to 15 percent heavier than they are now and the operation of twin 27 foot trailers within the 70 foot length limitation. Operations in a few States under the grandfather clause, such as twin 40 foot trailers on certain toll roads, would remain undisturbed but would not be expanded to other segments of the Interstate.

We now propose no change in width, not only because increases in width would be slightly counterproductive with regard to fuel economy due to increased frontal area, but because increases would call for a long term phase-in of new equipment throughout the existing fleet. Greater width would ultimately provide some degree of relief with regard to cubic capacity but in the distant future, not now, when relief is urgently needed.

Axle weight increases are held to 20,000 single and 34,000 tandem, including tolerances, for the reason that this seems to be enough to give meaningful relief to truckers and shippers, while not increasing the highway maintenance and construction burden born by the State beyond manageable limits.

The evidence available shows that axle load increases in this range will result in increased pavement maintenance costs of about 20 percent on the affected routes. The costs will increase somewhat less in those States which now permit relatively heavy axle loads under the existing section 127 grandfather clause. The increased pavement damage would probably not appear during the first year of increased axle loads thereafter, greater patching and a shorter period of service before completed overlay would result. A rough estimate of these costs is in the range of \$50 to \$100 million annually.

Gross weight would be held to that which is determined by a formula involving the number of axles and the vehicle wheelbase. This formula is derived from our experience with bridges and given a maximum 70 foot limit on overall lengths, would produce gross weight figures for all of the various configurations of trucks which would be safe on all existing Interstate bridges. Increasing the length of vehicles has an adverse effect on the life expectancy of highway bridges with span lengths of 100 to

300 feet. We estimate that the 70 foot length, with the corresponding increase that it would permit under the bridge formula, would accelerate requirements for bridge replacement if continued for more than one year.

Under the formula, greater weights can be achieved only by adding axles or adding length. The great bulk of the vehicles in use are five (or less) axle tractor-semitrailers, or six axle twin 27 foot trailers. Nine axles are possible, but rare. The possibility of permitting twin 40 foot trailers in general use was considered and rejected. Their potential weight under the formula was unacceptable in terms of bridge life and their 96 to 105 foot length establishes a 140 foot turning radius, which is too wide to utilize many exit and entry ramps on the Interstate. Such exit and entry ramps would have to be posted and policed because attempts by twin 40 foot trailers to negotiate them would result in accidents and destruction of guard rails. Moreover, only a few trips which use the Interstate System begin and end on the system. Since vehicles of this length cannot feasibly be used off-system or in urban areas, large and costly marshalling yards would need to be built at the points where they would enter or leave the system. Lengths of this magnitude offer no real potential for immediate relief.

We believe that the weight increases we propose will have minimal effect upon highway safety. The reduced speed limit of 55 reduces braking distance, materially, far more than offsetting any possible increases in braking distance with existing equipment which might be attributed to greater axle loads. To the extent that increased truck productivity leads to fewer trucks on the road, it means less exposure to accidents.

Greater productivity may also be accompanied by some overall fuel savings. While an individual heavier truck or tandem trailer rig would necessarily use some additional fuel, we believe this effect would be fully offset on a national basis. In other words, while truck mile fuel costs would go up slightly, ton mile costs would go down.

In summary, I believe that modest, calculated increases in weights as limited overall by lengths under the bridge formula and on the Interstate System alone, will provide substantial relief from the fuel pinch to the truckers, shippers, and the general public with minimal risk of lasting harm to the highway systems we rely on for this type of transport.

We recognize that our proposal is not a panacea. It is designed to meet an immediate need for quick relief which gives due consideration to safety, economics, and highway wear. While it does not address all of the specific problems that have

been raised, we are working with other concerned agencies, including the Department of Agriculture, to see what can be done to solve those problems.

I will be pleased to answer any questions you and the members of the Subcommittee may have.