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TRUCK SIZES AND WEIGHTS

GOVERNMENT

Storage

HEARING

BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

NINETY-SIXTH CONGRESS

FIRST SESSION

ON

S. 1383

A BILL TO AMEND TITLE 23, UNITED STATES CODE, TO ESTABLISH UNIFORM NATIONAL STANDARDS FOR WEIGHT AND LENGTH OF VEHICLES USING THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS, AND FOR OTHER PURPOSES

S. 1439

A BILL TO PROHIBIT STATES FROM ENFORCING CERTAIN VEHICLE WEIGHT AND LENGTH LIMITATIONS ON THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS DURING THE CURRENT PERIOD OF FUEL SHORTAGES

S. 1689

A BILL TO ESTABLISH NATIONAL STANDARDS FOR WEIGHT AND LENGTH OF VEHICLES USING THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS DURING FUEL EMERGENCIES

OCTOBER 25, 1979

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CONTENTS

OPENING STATEMENTS

	Page
Bentsen, Hon. Lloyd, U.S. Senator from the State of Texas	1
Pressler, Hon. Larry, U.S. Senator from the State of South Dakota	4
Randolph, Hon. Jennings, U.S. Senator from the State of West Virginia	3
Stafford, Hon. Robert T., U.S. Senator from the State of Vermont	2

WITNESSES

Bowers, Karl, Administrator, Federal Highway Administration, accompanied by Don Trilling, Director, Office of Intermodal Transportation, David Oliver, Office of Chief Counsel, John Hibbs, Office of Traffic Operations, and Ken Pierson, Deputy Director, Bureau of Motor Carrier Safety	14
Prepared statement	55
Responses to written questions	68
Brady, Charles N., director, American Automobile Association, Highway Division	25
Prepared statement	193
Responses to written questions	206, 217
Durham, R. V., director of safety and health, and Bartley M. O'Hara, legislative attorney, International Brotherhood of Teamsters	21
Prepared statements	157, 189
Responses to written questions	184
Johnston, Jim, president, Owner-Operators Independent Drivers Association of America	7
Prepared statement	46
Kiley, Edward V., assistant to the president for policy, planning, and development, American Trucking Association	32
Prepared statement	222
Responses to written questions	239
Mallar, Roger, president, American Association of State Highway and Transportation Officials, accompanied by Jack Freidenrich, chief engineer, New Jersey Department of Transportation	18
Prepared statement	96
Responses to written questions	154
Melcher, Hon. John, U.S. Senator from the State of Montana	5
Prepared statement	37
Phipps, Don, president, Iowa Independent Truckers Association	28

ADDITIONAL MATERIAL

American Association of State Highway and Transportation officials, statements supplied by:	
Arkansas State Highway Commission	114
Illinois Department of Transportation	135
Indiana State Highway Commission	140
Mississippi State Highway Department	142
Missouri State Highway Commission	148
Iowa Department of Transportation	152

IV

Bills, reprints of:

S. 1383	309
S. 1439	313
S. 1689	316

Statements:

Exon, Hon. James J., U.S. Senator from the State of Nebraska	268
North Dakota State Highway Department	271
National Governors' Association	274
American Farm Bureau Federation	276
Graving, Thelma	279
National Broiler Council	283
National Independent Meat Packers Association and Midwest Packers Traffic Association	285
Private Truck Council of America, Inc	297
Red River Valley Potato Growers Association	299
South Dakota Independent Truckers Association	301
Truck Trailer Manufacturers Association	303
Western Montana Independent Truckers Association	305
United Parcel Service	306

TRUCK SIZES AND WEIGHTS

THURSDAY, OCTOBER 25, 1979

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON TRANSPORTATION,
Washington, D.C.

The subcommittee met at 10 a.m., in room 4200, Dirksen Senate Office Building, Hon. Lloyd Bentsen (chairman of the subcommittee) presiding.

Present: Senators Randolph, Bentsen, Burdick, Culver, Stafford, and Pressler.

Also present: Senator Cannon.

OPENING STATEMENT OF HON. LLOYD BENTSEN, U.S. SENATOR FROM THE STATE OF TEXAS

Senator BENTSEN. Today's hearing is an effort on the part of the Transportation Subcommittee to address the complex and perplexing issues that are associated with three bills that have been referred to this committee on the subject of truck weights and lengths. The committee has before it S. 1439 and S. 1689 designed to provide for emergency preemption of State maximum weight limits during periods of fuel shortages.

In addition, the committee must also address S. 1383 which would permanently modify the Highway Act to establish uniform national weight limits and would alter existing truck weight limits under the bridge formula.

This is not the first time the committee has addressed this issue. It was considered most recently in the Federal-Aid Highway Act of 1974. This committee recognized then, and continues to recognize, the extraordinary complexity of what to many people may appear to be a very straightforward issue. It is an issue which involves the structure of the highway system. It is an issue which involves highway safety. It is an issue which involves the commerce of this Nation.

Today's hearing is the initial effort on the part of this committee to address these problems again. Due to the limitations of time, all of the individuals and organizations who have important information and views on this topic will not be appearing before this committee. The hearing record will be held open for 10 days following this hearing, and I want to assure all of you who expressed an interest in appearing before this committee that written testimony which you submit in that time will receive the same scrutiny as anyone who presents testimony before this committee.

For today's witnesses, I will ask each of you to submit your detailed comments for the record and that you summarize those comments orally in approximately 5 minutes so we can allow time for questions.

The Senator from Vermont will be recognized for his statement.

**OPENING STATEMENT OF HON. ROBERT T. STAFFORD, U.S.
SENATOR FROM THE STATE OF VERMONT**

Senator STAFFORD. Thank you, Mr. Chairman. I am pleased to be here this morning to participate in the hearing on truck size and weight standards.

As a member of the Senate Environment and Public Works Committee for 9 years, I have participated in discussions on this issue on quite a number of occasions in the past. The question at hand has almost always been the raising of truck size and weight limits. Rarely, if ever, I am sorry to say, has the focus been on lowering truck size and weight limits.

I would hope that the focus of today's hearing would be one of factfinding. What information do we now have regarding the impact of truck size and weight standards on our roads and bridges? Where are the gaps of information or areas of inconclusive data that need further attention and how do we go about obtaining further information to make responsible decisions?

The issue of truck size and weights raises several areas of concern in the mind of the Senator from Vermont.

First, what impact has the most recent increase in Federal weight standards had on highway deterioration? What impact would uniform weights or even higher weights have on pavement life? We have heard testimony in the past from the Federal Highway Administration stating that the impact of increased weights, particularly axle weights, is an exponential and not a linear function.

Second, what are the safety implications of bigger and bigger trucks. The data gathered in this area seems to be somewhat inconclusive, but I believe it is obvious to all that cars are getting smaller and it isn't much of a contest between a small car and a large truck. Truck drivers have also raised questions about the driveability of larger and larger trucks.

We have heard a great deal about the fuel crisis in the past few months. Do we have adequate information on how much fuel is being saved because of the last weight increase? Is there a tradeoff in needing to use more fuel for maintenance of highways? How much do other factors such as the speed limit, the driver, or the condition of the vehicle affect fuel economy?

The issue of State preemption troubles me also. Traditionally, the States have borne almost the entire burden of highway maintenance. Should the Federal Government preempt the State and impose Federal standards when the State may have legitimate concerns about those standards?

Finally, what impact would provisions in the legislation before us have on our Nation's bridges? I have read statistics stating that over 100,000 bridges in our country require replacement at a cost of \$25 billion.

During consideration of the Surface Transportation Assistance Act of 1978, the Congress included provisions requiring two studies which directly relate to the truck size and weight issue.

The first requires the Department of Transportation to conduct a study looking at, among other things, the impact of uniform standards and of higher weight limits, and the impact of these various standards on highway construction, maintenance, and bridge design. This report is due on January 15, 1981.

Second, DOT is directed to conduct a highway cost allocation study to determine highway costs and how these costs should be allocated to the various users of the highway system. This report is due January 15, 1982.

I believe we must have the conclusions and recommendations from both of these studies before any changes are made.

The highway program is looking for some new directions. Its primary goal, construction of the interstate highway system, is within reach. Is the Federal Government prepared to make a large commitment to the maintenance of our highway system or to designing and constructing highways and bridges that will withstand ever increasing weights?

I believe we must have available the best information possible before making these kinds of decisions.

I look forward to hearing from the witnesses before us today.

Thank you, Mr. Chairman.

Senator BENTSEN. Senator, you really posed some of the questions that buttress what I have said about the complexities of this issue. Yesterday, we had an attack on the floor on the highway trust fund, to try to stop the trust fund. Actually, the money in the trust fund is topping out because cars are getting better gasoline mileage. The cost of maintenance is going right through the roof on these roads; yet the amount of money available for it is not going to increase. So it really does pose the issue of what we do on truck weights and what that means to the maintenance on our highways. I well recall the complexities and debate we had in 1974 in trying to come up with something that we thought was reasonable then.

Senator Randolph is expected shortly and we will place his statement in the record at this point.

[The statement follows:]

**OPENING STATEMENT OF HON. JENNINGS RANDOLPH, U.S.
SENATOR FROM THE STATE OF WEST VIRGINIA**

The issue of truck sizes and weights has been before the Congress many times since the interstate system was created in 1956 and it became apparent that regulation of sizes and weights was necessary to the construction of this highway system. Today the Subcommittee of Transportation is again looking at the issue of the appropriate weight and size of vehicles on our Interstate Highway System.

In 1974, this committee and the Congress adopted a provision which authorized 80,000 pounds as the maximum weight on the Interstate System. However, the provision had a grandfather clause which allowed those States who so desired to maintain the then existing 73,280-pound limitation.

During the fuel emergency of this past summer many complaints were heard regarding the problem that this grandfather provision had on commerce moving between the east and west coast. Most of the States which did not adopt the new Federal maximum limitation are along the Mississippi River and in effect form a barrier to the movement of traffic at 80,000 thousand pounds.

The subcommittee will today hear testimony concerning the problem both as it relates to fuel emergencies and to the long term movement of goods. The committee will then carefully evaluate this testimony before deciding the appropriate action. However, we must also not overlook the two studies relating to weight authorized in the 1978 Surface Transportation Act. The cost allocation study due in 1982 and the vehicle weight interstate study due in 1981 will be important in determining the long term outlook for truck sizes and weights. In the interim the subcommittee and the full committee must address the problems raised in the bills currently before the committee. Today's hearing is valuable and I look forward to productive testimony from our witnesses.

Senator BENTSEN. Senator Burdick, do you have some comments before we start?

Senator BURDICK. I don't have comments, just exhibits I would like to introduce, a statement from the North Dakota State Highway Commissioner, and a statement by the Red River Valley Potato Growers Association. I ask they be made a part of the record.

Senator BENTSEN. We are delighted to have them for the record. [See pp. 271 and 299.]

Senator Pressler, do you have a statement?

**OPENING STATEMENT OF HON. LARRY PRESSLER, U.S.
SENATOR FROM THE STATE OF SOUTH DAKOTA**

Senator PRESSLER. I have a brief statement.

I would like to thank our chairman and the members of this committee for their efforts in addressing the problems raised by policy guiding national truck weight and length. This is a very difficult issue, for there are many vital interests at stake, and I am pleased to joint my colleagues today in considering the questions raised by those concerns.

Last spring, the strike of our independent truckers focused attention on the difficulties faced by the small, independent competitor in the trucking industry. The independent owner-operator is an important link in rural and agricultural areas in the transport of produce and commodities between farm and market. In many areas of South Dakota, the independent trucker is responsible for a good portion of the movement of goods.

Inflation and the cost of doing business have compounded the major difficulties facing the independent trucker: escalating fuel costs and spot shortages. There is much work to be done in getting some relief to the trucker. While some of these problems represent the most serious issues facing the Nation, we must move to provide immediate relief in the area of antiquated or unsuitable regulation.

Where it is possible to remove the inefficiencies of commercial transportation, we must move to increase productivity and conserve fuel. The issue before us today, uniform truck weight and

length standards, has been held out as one way to alleviate some of the hardships confronting the trucker.

The barriers to insuring relief in this form involve questions of safety and cost to the quality of our highway system.

What are the safety impact of larger and heavier trucks alongside smaller, lighter cars on the highway?

What is the impact of increased truck weight on the life of the pavement of our highways? What is the impact on noninterstate roads? What can be done to minimize this impact?

Of course, it is fuel saving that is sought by uniform weight and length standards. How much fuel is saved by larger trucks? Is this saving offset by additional fuel used in increasing highway maintenance or in traveling over deteriorated roads?

The questions before us are difficult. I look forward to hearing from our expert witnesses on these matters.

While considering the needs and diversity in the different States, it is vital that we establish the most economical and fuel efficient weight and length standards that will serve our transportation needs while preserving the quality of our highway system. Such a policy will serve trucker, shipper and consumer alike.

Thank you, Mr. Chairman.

Senator BENTSEN. Thank you very much, Senator.

We are very pleased to have with us as our first witness the very distinguished Senator from the State of Montana, Senator John Melcher, who has had a long interest in this subject, is the author of S. 1383. Senator Melcher, would you introduce your associate for the record please.

STATEMENT OF HON. JOHN MELCHER, U.S. SENATOR FROM THE STATE OF MONTANA, ACCOMPANIED BY JIM JOHNSTON, PRESIDENT, OWNER-OPERATORS INDEPENDENT DRIVERS ASSOCIATION OF AMERICA

Senator MELCHER. Mr. Chairman, I have with me today Jim Johnston, who represents owner-operators. I have a brief statement and statements from Senator Exon and the United Parcel Service.

Senator BENTSEN. That you would like to have introduced in the record?

Senator MELCHER. Yes.

Senator BENTSEN. Without objection that will be done. [See pp. 268 and 306.]

Senator MELCHER. Mr. Chairman, we have S. 1383 introduced and we have modified that somewhat, the same 17 cosponsors in the Senate, and I believe the committee has the modification before it.

The problems that exist for truckers need not be repeated by me. They are well-known to the committee. But I do want to note that the report of the Administration's Ad Hoc Task Force on the Independent Truckers clearly indicates that something should be done. I am quoting from this report.

"The regulation of truck size and weight has traditionally been a State prerogative." That is understood. But the problem is that it means that the individual truckers "must either buy and operate equipment below the legal capacity for some areas or operate at

less than the capacity of his equipment in other areas." I am reading from the task force report right now:

Where the margin between continued operation and business failure is a thin one, this can be a crucial difference.

Particularly troublesome are the States known as the "barrier States." These States, ranged along the Mississippi River, render it effectively impossible to take advantage of higher weight limits in effect in the majority of States on transcontinental shipments. Although these States may have particularly severe highway maintenance problems and difficult soil conditions, their lower weight limits constitute, nonetheless, a barrier to the efficient utilization of the Nation's overall truck capacity.

The incorporation in this bill of so-called "bridge formula"—a regulation which attempts to hold truck size and weight limits and loading practices within the parameters of existing bridge designs—causes trucks to be loaded in what the owner-operators believe to be an inefficient and sometimes unsafe manner, if they are to reach the legal maximum of 80,000 pounds. Owner-operators argue that conformance with this formula sometimes requires loading a truck in such a way that it overloads the tires on the steering axle and makes steering response overly sluggish.

Now there are several alternatives to truck weight and length limits, and they are discussed by the task force. Their recommendations are this:

Securing Federal Legislation for uniformity at existing weight limits—even on a temporary basis—will be difficult. While it is recognized that studies now under way reexamining these questions, it is unlikely that incorporating higher axle weight limits in this legislation, when the best theoretical evidence available shows that even an increase from 34,000 to 35,000 pounds for tandem axles would accelerate pavement deterioration, which would result in rejection of the bill. It is, therefore, recommended that, as a matter of paramount priority, the temporary uniform size and weight legislation be enacted as soon as possible.

The task force goes on to say:

The Administration should remain neutral on amendments to the temporary bill dealing with length, but should oppose amendments raising axle weight limits above the existing permissible maximum.

The arguments for uniformity appear to be persuasive from an overall efficiency point of view; the specific weights and sizes at which any such uniformity should be sought remain an open question pending the result of the study. It should also be recognized that the owner-operators are deeply concerned with the safety risks which they are forced to bear in the course of hauling trailers overloaded by other parties.

On the other side of the question, the States do not have the very real and different problems with respect to road construction and finance. Any solution which is likely to survive the legislative process will have to deal with the needs of all of the states. This means more funds from some source—most likely the users—to finance needed road repair and rehabilitation. Informed decisions on these questions cannot be made until the size and weight and related highway cost allocation studies are completed.

Now, Mr. Chairman, there is indeed concern for the States' needs for funds to bear the increased burden for repair of their highways. Obviously, those who will be able to operate more efficiently will be more than willing to be taxed to pay for this increased cost. Additionally, Mr. Chairman, the Governors of our States, even in the face of these increased costs, also recognize the need for national standards and have been included in a statement calling for immediate establishment of national standards in their 1979 policy positions.

I hope, Mr. Chairman, that the committee can give the most serious thought to this overriding problem. I would like to not take any more time in presenting my testimony, but I hope the committee would listen to someone who is in the business and who does

represent the owner-operators as president of the Owner-Operators Independent Drivers Association of America, Jim Johnston.

STATEMENT OF JIM JOHNSTON

Mr. JOHNSTON. Thank you, Senator for allowing me a portion of your time.

Mr. Chairman, members of the committee, I wish to express my appreciation for this opportunity to convey to you the feelings of the members of the Owner-Operators Independent Drivers Association, as well as those of our affiliated associations: The Western Montana Independent Truckers Association, the South Dakota Independent Truckers Association, and also the views of the trucker members of the White House initiated ad hoc party on the problems of owner-operators.

As I am sure you are aware, in June of this year a vast number of this Nation's independent truckers were forced to a point of frustration and desperation so severe that they felt they had no other recourse but to risk complete financial ruin by shutting down their trucks in order to call attention to the intolerable conditions that were rapidly driving them out of business.

This, of course, was not the first time independent truckers were forced to take drastic action or be forced out of business. A similar occurrence took place in early 1974. The unfortunate part is that the similarity is not restricted to the trucker's reaction; the problems and complaints were almost identical. In other words, after almost 6 years of trying to work within the system to solve the problems, very little progress had been made, a fact which added greatly to the feelings of frustration.

Out of the many problems faced by owner-operator truckers, the one most commonly mentioned is the disparity between the various States on truck size and weight limits.

This was also one of the major issues discussed in 1974. In a situation where the trucker's very existence was in jeopardy as a result of increased operating costs, combined with the inability to pass on those costs in the form of increased rates, it was felt a moderate increase of 6,720 pounds would allow us to increase our productivity and help us to cope with the increased costs. This increase would also have created a far more uniform system throughout the country than existed at that time.

We pleaded with our elected representatives for relief. Hearings were held at which we received a very sympathetic response to our pleas: A mandatory 55-mile-per-hour speed limit, which further cut back on our productivity, and a permissive increase in the Federal maximum—to 80,000 pounds—which left it up to the States, who had created the disparity in the first place, to decide our fate. The result, of course, was even less productivity and more frustration that we had when we started.

It is now 5 years later. We are back under similar circumstances, except that we are fewer in number, again pleading for relief from this intolerable situation.

However, there is one great improvement over the last time, and that is that one of our elected representatives had the foresight to listen to the truckers who are directly affected by the size and

weight limits and introduced legislation that, if passed, will be a logical, commonsense solution to the problem.

I refer to S. 1383, introduced by Senator Melcher. All of the truckers and trucker representatives who I have been in contact with unanimously favor this bill over any other that has been discussed or introduced.

Although this bill does call for a slight increase in axle limits—from 34,000 pounds to 35,000 pounds—it does not call for any increase in the overall gross weight limit. The increase in axle weights will allow us to load up to the 80,000-pound limit in a manner that is far safer because we will not have to increase the weight on the steer axle.

In regard to the safety aspect of the 80,000-pound weight, I would like to cite the experience of our association truck insurance program. Our insured members' combined travel is in excess of 49.6 million miles per year. A great many of them are able to load to the 80,000-pound maximum at least part of the time. Over the past 5 years we have not had one accident that could be attributed to the gross weight limit of 80,000 pounds. However, we have had several serious accidents resulting from front tire failure. This accident experience, we feel, could be greatly reduced if the trucker were allowed to distribute the additional 2,000 pounds each to a single steer axle tire. This would amount to 125 pounds per tire, the failure of which causes no hazard to the trucker or the motorizing public with whom he shares the highways.

The Department of Transportation will argue that the additional 1,000 pounds per axle—125 pounds per tire—will increase road deterioration by 10 percent. This figure is only theoretical, by their own admission, based on road tests conducted 22 years ago and does not take into account any improvements in technology. They claim that roadbuilding techniques have not improved appreciable over that 22-year period. I feel that is a sad testimonial for the construction industry and does not apply to the truck manufacturing industry who have made a great many improvements in the suspension systems, which have a direct correlation to impacts on the road surface. Another fact not considered in the 55-miles-per-hour speed limit. Slower speeds also have a direct effect on road damage. Another fact not considered in the difference in tires in use today as opposed to those in use in 1956. In 1956, truck tires predominantly in use were 900-20's; 1000-22's; and 11-24-5's are now the tires most commonly used. These tires spread the weight over a much broader area of the road surface which also lessens the impact to the roads. Not considered also is the fact that fewer trips will be required to haul the same amount of freight.

Senator BENTSEN. I would ask the witness to summarize since his time expired.

Mr. JOHNSTON. Sir, I only have a little bit left to go.

Senator BENTSEN. That little bit depends on the fellow interpreting that. Why don't you do it within the next minute.

Mr. JOHNSTON. The railroads argue that the increased weight limit will divert more of the freight from them to trucks, thus actually increasing the amount of freight moving over the highways. I submit that this is happening anyway because of the railroads' inability to provide reliable or competitive service. In fact,

they can't even keep their trains on the tracks, as evidenced by the fact that the same passenger train recently derailed twice in 30 days in the State of Kansas, not to mention the thousands of derailments of freight trains that occur each year.

I will just skip, I guess, to the last page.

Senator BENTSEN. We are going to put the entire statement in the record. [See p. 46.]

Mr. JOHNSTON. It seems that a great deal of credibility has been given to the unproven assumption that increased weight limits will cause horrible damage to our highway system. I can tell you from my own experience as a trucker for 13 years and from the reports of our members that the worst highways in the country are in the States that are still below the Federal maximum.

In closing, I hope you will consider these points: To my knowledge, no study has ever proven that the increased weight limit would create additional highway damage, especially taking into consideration that less trucks would be required to haul the same freight. My opinion hasn't changed after listening to the engineers from DOT who admit their facts are based only on theory.

We are presently faced with a severe fuel shortage, and trucks that use basically the same fuel that is used for home heating oil could save hundreds of millions of gallons annually with a moderate increase in hauling capacity.

Independent truckers are presently suffering under a severe economic crisis as a result of drastically increased costs that must be recovered either through huge rate increases or increased productivity.

All but 10 States and the District of Columbia have adopted the higher weight limits and thus far have reported none of the horrible consequences that were predicted, such as the complete destruction of roads and bridges and the blood baths caused by these supposedly uncontrollable monsters. Statistics have proven repeatedly that trucks, regardless of weight, have a far better safety record than cars.

The owner-operator, who is one of the most competitive and efficient forces within the transportation industry, is being driven to extinction not by his lack of ability to perform, but by his lack of ability to cope with unrealistic and outdated rules and regulations that rob him of his best asset—his productivity. We cannot wait another 5 years. We need relief, permanent not temporary, and we need it soon.

Senator BENTSEN. Thank you very much.

Let me say, gentlemen, I was the author of the 1972 act, and we went from, as I recall, 73,000 pounds to 80,000 pounds. We went, if I recall, right from 32,000 pounds to 34,000 pounds for tandem axles. And it was a difficult decision then. And the States are paying for the maintenance, at least most of it. We left them with the option to come up to that weight, and we grandfathered in States that were over that weight. But the testimony that we had from FHWA was that if we increased it from 32,000 to 34,000, deterioration would increase by 20 percent; raising it from 32,000 to 36,000 would increase deterioration by 64 percent. So we accepted some deterioration in bringing up those additional weights. And

I am sure from your viewpoint, Mr. Johnston, we ought to take it maybe to 90,000.

Mr. JOHNSTON. No, sir.

Senator BENTSEN. But some balance has to be struck in these things, when we think about the burden on the taxpayers from the other side, the maintenance and keeping these highways in proper condition. So it is a very complex issue that we face.

Senator Melcher, we are very pleased to have you here. You have been a very strong leader in this issue, and you make a major contribution in testifying before us.

Do you have any comments, Senator Stafford?

Senator STAFFORD. I have no comments, but I have a question or two.

Senator BENTSEN. Or questions.

I see the chairman of the full committee has just come in. Mr. Chairman, do you have comments?

Senator RANDOLPH. I would be delighted to have Senator Stafford proceed.

Senator BENTSEN. Senator Stafford.

Senator STAFFORD. I appreciate the courtesy. On the other hand, I would be glad to have Senator Randolph proceed. So I will be brief here.

Senator Melcher, I listened very carefully to your testimony. If I understand the legislation which you have introduced with several of our distinguished colleagues, you do propose to impose uniform standards of weight and length on all Federal highways, federally aided as well as the interstate. Am I correct about that, or does it apply only to the interstate?

Senator MELCHER. It is on Federal highways.

Senator STAFFORD. All federally aided highways. But you do not propose in your legislation to do anything with the States, which may include my own—some 27 in number—who have the current authority to exceed these weights proposed in your bill because of grandfathering clauses in past legislation. Do I understand that correctly?

Senator MELCHER. That is correct.

Senator STAFFORD. Do you have some judgment as to what impact increasing the tandem axle from 34,000 to 35,000 pounds will have on design construction and maintenance of highways and bridges?

Senator MELCHER. We are relying on the task force information. The bridge formula that they recommend is the one that we have included in the amendment. Their recommended bridge formula came out after the original introduction. So the amendment is just the same bill with their recommended bridge formula in it. And I cannot go further than what is in the task force on the added costs for highway maintenance. I don't think they have completed their study and they have no final judgment on it as of this time. They do assume there will be some additional costs. But I think it would be very moderate. It would be more than offset by the saving in uniformity that would create a saving in fuel cost.

Senator STAFFORD. Finally, do you have any judgment personally, Senator, as to whether or not the Federal Government should

make a larger commitment to the maintenance of the federally aided and Interstate Highway Systems?

Senator MELCHER. I have a judgment that we are not doing an adequate job in it, and the money has to come from somewhere. The task force recommends it come out of users. I have no quarrel with that. I think probably they are correct on that.

Senator STAFFORD. Thank you very much, sir.

Thank you, Mr. Chairman.

Senator BENTSEN. Thank you, Senator.

We are delighted to have the chairman of the Commerce Committee here. We have shared jurisdiction on these bills. They have the truck lengths and we have truck weights, in the wisdom of the Senate. But we are certainly pleased to have him here for any role he desires to play.

Senator CANNON. Thank you very much, Mr. Chairman. I am here today to express my interest in legislation affecting truck lengths and weights. While the truck issues has direct bearing on highway construction, it also bears on many issues of concern to the Commerce Committee, namely, the safety, interstate commerce, the economic stability of the transportation industry, and, of course, the truck length issue is of primary concern to the Commerce Committee since it relates primarily to economics and safety. So I just wanted to come over and express my interest in your going ahead with the hearings. I just wish the two studies required by the Highway Aid Act would be forthcoming earlier than they are. I think that target date of 1981 and 1982 isn't giving us the information we need at an early time.

Thank you, Mr. Chairman.

Senator BENTSEN. Glad to have you here.

Senator PRESSLER. Yes. I want to commend both Jim Johnston and Senator Melcher and others who are working in this area.

I had earlier submitted a statement from the South Dakota Independent Western Truckers, which I believe is part of your association. Is that right?

Mr. JOHNSTON. Yes; and I have attached a copy of their statement, too.

Senator PRESSLER. Good, I appreciate that.

Now let me ask some questions about specific differences between the Melcher bill and the administration bill. Now as I understand it, the Melcher bill would increase the constant in the bridge formula from 36 to 40. The administration bill would not affect that; is that right?

Mr. JOHNSTON. Sir, the administration bill made no change in the present bridge formula. It allows only temporary uniform 80,000-pound weight limits under the current specifics be enacted on temporary 90-day periods during a declared fuel emergency.

Senator MELCHER. I think in further enlightenment of the situation, while the administration bill is, as Senator Pressler has described, the task force does recommend a bridge formula that we have incorporated in the amendment to S. 1383. Perhaps the administration would eventually want to modify their position on that to reflect the recommendations of the task force.

Senator PRESSLER. So the administration is a little loose. They have the task force's recommended increases in tandem axle

weight from 34,000 to 35,000 pounds. The administration bill says the standard weight would go up to 80,000 pounds total. Maybe again this is addressed in the task force report.

Senator MELCHER. Well, I think the task force is leaning toward the fact that the safety will be better if the distribution is allowed as we have presented it in our amended version.

Senator PRESSLER. What about the stress? I am told it's the States along the Mississippi Valley that have very porous ground that object to higher weight and length limits. For some reason they don't like the heavier trucks. What impact would this have on stress on bridges? And also, it has been stated that fuel savings from higher uniform lengths may be offset by increases in the use of fuel by heavier trucks. I guess that is a two-part question: (1) What is the stress on the bridges and roads from the heavier trucks, and (2) what are the fuel savings? Do we have anything specific on those two points?

Senator MELCHER. Let me just read some of the testimony that I didn't read before. It is in my testimony. Our legislation changes the present bridge formula. The bridge formula is a means by which the Federal Government controls the weight concentration on trucks by determining how much weight must be spread over what distance between the truck's axles. Section 108(k) of the Federal-Aid Highway Act of 1956 required a study of bridge stress. The study was completed and presented to the 88th Congress as House Document 354. This report recommended three tables—A, B, C—as meeting the Nation's bridge stress requirements. Table B was eventually written into the statute. The bridge formula in S. 1383, as amended, embodies table C of the section 108(k) report.

Senator PRESSLER. Any comments on the second point on fuel savings? Do we have a substantial study? Would the Melcher bill save any fuel?

Senator MELCHER. Well, it certainly would in that the question of a trucker reaching a barrier State either is underloaded so he can pass through the State or having to unload, reload a lighter weight. It would obviously save considerable amounts of fuel. I don't think we have any study.

Mr. JOHNSTON. Stanford Research did a study for the Department of Transportation in regard to that. I have the figures in here on the State of Missouri. It was something like 7 million gallons a year.

Senator PRESSLER. So there are fuel savings. Let me ask just one final question. If you have something you prefer to put in the record on that, I would appreciate it.

Senator Culver also has introduced a bill which would established weight and uniform length standards at 80,000 pounds and 60 feet. How does that differ from your bill? Maybe you are not familiar with that bill. Are you familiar with John Culver's bill?

Mr. JOHNSTON. I am not too familiar with the Culver bill. But the problem we face, the trucker is not allowed to use a conventional tractor with a maximum length trailer, which is a 45-foot trailer. He can get close to the 60 foot. But there is not much tolerance there. He has the trailer up against the cab. It leaves no room for aerodynamic design or safety bumpers on the equipment.

Senator MELCHER. There are three key differences in that bill as compared to ours, and that is his bill is temporary; second, ours is 65 foot; and third, we have included in the distribution on axle as recommended. It is not recommended by the task force, but it is recommended highly by the owner-operators.

Senator PRESSLER. Does this distribution on the axle mean some trucks would be obsolete, that you couldn't redistribute that weight, Are you talking about new trucks or are you talking about some kinds of loads you couldn't distribute?

Senator MELCHER. It is just how the load is loaded.

Senator PRESSLER. I think your efforts are very good here and I very much plan to support them.

Thank you very much, Mr. Chairman.

Senator STAFFORD. Would the Senator yield for one question that occurred to me?

Senator PRESSLER. Yes.

Senator STAFFORD. If your bill were adopted, Senator, would that eliminate the long tandem loads we see on some of the Interstate System where a trucker is hauling a semitrailer and behind that there is still another full trailer?

Senator MELCHER. No; our bill doesn't eliminate them. Those are up to the State.

Senator STAFFORD. Those operate under State grandfathering clauses?

Senator MELCHER. That is right.

Senator PRESSLER. If I could ask one more question, have you received a response from the unions or from those who are not independent truckers? Have they taken a position on this?

Senator MELCHER. I believe they are on the witness list, are they not? The Teamsters I believe are on the witness list.

Senator BENTSEN. Yes, they will be testifying.

Mr. JOHNSTON. In my personal conversations with Teamsters representatives, they expressed a desire to take some of the weight off the steer axle. They also consider the steer axle dangerous, and they want to get away from the growing length of the trailer and lessening length of the cab. So we are in agreement on several points.

Senator PRESSLER. Thank you very much.

Senator BENTSEN. When they testified before us previously, their pertinent point was they arrived at the scene of the accident first. Thank you very much, gentlemen, for your testimony.

Mr. JOHNSTON. Except we don't have accidents.

Senator BENTSEN. If you say so.

Senator MELCHER. Thank you very much.

Senator BENTSEN. Delighted to have you.

Our next witness will be Hon. Karl Bowers, the Administrator of the Federal Highway Administration. We are pleased to have you with us this morning.

STATEMENT OF KARL BOWERS, ADMINISTRATOR, FEDERAL HIGHWAY ADMINISTRATION, ACCOMPANIED BY DON TRILLING, DIRECTOR, OFFICE OF INTERMODAL TRANSPORTATION, DAVID OLIVER, OFFICE OF CHIEF COUNSEL, JOHN HIBBS, OFFICE OF TRAFFIC OPERATIONS, AND KEN PIERSON, DEPUTY DIRECTOR, BUREAU OF MOTOR CARRIER SAFETY

Mr. BOWERS. Good morning, Mr. Chairman. Today I am accompanied by Don Trilling, the Director of the Office of Intermodal Transportation in the Office of the Secretary and also the chairman of the task force which has been mentioned several times. In addition, I am accompanied by David Oliver who is in the Office of Chief Counsel; Mr. John Hibbs who is in my Office of Traffic Operations; and Mr. Ken Pierson.

I am pleased to appear here to discuss pending legislation which would increase the maximum permissible weight for trucks using the Interstate System and also to discuss enforcement activities in the size and weight areas.

The continuation of the fuel scarcity condition which this Nation faces has impeded the movement of goods over highways by imposing higher costs on the trucking industry as a whole and the independent owner-operators in particular.

The unsettling consequences of the energy shortage were first felt in 1973 at the time of the oil embargo. In response to those conditions, that administration and Congress supported the 55 national maximum speed limit to conserve energy and save lives. This action reduced productivity in the trucking industry and in order to offset this, the limits on trucks using the Interstate System were raised to permissible limits of 20,000 on single axle and 34,000 pounds on tandem axles and 80,000 pounds gross weight. It was acknowledged at that time that permissible raises in weight limits would result in reduction of service life of highway pavement of approximately 20 percent, predicated on nationwide increase following a change in the law in 1974. All but 14 States conform to the Federal maximum permitted. Many of the 14 States constitute a barrier to cross-country movement of goods from north to south. The States currently below the 80,000-pound limit are: Connecticut, Pennsylvania, Maryland, the District of Columbia, North Carolina, Virginia, Tennessee, Mississippi, Arkansas, Missouri, Indiana, Iowa, Illinois, and Montana. In Montana, North Carolina, and Virginia, tolerances or special permits permit at or near 80,000 pounds and no barrier implement is present.

This past summer the dramatic rise in the price of fuel increased operating expenses of independent owner-operators and increased their frustrations on circuitous routes and/or north-south movement of goods.

Several bills have been proposed, including the administration bill, S. 1689, which would require a uniform weight limit. The administration bill would require uniformity for temporary periods of 90 days, limited to declared fuel shortages. Other bills would require a permanent raise in the weight limits.

It is our position at this time that any permanent weight change in the provisions of the law should await the conclusions of the Department on the entire range of size and weight limit questions,

including those requirements of section 161 of the Surface Transportation Assistance Act of 1978. Therefore, my comments at this time will be directed mainly to the temporary bill which we have submitted.

A great deal of research is currently underway on the questions of the adequacy of pavement design and the effect of heavier vehicle weight on pavements. Many of the questions which we all have will be answered in more definite terms over the next few years. Thus, the questions involving a temporary raise in the weight limits involve intangible resource quantification. Nevertheless, the bill introduced on behalf of the administration is in the national interest.

Specific analysis of highways and bridges have not been completed by all States that raised the weight limits since 1974. National cost impact likewise, specific estimates have not been developed. The projection of 20-percent reduction in pavement life on affected routes was made in 1974 based on conditions between 1958 and 1968. From the design standpoint, a 90-day emergency period represents only about 1 or 2 percent of typical design life of pavements. A single 90-day period would not be of major significance.

The temporary nature of S. 1689 will reduce adverse impact on highways. It will provide a response in the future. It is not our goal to set minimum as opposed to maximum weight requirements. We need a uniform common denominator in order to facilitate the movement of goods. This is a temporary action not designed to respond to the entire question of weight limits.

The GAO report entitled "Excessive Truck Weight: An Expensive Burden We Can No Longer Support" is under complete review in the Federal Highway Administration, and changes are being and will continue to be made to accommodate the criticisms in that report. We expect to have new regulations issued by the end of calendar year with the objective of strengthening State weight enforcement programs. These regulations will provide us with information we need to identify criteria for effective methods of enforcement.

Mr. Chairman, this concludes my statement and I would be pleased to answer any questions at this time.

Senator STAFFORD. Thank you very much, Mr. Bowers, for a good statement. Senator Bentsen is necessarily absent for a moment and he has some questions which the Acting Chair, without objection, will provide to you for answers in writing.

Mr. BOWERS. I would be glad to provide those. [See p. 68.]

Senator STAFFORD. I shall do the same thing for some of the questions I have in mind to give you a chance to respond at length, since we have a number of witnesses yet to try and complete before the Senate goes in session.

Let me ask you one or two questions at the present time, and if they are questions you prefer to answer in writing, that would be agreeable. One question is this: What impact would the increase of tandem axles from 34,000 to 35,000 pounds, as contained in S. 1383, have, in your judgment, on pavement life and bridge stress?

Mr. BOWERS. I would be glad to give you a short answer and expand in writing.

Basically, my predecessor estimated the increase to 34,000 pounds would have an additional stress factor of 20 percent. At that time he also estimated that an increase to 36,000 pounds would increase the stress value to 60-plus percent. We believe that an increase from 34,000 to 35,000 pounds would be somewhere in the neighborhood of 50 percent.

Senator STAFFORD. So it would have a marked increase in pavement wear and bridge stress.

Mr. BOWERS. Absolutely.

Senator STAFFORD. Are you aware of any studies that have been done to determine the fuel savings accomplished by the increase of Federal weight limits to 80,000 pounds?

Mr. BOWERS. There have been a number of studies done. Reliability of information we have got has not been determined. But they vary anywhere from 50 million gallons on an annual basis to 200 million gallons on an annual basis. So you can see there is a wide discrepancy. But there would be a considerable savings.

Senator STAFFORD. To what extent are Federal highways designed to withstand the current weight limit of 80,000 pounds?

Mr. BOWERS. On the interstate yes; but on the off-system is where most of the problems occur.

Senator STAFFORD. Do you have an opinion, Mr. Bowers, on whether or not the Department of Transportation believes that the Federal Government should take on a larger share of highway maintenance costs as a general proposition?

Mr. BOWERS. As you know, in the new legislation which was just passed we did take a larger share under the 3 R type programs. I think in new legislation you will see the Federal Government taking on an even larger share, and I would concur with that.

Senator STAFFORD. I appreciate your answers and we will submit the rest of our questions for both Senator Bentsen and myself for answers in writing at your earliest convenience. Thank you, Mr. Bowers.

Senator Pressler, do you have questions?

Senator PRESSLER. I just wish to ask, then, are you opposed to the Melcher bill?

Mr. BOWERS. Basically, we support the administration bill because of its temporary nature and because of the President's ability to extend it if the fuel crisis goes on and because we don't feel the damage to the highways would be significant during the short period of time and the bridge formula remains unchanged.

Senator PRESSLER. Is it because the Western States have a better soil base or a better base under the roads that the problems seem to come with weight damage to the highways around the Mississippi River Basin, or is that not true? Is there a difference in different parts of the country?

Mr. BOWERS. Of course, the barrier States do constitute the area around the Mississippi River. They do maintain that highway construction material is the reason they have not raised the weights. We have not been able to determine if there is any significance between the States that immediately surround them and the ones who have not raised their weights.

Senator PRESSLER. Is that where most of the damage is, the barrier States?

Mr. BOWERS. No. I think the most damage is in the Northeast corridor where the traffic is heavy and where the weights have been increased.

Senator PRESSLER. This is a general question. If the Milwaukee Railroad and other railroads should shut down, have you any projections and guesses as to how much damage that will do to our highways?

Mr. BOWERS. There is no question any time railroads force traffic on highways it will increase the damage. We have not done any estimate on specific groups. We do anticipate when railroad traffic for any reason forces freight to be shipped by highway that the damage is proportionately increased.

Senator PRESSLER. I am very inclined at this point to support the Melcher bill, and I will be looking for some of your specific answers in the record to perhaps dissuade me. But from our point of view in South Dakota, Montana, and out in our area, maybe our roads aren't so heavily traveled. I have one final question. They argue that the weights on each axle will not really increase by shifting the load with a greater length; will there be a greater weight at any point on the highway?

Mr. BOWERS. I believe, as I answered Senator Stafford, that would increase the tandem axle from 34,000 to 35,000 pounds. I think the argument was it would not increase the overall gross weight.

Senator PRESSLER. I believe Mr. Jim Johnston said that each wheel, as I understand, on the road at any point on the highway would'nt actually increase in weight because it would be distributed. You don't accept that theory?

Mr. BOWERS. No, sir.

Senator PRESSLER. OK. I see Jim Johnston is in the room. Later, for the record, if we could have a one pager from each of you as to resolving that dispute, I would appreciate it. Even if the weight of the truck and length is increased, the amount of weight on the axle, as I understand, is the key issue as to how much damage is done to the road. If that weight doesn't go up, there is no more damage to the road. That is something I would like to get straight in my mind.

Mr. BOWERS. That is a good summation. The damages come from the weight on the point of the axle.

[Mr. Bowers supplied the following information:]

The amount of weight on the individual axles rather than the gross weight of the vehicle is the key issue insofar as pavements are concerned. As we recall, Mr. Jim Johnston stated that a 1,000 pound increase in the load carried by a tandem axle amounts to only 125 pounds additional load on each tire. While this is mathematically correct and may appear to represent a small increase in load, it does result in a significant increase in pavement wear. The findings resulting from the American Association of State Highway and Transportation Officials Road Test indicates that a 35,000 pound tandem axle causes approximately 13 percent more pavement damage than a 34,000 pound tandem axle.

Senator STAFFORD. I guess that leads me to one final question and that has to do with length of truck limits. As I understand in most instances 60 feet is the maximum length at the present time for trucks. That, I presume, is the result of State recommendations rather than Federal. Would a 65-foot length nationwide have any appreciable impact on highway safety and highway wear and tear?

Mr. BOWERS. No, sir, not if the weight was distributed equally. Senator STAFFORD. Thank you very much.

We will go on to the next witness if there are no further questions.

Senator PRESSLER. I just have another statement for the record here from the eastern division of the South Dakota Independent Truckers Association.

Senator STAFFORD. Without objection, that will be made a part of the record. [See p. 301.]

Our next witness will be Roger Mallar, president of the American Association of State Highway and Transportation Officials.

STATEMENT OF ROGER MALLAR, PRESIDENT, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, ACCOMPANIED BY JACK FREIDENRICH, CHIEF ENGINEER, NEW JERSEY DEPARTMENT OF TRANSPORTATION

Mr. MALLAR. Senator Stafford, we appreciate the invitation to appear before you today. For the record, I am Roger Mallar, commissioner of the Maine Department of Transportation, appearing in my capacity as president of the American Association of State Highway and Transportation Officials. I am accompanied by Jack Freidenrich, chief engineer of the New Jersey Department of Transportation, and chairman of the AASHTO Subcommittee on Bridges and Structures.

In your letter of invitation to us, you asked that we especially address the issue of the bridge formula and truck weights, and the staff has asked that we provide for the record information from those States which have maximum gross weight limits less than 80,000 pounds.

I am asking that my more detailed supplemental statement, together with statements from Arkansas, Illinois, Missouri, Mississippi, and Indiana be made a part of the record.

Senator STAFFORD. Without objection, it is so ordered. [See p. 96.]

Mr. MALLAR. The three bills before you today, S. 1383, S. 1439, and S. 1689, all purport to do the same thing, and that is to establish uniform weight and length limits on the Interstate System. In effect, what the bills would do would be to change the present limits in Federal statutes from a ceiling which cannot be exceeded to a floor which a State cannot go below.

At the time of the enactment of the Federal Aid Highway Act of 1974, which established the new maximum weight limits on the Interstate System, 26 States were at the then legal limit of 73,280 pounds. As of today, 21 States have raised their maximum weight limits to 80,000 pounds on the Interstate System by legislative action. In addition, six States have raised their limits to 80,000 pounds by administrative action, and the District of Columbia has raised its limit from 72,280 pounds to 79,000 pounds. Thus, in a period of only 4 years, 21 States have adjusted their weight laws legislatively and 7 administratively.

When the tolerance which the District of Columbia and some States allow is taken into account, 40 States plus the District have permitted maximum gross loads of 80,000 pounds or higher on the Interstate System. There are 12 States that have legislation before

their State legislatures this year to increase various weight limits, and given the continued interest in this subject, obviously States are going to look at and make further adjustments in this issue.

Recognition must be taken of the fact that increased axle loadings and gross loadings can cause accelerated deterioration of highways and bridges. Since the States are charged with the maintenance of these systems and pay 100 percent of these maintenance costs, it is readily apparent that States must take into account the tax structure which pays for highway maintenance and improvements before permitting changes in vehicular weight laws. A recent research study done by the national cooperative highway research program identified one-time costs of \$2 billion to raise weight limits to the current Federal maximum. While the bills before you will deal only with the Interstate System, loads obviously originate and have their destinations on systems other than the interstate. Effects of these higher limits must also be considered on these other systems in the real world in which we live which are generally not built to as high a standard as the interstate and which, in effect, are much older and in most cases in a more advanced state of deterioration than the Interstate System.

You asked specifically of us the impact that the revised bridge formula proposed by Senator Melcher in S. 1383 would have. We did not have available to us Senator Melcher's amendment, so our comments are on the printed version of the bill. The effect would vary based on the type of truck involved, but on a typical western double bottom six-axle truck, the net effect would be to add 6,000 pounds to the weight which could be carried. Included in my detailed testimony are two graphs which show these effects. Of the 39,300 bridges on the Interstate System, only 29,000 are designed to carry HS20 or equivalent loads. A far larger percentage of bridges off the Interstate System are incapable of carrying these loads.

In summary, Mr. Chairman, we agree to and encourage uniformity. Progress toward uniformity is occurring expeditiously. Trucks are not confined to one system, so that the impact of increased weights extends beyond the interstate itself. The States maintain our highway system and the States raise the taxes to support those maintenance efforts. Each State must retain the ability to analyze the effects of weight changes on its roads and then make appropriate adjustments in the tax structure. Therefore, we submit to you that Federal action on this issue is not required.

I would be pleased to answer any questions you might have.

Senator STAFFORD. Thank you very much, Mr. Mallar, for your statement which, in true New England style, is within the 5-minute limit and one New Englander recognizes that in another.

I presume, Senator Bentsen will have questions in writing.

Mr. MALLAR. I would be glad to respond to those.

Senator STAFFORD. I have a few I will direct to you now. Any of these which you wish, you might indicate you prefer to respond in writing, and that will be fine.

First, what percentage of roads and bridges now on the interstate system and Federal system are designed to withstand the truck weight standard of 80,000 pounds? I think you basically commented on that.

Mr. MALLAR. I think we commented on that in our statement.

Senator STAFFORD. What impacts would the legislation introduced by Senator Melcher have on the cost of highway and bridge design and construction?

Mr. MALLAR. It is very difficult, as some of the preceding witnesses have indicated, to precisely define that. Our statement does indicate that there has been a research study concluded that would indicate that the one-time costs of even meeting what is currently in the Federal law would be \$2 billion in our highway system. So you can see the impacts financially are very great.

Senator STAFFORD. In other words, if that \$2 billion estimate is correct, increasing the weights in any way would result in a still more expensive item, would it not?

Mr. MALLAR. That is correct. The States are at this time facing very serious problems in having sufficient revenues to maintain their bridges and highways without any particular increase in truck weights, and an increase would obviously exacerbate that problem.

Senator STAFFORD. Do you believe the current truck weight and length standards are being adequately enforced?

Mr. MALLAR. The members of our association, Senator Stafford, probably represent the group in this country that are more interested in enforcement of those standards than anyone else, since we are responsible for maintaining the system. I think we have seen some significant increase in enforcement activities. We are working very closely with the Federal Highway Administration to insure even more improvements in that system. And I believe we will have an adequate system in that regard.

Senator STAFFORD. S. 1383 and the other bills we have before us would, in effect, preempt the States in mandating uniform truck size and weight standards. Do you believe this is a necessary step in view of the current energy crisis or should the States retain the right to set lower weight limits?

Mr. MALLAR. I think, Senator Stafford, that given the States responsibility to maintain those systems, that this issue can't be looked at in a vacuum of only looking at increased weights, but the States need to have an ability to look at the other side of the coin. I think the States have demonstrated a willingness to respond to these problems, and I think if those interested in achieving those objectives, to which we don't disagree, worked positively with those individual States in attempting to develop further changes that success would be achieved.

Senator STAFFORD. Thank you very much, Mr. Mallar, for appearing before us and helping this subcommittee with our deliberations on the three pending bills before us.

Mr. MALLAR. Thank you.

Senator STAFFORD. There will be more questions we may send to you both from Senator Bentsen and myself. [See p. 154.]

The Chair will now invite Mr. R. V. Durham and Mr. Bartley M. O'Hara, office of congressional affairs, International Brotherhood of Teamsters, if they would care to come forward to the witness table.

Gentlemen, we will allow you to decide which one goes first. We have the rather lengthy statement of your general president, Mr.

Fitzsimmons, which if you wish the Chair will place in the record in full so it will be part of our hearing record. [See p. 157.]

STATEMENT OF R. V. DURHAM, DIRECTOR OF SAFETY AND HEALTH, AND BARTLEY M. O'HARA, LEGISLATIVE ATTORNEY, INTERNATIONAL BROTHERHOOD OF TEAMSTERS

Mr. DURHAM. Thank you. Our comments are going to be very brief.

Senator STAFFORD. All right.

Mr. DURHAM. As you are probably well aware, we certainly have a vital interest in the truck size question. We have quite a number of members out there on the highways operating these vehicles. We appreciate the opportunity to come before you this morning and discuss the uniformity of lengths and weights on our Nation's highways.

In the interest of time, we have submitted materials which give a detailed background of our views in the areas of both truck lengths and weights and uniformity. Briefly, these statements establish a reasonable basis for legislating certain limitations on truck lengths, drawing from our experience and studies by various organizations inside and outside the Government.

As we see it, Mr. Chairman, the only way we are going to get uniformity is for the Federal Government to preempt the States. And I was encouraged to see some of the State representatives speak in support of that premise recently in the Greensboro hearings in which it was pretty much stated this is the only way we were going to see it is with the Feds to preempt it.

Our organization is not too hung up on whether it is a 40-foot trailer or 45-foot trailer, or whether it is a 72,000 or 80,000. Generally, what we are looking for is really two things: One is uniformity and, second, a law that will leave the tractor out of the equation. Unfortunately, the length limits are set bumper to bumper. As a result of that, there is an economic incentive, which we all can understand, to build the trailer as long as possible to haul as much cargo as possible and thereby it creates a real problem for the driver.

A year or so ago, we had some of the trucks over, and you were gracious enough to go through and see some of the problems we are up against.

So if there is to be a fixed standard on an overall basis, then we would argue that at least allow 15-foot for power unit and the space between tractor and trailer. In other words, whatever your committee or Congress would enact on truck size or length allow at least 15 feet for the power unit.

As far as the size of trailers, generally, it is pretty much accepted 45-foot boxes are pretty much the norm out there. And I don't see really any justification on lowering the trailer length. The twin-trailer, which is accepted generally west of the Mississippi, and it is prohibited generally east of the Mississippi, the twin trailers normally run about 27- or 28-foot long. We have no problems with 45-foot semitrailer or 27- to 28-foot twin trailers. Our problem, of course, is on the question of the overall. We see States that are moving toward 60 foot to accommodate some of the problems that were raised recently by the owner-operators and some of the con-

cerns we raised a year or so back in the hearings on the Kennedy bill.

If the 60 foot is established without any limitation on trailers, we are immediately going to see a move to the 50-foot box. It is going to compound the problem to the professional driver and other drivers on the highway. So I would urge you to give strong consideration to whatever the figures that you apply, that we try to work toward uniformity. We support twin trailers nationwide. We supported the 80,000 pounds. Although we were asking at the time for a 10,000-pound limit on the front axle where there is only two tires, the Senate, through Senator Hart's amendment, approved that request; but unfortunately it was dropped in conference.

Another consideration on the increased weights was there was going to be stronger, improved brakes. Unfortunately, we are still looking for that. So we have some very serious safety concerns here, and we would certainly commend the committee for looking into this problem. We see a real benefit to be derived from working toward uniformity, in the energy area, in the safety area, and in the economic area. I think there is a lot of merit to it.

Mr. O'HARA. Senator, let me say in Senator Melcher's bill, it would increase the allowable weight on tandem axles to 35,000 pounds, and again would make it a preemptive notion. That would probably come pretty close to effectuating the 10,000-pound limitation that was suggested by Senator Hart in 1974 because it would take away the incentive to put over 10,000-pounds on the steering axle. I don't believe anybody has come forward with a statement linking the increase in fatalities among truck drivers between 1974 and 1978, a 40-percent increase; however, it is pretty hard to escape that conclusion given the configurations that our people have been faced with out there operating the vehicles.

Senator STAFFORD. Thank you very much, gentlemen.

For Senator Bentsen, the Chair will reserve the right to submit questions in writing for responses in writing.

For myself, let me ask you this question. You have talked about the overall length of tractors and semitrailers being 60 feet. One of the bills would propose to increase that to 65 feet. Do you have some recommendation as to what the maximum length of the semi-trailer should be under a 60-foot length or 65-foot length so we could have some criteria from you on how much of that overall length should be reserved for the tractor?

Mr. DURHAM. A number of States, I believe it is either 11 or possibly 12 States, have enacted laws that set the length limit for semis at 60 feet with a further limitation of 45 foot on the trailer. That is the ideal arrangement, in our opinion. It recognizes the economic needs of the carrier; at the same time it recognizes the safety concerns that we have. When you go to the twins, unfortunately, most States that are operating with the twins have established a 65 foot overall with the twins. When you consider the fact they are pulling twin 27 or twin 28's, you can see the problem is more acute there than with a 55 foot overall with a 45-foot semi, inasmuch as you have to allow space from the lead trailer and truck and trailer, as well as the space between the lead trailer and the back of the cab.

So to respond to your question, we feel on the semitrailer, it should be, if you are looking for a figure, 45-60. Now on the twins, we should be at least looking for 69 feet with a twin 27's, again allowing 15 foot for the power unit. Without setting a length limit on the trailer, we are going to run into the situation you find in Texas where I am told they passed the 65 foot overall, but it was pretty much understood that that was to allow for twins. But what we are finding is trailers in excess of 50 feet are being pulled, and they are legal within the overall lengths.

Senator STAFFORD. Do I gather whatever the overall length might be, that 15 feet of it ought to be reserved for the tractor?

Mr. DURHAM. That is correct. Not that it will be taken in all cases. Many of the carriers will continue to use COE equipment for in-town use and their various needs. But there would be that space permitted. The No. 1 carrier in the country, Roadway Express, testified in the Greensboro hearing where they supported the 45-65-foot concept, because what happens, the carriers, as they go to the 45-foot trailers, they have had to go to either the COE equipment or to the short-nosed conventional type tractor. This causes the engine to have to be moved back into the cab with the driver and enclosed with what we call a "doghouse" and this represents a lot of problems for the driver—space, fumes, heat, noise, et cetera. And carriers would prefer to have that engine sitting forward of the firewall, and they can do it with 60 feet but not with 55 feet.

Senator STAFFORD. Let me ask you as a matter of curiosity, I remember at the exhibit of various tractors and semis last year there was one tractor that actually had the driver down virtually at ground level. I don't know where the engine was. Are some of those tractors on the road today?

Mr. DURHAM. Senator, that is what was referred to as the cab under. It is manufactured by a trailer company in Pennsylvania. There are some of those trucks in use, but I am pleased to report to you since that display that we put on, we have been successful in negotiating a provision with our carriers that none of those trucks will be used by the carriers under the national agreement.

Senator STAFFORD. Do you have any opinion on what level of fuel economy would be achieved by uniform truck length and weight standards? Are there ways trucks can achieve fuel economy?

Mr. DURHAM. I think the industry is doing quite a bit in this area with the movement to radial tires, the air deflectors on top of the cabs, the clutch fan on the trucks. There would definitely be savings if we could get uniformity and get twin trailers nationwide. There is certainly a loss of energy when a carrier gets to a State line and has to break down and pull one trailer through and go back and get the other one. It is actually a double dispatch. I don't have any figures. I am sure the American Trucking Association can probably furnish you some figures. There has to be a savings when we can work toward uniformity to move the Nation's goods. That is the reason we supported as early as 1974 the support of twintrailers. We see nothing wrong with twin trailers or a 45-foot box if the driver is given a safe tractor to handle the rig.

Senator STAFFORD. The National Highway Traffic Safety Administration has published data that fatal accidents increased 46 per-

cent between 1975-78. Do you have any opinion as to why this apparently has occurred?

Mr. DURHAM. I guess I have opinions like everybody else. We certainly are very concerned about this because these are people that we represent, and there has been a 40-some-odd percent increase. You hear a lot of the truckdriver killing the automobile driver. But these are people in trucks getting killed. I don't think anybody has any proof. I think you can draw different conclusions. Of course, it parallels the same time the weights have been increased. That is not to say it is causing it. I think we have to look at it, and I think DOT is looking at it, in terms of what effect has the increased size and weight on safety?

My personal opinion is I think we have seen a very serious deterioration of maintenance of the equipment on the highways, and this was highlighted recently by the Department of Transportation in safety roadside checks when they found greater than 40 percent of the trucks on random inspection were so badly in need of maintenance that they were grounded right on the spot. I think this is a bad reflection on the Teamsters, the industry. We have to do a better job. I think we have to look at this maintenance, and I think the Percy bill addresses this problem, and I believe this has something to do with that increase in fatalities. At the same time, there has been an increase in traffic, as we all understand, but it has not been commensurate with the increase in the deaths.

Senator STAFFORD. You mentioned the increase in traffic. I was about to ask over that same time, has there been an increase in truck traffic that might have some relation to the increase in accidents?

Mr. DURHAM. One report I saw said traffic had increased 22 percent. ATA differs with me on that. We got into a little debate in one of the other forums and they claimed it was something like 30 percent. In any event, it certainly has not increased commensurate.

Senator STAFFORD. Senator Pressler.

Senator PRESSLER. I might ask a followup on that point. Do you know anything about the percentage increase between 1975-78? Is that involving people driving the trucks, or is that a car-truck accident, or all accidents?

Mr. DURHAM. No, that is the occupant of that truck cab fatalities increased from approximately 700 to over 1,000.

Senator PRESSLER. What has occurred in the statistics of other vehicles involved with trucks? Has the death rate gone up there?

Mr. DURHAM. I was just over at the DOT National Highway Safety Advisory Committee meeting. There has been some increase, but not as dramatic as we were just talking about. I think there has been an increase in fatalities, a creeping increase, and some people suggest that is caused by the people continuing to increase their speed. I don't differ with that. But I can furnish you that information if you like.

Senator PRESSLER. I would like that, because I thought the 55-mile-an-hour speed limit would result in less deaths percentage-wise. I guess it hasn't.

Mr. DURHAM. What I was saying, in recent years there has been a creeping up of the average speed when it took a good dip back on the oil embargo. The last report I saw, the average speed on the

highway for trucks and automobiles was 58.3; and buses were the worst, they are running at 59.6. If there has been a more recent figure I don't know. I will certainly get the figure on what the increase of fatalities was where a truck and automobile have been involved in a collision. I believe that was the question you were interested in.

Senator PRESSLER. Thank you very much, Mr. Chairman.

Senator STAFFORD. Thank you.

Thank you very much, gentlemen. We appreciate your testimony. There may be a few questions that we will send for response in writing. [See p. 184.]

The Chair will now invite Charles N. Brady who is the director of the American Automobile Association, Highway Division.

Mr. Brady, we welcome you here. We are prepared to hear your testimony. We will put your full testimony in the record and invite you to summarize. [See p. 193.]

STATEMENT OF CHARLES N. BRADY, DIRECTOR, AMERICAN AUTOMOBILE ASSOCIATION, HIGHWAY DIVISION

Mr. BRADY. Mr. Chairman, I am Charles N. Brady, director of the highway department of the American Automobile Association. I am accompanied today by George A. Viverette, Jr., assistant director of that department.

We have submitted a rather lengthy statement. We request that it be included in the record and we will proceed with a short summary of its content.

Mr. Chairman, as you know AAA opposed the liberalization of weight standards which were eventually incorporated into the Federal Aid Highway Amendments Act of 1974. We opposed the increases in axle and gross weights on the basis of anticipated safety problems and additional wear and tear on our highway system.

Based on the safety performance of large trucks since 1975 and the effects which heavy axle loadings have had on our highways, as reported in the GAO study, we believe that this subcommittee might more appropriately be considering a rollback of weights to the pre-1975 levels, rather than a mandate to require all States to permit such heavier loadings.

Delegates to the AAA annual meeting in Los Angeles, earlier this month, requested such a rollback in a resolution addressed to the Congress which is attached to our full statement.

Data available from the fatal accident reporting system—FARS—reveal that heavy truck involvement in fatal accidents increased 47.6 percent between 1975 and 1978. Fatalities increased 43.4 percent. This was significantly higher than the experience of passenger cars and all vehicles during the same period—7 percent for passenger cars and 13 percent for all vehicles.

FARS data also reveals a 39-percent increase in the number of fatalities to occupants of passenger cars in collisions with heavy trucks. As a point of comparison, there was an increase of 8.2 percent in the number of passenger car occupants killed in all collisions involving passenger cars.

Equally disturbing to us is the fact that the increase in fatalities and involvement in fatal accidents of heavy trucks was double the increase in exposure, as reflected by increases in vehicle miles of

travel—VMT—reported by the Federal Highway Administration. Once more as a point of comparison, passenger car involvement in fatal accidents and fatalities showed an increase of less than half of the increase in VMT.

Confirming AAA's historical concern over the heavy truck's contribution to highway pavement deterioration, a U.S. General Accounting Office report released this past July concludes that excessive truck weight is a major cause of highway damage.

The report, "Excessive Truck Weight: An Expensive Burden We Can No Longer Support," points out that data supplied by 45 States revealed that only 63 percent of the interstate mileage and 15 percent of interstate bridges can support the heavier loads permitted in 1975 without reducing serviceable life.

The GAO report suggests that maximum Federal weight limits be made applicable to all Federal-aid highways, that the grandfather clause in section 127, title 23 of the United States Code, be eliminated and that overweight permits for reducible loads in excess of State weight limits be prohibited.

AAA supports these recommendations and looks forward to enactment of legislation designed to implement them.

Highway builders must have some reasonable assurance what weight will be permitted to operate on the road systems they build. Failure to establish nationwide maximum, rather than minimum limits for axle and gross weights of vehicles will continue the hodgepodge of vehicle weight regulation which has existed in our transportation system for decades. It will continue the ever-escalating campaign for heavier and larger trucks, resulting in premature obsolescence of our major highway networks.

Unfortunately S. 1689, S. 1383, and S. 1439 all are directed at establishing minimum weight limits to be mandatory in all States. The purpose is to provide uniformity of maximum weights to allow uninterrupted passage through all States. With the Federal limit constituting a floor rather than a ceiling no higher level of uniformity than that which already exists will ever be achieved. All States now permit 73,280 pounds so a truck can move from ocean to ocean and border to border at that weight now. If the Congress establishes a floor of 80,000 pounds this year, what assurance is there that the industry won't be back for a 90,000 or 100,000 or even a 150,000-pounds floor next year or a year after? Clearly the establishment of a weight ceiling; rather than a floor is essential if we are to preserve our road systems so vital to all of us.

For this reason, as well as others noted in the text of our prepared statement, we recommend against enactment of the three bills as presently written.

Thank you, Senator Stafford.

Senator STAFFORD. Thank you, Mr. Brady, for a good statement.

For Senator Bentsen, the Chair will reserve the right to submit questions for response in writing, and the same reservation for other members of the subcommittee who are unable to be here.

Mr. BRADY. We would be glad to respond.

Senator STAFFORD. At the beginning of your testimony you cited accident statistics involving heavy trucks. What effect do you believe would mandatory uniform truck size and weights at the current level have on these statistics?

Mr. BRADY. It is very difficult to answer specifically what weight has done. But if you look at the facts, sir, since 1975 the data that we enumerated, and which is contained as an appendix to our prepared statement, leaves no question that the safety performance of heavy trucks has determined significantly during this period the increases in weights have taken place. It has been a terrible performance, sir.

Senator STAFFORD. What do you think the impact of uniform truck weights of 80,000 pounds would be on pavement life and bridge stress if they were mandated only during fuel emergencies as proposed in S. 1383?

Mr. BRADY. You have had DOT testimony earlier it would be a 20-percent increase if it was confined to only 90 days. Sir, I don't have any information to the contrary, but I might point out it has been the experience of temporary expediency in enactment of size-weight legislation that those weights never come down.

Senator STAFFORD. What do you see as the most effective mechanism to discourage overweight trucks, if there is one?

Mr. BRADY. Certainly an increase in the enforcement personnel is one requirement, and that would be a State expense; a repositioning of and/or replacement of some of the scales which have been put in locations which are easily bypassed; a greater level of utilization of portable scales and more enforcement personnel to operate those scales; and perhaps an increase in the weigh-in motion-type installation, which is now somewhat experimental. At least those types of scales can screen the very heavy vehicles from the lighter vehicles and clear the lighter vehicles through the weigh station very quickly.

Senator STAFFORD. Traditionally, highway maintenance has been the States' responsibility. Do you believe the Federal Government should make a larger financial commitment to highway maintenance?

Mr. BRADY. Sir, I don't think the Federal Government should contribute to maintenance. Now if you are talking about the 3 R program, we are certainly in favor of increases in the 3 R program. But for mowing the grass and snow removal and operations of that type which also come under maintenance, we feel that the Federal Government has no place in that, nor in repairing potholes. We don't want environmental impact statements for pothole repair.

Senator STAFFORD. Thank you very much for your very good statement, Mr. Brady, which we appreciate. I think that concludes matters for us.

The Chair understands Senator Culver is available, and the Chair in consequence will change the order for the last two witnesses and call on Mr. Don Phipps of the Independent Trucking Association. The Chair is delighted to welcome Senator Culver to our hearing.

Senator CULVER. Thank you very much, Senator Stafford.

It is a pleasure to be able to welcome and introduce our next witness, Mr. Chairman, Don Phipps, who is president of the Iowa Independent Trucking Association. Mr. Phipps is an owner-operator out of Ames, Iowa, and he was in Washington, I recall, last spring with a group of other representatives from our State. We

had rather lengthy discussions on that occasion with regard to the fuel shortage and its implications to Iowa.

It is a pleasure to welcome you back today, Mr. Phipps.

STATEMENT OF DON PHIPPS, PRESIDENT, IOWA INDEPENDENT TRUCKERS ASSOCIATION

Mr. PHIPPS. Thank you.

I am Don Phipps from Ames, Iowa, president of the Iowa Independent Truckers Association. I am appearing on behalf of myself and the truck operators I represent in Iowa. I also own and operate a semitractor trailer.

We are in agreement with S. 1383 for various reasons. One is that S. 1383 is a bill that encourages safety. Changing the Federal bridge formula to enable loading 35,000 pounds on tandem axles, instead of 34,000 pounds, is a safety factor. This makes it possible to take 2,000 pounds off the steering axle and place it on the back tandem axles, where it is safer. Distribution of the 2,000 pounds from the steering axle to the tandem axles removes 1,000 pounds from each front tire while adding only 125 pounds to each of the remaining 16 tires. The 10,000-pound load on the steering axle places only 5,000 pounds on each front tire usually rated at 5,800 pounds.

We also agree with the 65-foot length, however, limiting trailer lengths to 45 feet. This 65-foot length would allow truck operators to use conventional tractors without worrying about the overall length. Many truckowners feel a conventional tractor provides more driver comfort by giving a smoother ride, therefore less fatigue and more safety. The Federal bridge formula protects the bridges and the 65-foot length would insure the load spread to be sufficient to meet these requirements. Also, 65 feet would help unify the double-bottom lengths.

The Iowa DOT has come out with a safety factor that:

* * * the increase in truck weights of the proposed magnitude addressed herein will not significantly increase the frequency nor the severity of truck accidents. The net result of the proposed increased legal axle and gross weights should be a reduction in truck accidents. This is due to the reduction in truck trips to transport the same amount of commodities. (p. 18 1a DOT)

It is estimated that uniformity would save 7.8 million gallons of gas in Iowa annually. this is on page 16 of the attached copy. A study of the Federal Energy Administration estimated that if all States adopted 80,000 pounds and allowed 65-foot twin combinations, 225 million gallons of fuel could be saved annually. This is out of Stanford Research Institute, cited in Heavy Duty Trucking, October 1979, page 136.

Uniformity would also help the truck operator when updating his equipment, which is a continuing process. We need to replace equipment with fuel efficiency in mind, as well as load capacity. As the situation now stands, we cannot update to the most efficient, safe, and comfortable equipment because of the varying differences in State weights and lengths. Also, we cannot update with temporary standards that are changing week by week.

Some of the block States have temporarily increased standards, some in weights, some in lengths. It is impossible for the truck operator to keep up with the changing situations we see in the

various States. One time we go through a State we are allowed 60 foot, 80,000 pounds; the next time we are not. This has resulted in uncertainty, and sometimes tickets issued.

We would like to see the block States become uniform with the other States. We certainly do not want to see different weights and lengths—58, 55, 59 feet—as some States proposed, but minimum uniformity across the Nation. We, as truck operators, need to be able to load at the point of origin and unload at our destination—and be legal in weight and length in any and all States we go through.

An Iowa DOT analysis study recognizes that increased truck weights will result in both increased costs and benefits. "The benefit/cost ratio shows that for each dollar in increased highway wear, society will receive \$4.2 in benefits in the form of reduced transportation costs." (IaDOT, page 15) a 4-to-1 return is a good investment—for the truck operator, society, and the consumer, who will all benefit.

We can accept either S. 1689 or S. 1439 with a 2-percent axle tolerance added. However, the temporary nature of the bills is unsettling. We need legislation now. We have been patient in waiting for help while fuel prices continue to spiral, along with other truck costs. As Senator Culver said in introducing S. 1439, "While the current shortage is a strong argument for taking action on an immediate temporary basis, it is quite possible that the uniform standards on a permanent basis are in the national interest." Also, "raising the length and weight limits for trucks to a national standard is a partial answer to both the diesel fuel shortage and to the problems threatening numerous independent truckers."

Trucks are the only mode of transportation that serves every town in the United States. Uniformity will help serve Small Town, U.S.A., more efficiently. S. 1383 needs support because of safety and conservation. A help to the trucking industry by passing a uniform minimum weight and length bill will ultimately be a help to the U.S. consumer.

Thank you.

Senator STAFFORD. Thank you very much, Mr. Phipps. You must have had some New England ancestors because you managed to get that entire statement in in about 5 minutes. I compliment you.

I will call on Senator Culver.

Senator CULVER. Thank you very much, Mr. Chairman.

Mr. Chairman, in my judgment, allowing 80,000-pound, 60-foot trucks on the Interstate System in all States is a prudent and interim measure that will help save fuel.

I note in Mr. Phipps' statement, that it is, estimated that in Iowa alone that would represent about 7.8 million gallons of fuel saved annually. I look forward to the completion of the DOT study now underway on truck weights so we can make an informed judgment on whether this should be made permanent. We have to have accurate information on those tradeoffs between fuel efficiency and wear and tear on the Interstate System.

I think the issue of truck sizes and weights shows the need to develop a comprehensive, balanced national transportation system. It seems like every time we turn around, whether it is railroad, or air transportation, or trucking, we are dealing on an ad hoc basis

with our legislation, and we desperately need a master blueprint that is going to comprehensively look at the picture and bring about a most efficient allocation of service and system for the total national needs for the future. Once we have such a plan in mind, only then can we see our specific transportation issues, be they railroad or trucks, solved.

Mr. Phipps, under the emergency action, Iowa now permits the 80,000-pound trucks through the rest of the year. The permit fees were increased to cover the cost of expected additional wear on the Interstate System. My question really is now, in your judgment, is this new permit system working and has it recovered additional cost for maintenance and repair? Could you speak to that?

Mr. PHIPPS. Yes. That DOT study, I didn't give the exact figure, they charged us, I think, \$117 for that permit, and they say if they say the State made money considering the wear and tear. It doesn't all boil down to that, whether you can make money or not.

I have here a picture that came out of the Ames paper the night before last. There is a \$3.5 million pile of soybeans sitting there waiting to be taken to the milling company. It rained 3 inches on Monday, and you know what that does. This is just one case, and I am sure there are more. It doesn't all boil down to that. Sure, we are willing to pay, we always have paid our way and we are not against that. But the idea is we have got to get the other States to go along.

For example, these beans, a lot of them should go to Chicago, they should go to ports in Illinois, and we cannot get across the river with them. We can go as far as the river. But there are many points in Illinois that this stuff needs to be, and we are hung; we can't go there.

Senator CULVER. We have a particularly desperate situation in Iowa, Mr. Chairman, and its implications to the Nation—to the world—are very severe. I don't think Iowa has ever faced a more serious economic problem than we have today. We have a bumper crop. We have, of course, the Rock Island bankruptcy; we have the Milwaukee situation that is almost equally as perilous. We are just not moving this grain. We have terminals that are, in most cases, 50 percent full all over the State. We are going to be dumping grain in the cities, in the streets, and on the farms. The moisture consequences, in terms of the quality of that grain, the cost to our balance of payments in terms of dollars, in terms of the rest of the country as well as our own State, are almost incalculable.

So the kind of situation Mr. Phipps alludes to is absolutely the most serious economic situation we have faced probably in the life of the State. So we are trying to get the railroad moving, but the truck role is equally crucial now because of the timelags involved even if we can get the railroad situation worked out.

I wonder, Mr. Phipps, with regard to the Iowa State Legislature, I know they are considering a bill during the next session that would raise the weight and length limit to 80,000 pounds and 60 feet. What is your assessment as to the likelihood of this legislation being enacted by the legislature and then what about the prospects on the veto?

Mr. PHIPPS. Of course, we have been promised it for several years, but I am sure that Iowa will get it this coming year. And if

they vote it in, there will be no veto; we have been assured of that. They say they are going to take it up in January as one of the first items, and we have been assured it will not be bottled up in committee.

Senator CULVER. I want to thank you very much, Mr. Phipps, for your leadership in this area and for the support you have provided us in drafting interim legislation. I certainly wish to concur in the importance of this issue and how critical it is to the economics of our State.

Mr. PHIPPS. Thank you.

Senator CULVER. Thank you, Mr. Chairman.

Senator BENTSEN. Thank you very much, Senator Culver.

Do you have questions, Senator Stafford? And let me apologize to those of you who have been witnesses. But we have also been meeting in the Finance Committee on the windfall profits tax, and if you have heard any screams coming up, it has been from down there. It has been pretty hot and heavy.

Senator STAFFORD. Mr. Chairman, welcome back. I think you indicated one of the problems we have here in the Congress, especially in the Senate, is all of us trying to be in three different places at once.

Earlier this morning, Mr. Phipps, there was testimony that whatever the length overall of a rig—60 feet or 65 feet—that 15 feet of that length ought to be reserved for the tractor. Would you have any comments on that?

Mr. PHIPPS. Yes. If we limit the trailer to 45 feet, that is no problem. And that very definition, a 45-foot limit on trailers, that is strictly a safety measure because of the fact if we go to longer trailers, we are going to go to short-wheel-based tractors, which are not safe.

Senator STAFFORD. So you endorse the fact that 15 feet of the length should be reserved for the tractor?

Mr. PHIPPS. Yes, sir.

Senator STAFFORD. Do you believe that there is an ultimate truck size and weight ceiling which should not be exceeded for any reason?

Mr. PHIPPS. As you know, they have the special permits. I am sure that we will still have, though keep them on the indivisible loads that cannot be broken down. There is no way really around that.

Senator STAFFORD. Would you have any opinion, Mr. Phipps, as to what percentage of trucks today might be running over the legal weight limits?

Mr. PHIPPS. I don't know the percentage. I know there are some even in our own State. I am sure if it is raised to 80,000 there isn't nearly as many. In fact, after the enforcement is backed off because they are not doing any business; they are just out there spending their time. So they really backed the enforcement.

Senator STAFFORD. Mr. Chairman, I have one or two other questions I will submit for response in writing, due to time constraints.

Senator BENTSEN. Without objection, it will be ordered.

Thank you, Mr. Phipps.

Our last witness is Mr. Edward Kiley, assistant to the president for policy, planning, and development, American Trucking Association.

STATEMENT OF EDWARD V. KILEY, ASSISTANT TO THE PRESIDENT FOR POLICY, PLANNING, AND DEVELOPMENT, AMERICAN TRUCKING ASSOCIATION

Mr. KILEY. Thank you, Mr. Chairman.

To save the committee's time, we have summarized our statement. We have a full statement we would like to have accepted for the record.

Senator BENTSEN. Without objection, so ordered. [See p. 222.]

Mr. KILEY. We appreciate this opportunity to appear before the subcommittee and present our industry's comments on provisions of S. 1383, S. 1439, and S. 1689, which relate to uniform truck weights on the Federal-aid highway system.

Few issues have the significance to the Nation's economy and development, and to energy conservation, as does the question of the allowable size and weight of trucks operating on the Nation's highways.

The role the trucking industry plays today as the major carrier of the Nation's freight makes the efficiency of truck operations a matter of national concern. Efficiency of truck operations, in turn, is a direct result of the ability, or inability, to utilize our highway system in accordance with the transport capabilities built into that system.

Size and weight limits determine trucking payload, and this is where greater efficiency is to be found. Realistic size and weight standards are the key to increased trucking productivity.

The biggest obstacle to greater efficiency, especially in the area of fuel economy, is the failure of 11 States, including the District of Columbia, to permit, at least, the weight standards set forth in the Federal-Aid Highway Act of 1974.

Most of these States are so located as to form a veritable wall in the middle of the country which compounds the problem of inability to operate interstate at the federally permitted weight level.

Our full statement sets forth the history of the present Federal limits. They are well-founded in engineering fact and have been endorsed by the Federal Highway Administration, the Department of Transportation, and they can be found in the policy statement of the American Association of State Highway and Transportation Officials.

The background of the present limits—20,000 pounds on a single axle, 34,000 pounds on a tandem axle, and a gross weight of 80,000 pounds determined in accordance with the bridge formula set forth in the statute—shows that they are well in line with highway construction standards and capabilities. They are more than reasonable limits.

Their background, and basic acceptance, refutes the charges made by some that these limits represent in any way a threat to the expected service life of our highway system. Neither can these charges of highway damage or early deterioration be made against the weights that were grandfathered in the Federal statute, first in 1956 and again in 1974.

The recently released report to which you have heard by the General Accounting Office, entitled "Excessive Truck Weight: An Expensive Burden We Can No Longer Support," attempted to substantiate such allegations by misuse of data taken from the Illinois road test. The GAO further confused the issue by failing to distinguish between illegally overweight trucks and trucks that were completely legal, although they exceeded in some cases the existing Federal weight limits by virtue of the grandfather clause.

The issues raised directly by the provisions in the bills before the committee are: (1) Whether or not the current Federal weight limits should be mandated as minimum limits instead of permissive as far as individual States are concerned; and (2) whether or not length should be included in the Federal limits. At present, length is not included in the Federal standards.

An additional issue is whether or not the mandated minimum standards should be on a temporary basis or should be permanent.

It would be preferable if national weight uniformity could be achieved by continuing to allow the limits to be permissive maxima and for all States to come up to the more modern standards. This, however, is proving to be a long and difficult process. If the Congress should decide that mandatory action is necessary, then the current limits on axle and gross weight—those are the present Federal statutes—should be mandated as minimum standards. In addition, States must be allowed, as in the case in the present law, to retain any higher limits which were grandfathered under prior legislation.

If it is decided that length should be included in order to achieve uniformity, such limits should also be minima only. The limits should be no less than an overall length of 60 feet for a tractor semitrailer combination and no less than 65 feet for other combinations. Recognition must also be given to any longer lengths that exist in any State, as was the case when weight limitations were first applied. These longer lengths must be grandfathered.

Benefits to our economy from uniformity of truck size and weights would be enormous. In fuel savings alone it has been estimated by the Stanford Research Institute that if all States permitted at least the 80,000 pounds gross weight and at least the 65-foot length, which permits operation of the twin-trailer combination, approximately 205 million gallons of diesel fuel would be saved annually. However, as indicated in our full statement this is a conservative estimate as it is based on purely intrastate operations. National uniformity would mean even greater savings since the units involved would be able to move interstate at the higher limits.

In summary, the American Trucking Associations, Inc., believes that national uniformity on truck sizes and weights would be desirable and beneficial to our Nation's commerce. However, the uniformity should be on the basis of minimum standards and at levels that would allow our highways to be utilized in such a way as to fully realize the economic benefits that have been built into them.

It would be desirable if weight uniformity could be achieved by having each State allowing on its own at least the standards provided in section 127, title 23 of the United States Code.

However, for the industry to achieve nationwide productivity benefits accruing from the higher gross weight limits, the mandating of these standards by the Federal Government may be the only practical approach. If this were to be done, the current weight standards should be considered as mandatory minima. Further, those States having weights, either axle or gross, above these limits must be allowed to keep the higher weights such as was the case in 1956, with reaffirmation of this retention in the Federal-Aid Highway Amendments of 1974.

Uniformity in lengths is also a desirable goal. It would be equally preferable if this could be achieved by individual State action with no mandating at the Federal level. However, if Federal action is considered by Congress to be the answer, then the lengths specified should be no less than 60 feet for a tractor semitrailer combination and no less than 65 feet for other combinations. These should be minima only. The States should remain free to permit longer combinations, with gross weights limited by the formula set forth in section 127, title 23 of the United States Code, as longer units prove to be acceptable to individual States in terms of highway safety, highway capabilities and truck operating efficiencies.

That concludes the summary of our statement, Mr. Chairman. Senator BENTSEN. Thank you very much, Mr. Kiley.

I, for one, would very much like to see the weights uniform across the country, and in authoring the bill in 1974, I expressed the same objective. You say unfortunately that some of those States have not raised it.

Mr. KILEY. That is correct.

Senator BENTSEN. I am not sure I really go for those weights above the 80,000 pounds.

Mr. KILEY. You mean the grandfathered weights?

Senator BENTSEN. That is correct. My friend on the right has that situation in his State, but I went along on that. You talk about these becoming minimum weights. I don't agree with that. I think if we go to uniformity, we should try to make them uniform. In this particular piece of legislation we will not give them the option to raise above 80,000 pounds. That is what I understand you to be saying.

Mr. KILEY. No; what I am saying is that in 1956, when Congress set the standards, the most grandfathered weights went to the State with higher axle limits. There are only a few States that have grandfathered gross weight limits above the Federal limit. The higher axle weights existed in States primarily in the Northeast prior to 1956, and they were part and parcel of the States economy. These States have not moved up from what was grandfathered. They are staying there, as the law requires. They would not go up in the legislation you are considering. If these States are allowed to keep what they have had since 1956 and the reaffirmation of that in 1974, this would not interfere with uniformity. They would be intrastate for each State that has these higher limits. Mr. Chairman, these weights are important to the States' economy.

Senator BENTSEN. I think I am convinced. I accepted the grandfathering in the legislation. But I very strongly agree that to the extent we can get uniformity, we ought to get it. Obviously it would lead to a lot fewer violations of law, and in addition to those

who are trying to comply with the law it would result in substantial savings in transportation across the country.

Senator STAFFORD.

Senator STAFFORD. Thank you, Mr. Chairman.

Mr. Kiley, you have heard the earlier testimony that suggests that 15 feet of a truck length, whatever the overall rig length might be, should be reserved for the tractor. Would you agree with that?

Mr. KILEY. We have no problem with that providing that doesn't come at the expense of the cargo unit. If you have the 45-foot for a semitrailer operating with a tractor, then that means for 15 feet for the tractor we have to have at least 60-foot overall length. We can't take the 15 feet from the cargo unit. For 65 feet that operate in States that permit it today, you would have to have it longer than 65 or we would have to take a reduction in the 28-foot twin. The 15 feet is fine providing the overall length is enough to retain the present cargo units.

Senator STAFFORD. Do you believe there should be an ultimate ceiling for truck size and weight standards?

Mr. KILEY. Not ultimately looking toward the future for this reason. At the present time the Federal laws set forth in the law under Table B recommended to Congress in 1961 by the Federal highway officials set a gross weight which can be fixed by length. As you reach greater gross weights in the application of this formula, you actually reduce the concentration of load on the axles. You stay within the bridge capability. There is evidence today in some States on the turnpikes greater productivity can be achieved by longer units under this formula. We are hopeful that the study the Congress has ordered be made by the Secretary of Transportation due in January will develop information that we should look to the future of greater productivity, staying within the gross weight formula, because there are demonstrated efficiencies. So we would not like to see the door shut this way. That is where the future would lie in greater truck productivity. Such increased lengths would have to be completely compatible with highway safety and geometric capacity.

Senator STAFFORD. To some extent I find your testimony to be a contradiction, Mr. Kiley. If I understand correctly, you are stating the case for uniformity of truck sizes and weights. At the same time you are urging that uniformity be in minimum terms only, and that there be no limit on at least the length of trucks, and that the grandfather provisions be retained wherever they exist, which are, in my judgment, the opposite of uniformity.

Mr. KILEY. I don't believe it is from the standpoint of achieving interstate uniformity. The grandfathered weights are important to the economies of these States. If you drive them back down to the lower limits, then you are taking away from many of these States the type of truck operations that are important to them. These weights have a deep history in the development of these States. They are important.

For example, the DOT had regional hearings on the question of sizes and weights in Chicago. A tremendous amount of evidence was brought in on the importance of the Michigan gross weight, which is, I guess, the highest in the country under certain condi-

tions. That is an important part of Michigan's economy. There is no evidence that this in any way impacts on the highway system. In other words, the highways can carry it. The engineers testified they have no problems. But that particular weight is very important to the economy of Michigan. And I think you would find this case perhaps in your own State, where higher axle weights which go way back and haven't changed since 1956 are very important to the State.

I don't think there is a conflict in coming to national uniformity because these higher weights would not get involved in interstate movement.

Senator STAFFORD. Thank you very much. We have one or two other questions we will submit in writing for responses in writing.

Mr. KILEY. We will be glad to respond.

Senator STAFFORD. That concludes my questions.

Senator BENTSEN. Mr. Kiley, I share some of the same concerns Senator Stafford has expressed. The fact that those excessive weights that I think are excessive weights do not damage the highways is a little hard for me to grasp. But I might further say one of the reasons I probably went along, I frankly didn't think I would have the votes for passing the bill if I didn't.

Mr. KILEY. Can I make one comment?

Senator BENTSEN. Certainly.

Mr. KILEY. In our complete statement, those weights are not excessive if you look at the history of the Federal-Aid Highway Act. For example, in 1956 when the standards were set, the States were told "You must build this system adequate to take care of your legal weight limits." This means every grandfathered axle weight, that State had to build its road to carry that weight limit. Now if that weight limit which was grandfathered in 1956, which hasn't changed, is proven to be too much, then something is wrong, because the States had to build the roads for these limits. So they are not excessive in the States that permit it because the law required they be built that way.

Senator BENTSEN. If you say so, Mr. Kiley. Thank you.

Mr. KILEY. Thank you.

Senator BENTSEN. That concludes our hearing.

[Whereupon, at 12:07 p.m., the subcommittee recessed, to reconvene subject to call of the Chair.]

[Statements submitted for the record and the bills S. 1383, 1439, and 1689 follow:]

TESTIMONY OF SENATOR JOHN MELCHER
before the
SUBCOMMITTEE ON TRANSPORTATION
of the
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
October 25, 1979

I want to thank the Chairman of the Subcommittee, Senator Bentsen, for holding these hearings on my bill, S. 1383, which would establish uniform national weight and length standards for our nation's interstate and defense highways.

I will not make a detailed recitation of the provisions of my legislation. By way of information, I want to state that on October 11, 1979, I introduced a printed amendment, No. 510, as a substitute to S. 1383 on behalf of myself and Senators McClure, DeConcini, Church, Riegle, Goldwater, Bellmon, Exon, Stone, Baucus, Young, Heflin, Morgan, Boren, Stewart, Stevens, Zorinsky and Cohen. The legislation is quite straightforward. S. 1383, as amended by my substitute, would make three changes in the present law.

First, the bill establishes a uniform national standard for motor vehicle weights of 80,000 pounds and a length standard of sixty-five feet. However, I hasten to add, that in establishing

Page Two

these national standards, my legislation does not change the grandfather clause now in the law. The enforcement mechanism behind these national standards would be the denial of Federal-Aid Highway funds to those states not complying with these standards; an enforcement mechanism, I might add, which is already in Section 127 of Title 23 of the U.S. Code which my bill amends. These national standards will be of strong assistance to the nation's trucking industry, especially the independent trucker who is looking to find means to make his operation more efficient so he can continue to make a living.

Secondly, my legislation changes the present bridge formula. The bridge formula is the means through which the federal government controls the weight concentration on trucks by determining how much weight must be spread over what distance between the truck's axles. Section 108(k) of the Federal-Aid Highway Act of 1956 required a study of bridge stress. The study was completed and presented to the 88th Congress as House Document 354. This report recommended three Tables (A,B,C) as meeting the nation's bridge stress requirements. Table B was eventually written into statute. The bridge formula in S. 1383, as amended, embodies Table C of the Section 108(k) report.

Finally, but equally as important, is the change my legislation would make in the allowances for tandem axle weights. During September 7, 1979 hearings before the Committee on Commerce, Science and Transportation regarding S. 3431, the issue of steering axle weights was addressed. The consensus of that hearing was that weights on the steering axle which exceeded 11,000 pounds not only

Page Three

contributed to blowouts, but also contributed to steering difficulties during emergency situations. I recognize that given certain driving conditions, drivers prefer a heavier weight on the steering axle, this would not be precluded. However, the incentive to run heavier weights on the steering axle at all times will be diminished by the provision in my bill which increases the allowable tandem axle weight from 34,000 to 35,000 pounds. I am sure your Subcommittee will be interested in this issue and will inquire of the other witnesses on this point.

Mr. Chairman, I do recognize that this change will cause additional wear and tear to our nation's highways. However, the issue to be addressed is one of balance. I believe the benefits that my legislation would achieve in reduced accidents and loss of lives outweighs the cost of additional repair to the nation's highways.

Mr. Chairman, I have before me the report of the Administration's Ad Hoc Task Force on the Independent Trucker. This report supports my legislation with the exception of the change in the tandem axle weight.

I quote from this report:

" Problem: The regulation of truck size and weight has traditionally been a state prerogative. The Federal Government first entered the picture

Page Four

when the Congress established a weight limit of 73,280 pounds (with some exceptions) for the Interstate System. That limit was later raised to an 80,000 pound permissive maximum with certain exceptions and lesser limits allowed. There is currently no Federal imposed limit on the length of trucks.

The permissive nature of the maximum truck weight limit and the various exceptions to it result in a great deal of variation among the states. The interstate truck operator is faced with a situation where he may be at the legal maximum where the loads, overweight in some states and below maximum weight in others, even though he never leaves the Interstate System. While this may affect all in the trucking industry, it can be a major problem for the owner operator. It means that he must either buy and operate equipment that is below the legal capacity for some areas or operate at less than the capacity of his equipment in other areas. Where the margin between continued operation and business failure is a thin one, this can be a crucial difference.

Particularly troublesome are the states known as the 'barrier states.' These states, ranged along

Page Five

the Mississippi River, render it effectively impossible to take advantage of the higher weight limits in effect in the majority of states on transcontinental shipments. Although these states may have particularly severe highway maintenance problems and difficult soil conditions, their lower weight limits constitute, nonetheless, a barrier to the efficient utilization of the Nation's overall truck capacity.

Proposed Solutions: While the owner operators recognize the need for the temporary uniform truck size and weight bill that is pending before the Congress, they view it as no more than an expedient. Moreover, the incorporation in this bill of the so-called "bridge-formula" -- a regulation which attempts to hold truck size and weight limits and loading practices within the parameters of existing bridge designs -- causes trucks to be loaded in what the owner operators believe to be an inefficient and sometimes unsafe manner, if they are to reach the legal maximum of 80,000 pounds. Owner operators argue that conformance with this formula sometimes requires loading a truck in such a way that it overloads the tires on the steering axle and makes steering response overly sluggish.

Page Six

While several alternative truck weight and length limits were discussed, the owner operator participants in this working group recommended that the Administration's bill be amended to include the specifications included in S. 1383 as follows:

--80,000 pounds gross weight limit

--35,000 pounds per tandem

--65 feet overall limit

--Change bridge formula to read:

$$W=500 \frac{(LN + 12N + 40)}{N-1}$$

--45 foot limit on trailer length to be calculated by length of floor

--Provisions to remain in effect until the completion of the study of truck size and weight currently being conducted by the Department of Transportation.

The owner operators further recommend that these specifications be adopted as permanent uniform length and weight limits.

Recommendations: Securing Federal legislation for uniformity at existing weight limits -- even on a temporary basis -- will be difficult. While it is recognized that studies now under way are reexamining

Page Seven

these questions, it is likely that incorporating higher axle weight limits in this legislation, when the best theoretical evidence available shows that even an increase from 34,000 to 35,000 pounds for tandem axles would accelerate pavement deterioration, would result in its rejection. The General Accounting Office has recently published a report charging that excessive damage is done to highways by trucks loaded in excess of current weight limits. Even though the Department believes that this report is not entirely accurate, it has raised a great deal of opposition to further liberalization of truck weight limits. It is, therefore, recommended that, as a matter of paramount priority, the temporary uniform size and weight legislation be enacted as soon as possible. The Administration should remain neutral on amendments to the temporary bill dealing with length, but should oppose amendments raising axle weight limits above the existing permissive maximum.

With respect to permanent Federal size and weight limit legislation, final recommendations should await the outcome of the Congressionally mandated study, under Section 161 of the Surface Transportation Act of 1978, which this Department has underway. Although

Page Eight

the arguments for uniformity appear to be persuasive from an overall efficiency point of view, the specific weights and sizes at which any such uniformity should be sought remain an open question pending the results of the study. It should also be recognized that the owner operators are deeply concerned with the safety risks which they are forced to bear in the course of hauling trailers overloaded by other parties. (That issue is discussed more fully in Section D of this report.)

On the other side of the question, the states do not have very real and different problems with respect to road construction and finance. Any solution which is likely to survive the legislative process will have to deal with the needs of all of the states. This means more funds from some source -- most likely the users -- to finance needed road repair and rehabilitation. Informed decisions on these questions cannot be made until the "size and weight" and related "highway cost allocation" (Section 506 of the Surface Transportation Act) studies are completed.

Mr. Chairman, there is indeed concern for the states' needs for funds to bear the increased burden for repair of their highways.

Page Nine

Obviously, those who will be able to operate more efficiently will be more than willing to be taxed to pay for this increased cost. Additionally, Mr. Chairman, the Governors of our states even in the face of these increased costs, also recognize the need for national standards and have included a statement calling for the immediate establishment of national standards in their 1979 Policy Positions.

In closing, Mr. Chairman, I hope the Committee will expeditiously move this legislation for floor consideration. It is legislation that the Administration recognizes, the independent truckers recognizes, the nation's Governors recognizes, as well as many others, is one of great priority. I have a statement from Senator Exon that I ask be incorporated in the hearing record at the conclusion of my remarks.

Before the
SENATE COMMITTEE
ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, D.C.

TESTIMONY
ON
UNIFORM TRUCK SIZE AND WEIGHT LIMITS

SUBMITTED BY:
JIM JOHNSTON - PRESIDENT
OWNER-OPERATORS INDEPENDENT DRIVERS
ASSOCIATION OF AMERICA

DATED: OCTOBER 25, 1979

Mr. Chairman - Members of the Committee:

I wish to express my appreciation for this opportunity to convey, to you, the feelings of the Members of Owner-Operators Independent Drivers Association, as well as those of our Affiliated Associations: The Western Montana Independent Truckers Association, the South Dakota Independent Truckers Association, and, also, the views of the Trucker Members of the White House initiated Ad-Hoc Working Party on the problems of the Owner-Operator.

As I am sure you are aware; in June, of this year, a vast number of this Nation's independent truckers were forced to a point of frustration and desperation so severe that they felt they had no other recourse but to risk complete financial ruin by shutting down their trucks; in order to call attention to the intolerable conditions that were rapidly driving them out of business.

This, of course, was not the first time independent truckers were forced to take drastic action or be forced out of business. A similar occurrence took place in early 1974. The unfortunate part is that the similarity is not restricted to the Trucker's reaction; the problems and complaints were almost identical. In other words, after almost six years of trying to work, within the system, to solve the problems; very little progress had been made. A fact which added greatly to the feelings of frustration.

Out of the many problems faced by Owner-Operator Truckers, the one most commonly mentioned is the disparity between the various states on truck size and weight limits.

This was, also, one of the major issues discussed in 1974. In a situation where the truckers very existence was in jeopardy as a result of increased operating costs, combined with the inability to pass on those costs in the form of increased rates; it was felt a moderate increase of 6,720 pounds would allow us to increase our productivity and help us to cope with the increased costs. This increase would, also, have created a far more uniform system throughout the country, than existed at that time.

We pleaded with our elected Representatives for relief. Hearings were held, at which we received a very sympathetic response to our pleas; a mandatory 55 mph speed limit, which further cut back on our productivity; and a permissive increase in the Federal maximum - to 80,000 pounds - which left it up to the states, who had created the disparity in the first place, to decide our fate. The result, of course, was even less productivity and more frustration than we had when we started.

It is now five years later; we are back under similar circumstances, except that we are fewer in number, again pleading for relief from this intolerable situation.

However, there is one great improvement over the last time; and that is that one of our elected Representatives had the foresight to listen to the truckers, who are directly affected by the size and weight limits, and introduced legislation - that if passed will be a logical, common sense solution to the problem.

I refer to S 1383; introduced by, Senator Melcher. All of the truckers and trucker representatives, who I have been in contact with, unanimously favor this bill over any other that has been discussed or introduced.

Although, this bill does call for a slight increase in axle limits - from 34,000 pounds to 35,000 pounds - it does not call for any increase in the overall gross weight limit. The increase in axle weights will allow us to load up to the 80,000 pound limit in a manner that is far safer, because we will not have to increase the weight on the steer axle.

In regard to the safety aspect of the 80,000 pound weight; I would like to site the experience on our Association Truck Insurance Program: Our insured members combined travel is in excess of 49.6 million miles per year. A great many of them are able to load to the 80,000 pound maximum, at least part of the time. Over the past 5 years, we have not had one accident that could be attributed to the gross weight limit of 80,000 pounds. However, we have had several serious accidents resulting from front tire failure. This accident experience, we feel, could be greatly reduced if the trucker were allowed to distribute the additional two thousand pounds over sixteen tires, instead of being forced to add an additional one thousand pounds each to a single steer axle tire. This would amount to 125 pounds per tire, the failure of which causes no hazzard to the trucker or the motoring public with whom he shares the highways.

The Department of Transportation will argue that the additional 1000 pound per axle (125 pound per tire) will increase road deterioration by 10%. This figure is only theoretical, by their own admission, based on road tests conducted 22 years ago; and does not take into account any improvements in technology. They claim that road building techniques have not improved appreciably over that 22 year period, I feel that is a sad testimonial for the

construction industry and does not apply to the truck manufacturing industry who have made a great many improvements in the suspension systems, which have a direct correlation to impacts on the road surface. Another fact, not considered, is the 55 mph speed limit: slower speeds, also, have a direct effect on road damage. Another fact, not considered, is the difference in tires in use today, as opposed to those in use in 1956. In 1956, truck tires predominately in use were 900-20^S. Ten hundred 22^S and 11-24-5^S are now the tires most commonly used. These tires spread the weight over a much broader area of the road surface; which, also, lessens the impact to the roads.

Not considered, also, is the fact that fewer trips will be required to haul the same amount of freight.

The railroads argue that the increased weight limit will divert more of the freight from them to trucks; thus actually increasing the amount of freight moving over the highways. I submit that this is happening anyway, because of the railroads inability to provide reliable or competitive service. In fact, they can't even keep their trains on the tracks; as evidenced by the fact that the same passenger train recently derailed twice, in thirty days in the state of Kansas. Not to mention the thousands of derailments of freight trains that occur each year.

I feel it is extremely inappropriate for the Federal or State Governments to involve themselves in the competitive aspects between these two modes of transportation. Yet, this is listed as one of the prime considerations in the current D.O.T. study on uniform size and weight limits. In other words, is it advisable to continue the existence of the "Barrier States" (those below the Federal maximum) in order to restrict the competitive ability of the trucking

industry and thus protect the railroads? I suggest the only way to protect the railroads is to improve their efficiency, and not to destroy ours.

In regard to States Rights: I would like to quote, to you, from a study released by the General Accounting Office, on June 20, 1978, titled; ISSUES IN REGULATING INTERSTATE MOTOR CARRIERS (CED-78-106). Although the study was devoted to economic regulation, rather than size and weight regulation, I feel that some of their findings are very pertinent to this issue.

"Birth of Motor Carrier Regulation. States' inability to regulate interstate commerce. The states regulated intrastate shipments but could not regulate shipments that traveled between states. As each state experimented with regulation, it developed seemingly appropriate laws to control the carriers which operated within its borders. As a result, state laws varied; some regulations were similar, but most were not and often conflicted.

As motor transportation grew in the 1920's, truck and bus operations extended beyond state boundaries. Many states were unsure of their legal authority to regulate interstate traffic, but most of them assumed that, in the absence of Federal regulation, they could regulate both intrastate and interstate motor carriers.

Interstate motor carriers, however, did not want to be regulated by the states. The industry was young and trying to grow; and, as the carriers traveled from state to state, they were confronted with regulatory conflicts over highway use, routes, and load limits. As a result, the carriers asked the courts to define

the states' jurisdictional authority. In March, 1925, the Supreme Court ruled that the states had authority to regulate highway safety and maintenance within their boundaries but only the Federal Government could regulate interstate commerce."

It seems clear to me that these few states have used the safety and maintenance loophole to circumvent Federal authority and continue to regulate interstate commerce, while being cheered on by the railroads. When a belt of states, situated right down the middle of the country, says you can't come through here with an 80,000 truck, they are in effect telling the shipper in California that he cannot ship a load to a customer in New York, that is loaded to the Federally acceptable maximum.

They are, also, telling the trucker, who desperately needs the increased revenue he could earn from the additional six thousand seven hundred and twenty pounds, that when he comes into their jurisdiction he will be a lawbreaker and will be subject to severe penalties. They are telling the American consumer, they are not going to receive the benefit of the savings in transportation costs that the increased weight limit would provide. And last, but certainly not least, they are depriving the entire country of the enormous fuel savings that could be attained.

Figures, from a Stanford Research Institute Study completed for the Federal Energy Administration in March of 1977 indicates annual diesel fuel savings, in Missouri alone, of two million seven hundred thousand gallons with the eighty thousand pound weight limit. This does not include the savings for trucks that would be

able to travel across country with increased loads as a result of the removal of the 'Iron Curtain' barrier or the savings in other states that are below the Federal maximum.

It seems that a great deal of credibility has been given to the unproven assumption that increased weight limits will cause horrible damage to our highway system. I can tell you from my own experience, as a trucker for 13 years, and from the reports of our members; that the worst highways in the country are in the states that are still below the Federal maximum.

In closing I hope you will consider these points:

- * To my knowledge, no study has ever proven that the increased weight limit would create additional highway damage. Especially taking into consideration that less trucks would be required to haul the same freight. My Opinion hasn't changed after listening to the engineers from D.O.T. who admit their facts are based only on theory.
- * We are presently faced with a severe fuel shortage and trucks that use basically the same fuel that is used for home heating oil, could save hundreds of millions of gallons annually with a moderate increase in hauling capacity.
- * Independent Truckers are presently suffering under a severe economic crisis, as a result of drastically increased costs, that must be recovered -- either through huge rate increases or increased productivity.
- * All but ten states and the District of Columbia, have adopted the higher weight limits and thus far have reported none of the horrible consequences that were predicted, such as the complete destruction of roads and bridges and the

Blood baths caused by these supposedly "uncontrollable monsters". Statistics have proven repeatedly that trucks, regardless of weight, have a far better safety record than cars.

The Owner-Operator, who is one of the most competitive and efficient forces within the transportation industry, is being driven to extinction - not by his lack of ability to perform - but by his lack of ability to cope with unrealistic and outdated rules and regulations that rob him of his best asset - HIS PRODUCTIVITY. We cannot wait another five years; we need relief, permanent not temporary, and we need it soon. If the independent trucker is forced out of business it will be the country and the consumers who will be the real losers.

I have attached comments from our affiliated Associations, as well as several newspaper and magazine articles I feel will attest to the immediacy of the problem.

Thank you.

STATEMENT OF KARL BOWERS

TESTIMONY BEFORE
THE
SENATE ENVIRONMENT AND PUBLIC WORKS
COMMITTEE
October 25, 1979

Good morning. I would like to thank you, Mr. Chairman, and the Members of this Committee for the opportunity to testify on the truck size and weight issue. Accompanying me today is Mr. Don Trilling, Director of the Office of Intermodal Transportation in the Office of the Secretary. Also with us today are

Today I would like to discuss some of the things which we are doing in the truck size and weight area and our legislative initiatives designed to meet the pressing problems which face us.

S. 1689

I would like to begin my testimony today by discussing S. 1689 introduced by Senator Randolph for the Administration. The key issues in the size and weight area are energy savings and highway maintenance costs, and we believe the Administration bill appropriately balances these considerations.

The motor transportation industry has been especially affected by recent fuel shortages, both by the limited availability of diesel fuel and by price increases. Independent truckers demonstrated their frustration with this situation by temporarily suspending their operations a few months ago and by threatening to do so again.

The independent truckers feel strongly that one way to address this problem is for the Federal Government to establish uniform weight and length

limits on Federal-aid highways. As you know, current Federal law establishes permissible maximum weight limits for the Interstate System of 20,000 pounds on a single axle, 34,000 on a tandem axle, and 80,000 pounds gross weight. The allowable gross weight is calculated by applying the so-called bridge formula.

By incorporating the number of axles and the wheelbases between axle groups for each vehicle configuration, the calculated, allowable, gross weight is often less than the maximum 80,000-pound limit.

While some States, by virtue of grandfather provisions, can permit higher overall weights on higher axle weights, 13 States and the District of Columbia have chosen not to raise truck weight limits to the permissible maximum. Because a number of these States straddle major east-west or north-south transportation arteries, it is difficult for a truck driver to travel legally from coast to coast, or to reach the central Northeastern markets, with a full load of 80,000 pounds.

At the urging of the Administration during the extreme fuel shortage period this summer, six States and the District of Columbia originally took action to temporarily increase their gross vehicle weight limits, but in four of these States the action was declared illegal or has expired. Also, their beginning and expiration dates were not uniform and have resulted in misunderstandings by many truckers as to required fees and applicability of the relief.

S. 1689 is designed to address the problem of lack of uniformity during national emergency conditions which results from some States not having temporarily increased their gross vehicle weight limits. This bill would establish national standards regarding the weight and length of vehicles using the Interstate System during Presidentially declared 90-day fuel emergency periods.

Fuel shortages are a nationwide problem which require a nationwide response. During a period of fuel emergency the benefits to be derived from uniform size and weight limits will offset possible local adverse impacts upon highway pavement and bridges.

The 80,000-pound permissive maximum limit established in 1975 was viewed as a means of increasing productivity and of saving fuel, responding to the effects of the 1973 oil embargo. At the time of that increase, the available evidence indicated that the axleload increases would result in a 20 percent increase in pavement maintenance costs. We believe that increased maintenance costs attributable to temporary weight increases pursuant to S. 1689 will be acceptable in view of the temporary nature of those increases and the fact that they will be imposed only during a national fuel emergency. Further, we believe that any such increases will be offset to some extent by fuel and efficiency savings which will result from the uniform standards.

However, we believe that consideration of whether Federal law should permanently mandate an 80,000-pound weight limit in all States should await the results of the uniform weight limit study called for by section 161 of the Surface Transportation Assistance Act of 1978.

The total Department effort in this study is comprehensive and will address such issues as the cost and benefits of uniformity, including economic impacts upon States and regions, the effects upon modal competition, the impacts upon the design, rehabilitation and maintenance of highway and bridge facilities, and the effects on energy consumption, highway safety,

and environmental conditions. The analysis and findings from this effort will be closely integrated with the highway user cost allocation study which is being performed by the Federal Highway Administration. We are currently working with the Office of the Secretary to identify ways to ensure this integration. We will coordinate requests for data and information from the States and provide for State participation in both studies as required by law.

HIGHWAY COST ALLOCATION STUDY

The Cost Allocation Study required by Section 506 of the Surface Transportation Assistance Act of 1978 is now underway. In part, the study will analyze costs and impacts on roadway construction and maintenance associated with different vehicle classes. The Highway Cost Allocation Study Plan was submitted to Congress on June 27, 1979. The plan gives specifics on the study's scope, cost assignment procedures, data needs, and budget requirements. The study approach is strongly based on guidelines developed by the Congressional Budget Office.

This study will be coordinated with the study of truck size and weight limitations required by Section 161 of the Surface Transportation Assistance Act. Possible change in allowable size and weights will be considered and the recommended tax structure for heavy vehicles will be based on the cost attributable to them.

SECTION 211 STUDY OF OUTSIZED VEHICLES

On September 10 the Secretary transmitted a report to the Congress as required by section 211 of the Surface Transportation Assistance Act. This report was a review of the relative safety of the operation of vehicles with unusual configuration characteristics. The study indicates that the current procedures for controlling the use of these vehicles are adequate and new legislation in this regard is not required at this time.

SECTION 123 STUDY ON SPECIAL PERMITS AND FINES AND PENALTIES

Section 123(a) and (b) of the Surface Transportation Assistance Act requires the Secretary, in cooperation with the States, to inventory the States' existing systems of penalties for violation of vehicle weight laws and their existing systems for the issuance of overweight special permits.

Information for the inventories has been obtained from the respective State highway organizations both in written form (printed materials and summaries) and by consultations with appropriate State officials. To date, a total of 41 States, the District of Columbia and Puerto Rico have been consulted.

The penalty statutes and practices for violation of vehicle weight laws are being analyzed in the following nine categories: penalty for first offense, penalty for second and subsequent offenses, court of jurisdiction, responsibility for the violation (owner or operator), unloading procedure, load shifting procedure, bond posting requirements, suspension of operator's license and penalty by points, and other penalties.

The overweight permit inventory information is being examined in the following eight categories: agency responsible for the issuance of special permits, application procedures, written regulations, permits for divisible/indivisible loads, type of permit and fee, use of fee, weight restrictions, and penalties for violation.

We have made satisfactory progress on this report, after some initial delay, and a report should be submitted by January 1, 1980.

SIZE AND WEIGHT CERTIFICATION REGULATION

On March 9, 1979, the Federal Highway Administration (FHWA) issued a Notice of Proposed Rulemaking (NPRM) setting forth the requirements for administering a program of vehicle size and weight enforcement on Federal-aid highways, including the annual certification by the State required by 23 U.S.C. 141. This rulemaking incorporated the changes made by section 123 of the Surface Transportation Assistance Act.

The proposed regulations augment the prescriptive approach of the existing regulation, which has not been sufficient to gauge State efforts. The proposed regulation requires each State to formulate an enforcement plan which, once approved by FHWA, will become the benchmark against which enforcement accomplishments can be measured. We expect to work closely with the States in developing their enforcement plan. We will evaluate each program each year and assess accomplishments and shortcomings through the certification review process.

Under the proposed regulation, the FHWA will formally notify the States of any program deficiencies in advance. The regulation also establishes a procedure for the imposition of penalties. The procedure

incorporates the opportunity for informal resolution when a State feels that certification results can be explained or when additional efforts can be instituted. Failing informal resolution a hearing is provided prior to any final action on a penalty.

The comment period on this regulation closed in June. Twenty comments have been received, the majority from State organizations (highway/transportation, highway patrol, or motor vehicle departments). The comments indicated mixed reactions to the proposal, with the greatest concern centering around increasing Federal program requirements in a traditionally State activity. Concern was evidenced that reporting requirements be reasonable. [The desirability of the need for explicit criteria or guidelines was also cited as a weakness of the proposed rule.] These comments are under review and will be considered as we develop the final rule.

When we issue the final rule, we will publish guidelines which will give the States an idea of the questions which they should address in developing an enforcement program. In general, we strongly feel that a minimum program should possess a 24 hour, high volume weighing capacity (permanent scales or weighing in motion equipment); sufficient portable scales should be available to reduce by-passing of the high-volume equipment; one State agency should be designated to coordinate State enforcement activity; and sufficient funding should be available to provide for shift differential or overtime pay in order that around-the-clock weighing can be maintained.

CURRENT CERTIFICATION ACTIVITIES

As you are aware, 14 States were notified last year by the Secretary that he was considering the cut-off of project approval for Federal-aid

projects due to questionable compliance with the enforcement requirements of 23 U.S.C. 141. These States were offered the opportunity for an informal hearing at which they could show cause why the Secretary should not take this contemplated action. Twelve other States were sent letters indicating that they had potential program deficiencies.

Each of the 14 States subject to penalty requested and was granted an informal hearing. One State submitted revised certification data at its hearing which resulted in the State's removal from this category. Each of the remaining 13 States made commitments to increase efforts. Based on these commitments, no State was subjected to program sanctions last year. I submitted a report to the Public Works Committee of both the House and the Senate and the State highway departments in all of the States at the conclusion of the informal hearings which also included discussions held with a number of other States on enforcement efforts.

Most of the States have indicated a degree of good faith by beginning the implementation of the commitments made at the hearings. However, further efforts are underway to bring our assessments of these States up to date.

Review of the certifications on January 1, 1979, has now been completed. In general, citations for overweight vehicles nationwide have increased by approximately 10 percent, from 536,460 to 581,837, which indicates that many of the States have shown improvement in the ability to detect violators. Based on an analysis of the various elements of the certification, including vehicles weighed, citations issued, and equipment used in weight enforcement programs, 4 States, Delaware, Texas, Massachusetts and Wyoming were notified that they could lose a portion of their section 104

apportionment for continuing program weakness. Informal hearings have been held with Delaware, Texas and Massachusetts and a hearing is scheduled with Wyoming in the near future. Delaware and Texas revealed significant improvements in detecting and deterring violators and, based on these improvements as well as indications of future activity, I have determined that no funds will be withheld from these States. Massachusetts indicated a willingness to implement improvements and I am awaiting a program prospectus from that State prior to making a final decision. I have informed the Governor of Wyoming that I am reserving from obligation 10 percent of apportioned funds for a period of 60 days pending a review of Wyoming's enforcement program.

I also indicated my concern over the decreasing numbers of vehicles weighed or violations cited in the States of Kansas, Nebraska, Tennessee and New Mexico. The FHWA staff met with these States on an informal basis in order to resolve the questions which we have concerning their program. All have explained the reason for the decrease in activity and have indicated a willingness to make future improvements.

The FHWA staff is also reviewing the progress of those States involved in last year's hearings. At the completion of that review, further action will be taken with respect to those States which are not making progress in implementing program improvements.

Finally, special permit practices in several States, New Mexico, Nebraska, Colorado, and South Dakota, which had been issuing special permits to vehicles permitting weights above 80,000 pounds on the Interstate, were thoroughly examined and the States were notified that these practices were inconsistent with 23 U.S.C. 127. The States were informed that they must cease these

practices within a reasonable time or they would lose future Interstate apportionments. New Mexico and Colorado have ceased the issuance of these permits; Nebraska has consented to cease issuing them within the near future; and South Dakota is seeking to establish its grandfather right under 23 U.S.C. 127.

SAFETY DEMONSTRATION PROGRAM

Because of our concern about the safety implications of commercial vehicles being operated in a grossly overloaded condition, the Administration sought and Congress authorized in FY 1979's appropriation a Motor Carrier Safety and Weighing Demonstration Program. This demonstration is funded at \$3 million and is intended to test the hypotheses that expanded and improved State weighing and safety inspection efforts will have a measurable effect on weight compliance, and on reversing the adverse trend in truck related highway accidents. Agreements have been reached with the States of Idaho and Utah for participation in the Demonstration Program and negotiations are continuing with Michigan and Alaska for the selection of the final State for entry into the Program.

THE GAO REPORT

In its recently issued report "Excessive Truck Weight: An Expensive Burden We Can No Longer Support," the General Accounting Office (GAO) emphasized the need for an improved Federal role which would incorporate an improved certification procedure, a model weight enforcement program, adequate penalties at the State level, and assurances that complete geographic coverage is achieved (particularly within urban areas). In discussing all of these items, the GAO recommends the establishment of a weight enforcement operating group within the FHWA.

We are not in disagreement with the report on any of these items. However, we have some differences of opinion with respect to the manner of implementing these recommendations in order to achieve realistic goals.

The certification procedure has received considerable attention and is currently undergoing a complete revision. The new procedure addresses many of the concerns of the report. One of the major goals of the entire process is to develop a meaningful data base upon which substantive program improvements can be predicated. I must reiterate at this point that we do not agree that criteria can be established to require a specified level of compliance which at the same time are "broad enough to allow States to meet these criteria in a manner best suited to their particular situations." The GAO report recognizes that individual State variances exist.

Under these conditions, it is difficult to ascertain at this time what techniques have been successful in reducing violations. It is going to take us longer to identify whether heavy fines, unloading, 24-hour coverage, fixed scales at State perimeters, or heavy reliance on mobility does in fact effectively discourage violations.

As we work with the States in developing their State enforcement plans, we will identify and incorporate successful techniques. We are also encouraging the participation of the American Association of State Highway and Transportation Officials (AASHTO) and regional groupings such as the Western Association of State Highway and Transportation Officials (WASHTO) and the Southern Association of State Highway and Transportation Officials (SASHTO), in developing appropriate regional strategies for placement of permanent scales and scale design, and for detecting vehicle traffic patterns.

On our part, we will inform the States of penalty structures and techniques which are successful and we will disseminate information on enforcement methods as they become more fully developed and integrated into State budgetary processes.

There is a recognized need for improvement of enforcement efforts, particularly in urban areas and we will concentrate on this in the coming year. The States will be required to provide enforcement information on these areas. Where it can be ascertained that enforcement is lax or nonexistent, the States will be subject to the loss of Federal funding. Each State will be required, in developing an enforcement plan, to coordinate ongoing activities in every jurisdiction within its borders.

The responsibility for coordinating and reviewing the certifications is currently in the Office of Traffic Operations. The program responsibilities in this area are administered consistent with FHWA policy in all other areas. In addition to the personnel in the Office of Traffic Operations, substantial assistance is provided in the weight certification activities by the Office of the Chief Counsel, the Office of Planning, the Bureau of Motor Carrier Safety, and all other operating elements within the FHWA which participate under the umbrella framework of a Size and Weight Task Force. Each region has identified personnel to coordinate size and weight activities and the FHWA Division offices are becoming integrated into this process. This framework provides an identifiable focal point as recommended by the GAO report both for certification review activities and for gathering and disseminating information in connection with enforcement activities.

The goal of the FHWA administrative effort in this respect is to identify successful techniques which can be incorporated on a national basis to achieve consistency in approach and to eventually reduce the incidence of violations in size and weight activities. There is no distinction between the desired goals of the FHWA and the GAO, as expressed in its report.

Thank you for the opportunity to appear before you to discuss these crucial issues. I would be pleased to answer any questions the Committee might have.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WASHINGTON, D.C. 20590

OFFICE OF THE ADMINISTRATOR

DEC 11 1979

IN REPLY REFER TO:

HCC-20

Honorable Lloyd Bentsen
Chairman, Subcommittee on Transportation
Environment and Public Works Committee
United States Senate
Washington, D.C. 20510

Dear Senator Bentsen:

I am pleased to be able to provide further information which will assist the Transportation Subcommittee of the Senate Committee on Environment and Public Works in its consideration of pending legislation on truck size and weight limitations. The answers to the questions submitted by Senators Pressler and Stafford, as well as your questions, are enclosed.

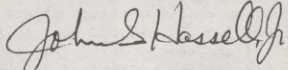
The questions generated by the proposed bills are complex. In some cases completely definitive answers are unavailable either because data has not been accumulated or the format involved in questions and answers does not lend itself to the full description of existing practices. If the answers enclosed need further development the staff of the Federal Highway Administration is available to provide the Subcommittee with such material as may be necessary.

In general, design practices for pavements and bridges throughout the country have been developed in accordance with sound engineering practices. Most States use the American Association of State Highway and Transportation Officials (AASHTO) pavement design method for pavement design purposes. All of the pavement design standards used for the Interstate System are comparable to or equivalent to the AASHTO design procedure.

A great deal of research is currently underway on the question of the adequacy of design and the effects of heavier vehicle weights as well as other factors on pavement and bridge service life. Many of the questions raised in connection with the pending legislation will be addressed in that ongoing research. The temporary approach which is supported by the Department has been developed to provide relief to the transportation sector during periods of fuel shortage, while at the same time minimizing any adverse impacts which could occur as a result of higher weights. I feel it is fair to say that impacts which will occur as a result of the temporary increase in the weight limits are within the acceptable range as characterized during the consideration of the Federal-Aid Highway Amendments of 1974, P.L. 93-643, which raised the permissible maximum to 80,000 pounds gross weight with the application of the "bridge formula." However, any permanent changes or weights higher than those currently authorized in 23 U.S.C. 127 for single or tandem axles may have deleterious effects which are unacceptable.

I hope that the information in the enclosure is sufficient to answer your questions. However, if you need further information or clarification on any answer, please call Mr. Richard D. Morgan, Associate Administrator for Engineering and Traffic Operations (426-0370), or Mr. Lorenzo Casanova, Chief Counsel (426-0740).

Sincerely yours,

A handwritten signature in dark ink, appearing to read "John S. Hassell, Jr.", written in a cursive style.

John S. Hassell, Jr.
Deputy Administrator

Enclosure

(1) What estimates do you have regarding how much fuel will be saved by providing a uniform truck-weight limit program during energy crises?

Answer

Estimates of fuel savings that would accrue if all States adopted the Federal limits of 20,000-pound single axle, 34,000-pound tandem axle, and 80,000-pound gross weight on the Interstate Highway System range from 38 million to 200 million gallons which is equivalent to a range of from about 2,500 to 13,000 barrels of oil per day in the first year. The length of the energy crisis, or fuel emergency, therefore has a direct bearing on the expected fuel savings.

(2) How does increased road deterioration as a result of higher truck weights affect fuel economy? What would be the impact of such increased deterioration on the assumed fuel savings for trucks and what would be the impact on auto fuel use?

Answer

The Department has stated that increased truck weights would lead to some deterioration in the Nation's highways. To the extent that this deterioration is offset by maintenance and reconstruction, there would be no increase in fuel consumption; however, this maintenance and reconstruction will require additional energy use. On the other hand if highways are not maintained or improved additional fuel consumption may result. We are not certain of the extent of the increase in fuel use because motorists tend to reduce speed when driving over poor pavements, and this speed reduction lowers fuel consumption which counters the increased fuel consumption due to the deteriorated pavements. We have recently started collecting new information on vehicle operating characteristics under those different conditions as available data are outdated and are not representative of today's vehicles.

(3) Adoption of S. 1689 would require preemption of those States which have lower weight limits. As a consequence, the State which has concluded that the projected 20 percent increase in pavement maintenance costs is unacceptable to it and, therefore, has not raised its weight limit, would now be compelled to accept these higher maintenance costs. In your testimony you say that you believe such increases will be offset to some extent by fuel efficiency savings which will result in the uniform standards. However, it seems that the maintenance burden is on one segment of society while the costs savings are received by another. Please comment on this apparent difference.

Answer

S. 1689 would not provide any one segment of society, i.e., trucking firms with any disproportionate benefits relative to maintenance costs borne solely by other segments of society because of its limited application. While the 1974 change in the Federal weight limits may have resulted in projected significant costs for added maintenance, early replacement of pavements (a theoretical projection of 20 percent reduction in life expectancy) and related energy costs in the States that adopted the higher limits, S. 1689 would require the remaining States to raise weight limits for a temporary period during which only minimal cost increases would be expected. As an offset to these costs, we believe that benefits have occurred in economy of transportation and fuel consumption by highway users which are shared by all sectors of the economy. The higher maintenance costs, when they are incurred, would generally be met by increased highway user taxes and these again generally impact all segments of society but particularly the transportation industry. Such considerations are currently being evaluated as part of the cost allocation study required by Section 506 of the Surface Transportation Assistance Act of 1978.

(4) Along this same line, if these standards are modified should the Federal Government contribute additional money to offset deterioration? If so, how much? Also please compare the potential impact of S. 1689 v. S. 1383 in this regard.

Answer

Since S. 1689 provides for only temporary increases in vehicle weights during a fuel emergency, we believe that significant highway deterioration would not occur. We do not believe that the Federal Government should contribute any additional money. However, if any of the affected States can quantify the cost of additional deterioration, they have the authority to increase highway user taxes on those vehicle classes that are responsible. S. 1689 provides a solution to problems of moving commodities during a national fuel emergency at a time when fuel conservation is of national concern. The Department is currently studying the impact of permanent weight increases as part of the study called for by Section 161 of the Surface Transportation Assistance Act of 1978. Until this study is completed we do not favor passage of any legislation such as S. 1383 that would permanently increase weight limits. The time duration is not the only difference between S. 1689 and S. 1383. S. 1383 would incorporate a higher allowable tandem axle load (35,000 pounds versus 34,000 pounds) which would accelerate pavement deterioration beyond an acceptable limit.

(5) Some of the testimony presented during the hearing addresses increased accidents and fatalities that have occurred in the Federal highway system since truck weights were increased. Please provide information on this data and your analysis of it. For example, in addition to higher truck weights, other factors may have impacted roadway safety. What other factors would this data reflect? Exhaustion from extended driving periods, speed of the vehicle, time of day, maintenance of the vehicle, weight distribution of the vehicle--particularly weight on the front axle, and condition of the road? Please address each of these potential factors in your answer.

Answer

The data available to the Department, while showing an increase in absolute numbers of accidents and fatalities, continues to reflect improvements in safety of operations on the basis of rates per 100 million miles. This anomaly is caused by significant increases in miles of operations of carriers, thus expanding the exposure to accident producing situations.

The basis for DOT testimony that truck related accidents have increased in recent years is the National Highway Traffic Safety Administration's Fatal Accidents Report System (FARS) and the Federal Highway Administration's (FHWA) Motor Carrier Accident File. The FARS data indicate that traffic accidents involving heavy trucks claimed about 4,600 lives in 1978, which is a 40 percent increase since 1975. The FHWA's Bureau of Motor Carrier Safety data show an increase from 842 Interstate truck fatalities in 1975 to 1,204 fatalities in 1977, or an increase of about 30 percent.

There is no statistical correlation relating increased accidents to heavier weights, rather the type of highway used is the only constant predictor in the data. Thus, increased use of other than Interstate highways results in predictable increases in accidents, as indicated in data published on all motor vehicle collisions in Fatal and Injury Accident Rates on Federal Aid and Other Highway Systems (1967-1976). These data indicate that the rates for accidents per 100 million miles on other than Interstate Highways have been two to three times higher than on the Interstate System.

Other factors relate to the concerns expressed by truckers who must comply with both the hours of service limitations and the National 55 m.p.h. Speed Law. Since the likelihood of speed violation detection is greater than excess hours violations, many choose to operate hours which result in fatigue related accidents. Another factor relates to the mechanical condition of the vehicle. The BMCS road checks continue to show a high percentage of vehicles that are not roadworthy. While increased weights on front axles have been alleged to have increased accident potential, the data does not bear this out. The condition of the roads is believed to have an effect on driver fatigue, but to date it has not been scientifically established.

(6) Can you provide an estimate of when the study called for under Section 161 of the Surface Transportation Assistance Act of 1978 will be completed? Would it be possible to have an interim review of the report prepared?

Answer

The Department intends to submit the report to Congress by January 15, 1981, as requested in the legislation. We can provide the Committee with a review of our progress and the procedures we are following on the study. Please let us know if such a review is wanted and we can make the necessary arrangements.

(7) Senate Bill S. 1383 modifies the bridge formula in addition to raising the tandem axle limit from 34,000 pounds to 35,000 pounds. It also provides that a 35,000 pound limit would be acceptable regardless of the bridge formula if an adequate distance exists between the two axles. Can you provide estimates of the impact of these two modifications on potential bridge deterioration and failure?

Answer

The problem with increased truck weights is not so much with the Interstate System bridges as it is with bridges on other systems, and particularly, with bridges off the Federal-Aid System.

Many of the feeder routes have bridges that were designed for HS-15 loading, a lesser loading than used for Interstate bridges (HS-20). As to Interstate bridges we feel any increase in stresses above those allowable in design, as will result from this bill, would only have a minor effect because of their greater design capacity.

No accurate estimate can be made, as a generality, for all bridges on the impact of the increased loading on off-system bridges, but a general decrease in service life is expected.

Thus, S. 1383 in changing both the tandem axle weight and the constant in the bridge formula would impact both pavement service life and non-Interstate System bridge service life in an unacceptable manner notwithstanding the capacity of Interstate bridges to accommodate these changes.

(8) Regarding the economic impact of these bills before the committee, can you estimate how many business failures would occur solely attributable to the differing weight limits of States that have not adopted the Federal allowable limit?

Answer

The Department has not conducted any studies that would allow us to provide any estimate of the number of business failures that might be attributable to the differing weight limits of States that have not adopted the Federal allowable limit.

(9) Based on your analysis of the situation, would higher and uniform truck weights result in additional commodities being transported? Or would the impact of uniform truck weights be to shift commodities from one transportation mode to another? If so, how much shift would occur and what would be the subsequent economic and energy impact of this shift?

Answer

In the event that S. 1689 becomes law and is employed for 3 months in some future fuel emergency, we do not believe that such a temporary change in weight limits would have any effect on the total amount of commodities being transported or on the shippers' choice of mode of travel, all other things being equal. Although a permanent change in the allowable load limits for commercial motor vehicles may eventually change the modal shares of the total amount of commodity movement, we cannot estimate that change or those shares with any precision. We are continuing to improve our ability to estimate such shifts with investigations that are underway and which have been made part of the uniform size and weight study called for in Section 161 of the Surface Transportation assistance Act of 1978.

(10) You held a series of hearings throughout the country this summer as a part of the uniform weight limit study the Department has conducted. What has been the response of the participants of these hearings?

Answer

Attached for your information is a staff summary of the testimony received by the Department of Transportation at the public meetings on truck size and weight held in Chicago, Illinois; Newark, New Jersey; Greensboro, North Carolina; and Oakland, California, this past summer.

(11) The GAO report on truck weights recommended that Congress amend highway legislation to: (1) make Federal weight limits applicable to all non-interstate Federal aid highways; (2) end exceptions to higher limits on some interstates; (3) prohibit permits and exemptions wherever possible. Does the Department of Transportation support these recommendations?

Answer

We believe all three of these recommendations have merit, deserve detailed investigation, and taken together would help to solve the lack-of-standardization problem among States. We wish to emphasize that the impacts on the States would be far-reaching. One of the likely consequences of the GAO's recommended legislation that we believe deserves detailed investigation is the effect of these changes on the motor carriers. The intra-regional shipment of goods in the New England and Southeastern States, for example, where allowable tandem axle loadings are substantially higher than the Federal limit both on and off the Interstate Highway System, might be severely disrupted. Thus, the three studies mandated by the Surface Transportation Assistance Act of 1978 (Section 123, Inventory of overweight vehicle penalty and permit systems; Section 161, investigation of uniform truck size and weight limits; Section 506, cost allocation study) should be completed before any legislation is advanced.

(12) How much do other factors such as speed limit, the driver, or the condition of the vehicle effect fuel economy?

Answer

Primarily through the work of the 250-member Joint Government-Industry Voluntary Truck and Bus Fuel Economy Improvement Program (managed by DOT), we are obtaining factual data on the effect of these factors on truck fuel economy. For example, current data show that running the large tractor-trailer rigs at a top speed of 55 m.p.h. vs. 65 m.p.h. is normally worth at least a one-half mile-per-gallon increase in fuel economy. Since most over-the-road rigs currently in service average from 3 to 6 mpg, this can mean an 8 to 17 percent improvement. The addition and proper use of certain fuel-efficient options can improve fuel economy, i.e., the use of variable fan drives, aerodynamic devices, radial tires, fuel-economy diesel engines, low numerical axle ratios, etc., can increase fuel economy by 25 percent for an over-the-road truck. Simply by switching from gasoline to diesel power in a local pick-up-and-delivery truck, mpg often doubles. On the other hand, maintenance problems such as letting tire pressure fall 10 percent below the recommended level can cost 1½ percent in fuel economy.

Increasing truck load by allowing greater size and weight limits also provides fuel savings. A test run in October 1979 confirms that a weight increase from 48,000 to 72,000 pounds in the same truck doubled the ton-miles-per-gallon.

Very little objective data is currently available to directly link fuel-economy improvement with actual driver training programs. What is available indicates a high initial improvement (15 percent range) that later settles to a 5-10 percent figure. However, continual reinforcement and driver motivation appears necessary to maintain any gain. Poor driving, such as excessively high speeds and unnecessary idling, can virtually wipe out fuel economy gains from improved equipment.

In actual fleet operation, the Voluntary Program has seen many cases of fleet-wide improvements in mpg of 25-30 percent during the last few years and many substantial improvements will continue to be made into the foreseeable future.

(13) To what extent have the highway and bridges on the Federal-Aid Highway System been designed to withstand the current weight limits of 80,000 pounds?

Answer

The current Federal gross and axle load limits pertain only to the Interstate System; however, the method used for pavement design on all Federal-aid highways is the same. For pavements, the issue is axle loads rather than gross weights. The frequency and magnitude of axle weights expected during the service life of a pavement is used to design a pavement. By allowing axle loads to accumulate at a rate faster than anticipated (such as by increasing the allowable axle load), the service life of a pavement is decreased. As we have previously testified, we have estimated that the service life of a pavement designed when the load limit was 18/32/73.28 (pre-1974 highway act) has been reduced about 20 percent due to the increased load limits to 20/34/80. Therefore, we would not support S. 1383, which would raise the tandem axle weight to 35,000 pounds and accelerate the reduction in service life for highway pavements.

Bridges are designed on the basis of their ability to carry a hypothetical standard truck with well defined load and weight distribution characteristics. For the Interstate System, this standard is an HS-20 truck or an alternate loading. The HS-20 truck is a three-axle semitrailer with an 8,000 pound front axle and two other single axles of 32,000 pounds each (total gross weight equals 72,000 pounds). The alternate loading is a 48,000 pound tandem axle which controls for spans up to around 40 feet. Due to the different load distribution characteristics of the typical 18 wheeler, the 80,000 pound vehicle causes less bending stress in bridge members than the hypothetical design loadings. If the gross weight of 80,000 pounds is distributed in accordance with the bridge formula included in "Federal-Aid Highway Amendments of 1974," then Interstate bridges can handle the 80,000 pounds. No such claim is made for bridges designed for less than the standard Interstate loading. Further discussion of design characteristics on non-Interstate bridges is included in the answer to question number 7.

(14) Several States retain weight limits below the Federal standard of 80,000 pounds for a number of reasons including soil types which are not optimum for highway construction. What affect would uniform weight standards at 80,000 pounds have on the highway construction and maintenance costs of these States?

Answer

As we have previously testified, there would be an insignificant effect on pavement maintenance costs of a 90-day, temporary application of the weight limits proposed by S. 1689. This conclusion is based on the relative insignificance of 90 days compared to the service life of a pavement, and that because of existing equipment configuration (cube) and established routes only a few trucks will fully utilize the increased limits. We cannot provide a realistic estimate of what this reduction in pavement life translates to in terms of construction and maintenance costs. Research is continuing into the effect heavier axle weights, as well as other factors, have on pavement and bridge service life. The entire question of optimum weights is being addressed in the ongoing study required by Section 161 of the Surface Transportation Assistance Act of 1978.

(15) What impact would increasing weight limits on the Interstate System to provide uniformity have on the other Federal-aid highway systems in a State?

Answer

The impact on the other Federal-aid highway pavements would be similar to that on the Interstate; that is, the increased axle loadings would increase pavement deterioration. The magnitude of these increases would vary from State to State and is difficult to generalize. Many older bridges on non-Interstate routes will be overstressed and the States could have a problem routing traffic from the Interstate to the terminals.

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

UNITED STATES GOVERNMENT

memorandum

Subject: INFO: Truck Size and Weight Study:
Summary of Testimony Presented at
Public Meetings, July 1979

Date: AUG 24 1979

From: Donald R. Trilling
Acting Deputy Assistant Secretary for
Policy and International Affairs

Reply to
Attn. of: P-14

To:
Executive Committee
Truck Size and Weight Study

Attached are summaries of the testimony received by DOT at the Public Meetings on Truck Size and Weight held in Chicago, Newark, Greensboro, and Oakland during July 1979.

Witnesses who gave oral presentations fell into one of eight groups: Trucking Firms, Shippers, State Highway Departments/DOTs, Independent Owner-Operators, Railroads, Environmentalists, Unions, and Auto/Safety Groups (see attached Table 1, "Interest Group Distribution"). Their testimony was largely confined to those topics identified in Federal Register Notice 79-10, "Truck Size and Weight Study: Announcement of Public Meetings and Establishment of Open File," although not all topics were addressed equally (see attached Table 2, "Distribution of Testimony by Topics Covered").

Fifty-five percent of those testifying were either Trucking Firms (20 percent) or Shippers (35 percent). Their testimony principally centered upon the adverse economic impact of non-uniformity in truck size and weight limits on their businesses. They maintained that uniformity at the 80,000 pound GVW (or above) and 60' or 65' length limit would substantially increase productivity and conserve fuel, yielding lower freight costs. Retention of the bridge formula, which specifies the axle loads and spacing, was also strongly advocated.

State highway officials who testified (17 percent) spoke in favor of uniformity, but offered no consensus as to level or support of the bridge formula. The so-called "barrier States" which testified, Iowa, Illinois, Indiana, and Arkansas, cited poor soil conditions and a large backlog of maintenance needs as primarily responsible for their lower truck weight limits. Representatives of western States favored higher limits and advocated the use of twin trailers.

Both the Independent Owner-Operators (8 percent) and the Union representatives (3 percent) who appeared spoke emphatically about the need for a national uniform truck size and weight limit. Most agreed upon the 80,000 pound level. Safety was also a dominant concern, especially in regard to overload of the steering axle. Witnesses advocated increased axle weight limits and maximum trailer lengths as safety precautions.

Railroad representatives (9 percent) criticized the study for failing to adequately address the issue of highway user costs. They maintained that trucks are governmentally subsidized at the railroads' expense. Increased truck size and weight limits, witnesses claimed, would divert increased amounts of freight from rail to truck.

Environmental groups (4 percent) tended to take a pro-rail stand, advocating an intermodally-balanced national transportation policy. The issues of air quality, land development, and air pollution were only marginally addressed by any of the witnesses.

Auto/Safety groups (4 percent) directed their remarks to highway and bridge deterioration, as well as the safety hazard posed by increased truck size and weight limits. Witnesses maintained that longer and heavier trucks would not conserve energy, and they supported uniformity at the 73,280 pound level.

By far, non-uniformity and energy use were the topics most comprehensively addressed by the witnesses, most of whom supported uniformity at increased levels. Highway/Bridge Impact was fairly well commented upon. Fewer remarks were directed to the issues of Intermodal Impact or Safety, and almost no comments were offered on Environmental Impact of truck size and weight limits.

The transportation impediments posed by the midwest barrier States was a dominant concern at all of the meetings. In Chicago, retention of Michigan's eleven-axle, gross weight law was a major regional topic. Discussion of Western (two 27-foot trailers) and Rocky Mountain (one 40-foot and one 27-foot trailer) doubles was confined to the Oakland meeting. No other salient regional topics surfaced at any of the meetings which were well attended and smoothly run.

Attachments

TABLE 1

INTEREST GROUP DISTRIBUTION

	Chicago		Newark		Greensboro		Oakland		Total
	%	No.	%	No.	%	No.	%	No.	No.
Trucking Firms	.10	3	.14	3	.26	7	.32	7	20
Shippers	.34	10	.36	8	.30	8	.41	9	35
State Hgwy/DOT	.21	6	.18	4	.15	4	.14	3	17
Ind. Ow/Op	.14	4	.14	3	-----		.04	1	8
Railroads	.07	2	.09	2	.11	3	.09	2	9
Environment	.07	2	.04	1	.03	1	-----		4
Union	.03	1	.04	1	.03	1	-----		3
AAA/Safety	.03	1	-----		.11	3	-----		4
TOTAL	100	29	100	22	100	27	100	22	100

TABLE 2

DISTRIBUTION OF TESTIMONY BY TOPICS COVERED*

CHICAGO		Trucking Firms	Shippers	State Hwy & DOTs	Independent Owner/Oper.	Union	Railroad	Environ.	AAA/ Safety	Total
A. Intermodal Impact		1	1	2	1	---	2	2	---	9
B. Highway/Bridge Impact		2	2	3	1	---	2	2	1	13
C. Non-Uniformity		1	8	3	5	1	---	1	---	19
D. Safety		---	3	2	---	1	1	1	1	9
E. Energy Use		2	8	3	3	---	2	2	1	21
F. Environmental Impact		---	---	---	---	---	---	2	---	2

NEWARK		Trucking Firms	Shippers	State Hwy & DOTs	Independent Owner/Oper.	Union	Railroad	Environ.	AAA/ Safety	Total
A. Intermodal Impact		---	2	---	---	---	2	1	---	5
B. Highway/Bridge Impact		---	2	2	---	1	1	1	---	7
C. Non-Uniformity		1	9	2	2	---	1	1	---	16
D. Safety		1	3	2	---	2	---	1	1	10
E. Energy Use		2	5	1	---	2	---	---	1	11
F. Environmental Impact		---	1	---	---	---	---	---	1	1

* Numbers indicate the approximate number of speakers discussing the topic at each Hearing.

TABLE 2 (CONTIN.)
DISTRIBUTION OF TESTIMONY BY TOPICS COVERED*

GREENSBORO	Trucking Firms	Shippers	State Hwy & DOTs	Independent Owner/Oper.	Union	Railroad	Environ.	AAA/ Safety	Total
A. Intermodal Impact	---	1	1	---	---	2	1	---	5
B. Highway/Bridge Impact	2	2	4	---	---	3	---	1	12
C. Non-Uniformity	3	6	3	---	1	1	---	1	15
D. Safety	2	3	2	---	1	2	1	1	12
E. Energy Use	6	8	2	---	---	3	---	1	20
F. Environmental Impact	---	---	---	---	---	1	---	---	1

OAKLAND	Trucking Firms	Shippers	State Hwy & DOTs	Independent Owner/Oper.	Union	Railroad	Environ.	AAA/ Safety	Total
A. Intermodal Impact	---	2	3	---	---	2	---	---	7
B. Highway/Bridge Impact	---	3	3	---	---	2	---	---	8
C. Non-Uniformity	5	6	7	1	---	---	---	---	19
D. Safety	2	1	---	2	---	1	---	---	6
E. Energy Use	4	3	4	1	---	2	---	---	14
F. Environmental Impact	---	---	---	---	---	---	1	---	1

* Numbers indicate the approximate number of speakers discussing the topic at each hearing.

CHICAGO, ILLINOIS, JULY 13, 1979

The Chicago hearing was the first of the four public meetings held by the Department of Transportation on its truck size and weight study. Representatives from all of the major groups with an interest in the subject testified, and most aspects of the issues were treated in the testimony of at least one speaker.

The interests of the trucking industry were presented by spokesmen for the American Trucking Associations, the Missouri Bus and Truck Association, the National Automobile Transporters Association, and the National Council of Independent Truckers Association. Basically, the trucking industry desires uniform size and weight limits in all States because the current system of non-uniformity means additional costs to firms when they must load or configure their rigs to comply with the most restrictive State limits on their route. Carriers of low density commodities want the longest trailers or double trailers for maximum cube, while haulers of high density goods would like higher gross vehicle weight limits. Of course, the industry wants the limits made uniform at the highest possible level.

Shipping firms were represented by PPG Industries, International Minerals and Chemical Corporation, the Continental Group, Weyerhaeuser Company, Marsh Products, National Steel Corporation, The Edward C. Levy Company, The Manitowoc Company, The National Independent Meat Packers Association, and Yellow Freight Systems, Inc. These groups

had almost identical interests to those of the trucking industry; they simply desire uniform limits at the higher levels in order to reduce costs.

The Association of American Railroads and The Burlington Northern Railroad presented the views of the railroads. The railroads are opposed to any upward changes in size and weight limits because they claim this would cause a diversion of freight traffic from rail to truck. This diversion according to the railroads, would result in revenue losses of from \$500 million to \$800 million per year to the railroads and to an increase of 1.4 billion gallons of diesel fuel consumed. The increased axle loads will increase highway maintenance costs and decrease the service life of pavements. The railroads feel that the heavy trucks are not now paying their fair share of highway user costs and that these costs should be determined and assessed equitably.

The views of truck drivers who are not owner-operators were presented by members of The Professional Drivers' Council. This group opposes any increase in the size and weight limits because they find that the bigger and heavier trucks are more difficult and dangerous to drive.

Three auto/safety and environmental groups testified: The Chicago Motor Club, The Community Action Research Group, and The Central States Resource Center. All three groups expressed the same concerns,

which were that bigger and heavier trucks are objectionable because they are unsafe and because trucks cause a disproportionate amount of deterioration to the highways which they are not paying for via the Highway Trust Fund.

Several State transportation and highway departments presented their views. Illinois, which has weight limit below the Federal maximum, opposes any increase because this might cause excessive highway deterioration. Poor soil conditions in Illinois which result in higher costs for building and maintaining highways and a large backlog of highway needs were given as major reasons for opposing higher weight limits. The State of Wisconsin feels that each State should be free to set its own weight limits because each State has unique circumstances to control its decisions. Although Wisconsin did increase gross vehicle weight from 73,200 pounds to 80,000 pounds, registration fees for the heavy trucks were also increased about 60 percent at the same time. Iowa endorsed a uniform weight limit of 80,000 pounds, subject to the Federal bridge formula, a maximum trailer length of 45 feet and full recovery of additional construction and maintenance costs through higher user charges.

Local interests were represented by the Superintendent of Highways for Kankakee County, Illinois and the Assistant County Highway Engineer of the Wayne County, Michigan Road Commission. The Kankakee County representative advocated retention of the lower weight limits in Illinois

while the Wayne County engineer endorsed uniformity at 80,000 pounds gross providing that Michigan and Wayne County be permitted to retain their more restrictive axle loadings on all roads other than the Interstate system.

A member of the Arkansas legislature spoke on behalf of a 73,280 pound uniform weight limit.

NEWARK, NEW JERSEY, JULY 17, 1979

The Newark hearing was the second of the four public meetings on the Department's truck size and weight study. The types of participants and the views expressed were virtually identical to those at the Chicago hearing, with one exception. This exception consisted of testimony on the question of enforcing the size and weight regulation.

The views of the trucking industry were presented by representatives from the Connecticut Motor Transport Association, the George Transfer and Rigging Company, the National Automobile Transporters Association, the Long Island Independent Truckers Association, the United Independent Truckers Association, the Council of Independent Truckers of New Jersey and the Independent Truckers of South Jersey. All of the representatives testified that they favor having the size and weight limits made uniform, with the weight limit being set at 80,000 pounds. All groups felt that any states with limits currently above 80,000 pounds should be allowed to retain those higher limits.

The interest of shippers were expressed by representatives from Perdue Inc., International Paper Company, the American Farm Bureau Federation, Air Products and Chemicals, Inc., the General Contractors' Association of New York, the Construction Industry Council of Westchester and Hudson

Valley, Zee Orchards, Inc., and Reading Industries. Shippers wish to have the size and weight limits made uniform, with the gross weight limit set at 80,000 pounds and the length limit at 65 feet. This would allow them to ship their products at lower cost.

The railroad industry's point of view was supplied by representatives from Conrail and the United Transportation Union. The railroads are opposed to any increases in the size and weight limits. They claim that increases in the limits will use more fuel since higher limits will cause a diversion of freight traffic from the more fuel efficient railroads to less fuel efficient trucks. In addition, they claim that bigger and heavier trucks will cause undue wear and tear on the highways for which trucks are not currently paying their fair share.

Only one environmental group testified. This was the Environmental Defense Fund, which expressed two basic concerns. First, the fund feels that the truck size and weight issue should not be studied in isolation but as part of a comprehensive national Transportation policy. Second, the Fund finds that the size and weight issue is subordinate to the cost allocation issue. If trucks could be made to pay their "fair share" for whatever load they hauled, specific limits would be unnecessary.

Two states offered views on the size and weight issue. A representative from the New York Department of Transportation argued for uniformity in

all aspects of size and weight regulation: the regulations themselves and the enforcement practices that go with them. New York prefers to see the limits made uniform at the Federal levels. The representatives from Pennsylvania Department of Transportation pointed out that increased limits would necessitate higher maintenance costs but said that Pennsylvania would go along with higher limits in the interests of fuel conservation if the Federal government would help pay the additional costs.

Finally, four speakers with somewhat different backgrounds presented, independently, one final perspective on the issue. The four speakers were two truck drivers who were not owner-operators, an Indiana State policeman, and a representative from the Indiana State Highway Commission. All four speakers testified that the current weight limits are widely ignored by truckers, both owner-operators and drivers working for regulated carriers. They pointed out that the issue of enforcement is at least as important as the issue of the correct limits.

GREENSBORO, NORTH CAROLINA, JULY 24, 1979

This was the third of four scheduled public meetings on the Departments truck size and weight study. The participants and their testimony differed only slightly from the previous two hearings. Interesting compositional differences were the absence of independent trucker representation and the presence of a few more environmental and safety groups.

A number of common carrier trucking firms and their various associations were represented, including Roadway Express, Cooper Motor Lines, Anchor Motor Freight, The Trucker Industries Association. As before, truckers cited reduced costs and energy savings as gains from uniform limits of 20,000/34,000/80,000 lbs. (single axle/tandem axle/gross vehicle weight) and 60 feet in length. They claimed that there were no adverse safety impacts, and that intermodal impacts would not be significant. Additionally, the truckers responded to the question of pavement damage by expressing a willingness to pay the increased costs via correctly measured user charges.

Shippers using common carriers and their own private fleets that testified were Burlington Industries, The Bibb Company, Goodmark Foods (a division of General Mills), Pillsbury, The North Carolina Farm Bureau, Frito-Lay, Scovill Manufacturing, Coty, and Owens-Illinois. Their testimony was much the same as the truckers, invoking fuel savings and lower costs as the fruits of uniformity. One shipper stressed that pavement damage

results from high axle loadings, and that gross vehicle weight could be higher than 80,000 lbs. if more axles and proper loading and spacing were used. Shippers differed in their relative emphasis on size or weight limits, depending on the volume and weight of their goods shipped.

The Teamsters union representative expressed concern that the 80,000 pound gross weight limit coupled with the 34,000 pound tandem axle limit requires 12,000 pounds on the steering axle, which they feel is unsafe. Emphasis was placed on the safety and comfort of drivers. They asked for length limits on trailers only---without overall length limits---and no restrictions on width of safety equipment to improve truck driver safety.

The railroad industry had three representatives at Greensboro: The Mississippi Railway Association, The United Transportation Union, and the Norfolk & Western Railway. A number of topics were touched upon by these speakers, generally identifying broader questions of intermodal effects, safety, and net fuel savings. These included: (1) with uniformity, paving costs will rise disproportionately on a system originally designed at 73,280 lbs.; (2) with decreasing passenger car size, increasing truck size will lead to greater accident death tolls; (3) intermodal effects will result in decreased rail revenues. loss of

jobs, and net energy inefficiency, as railroads use one-fourth the fuel to haul per ton-mile; (4) the study will be incomplete, since, the key issues of the cost allocation and enforcement are not included in the overall effort.

Four States were represented in Greensboro, namely Florida, Virginia, Arkansas, and Georgia. Florida has recently repealed the application of the bridge formula to internal axles on all highways except the Interstate system. This change permits truck combinations to attain 80,000 pounds gross weight. In addition the same legislation allows the use of double trailers up to 65 feet in length. The DOT has administratively restricted the use of these doubles to the Interstate system. Virginia has made some emergency changes but still sees the need for maximum limits at existing levels. Although uniformity would be useful, it may not be achievable without large expenditures in some States. The State of Georgia representatives agreed the increases in the Federal maximum would be costly to the States with a possible negative overall cost, but did agree as well to the benefits of some limited changes for the sake of uniformity. Arkansas, being a "barrier" State, was represented with evidence backing up the special soil and road characteristics necessitating the original limits, and with statistics indicating vehement public opposition to Federally mandated increases.

Finally, four groups representing the public interest were represented in Greensboro: the East Tennessee Auto Club, the Carolina Motor Club, The Virginia Safety Association, and The Conservation Council of Virginia. Both auto club representatives wielded statistics on increasing highways death tolls involving large trucks in the face of decreasing overall highway accident rates. Uniformity was proposed, but at 73,280 lbs., the original road design for the Interstate, with a 55-foot overall length limit. Polls indicated public opposition to heavier or longer trucks by a margin of four to one. The Conservation Council, like the Environmental Defense Fund at Newark, stressed the need for broad analysis to account for all of the questions raised by the TS&W study, and the need to consider both user charge allocation and enforcement questions.

OAKLAND, CALIFORNIA, JULY 31, 1979

The fourth and final truck size and weight meeting was much like the earlier hearings, but with a Western flavor. Several groups provided information supplements, often times with emphasis on the different nature of the trucking industry in the West.

The backers of uniformity and higher limits--trucking firms, shippers, and trucking and highway support organizations--were well represented at Oakland. Shippers included Continental Can, J. Hungerford Smith Company (a subsidiary of United Brands), Western Growers Association, Western Wood Products Association, National Cattlemens Association, American Plywood Association, Columbus Coated Fabrics, Georgia-Pacific, and The Western Traffic Conference (representing 80 shippers). Depending upon their products, some required weight uniformity, others length uniformity and twin or triple trailers. The Wood Products representatives were also interested in 102" width allowances.

Common carrier and owner-operator representatives at Oakland were from The Association of Independent Owner-Operators, Rice Truck Lines, and Blackburn Truck Lines. Their testimony was no different than others representing similar groups.

The United Transportation Union and Southern Pacific Railway representatives expressed concern about diversion of freight from rail to truck, increased fuel use, the problems of road deterioration, highway user payments, and safety.

Representatives from the States of California, Minnesota, Idaho and Utah, as well as from The Western Conference of the Council of State Government, spoke. California and Minnesota representatives supported uniformity on the Interstate, but both expressed opposition to higher limits and twin trailers on non-Interstate roads. Idaho seemed satisfied with their higher weight limits, as long as their bridges are protected by bridge formula measures. A Utah State Senator adamantly supported uniformity and higher limits. The Western Governors' conference supports uniformity at 80,000 lbs., GVW and a 60 foot length limit.

Also speaking were representatives from The Motor Vehicle Manufacturers Association (MVMA) and The Western Highway Institute (WHI). MVMA supports uniformity at 20,000/34,000/80,000 lbs., 60 foot tractor semi-trailers, and 65 foot doubles. Their research indicates that trucks are not "grossly disproportionate contributors" to traffic accidents. The Western Highway Institute speakers submitted extensive data on safety, drive characteristics, off-tracking, front axle loadings, braking, splash and spray and other aspects of truck size and weight issues. WHI supports uniformity with allowances for higher limits and the use of twin and triple trailers in Western States.

Supplemental Statement of AASHTO

It hasn't been too many years since the builders of bridges were building them on the basis of intuition and experience. Progress was first made when the design of railroad bridges became a scientific analysis based on wheel loads spaced very similar to an actual train. The railroads have been largely successful in keeping the current applied loads much in line with those that were used to design railroad bridges prior to the nineteen hundreds. Equality of design and actual load on railroad bridges remains so today because of the railroads' strict enforcement on their own, and peculiarities of track requirements. Highway people have not been so fortunate because no one could foresee the kind of traffic that would use the highway bridges, either in profile of vehicles or application of load. When highway bridge builders first began to design highway bridges, they borrowed from their friends the architects and assumed a uniform dead load to represent the moving vehicles. The application of a uniform load over the entire structure to take care of moving loads (live loads) simply does not represent the actual condition of a live load moving across a bridge. Some members are over designed, some are under designed and none are designed for changes in stress which can greatly reduce the strength of a member (fatigue). Fatigue as a feature in design in the early years was practically unheard of and not taken into the design of a bridge at all and there was practically no uniformity in the load to be assumed. Some designers were concerned about impact, others were not. Since load repetition is a substantial factor in fatigue, the great and unlooked for increase in amount of traffic has caused many of the current problems in structure.

Table I shows some typical uniform loadings for steel truss bridges (note year 1916). It is interesting to note that an analysis of these loadings give moments very close to the present H15-44 loading as specified in the AASHTO Specifications. Moment is the principal measure of force which stresses the bridge load carrying members, and is the basis used for analysis in this statement.

TABLE I.
UNIFORM LIVE LOADS FOR HIGHWAY BRIDGES.

Illinois Highway Commission.	Iowa Highway Commission.		Wisconsin Highway Commission.		American Concrete Institute, 1916.				Ketchum's Specifications, 1918.				
					Class A.		Class B.		Class D ₁ .		Class D ₂ .		
Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.	Span, Ft.	Load, Lb./Sq. Ft.
Up to 50	115	Up to 50	100	Up to 40	125	Up to 80	125	30	125	30	100	30	100
50-100	100	50-100	90	50	120	80-100	110	50	100	50	90	50	90
100-150	100	100-150	80	75	100	100-125	100	100-125	80	80	75	80	75
150-200	85	150-200	70	100	95	125-150	90	125-150	75	100	80	100	75
Over 200	85	200-250	50	150	60	150-200	85	150-200	65	160	68	160	60
		Over 250	50	180 and over	50	Over 200	80	Over 200	60	200 and over	60	200 and over	50

Iowa State Highway Commission, Class D₁ and D₂ bridge loadings, to be increased for impact.

Iowa State Highway Commission, Class D₁ and D₂ bridge loadings, to be increased for impact.

About 1920 the use of concentrated loads gained in popularity.

The 1923 highway bridge specifications of the American Association of State Highway Officials, the Iowa State Highway Commission, and the 1923 tentative specifications of the American Society of Civil Engineers contain the following specifications for floor loads for girders and trusses, and for floors, as given in Table Ia.

TABLE Ia. UNIFORM LIVE LOADS FOR GIRDERS AND TRUSSES

Loaded Length, ft.	Live Load in lb. per sq. ft. Proportionate Values for Intermediate Lengths		
	1-15 Ton Truck	1-20 Ton Truck 2-15 Ton Truck	2-20 Ton Truck
50	100	130	180
100	80	90	120
200 and more	60	70	90

"The uniform load used shall correspond to the length of that portion of the span which, when fully loaded, will produce maximum stress in the member under consideration.

When the loaded length is less than 50 ft., girders and truss members shall be designed for the floor live load. The trucks shall be placed so as to produce the most severe stresses. Two trucks shall be considered as headed in the same direction. Trucks in tandem need not be considered.

Floor Live Loads - All parts of the floor system and all girders and truss members when the loaded length is less than 50 ft., shall be designed for the following loads: (1-15) one 15-ton truck, or 100 lb. per sq. ft. of roadway; (1-20) one 20-ton truck, or 130 lb. per sq. ft. of roadway; (2-15) two 15-ton trucks; (2-20) two 20-ton trucks.

In bridges involving three or more lines of traffic, the floorbeams and floorbeam hangers shall be designed for two trucks assumed to be located in the most unfavorable position, together with a uniform live load of 100 lb. per sq. ft. on the remaining lines of roadway not occupied by the trucks."

1924 Requirements in Highway Bridge Loadings are clearly shown in the following excerpts from the Am. Soc. C.E. 1924 Specifications. The Standard Specifications of the A.A.S.H.O. for 1926 differ only slightly from these loading requirements.

"Traffic Classification of Bridges. Bridges shall be classified, on the basis of traffic, as follows:

Class A. City bridges or other bridges carrying a highway traffic of exceptionally heavy load units.

Class B. Bridges on primary roads.

Class C. Bridges on secondary roads.

Class D. Bridges carrying electric railway traffic in addition to highway traffic.

Roadway Live Load. - The live loads for roadway shall be represented by typical truck loadings. Each typical truck loading shall be considered as occupying one lane of traffic 9 ft. wide. Typical truck loading shall be designated by the Letter H, followed by a numeral indicating the weight in tons of the typical truck loads.

Typical Truck Loadings.

For Floor System:

H20.....20-ton trucks

H15.....15-ton trucks, or one 20-ton truck

H13.....13-ton trucks, or one 15-ton truck

For Girders and Trusses:

H20.....600 lb. per lin.ft. and 28,000 lb. concentrated

H15.....450 lb. per lin.ft. and 21,000 lb. concentrated

H13.....390 lb. per lin.ft. and 18,200 lb. concentrated

The concentrated loads are to be placed so as to cause maximum effect.

Selection of Live Loads.

Class A Bridges.....H20 loads

Class B Bridges.....H15 loads

Class C Bridges.....H13 loads....."

Typical trucks shall have total loaded weights distributed as in Figure 1.

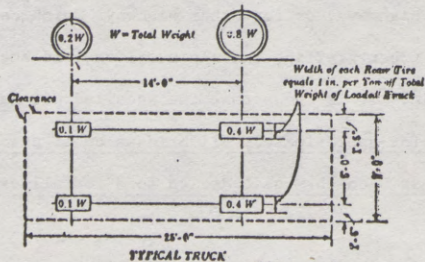


Figure 1.

This is the first reference to H15 Loading. It must be emphasized that when we refer to the standard truck or H15 design truck that this is a design loading. It is not a composite truck or typical truck of the present and it has never been intended that it represent an actual truck. It is just a selected design truck for application of live loadings for purposes of design. It is not to be confused with the Type 2 or Type 3 or any other types listed in the AASHTO "Policy on Maximum Dimensions and Weights of Motor Vehicles to be Operated Over the Highways of the United States", or any trucks presently in operation on the highways. The problem now and always has been is how to rationalize design load with safe load carrying capacity.

The 1935 AASHTO Specifications provided for trucks and truck trains and also the equivalent lane loadings.

The present AASHTO Specification states the system of lane loads was developed in order to give a simpler method of calculating moments and shears than that based on wheel loads of the trucks.

In 1944 the HS series of trucks were developed. These approximate the effect of the corresponding 1935 truck preceded and followed by a train of trucks weighing $3/4$ as much as the basic truck.

The traffic classification of bridges as shown for the 1926 AASHTO Specifications has been removed from the Specifications and for the past 40 years (approximately) the load classification has been a function of the State Highway Department, The Federal Highway Administration, and other agencies. Some states followed the policy of using heavier design loads, say H20 for Primary and H15, etc., for Secondary, etc. Present AASHTO Minimum Loading for trunk highways, or for other highways which carry, or which may carry, heavy truck traffic, the minimum live load shall be the HS15 designated therein. It is shown that the so-called H15 has been the governing design load for approximately all bridges built prior to 1935 and until quite recently has been the basic design load for all except major and interstate bridges.

The use of a standard truck say H15 for purposes of design provide a convenient method for design, but leads to problems when comparing with the actual traffic patterns and loadings.

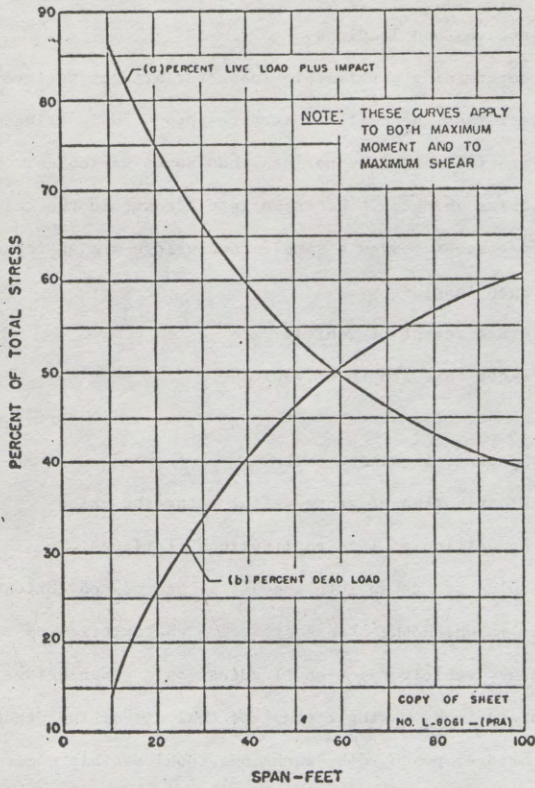
The problem of determining permissible loads for bridges is involved. This is due to the fact that the critical stresses produced in bridges by heavy vehicle loads are influenced by no less than seven variables. The seven important variables which must be taken into account in the calculation of critical stresses for even a simple span bridge are as follows:

1. Span lengths
2. Gross weight of vehicle
3. Wheel base length of vehicle
4. Number of axles
5. Spacing of axles
6. Distribution of gross weight among the axles
7. Repetition of load applications (fatigue)

If all of these variables are taken into account by use of conventional methods, the only way in which the stress producing characteristics or effects of various heavy vehicle types and loadings on a given bridge can be determined accurately is by making a complete analysis of the stresses for that particular bridge, produced by each individual vehicle under consideration. And though such an analysis for any particular vehicle or loading on a given span is not too difficult, it is, to say the least, tedious and time consuming, if all possible combinations are investigated.

The percent of live load overload which can be tolerated is a function of the type of structure and the length of span. As Figure 2 shows the ratio of dead to live load varies with the length of span for any particular type of structure. The lighter the structure is the more critical the overload becomes.

ESTIMATED PERCENT OF TOTAL DESIGN STRESSES REPRESENTED
BY LIVE LOAD PLUS IMPACT AND DEAD LOAD STRESSES FOR
SIMPLE SPAN DECK GIRDER BRIDGES OF II-15 DESIGN



We see from Figure 2 that for a 60' span the live and dead load moments using a H15 loading are equal. With a 60% overload of the live load, the actual overstress in the structure would be 30%. Later, when we discuss fatigue loading we will have more to say on this subject in regard to stress ranges.

The present formula and tables which show the loads on 34,000 lbs. tandem axles which produces a 30% live load overstress are shown in Table II. The unit stresses used in highway bridge design provide a factor of safety of approximately 1.8 applicable to the stresses from the assumed design loads. Recurring overstresses up to 30% of H15 bridges maintained in good condition are not considered by some to be extremely objectionable. This is a subject on which uniform agreement among the bridge engineers and other highway officials of the states is unobtainable.

Along this line it should be noted that the 1977 AASHTO Specifications contain the following overload provision which has basically remained unchanged for several years. "The following provision for overload shall apply to all loadings except the H20 and HS20 loadings. Provision for infrequent heavy loads shall be made by applying in any single lane an H or HS truck as specified, increased 100 per cent, and without concurrent loading of any other lanes. Combined dead, live and impact stresses resulting from such loading shall not be greater than 150 per cent of the allowable stresses prescribed herein. The overload shall apply to all parts of the structure affected except the road way deck."

The question arises as to when the conditions of traffic change from an infrequent heavy load to a load which should be the design loading. This question can only be answered by an analysis of the traffic at each bridge.

TABLE I

COMPUTED GROSS WEIGHT TABLE

For various spacings of axle groupings

BASED ON AASHO H15 (44) BRIDGES WITH OVERSTRESSES NOT TO EXCEED 30 PERCENT

$$\text{Weight Formula } W = 500 \left(\frac{LN}{N-1} + 12N + \frac{36}{N} \right) \text{ Modified}$$

Distance in feet between the extremes of any group of two or more consecutive axles (wheelbases)	Maximum computed weight in pounds for any group of two or more consecutive axles (wheelbases)				
	2 axles	3 axles	4 axles	5 axles	6 axles
4	34000				
5	34000				
6	34000				
7	34000				
8	34000	34000			
9	39000	42500			
10	40000	43500			
11		44000			
12		45000	50000		
13		45500	50500		
14		46500	51500		
15		47000	52000		
16		48000	52500	58000	
17		48500	53500	58500	
18		49500	54000	59000	
19		50000	54500	60000	
20		51000	55500	60500	66000
21		51500	56000	61000	66500
22		52500	56500	61500	67000
23		53000	57500	62500	68000
24		54000	58000	63000	68500
25		54500	58500	63500	69000
26		55500	59500	64000	69500
27		56000	60000	65000	70000
28		57000	60500	65500	71000
29		57500	61500	66000	71500
30		58500	62000	66500	72000
31		59000	62500	67500	72500
32		60000	63500	68000	73000
33			64000	68500	74000
34			64500	69000	74500
35			65500	70000	75000
36			66000	70500	75500
37			66500	71000	76000
38			67500	72000	77000
39			68000	72500	77500
40			68500	73000	78000
41			69500	73500	78500
42			70000	74000	79000
43			70500	75000	80000
44			71500	75500	80500
45			72000	76000	81000
46			72500	76500	81500
47			73500	77500	82000
48			74000	78000	83000
49			74500	78500	83500
50			75500	79000	84000
51			76000	80000	84500
52			76500	80500	85000
53			77500	81000	86000
54			78000	81500	86500
55			78500	82500	87000
56			89500	83000	87500
57			80000	83500	88000
58				84000	89000
59				85000	89500
60				85500	90000

NOTE: The permissible loads are computed to the nearest 500 lb.

The modification consists in limiting the maximum load on any single axle to 20,000 lbs. and the load on any two axles spaced 8 ft. or less apart to 34,000 lbs.

Loaded vehicles of type 3-S2 (5 axle) with wheelbase less than 38 feet must not operate over H15 (44) bridges

Loaded vehicles of type 2-S1-2 (5 axle) with wheelbase less than 45 feet must not operate over H15 (44) bridges

Loaded vehicles of type 3-3 (6 axle) with wheelbase less than 45 feet must not operate over H15 (44) bridges

Loaded vehicles of 7 or more axles regardless of type and of wheelbase are not permitted.

TABLE II

PERMISSIBLE GROSS LOAD TABLE
 BASED ON AASHO H15(44) BRIDGES WITH OVERSTRESSES NOT TO EXCEED 30 PERCENT
 FOR CERTAIN TYPICAL VEHICLES IN REGULAR OPERATION ILLUSTRATING WHEN TOTAL COMPUTED GROSS WEIGHT
 OR THE AXLE LOADINGS CONTROL THE PERMISSIBLE GROSS LOAD OF THE VEHICLE.

$$\text{Weight Formula } W = 500 \left(\frac{LN}{N-1} + 12N + 36 \right) \text{ Modified}$$

(A)—Permissible Gross Load of Vehicle Limited by Axles

(B)—Computed Gross Load Controls

Distance in feet between the extremes of any group of two or more consecutive axles	Maximum load in pounds carried on any group of two or more consecutive axles									
	2 Axles		3 Axles		4 Axles			5 Axles		6 Axles
	Type 2	Type 3	Type 3	Type 2-51	Type 2-2	Type 2-52	Type 3-51	Type 3-2	Type 3-52	All Types
4										
5										
6										
7										
8										
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NOTE: The loads are computed to the nearest 500 lbs.
 The modifications consist in limiting the maximum load on any single axle to 20,000 lbs. and the load on any two axles spaced 8 ft. or less on centers to 34,000 lbs.
 Loaded vehicles of 7 or more axles regardless of type and of wheelbase are not permitted.
 Table I is applicable to gross loads of vehicles.
 The permissible load on any group of 2 or more axles spaced 8 ft. or less between the centers of the extreme axles of the group is 34,000 lbs.
 For the purpose of this table the steering axle is assumed to be 10,000 lbs. and 5 feet is subtracted from the maximum permissible vehicle length to arrive at the distance between the centers of extreme axles.

The AASHTO road test has provided basic information on the equivalent effects of single-and tandem-axle weights on both rigid and flexible pavements for the conditions of the road test. This information is a basic requirement in establishing axle weight limits. The equivalence relationship for a range of single and tandem axles on rigid and flexible pavements, based on the road test data, has been established.

There are many formulas that would approximate the maximum desirable loads. One is the present simplified bridge formula which may be used to determine permissible gross weights and axle weights.

This formula in its present form as stated in "Policy on Maximum Dimensions and Weights of Motor Vehicles to be Operated Over the Highways of the United States" conforms with the results of the AASHTO road test mentioned earlier.

It is the opinion of some bridge engineers that the formula allows gross loads that are too high.

The basic axle loads used for development of this formula are 20,000# for a single axle and 34,000# for a tandem axle.

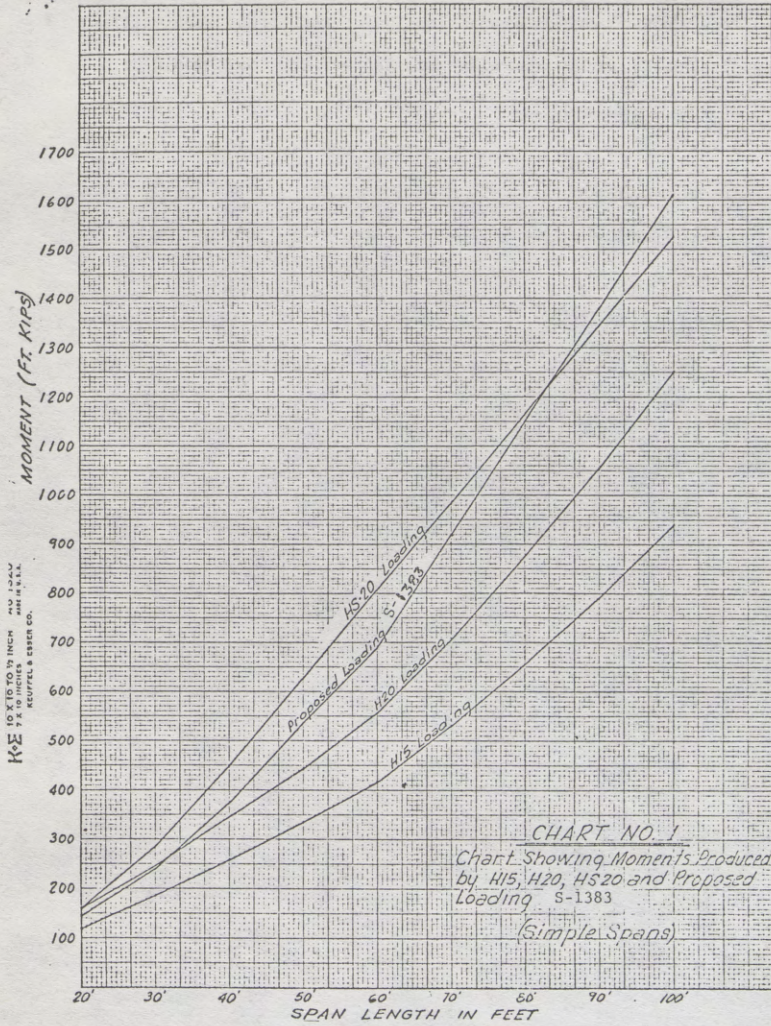
Chart No. 1 shows graphically the comparison of a proposed 36,000 lb. tandem axle and the three common types of AASHTO Standard Loadings (H15, H20 and HS20). This is similar to the limits proposed in Senator Melcher's S-1383.

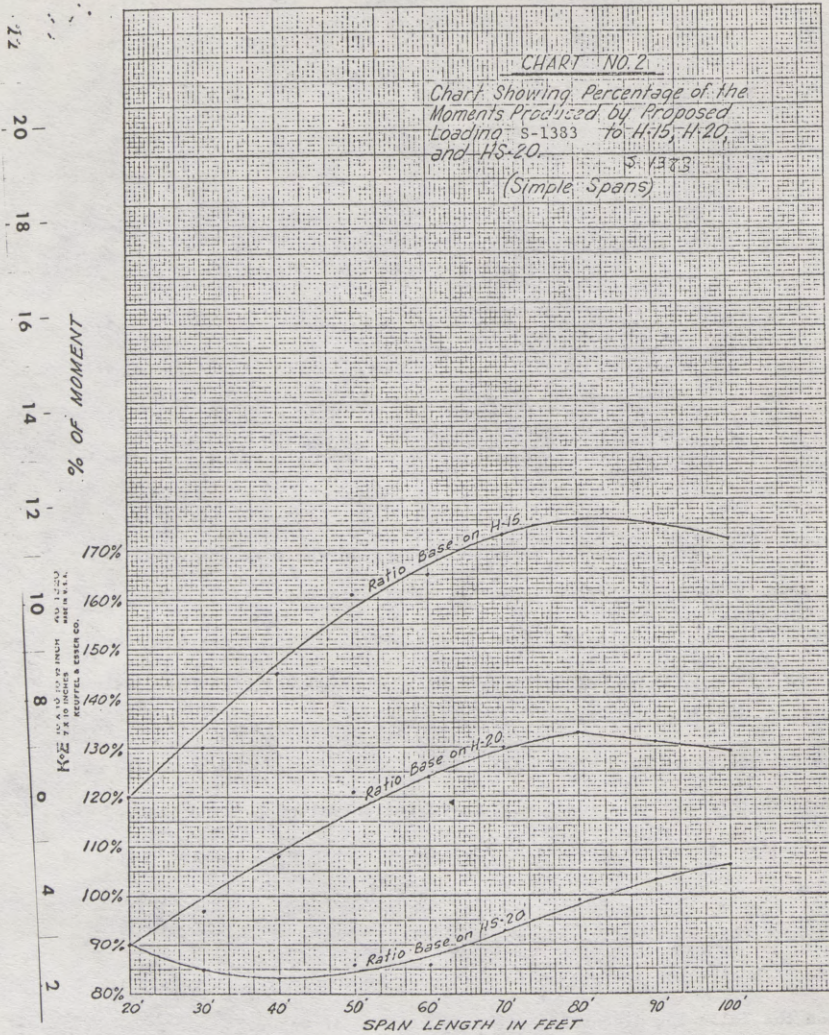
Chart No. 2 shows the percentage of the moments produced by the proposed loading as a percent of the standard loadings.

The maximum percentage for the H15 loading is 176% which is for the 83' span.

You will note that the effect of the new load on bridges with HS20 design loading is minor. Bridges designed for H20 loading have an overload of approximately 32% which will result in a maximum overstress of probably 15%.

Until the early 1960's, the AASHTO Specifications considered that only loadings which produce a change in sign of the stress were critical in fatigue. The specifications also assumed that the loads would be repeated at least 2 million times, and therefore, allowable stresses were kept below the fatigue limit. Later research and study indicated that these limits were not adequate.





Therefore, in the 1965 Specifications a new set of criteria was published.

Table 2 shows the cycles of loadings for the different types of roads.

Main (Longitudinal) Load Carrying Members				
Type of Road	Case	ADTT*	Truck Loading	Lane Loading†
Freeways, Expressways, Major Highways and Streets	I	2500 or more	2,000,000**	500,000
	II	less than 2500	500,000	100,000
Other Highways and Streets not included in Case I or II	III		100,000	100,000

Transverse Members and Details Subjected to Wheel Loads				
Type of Road	Case	ADTT*	Truck Loading	
Freeways, Expressways, Major Highways and Streets	I	2500 or more	over 2,000,000	
	II	less than 2500	2,000,000	
Other Highways and Streets	III	...	500,000	

*Average Daily Truck Traffic (one direction).

†Longitudinal members should also be checked for truck loading.

**Members shall also be investigated for "over 2 million" stress cycles produced by placing a single truck on the bridge distributed to the girders as designated in Article 1.3.1(B) for one traffic lane loading.

This takes us back to the previous discussion where we discussed the 60% overload and 30% overstress. With a critical number of large loads or overloads, the allowable stress should be reduced. Thus we see that the fatigue life of a member may be reduced by a large number of stress cycles slightly in excess of the fatigue limit or by a few cycles greatly in excess of the fatigue limit (overstressing). While we cannot say specifically what a change in the allowable loads will do to the actual number and size of heavy loads it is logical to assume that the truckers will take advantage of this increase. Therefore, it would seem that the fatigue life of the structures could be greatly reduced.

Just to give you an idea as to what must be considered in regard to fatigue the following discussion probably will be of value.

FACTORS AFFECTING FATIGUE OR SERVICE LIFE

The prediction of fatigue resistance is complicated by the fact that citation of maximum stress alone does not define a unique service life. In general, the stress spectrum to which a member or connection will be subjected, the nature and condition of the part, and the environment in which it will function will all influence the service life.

The factors influencing the fatigue resistance of a structural part or laboratory specimen are:

A. Load Spectrum

1. Stress ratio R
2. Maximum stress
3. State of stress
4. Repetition of stress
 - a. Regular or random
 - b. Frequency
 - c. Rest periods
5. Understressing or overstressing

B. Nature and Condition of Member

1. Prior stress history
 - a. Residual stresses
 - b. Work-hardening
2. Size and shape of member
 - a. Size effect (simulation of a member by a small specimen)
 - b. Stress gradient
 - c. Presence of notches
3. Metallurgical structure
 - a. Microstructure, grain size, and chemical composition
 - b. Mechanical properties

4. Welding

- a. Metallurgical
- b. Mechanical

C. Environment

- 1. Temperature
- 2. Atmosphere

The stress range and the number of cycles of loading are the two (2) most critical factors for fatigue. For example, it has been shown that for welded girder bridges with partial length cover plates a stress range of 11,300 psi leads to failure at approximately 2,000,000 cycles. If the stress range is increased to around 15,000 psi., which is a 33% increase in stress, failure can be expected to occur at approximately 1,000,000 cycles. Therefore, with a 33% overstress for this particular type of structure a reduction of 50% in the life of the structure can be anticipated. I might say that partial length welded cover plates are a common type of structural member for highway bridges.

The matter of confining trucks to the Interstate System is, in our opinion, an impossible one. Practically all have to enter and leave the Interstate by some road, not a part of it. Enforcement would be a problem that could not be handled by most states. Simply stated, these new heavier loads would be using all highways.

For purposes of Defense there has been established a Principal Highway Network consisting of 244,753 miles, or one-seventh of the total Highway Network. These miles include the Interstate System and the cream of the other systems including toll roads. These routes are highways which might be reasonably used for important shipments or movement of troops. On this best of all of our highways, there are approximately 95,750 bridges. Of these, at least 68,700 are designed for less than HS-20, 30,073 for H-15 and less. When all roads in the United States are considered, there are over

500,000 highway bridges in use now that were built prior to 1936. They are over forty years old and practically none of them were designed for loads over the H-15 design load, and many are for the equivalent of H-12, H-10 and even less.

Even the new bridge replacement program put in place by the Congress following the Silver Bridge collapse in 1967, only 2,099 bridges had been financed in the first eight years of the program. FHWA estimates in their eighth annual report on this program that there are over 105,000 deficient bridges in the United States.

ARKANSAS STATE HIGHWAY COMMISSION

GEORGE KELL, CHAIRMAN
NEWPORT 72112
DAVID SOLOMON
HELENA 72342
PATSY L. THOMASSON
LITTLE ROCK 72202

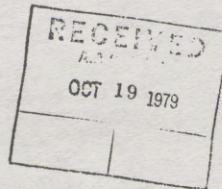


HENRY GRAY, DIRECTOR
P. O. BOX 2261
LITTLE ROCK, ARKANSAS
72203

JAMES A. BRANYAN, VICE CHAIRMAN
CAMDEN 71701
FESTUS H. MARTIN, JR.
PAYETTEVILLE 72701
B. K. COOPER
DEPUTY DIRECTOR
AND CHIEF ENGINEER

October 19, 1979

Mr. Henrik E. Stafseth
Executive Director
American Association of State Highway
and Transportation Officials
444 N. Capitol Street, N.W.
Suite 225
Washington, D. C. 20001



Dear Mr. Stafseth:

The citizens of the State of Arkansas have a \$2.2-billion investment in their 16,000-mile State Highway System; therefore, the Arkansas State Highway Commission is vitally interested in the present truck size and weight issues being discussed before the Senate Subcommittee on Transportation. Because of this investment and due to the results of several studies on the issue, the Commission feels compelled to oppose any increase above the present 73,280-pound legal maxima in Arkansas.

The following briefly outlines our position in opposition to any weight increase on the State Highway System in Arkansas:

1. At present rates, Arkansas State highway-user revenues, even when coupled with Federal-Aid and Federal Revenue Sharing monies, will accomplish only 42% - 55% of the State's critical highway needs; and if Federal Revenue Sharing funds, which are scheduled to expire next year, are eliminated, accomplishments will be even further diminished. This threat to adequate highway transport in Arkansas was recently confirmed by a study conducted in September of 1978 for the ten-year period, 1979-1989, by R. J. Hansen Associates, Inc., consultants employed by the Arkansas Legislative Council. That study indicated that the State will realize a ten-year deficit of almost three billion dollars. Faced with this staggering deficit, the State can ill afford the additional costs that would be necessitated to accompany 80,000-pound loads. It has been determined that to accommodate this additional weight increase the State's 5,337-mile Primary System would

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

Mr. Henrik E. Stafseth

-2-

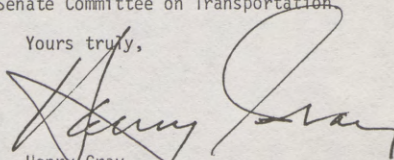
October 19, 1979

require an immediate expenditure of \$235-million for improving 2,750 presently deficient miles. Of this, \$44-million represents additional cost to accommodate 80,000 rather than 73,280-pound loads. It is estimated that an overall annual expenditure of \$59-million for improvement and maintenance would be required to accommodate 80,000-pound loads on the State Highway System.

2. The increase would reduce service life, accelerate fatigue and require massive structural improvement or replacement of 700 Interstate bridges, 2,376 Primary bridges and 3,463 Secondary and Non-Aid bridges.
3. Increasing length of combination of truck-tractor and semi-trailer in excess of 60 feet creates safety problems. Federal statistics show that fatalities involving heavy trucks have increased 30 percent since Congress approved the increased weights. Increasing numbers of heavy trucks have been placed out of service for safety reasons due to increased loads, according to the Bureau of Motor Carrier Safety. New air brake standards have been eliminated due to court action.
4. Studies indicate that the percent of motor vehicle user taxes paid by heavy vehicles should be in the range of 34% to 37%. In Arkansas, these vehicles pay less than 25%.
5. Savings in fuel and economic benefits of increased weights have never been demonstrated, according to a GAO Report entitled Excessive Truck Weights, An Expensive Burden We Can No Longer Support.
6. Arkansas is one of the "Delta States" which is known for its poor soil conditions and, therefore, critically sensitive to relatively minor variations in loading and impact phenomena.

We appreciate this opportunity to express our comments regarding this important issue and will be glad to furnish any additional information that may be useful for AASHTO's presentation to the Senate Committee on Transportation.

Yours truly,

Henry Gray
Director of Highways
and Transportation

Attachments

TRUCK SIZE & WEIGHT STUDY

PUBLIC MEETING

GREENSBORO, NORTH CAROLINA

Presented by: B. K. Cooper
Chief Engineer & Deputy Director
Arkansas State Highway and Transportation Department

July 24, 1979

CONTENTS

1. Position on Mandatory Federal Truck Size and Weight Limits
2. Arkansas Highway and Transportation Department Truck Weight Facts - 1979
3. Truck Weight Information
4. Motor Truck and Bus Sizes and Weights by States, May 1, 1978
5. Copy of Senate Bill 1383, 96th Congress, 1st Session
6. Truck Registrations in Arkansas by Weight Class, C.Y. 1978
7. Monthly Motor Fuel Statistics, May, 1979
8. Truck Fee Schedule
9. Passenger Vehicle License Fees Schedule
10. Trailer License Fee Schedule
11. American Automobile Association's Letter to Brock Adams
12. American Automobile Association's Reduction in Truck Weights New Resolution
13. "A Study of the Effects of Proposed Weight Limit Increase on Arkansas Highways" July, 1979

POSITION ON MANDATORY FEDERAL TRUCK SIZE AND WEIGHT LIMITS

State Highway officials are routinely faced with policy decisions and are often required to act on proposed State and Federal legislation regarding changes in legal motor vehicle size and weight limitations. Outlining a procedure for determining the socio-economic impact of these changes upon highway and freight transportation is vitally important.

The Arkansas State Highway and Transportation Department and the Arkansas State Highway Commission feel that it is imperative that each State should retain the responsibility for setting size and weight limitations within its borders and for exercising the option of establishing proper rules and regulations for governing restrictions on vehicle weights in use upon the highways under its jurisdiction.

This option (provided by Section 106 of the Federal-Aid Highway Amendments Act of 1974) to remain at 73,280 pounds as the legal maximum weight on the Interstate Highways instead of 80,000 pounds, was chosen by Arkansas for the reasons set out below:

First, there is basically only one standardized highway system throughout the United States, i.e., the Interstate System! That System was built on the basis of 73,280 pounds or the then prevailing legal State gross weight maximum, whichever was greater. Beyond this System lies a vast network of highways, roads and streets serving regional and local needs and characteristics which may or may not be capable of handling increased truck weights and travel. These needs and characteristics are a complex response to socio-economic functions, climate, geography and the historic approach to surface transport problems in each region or locality. It has been determined in Arkansas that to accommodate 80,000 pounds on the 5,337-mile Primary System would require an immediate expenditure of \$235 million for improving 2,750 presently deficient miles. Of this, \$44 million represents additional cost to accommodate 80,000 rather than 73,280-pound loads. It is estimated that an overall annual expenditure of \$59 million for improvement and maintenance would be required to accommodate 80,000-pound loads on the State Highway System. These are expenditures we cannot afford, especially

during this time of ever-escalating costs and persistent fuel shortages. Furthermore, Arkansas is in the process of recovering, as are other states, from three severe winters which caused highway damage in excess of \$24 million last winter alone. There is a direct correlation between this damage and the lawful vehicle weight maximum, but the correlation between lawful maxima and highway revenue production is far less direct, especially on an incremental cost basis.

Second, although the majority of the states have increased weight limits to 80,000 pounds, the full effect on the nation's transport costs due to the increased limits cannot yet be realized, since unrestricted transcontinental flows of the heavier maxima are not possible. This is due to the fact that the eight states and the District of Columbia which all opted to retain the lower limits lie in a central band of the United States, thus interrupting a direct transport route from coast to coast.

Third, most of these states are in the Mississippi Valley and are known as "Delta States" with poor soil conditions. These states, where poor soil conditions prevail, should be in a position to preserve and protect the public investment in their road systems by deferring gross weight increases until adequate funding is available to upgrade roadways and bridges to handle the greater loads on these unstable soils. The problem of soil mechanics for these states lying largely within the floodplain of the Lower Mississippi River Valley and the Gulf Coastal Plain is critically sensitive to relatively minor variations in loading and impact phenomena. It is the sort of problem that grows at an accelerating rate as the lawful weight maxima move further and further into the heavy end of the gross loadings spectrum. Since roadways and bridges must be structured as layered systems to support both gross weight and axle load impact by transmitting and distributing them to the subgrade, the service capability and duration of the structure is highly responsive to the quality of the roadbed or bridge foundation soils. The highly unstable "deltaic" soils of Eastern Arkansas pose enormous and costly problems in highway and bridge design, construction and maintenance.

Fourth, it should be noted that increases in legal load limits cause very marked reductions in the remaining service life of facilities. These increases also affect those design characteristics responsive to loadings.

The traffic factor data are vital in pavement design. That factor is expressed in the design equation as the present and future needs of the traffic characteristics, that is, load and speed. Any increase would require corresponding increases in structural strength or load carrying capacity, and cost of the pavement design. For future highways, this required extra strength would be included in the project specification before construction begins. The problem, therefore, is twofold; an accelerated replacement rate for pavement systems already in service and the redesign of the many pavements presently programmed for improvement. Pavements are not intended to support permanent increases in allowable design loadings, except by a concomitant reduction in service life. The increased wear on the highways would directly affect State revenues. It would be necessary to divert more revenue from new construction for an accelerated maintenance program; concurrently, the cost of new construction would increase dramatically. Highway revenue sources vary from state to state and might in some cases accommodate increased loads. This would be more apt to be true where revenue is based on the amount of travel in addition to fixed registration fees. However, where only fixed registration fees are used, as in Arkansas, the increase in revenues for the additional weight would not offset the damage caused by that increase.

Heavier weights will further compound the problem for those states having large numbers of bridges in their systems. There are over 6,500 bridges in the State Highway System in Arkansas, most of which have a load limit capacity much less than the existing gross weight limit of 73,280 pounds. These bridges could possibly be overstressed by as much as 30 percent and still perform safely for a time, but the remaining service life of the structure would be greatly reduced. Since there is no economically feasible method of increasing the load carrying capability and alleviating the fatigue problems of these existing structures, a weight increase would reduce the service life, accelerate fatigue and require massive structural improvement or replacement of the 700 Interstate bridges, 2,376 Primary bridges, and 3,463 Secondary and Non-aid bridges in the State. Present forecast replacement schedules for bridges would have to be set aside, since their replacement would necessarily be required much sooner than presently scheduled. When one

recalls the bitter controversy over bridge design loadings for the Interstate System in the late fifties, one can only view with extreme alarm this potential proliferation of today's already critical bridge situation.

Fifth, at present rates, Arkansas State revenues, even when coupled with Federal-Aid and Federal Revenue Sharing monies, will accomplish only 42%-55% of the State's critical highway needs. This threat to adequate highway transport in Arkansas was confirmed by a recent study conducted in September of 1978 for the ten-year period, 1979-1989, by R. J. Hansen Associates, Inc., consultants employed by the Arkansas Legislative Council pursuant to Interim Resolution No. 77-27. Increasing highway usage, the application of higher design standards, and more recent unit cost data reflecting both inflationary factors and technological change cause substantial increases in the estimated costs to meet anticipated needs under the Consultant's study. Due to increasing travel on Arkansas highways, the revenue projections over the ten-year period were increased; however, even with that increased revenue and the additional revenue generated by the action of the 72nd General Assembly in 1979, the State will still show a ten-year deficit of almost three billion dollars.

Sixth, public discussion of the economics of highway transport of goods is essentially incomplete, since the basic premise of the discussion is the continuation of the existing inequities in the trucking industry's cost contribution for the physical plant, i.e., the highways. As long as the present failure of the industry to meet its fair share of the facilities' cost continues in its varying degrees among the several states, any relinquishment by the states of their power to fix lawful gross weight limits lacks merit.

In conclusion, the Federal-Aid Highway Amendments Act of 1974 made maximum weight limits voluntary on the part of each State according to its needs and in recognition that an arbitrary mandatory limit would impose severe hardships in many states due to highway conditions, financial situations, existing state laws, and revenue production problems.

Eight states and the District of Columbia have chosen this Section 106 option to protect their highway systems from increased damage and their public investment therein from extravagant abuse. Several states

have even urged that the Federal-Aid Highway Amendments Act of 1974 be amended to lower the Federal limit to the former 73,280-pound level for the gross weight maximum. The severe weather of recent winters has given greater emphasis to the importance and the basic cause of this situation.

In Arkansas we see no lessening of the forthright reasonableness of this argument. It seems no less debatable than when it prevailed in 1974. It may even be more compelling today in light of the strange paradox between arguing for truck deregulation and at the same time suggesting mandatory increases in weight maximums, in effect, a two-pronged attack upon a State's ability to protect and preserve its investment in its highways, roads and bridges--fiscally and physically!

The Arkansas State Highway and Transportation Department and the Arkansas State Highway Commission feel that a mandatory federal limit is not in the best interest of the State of Arkansas and a decision to increase legal weight limits should remain the prerogative of the States.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
TRUCK WEIGHT FACTS
1979

1. The Federal-Aid Highway Amendments Act of 1974 permits states to increase truck weights on the Interstate Highway System to 20,000 lbs. on single axle (now 18,000); 34,000 lbs. on tandem axle (now 32,000) and 80,000 lbs. gross weight (now 73,280). This is permissive legislation and only applies to the Interstate System.
2. Highways are for all road users and the trucking industry provides a vital function for the State's economy; however, the public's \$2.2-billion investment in its 15,997-mile highway system including 6,539 bridges must be protected.
3. An engineering study shows that if weights are increased to 80,000 lbs. they would reduce the pavement life of the 532-mile Interstate Routes by 1/10, the 5,337-mile Primary System by 1/3 and the 10,128-mile Secondary and Non-aid Systems by 1/2.
4. Two of every three bridges are not adequate for today's standards. Many are posted for only three tons. A weight increase would reduce the service life, accelerate fatigue and require massive structural improvement or replacement of the 700 Interstate bridges, 2,376 Primary bridges and 3,463 Secondary and Non-aid bridges.
5. Many of the 6,539 bridges are unsafe to accommodate school buses loaded with children. At such bridges drivers usually require children to unload and walk across then reload on the other side. About 265 of the bridges are only one-lane wide and an additional 618 are 20 feet wide or less.
6. A recent Highway Needs Study conducted by R. J. Hansen and Associates for the Legislative Council showed that \$5.67-billion would be needed during the next 10 years to preserve and protect the existing Highway System under present weight limits and conditions while only \$2.37-billion is estimated to be available. This leaves a deficit of \$3.30-billion or \$330-million per year.
7. A study on the Interstate System has determined that \$21-million per year will be required to maintain and improve its 532-route miles for current loads. An increase to 80,000 lbs. would require \$23-million per year, or an additional \$2.0 million per year.
8. To accommodate 80,000 lb. loads on the 5,337-mile Primary System would require an immediate expenditure of \$235-million for improving 2,750 miles. Of this, \$44-million is the additional cost to accommodate 80,000-lb. rather than 73,280-lb. loads. An additional \$30-million annually would be required to maintain and improve the remainder of the Primary System to accommodate 80,000 lbs.

9. On the Secondary and Non-aid Systems (10,128 miles) an annual expenditure of an additional \$27.0-million will be required to accommodate 80,000-lb. loads.
10. An increase in single axle load from 18,000 lbs. to 20,000 lbs. (11%) causes a 52% increase in road damage.
11. It takes 6,075 cars to do the same road damage as one 73,280 lb. truck. During F.Y. 1979, a 73,280 lb. truck traveling 100,000 miles during the year would have paid \$3,517 in fuel taxes and fees while the 6,075 cars would have paid \$4,078,670 (1,160 times greater) in fuel taxes and fees. Although an 80,000 lb. truck would be equivalent to 8,725 cars, the cars would have paid 1,594 times more in fuel taxes and fees.
12. Registration fee revenues for 1978 was \$41,886,788. Of this total the 9,142 trucks registered for 73,280 lbs. paid \$4,919,451 or 11.7% of the total.
13. Diesel fuel sales for 1978 amounted to only 13.9% of total fuel sales. An increase of one cent per gallon in diesel fuel would produce less than \$2.1-million per year.
14. Only huge trucks with axle spacing between tandems of at least 36 feet to comply with Federal law would benefit from an increase to 80,000 lbs. These big trucks would have paid only \$157 extra during F.Y. 1979 if the registration fee had been increased from \$11 to \$12 per thousand. This would have amounted to only \$1,435,294 during F.Y. 1979 even if all of the 9,142 big trucks registered at 73,280 lbs. would have registered at 80,000 lbs.
15. Trucks registered at 73,280 lbs. amount to 2.0% of all registered trucks and only 0.56% of all registered vehicles in the State. However, all motorists would be required to pay for damage created by these heavy trucks.
16. Increasing length of combination of truck-tractor and semi-trailer in excess of 60 feet creates safety problems. The national policy of the American Association of State Highway and Transportation Officials in cooperation with the Federal Highway Administration specifies 55 feet maximum.
17. The 1976 Federal-Aid Highway Act contained permissive legislation to permit a bus having a width of 8-1/2 feet to travel only on the Interstate Highway System and only where lane width is 12 feet or more.
18. Conservation of energy has been used as a major reason for increasing truck weights. However, truck speeds continue to increase. The Federal Highway Administration has conducted studies with two independent trucking companies on fuel consumption at different speeds for different trucks, loads, and trip lengths. Each truck consumed less fuel at 50 mph than 60 mph.

19. Additional maintenance from reduced road life due to weight increase is 100% State cost since Federal funds cannot be used for maintenance. Also due to the realignment of Federal-Aid Systems required by Congress, Arkansas had a 40% loss in the Rural Federal-Aid System mileage. This means the reconstruction and rebuilding costs for these "dropped" roads must all be paid with State funds. The lost mileage is no longer eligible to compete for the same Federal funds as before.
20. Section 161 "Vehicle Weight-Interstate" of the Surface Transportation Assistance Act of 1978 directed the Secretary of the Department of Transportation to make a study of the need for and desirability of uniformity of maximum truck size and weight limits throughout the United States; the effects on construction and maintenance costs of increased weights; adequacy of current highway and bridge standards considering costs, economy and energy. The Secretary is to report results to Congress by January 15, 1981.
21. Section 506 "Requirements for a Cost Allocation Study" of Title V of the Highway Revenue Act of 1978 directed the Secretary of the Department of Transportation to undertake a study of costs occasioned in design, construction, rehabilitation and maintenance of Federal-Aid highways by use of vehicles of different dimensions, weights, and frequency of such vehicles; the proportionate share of costs of each class of vehicle; the need for continuous monitoring of road deterioration to detect relative damage attributable to traffic and environment factor. The Congressional Budget Office is to make an evaluation of procedures in determining equitable allocation of highway costs, etc. and prepare progress reports by January 15, 1980 and 1981, and report findings and recommendations by January 15, 1982.
22. Studies by Oregon, Virginia and the Federal Highway Administration indicate that the percent of Motor Vehicle User taxes paid by heavy vehicles should be in the range of 34% to 37% to prorate cost responsibility for damage by heavy vehicles. In Arkansas heavy vehicles pay less than 25%. (See Items No. 10, 11 & 12).

Prepared: AHTD:P&R:Fin&Ec:Jul79.

"A STUDY OF THE EFFECTS
OF PROPOSED WEIGHT LIMIT INCREASE
ON ARKANSAS HIGHWAYS"

Prepared by
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
Division of Planning and Research

July 1979

INTRODUCTION

During the past few years, the trucking industry and affiliated organizations have established a concentrated effort to increase the maximum allowable gross truck weight. During this time, various transportation organizations have conducted numerous studies and written many reports concerning the effects of such an increase. Based on these reports and on past experiences with repeated heavy loadings, the Arkansas State Highway and Transportation Department feels that an increase in truck weight will have a detrimental effect on the State's highways. Mr. Charles F. Scheffey, Acting Associate Administrator for Research and Development, FHWA, in a report entitled, "Summary and Assessment of Sizes and Weights Report" states, "while the Sizes and Weights Report demonstrates substantial economic benefits with higher weight limits, any substantial increase in legal loads without a massive program to update, monitor, and maintain the highway system would create disastrous effects in many States". This report is an attempt to present evidence that Arkansas is such a state.

PART I
EFFECT ON PAVEMENTS

An increase in truck load limits will have an adverse effect upon the present state highway system. The Arkansas State Highway System was not designed for trucks heavier than those presently using the highways. Increasing the legal load limits will necessitate the upgrading of the structural strength of the present highway system and the re-design of those presently being planned. Existing highways and those presently under construction will have to be reconstructed in some way to improve their structural strength. Reconstruction of the highway system is an ongoing process in maintaining the system's integrity, but the increase in the legal load limit of trucks will decrease the expected life of the present system, and require planned reconstruction projects to be moved forward due to the loss of pavement life.

The Asphalt Institute's procedure for determining remaining service life is set forth in Manual Series No. 17 "Asphalt Overlays and Pavement Rehabilitation". The effect on the service life of the existing system due to an increase in load limits can be illustrated by examples based on procedures found in this manual. These tables show, respectively, the expected loss of pavement service life due to increased truck weights for primary highways, secondary highways, and concrete highways. In this example primary highway refers to a high-type bituminous pavement designed for large traffic volumes. Secondary highway refers to a low-type pavement designed for small traffic volumes. Concrete highway refers to all highways using portland cement concrete for its pavement structure. In Tables 1 and 2, all variables concerning the pavement system are held constant while only the truck weights are changed. The numbers used are reasonable values for both primary and secondary facilities within the state.

Step no. 1 in the sloution shown in Tables 1 and 2 involves simply multiplication of the IDT by the percentages of heavy trucks in the traffic stream and in the design lane. This number is the number of heavy trucks in the design lane.

Step no. 2, ITN, is taken from a nomograph on page 25 of the above referenced manual.

Step no. 3, DTN, is again taken from a nomograph. The nomograph is on page 46.

Step No. 4, ITN Adjustment Factor is DTN/ITN .

Step no. 5, Years to Overlay, is taken from page 26 in the manual. In most cases interpolation is necessary.

TABLE 1 - Loss of Remaining Service Life of a Primary Highway

Case I - Present Load Limits	Case II - Proposed Load Limits
Assumptions:	
Initial Daily Traffic (IDT) = 5000 veh.	IDT = 5000 vehicles
California Bearing Ratio (CBR) = 8	CBR = 8
% Trucks in Design Lane = 60	% Trucks in Design Lane = 60
% Trucks in Traffic Stream = 15	% Trucks in Traffic Stream = 15
Average Growth Rate = 4%	Average Growth Rate = 4%
Average Effective Pavement Thickness = 9 in.	Average Effective Pavement Thickness = 9 in.
Legal Single Axle Load = 18,000 lbs.	Legal Single Axle Load = 20,000 lbs.
Maximum Legal Weight = 73,280 lbs.	Maximum Legal Weight = 80,000 lbs.
Solution:	
(1) No. of heavy trucks = $5000(.60)(.15) = 450$	(1) No. of heavy trucks = 450
(2) Initial Traffic No. (ITN) = 800	(2) ITN = 1400
(3) Design Traffic No. (DTN) = 900	(3) DTN = 900
(4) ITN Adjustment Factor = $\frac{DTN}{ITN} = 1.125$	(4) ITN Adj. Factor = $\frac{DTN}{ITN} = 0.643$
(5) Estimated years before overlay = 16.37	(5) Estimated years before overlay = 10.57
Loss of remaining service life = $\frac{(16.37 - 10.57)}{16.37} 100 = 35.4\%$	

Table 2 - Loss of Remaining Service Life of a Secondary Highway

Case I - Present Load Limits	Case II - Proposed Load Limits
Assumptions:	
IDT = 1000 vehicles	IDT = 1000 vehicles
CBR = 7	CBR = 7
% Trucks in Design Lane = 60	% Trucks in Design Lane = 60
% Trucks in Traffic Stream = 15	% Trucks in Traffic Stream = 15
Annual Growth Rate = 4%	Annual Growth Rate = 4%
Average Effective Thickness = 7"	Average Effective Thickness = 7"
Single Axle Load Limit = 18,000 lbs.	Single Axle Load Limit = 20,000 lbs.
Maximum Load Limit = 73,280 lbs.	Maximum Load Limit = 80,000 lbs.
Solution:	
(1) No. heavy trucks = 90	(1) No. heavy trucks = 90
(2) ITN = 140	(2) ITN = 260
(3) DTN = 35	(3) DTN = 35
(4) ITN Adj. Factor = 0.250	(4) ITN Adj. Factor = 0.135
(5) Years to overlay = 5.00	(5) Years to overlay = 2.32
Loss of remaining service life = $\frac{(5 - 2.32)}{5} 100 = 53.6\%$	

Remaining service life of concrete pavement also shows a decrease when the loads are increased. The method of graphically expressing this loss of service life, however, is different from the method used for bituminous pavements.

The method shown in Table 3 is based on an equation found in the HRB Special Report No. 73, "The AASHO Road Test: St. Louis Conference Proceedings", page 307. The equation and definition of terms is as follows:

$$\log W = 7.35 \log (DT) - 0.06 + (DT)^{8.46} \log \left(\frac{4.5 - \text{psi}}{3} \right) / (DT)^{8.46} + 16,197,000$$

where DT = pavement thickness + 1.0

W = no. of axle load applications required to reduce the serviceability index from 4.5 to psi.

Substitution of various values of W into this equation established the curve plotted in Figure 1. Inspection of this curve reveals that this terminal PSI of 2.0

is reached at $W = 16.5$ million. This terminal PSI is generally considered to be the point in time at which some type of pavement rehabilitation is needed.

Table 3 uses the above equation and equivalent axle load factors (EAL) also found in Special Report No. 73. Use of these factors results in the number of vehicles required to reach the terminal PSI.

Table 3 - Loss of Remaining Service Life of Concrete Pavement

Case I - Present Load Limits	Case II - Proposed Load Limits
Assumptions:	
40% of Trucks as Single Unit Trucks w/ EAL = 0.82	40% of Trucks as Single Unit Trucks w/ EAL = 0.91
60% of Trucks as Combinations w/ EAL = 3.06 (Avg.)	60% of Trucks as Combinations w/ EAL = 3.25 (Avg.)
Solution:	
No. of vehicles required to reach PSI = 2.0	No. of vehicles required to reach PSI = 2.0
$0.4 \frac{1.65 \times 10^7}{0.82} + 0.6 \frac{1.65 \times 10^7}{3.06}$	$0.4 \frac{1.65 \times 10^7}{0.91} + 0.6 \frac{1.65 \times 10^7}{3.25}$
= 1.13×10^7 vehicles	= 1.03×10^7 vehicles

A decrease in the no. of vehicles required to reach PSI = 2.0 will be in direct correspondence with a loss of remaining service life.

$$\text{Decrease} = \frac{1.13 - 1.03}{1.13} \times 100 = 8.8\%$$

These tables show that a very significant loss of remaining service life can be expected with an increase in the legal maximum truck load limits. These losses in service life necessitate an increase in highway expenditures for reconstruction and overlay to compensate for increased loadings.

PART II

EFFECT ON TEN YEAR PROGRAM BUDGET

The increase in the ten year program budget required is shown in Table 4. The total figures shown for each system (interstate, primary, secondary) are taken from the FY 80 to FY 89 budget. These totals are then allocated according to the percentage of total construction funds obligated to each system. These figures, in turn, are increased by the same percentage as the loss of service life. These percentages are as follows: Interstate - 8.8%, Primary - 35.4%, Secondary - 53.6%. All numbers are expressed in thousands of dollars.

Table 4 - Present Ten-Year Budget vs. Increased Ten-Year Budget

SYSTEM	RECONSTRUCTION		RESURFACING		STRUCTURES	
	Present	Increased	Present	Increased	Present	Increased
Interstate	\$ 12,000	\$ 13,164.8	\$ 16,200	\$ 17,625.6	\$ 1,500	\$ 1,632
Primary	144,885	196,174.3	276,980	375,030.9	146,435	198,273
Secondary	91,705	140,858.9	161,410	247,925.8	58,340	89,610.24
Totals	\$248,690	\$350,198	\$454,590	\$640,582.3	\$206,275	\$289,515.2

Present Budget for all Improvements = \$909.6 million

Increased Budget for all Improvements = \$1.280 billion

$$\% \text{ Increase} = \frac{\$1,280 - \$909.6}{\$909.6} = 40.7\%$$

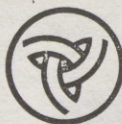
The figures in Table 4 indicate that an increase in the improvement budget during the next ten years will amount to 40.7% to compensate for an increase in truck weights. This is a monetary increase of \$370.4 million for the next ten years alone or an average of \$37 million per year based on 1978 dollars. This

analysis includes only projects now planned; these planned projects affect only 14% of the total paved system within the State. This analysis does not account for the increased costs of new construction if redesigned for increased load limits.

PART III

CONCLUSIONS

1. An increase in the allowable maximum gross truck weight will cost the State approximately \$370.4 million dollars over the next ten years (1978 dollars) for planned projects alone.
2. The budgeted amount for all improvements over the next ten years will need an increase of approximately 40.7% based on 1978 dollars.
3. The Arkansas State Highway and Transportation Department cannot afford such an increase in allowable truck weights.



Illinois Department of Transportation

Office of the Secretary
2300 South Dirksen Parkway / Springfield, Illinois/62764
Telephone 217/782-5597

October 17, 1979

Mr. Henrik E. Stafseth
Executive Director, AASHTO
444 North Capitol Street, N.W.
Suite 225
Washington, D. C. 20001

Dear Mr. Stafseth:

Thank you for your letter of October 5, 1979, regarding the hearing scheduled for October 25, 1979, by the Subcommittee on Transportation, of the Senate Environment and Public Works Committee, to address the issue of truck size and weight legislation.

Enclosed for your information is a copy of a paper that was presented at the U. S. Department of Transportation Truck Size and Weight Study Public Meeting held in Chicago on July 13, 1979. This paper outlines the position of the Illinois Department of Transportation in opposition to increasing truck gross weights to 80,000 pounds.

Thank you for the opportunity to provide this information. Please contact us if you have any further questions regarding our position.

Sincerely,

John D. Kramer

John D. Kramer

Enc.

TESTIMONY BY
JOHN D. KRAMER
ILLINOIS SECRETARY OF TRANSPORTATION

FOR THE USDOT
TRUCK SIZE AND WEIGHT STUDY
PUBLIC MEETING

CHICAGO, ILLINOIS
JULY 13, 1979

Illinois Testimony for the US DOT
Truck Size and Weight Study

I would like to express my appreciation at being able to testify at this public meeting on the US DOT Truck Size and Weight Study. Illinois is vitally interested in the subject of greater uniformity in truck weight and size limits among the states and, more specifically, what the maximum limits should be.

Illinois recognizes the benefits that uniform maximum truck weight and length limits would provide to the trucking industry. We are sympathetic to the difficulties experienced by interstate truckers and fully support the concept of uniformity in various traffic laws among the states where practical and reasonable. There are substantial differences, however, among the states in climate, soil conditions, age of highway system, traffic volumes, and the mix of autos and trucks, so that uniform highway design and operating standards are not rational in all cases.

Illinois urges that maximum truck weight limits be established that strike a reasonable and equitable balance between costs and benefits. Illinois believes that an 80,000 pound gross weight limit is not economically justified. Increasing truck weights from 73,280 to 80,000 pounds will cause greatly increased damage to Illinois highways. Much of our highway system, and our Interstate system in particular, is already in poor condition and deteriorating much faster than it can be repaired using available federal and state funds.

Illinois has been actively seeking to increase state revenue for highway programs, since, like many other states, we have been caught between skyrocketing road repair costs and falling user tax revenues. Unfortunately, several revenue initiatives failed to gain legislative support, so we are facing a serious shortage of highway program funding. Thus increased highway repair and maintenance costs resulting from higher truck weights would be added to a serious backlog of needs at a time when available state funding has dropped dramatically. Illinois is aware that recently-proposed federal legislation would force states to adopt 80,000 pound weight limits. We oppose this mandatory approach, especially if no additional funds are provided to assist states in paying for the increased highway damage that this limit causes.

Illinois has consistently opposed weight limits higher than the 73,280 pounds since the federal limits for the Interstate system were increased in 1973. Heavy trucks already cause a greatly disproportionate amount of damage, and higher weights would exacerbate the deterioration problems. The American Association of State Highway Officials (AASHO) Road Test conducted in Illinois from 1958 through 1960 showed that the pavement damage caused by one 80,000 pound truck equals that of 10,000 cars. Outrageous as this may sound, this fact was substantiated by extensive field testing of the effects of vehicle weights and volumes on pavement structures.

These test results are generally accepted worldwide as the most realistic and comprehensive available. The AASHTO Road Test disclosed that on concrete pavements, a 20,000 pound single axle load is 1.6 times more damaging than an 18,000 pound single axle load and that a 34,000 pound tandem axle load is 2 times more damaging than an 18,000 pound single axle load. In short, there is a significant geometric escalation in road damage as axle weights increase.

Based on actual Illinois loadometer and traffic count data, the Illinois Department of Transportation has determined that an increase in maximum gross truck weight from 73,280 to 80,000 pounds would reduce Interstate pavement service life in Illinois by at least 17 per cent. In addition to having to rehabilitate existing pavements sooner, pavement thickness would have to be increased to accommodate the heavier vehicles. This would drive up Interstate rehabilitation costs by \$36 million over the next four years. Illinois' Interstate rehabilitation needs are already significant -- 185 miles of deteriorated pavement, at an estimated repair cost of \$275 million over the next four years. By comparison, federal funding available to Illinois under the Interstate Resurfacing, Restoration and Rehabilitation (3R) program amounts to only \$7 million annually. Thus Interstate 3R funding is totally inadequate to keep up even with current deterioration.

In addition to increased rehabilitation costs, Interstate maintenance costs would rise nearly \$3 million annually over present levels as a result of heavier trucks. Compounding all of these problems is the fact that new federal Interstate maintenance standards will be imposed for Fiscal Year 1980. Failure to meet these standards will result in a 10 per cent reduction of all highway apportionments, making it even more difficult to finance needed repairs.

Much of Illinois' Interstate system is relatively old and thus was not designed to handle the increase in the number of trucks that has occurred over the last 15 years or an increase in weight over the 73,280 pound level. The higher truck weights cannot be practically limited to the Interstate system, since trucks have to pick up and deliver freight to shippers located throughout the State. The non-Interstate system is even less capable of carrying the larger vehicles and would be more susceptible to deterioration.

There are a number of potential safety problems associated with higher weights that need to be resolved. Some research has indicated that fatal accidents may increase with a greater number of heavier trucks on our highways when at the same time, automobiles are becoming smaller and lighter. The heavier gross truck weights imply higher weights on the steering axle. Some studies have indicated that this results in decreased stability in tractor/semitrailers and also that it causes greater driver effort to control the truck, leading to more rapid driver fatigue.

Illinois considers it ironic that heavier truck weights are being suggested in order to save energy, when this could well shift freight traffic from more energy-efficient railroad transport.

Illinois is aware that a number of federal legislative proposals have been introduced to force increased weight limits on those states which have not adopted the federal maximum limits. Illinois opposes the concept of the federal government mandating standards on states, as well as the higher weight limits themselves. If the federal government does impose the federal limits on the states, Illinois feels strongly that additional federal funds should be made available to help pay the increased costs of repairing the highways.

One means of generating new revenue to provide additional funds to the states, consistent with the established user fee concept, would be to increase federal taxes on trucks. This would have a secondary benefit of offsetting the competitive shift from railroads to trucks resulting from the increased weight limits. We recognize that trucks already pay significant state and federal road-related taxes and fees. However, test results make it clear that these taxes and fees do not come close to paying for the actual costs of the damage done, and realistically, it would be impractical to expect them to do so.

Another means of providing federal funds for Interstate pavement rehabilitation would be to increase the flexibility of certain categorical highway programs to permit their use for this type of work.

In summary, Illinois fully endorses the concept of uniform truck weight limits nationwide, but at limits that are reasonable and equitable for all highway users. From Illinois' perspective, increasing truck weight limits from 73,280 to 80,000 pounds on the Interstate system would be very harmful. Our Interstate highways are deteriorating more rapidly than anticipated, partly as a result of high volumes of heavy trucks. We cannot afford to rehabilitate them as fast as is needed at the present, and the increased costs associated with higher weights would exacerbate this problem. Higher weights could also adversely affect safety and the competitive balance between trucks and railroads. Illinois opposes the imposition of higher limits on the states by the federal government, and particularly so without any compensating new funding or funding flexibility to pay for the increased pavement and bridge damage caused by higher truck weights.

STATE OF INDIANA

INDIANA STATE HIGHWAY COMMISSION

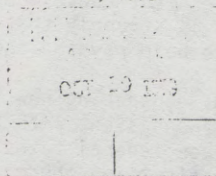
100 North Senate Avenue
Indianapolis, Indiana 46204



INDIANAPOLIS

Room 1101, State Office Building
317-633-5816

October 19, 1979



Henrik E. Stafseth
Executive Director
American Association of State Highway
and Transportation Officials
444 N. Capitol Street, N.W. Suite 225
Washington, D.C. 20001

Dear Mr. Stafseth:

The issue of truck size and weight legislation has been thoroughly discussed from almost every point of view. Therefore, in answer to your letter of October 5, 1979, I will be as brief as possible.

In direct response to the question of why Indiana has not increased its weight limits, the Indiana General Assembly has rejected every recent proposal to raise the weight limits in Indiana to the Federal maximum allowable of 80,000 pounds. It has been the Indiana State Highway Commission's testimony in each instance that increased highway revenues will be necessary to maintain the highway system with increased weight limits. These proposals coming during a time when the energy crisis and inflation have reduced the value of the highway maintenance dollar, has focused more attention to the maintenance problem of increased weight limits. It is our belief that these are the main factors that have influenced the defeat of all increased weight proposals. However, there can be no doubt that the Indiana General Assembly found that the detrimental effects of increased truck weight limits outweigh the benefits for the State of Indiana.

It is our contention that the question of raising size and weight limits should remain the option of the individual states. Since 1956 Indiana has, in good faith, been agreeing to maintain highways limited by the Federal Government to design based on existing legal weight limits. During this period of time the Federal share of highway expenditures in Indiana has been more than half a billion dollars less than Indiana has contributed to Federal Aid Highway Funds. Considering this fact it would certainly be an act of bad faith for the Federal Government to impose a higher maximum weight limit on Indiana highways without paying the cost of design and construction for upgrading.

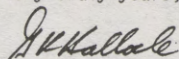
The total issue which has become the focus of national attention, is the desirability of uniform maximum size and weight limits for trucks, and at what level these limits should be set.

Indiana is strongly in favor of uniformity of maximum truck size and weight limits to the degree that it can be accomplished by cooperation among the states. However, we are adamantly opposed to any federally imposed uniformity. We have spoken and written on this subject numerous times, including my letter to you of March 9, 1978 concerning a legislative proposal being considered by the Weights and Means Oversight Committee.

One additional factor which has not been discussed in the past is tort liability. Due to a recent court decision in Indiana, an increase in the legal truck size and weight limits would make the existing design of the entire highway system in Indiana obsolete. Design liability is a matter of great concern. However, this decision is recent enough that we have no experience to base an estimate of the ultimate impact.

Thank you for this opportunity to express Indiana's viewpoint.

Very truly yours,

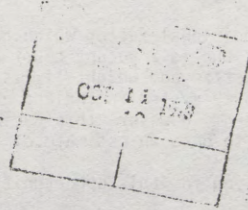

for ROGER F. MARSH
Executive Director

RFM/WTM/cb

Mississippi
State Highway Department
Jackson

John R. Tabb
Director

October 9, 1979



Mr. Henrik E. Stafseth, Executive Director
American Association of State Highway and
Transportation Officials
444 N. Capitol Street, N. W., Suite 225
Washington, D. C. 20001

Dear Mr. Stafseth:

Maximum vehicle sizes and weights have been a matter of concern in Mississippi for the past several years. Bills for weight increases have been filed in every legislative session since enactment of the authorizing Federal Act in 1974.

In 1976 the Legislature directed us to make a detailed study of the weight question as it related to the movement of goods and effects upon Mississippi's highways. A copy of the report is attached for your benefit.

Basically, the problem in our State is economics and from our findings I must wonder if those states that rapidly adopted weight increases truly reviewed their highway status prior to their action. For instance, Mississippi's highway system encompasses some 4400 bridges of which about 3200 are of an H15 or less design. There are, of course, the older structures in the State and most will reasonably accommodate the proposed weight standards if we accept the 30% overstress. However, on our primary system alone we have identified some 600 bridges on which we simply cannot tolerate any additional weights. These structures are of an age and design to render strengthening impractical or impossible and their replacement is the only means to allowing more weight. The cost for this will be \$312 Million.

Additionally, this data only applies to the bridges on the State's system. There are another 18,000 bridges on the locally maintained road systems. At best, the local structures will have a makeup similar to the State's but I suspect an even greater percentage of the lower design bridges.

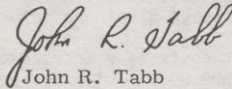
We have advised our Legislature that we would post weight limits on these bridges in the event of vehicle weight increases, but I do not consider this to be a solution since, short of placing an officer at every site, enforcement of the posted limits would be impossible.

I cannot conceive of the bridge problem being Mississippi's alone. There is currently a great hue and cry about the status of the nation's bridges and I am aware of statistics that indicate as many as 407,000 bridges still in service in this country were built prior to 1935.

In addition to the bridges, there will be additional roadway costs occasioned by a vehicle weight increase. Unquestionably, deterioration of the pavements will accelerate. Were Mississippi to embark on a program of upgrading its pavements to provide a system properly engineered for the heavier loads, the cost on the primary system would amount to \$228 Million. Further, new road construction costs would increase by \$12,500 per two-lane mile. We have never suggested that the State upgrade the roads. Rather, we have proposed an intensified maintenance program, estimated at an additional \$7 Million annually, to offset the increased pavement wear.

As initially stated, Mississippi's problem is economical. Logically, additional costs attributable to raising vehicle weights would be assessed to those benefitting from the action--the truckers. However, with increased construction costs, increased maintenance costs and bridge replacement costs occurring at the same time that all other operating costs are inflating wildly, we have to consider if we might have finally found the mythical last straw.

Sincerely,



John R. Tabb
Director

JRT:RLH:lb

Attachment

*Mississippi
State Highway Department
Jackson*

John R. Tabb
Director

January 30, 1979

Members of the Mississippi Legislature
New Capitol Building
Jackson, Mississippi 39205

Gentlemen:

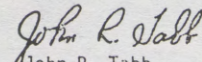
We are now in the third year of using the cost data relative to the impacts of increase vehicle weights furnished you in our report of November, 1976. Since that time, as with all elements of the economy, costs for highway functions have increased. Accordingly, I instructed our staff to update our report to reflect today's dollar values.

Attached are revised data for pages 56 and 57 and should be used in lieu of those in the report. Please note that our current estimate for increased maintenance expenses is \$7,000,000.00 for roadways only. Increased bridge maintenance costs cannot be predicted.

Additionally, in the interim, structure costs have risen some 14% so that the total cost to replace the bridges cited in the report will be some \$311,790,000.00 (page 51 of the report).

Likewise, pavement costs have increased by 25% and we now estimate an additional cost of \$12,500.00 per mile for new locations and \$30,000.00 to \$60,000.00 per mile for existing locations to accomodate the increase loads (page 49 of the report).

Very truly yours,


John R. Tabb
Director

RLH:JRT:vcd

Attachments

REVISED DATA AND STATEMENT ON PAGES 56 AND 57

The following increased percentages of maintenance activities are directly related to increased truck weights. These percentages were established by the Highway Department engineers using their engineering judgement and studies conducted by many other states.

1. Bituminous Surface Maintenance	60%
2. Concrete Surface Maintenance	50%
3. Gravel or Shell Surface Maintenance	10%
4. Shoulder and Approach Maintenance	45%
5. Drainage Maintenance	10%
6. Roadside Maintenance	6%
7. Structure Maintenance	30%
8. General Physical Maintenance	10%
9. Traffic Service Maintenance	20%
10. Other Service	5%
11. General Functions	40%
Weighted Average for FY 78	33.22%

Thus, it is estimated that an annual increase of maintenance expenditure by 33.22% would be needed to allow the Highway Department to conduct the necessary "preventive" maintenance if the load limit increase is enacted into law. Using the Fiscal Year 1978 Highway Department Maintenance Expenditure (\$20,767,415.49) as the base, the increase means an annual additional maintenance expenditure of about \$7 million.

Of course, the critically overstressed H-10 bridges would still need to be replaced if the maintenance route is chosen as there is no convenient or economical way to strengthen a bridge with replacement being the most practical solution.

The maintenance effort output under the current expenditure level is not sufficient. As a matter of fact, the maintenance operation is considered the weakest link in the Department's total work due to insufficient funding. An analysis was made of the actual expenditures for the fiscal years 1974/75, 1975/76 and 1976/77. Inflation factors were applied to each of these fiscal years in order to arrive at a 3-year average in terms of current 1977/78 fiscal year dollars. As indicated in the revised Table 13, the actual maintenance expenditure for fiscal year 1977/78 is about \$2 million lower than the 3-year average.

Revised Table 13: Mississippi State Highway Department Maintenance Expenditures (Page 56)

MAINTENANCE ITEMS	1974/75 ACTUAL	1974/75 INFLATED (+40%)	1975/76 ACTUAL	1975/76 INFLATED (+25%)	1976/77 ACTUAL	1976/77 INFLATED (+11%)	3 Year INFLATED AVERAGE	1977/78 ACTUAL
Bituminous Surface	\$4,580,255.57	\$6,412,357.80	\$3,537,683.62	\$4,422,104.53	\$4,206,675.80	\$4,669,410.14	\$5,167,957.49	\$5,879,610.48
Concrete Surface	306,144.79	428,602.71	208,215.69	260,269.61	354,819.09	393,849.19	360,907.17	284,231.87
Gravel or Shell Surface	478,256.16	666,758.62	292,770.93	365,963.66	343,424.02	381,200.66	471,307.65	266,135.91
Shoulder & Approach	1,719,770.77	2,407,679.06	1,690,460.78	2,113,075.98	1,343,645.16	1,491,446.13	2,004,067.06	1,564,350.01
Drainage	1,562,824.98	2,188,094.97	1,642,359.93	2,052,949.91	1,289,285.13	1,431,106.49	1,890,717.12	1,044,050.76
Roadside	3,994,459.59	5,592,243.43	4,215,136.07	5,268,920.09	3,658,624.68	4,061,073.40	4,974,078.97	3,619,977.81
Structure	768,909.26	1,076,472.96	1,012,625.38	1,265,781.73	953,075.16	1,057,913.43	1,133,389.37	903,652.35
General Physical	1,115,789.59	1,562,105.43	1,148,668.49	1,436,085.61	1,334,102.29	1,480,853.54	1,493,014.86	1,406,754.43
Traffic Service	2,021,474.71	2,830,064.59	2,372,492.84	2,965,603.55	2,435,528.97	2,703,437.16	2,833,035.10	2,690,273.46
Other Service	58,714.86	82,200.80	44,306.10	55,382.63	27,139.87	30,125.25	55,902.90	45,621.32
Unusual or Disaster	(146,695.68)	(203,373.98)	113,944.44	141,330.55	49,335.92	54,762.87	(2,893.51)	81,288.81
General	1,667,647.11	2,334,705.95	1,958,677.23	2,448,346.54	2,160,345.85	2,397,983.89	2,393,678.79	2,287,000.38
Construction Engineering	46.93	65.70	120.00	150.00	5,958.17	6,613.57	2,276.43	28,833.42
Construction	22,803.89	31,925.45	314,477.56	393,096.95	81,649.58	90,631.03	171,884.48	658,107.70
Preliminary Engineering					7,824.71	8,685.43	2,895.14	7,526.78
Total	\$18,148,502.53	\$25,407,903.54	\$18,551,729.06	\$23,189,661.34	\$18,251,434.40	\$20,259,092.19	\$22,952,219.02	\$20,767,415.49

NOTE: Using 1967 as a base year, the inflation rates derived from the National Highway Maintenance and Operation Cost Trend Index are 44.2% for 1975, 29.9% for 1976 and 14.84% for 1977. The more conservative rates of 40%, 25% and 11% are used for the calculation to provide expenditures in terms of 1977/78 fiscal year dollars.

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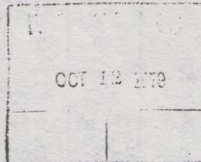
MRS. IRENE WOLLENBERG, *Secretary*

P. O. Box 270
Jefferson City, Missouri 65102
Telephone (314) 751-2551

October 9, 1979

GENERAL: AASHTO
Subcommittee on Transportation
Senate Environment and Public Works Committee
Truck Size and Weight Legislation

Mr. Henrik E. Stafseth
Executive Director
American Association of State Highway
and Transportation Officials
444 N. Capitol Street, N.W.
Suite 225
Washington, D.C. 20001



Dear Hank:

I have and appreciate your letter of October 5 advising of the coming appearance of AASHTO before the Subcommittee on Transportation to discuss truck size and weight legislation. I am pleased to furnish you information on the position of this Department on this legislation.

As you know, AASHTO and Research Board have been involved in three national road tests, the last of which was at Ottawa, Illinois, wherein we were attempting to ascertain the impacts of various axle loadings and spacings on pavements and bridges, as well as the road system. I think these road tests, and particularly the latest one at Ottawa, made it quite evident to us that the additional axle weights would, indeed, reduce the pavement life and impact bridge decks and structures. In fact, there was indication that we could expect 18 to 20 percent reduced pavement life with the 2,000-pound additional axle load over the 18,000-pound single axle and the 32,000-pound tandem axle. With this kind of information which we acquired at considerable cost and effort, it did not seem reasonable to us to accept heavier weights without exacting some recovery of the additional damage to the highway system.

You also know that prior to the action taken by the Congress in December, 1974, the 80,000-pound weights were not permitted on the Interstate System. For some years prior to that action by the Congress, we opposed legislation in our General Assembly wherein the trucking industry was trying to gain approval of 90,000-pound vehicles on other than the Interstate, and in fact, that kind of legislation was enacted in Nebraska, Kansas, and Oklahoma, which created considerable pressure. We did oppose it, however, and had good support of the people and it was not enacted.

After the Congress enacted the 80,000-pound limit on Interstates, provides the states proceeded with implementing legislation, we asked that the trucking industry agree to a 20 percent increase in fees on those trucks weights that could accommodate the additional axle loads. The 20 percent figure came from the research at Ottawa in the reduced pavement life and we thought it was logical. We realized at the time that we are talking about essentially new pavements and that we had many, many miles on the existing system that were not constructed to current standards that would be adversely impacted, but we were attempting to be fair about this thing.

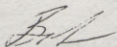
The trucking industry first opposed any increase, then offered 10 percent increase and we still opposed. They finally did agree, a few years ago, to a 20 percent fee increase and such a measure passed the Senate without our opposition, but was stopped in the Consumer Protection Committee in the House. Last year, the trucking industry introduced Legislation providing a 25 percent fee increase which again passed the Senate, but again failed to pass the House of Representatives. Some of the House members continue to feel that the truckers are still not paying a sufficient share of the cost.

I might add that part of the reason for the objection of the consumer protection people is that at one time we had a higher estimate of cost in that we considered damage to roads that have not been built to standard, and we had a higher estimate of axle load applications. We then proceeded to survey with our planning group the actual axle weights and gross loads being experienced and found that we had a considerable smaller percentage of trucks operating at maximum weights for which the trucks were licensed and we, therefore, reduced our estimate of axle applications to arrive at our present estimate of the impact of such loads.

In summary then, we are not opposing increasing the truck axle weights from 18,000 to 20,000 pounds and 32,000 to 34,000 pounds, provided the trucking industry agrees to increase the fees as they have to offset some of this additional damage and cost.

I trust that this will be of some benefit to you as you proceed with those hearings.

Kind personal regards,



Robert N. Hunter
Chief Engineer

AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS

ROGER L. MALLAR, President
Commissioner
Maine Department of Transportation



EXECUTIVE OFFICE
444 N. Capitol Street, N.W., Suite 225
Washington, D. C. 20001
Telephone (202) 624-5800

October 25, 1979

The Honorable Lloyd Bentsen, Chairman
Senate Subcommittee on
Surface Transportation
Senate Committee on Environment & Public Works
Senate Office Building
Washington, D. C. 20510

Dear Mr. Chairman:

When AASHTO appeared before your Committee this morning, we asked that statements from the States of Arkansas, Illinois, Missouri, Mississippi and Indiana be made a part of the record. We have subsequently received a copy of a letter directed to our office by the Iowa Department of Transportation which I would also like to have included in the record.

The Iowa letter, I feel, reinforces the point made by Mr. Mallar in his testimony this morning that if the truckers were to work with the few remaining States which have not raised their truck limits, and that in working with the States they would offer their good offices to ensure that adequate costs associated with increased truck weights were offset, they would find sympathetic consideration in those States.

Sincerely,

Henrik E. Stafseth
Henrik E. Stafseth
Executive Director

HES:HJR:mh
Encl.



Department of Transportation

STATE CAPITOL

DES MOINES, IOWA 50319

October 22, 1979

REF. NO 700.010

Mr. H. J. Rhodes, Deputy Director
American Association of State Highway
and Transportation Officials
444 N. Capitol St., N.W., Suite 225
Washington, DC 20001

Dear Mr. Rhodes:

In response to your request for information for your testimony on the truck weight and size legislation issue before the Subcommittee on Transportation of Senate Environment and Public Works Committee, the situation in Iowa is as follows:

The matter of increased truck size and weight is a legislative issue that has been before the state legislature the past two sessions without any action being taken. We are certain the matter will come up again in the next legislative session that starts January 1, 1980.

The Iowa Department of Transportation has conducted extensive studies on the impact of increased truck weight on Iowa, and we recognize that there are economic benefits to be gained for the state of Iowa from higher weight limits. In addition, there would be fuel savings realized from increased efficiency in the truck fleet, an important consideration today with the short supply of fuel. However, there are also costs associated with increased truck weight from increased highway wear. We have calculated this to amount to approximately \$12 million per year.

The Iowa DOT's position is, therefore, that we support increasing the state's weight limits on all Iowa highway systems to the federal maximum permitted on the Interstate System, provided that the increased highway wear cost is recovered from increased user fees on the trucks that benefit from the increased weight limits.

We also support increasing the tractor semitrailer length limit from 55 feet to 60 feet in order that these units can take full advantage of the 80,000-lb. gross weight limit and be in compliance with the federally modified bridge formula.

In order to alleviate some of the impact of the shortage of diesel fuel supply, Iowa has issued special emergency overweight permits allowing trucks to carry

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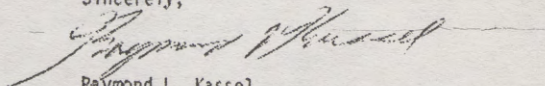
ROBERT A. RIGLER
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BRUCE M. VAN DRUPP
Pella

up to 80,000 lbs. gross weight on all state routes since June 15 of this year. The permits expire December 31, 1979. To date, approximately 5,400 of these permits have been issued.

I hope this information will be useful to you. If you need any further information, please let me know.

Sincerely,

A handwritten signature in dark ink, appearing to read "Raymond L. Kassel", with a long horizontal flourish extending to the right.

Raymond L. Kassel
Director

RLK:mm

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

ROGER L. MALLAR, President
Commissioner
Maine Department of Transportation



EXECUTIVE OFFICE
444 N. Capitol Street, N.W., Suite 225
Washington, D. C. 20001
Telephone (202) 624-5800

November 13, 1979

The Honorable Lloyd Bentsen, Chairman
Senate Subcommittee on Transportation
Senate Committee on Environment and Public Works
4204 Senate Office Building
Washington, D. C. 20510

Dear Senator:

I am responding to your letter of November 8th, also signed by Senators Pressler and Stafford. In this, you directed a series of six questions to AASHTO to supplement our testimony of October 25, 1979.

Your first question is, "How would an 80,000 pound federally mandated truck weight standard affect highway maintenance costs in States where the lower weight limit is currently retained?"

A recent report of the National Cooperative Highway Research Program (NCHRP) identified a one time \$2 billion expenditure to maintain present pavement surfaces on arterial highways. This \$2 billion is a conservative estimate in that it assumes that no bridges will have to be replaced and this is, obviously, an incorrect assumption as previous testimony before your Subcommittee, and the annual reports to Congress from the Department of Transportation, indicate. There is an additional problem area in that according to the National Inventory used for analysis of resulting pavement costs, large mileages of arterial highway are already in, or close to, a failed condition. However, although these highways may be failed theoretically, they are still in service because there are insufficient funds to reconstruct them - and they generally require reconstruction not just overlays. The problem of putting increased loads on these sections is that they are likely to break up altogether creating increased demands on present budgets that cannot be met. The problem is a real one and is not limited to the barrier States. Other States will experience axle load increases, as a result of the elimination of the barriers.

In our testimony before your Committee, the State of Mississippi indicated that their portion of this \$2 billion will be \$228 million, with an annual maintenance increase of \$4 million. The same NCHRP report that identifies the \$2 billion expenditure also estimates that increased maintenance costs after that investment is made will be of the magnitude of \$50 million a year.

(continued)

Your second question relates to the extent of deterioration resulting from increased limits under S.1383. That measure would increase tandem axle loads to 35,000 pounds, whereas the changed constant in the bridge formula is to the same formula which would exist if 36,000 pound tandem axles were permitted.

Based on the AASHO Road Test, the 35,000 pound tandem axle is equivalent to approximately 1.65, 18,000 pound axles, whereas the presently permitted 34,000 pound tandem has the axle equivalency factor of 1.45. Thus, this 1,000 pound increase represents about a 15 percent increase in the effects that it would have on the highway plant.

In response to question three, we would concede that there have been modifications in vehicle suspension systems since the AASHO Road Test of the late 1960's. However, one important difference between the AASHO Road Test and the vehicles on the highway today is that the vehicles we used in the Road Test traveled at a uniform speed of 35 miles per hour so as to minimize impact of heavy wheel loads bouncing up and down on the pavement. This would much more than offset anything that has happened in improved spring and suspension systems, or is likely to occur. In this respect, the results of the AASHO Road Test have always been on the conservative side.

In question four you state, "Is it not reasonable to state that the Interstate Highway System was built to facilitate commerce in this nation and during a crisis situation the Federal role should be to respond to this crisis?"

When the maximum weight limits were raised during the oil embargo of 1973, this was a Federal response to a crisis. The States have generally responded, as indicated in my testimony, to raise their limits. Several other States have indicated a willingness to raise their limits, if commensurate increases in State revenues are forthcoming, to offset the increased costs of maintaining and reconstructing the system. The Federal Government has a great interest in seeing that the entire highway system - which was generally designed and built at a time that 73,280 pounds was the maximum limit - remains available for use by all citizens and is not allowed to prematurely deteriorate.

The highway system and the nation can ill afford the deferred maintenance problems of the PennCentral, the Rock Island, and the Milwaukee.

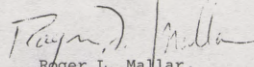
The primary advantages to uniform truck weight and size, as put forth by the proponents, is that it will facilitate transcontinental movements of goods and that it will save energy, and lower administration costs to the trucking industry. Disadvantages to this are the already mentioned problems of increased deterioration on older highway systems; the loss of jobs if the contention that more goods can be hauled with fewer trips is valid, and further, loss of income producing revenue to the rail systems, thereby exacerbating problems with that mode of transportation. Deteriorated road systems will also cause an accelerated rate of wear and tear on equipment and greater consumption of fuel and higher accident rates.

(continued)

One other factor which is not mentioned is that many of the trucks on the highway are designed to haul 73,280 pounds gross limit, and do not have the axles, brakes, power trains, or tires, to safely haul the much higher loads.

I hope that this will adequately respond to your questions. If I may provide further information, please advise.

Respectfully,


 Roger L. Mallar,
 President

RLM:mh

S T A T E M E N T

Of

Frank E. Fitzsimmons, General President
International Brotherhood of Teamsters, Chauffeurs,
Warehousemen & Helpers of America

Regarding S.1383, Truck Length

Before the

Committee on Environment
and Public Works

Room 4200
Dirksen Senate Office Building
United States Senate
Washington, D.C.

October 25, 1979

WE APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE THE SUBCOMMITTEE TO DISCUSS UNIFORMITY OF LENGTHS AND WEIGHTS ON OUR NATION'S HIGHWAYS.

BACKGROUND

IN THE INTEREST OF TIME, WE HAVE SUBMITTED MATERIALS WHICH GIVE A DETAILED BACKGROUND OF OUR VIEWS IN THE AREAS OF BOTH TRUCK LENGTHS AND WEIGHTS AND UNIFORMITY.

THESE DOCUMENTS ARE: (1) OUR STATEMENT ON TRUCK LENGTHS BEFORE THE SENATE COMMERCE COMMITTEE ON SEPTEMBER 7 OF LAST YEAR; AND (2) THE STATEMENT OF MR. R. V. DURHAM, DIRECTOR OF SAFETY AND HEALTH FOR OUR ORGANIZATION, BEFORE THE DEPARTMENT OF TRANSPORTATION'S FIELD HEARINGS ON TRUCK LENGTHS EARLIER THIS YEAR.

BRIEFLY, THESE STATEMENTS ESTABLISH A REASONABLE BASIS FOR LEGISLATING CERTAIN LIMITATIONS ON TRUCK LENGTHS - DRAWING FROM OUR EXPERIENCE AND STUDIES BY VARIOUS ORGANIZATIONS INSIDE AND OUTSIDE THE GOVERNMENT.

BEYOND THAT, WE WOULD EXPAND OUR REMARKS TO INCLUDE THE FOLLOWING: (1) UNIFORMITY; (2) TANDEM AXLE WEIGHTS; AND (3) FURTHER DEVELOPMENTS IN THE AREA OF TRUCK SAFETY.

1. UNIFORMITY

AT THE PRESENT TIME, THE BILLS BEING CONSIDERED BY THE SUBCOMMITTEE ONLY EXTEND TO THE INTERSTATE SYSTEM. WE BELIEVE UNIFORMITY WOULD BE BETTER SERVED IF THE HIGHWAYS AFFECTED BY THE BILL INCLUDED NOT ONLY THE INTERSTATE SYSTEM BUT ALSO THE NATIONAL DEFENSE HIGHWAYS.

2. TANDEM AXLE WEIGHTS

UNDER THE EXISTING PROVISIONS OF THE FEDERAL-AID HIGHWAY ACT, THE MAXIMUM ALLOWABLE WEIGHT FOR DUAL - OR -

TANDEM AXLES IS 34,000 POUNDS.

WHEN THIS AND THE OTHER WEIGHT LIMITATIONS WERE BEING DISCUSSED IN CONGRESS IN 1974, WE SUPPORTED AN AMENDMENT BY SENATOR HART THAT WOULD HAVE LIMITED THE WEIGHT ON A STEERING AXLE TO 10,000 POUNDS.

WHILE THAT AMENDMENT WAS ADOPTED BY THE SENATE, IT WAS REJECTED BY THE HOUSE.

ALTHOUGH SUCH A LIMITATION IS OUR PREFERENCE, WE BELIEVE CLOSE TO THE SAME EFFECT CAN BE ACHIEVED BY INCREASING THE ALLOWABLE TANDEM AXLE WEIGHT TO 35,000 POUNDS.

THUS, INSTEAD OF FORCING 12,000 POUNDS ON THE STEERING AXLE AS THE EXISTING LAW DOES, THE PROPOSED CHANGE WOULD MOVE THE WEIGHT TO THE FOUR TIRE TANDEMS WHERE IT CAN BE ABSORBED MOST READILY.

3. FURTHER DEVELOPMENTS IN THE AREA OF TRUCK SAFETY

ON SEPTEMBER 10 AND 11 OF THIS YEAR, THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA) HELD A TWO DAY MEETING HERE IN WASHINGTON TO DISCUSS DRIVER CONCERNS WITH THE EQUIPMENT THEY OPERATE.

IN OUR VIEW, MANY, IF NOT MOST, OF THE CONCERNS VOICED BY THESE DRIVERS WOULD BE RESOLVED IF SOME RELIEF WERE GIVEN IN THE AREA OF VEHICLE LENGTHS AND WEIGHTS.

IN SUMMARY, WE BELIEVE THERE SHOULD BE FEDERAL, UNIFORM STANDARDS FOR OVER THE ROAD EQUIPMENT; AND THESE DIMENSIONS SHOULD INCLUDE:

- 35,000 POUNDS FOR TANDEM AXLES
- MAXIMUM LENGTH OF 45 FEET FOR SEMITRAILERS AND 20 FEET FOR MULTIPLE TRAILERS. IF SOME PERMITTING IS NECESSARY, WE BELIEVE IT SHOULD BE TO ACCOMMODATE TRUE EXCEPTIONS AND NOT SERVE AS AN INVITATION TO DICKER.

THANK YOU FOR YOUR CONSIDERATION.

S T A T E M E N T

of

Frank E. Fitzsimmons, General President
International Brotherhood of Teamsters, Chauffeurs,
Warehousemen & Helpers of America

Regarding S.3431, Truck Length

Before the

Committee on Commerce,
Science and Transportation

Room 235
Russell Senate Office Building
United States Senate
Washington, D. C.

September 7, 1978

<u>INDEX</u>	<u>PAGE</u>
1. Background - Genesis of Driver Concerns	1
2. Conditions S. 3431 Would Correct	3
Condition Affecting Over-The-Road-Drivers	3
(1) Conditions Within the Driving Compartment	3
- - Distance Between Steering Wheel and Seat Back	4
- - In-Cab Heat	4
- - Cab Ingress and Egress	4
- - Driver Hazard - Horizontal Plane	4
- - Driver Hazard Vertical Plane	5
- - Sleeper Berths	5
(2) Conditions Outside The Driving Compartment	6
- - Difficults In Steering	6
- - Front Tire Blowout	7
- - Jackknife	7
3. What S.3431 Will-And Will Not-Do	8
A. What S.3431 Will Do In Areas Of	8
- - Fuel Economy	9
- - Other Economic Factors	9
B. What S.3431 Will <u>Not</u> Do	10
- - Require 15 Foot Tractors	10
- - Wipe Out Existing Equipment	11
4. Reasons for S.3431	11
A. Need For Corrective Action By Congress	12
B. Driver Concern	13
C. Prevent Extension Of Cube-Power Race	13
5. Reply To Assertions Of Carrier Representatives	14

Good morning, my name is R. V. Durham, Director of Safety and Health with the International Brotherhood of Teamsters. This statement is presented on behalf of General President Fitzsimmons who is unable to be with us today.

In our statement supporting S.3431 today, we would like to address ourselves to: (1) The genesis of S.3431; (2) the conditions this bill seeks to correct; (3) What this bill would - and would not - do; (4) The reasons for S.3431; and (5) Some concerns raised by those not entirely familiar with this measure.

1. BACKGROUND - GENESIS OF DRIVER CONCERN

In reviewing a recent publication of the Trucking Industry*, we find the following commentary on Cab over engine (COE) trucking equipment:

"operators were taking a second look at the industry's 'standard' in a heavy-duty truck, the COE. Drivers complained of killing steering, the hard ride, plus a cab and/or seat difficult to climb in and out of maybe fifty times a day. Not much has changed; drivers still prefer the conventional type to the COE, and for the same reasons."

* The Golden Years of Trucking, Ontario Trucking Association (1977) at page 143.

It is interesting to note that this commentary deals with driver concerns in the year 1912, and as the publication states, not much as changed.

While the concerns remain the same, the reasons for them have been given greater intensity, especially in light of Congress raising the permissible weight limits in 1974.

In fact, the situation has become so serious that we believe it is more than a truck driver's concern; we believe it has become one of the major safety matters in highway transportation, because unsafe driving conditions for truck drivers adversely affect everybody who uses the nation's highways.

During deliberations on that legislation, we testified in support of increased weight limits, provided proper consideration was given to driver safety.

The weights were increased, but no real consideration has been given to our members, thus our appearance before the Committee today.

In that connection, prior to the enactment of the 1974 law most states were authorized to establish weight limits for Interstate highways within the following parameters:

overall gross	-	73,280 (pounds)
single axle	-	18,000
tandem, or	-	32,000
double axle*		

With the adoption of the 1974 amendments, signed into law in 1975, these limits rose to:

overall gross	-	80,000
single axle	-	20,000
tandem axle	-	34,000

* For an explanation of these terms, please refer to Attachment A.

2. CONDITIONS S.3431 WOULD CORRECT

Just as the 1974 Amendments provided the opportunity for increased payloads for motor carriers, they also created a number of serious safety problems for over-the-road truck drivers and the motoring public.

CONDITIONS AFFECTING OVER - THE - ROAD DRIVERS

Initially, we would note that the increased weights, in and of themselves, did not create these major safety problems. Rather it was these increased weights combined with other factors, most notably overall length laws within the states, that make operation of large trucks an extremely risky proposition.

In other words, the combination of overall length laws and increased weights have forced carriers to purchase longer trailers in order to take full advantage of maximum payload opportunities.

Given these circumstances, drivers are faced with the following conditions both within and without the driving compartment:

(1) CONDITIONS WITHIN THE DRIVING COMPARTMENT

A study prepared for our organization by the Highway Safety Research Institute, University of Michigan*, stated the situation thusly: "in essence this means that the cab needs to be designed around the operator instead of asking the operator to mold himself into the cab for the average to large driver." (page 3)

* Human factors considerations regarding the advance notice of proposed rulemaking "minimum" cab space recommendation(MC-89 BMCS)

Examples in this area are:

- - Distance Between The Steering Wheel and Seat Back

- As the HSRI Study demonstrates, page 6, many trucks being offered for sale today fail to meet even minimum recommendations for this distance. Aside from the obvious steering difficulties this creates, the result is increased likelihood of abdominal injury in a crash situation.

- - In Cab Heat - While we have negotiated air conditioning into collective bargaining agreements, heat is still a problem. One of our members recently suffered second degree burns on his right foot from a superheated accelerator in one of the 90 inch BBC tractors.

- - Cab Ingress and Egress - In a 1977 study by DOT, it was found that 14 per cent of all driver personal injuries resulted from slips and falls.

In our view, one of the major contributing factors is the COE power unit. As the HSRI Study notes: "Such tractors have smaller BBC (Bumper-to-Back of Cab) dimensions than Cab-Behind-Engine Tractors, and can be more difficult to enter and exit."

- - Driver Hazard - Horizontal Plane

Before proceeding, we would note two important factors: (1) the meaning of driver hazard and (2) the location of the tractor-trailer coupling device, commonly known as the fifth wheel (Point K on the attached chart).

First, when we speak of driver hazard, we mean conditions that provide an unsafe atmosphere in which a long distance truck can be operated - unsafe in terms of the driver and unsafe in terms of the motoring public.

With regard to the fifth wheel, its location is of critical importance to the driver himself and to the safe operation of the vehicle.

Ideally, the fifth wheel should be set anywhere from point P to 10 inches forward of this point.

When the fifth wheel is moved forward of that range, more weight is absorbed by the tractor.

As a result, drivers are experiencing physical hazard from the trailer lurching forward on the fifth wheel commonly referred to as back-slap. In a number of instances this produces severe bruises in the small of a driver's back.

- - Driver Hazard - Vertical Plane

With fifth wheels moved to the radical forward position, tractors must absorb additional shocks; and suspension systems are inadequate to provide adequate ride quality for drivers.

- - SLEEPER BERTHS

In 1973, the DOT's Federal Highway Administration proposed to extend minimum sleeper berth dimensions. At that time the minimum width in a sleeper berth was 21 inches. We petitioned for an increase to 36 inches. The DOT increased the width to 24 inches. As noted in the HSRI Study, a recent test shows that 92 per cent of the drivers in a survey exceed 24 inches when sleeping in a prostrate position.

At the time, the DOT granted the princely increase of 3 inches one of the major reasons for going no further was this: State Overall Length Laws.

In summary, the combination of State Overall Length Laws coupled with increased trailers have created an unsafe cab environment for over-the-road truck drivers.

(2) CONDITIONS OUTSIDE THE DRIVING COMPARTMENT

Thus far, we have discussed conditions affecting drivers inside the cab. In addition to these concerns there are other, equally important matters that affect the handling of long distance trucking equipment. Among the more serious problems are these:

- - Difficulty In Steering

Again referring to the location of the fifth wheel, Point K, the further forward this device is moved the greater the load on a steering axle. Under ideal conditions, the weights on the steering axle should be 10,000 to 11,000 pounds.

We are now hauling trucks with steering axle weights of up to 14,000 pounds.

A recent study* by DOT demonstrates that as the weight on the steering axle increases, the effort required to steer the vehicle increases at a greater rate than the proportionate rate of weight increases on that axle.

Moreover, this report demonstrated that present length laws - which contribute to overloaded steering axles, improperly placed fifth wheels and cramped drivers' compartments - also results in a phenomenon known as "understeer".

* This study, made in response to Section 210 of the Federal-Aid Highway Act of 1976, confirmed concerns voiced by drivers of heavy trucks.

That is, on a fully loaded truck the steering wheel must be rotated through a greater angle to effectuate a turn. Thus, the unit "understeers" and the driver must overcorrect to keep the vehicle on the road.

Moreover, with greater weights on the steering axle it requires greater physical exertion to turn the wheel.

- - Front tire blowout - This is perhaps the most feared of all situations, for its occurrence reduces a driver to literal helplessness.

That is, a driver cannot predict truck movement in the event of a front tire blowout; and the driver can take little, if any, defensive action in such a situation.

Although the DOT requires tires to accommodate weights,* the regulation is impossible to administer.

Moreover, the regulation only addresses itself to static weights and does not take into account such factors as temperature change or sudden weight shifts - fairly common occurrences.

- - Jackknife - In a jackknife situation, the rear tandem, points D-E, goes out of control causing the trailer to "jack" to one side on the other.

Again, it is a very difficult situation to control and has led to serious, fatal accidents.

Under current conditions, the likelihood of a Jackknife increases as the wheelbase of the power unit, points A-C, is decreased.

49 C.F.R. 393.75(2).

In its study on this subject, HSRI stated the problem as follows: "A long wheelbase configuration by itself generally offers superior ride qualities over short wheel base tractors, and long wheel base tractors are often preferred because of their reduced demand on jack-knife control." page 17

The study summed up, all too accurately, our members' concerns: "we must conclude that constraints on overall length, especially the tighter constraints found in the Eastern states, cultivate not only shorter cabs but by necessity shorter wheel bases as well. This has led and continues to lead the designers of cabs in directions which make them more unsafe from a handling viewpoint."

Summing up, these handling factors - difficulty in steering, understeering, front tire blowout, and jackknifing - compel an answer to our concern, thus our support for S.3431.

(3) WHAT S.3431 WILL - AND WILL NOT - DO

Thus far, we have discussed the history and conditions giving rise to S.3431. We would now like to discuss what S.3431 will and will not do.

A. WHAT S.3431 WILL DO

In brief, S.3431 provides as follows:

1. States may continue to establish the actual dimensions of length, but they would be required to establish them in terms of trailer lengths only;
2. If, after establishing these trailer lengths, a state wishes to provide for an overall length, it must provide - at a minimum - 15 feet in addition to the limits established for the trailer(s); and

3. Equipment in use could not be legislated away by any state.

Beyond that, S.3431 will provide a number of economic advantages to motor carriers, including:

- - Fuel Economy: In a fuel economy test conducted for a number of truck manufacturers and motor carriers, Professor Howard Chevalier of the Texas A & M Department of Aerospace Engineering made the following observation.

"One of the things people misunderstand about aerodynamic streamlining is that you don't have to go to extremes. As I approach the air, if I can start with a small area and build this up in a measurable manner, such as the step design of the conventional, I'll still get reasonable drag reduction."*

Thus, cab-over-engine tractors, those used to obtain maximum length, have higher air drag - thereby using more fuel - than conventional cabs, i. e. tractors with engines forward of the cab.

Under the bill being considered today, S.3431, the incentive is available for carriers to purchase the conventional tractor.

- - Other Economic Factors

In addition to the fuel economy noted above, conventional tractors provide additional incentives for carriers.

In comments to the DOT on that Agency's proposed minimum cab rule, Mack Truck Company had this to say:

"It must be acknowledged, however, that COE configurations have less energy absorbing material ahead of the driver than conventional configurations.

* Commercial Car Journal, May, 1978 at pages 133-135.

The elimination of overall length limits would negate the primary advantages of the COE configuration and would undoubtedly lead to its decline, since it is heavier and more expensive than conventional models." (Emphasis Added)

B. WHAT S.3431 WILL NOT DO

Much has been made of the probable effects of S.3431, some of them erroneous. To clear up any misconceptions on this we note that this bill would not:

Require 15 foot tractors - Under the terms of S.3431, states would be permitted to establish an overall length if that length exceeds the trailer length by a minimum of 15 feet.

Thus, the 15 feet would accomodate the tractor; but 15 foot tractors would not be mandated.

As things now stand such a proposal could not, practically, be made a regulation because any minimum cab size regulation would place some equipment in jeopardy of state overall length laws. However, with the adoption of S.3431, such a regulation could be adopted. On the other hand, such a regulation may not be required because the economic incentives would be so strong for carriers to return to conventional models that the cab size would take care of itself.

Beyond that, carriers could continue to use present equipment; but, again, the incentives are there to go to the long nose conventional.

Wipe out existing equipment - This is a classic.

In order for this conclusion to be true one must assume that members of state legislatures will somehow react in opposite fashion from their federal counterparts.

That is, the bill contains a provision which protects existing equipment; and we do not believe the state regulatory bodies will adopt truck length laws that reduce the ability of the industry to deliver commodities and stay competitive with other modes of transportation.

(4) REASONS FOR S.3431

By way of background, regulation of vehicle sizes and weights are shared by federal and state governments.

At the federal level, the mechanism is the Federal-Aid Highway Act, as amended. Under this law, the Government is authorized to withhold highway funds to a state if that state authorizes weights on the Interstate System in excess of those noted above, i.e., 80,000 pound gross, 34,000 pound tandem; or 20,000 pound single axle.

In addition a vehicle may not exceed 96 inches in width.

Thus, states may not exceed any of these limitations and participate in the Federal Highway Program.

Please note that some states have so-called grandfather rights under federal law and in these states the federal limit is exceeded.

As to regulation at the state level, wide latitude is available in governing sizes and weights of vehicles,

although a recent decision by the Supreme Court overturned state length restrictions as being a burden on interstate commerce.**

To preserve the states' discretion in this area and at the same time bring a badly needed solution to this matter, we are supporting S.3431.

Our reasons are these: (A) The 1974 law has resulted in dangerous highway conditions, enumerated above, for not only truck drivers but also the motoring public; (B) there is a very real concern among all drivers in the area of safety; and (C) the cube-power race is leading, inevitably, to equipment-so-called cab unders-that is frightening in its potentation.

A. CONSEQUENCES OF 1974 LAW - NEED FOR ADDITIONAL CONGRESSIONAL ACTION

When the 1974 law was being considered, our organization supported the measure if some safety consideration were given to drivers.

In that connection, we supported an amendment, offered by Senator Phil Hart, that would have limited the steering axle weight to 10,000 pounds.

We supported that amendment because we foresaw the handling difficulties that would accompany increased weights. The amendment was accepted by the Senate, but dropped by the Conference Committee.

We again raised concerns in 1976 when those Federal-Aid amendments were being considered.

In that law, Congress adopted Section 210 which required DOT to study steering axles weights.

** Raymond Motor Transportation, Inc. v. Zel S. Rice,

Again, that study confirmed what our members said in 1974. The major conclusion of the study was that as the weight on the steering axle increases, the effort required to steer the vehicle increases at a greater rate than the proportionate rate of weight increases on that axle.

In a word, we are urging Congress, through S.3431, to make necessary corrections to the Federal-Aid Highway Act because the conditions described above are serious and they will not be alleviated until this law is amended.

B. DRIVER CONCERN

Our members have many problems with the conditions described in this statement, and they need a solution to this problem.

In that connection, a recent survey of 10,000 long haul truck drivers by D. Daryl Wycoff, a professor at the Harvard Business School, gives additional information on this score. His survey found that drivers have major problems in six areas: noise, vibration, fumes, seating, temperature/humidity and cleanliness.

Of these, five would be corrected significantly if S.3431 were enacted into law.

Further, as each of our members appearing here today can attest these conditions are very real and very constant.

C. EXTENSION OF CUBE-POWER RACE

Recently, a major trailer manufacturer brought its so-called cab-under equipment to Washington for inspection.

For those who saw this truck, it was an experience not soon to be forgotten. We have heard that the carriers have no intention to use this equipment.

However, we believe competitive pressures will be so great that carriers will be forced to this equipment. Please bear in mind there is no law or regulation, to our knowledge, prohibiting cab-under equipment.

On the other hand, adoption of S.3431 will establish a policy of placing cargo where it belongs - in the trailer; and extensions, if any, will be made in this area without encroaching on cab space.

(5) REPLY TO ASSERTIONS OF CARRIER REPRESENTATIVES

As was noted above, motor carrier representatives have made certain assertions which are, at a minimum, inaccurate.

Listed below are the carrier representatives' statements, together with our reply to these charges.

CARRIER ASSERTION NO. 1: The practical effect of this proposal would be a reduction in the commonly used 45 - foot semi-trailer to 40 feet in 20 states. A similar assertion is made for states in which twin-trailers are permitted.

OUR REPLY: Not true. The Amendment provides that states have the prerogative to establish trailer length limitations.

For this assertion to have any validity, one must assume that a state legislature will, out of hand, ask the citizens within its jurisdiction to absorb the enormous costs of a proposal to wipe out a significant fraction of the trailers used in a particular state.

Besides insulting members of state legislatures, this assertion ignores the fact that our organization and others would oppose any attempt by a state legislature to impose undue restrictions on the industry.

Moreover, where this approach has been used in the various states the carriers were accommodated. That is, in each and every state where this approach has been used, the legislatures have allowed 45 feet, or its equivalent, for trailer length. Our organization supported these efforts in the state legislatures.

Finally, the Amendment contains a provision that will protect carriers from such action.

CARRIER ASSERTION NO. 2: This is nothing but a "feather-bedding" proposal that would force the trucking industry to run one additional truck for every nine now on the road. In addition, our organization was mentioned specifically as being in the fore front of the so-called feather-bedders.

OUR REPLY: Again, not true. What we are seeking is an improved set of incentives for carriers to purchase equipment that is safer to operate and at the same time efficient.

With regard to driver safety, we have already noted the Amendment would, eventually, improve most, if not all, of our concerns.

As to economic efficiency, please note the comments of Mack Trucks, Inc. on the minimum cab size proposal of the Bureau of Motor Carrier Safety.

As to feather-bedding, we have consistently supported efforts to make motor carriers competitive with other modes of transportation. For example, we supported the permissible weight increases in the 1974 law.

According to the Bureau of Labor Statistics Report on Industry Productivity for 1977 we find the following:

INTERCITY TRUCKING INDEXES OF OUTPUT PER WORKER

	Index (1967=100)	<u>Percent Change</u>
1971	113.6	-
1972	120.9	+6.4%
1973	123.4	+2.1%
1974	120.5	-2.4%
1975	121.2	+0.6%
1976	134.7	+11.1%
1977	142.6	+5.9%

What we ask here is some consideration for the driver.

CARRIER ASSERTION NO. 3: Moreover, proper cab dimensions are now subject of a rule making proceeding by the Department of Transportation until its determined on a scientific and engineering basis what practical dimensions should be, it is premature for the Senate to seriously consider this proposal.

OUR REPLY: Again, not true.

First, the carrier association opposes the DOT's current proposal on minimum cab sizes, and with history as precedent the Association will oppose virtually any proposal that touches on involuntary equipment changes.

More to the point, however, is the fact that a DOT minimum cab size regulation could place some equipment out of compliance with state overall length laws. The result: no regulation.

On the other hand, enactment of this Amendment, with its incentives to go to longer tractors would enhance the prospects of meaningful results from the minimum cab size proposal of DOT.

This assertion is reminiscent of 1974 when the carriers used the DOT's proposed braking standard to justify additional weight increases and then challenged the regulation successfully at the Agency.

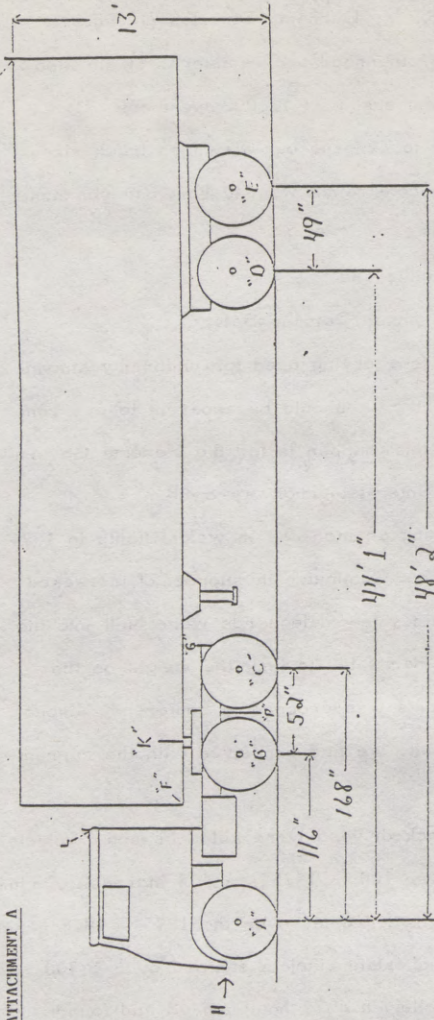
We are not here addressing ourselves to this braking standard but, rather, to the fact that the carriers used it in arguing for higher weights.

In summary, we believe these assertions contain serious deficiencies both as to the assumptions they make and the conclusions they arrive at.

Should you need additional information on this matter, please do not hesitate to contact our office.

Thank you for your consideration in this matter.

ATTACHMENT A



Center of Kingpin "K" to Centerpoint of Axles "p" -- 14 inches

Center of Kingpin "K" to End of Chassis "q" -- 62 inches

Center of Kingpin "K" to Nose of Trailer "p" -- 48 inches

Vehicle Width -- 96 inches Overall Length -- 55 feet

Overall Tractor Length -- 19 feet Overall Trailer Length -- 45 feet

Fifth Wheel slides a total of 45 inches, so that at extreme points the kingpin could be located 31 inches forward or 14 inches rear of the centerpoint of axles "p" and "C".

A - Single axle. This is also the steering axle.

B - C and D - E - Tandem axles

K - Fifth wheel

Good morning, my name is R. V. Durham, Director of Safety and Health with the International Brotherhood of Teamsters. I am also President of Local 391, with a membership of 11,000 members.

We appreciate the opportunity to express our views on truck sizes and weights. Because of the time constraints we will limit our comments today to:

C - Non-uniformity in state limits and

D - Impacts on Highway and Motor Carrier Safety.

More than ever before there is a crying need for uniformity among the states on truck sizes and weights. It should be apparent to everyone by now the only way we will see this happen is for the Federal Government to pre-empt the states on the Interstate Highway System.

When Congress was considering an increase in weight limits in 1974 we testified before Senator Bentsen's Committee in support of increased weights and doubles provided certain safety safeguards were built into the legislation. Unfortunately Senator Hart's bill to limit the weight on the steering axle which passed the Senate was dropped in conference among other safety provisions. As a result, we find ourselves with the current situation which includes:

- 1) Last year over 1,000 truck drivers were killed in motor vehicle accidents; fatalities are up from over 700 in 1975 - a 40% increase. This is with only a 22% increase in freight deliveries over the 1975 - 1978 period.

- 2) This past May, federal and state officials stopped over 1,700 trucks throughout the Mississippi Valley in a 72 hour period and found

44% of these units unfit, thus placing them out of service. (Unsafe brakes was the primary reason.)

3) With the permissive weight limits increased to 80,000 pounds but tandem weights limited to 34,000 pounds, we are finding a dangerous trend in shifting 12,000 pounds to the steering axle to take advantage of the 80,000 pounds gross.

4) With the additional 10% weight permitted, more and more 45 foot trailers are being purchased and put in service even though most states East of the Mississippi only permit 55 feet overall (bumper to bumper.) As a result, we have the worst situation you can give a professional driver which includes:

- a) Steering axle tires overloaded.
- b) Improper placement of fifth wheels.
- c) Cramped truck cabs where the driver in many cases can't get behind the steering wheel.
- d) Handling and stability problems.
- e) Very uncomfortable ride.

In our view, the state of trucking safety is a disaster.

5) Carriers are being required to load a unit at 73,000 pounds gross even though every state the unit will travel through permits 80,000 pounds except one.

6) Carriers are being required to drop one (1) trailer at a state line and make a double dispatch because that particular state doesn't permit doubles.

There are many other problems inherent in the manner that truck

sizes and weights are currently being set.

To our organization and to the average truck driver the answers are fairly simple and should be implemented by Congress at the earliest time possible. No one state or combination of states can solve the problem for an interstate trucking operation.

First, we must have uniformity at the Federal level. The benefits are enormous which includes improved safety to the driver and the motoring public, improved economics to the carrier or truck owner and energy conservation.

Weights

The gross weight limit shouldn't be increased above the current 80,000 pounds but should be permitted nationwide on the Interstate Highway Network and to staging areas off the Interstate.

Tandem axle limits should be increased to 35,000 (from the current 34,000) so as to enable the carrier to gross 80,000 pounds without having to place over 10,000 pounds on the steering axle.
 $(35,000 + 35,000 + 10,000 = 80,000)$

Single axle limits should remain at 20,000 pounds.

Length

Length limits should be placed on the trailer (cargo hauling portion of unit) rather than overall with a maximum of 45 feet on a semi-trailer and 28 feet on doubles. In any consideration of a uniform size and weight bill it is extremely important that this provision be

a part of it. A number of states have accepted this agreement in recent years and have included this in their state laws on truck lengths.

Width

There is no reason for the current 96 inches to be increased but there is justification for the safety equipment to not be included.

For example, walking ramps on auto-hauler trailers, mirrors, etc.

With enactment of a uniform weight and size bill there has to be greater enforcement in the safety area and also more stringent enforcement of the weight limits. Although we have a provision in our National Master Freight Agreement which provides that no driver is required to pull an overweight, there are many drivers who don't have the protection of a Teamster contract and we have learned from experience that some truckers will overload regardless of the limits and force their drivers to violate the law.

Finally, we must be very cautious that we don't make the same mistake that Congress made in 1974 when additional weights were approved without any thought as to the safety implications. Whatever is done in truck sizes and weight safety has to come first.

We can't tolerate a continuance of the increasing problem of truck safety. As mentioned at the outset, 44% of the trucks were found unsafe while only 2-1/2% of the drivers were grounded which shows the drivers are 20 times safer than the equipment they are being required to drive.

Thank you.

QUESTIONS FOR TEAMSTERS

1. Do you believe the truck size and weight standards now in place are adequately enforced? How could they be more effectively enforced?
2. Based on your analysis of the situation, would higher and uniform truck weights result in additional commodities being transported? Or would the impact of uniform truck weights be to shift commodities from one transportation mode to another? If so, how much shift would occur and what would be the subsequent economic and energy impact of this shift?
3. What information does your organization have regarding the impact on road deterioration of increasing weight limits in States with less than 80,000 pounds maximum weight limits?
4. Does your organization have any information regarding the potential impact of raising the tandem axle weight of 34,000 pounds to 35,000 pounds on road deterioration and does your organization have any information regarding the proposed changes in the bridge formula in S.1383 with regard to its impact on bridge deterioration?
5. In your testimony you state the gross weight limit should not be increased above the current 80,000 pound limit.
 - a) What are your reasons for stating that weight limits should not go above 80,000 pounds.
 - b) Are there any circumstances under which you believe Federal weight standards should go above 80,000 pounds?

1. Despite good faith efforts at enforcement by the States, gross vehicle weight limits are easily and frequently exceeded, with little chance of detection. Stationary weigh stations are easily by-passed, partially due to the use of Citizen's Band radio alerting the overweight vehicle to the operation of the station. Mobile weighing checkpoints are also susceptible to by-pass, and are time-consuming, weighing only a fraction of the traffic that passes them.

With the present level of enforcement, many carriers choose to run overweight as a way of increasing revenues, knowing that the penalties for violation are minimal, and the chances of being apprehended are small.

If a carrier assumes an overweight violation will be detected one out of every ten trips, revenues gained in running nine trips overweight far outweigh the sanctions imposed on the tenth. Economics being what they are, many carriers choose this course.

Teamster members who work for carriers signatory to the National Master Freight Agreement are protected in refusing to drive unsafe equipment, including overweight. It must be remembered that not all truck drivers enjoy the benefits and protections of a Teamster contract.

The advent of uniform weights and lengths should bring vigorous enforcement of these limits. Two devices presently exist for increased effectiveness in enforcement.

First, states can raise the penalty for overweight violation. If the financial sanction imposed is high enough, the costs of running overweight become prohibitive, and the penalty has the desired deterrent effect.

Second, carriers operating under ICC authority could be disciplined for violation through the loss or suspension of their operating certificate. This would require an administrative determination that such an offender was no longer operating in the public interest.

2. We do not believe additional commodities would be shipped by truck if vehicle weight limits were increased; and we do not know of any significant shift in those states where weight tolerances have been raised.

It is conceivable there may be some shift in the amount of freight hauled by truck. But again, we do not believe such a shift would be of any significance.

Rather, in our view, a uniform weight limit would increase the efficiency of carriers in hauling the present amount of freight.

3. Our organization has not commissioned any study or research effort in this field.

However, the bulk of available information, particularly the recent GAO report on truck weights, points to the effect of overweight trucks on the Nation's highway system. Diligent enforcement of a uniform weight limit, as described in our answer to question 1, will help offset the impact of raising the limits in states currently below the Federal mandate.

4. We strongly favor raising the allowable tandem axle weight to 35,000 lbs. While it is arguable that such an increase would reduce road life, the higher axle weights would allow a reduced load to be placed on the steering axle.

Heavy, 12,000 pounds and over, steering axle loads make steering difficult and increase the likelihood and severity of a blowout. The increase in safety that would result from such a weight shift more than offsets any marginal road wear effects.

5. a. (i) Heavier vehicles present safety problems which do not exist or are not as severe in lighter vehicles.

When the Federal gross vehicle weight limit was raised to 80,000 pounds in 1974, Senator Eagleton made his support of that measure contingent upon an assurance that new, heavier braking systems would be required. We fully supported Senator Eagleton, and shared his concern.

In 1975, the National Highway Traffic Safety Administration mandated heavier, more aggressive braking systems for heavy trucks. Substantial portions of this rulemaking were stayed by the U. S. Court of Appeals for the Ninth Circuit. As a result, these more powerful braking systems are not being installed on new trucks. Raising weight limits above the current mandate can only aggravate this already serious problem.

- (ii) Raising allowable gross vehicle weights cannot be considered until the serious flaws in our existing vehicle length laws are corrected.

At present, most state laws set limitations on the overall vehicle length. Such a limit creates a strong economic impetus for carriers to shrink the power unit in order to expand freight capacity. Implementation of a Federal mandate setting vehicle length limits upon the trailer, would allow the carrier to purchase and use the type of equipment best suited to his particular needs, without fear of reducing his cargo capacity.

- (iii) Higher gross vehicle weights would further damage our already deteriorating highway system. See AASHTO figures and the GAO report.
- (iv) Most importantly, higher gross vehicle weights would necessitate heavier front axle loads. Loading in excess of 10,000 pounds on the steering axle is already a major source of driver concern, as the 80,000 GVW limit, when coupled with the existing 34,000 pounds tandem weight limit, requires a load of 12,000 pounds on the front axle in order to utilize the full 80,000 pounds. Heavy steering axle loads increase the likelihood and severity of the occurrence the professional driver fears most - the steering axle tire blowout. The more weight shifted to the forward axle, the less likely a driver will regain control of the vehicle.

In 1974, we supported, and the Senate approved, an amendment to weight legislation which would have limited front axle loads to 10,000 pounds. Unfortunately, that amendment was discarded in Conference.

- b. Our organization would oppose any effort to raise gross vehicle weight limits above 80,000 pounds until the serious safety problems which currently exist at the present level are corrected. At that time, it would be appropriate to study the effects of a higher weight limit upon the vehicle, the driver, the roadway, and the motoring public.

I am Don Phipps, from Ames, Iowa, President of the Iowa Independent Truckers Association. I am appearing on behalf of myself and the truck operators I represent in Iowa. I also own and operate a semi-tractor/trailer.

As the June Truck Strike pointed out, the independent truck operators have been caught in the inflationary spiral with rising fuel prices along with all other costs related to trucking. We definitely need to be able to operate at the most efficient level possible. We need the Government to be aware of our problems and to help alleviate them where possible. One positive way the Government could, and should, help is in the area of nation-wide uniformity of truck weights and sizes.

We are in agreement with S.1383 for various reasons. One is that S.1383 is a bill that encourages safety. Changing the Federal Bridge Formula to enable loading 35,000# on tandem axles, instead of 34,000#, is a safety factor. This makes it possible to take 2,000# off the front steering axle and place it on the back tandem axles, where it is safer. Distribution of the 2,000# from the steering axle to the tandem axles equals removing 1,000# from each front tire while adding only 125# to each of the remaining 16 tires on a semi. The 10,000# load on the steering axle places only 5,000# on each front tire (usually rated at 5,800#).

For all practical purposes, it is not possible to load a truck to the maximum allowable weight. Very few facilities have scales available while loading to make certain the axle weights are to the limit. This results in loading under allowable axle weights to avoid overweight axle fines. Therefore, 80,000# allowable gross weight in most cases means loads actually under 80,000#. The 35,000# tandem axle weight makes it easier to legally load a truck.

We also agree with the 65 foot length, however limiting trailer lengths to 45 feet. This 65 foot length would allow truck operators to use conventional tractors without worrying about the overall length. Many truck owners feel a conventional tractor provides more driver comfort by giving a smoother ride, therefore less fatigue and more safety. The Federal Bridge Formula protects the bridges and the 65 foot length would insure the load-spread to be sufficient to meet these requirements. Also, 65 foot would help unify the double-bottom lengths.

The Iowa DOT has come out with a safety factor that "...the increase in truck weights of the proposed magnitude addressed herein will not significantly increase the frequency nor the severity of truck accidents, the net result of the proposed increased legal axle and gross weights should be a reduction in truck accidents. This is due to the reduction in truck trips to transport the same amount of commodities." (IaDOT, p. 18)

Another reason we agree with S.1383 is that we need uniformity on minimum length and sizes across the U.S. in order to save fuel. In light of the continuing fuel problems, both of reported shortages in availability and continued rising prices, we must consider all alternatives to fuel conservation. Since 1973, 40 states have met the minimum 60 foot, 80,000# standards. The states with levels lower have caused frustration to the interstate trucker. Nonuniformity of state limits causes a great deal of hardship on all trucking operations. Nonuniformity is a waste of fuel. Uniformity of size and weight limits would reduce miles traveled each year in two ways. First, by not making trucks go around the "block states". Second, it will take less loads to haul the same amount of goods. Extra miles traveled causes waste of time, fuel, and money.

Uniformity in length and weight would reduce truck traffic. If 9 loads of goods were hauled instead of 10, this would result in one less trip the truck would take. This means less traffic, and also taking the weight of the truck and trailer off the road 1 trip in 10.

It is estimated that uniformity would save 7.8 million gallons of fuel annually in Iowa alone (IaDOT, p.16). A study for the Federal Energy Administration estimated that if all states adopted 80,000# and allowed 65 foot twin combinations, 225 million gallons of fuel could be saved annually (Stanford Research Institute, cited in Heavy Duty Trucking, Oct. 1979, p.136).

Uniformity would also help the truck operator when up-dating his equipment, which is a continuing process. We need to replace equipment with fuel efficiency in mind, as well as load capacity. As the situation now stands, we cannot up-date to the most efficient, safe, and comfortable equipment because of the varying differences in weights and lengths. Also, we cannot up-date with temporary standards that are changing week-by-week.

Some of the "block states" have temporarily increased standards, some in weights, some in lengths. It is impossible for the truck operator to keep up with the changing situations we see in the various states. One time we go through a state, we are allowed 60 foot, 80,000#; the next time, we are not. This has resulted in uncertainty, and sometimes tickets issued.

We would like to see the "block states" become uniform with the other states. We certainly do not want to see different weights and lengths (58, 55, 59 feet) as some states propose, but minimum uniformity across the nation. We, as truck operators, need to be able to load at the point of origin--and unload at our destination--and be legal in weight and length in any and all states we go through.

An Iowa DOT analysis study recognizes that increased truck weights will result in both increased costs and benefits. "The benefit cost ratio shows that for each dollar in increased highway wear, society will receive 4.2 dollars in benefits in the form of reduced transportation costs" (IaDOT, p.15). A four-to-one return is a good investment--for the truck operator, society, and the consumer, who will all benefit.

We can accept either S.1689 or S.1439, with a 2% axle tolerance added. However, the temporary nature of the bills is unsettling, for the above stated reasons. We need legislation now. We have been patient in waiting for help while fuel prices continue to spiral, along with other truck costs. As Senator Culver said in introducing S.1439, "While the current shortage is a strong argument for taking action on an immediate temporary basis, it is quite possible that the uniform standards on a permanent basis are in the national interest." Also, "raising the length and weight limits for trucks to a national standard is a partial answer to both the diesel fuel shortage and to the problems threatening numerous independent truckers."

Trucks are the only mode of transportation that serves every town in the U.S. Uniformity will help serve Small Town, U.S.A. more efficiently. S.1383 needs support because of SAFETY and CONSERVATION. A help to the trucking industry by passing a uniform minimum weight and length bill will ultimately be a help to the U.S. consumer.

Thank you.

BENEFIT COST RATIOS

<u>System</u>	<u>B/C Ratio</u>
Primary	
Interstate	9.8
Other Primary	4.4
Total Primary	5.9
Secondary	0.8
Municipal	3.5
TOTAL	4.2

The benefit cost ratio shows that for each dollar in increased highway wear, society will receive 4.2 dollars in benefits in the form of reduced transportation costs.

Return on investment could be improved by embargoing all or some of the highway system during the spring, the most critical season for highway wear. The following table shows the benefit/cost ratio for spring embargo of various systems.

RANGE OF AVAILABLE B/C RATIOS

	<u>B/C Ratio</u>
1. No embargo	4.2
2. Secondary roads embargoed in the spring	5.1
3. Secondary & municipal embargoed in spring	5.2
4. Secondary, municipal & primary embargoed in spring	6.0
5. All systems embargoed in the spring	5.7

The highest benefit cost ratio will be achieved if all systems except the Interstate are embargoed in the spring.

Energy: The proposed increase in truck axle loads and gross weight would result in a reduction in fuel consumption. These fuel savings would result from a

reduction of vehicle miles of travel required to transport the same amount of goods on a fewer number of trucks with heavier payloads.

Using the latest available data on fuel consumption by truck type, estimated annual savings would be:

ANNUAL FUEL SAVINGS (Gallons)		
System		
Interstate	- Gas	89,200
	- Diesel	3,747,600
Rural Primary	- Gas	177,000
	- Diesel	2,587,300
Urban Primary	- Gas	58,900
	- Diesel	516,100
Secondary	- Gas	91,400
	- Diesel	261,500
Municipal	- Gas	57,200
	- Diesel	227,000
Total	- Gas =	473,700
	- Diesel =	<u>7,339,500</u>
* Total Fuel Saved	=	<u>7,813,200</u>

In 1978, the total amount of fuel consumed for highway purposes was approximately 1.9 billion gallons. The potential fuel savings from the proposed increased truck weights would amount to approximately 0.4 percent of the total consumption.

III. Safety

Safety of highway operation is an immediate concern that is strongly related to proposed changes in legal vehicle weight limits. Currently available statistics indicate that heavy trucks have a substantially higher involvement

STATEMENT OF
CHARLES N. BRADY
DIRECTOR, HIGHWAY DEPARTMENT
AMERICAN AUTOMOBILE ASSOCIATION
before the
SUBCOMMITTEE ON TRANSPORTATION
of the
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
OCTOBER 25, 1979

Good morning, Mr. Chairman. I am Charles N. Brady, Director of the Highway Department of the American Automobile Association. I am accompanied today by George A. Viverette, Jr., Assistant Director of AAA's Highway Department.

AAA appreciates the opportunity to appear before this Subcommittee to comment upon S. 1383, S. 1439 and S. 1689 which would establish uniform national standards for the weight and length of vehicles using the National System of Interstate and Defense Highways.

AAA vigorously opposed the increased truck weights to 80,000 lbs. contained in the Highway Amendments Act of 1974 (P.L. 93-643). We opposed these increases because, in our judgment, they imposed unacceptable safety risks and accelerated highway deterioration.

AAA was so concerned about this increase that we took the unprecedented step of requesting President Ford to veto the measure. This was the first and only time in its 77-year history AAA has requested a veto of highway legislation. We mention this only to emphasize how concerned we were about the safety and highway deterioration implications of the heavier weights.

President Ford eventually signed S. 3934 and the Federal-Aid Highway Amendments Act of 1974 became law in January, 1975.

In signing P. L. 93-643 President Ford noted:

"...The bill will increase the allowable weights for trucks on interstate highways. Largely because of the lower speed limit, many truckers have found themselves in an economic bind, with decreased productivity. This modest increase in allowable truck weights should help them regain that productivity without threatening public safety on the highways."

SAFETY EFFECTS

Now, some four-and-a-half years later, we have an opportunity to examine the effect on public safety. Coincidentally, 1975 was the first full year of data gathering by the Fatal Accident Reporting System (FARS) of the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration (NHTSA). This provides us with an unusual

opportunity to compare the safety record of heavy trucks (those over 26,000 lbs.) with the performance of all traffic and with passenger cars. Since combination trucks (those involving a truck tractor and one or more semi-trailers or trailers) accounted for 93 percent of all fatalities involving large trucks in 1978, we looked at them separately.

Our preliminary exploration of this subject based upon 1977 data raised such disturbing questions concerning the safety performance of these heavy vehicles that the AAA Highway and Transportation Advisory Committee recommended in February 1979 that the AAA Board of Directors take immediate action calling for a rollback in truck weights to the 1974 maximums. In April of this year the Board of Directors reviewed the recommendation of the Highway and Transportation Committee and adopted a resolution calling for such a rollback. As noted, the data then available were 1977 data. Subsequent to the action of the Board of Directors, 1978 data have become available from FARS and the situation is even worse. As a result, the delegates to AAA's 77th Annual Meeting in Los Angeles this month affirmed this position by adopting the resolution. Text of that resolution is attached.

FARS data show that fatal accidents involving heavy trucks increased 47.6 percent between 1975, the advent of heavier weights permitted under P.L. 93-643, and 1978, the last full calendar year of available data. Fatal accidents involving combination trucks increased 43.1 percent; those involving all vehicles, 13.2 percent; and those involving passenger cars, 7.2 percent.

Fatalities occurring in accidents involving heavy trucks increased 43.4 percent, with a 39.3 percent increase recorded for combination trucks. All vehicles recorded a 12.8 percent increase and passenger cars a 7 percent increase.

Since our organization represents nearly 21 million passenger car owners and operators, we were particularly interested in learning how they fared in this increased frequency of heavy truck involvement in fatal accidents. We found a 39 percent increase in the number of fatalities to occupants of passenger cars in collisions with heavy trucks and a 33.7 percent increase in passenger car occupant fatalities in collisions with combination trucks. As a point of comparison, there was an increase of 8.2 percent in the number of passenger car occupants killed in all collisions involving passenger cars.

One might well ask if the increase in involvements of heavy trucks might not be attributed to increased exposure as evidenced by increased vehicle miles of travel (VMT). The Federal Highway Administration (FHWA) provides vehicle miles of travel data on an annual basis.

1977 data are the latest available. FHWA does not classify the data by vehicle weight, but it does show vehicle miles traveled by combination trucks, all trucks, passenger cars, and all vehicles. Combination trucks customarily weigh 26,000 lbs. or more tare weight, so we arbitrarily classified them as heavy trucks for purposes of comparison with FARS data.

Despite assurances that the granting of heavier weights as provided in P.L. 93-643 would reduce heavy truck exposure by making it possible to carry more tonnage in fewer trucks, we found that VMT by combination trucks increased 14 percent between 1975 and 1977. During that same three-year period, fatal accident involvement by combination trucks increased 30 percent and fatalities 27 percent -- double the increase in VMT. As a point of comparison, passenger car VMT increased 9 percent, yet fatal accidents and fatalities went up only 4 percent -- less than half the increase in VMT.

Fatality rates (fatalities/100 million VMT) for combination trucks jumped from 5.98 to 6.64 between 1975 and 1977 -- an 11 percent increase, whereas the rate for passenger cars decreased from 3.39 to 3.25 -- a drop of 4.2 percent. The fatality rate for heavy combination trucks is now more than double that of passenger cars and as the trucks get larger and heavier and the passenger cars get smaller and lighter the disparity will continue to grow.

Despite assurances that the increased weights could be accommodated "without threatening public safety on the highway," four years of accident experience indicates just the opposite.

Once again this Congress is being asked to increase the size of heavy trucks and to require that all states permit a minimum of 80,000 lbs. gross vehicle weight. Once again the claim is made that greater weights will increase productivity, reducing the number of trucks on the road, and thus reduce accidents. Weight uniformity at 80,000 lbs. is requested to allow uninterrupted passage through all states.

There isn't a single state that would prohibit the movement of combination trucks weighing 73,280 lbs. So uniformity is already achievable if the industry will settle for the weights for which the Interstate System was designed and built. It is time that we stop considering only increased productivity and accept the fact that limitations on weights and sizes will necessitate increases in freight rates. Then we will pay the true costs of moving cargo through the rates charged, rather than subsidizing the rates with increased casualties and accelerated depreciation of our capital investment in highways and bridges.

HIGHWAY DETERIORATION

Confirming AAA's historical concern over the heavy truck's contribution to highway pavement deterioration, a U.S. General Accounting Office report released this past July concludes that excessive truck weight is a major cause of highway damage.

The GAO report, "Excessive Truck Weight: An Expensive Burden We Can No Longer Support" lends credence to AAA predictions that the increased weights granted in 1975 would accelerate the deterioration of Interstate roads and bridges. While not recommending specific weight limitations, GAO's findings support AAA's belief that federal limitations on truck axle and gross weights should be rolled back to 1974 levels.

The report revealed that only 63 percent of Interstate System mileage and 15 percent of Interstate System bridges can support the 80,000 lb. limit without reducing serviceable life. According to the report, only 8 percent of all federal-aid bridges are strong enough for the 80,000 lb. loads.

For those that may think rehabilitation of roads and bridges is the price of progress, we would like to remind them that it carries a heavy price tag. A 1977 Federal Highway Administration estimate reported that, excluding routine maintenance expenditures, the states will need over \$18 billion through 1996 to offset deterioration on the Interstate System alone. It has also been estimated by GAO that the states will need \$67 billion over the next 20 years to meet similar needs on non-Interstate roads.

As time goes on, the evidence of the destruction caused by the heavier weights continues to mount.

In 1978 the State of Oregon completed a Management Study of Highway Fund Distribution. That study reports that Oregon Highway Engineers "have determined that 80 percent of highway surface wear is due to axle weight (mostly caused by heavy trucks), 19 percent to weather, and one percent to automobiles." This finding has important implications for the conduct of the Highway Cost Allocation Study mandated by Sec. 506 of the Federal-Aid Highway Act of 1978. It also has important implications for the wisdom of increasing weights as an energy conservation measure.

Recently the States of Florida and Georgia submitted a joint request to FHWA for funds to build special heavy truck lanes along I-75 between Atlanta, Georgia and Tampa, Florida. The report notes that heavy axle loads and a serious underestimate of the frequency of such loads have

made reconstruction of the Georgia section of I-75 imperative. One major section involved in this reconstruction is only nine years old.

The GAO report suggests that federal weight limits be made applicable to all federal-aid highways, that current exceptions in federal law allowing higher limits on some interstate highways be terminated and that overweight permits for reducible loads in excess of state weight limits be prohibited.

Mr. Chairman, we welcome these recommendations and fully support their implementation. We believe that uniform maximum axle and gross weights which could not be exceeded on any federal-aid highway would go a long way toward simplifying enforcement of weight limits and preserving our capital investment in highways and bridges.

Highway builders must have some reasonable assurance what weights will be permitted to operate over the road systems they build. Without such assurances the design life contemplated in the construction is seldom achieved. Premature reconstruction brought about by subjecting roadways to axle weights exceeding that for which they were designed exposes all users to increased and unnecessary hazards and wastes highway dollars. Maximum nationwide limits on axle and gross weights would allow highway builders to contend with only two other major variables — the weather, over which builders have no control, and the frequency of heavy axle loadings. This latter variable is a function of economic activity and is, of course, difficult to predict over a 20-year period.

Failure to establish nationwide maximum, rather than minimum, limits for axle and gross weights of vehicles will continue the hodgepodge of vehicle weight regulations which has existed in our transportation system for decades. It will continue the ever-escalating campaign for heavier and larger vehicles, resulting in a premature obsolescence of our major highway networks.

ENERGY SAVINGS FROM INCREASED TRUCK WEIGHTS AND LENGTHS

The recent energy shortages have led to many claims that increased weights and lengths would save a great deal of energy. We feel this is a highly questionable premise. Heavier trucks will increase pavement wear and tear, will necessitate heavier construction of new pavements and will accelerate the deterioration of many older pavements and bridges. Whether the alleged savings in diesel fuel would offset the costs of additional energy used in repairs and rehabilitation made necessary by the heavier weights is yet to be determined. Deteriorated highways increase fuel consumption of all vehicles. Until studies of all these factors have been completed and an analysis made of the trade-offs, no objective

appraisal of the merits of the proposal can be substantiated.

A number of claims for fuel savings from various energy conservation strategies have been made by the American Trucking Associations (ATA) and trucking industry leaders. Total fuel savings potential achieved from combining all of the recommended strategies range from 84 percent to 96 percent. This is an incredible figure and raises serious questions regarding the reliability of such estimates. Listed below are the suggested strategies, the percentage of fuel estimated to be saved and the source of the estimate.

	Estimated Fuel Savings
1. Nationwide 80,000 lbs. gross weight limit and 65' double bottoms in every state Source: ATA	26%
2. Observance of 55 mph speed limit Source: Regulated Common Carrier Conference (RCCC)	26% to 32%
3. Use of fuel-efficient vehicles equipped with radial tires, fan clutches and properly selected engine drive components (no air deflectors) Source: Hertz Corporation study	17%
4. Use of properly designed and installed air deflectors Source: Uniroyal 10% RCCC and SAE tests 2.6% - 4.2%	3.5% to 10%
5. Smooth-sided trailer rather than exterior post type Source: RCCC and SAE test	2.1%
6. Synthetic lubricants in engine, transmission and rear axles Source: RCCC and SAE test	3.4%
7. Proper tire inflation Source: RCCC and SAE test	5.75%
TOTAL SAVINGS	83.75% to 96.25%

The list shows a variety of options which could be selected that would provide greater fuel savings than the increased size and weight proposal.

For example, observance of the speed limit, selection of more fuel-efficient vehicles and maintaining proper tire pressure would, according to the industry's own estimates, save more than twice as much fuel as the increased size and weight option. This could be accomplished with no

energy cost for repairing roads and bridges and no potential safety hazard to other highway users.

Use of other available options would save even greater amounts of fuel and the petroleum products thus saved could go toward rebuilding those highways already in need of repair because of the heavier weights legislated in 1975.

SUMMATION

Mr. Chairman and members of the Subcommittee, AAA appreciates the opportunity afforded us to comment on the impact of the legislation pending before the Committee. The data presented by the GAO relative to overweight trucks and their effects on the highway and our data relative to the deteriorating safety performance of these vehicles attests to the seriousness of these problems.

AAA cannot support the legislation contained in the bills, S. 1689, S. 1383, and S. 1439 for the following reasons.

S. 1689 establishes minimum axle weights and gross weights to be required in each state, and also provides for a minimum 60-foot overall length limit. AAA is opposed to this legislation because the federal limits established are minimum rather than maximum: the weights stipulated are greater than that for which the highways were designed, according to the GAO report mentioned in our testimony, and the 60-foot overall length limit does not specify a maximum trailer length.

The length, as stipulated in Section 2, could be interpreted to apply to single unit trucks as well as articulated vehicles. Offtracking on the former would be completely unacceptable. When applied to an articulated vehicle, semitrailers in excess of 45 feet would be permitted. Here again, the offtracking would be unacceptable.

AAA recommends that the weight limit in Section 2 should be changed to 18,000 lb. single, 32,000 lb tandem and 73,280 lb. gross weight with a semitrailer and trailer length limit established at 45 feet.

S. 1383. This bill increases the tandem axle weight limit to 35,000 lbs., changes the bridge formula and establishes a 65-foot overall length limit. AAA is opposed to tandem axle weights in excess of 32,000 lbs. and believes that a change in the bridge formula will over-stress existing bridges. It opposes the requirement that all states be required to permit 65-foot overall lengths.

On the issue of length, no stipulation is established requiring that

the 65-foot length be applicable only to combination-type vehicles; therefore, as in S. 1689, it could be interpreted as to permit 65-foot straight trucks.

According to our interpretation, the probable reasoning for the 65-foot minimum is to require every state to permit the operation of double bottom tractor trailer combinations. A study recently completed by the Federal Highway Administration, reported as FHWA-RD-78-94, determined that double bottom truck operation in the State of California resulted in significantly greater fatality rates than the operation of the more common tractor-semitrailer combination. The fatality rate for doubles was 5.35 per 100 million vehicle miles of travel compared with 3.76 per 100 million vehicle miles of travel for the tractor-semis — a 42 percent difference. AAA believes that requiring all states to permit double bottom operations will expose the public to unwarranted safety hazards.

In addition to the safety hazards posed by double bottom vehicles, a study prepared by the Transportation Research Institute of Oregon State University and published by the U.S. Department of Transportation under the title, "The Energy, Economic and Environmental Consequences of Increased Vehicle Size and Weight," demonstrates that the five-axle double bottom combination exerts far more wear and tear on flexible pavements than does the tractor-semitrailer, commonly referred to as the 18 wheeler. According to data furnished in this study, the 3-S2 type of vehicle, grossing at 73,280 lbs., produced 1.8 kips. The 2-S1-2 vehicle under the same loading conditions produced 2.88 kips on flexible pavement.

Therefore, at the gross weight of 73,280 lbs., the five-axle double bottom vehicle produced 60 percent greater wear and tear of flexible pavements. There was little difference between the two types of vehicles when operated on rigid pavement. It is important to note that over 80 percent of the pavement on federal-aid highways is classed as flexible.

S. 1439 requires all states to permit a minimum gross weight of 80,000 lbs. and an overall length of at least 60 feet. We oppose this for the same reasons we stated on the previous two bills; in addition, S. 1439 completely eliminates reference to the bridge formula contained in section 127 of title 23, U.S. Code.

* * *

REDUCTION IN TRUCK WEIGHTS (NEW RESOLUTION)

The American Automobile Association calls upon the United States Congress to reconsider its action permitting increased truck weights as contained in Public Law 93-643, Highway Amendments Act of 1974.

Benefits that were alleged to accrue to the general public from a liberalization of truck weights have not materialized. Instead, freight rates have continued to increase; the volume of heavy truck traffic has increased rather than decreased; fatal accidents involving heavy trucks have increased alarmingly; heavy truck stopping distances have not improved; Bureau of Motor Carrier Safety (BMCS) is alarmed over evidence of deteriorating maintenance practices; our highways are being pounded to pieces and our bridges are in jeopardy. AAA believes that it is time to call a halt to this pretense and return to the maximum weights for which our Interstate System was designed.

AAA recommends that single axle weight be reduced from 20,000 pounds to 18,000 pounds; tandem axle weight from 34,000 pounds to 32,000 pounds; and maximum gross weight be determined by bridge formula but not to exceed 73,280 pounds.

AAA believes prompt action rescinding the more liberal weights granted in 1975 to be imperative because:

- (1) Fatal accidents involving heavy trucks have increased nearly 48 percent since Congress approved increased weights. During the same period fatal accidents involving all vehicles increased only 13 percent.
- (2) New air brake standards mandated by the National Highway Traffic Safety Administration, which Congress was assured would improve stopping distances for new vehicles operating at the heavier weights, have been eliminated for normal highway speeds by court action.
- (3) Bureau of Motor Carrier Safety roadside safety inspections have found a significant increase in the number of vehicles which must be placed out of service because of failure to meet BMCS safety standards.
- (4) Heavy axle loads and the general increase in the volume of heavy truck traffic have played an important role in the reduction of the expected service life of many sections of our Interstate System. Instead of achieving a design life of 20 years, some sections have had to be rebuilt after only 15 years of service -- a 25 percent reduction.
- (5) U.S. Department of Transportation officials and the General Accounting Office have warned that our highways are wearing out 50 percent faster than they are being rebuilt.
- (6) Studies carried out by the National Academy of Sciences and the American Association of State Highway and Transportation Officials have demonstrated that the axle weights permitted under P.L. 93-643 increase wear and tear on existing highways 25 percent to 40 percent.

- (7) Some 75 percent of the highway bridges in this country are now approaching 50 years of age. They were designed and built in an era of lighter axle loads and fewer trucks. Heavier axle loads and increased truck traffic seriously overstress these bridges, leading to further reduction in their service lives and accelerated deterioration of their physical condition with the ever-present potential risk of catastrophic failure.

SELECTED MOTOR VEHICLE SAFETY STATISTICS

FATAL ACCIDENTS

	<u>1975</u>	<u>1978</u>	<u>Percent Change</u>
Involving Heavy Trucks*	2,858	4,219	+ 47.6%
Involving Combination Trucks*	2,714	3,885	+ 43.1%
Involving Passenger Cars*	30,122	32,288	+ 7.2%
Involving All Vehicles	39,161	44,336	+ 13.2%

*Individual categories should not be totaled because of double counting in multi-vehicle accidents.

FATALITIES

	<u>1975</u>	<u>1978</u>	<u>Percent Change</u>
In Accidents Involving Heavy Trucks*	3,483	4,996	+ 43.4%
In Accidents Involving Combination Trucks*	3,320	4,624	+ 39.3%
In Accidents Involving Passenger Cars*	34,830	37,274	+ 7%
In Accidents Involving All Vehicles	44,525	50,226	+ 12.8%

*Individual categories should not be totaled because of double counting in multi-vehicle accidents.

OCCUPANT FATALITIES

	<u>1975</u>	<u>1978</u>	<u>Percent Change</u>
Occupants in Heavy Trucks	717	1,001	+ 39.6%
Occupants in Combination Trucks	675	934	+ 38.4%
Occupants in Passenger Cars	26,269	28,411	+ 8.2%

PASSENGER CAR OCCUPANT FATALITIES IN ACCIDENTS

	<u>1975</u>	<u>1978</u>	<u>Percent Change</u>
Involving Passenger Cars and Heavy Trucks	1,895	2,634	+ 39%
Involving Passenger Cars and Combination Trucks	1,816	2,428	+ 33.7%

RATES PER 100 MILLION VMT**FATALITIES**

	<u>1975</u>	<u>1977</u>
Combination Trucks	5.98	6.64 (+ 11%)
Passenger Cars	3.39	3.25 (- 4.1%)
All Vehicles	3.35	3.24 (- 3.3%)

FATAL ACCIDENTS

Combination Trucks	4.88	5.56 (+ 13.9%)
Passenger Cars	2.93	2.81 (- 4.1%)
All Vehicles	2.94	2.86 (- 2.7%)

VMT (Millions)

Combination Trucks	55,560	63,465
Passenger Cars	1,028,121	1,118,649
All Vehicles	1,330,074	1,476,567

SOURCES: Fatal Accident Reporting System, National Highway Traffic Safety Administration, U.S. Department of Transportation, and Federal Highway Administration, U.S. Department of Transportation.

PREPARED BY: Highway Department,
American Automobile Association
Falls Church, Virginia 22047

1. WHAT WILL HAPPEN TO THE TRUCKING INDUSTRY IF UNIFORM TRUCK SIZE AND WEIGHT STANDARDS ARE NOT IMPLEMENTED?

Rates undoubtedly will rise faster if uniform truck size and weight standards are not implemented. As pointed out, uniformity will save fuel which means fuel cost savings for the truck operator. Rising fuel prices and extra fuel usage means rising rates to haul freight. Also, nonuniformity means the continued hassle faced daily by truck operators. It is very frustrating to try to load with the various limits in mind. It would be advantageous to be able to load anywhere USA and deliver anywhere USA under the same size and weight standards.

Since I live in a "block state", I must load light in order to be legal in my own state. This is true both ways--loading out of the state, or on a return load home. This is also a detriment to freight rates charged in the block states. Heavier loads usually mean somewhat lower rates to a company, along with increased revenue to the truck operator. An example, we have seen freight from the west coast to Omaha, Neb. shipped for less per hundred weight than the same freight shipped to Council Bluffs, Iowa, only a matter of 15 miles further. This is caused by the fact that the truck going to Omaha can carry 80,000 gross weight, while the one to Council Bluffs can only carry 73,280. It takes an extra trip to get the same amount of goods into Council Bluffs than it does to Omaha (9-10), plus the rate differences. Therefore the receiver in Iowa (or any block state) is penalized because of the weight difference. The truck operator is also penalized as the lighter gross pay load to the block states means less gross revenue.

We would like to see the trucking industry be allowed to operate in the most economical way possible. Uniform weight and length standards is one way to allow this to happen. We personally cannot see the value of not acting immediately on an issue that will save fuel, help the independent truck operator survive, and benefit the American consumer.

2. WHAT FUEL SAVINGS WOULD BE ACHIEVED IF UNIFORM TRUCK SIZE AND WEIGHTS WERE MANDATED AT THE CURRENT FEDERAL LEVELS? ARE THERE OTHER WAYS THAT TRUCKS CAN ACHIEVE FUEL ECONOMY?

Estimated fuel savings created by uniformity would be 225 million gallons of fuel annually, as reported by a Stanford Research Institute Study, done on behalf of the Federal Energy Administration, and cited by the American Trucking Association (Heavy Duty Trucking, p136 I; Des Moines Register, June 23, 1979, p5A II; enclosed). This is nationally.

Iowa DOT estimated that 60 foot, 80,000 pounds on Iowa roads would mean a fuel savings of 7.8 million gallons of fuel annually (IaDOT, p16 III; enclosed).

Truck operators continue to investigate all ways possible to save fuel and increase their fuel economy. Manufacturers continue to develop fuel-saving equipment possibilities. Many are in the testing stages now. (IV sample of manufacturer's efforts). The independent truck operator operates with efficiency in mind--every dollar spent comes out of our pocket and can reduce our take-home dollars. We certainly are not wasteful and do operate and utilize means to achieve fuel economy.

One factor in the new fuel-saving equipment that must be considered--lack of uniformity. A truck operator cannot up-date his equipment to the most economic standards with the varying regulations. Up-dating of equipment is a continuing process. A new truck tractor costs from \$50,000 to \$70,000; an investment of this size cannot be entered into lightly. We must "spec" out new purchases with many aspects in mind: engine, transmission, rear end, tires, etc. Also, we must consider type of commodities to be hauled and type of terrain we cover (mountains, desert, cities, etc). Again, lack of uniformity comes into play. We cannot invest in this type of investment only to be out-dated a few months later. Size of trailer and type of tractor are directly related to the length standards of the states we must operate in. It would be more economical to be able to purchase tractor and trailer with minimum standards in all 48 states, instead of the various sizes we face now. We would like to purchase a conventional tractor because, in our estimation, the ride is smoother and less fatiguing. However, with the "block states" and the commodities we haul, a conventional tractor is not possible for us to own. We will be up-dating our tractor and would like to go to a conventional, however we will not make any changes with the situation we look at now. Iowa is temporarily allowing 58 feet, Wisconsin 59 feet, Minnesota 60 feet, South Dakota 70 feet, Nebraska 60 feet, Kansas 65 feet, Missouri 55 feet, and Illinois 55 feet. These are our neighboring states and Iowa--8 states, 6 different truck lengths!!! The same problem arises with up-dating trailers, various restrictions on lengths makes it impossible to up-date to the most economical level. With refer trailers costing \$25,000-\$35,000, we must purchase wisely. Temporary increases do not help--how can we up-date equipment with the uncertainty of length and weight. The need for permanent minimum standards is a necessary priority.

Manufacturers of truck equipment have come a long way in the past couple years in the matter of fuel-efficient equipment, and we would like to utilize these steps of progress. Engines have been improved, trailers are built lighter with new materials available, refer units have been improved. However, with the length issue, we cannot invest in equipment at these costs only to have it outdated next year. If we had federal minimum standards, we could spec out a tractor and trailer for each truck operator's operation, be legal across the US in both weight and length, and get on with trucking.

With the uncertainty of availability of fuel, we must conserve every way possible. The people are trying to conserve where possible. We would like the government to help in the matter of truck transportation to help conserve by passing federal minimum standards. A truck on the highway signals goods being transported, not "Sunday driving" or unnecessary driving. We are doing a job, providing a service, let's do all we can to do this job and conserve as much fuel as possible.

3. AS TRUCKS BECOME LARGER AND LARGER, WHAT ARE THE SAFETY IMPLICATIONS FOR DRIVERS? ARE THERE WAYS IN WHICH THESE TRUCKS CAN BE MADE SAFER TO DRIVE?

Iowa DOT report (p.18, V) states "...an increase in truck weights of the proposed magnitude addressed herein will not significantly increase the frequency nor the severity of truck accidents, the net result...should be a reduction in truck accidents."

Since 40 states now have at least 60 foot, 80,000 pounds, drivers in those states should have more accidents if there is a safety problem.

One way trucks could be made safer to drive is by allowing 35,000# per tandem instead of 34,000. This results in taking 2,000# off the steering axle. Lighter loading on the steer axle is a safer loading procedure, making the truck safer to handle.

4. INCREASED FATALITIES, OTHER FACTORS ON ROADWAY SAFETY (see your question 4 for complete question).

In regards to increased accidents and fatalities that supposedly have occurred, I would like to know if the 10 block states have better records in this area than the other states since their weights are lower? I don't think that is the case at all. Also, I would like to have answered from the ones who presented testimony on increased fatalities as to what percent of the trucks were carrying weights over and under 73,000#?

Since I am a truck driver by trade and not a statistician, I am uncertain as to what exactly this question is referring to--a particular study, hearing, or what?

However, today on the news we heard again of the number of fatalities each year that can be PROVEN to be directly ALCOHOL related. Again, on this increase of fatalities, was data included to show the condition of drivers? Truck operators do not drive while drunk (at least the ones I come in contact with). They have too high an investment to risk by such foolishness. Alcohol is a proven cause of fatalities, the statistics are available many places to back this up.

I am sure all aspects mentioned do cause accidents--exhaustion, time of day, too much weight on front axles. A definite cause of accidents is condition of roads. Pot-holes, poor maintenance, weather-related road damage, all contribute to accidents. Speed, both too fast and too slow, can be cause for accidents. Not only truck speed, but speed of other vehicles. We have seen too many times where a slow moving vehicle on a dangerous portion of road causes an accident. Maintenance causes accidents, example, not seeing a car, whose tail lights are not working, until it is too late; swerving to avoid a muffler that just fell off the car in front; etc. These we have witnessed. Lack of maintenance, truck or car, can be cause of accidents. Again, let me state, when a truck operator invests the money he does in his equipment, he will do everything possible to keep that equipment in top running condition. It is his livelihood, his family's livelihood, his life.

Logic shows that removing 2,000 from the front axle and placing it on the rear tandems (35,000#) would be a safety factor that could eliminate possible accidents.

Iowa DOT (p.18,V) quotes from a 1977 NHTSA study, "...concludes that severity does not vary significantly with either size or weight of the truck involved."

5. IN YOUR TESTIMONY YOU CITED A STANFORD RESEARCH INSTITUTE STUDY THAT INDICATES AN ANNUAL DIESEL FUEL SAVINGS OF 7.8 MILLION GALLONS IN IOWA WITH THE 80,000 POUND WEIGHT LIMIT.
 A) WHAT PERCENTAGE OF TOTAL DIESEL FUEL CONSUMPTION IN THIS STATE BY LARGE TRUCKS DOES THIS AMOUNT REPRESENT?

The study showing 7.8 million gallons of fuel saved in Iowa annually is the Iowa DOT study, "Implications of Increased Truck Weight and Size in Iowa", cited previously. See enclosure III. On page 16 (III), the study states, "The potential fuel savings from the proposed increased truck weights would amount to approximately 0.4 percent of the total consumption."

- B) WHAT ASSUMPTION WAS MADE IN THIS STUDY REGARDING THE VEHICLE SPEED USED BY THESE VEHICLES?

I do not know, the study did not state vehicle speed. On page 16 (III), the study states "Using the latest available data on fuel consumption", therefore I would conclude they compared and calculated data on current speed statistics.

- C) HOW DO OTHER FACTORS SUCH AS THE SPEED LIMIT, THE DRIVER, THE CONDITION OF THE VEHICLE OR THE CONDITION OF THE PAVEMENT AFFECT FUEL ECONOMY?

A well-maintained vehicle will naturally get better fuel mileage. Pavement in good condition also helps improve fuel mileage. The speed limit and the terrain also contributes either to good or poor fuel efficiency. Driving in mountains is not the same as driving on the flats. Driving in the city is not the same as driving across the deserts. You cannot drive the same in the mountains as you do on the flats, or your fuel mileage will drop drastically in the mountains. You cannot drive the same in the cities as on the deserts, or again your fuel mileage will drop. West Texas is not New York City; Donnor Pass is not the Painted Desert.

6. WE HAVE RECEIVED CORRESPONDENCE FROM THE IA DOT INDICATING SUPPORT TO FEDERAL STANDARDS IF THE INCREASED HIGHWAY MAINTENANCE COST IS BORNE BY THE TRUCKS WHO WOULD BENEFIT FROM THE INCREASED WEIGHTS. WHAT IS YOUR RESPONSE TO THIS?

Iowa DOT study, p. 15 (Venclosed) states, "The benefit cost ratio shows that for each dollar in increased highway wear, society will receive 4.2 dollars in benefits in the form of reduced transportation costs."

NOTE that SOCIETY, not truckers, will benefit. Trucks also will benefit, of course, but the consumer will benefit also.

We continue to hear "trucks must pay their fair share". I ask, what is "fair share"? What is the fair share of the person who does not own a car, pays no fuel tax or road tax, but always has the bread and milk available at the local grocery store? What is the fair share of the person who drives relatively few miles, thus paying very little road upkeep taxes, but has the equipment and supplies at his place of employment so he can remain gainfully employed? What is the fair share of the persons who produce food and grains far from railroads or barges, yet their products reach national and foreign markets without paying a lot in road use taxes? What is the fair share for the convenience of having fresh fruits and vegetables out of season, clothes to purchase, and other commodities so handy at the local stores for each and every consumer in the USA? We are not opposed to paying "our fair share", but what exactly is a fair share?

Then I ask you, "How much can I, as a trucker, afford to pay?" You can look at the last 5 years on my income tax, net revenue from my truck of \$9785, \$9477, \$8802, \$6167, and \$5192. How much can the independent afford to pay and remain in business? What will happen when we are out of business? Who will deliver the perishables? We seem to forget that every added tax will be paid by someone. Who will pay and deliver if the independent goes under? Will the big trucking companies who own NO POWER UNITS, just trailers and a piece of paper the government has given them that gives them the right to charge someone who has invested in a tractor 25% for the "privilege" of hauling the goods that the company has no way of hauling?

We continue to subsidize the railroads, providing large loans, subsidies, etc. The barge systems have been totally subsidized for years. Yet when the talk turns to trucks, we hear "PAY, PAY, PAY". We are willing to pay a fair share, but that is not always determined in a manner that we believe is "fair". Not only do the trucks benefit from the highways, but also the railroads, barges, car owners, and every consumer in the United States. Every

additional tax added on the truck operators eventually comes back to the consumer. However, most times before these additional taxes can be passed on, we find a number of truck operators have gone out of business, unable to last until freight rates adjusted to their needs. Therefore I ask "How Much Can We Pay"?

We hear news in Iowa of additional tax, especially on diesel, which will double the present tax we are paying on fuel (as I understand it). Nothing to the advantage of trucks, just more tax.

The Federal Use Tax imposed on trucks should be used only for roads, not mass transit, air lines, rails, clean air, and every other conceivable "necessity". If the trucks are expected to pay their way, so also should mass transit, barges, etc. I am sure trucks are paying very nearly "100%" of their way as it is, (91% in Iowa), how well are other forms of transportation. We must not be expected to raise our rates to the point we are subsidizing our competitors.

7. THE FEDERAL MAXIMUM STANDARDS WERE INCREASED IN 1974 TO 80,000 POUNDS. DO YOU BELIEVE THE STATES HAVE HAD A SUFFICIENT PERIOD OF TIME TO EVALUATE THE IMPACT OF THE INCREASED WEIGHTS AND MAKE A DECISION OF WHETHER TO ADOPT THOSE STANDARDS?

YES. We believe the block states have had time to increase their standards to the federal minimums. They all enforce the 55 mile limit, which came about at the same time as the standards were recommended, therefore they have certainly had time to get in line with this also. We have seen Iowa "kick" this around in the legislature for the past years, playing political football with the truck issue. We are hopeful 1980 will be the year for Iowa to "get in line". However, we still have the rest of the states to deal with, and it is very difficult for truck operators to do the work necessary (and still earn a living) and inform state legislators of this pressing need. I feel they have been informed, know the problems, but fail to be concerned enough to act. Federal pushing is needed and needed soon.

8. IN YOUR TESTIMONY YOU STATE THAT UNIFORMITY IN LENGTH AND WEIGHT WOULD REDUCE TRUCK TRAFFIC. DOES YOUR ORGANIZATION HAVE DATA ON HOW MUCH TRUCK TRAFFIC WOULD BE REDUCED?

Iowa DOT (p.16 III) "These fuel savings would result from a reduction of vehicle miles to travel required to transport the same amount of goods on a fewer number of trucks with heavier payloads."

Reduction in truck traffic would be seen in two ways: (1) hauling the same amount of goods on fewer loads with heavier payloads, and (2) not needing to go around the block states which wastes fuel and causes more miles of driving.

First, instead of taking 10 loads x 72000 = 720,000#
it would take 9 loads x 80000 = 720,000#

Reducing truck traffic by less loads can be figured on paper. Even considering the fact that the majority of trucks now do not load to the highest possible legal weights (whether 72,000 or 80,000), the truck traffic still would be reduced,

10 loads x 70000 = 700,000#
9 loads x 78000 = 702,000#

This also saves fuel, making fewer trips. Fuel savings and traffic reduction are possible with uniform standards.

There also would be a reduction in truck traffic in the cases of trucks going extra miles, under the present regulations, to go around a block state. We personally have gone around Iowa in order to haul a larger payload, and yet stay legal. This means extra miles of truck operation. One trip, from Minnesota to Texas, we went approximately 130 miles further (in order to stay out of Iowa and Missouri), which is time-consuming and fuel-consuming. Also, these extra miles caused us to drive approximately 340 miles on two-lane highways, instead of interstate I-35, which is again time-consuming, fuel-consuming, and more dangerous. Slowing down for towns, traffic, two-lane highways are more dangerous for trucks, and cars, to travel than the Interstate highway system. By-passing states usually means more miles of two-lane highways necessary to get to the destination.

If all states had the same minimum standards. We could load anywhere USA and deliver anywhere USA and be legal all the way. This would reduce some frustration, would be fuel-saving, and in many cases, be time-saving. We still continue to face the multitude of different state regulations in the areas of licensing, fuel permits, stamps, prorate, etc. Uniform weights and lengths would be a move that would relieve some of the problems of varying differences in standards.

The majority of truck operators in the Iowa Independent Truckers Association have had to avoid our home state, use extra fuel, drive extra miles, in order to stay legal because of the lack of uniform standards. The difference in payload which would result from uniform standards could mean the difference for the truck operator of staying in business, or selling out.

No one should be expected to provide a service to the consumers of the nation and not make a reasonable profit. Yet we see the independent truck operators expected to provide a necessary service UNTIL they go broke. The government promised help last June during the Shut Down--we are still waiting for that help. The Interstate Commerce Commission implemented the surcharge, which helped on the rising price of fuel. However, not all truck-operators receive the surcharge. Haulers of exempt commodities (agricultural products) do not come under this provision mandatorily. The rest of the proposals are just that--proposals. We are hopeful for positive action--soon.

aid that if, as the oil jobbers' companies have been from the secondary stock market, it could have a season the secondary stock."

But he and other DOE spokesmen stressed that DOE still doesn't believe there is a shortfall in secondary stocks or anywhere else.

"It may be a little short in places, but other places it's ahead of last year," another spokesman said.

Despite its expressed confidence that the nation's refiners will be able to meet the administration's stockpile target by the end of October, the DOE's Economic Regulatory Administration (ERA) went ahead with a proposed rulemaking that would, if put into effect, require that each refiner's production of middle distillates in August, September and October be at least equal to its production in its three best months of 1977-78. However, the DOE now says the proposed rulemaking is a "standby measure" only, which they do not expect to have to use.

Speaking at the DOE hearings on the proposed rule, ATA's Kriebel echoed the oil jobbers' predictions of trouble in November.

"The secondary and tertiary storage tanks will be filled in November, causing a dramatic drop in the statistical primary middle distillate inventory levels," he said. "Prices will rise as the media learns of this change, creating new panic. Furthermore, spot shortages will occur at the local level as supply will not be where it is needed."

"The distillate shortage of May and June will be mild compared to January and February of 1980," he predicted. He called the DOE's proposal to set minimum yield levels for refineries "too little, too late... The effect of DOE's proposed rulemaking is to give the appearance of 'doing something'. In actuality the DOE is merely formalizing actions the oil companies would take anyway."

Kriebel called for additional action by the DOE, including relaxation of clean air standards, more effort to transfer demand away from middle distillates to more readily available natural gas, propane and coal, increased imports of refined distillates

and possibly actions to limit sale of fuels for discretionary use, such as personal gasoline use and holiday jet travel.

A study conducted by the Stanford Research Institute for the Federal Energy Administration, cited by the ATA, estimated that more than 225 million gallons of fuel could be saved annually if all states adopted a uniform weight standard limit of 80,000 pounds and allowed operation of twin trailer combinations of 65 feet. Enough fuel to heat 187,000 homes a year could be saved, ATA said.

In a separate fuel-related action, the ICC raised the fuel-recovery surcharge on truckload and owner-operator traffic from 8.5% to 9%, effective Aug. 24. The commission said this would offset a 53.2% increase in diesel fuel prices since Jan. 1. The surcharge on LTL shipments not hauled by owner-operators remained at 2.7 percent.

The commission had maintained the surcharge for LTL shipments at 8.5% for two weeks, pending a review of data on motor carriers' ratio of fuel expenses to total revenue.

Meanwhile, the ATA's Local and Short Haul Carrier's Conference took steps to begin importation of refined diesel fuel on its own. Robert Shertz, general counsel for the conference, said they had a source lined up to buy diesel on the world spot market for distribution to members of a fuel co-op to be formed by the conference. He said his organization was studying the possibility of working with a truck stop owners' group to distribute the fuel. Legal problems were being studied, and a questionnaire was sent to members to determine their interest.

Shertz called for an immediate increase in the importing of refined diesel and heating oil to cover the expected shortages.

At press time, truck stops were experiencing short supplies in a number of areas. Diesel was reported to be tight all along I-80 from Chicago west. Particular trouble spots were in Montana, Wyoming and the Dakotas. Idaho and eastern Washington had also experienced short supplies.

In Pennsylvania by late August the state had used up its diesel setaside—

the four percent of fuel sold in the state which is reserved for emergency priority use.

Allocations by the major companies were generally running about 75% to 90% of last year's supply, while demand remained higher than last year.

The gap was being filled in the spot market.

"The spot market has gone out of sight," said Lorraine Wochrie of the National Association of Truck Stop Operators (NATSO). "It comes down to an individual problem of can they pay the high price on the spot market? If they can't, you'll see some truck stops closing down by the end of the last week in September."

The high spot market prices helped drive up fuel costs as well. Prices in August were running anywhere from 82 cents to 95 cents a gallon, NATSO reported.

"Under a dollar, but not by much," said another fuel industry source. He added that he had heard prices of over a dollar a gallon in some areas, up to \$1.13 a gallon in some stations in Pennsylvania and Mississippi where high taxes inflate the prices.

"The spread in Pennsylvania between majors is 12 cents to 13 cents a gallon," the source said. "That means the individual major brand truck stops are not getting what they need." The 12-cent to 13-cent gap represents what some truck stops must pay to buy supplementary supplies of fuel on the spot market.

The truck stop business is in an unusual position now, where charging more does not necessarily mean making more profit. "The guy who's charging 12 cents to 13 cents a gallon more isn't making 12 to 13 cents a gallon extra," he said, "because he needs all of the extra money, and more, to buy fuel on the spot market. His neighbor who charges 12 cents a gallon less is probably getting all he needs from his regular supplier, at his regular price, and doesn't need to shop for more."

The source did not argue with the oil jobbers' and the ATA's gloomy predictions.

"Everything I've heard is that we're not set for winter," he said. "Winter is going to bring the same kind of problem we had last spring."

Sat., June 23, 1979 ■ DES MOINES REGISTER / 5A

Truckers vow to seek more concessions

ENERGY

Continued from Page One

Increase to \$18 a barrel — up \$3.45 — would be a reasonable increase by the Organization of Petroleum Exporting Countries at their meeting next week in Geneva, Switzerland. Yamani also said that the industrial nations should decrease their use of oil by 5 to 10 percent.

• Deputy Secretary of Energy John O'Leary told a House Commerce energy subcommittee that the Carter administration foresees five to 15 more years of fuel shortages, and he urged Congress to enact multi-billion-dollar legislation to speed the development of synthetic fuels. O'Leary said that Saudi Arabia may cut back oil outputs from its current 8.5 million barrels a day to 5.5 million barrels, and that there is little likelihood that other oil-producing nations would fill the gap.

• Leaders of nine European Common Market nations decided in Strasbourg, France, to freeze their oil imports, and they appealed to the United States to consume less fuel. British Prime Minister Margaret Thatcher said that Europe's conservation measures would be "useless" if the rest of the West did not follow suit.

• Twenty-seven congressmen, led by Representative Elizabeth Holtzman (Dem., N.Y.), urged in a letter to President Carter that Energy Secretary James Schlesinger be fired for failing to develop "an acceptable long- or short-term national energy plan." Representative Edward Roybal (Dem., Calif.) cited a "lack of public and congressional confidence" in the Energy secretary's leadership.

• Representative Tom Railsback (Rep., Ill.) obtained 50 congressional co-sponsors for a resolution calling upon Schlesinger to set up an apparatus for gathering independent information on energy supplies, noting that "policymakers and citizens don't trust either the oil industry or the Energy Department."

• Two of the most powerful members of Congress, Senators Henry Jackson (Dem., Wash.) and Edward Kennedy (Dem., Mass.), demanded that Schlesinger use his mandatory allocation powers to force the oil companies to produce more gasoline and home-heating oil.

The latest wave of anti-Schlesinger protests was generated by the Energy secretary's assertion Thursday that he was "reluctant" to use the mandatory allocation powers he has to divert more crude oil to refineries for processing into gasoline and home-heating oil, because the oil companies might retaliate by deferring imported oil shipments earmarked for the United States.

Kennedy, a frequent Schlesinger critic, said that he was "appalled that the secretary of Energy believes he is powerless to prevent multinational oil companies from withholding oil."

Pressure from Truckers

Meanwhile the leaders of the protesting truckers said that they would continue to bring additional pressure on the government for unlimited diesel fuel and either lower diesel prices or higher freight rates.

But they welcomed the announcement of the suspension of Rule 9, which was adopted in May to ensure that farmers would be able to do their spring plowing and planting.

Hill, of the Independent Truckers Unity Coalition, called the action "a step in the right direction." But Hill said that his group still wants first claim on diesel fuel instead of an equal priority with farmers.

Tei Mittendorf, a member of the board of the Washington State Independent Truckers Association, said: "It will help a little bit, but it's not what we were after. What the president is doing is like giving a baby a pacifier when it starts crying."

Iowa's top energy official was glad to see Rule 9 go. "May it rest in peace," said Iowa Energy Policy Council director Edward Stanek. "It wasn't of much help."

The federal rule "essentially was taking fuel away from other sources," including trucking, Stanek said, without aiding farmers.

Bureaucratic red tape and delays in implementing the rule meant that few Iowa farmers got any additional fuel under its provisions, he said.

Jepsen: "Necessary"

Senator Roger Jepsen (Rep., Ia.) said Friday that revocation of the rule is "necessary in light of changing circumstances."

Carter's decision to suspend Rule 9 followed by one day his promise to make more diesel fuel available to striking independent truckers.

In announcing the lifting of the rule, Agriculture Secretary Bob Bergland said that the administration was concerned about the impact on the nation's economy of the truckers' strike.

Representative Thomas Foley (Dem., Wash.), the chairman of the House Agriculture Committee, said that he was "deeply concerned" by the scuttling of Rule 9. The administration must still make a "consistent effort to see that there are no agricultural shortages of diesel fuel," he said. "All groups in American society will lose if farmers are not given the fuel needed to feed and clothe us."

However Allan Grant, president of the American Farm Bureau Federation, said in New York City that the one million farmers represented by his organization "do not have a big quarrel" with the Carter move.

Government's "Flexibility"

In seeking to meet truckers' demands for more flexibility on weight limits, Karl Bowers, administrator of the highway agency, said that the government would contact the governors of states in which the weight limit is under 80,000 pounds and ask them to consider waiving the limit for 90 days.

"If they could give a reprieve under an emergency declaration, maybe the diesel shortage would right itself in that period of time," Bowers said.

John Keith of the American Trucking Association said that an increase in the weight limits would enable coast-to-coast drivers to increase their loads and their revenues by about 10 percent. The association estimated that "weight relief" would save 25 million gallons of diesel fuel a month.

In promising Thursday to address the "legitimate grievances" of truckers, Carter also had vowed to do whatever was necessary to protect those who want to return to work.

*"Implications of Increased
Truck Weight and Size
in Iowa"*

*Office of Policy Analysis
Iowa DOT
Ames, Iowa 50010
(515)-296-1322
August, 1979*

reduction of vehicle miles of travel required to transport the same amount of goods on a fewer number of trucks with heavier payloads.

Using the latest available data on fuel consumption by truck type, estimated annual savings would be:

**ANNUAL FUEL SAVINGS
(Gallons)**

System		
Interstate	- Gas	89,200
	- Diesel	3,747,600
Rural Primary	- Gas	177,000
	- Diesel	2,587,300
Urban Primary	- Gas	58,900
	- Diesel	516,100
Secondary	- Gas	91,400
	- Diesel	261,500
Municipal	- Gas	57,200
	- Diesel	227,000
Total	- Gas =	473,700
	- Diesel =	<u>7,339,500</u>
→ * Total Fuel Saved =		← 7,813,200

In 1978, the total amount of fuel consumed for highway purposes was approximately 1.9 billion gallons. The potential fuel savings from the proposed increased truck weights would amount to approximately 0.4 percent of the total consumption.

III. Safety

Safety of highway operation is an immediate concern that is strongly related to proposed changes in legal vehicle weight limits. Currently available statistics indicate that heavy trucks have a substantially higher involvement

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This concept, coupled with Cummins' Big Cam design, gave operators an 8% reduction in fuel consumption.

In response to this concern, fatal truck accident records were investigated for 1976 and 1977 and it was found that out of 13 fatal truck accidents in which a car rear-ended a truck, none of them were caused by slow-moving trucks. From this, it is reasonable to conclude that it is unlikely that a relatively small increase in truck weight will cause any increase in rear-end collisions.

Stopping distance: Will the proposed increased truck weights result in longer stopping distance and thereby increase accidents?

Braking performance has obvious impacts on safety. Braking distance is a function of brake design, tire traction and road surfaces, truck configuration, etc., not the gross weight of the vehicle. There should, therefore, be no increase in stopping distance as long as brake capacity is not exceeded.

Accident severity: It is unquestionable that severity of an accident will be much greater when a heavy truck and a light passenger car are involved than in an accident involving two passenger cars. This is due to the great difference in weight. It has long been felt that large trucks are a hazard to automobile traffic and that their danger probably increases with their size and weight.

However, a 1977 study by the National Highway Traffic Safety Administration based on data supplied by the Bureau of Motor Carrier Safety contradicts this notion and concludes that severity does not vary significantly with either size or weight of the truck involved.

Safety Conclusions: Since, as stated previously, an increase in truck weights of the proposed magnitude addressed herein will not significantly increase the frequency nor the severity of truck accidents, the net result of the proposed increased legal axle and gross weights should be a reduction in truck accidents. This is due to the reduction in truck trips to transport the same amount of *Commodities.*)

BENEFIT COST RATIOS

<u>System</u>	<u>B/C Ratio</u>
Primary	
Interstate	9.8
Other Primary	4.4
Total Primary	5.9
Secondary	0.8
Municipal	3.5
TOTAL	4.2

The benefit cost ratio shows that for each dollar in increased highway wear, society will receive 4.2 dollars in benefits in the form of reduced transportation costs.

Return on investment could be improved by embargoing all or some of the highway system during the spring, the most critical season for highway wear. The following table shows the benefit/cost ratio for spring embargo of various systems.

RANGE OF AVAILABLE B/C RATIOS

	<u>B/C Ratio</u>
1. No embargo	4.2
2. Secondary roads embargoed in the spring	5.1
3. Secondary & municipal embargoed in spring	5.2
4. Secondary, municipal & primary embargoed in spring	6.0
5. All systems embargoed in the spring	5.7

The highest benefit cost ratio will be achieved if all systems except the Interstate are embargoed in the spring.

Energy: The proposed increase in truck axle loads and gross weight would result in a reduction in fuel consumption. These fuel savings would result from a



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November 21, 1979

The Honorable Lloyd Bentsen
Chairman
Subcommittee on Transportation
Environment and Public Works Committee
Suite 4204 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Bentsen:

I have your letter of November 8 requesting responses to a number of questions concerning testimony provided to your Subcommittee on Transportation on October 25, 1979. Noted below are responses to the questions in the order they appeared in the attachment to your letter of the 8th.

(1) The numbers contained in the tables furnished with our prepared statement were derived from a March 1979 printout of data for 1978 accidents made available by the Fatal Accident Reporting System of the National Highway Traffic Safety Administration.

These tables relate to the record of heavy trucks (those over 26,000 lbs.) as compared to passenger cars and all vehicles. Heavy trucks constitute only about one percent of the vehicle population and account for about four to five percent of all vehicle miles of travel. The fact that they were involved in 10 percent of all motor vehicle fatalities in 1978 (not just those involving passenger cars, as suggested in your letter) indicates a significant and serious overinvolvement of this class of vehicle, regardless of numbers.

Highway accidents are complicated events, and seldom if ever can the specific cause of the accident be traced to any single element. Certain factors such as weather and road conditions are common to all vehicles. Since they essentially travel over the same roads and in the same weather conditions, there is no reason to suppose that these conditions affected the performance of one group any more adversely than the performance of the other.

We looked at the question as to whether the increased accident frequency

could be attributed to a sudden influx of young inexperienced truck drivers. Bureau of Motor Carrier Safety (BMCS) data indicates that between 55 and 60 percent of all accidents involving trucks subject to BMCS regulation are operated by drivers between 20 and 39 years of age. Some 24 to 25 percent involve drivers between 20 and 29, and 32 to 33 percent involve drivers between 30 and 39. There has been no significant change in the percentage of accidents attributed to either age group between 1974 and 1977. Comparable data for 1978 is not yet available. BMCS data involve trucks operated in interstate commerce, and the picture might not be the same for intrastate trucks, but there is no comparable data base for intrastate truck accidents. Based upon BMCS data, and in the absence of any significant data to the contrary, we believe that an influx of younger truck drivers, if in fact such an influx ever occurred, cannot be reasonably considered as a causative factor.

You have raised the question as to whether driver exhaustion from extended driving time might not probably contribute to the problem. BMCS has been looking at this problem as part of its regulatory responsibility to establish appropriate limitations of driving hours for interstate operations. Hearings held earlier this year brought out the fact that most accidents occur during the first four hours of on-duty time. Based upon information supplied to BMCS by the industry, we don't believe the worsening record can be attributed to long hours behind the wheel.

There have been two developments which might be contributing factors for this significant increase in accident involvement of heavy vehicles. Both relate to weight although not exclusively to weight increases granted in 1974. The first has to do with heavy vehicle maintenance. BMCS has stepped up its motor vehicle inspection program and has placed an increasing number of vehicles out of service for safety violations. Some 47 percent of vehicles inspected between August 1978 and February 1979 were placed out of service on the spot, even after advance newspaper publicity indicated that such inspections were going to take place. Most of the out of service violations related to brakes and tires - - two elements of extreme importance when weights are increased.

Another important weight-related development which may partially account for this increase in fatal accident involvement is the fact that combination vehicles are subject to yaw instability at much lower gravitational forces than passenger cars. And this yaw instability is highly weight sensitive. A new study, "Eliminating Yaw Instability in Tractor-Semitrailers During Cornering," conducted by the Highway Safety Research Institute of the University of Michigan, points out that a typical loaded tractor trailer will roll over if it is subjected to a lateral acceleration of .6 or .7 g's.

It can encounter yaw instability at a lateral acceleration of as low as .3 g's. Such yaw instability can lead to partial jackknifing and then rollover. The study points out that a typical passenger car rollover threshold is 1.3g to 1.5g. This great disparity as between passenger car rollover gravitational force and the point at which yaw instability occurs in combination trucks raises serious questions concerning the accident potential of combination trucks where their operators attempt to keep up with passenger car traffic flow on curving alignment such as freeway off ramps. Could the drivers of such combinations be unwittingly drawn into a situation where loss of control is inevitable? We don't know if this is the case but believe the potential for such an eventuality should be explored with industry representatives.

(2) One of the major arguments put forth by advocates of heavier weights in 1974 was that the granting of such increased weights would reduce the number of trips by heavy cargo haulers to move a given amount of freight. While this works out mathematically it doesn't apply in the real world. Registrations of class 7 and class 8 trucks -- those weighing more than 26,000 lbs -- have increased at an average annual rate of 19 percent between 1975 and 1978, whereas ton miles of freight movement have increased an average of only 7.5 percent per year during the same four years! On the basis of this data we can only conclude that the heavier weights did not lead to a reduction in the number of class 7 and class 8 trucks on the road.

(3) The impact of poor roads on fuel consumption has been documented by a number of studies over the years. Recent information supplied by The Road Information Program and quoted below gives some indication of the scope of this problem and its effects on highway users.

- U.S.A. - The typical U.S. driver pays about \$87 more per year for extra fuel because of bad roads.
- Florida - Poor primary and secondary roads in Florida cause the average motorist to waste 112 gallons of gasoline yearly.
- Missouri - The average Missouri motorist will waste \$164 worth of gasoline this year because of sub-standard roads in that state. Statewide, this would account for 527 million gallons of wasted fuel.

New Jersey - As much as 256 million gallons of gasoline are being wasted by New Jersey motorists -- some \$232 million -- because of bad roads in that state.

Ohio - Ohio motorists could save 208.2 million gallons of gasoline yearly -- nearly \$160 million -- if 12,741 miles of the state's rough, rutted roads were repaved or rebuilt. The wasted fuel is equivalent to the total annual gasoline consumption of nearly 322,300 Ohio drivers.

Tennessee - Poor roads are costing each resident motorist an extra \$89 a year in gasoline, for a state total of some \$221.8 million a year.

(4) We do not believe that diesel-powered class 7 and class 8 trucks are now paying their fair share of highway construction and maintenance expenses. Lighter trucks are for the most part paying more than their fair share. Whether passenger car operators are paying more or less than their fair share is dependent upon how common costs are divided among the users, and just what costs are identified as common costs.

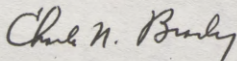
(5) Our reaction to the potential effects of Senator Melcher's bill, S. 1383, are contained in the "summation" section of our prepared statement. We believe that provisions of S. 1383 could lead to further accelerated damage to pavements and bridges. The five-axle double bottom vehicle configuration it encourages by a mandatory 65-foot length limit produces 60 percent more highway wear and tear on flexible pavements than the conventional 18 wheeler carrying the same weight. Over 80 percent of federal-aid highways consist of flexible type pavement. Without some limitation on trailer length S. 1383 might also result in 50 feet and even 55 feet cargo trailers. Off-tracking of such vehicles would be completely unacceptable and serious stability problems could be encountered in maneuvering the vehicles. Further, as noted in our "Summation", the 65 feet length might even be construed to apply to single unit vehicles identified as straight trucks. Such an eventuality would produce a vehicle with unacceptable offtracking and cornering characteristics.

(6) AAA has not conducted studies relating to the percentage of vehicles by class exceeding the 55 mph speed limit. Speed studies carried out by the Federal Highway Administration prior to 1976 carried three

classifications -- "trucks," "busses," and "all vehicles." Since 1976 FHWA speed studies have listed only "all vehicles." Average speed for all vehicles in 1975 was 57.6 mph; for trucks 56.6 mph; and for buses 57.4 mph.

In the summer of 1978 FHWA was asked to do a special speed monitoring study for the Voluntary Truck and Bus Fuel Economy Improvement Program. The study was carried out on main rural Interstates in 25 states. This special study revealed an average speed for all vehicles of 58.3 mph -- an identical average speed for trucks and an average speed of 59.7 mph for buses. The change in average speeds since 1975, as shown by the special study, indicates a 1.2 percent increase for all vehicles; an increase of 3 percent for trucks; and an increase of 4 percent for buses. The average speed for trucks and buses has thus increased much faster than for all vehicles.

Sincerely,



Charles N. Brady, Director
Highway Department

CNB:ksf

STATEMENT OF

EDWARD V. KILEY

ASSISTANT TO THE PRESIDENT

POLICY, PLANNING & DEVELOPMENT

AMERICAN TRUCKING ASSOCIATIONS, INC.

BEFORE

SUBCOMMITTEE ON TRANSPORTATION

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ON

TRUCK WEIGHTS ON THE FEDERAL-AID HIGHWAY SYSTEM

OCTOBER 25, 1979

Mr. Chairman, and members of the Committee, my name is Edward V. Kiley. I am Assistant to the President for Policy, Planning and Development of the American Trucking Associations, Inc. The organization is a federation with affiliated associations in every state and the District of Columbia, plus thirteen affiliated national conferences. In the aggregate, we represent every type and class of truck operation in the country, both for-hire and private.

We appreciate this opportunity to appear before the Subcommittee and present our industry's comments on provisions of S.1383, S.1439 and S.1689, which relate to uniform truck weights on the Federal-aid Highway System.

Few issues have the significance to the nation's economy and development, and to energy conservation, as does the question of the allowable size and weight of trucks operating on the nation's highways. It is an issue which is not easily defined or generally understood. It is an issue which is extremely technical in nature, often requiring detailed and voluminous analysis before rational conclusions can be drawn.

The role the trucking industry plays today as the major carrier of the nation's freight makes the efficiency of truck operations a matter of national concern. Efficiency of truck operations, in turn, is a direct result of the ability, or inability, to utilize our highway system in accordance with the transport capabilities built into that system.

Size and weight limits determine trucking payload, and this is where greater efficiency is to be found. Realistic size and weight standards are the key to increased trucking productivity, and to greater fuel efficiency.

The key issues involved in the legislative proposals before the Committee are whether the current Federal limits should be made mandatory as far as the individual states are concerned and whether vehicle, or vehicle combination, length should be included in the Federal standards. Currently the Federal limits go only to weight (single and tandem axle weight and gross weight) and to width.

Before discussing these issues in detail, we believe it would be helpful to present, as briefly as possible, the origin of the present standards, which were contained in the Federal-aid Highway Amendments of 1974.

This Act brought long-awaited and highly necessary changes in the Federal weight limits that had been in the Federal law since 1956. They were modest changes, on a permissive basis, as far as individual states were concerned.

When Congress passed the Federal-Aid Highway Act of 1956, it decided that since the Federal government was providing 90 percent of the cost of the Interstate System, it should set some weight standards for that system in order to protect the Federal investment. Prior to 1956, the control of motor vehicle sizes and weights had been left completely to the states with no Federal intervention or controls of any kind.

In looking for standards to place in the Federal law in 1956, the only ones available for guidance were those adopted in 1946 (ten years earlier) by the American Association of State Highway Officials.

Nevertheless, the 1946 AASHO weight recommendations of 18,000 lbs. for a single axle; 32,000 lbs. for a tandem axle; and 73,280 lbs. for vehicle gross weight, regardless of type of truck or truck combination, were placed as limits in the 1956 Federal statute, but clearly as a "stopgap" measure to be revised upward at the earliest practicable date.

That Congress unquestionably meant this to be the case is shown by the language of the 1956 Committee report which clearly stated that no increases were to be made until the tests on maximum desirable truck sizes and weights were completed and recommendations made to the Congress. 1/

The 1956 law, however, acknowledged the reasons and need for variations in state size and weight limits by recognizing through a "grandfather" clause the legality and continuation of any higher axle or gross weight limits already permitted by individual states.

However, in 1956 all states were at, or above, the Federal single and tandem load limits of 18,000 lbs. and 32,000 lbs., respectively. This means that from 1956 to 1975, there had been a complete axle weight "freeze" as far as operations on the Interstate System are concerned. The "freeze" was based on 1946 standards.

1/ House Report No. 2022, 84th Congr., 2d Session, Apr. 21, 1956

Some states were below the Federal maximum gross weight of 73,280 lbs., but by 1961 all states were virtually at this ceiling, or higher, if such higher limits were in effect in 1956. Thus, as far as operations on the Interstate System were concerned, there was a gross weight "freeze" from 1961 to 1974 -- a "freeze" based on 1946 standards.

As mentioned, the limits in the 1956 statute were temporary -- to be revised upward when Congress received the results of studies and investigations it had ordered. Congress knew that the AASHO standards it had included in the law were based largely on roads and bridges built years prior to 1946, and that the newer highways and bridges were of much higher quality. They were stronger, wider and safer. The projected new Interstate System, by law, was being built to even higher standards of structure and capacity.

Section 108(K) of the Federal-Aid Highway Act of 1956 directed the Secretary of Commerce (Bureau of Public Roads) to research and investigate the size and weight question and to report back to the Congress by July, 1959, with recommendations for new size and weight limitations.

The Bureau's report was delayed by the necessity of including in the size and weight report the results of the Illinois Road Test. The Bureau was directed by the Congress to consider this \$26 million test in connection with the size and weight study.

In 1964, the Bureau finally submitted its size and weight recommendations to the Congress. 2/

As directed by the Congress, the Bureau used the Illinois Road Test results in the preparation of the report. The Bureau recommended that as far as vehicle weight limitations in the Federal law were concerned, the following changes should become effective in July, 1967:

Increase the 18,000 lb. single axle limit to 20,000 lbs.

Increase the 32,000 lb. tandem axle limit to 34,000 lbs.

Change the flat maximum gross weight of 73,280 lbs. to a scientific formula that would permit higher gross weights as the length of vehicles and number of axles are increased.

These recommendations were determined by Federal and State highway engineers and officials after exhaustive studies and investigations. The report containing them is a comprehensive analysis of all facets of highway capabilities and motor truck operation. Every element of highway safety was researched and evaluated, as well as every element of highway engineering as it pertained to highway pavement and structure capabilities. The recommendations were not those of the trucking industry -- but of the highway regulatory agencies, Federal and state, and those responsible for building and maintaining the highways.

The recommended gross weight formula, for example, was specifically designed by highway engineers to recognize the accepted principle in highway capability that what is important is not vehicle gross weight per se, but the configuration of the vehicle; i.e., its length and numbers of axles over which the gross weight is carried.

2/House Document No. 354, 88th Congr., 2nd Session

In considering the newer Federal weight limits in terms of highway capabilities and highway design, it is important to keep in mind that axle weights, single or tandem, are important from the standpoint of pavement design. Vehicle gross weight, on the other hand, is important from the standpoint of structures, or bridges. Conceivably if there were no bridges or structures, it would only be necessary to set axle load limits. The gross weight automatically would then be limited, by the length of the vehicle and the number of axles. Axle weights are the controlling factors in highway surface design and in evaluating highway pavement serviceability.

As mentioned earlier, the new limits contained in the 1974 Act were those recommended to the Congress in 1964, based on exhaustive studies and tests, as ordered by the Congress. They were recommended to take the place of standards eighteen years old at that time -- standards based on an older highway system of another era.

The new limits were not only recommended and endorsed by the Bureau of Public Roads, but they were also accepted by the American Association of State Highway Officials. This support and acceptance is a matter of record of the 1968 hearings before the Congress. During the 1968 hearings, Mr. Frank Turner, at that time Federal Highway Administrator, stated, with respect to the recommended new limits:

"We have no difficulty with the proposals in the bill, which would allow vehicles on the Interstate System with single axle loads up to 20,000 lbs., including tolerances, tandem axle loads up to 34,000 lbs., including tolerances, and an overall gross weight computed in accordance with the formula presently in the bill. These load limits were contemplated in the 1964 report to Congress and the Interstate System is being designed to carry vehicles of these weights"

Mr. Turner went on to say that the new limits were not only acceptable as far as the Interstate System was concerned, but that the other Federal-aid roads were being designed and built with at least these limits in mind.

We believe the history of the present Federal weight limits, the extensive research that lies behind the recommendations finally enacted in 1974, show conclusively that they are reasonable limits. They are entirely compatible with modern highway design and modern highway capabilities.

This is why the trucking industry cannot accept allegations such as those set forth in General Accounting Office report of July, 1979, "Excessive Truck Weight, An Expensive Burden We Can No Longer Support," that the condition today of parts of the Interstate System is due solely or even primarily to increase in truck traffic and the adoption by some states of the higher weight limits permissible under the Federal-Aid Highway Amendments of 1974.

When the accelerated program for the Interstate System was begun in 1956, many thousands of older roads were taken into the system. The program has been under way for more than twenty years so that older mileage is now beginning to show the inevitable result of age and daily use.

References to shortening of highway pavement life, accelerated pavement wear, and highway damage, in terms of truck-traffic ratios developed by the Illinois Road Test, are misleading. They represent a complete distortion of the road test results and an abuse of the actual findings.

The Illinois Road Test as stated earlier is the basis for the weight limits now in the Federal law. The test results refute any charges that today's truck traffic operating under legal weight limits is, or can be, a threat to our highway system. The test results show that modern highways are designed to safely carry truck traffic at no less than the weight limits now in the Federal law -- and to do so without presenting any threat of premature deterioration or damage.

The GAO report, unfortunately perpetuates the confusion about illegally overweight trucks and "overweight" trucks in terms of the Federal weight limits, where adopted by the states as a result of the 1974 Act, or in states where higher limits have existed for years and exist today, as they should under the "grandfather clause."

As far as illegally overloaded trucks, and these are vehicles that violate established state size and weight standards, our industry has publicly testified on numerous occasions that we condemn these practices. We support vigorous enforcement of existing size and weight laws. We also supported, and the Surface Transportation Assistance Act of 1978 so provides, Federal aid for increased weight enforcement efforts. An important element of this support is our endorsement of the use of highway construction funds for permanent weigh stations.

The issue of "illegally" overweight trucks should be put where it belongs -- it is a question of adequate enforcement. We must not let this enforcement issue become confused with legal weight limits, whether they be at the level of the Federal limits, or higher than the Federal limits such as exist in the "grandfathered" states.

Under no reasonable interpretation can the present Federal limits be considered "excessive," nor can vehicles operating at these weights be considered heavy vehicles in terms of imposing too great a burden on our highways. Needless to say, axle or gross weights at the Federal levels would be "illegal" in states that have not moved up to the Federal limits.

In 1956 when it first set Federal limits, and again in 1974 when it revised these limits, the Congress wisely and justifiably permitted states with these higher limits to keep them. The weights "grandfathered" in the Federal law were in existence prior to

1956 -- in most cases for many years prior to 1956. Continuation of these higher limits is recognition by the Congress that individual states and regions have different needs and requirements.

These higher weights are frequently closely tied to state or regional industrial or agricultural needs. Highway development in these states is closely related to these unique and varying needs and size and weight standards vary for the same reasons.

From the standpoint of allegations as to highway deterioration, however, the important point is that the Federal Highway Administration, following the Congressional directive for highway construction standards as established in the Federal-aid Highway Act of 1956, required that each state design for no less than their legal limits. Thus, the states having the higher limits in 1956 had to build their highways to the legal limits in existence at that time. To have done otherwise, or to do so today, is contrary to the intent of the law.

Simply put, this means that the weight limits contained in the Federal law, as well as those "grandfathered" at higher levels, are completely compatible with highway design practices and the intent of Congress as provided in the law.

Raising of permissible weight limits by the Congress in 1974 was a major step forward in making it possible to achieve greater motor carrier productivity. The limits are permissible maxima (except for the "grandfathered" weights), which means the states could adopt the newer limits if they so wished. Most states have done so, but eleven states (including the District of Columbia) have still not seen fit to permit the new gross weight limit of 80,000 lbs.

During the recent fuel crisis, several states allowed the 80,000 lbs. on a temporary basis, but now only two of these states continue to do so, and one of these states will revert to the lower limit as of December 1.

Failure of the eleven states to recognize the more modern weight limit is presenting a barrier to a freer flow of commerce and to the full economic benefit that would be achieved if we were able to operate with at least 80,000 lbs. GVW in all of the states.

The barrier problem is particularly acute since most of the states adhering to the old lower weight limit coalesce so as to form a veritable "wall" in the middle of the country and thus prevents interstate movement at the modern weight level.

This brings us to the important issue involved in the three bills currently before the committee -- the question of national uniformity. It is undoubtedly desirable and would be in the best interest of our transportation system and to the economy generally. The question is, how is uniformity best achieved? The trucking industry traditionally has taken the position that all size and weight regulation should be left to the individual states and that the Federal government should not intervene in any way. This was our position when the Federal limits were first established in 1956.

It is obvious, however, particularly since the action taken in 1974, that the Congress intends for the Federal government to maintain some control over vehicle sizes and weights. For this very practical reason, the motor carrier industry believes that it is unrealistic to seek elimination of Federal controls altogether.

It would still be preferable to see uniformity achieved by having the states that have not done so, come up to the limits specified in the Federal statute. Admittedly, this is proving to be a slow and difficult process. Mandating of Federal standards may be the only feasible way to achieve uniformity. Such action, however, must continue to give recognition to any higher standards that exist and allow them to continue.

The trucking industry cannot support legislation that would strip away the higher standards that have existed in those states for many years and which are part of the fabric of their transportation systems.

Continued existence of the higher weight limits does not in any way represent a barrier to the movement of commerce between the states, nor does it in any way interfere with achieving the economic benefits that would come from uniformity.

Uniformity cannot be realistically addressed in a rigid context that does not recognize legitimate state and local needs, or the variations in state and regional development characteristics. Uniformity should be viewed in the context of how it can be achieved for "inter-regional" and/or "interstate" truck travel. It is these movements which suffer from the variations that exist in certain maximum state size and weight limits, and it is "non-uniformity" for interstate travel which is a major problem for the trucking industry.

Factually speaking, the current Federal weight limits as minimum standards provide a better base at this time for achieving uniformity of weight of vehicles in interstate movement than has ever existed in this country before. The current problem as stated is that eleven states, most of whom are strategically located, as mentioned earlier, have not brought their limits up on a permanent basis to the level provided in the Federal law.

In addition to providing for mandating Federal weight limits, the bills currently before the Committee (S.1383, S.1439, and S.1689) would provide for the introduction of length limits in the Federal law and require that these also be mandatory.

Length currently is not covered by the Federal statute. It has been left to the determination of the individual states.

When the trucking industry revised its basic size and weight policy in 1964 to recognize the increasingly obvious fact that Congress would retain some type of weight limitations, it stated as part of that policy that standards not covered by Federal law should continue to be left with the states; i.e., height and length.

We take this position because we feel that length, more than any other size and/or weight limitation, has been closely tied to various state or regional transportation requirements, as well as reflecting differing highway situations; and, further, as we look to the future for continued improvement in trucking operating efficiencies it will be through length, accompanied with gross weight determinations as developed by the "bridge formula" in the Federal law that greater truck productivity may be achieved.

At the same time, it must be admitted that national uniformity on lengths would bring greater operating efficiencies and a freer flow of commerce such as that would be provided by uniformity in weights.

For example, today the 65-foot twin-trailer combination which has proven to be a highly efficient unit with proven record of safety and economy can operate in only 33 states. Eighteen states still do not permit operation of this combination even though it has been recommended in the national policy of the American Association of State Highway and Transportation Officials and by the Department of Transportation.

Possible savings in fuel efficiency alone are an example of the price we are paying today for the absence of national uniformity at reasonable levels. A study made by the Stanford Research Institute for the Federal Energy Administration indicates that if all states permitted at least 80,000 lbs. gross weight and at least 65-feet in length, we could save on an industry-wide basis more than 205 million gallons of diesel fuel annually.

Actually, we believe the Stanford study to be a conservative estimate. It was based on intrastate operations only, in those states not permitting the 80,000 lbs. gross weight and/or the 65-foot twin-trailer operation. Since the existence of either of these limits in a "barrier" state means that interstate operations are reduced to the lower limits, there obviously would be greater savings if this were not the case, and these operations were truly interstate.

As is the case for gross weight uniformity, it would be preferable if the necessary increase in lengths could be accomplished by the individual states recognizing the need for these improvements. This would achieve uniformity but leave intact the prerogative of the states to make their own decisions.

If, however, the Congress feels that this is proving to be too slow a process and quicker, more affirmative action is needed, then the trucking industry believes that length should be made mandatory only as a minimum. Further, a distinction should be made between a tractor-semitrailer and other combinations. This would be accomplished by specifying no less than a 60-foot length for a tractor semitrailer and no less than 65 feet for other vehicle combinations.

In summary, the American Trucking Associations, Inc., believes that national uniformity on truck sizes and weights would be desirable and beneficial to our nation's commerce. However, the uniformity should be on the basis of minimum standards and at levels that would allow our highways to be utilized in such a way is to fully realize the economic benefits that have been built into them.

It would be desirable if weight uniformity could be achieved by having each state allowing on its own at least the standards provided in 23 U.S.C.S.127.

However, for the industry to achieve nationwide productivity benefits accruing from the higher gross weight limits, the mandating of these standards by the Federal government may be the only practical approach. If this were to be done, the current weight standards should be considered as mandatory minima. Further, those states having weights, either axle or gross, above these limits, must be allowed to keep the higher weights such as was the case in 1956, with reaffirmation of this retention in the Federal-aid Highway Amendments of 1974.

Uniformity in lengths is also a desirable goal. It would be equally preferable if this could be achieved by individual state action with no mandating at the Federal level. However, if Federal action is considered by Congress to be the answer, then the lengths specified should be no less than 60 feet for a tractor semitrailer combination and no less than 65 feet for other combinations. These should be minima only. The states should remain free to permit longer combinations, with gross weights limited by the formula set forth in 23 U.S.C.S.127, as longer units prove to be acceptable to individual states in terms of highway safety, highway capabilities and truck operating efficiencies.

**AMERICAN
TRUCKING
ASSOCIATIONS, INC.**

1616 P Street, N.W., Washington, D. C. 20036

Edward V. Kiley
Assistant to the President
Policy, Planning and Development

(202) 797-5221

November 26, 1979

The Honorable Lloyd Bentsen ✓
Chairman
Subcommittee on Transportation
United States Senate
Washington, D. C. 20510

The Honorable Larry Pressler
Ranking Minority Member
Subcommittee on Transportation
United States Senate
Washington, D. C. 20510

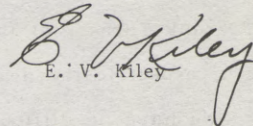
The Honorable Robert T. Stafford
Ranking Minority Member
United States Senate
Washington, D. C. 20510

Gentlemen:

Enclosed are our replies to the questions submitted to us
with your letter of November 8.

I hope these answers are responsive. If we can supply additional
information of any kind, please let us know.

Sincerely,


E. V. Kiley

EVK/rh

Encl.

A National Federation Having an Affiliated Association in Each State

QUESTION ONE:

Does your organization have any analysis of anticipated road deterioration that would occur as a result of the passage of any of the bills being considered by this committee--on the Interstate System; on the non-Interstate System; in the states who retain lower weight limits below 80,000 lbs.?

REPLY:

We do not believe road deterioration should be anticipated as a result of the allowing of at least single-axle loads of 20,000 lbs., tandem-axle loads of 34,000 lbs., and a gross weight of 80,000 lbs. As we have stated in testimony before this Committee and in testimony before the Subcommittee on Oversight of the House Committee on Ways and Means, the current permitted Federal levels of axle and gross weights, as well as those grandfathered under the 1956 Federal-aid Highway Act, and subsequently in the 1974 Act are completely compatible with highway design. The National System of Interstate and Defense Highways was designed with these limits in mind. This was emphasized in 1968 hearings on the size and weight issue before the Congress.

Mr. Frank Turner, at that time Federal Highway Administrator, stated with respect to the design of the Interstate System:

"We have no difficulty with the proposals in the bill, which would allow vehicles on the Interstate System with single axle loads up to 20,000 lbs., including tolerances, tandem-axle loads up to 34,000 lbs., including tolerances, and an overall gross weight computed in accordance with the formula presently in the bill. These load limits were contemplated in the 1964 report to Congress and the Interstate System is being designed to carry vehicles of these weights...."

Mr. Turner went on to say that the new limits were not only acceptable as far as the Interstate System was concerned, but that the other Federal-aid roads were being designed and built with at least these limits in mind.

In evaluating new weight limits in terms of highway capabilities and highway design, it is important to keep in mind that axle weights, single or tandem, are important from the standpoint of pavement design. Vehicle gross weight, on the other hand, is important from the standpoint of structures, or bridges. Conceivably if there were no bridges or structures, it would only be necessary to set axle load limits. The gross weight automatically would then be limited, by the length of the vehicle and the number of axles. Axle weights are the controlling factors in highway surface design and in evaluating highway pavement serviceability.

The 80,000 lb. gross weight, as stated in the Federal law, and as provided in the bills before the Committee, is based on the gross weight formula contained in the Federal statute (23 U.S.C., S.127).

The formula provides for gross weight limits designed to protect bridges and structures. Any gross weight based on this formula as applied to the particular vehicle, or vehicle combination, is entirely compatible with modern bridge design and structural capability.

QUESTION TWO:

On page four of your testimony, you indicate that if all States permitted 80,000 lbs. gross weight, approximately 205-million gallons of diesel fuel would be saved annually.

- a. What percentage of total diesel fuel consumption in this country by large trucks does this amount represent?

REPLY:

Based on the latest available information, it is estimated that the savings of 205 million gallons of diesel fuel represents approximately 2 percent of the total diesel fuel consumption by large trucks. The 205 million gallon figure represents only the savings which would be realized in states which do not now allow 80,000 lbs. gross weight or 65-foot twin-trailer operations. Many millions of gallons of additional fuel would be saved in other states on trips which are now operated at lower limits because the trip traverses one or more of the "barrier" states. One study conducted for the National Cooperative Highway Research Program estimates total fuel savings could be as high as 875 million gallons per year, or more than 7 percent of total diesel fuel now consumed by trucks.

- b. What assumption is made in this study with regard to the Vehicle speed used by these vehicles?

This study was based on the assumption that there would be no significant change in vehicle speed used by these vehicles. Vehicle speed data which has been published by the National Highway Traffic Safety Administration indicates that the average speed of all vehicles on the rural Interstate System has remained constant at about 58 miles per hour since 1976. A special study of truck speed in 1978 revealed that trucks were also averaging about 58 miles per hour

on the rural Interstate System. As I indicated in my testimony, ATA continues to support the 55-mile-per-hour speed limit and supports vigorous enforcement of this limit. The available data indicates that the assumption of no measureable impact due to changes in truck speed appears valid.

- c. How do other factors such as the speed limit, the driver, the condition of the vehicle, or the condition of the pavement affect fuel economy?

All of the factors mentioned, speed limit, driver, condition of the vehicle and condition of the pavement affect fuel economy in the operation of any vehicle. At higher speeds, fuel consumption definitely increases as air resistance or drag become increasingly difficult to overcome. Smooth and steady vehicle operation by the driver produces noticeable fuel savings as compared to erratic and aggressive vehicle operation. Poorly tuned engines, dirty filters, faulty transmissions, etc., all can affect fuel consumption, so that a properly maintained vehicle will mean improved average miles per gallon. Finally, very rough and bumpy pavements can affect fuel economy, particularly to the extent that they interfere with smooth vehicle operation or affect vehicle condition. To the extent that a bumpy road may reduce vehicle speed, road condition might also result in improved fuel economy since lower speeds tend to mean more miles per gallon of fuel consumed.

QUESTION THREE:

In your testimony, you state that you support vigorous enforcement of existing size and weight laws. What do you believe is the most effective means of enforcement?

REPLY:

In April, 1978, in responding to the Federal Highway Administration Docket No. 77-21, Certification of Size and Weight Enforcement, ATA filed a detailed statement spelling out our views as to the most effective means of enforcement of existing size and weight limits. Two copies of that submission are attached for your detailed review. This paper lists eight basic principles which ATA believes must guide an adequate size and weight enforcement program. It then goes on to define and spell out specific steps which might be taken to develop a meaningful enforcement program within the framework of these basic principles. We believe that the enforcement guidelines subsequently adopted by the Federal Highway Administration are compatible with these recommendations.

QUESTION FOUR:

You said in your testimony that the higher than Federal limits allowed should be continued because individual states and regions have different needs. How would you respond to those states who retained lower weight limits because they believe they have different needs?

REPLY:

We do not believe the failure of states to come up to the new Federal weight limits represents a reflection of different needs. When the 1956 Federal-aid Highway Act was passed, many of the states that have currently not come up to the 80,000 lbs. were below, in 1956, the 73,280 lbs. which the 1956 law permitted. They subsequently came up to the 73,280 lbs. permitted level although they were not required to do so. They apparently recognized an economic need for the higher, more productive, weight level. We believe the same need prevails today and there is a need, from the standpoint of productivity and truck operating efficiency, for the now permitted 80,000 lbs.

We believe there is a need for the higher weight level, just as there is need for continuation of the "grandfathered" weights in those states that have had the higher limits for so many years.

Failure of states to adopt the new weight limits does not represent a reflection of "need" for continuation of the lower limits in those states as much as it does a concern about the relationship of the newer limits and the capacities of their highway systems. We do not believe this is a justified concern. As stated earlier, the road systems have been designed and built with the newer limits in mind.

The Department of Transportation, the Federal Highway Administration and the American Association of State Highway and Transportation Officials have all testified at various times in the past as to this relationship between highway capabilities and the new Federal weight limits.

Opposition to the higher weight limits, and factors in failure of some states to adopt them, has been, in our experience, more reflective of the opposition of competitive interests and emotional reaction created by those who attempt unjustifiedly, to relate highway safety to the new limits.

QUESTION FIVE:

What will be the effect on the trucking industry if uniform truck size and weights are not implemented?

REPLY:

As we indicated in our statement of October 25, if we were able to operate at least the 80,000 lbs. gross vehicle weight, the current limit in the Federal law, and with 65-foot twin-trailer combinations in all of the states, than we would save on an industry-wide basis more than 205 million gallons of diesel fuel annually.

As we have stated, we believe the estimated saving based on a study made by the Stanford Research Institute is a conservative estimate. It was based on intrastate operations only, in those states not permitting the 80,000 lbs. gross weight and/or the 65-foot twin-trailer operation. Since the existence of either of these limits in a "barrier" state means that interstate operations are reduced to the lower limits, there obviously would be greater savings if this were not the case, and these operations were truly interstate.

The continuation of this lack of at least a minimum standard of uniformity means continued inefficient operations and a greater use of fuel than otherwise would be required. Further ability to operate in all states with at least the 80,000 lbs. gross weight and the 65-foot twin-trailer combination would mean general efficiency in transportation that goes beyond the savings realized by less use of fuel.

QUESTION SIX:

The Department of Transportation is in the process of conducting a Highway Cost Allocation Study to determine highway costs and how these costs should be allocated to various users of the highway system. Do you believe trucks are now paying an equitable share of those costs?

REPLY:

We believe that under the present tax structure supporting the Federal Highway Trust Fund, trucks are paying their fair share of the cost of the Federal Highway Program. Today all trucks account for approximately 18 percent of all motor vehicle registrations, but pay approximately 42 percent of the taxes going into the Federal Highway Trust Fund. More importantly, however, trucks over 26,000 lbs. gross vehicle weight (generally regarded as heavy trucks) total only 1.4 percent of all motor vehicles but are paying 19 percent of Highway Trust Fund taxes.

In 1961 the Congress evaluated the Highway Trust Fund, and using the results of highway cost allocation studies it had ordered made by the Secretary of Commerce, had concluded that heavy trucks were paying their fair share of highway taxes. Since those studies were made, truck taxes going into the Highway Trust Fund are the only taxes that have increased since major parts of the truck tax reflect inflationary trends.

Despite this contention on our part, we support another cost allocation study such as that ordered by the Congress in the Surface Transportation Assistance Act of 1978. This study being conducted by the Secretary of Transportation is, however, in our opinion not carrying out the intention of the Congress as specified in the 1978 Act. We are making a submission to the Congress in this regard as a result of the study outline proposed by the Secretary of Transportation. When this evaluation is completed, we plan to make a submission to the Committee for its information when it later will consider the Highway Cost Allocation Study.

QUESTION SEVEN:

In your testimony you state that the GAO Report on truck weights perpetuates the confusion about illegally overweight trucks. How many trucks, would you estimate, actually run overweight?

REPLY:

We have no information on the number of trucks that actually run overweight. Data of this type must come from the individual states. Some efforts have been made to compile the data, but when this has been done, we have found some serious discrepancies; for example, the General Accounting Office study, "Excessive Truck Weight: An Excessive Burden We No Longer Support," using the Federal Highway Administration's 1975 National Truck Characteristics Report, alleges that twenty-two percent of 5-axle tractor semitrailer combinations were operating over state weight limits. What the GAO report fails to state, but which more complete evaluation of the source data would have revealed, is that the alleged overweights included (1) cases of multiple overweights for the same vehicle, arising from the fact that a gross load overweight, an axle load overweight and an axle group overweight will often go together; (2) operations within statutory allowable tolerances which are provided to compensate for load shifting and scale inaccuracies; and (3) statutory and administrative allowances designed to meet specific agricultural and industrial needs. Special permit operations are also included in the study. The GAO may wish to call these overweight operations, but they are not illegal.

We believe there has been confusion about illegally overweight trucks and "overweight" trucks in terms of the Federal weight limits, where adopted by the states as a result of the 1974 Act, or in states where higher limits have existed for years and exist today, as they should under the "grandfather clause."

We are concerned, therefore, while condoning in no way illegal overweights, that the magnitude of this problem may be subject to inflation beyond proper proportion such as was done in the GAO report. Any illegality can be too much, but at the same time data from the Federal Highway Administration representing a sampling of states that have furnished recent, complete information on statutory weight violations, do not show this to be as serious a problem as many have suggested.

Available data for six fairly representative states, from a geographical standpoint, show violations from a low of 0.2 percent of vehicles checked to a high of 1.5 percent, with an overall weighted average of 0.5 percent. This can hardly be called excessive or flagrant.

QUESTION EIGHT:

Some of the testimony presented during the hearing address increased accidents in fatalities that have occurred in the Federal Highway System since truck weights were increased. Please provide information on this data and your analysis of it. For example, in addition to higher truck weights, other factors may have impacted roadway safety. What other factors would this data reflect? Exhaustion from extended driving periods, speed of the vehicle, time of day, maintenance of the vehicle, weight distribution of the vehicle particularly weight on the front axle, and condition of the road? Please address each of these potential factors in your answer.

REPLY:

There have been allegations that heavy truck involvement in fatal accidents has increased significantly as a result of Congressional action which permits states to allow gross vehicle weights of up to 80,000 lbs. on interstate highways.

These allegations cannot be supported by data from the U. S. Department of Transportation or the National Safety Council, the two major sources of accident data in the nation.

Heavy trucks are generally considered to be those of 26,000 lbs. gross vehicle weight rating (GVWR) and above. They consist primarily of tractor-semitrailers and other combinations of trucks and trailers. There are approximately 1.3 million combination vehicles registered nationally. There are also about 731,000 single unit trucks which are classed as heavy vehicles because of their gross vehicle weight rating. These consist mainly of large dump trucks, cement mixers and other single trucks designed for heavy load.

The Department of Transportation compiles fatal accident data for all types of vehicles through its Fatal Accident Reporting System (FARS). FARS has established vehicle categories for the compilation of fatal accident data. There are two categories for heavy trucks, one for "Heavy Singles" and the other for "Combination Trucks" with subcategories for "Two Units" and "Multi Units." There is no breakdown by vehicle weight. The data for these categories is sometimes reported separately and sometimes reported together under the title "Heavy Trucks."

Frequently, FARS data is confusing because material with the title "Heavy Trucks" contains data for "Large Trucks," those with GVWR of 10,000 lbs. and above.

FARS is frequently cited as the source of data which allegedly proves a relationship between increases in heavy truck weights and heavy truck fatal accident increases. Such proof is impossible because the FARS heavy truck categories are not subdivided to show the gross vehicle weight of heavy trucks at the time of involvement in a fatal accident. FARS data does not allow a determination if the heavy truck was at the allowed maximum gross vehicle weight or if it was empty or carried only a portion of the allowable weight. Therefore the FARS data cannot be used to support an allegation that there is a relationship between the increased weights permitted by Congress in 1974 and an increase in fatal accident experience of heavy trucks.

The Bureau of Motor Carrier Safety of the Department of Transportation collects accident data from interstate motor carriers for all sizes and types of trucks. The annual data is published in the Bureau's publication, "Accidents of Motor Carriers of Property." The publication includes a table which shows "Accident Statistics by Vehicle Gross Weight" for a give year. The tables for the years 1975, 1976 and 1977 do not show a pattern of increased accidents or increased fatalities for trucks in relation to vehicle gross weight. In fact, the lack of a pattern is obvious. For example, from 1975 to 1976 there was a greater increase in fatalities for trucks in the weight category of 65,000 lbs. to 69,999 lbs. GVW than there was for the heavier weight category of 75,000-75,999 lbs. GVW. For the first category, there was a 38 percent increase in fatalities and the increase for the second category was 23 percent.

At the most, the Bureau's tables are an indication of accident and fatality occurrences in relation to the extent of use of vehicles in the various weight groups.

National Safety Council data is of no value in determining if a relationship exists between weight increases and increase in heavy truck fatal accident involvement because it does not separate heavy single trucks from other single trucks and because it does not provide information about gross vehicle weights.

The accident record for heavy trucks is far superior to that for other vehicles. 1977 accident data from the National Safety Council publication "Accident Facts," and mileage information from the U. S. Department of Transportation for the same year show that passenger cars have an accident rate which is 47 percent higher than the rate for heavy trucks.

	<u>Heavy Truck</u>	<u>Passenger Cars</u>	<u>All Vehicles</u>
1977:	14.5	21.5	20.2

Too often those who wish to show that heavy trucks have a bad accident record use percentages to do so. The result is unfair to trucks because the truck data base is smaller than the data base for cars and any change in the truck data base shows as a larger figure on a percentage basis than the change percentage-wise for cars.

An example of how percentages can be misleading follows:

Company A had one accident in 1975 and two accidents in 1976. This results in a 100 percent increase in the number of accidents for 1976.

Company B had 10 accidents in 1975 and 15 accidents in 1976. This results in a 50 percent increase in the number of accidents for 1976.

Thus, while Company A has the better record as far as the number of accidents are concerned, Company B "appears" to have a better record when one considers just the percentage increase, one year relative to another. In this example, Company A's 1976 record is far better than that of Company B but the percentage change for Company A gave a false impression that it had the worse record.

ATA has completed a survey of carriers dealing with Hours of Service. The responses to the ATA survey shows that the largest number of accidents occur in the first hour of driving. In addition, the percentage of accidents in the first hour is substantially greater than the percentage of exposure in that hour.

The percentage of accidents is less than would be expected in the second and fourth hours, but slightly more in the third and fifth hours. More significant is the fact that the percentage of accidents in the sixth through the tenth hour is consistently lower than the percentage of exposure in each period.

The National Highway Traffic Safety Administration (NHTSA) of the Department of Transportation designed a study to help determine the speeds at which trucks and buses were traveling in general, to determine the compliance level of the 129 motor carrier members of the Voluntary Truck and Bus Fuel Economy Enforcement Program and to generate speed comparisons among trucks, buses and "all vehicles" on the same highways at the same time.

Before the adoption of the national maximum speed limit, 27 states posted lower speed limits for trucks than for cars (5-15 mph difference on the Interstates and 5-20 mph difference on other highways). Truck speeds at that time were substantially lower than passenger car speeds and it was more unusual for motorists to be passed by trucks. With the adoption of a national uniform speed limit, motorists are more often passed by trucks and are more likely to perceive that trucks are exceeding the speed limit.

The NHTSA survey indicates that for the year 1978, speed for all vehicles on Main Rural Interstates was 58.8 mph, the speed of trucks was 58.3 mph, and the speed of buses was 59.7 mph.

In the BMCS publication "Accidents of Motor Carriers of Property" (already cited), there are data dealing with "Accident Statistics By Time of Occurrence," and "Statistics By Mechanical Defects." Data from these tables show no change in the pattern of accidents for the various time periods from 1973 to 1977. Mechanical defects were the probable cause of 6.6 percent of the accidents in 1973; 6.4 percent of the accidents in 1974; 5.8 percent of the accidents in 1975; 5.9 percent of the accidents in 1976 and 5.5 percent of the accidents in 1977.

There is no support for the contention that front axles of heavy vehicles are overloaded at weights above 10,000 lbs. The National Highway Traffic Safety Administration has standards that require manufacturer certification of the strength of front axle components.

The Bureau of Motor Carrier Safety prohibits a greater weight on front tires than their load rating. A Department of Transportation study directed by Congress in the Federal-aid Highway Act of 1978 found that there is no reason to limit front axle weights of heavy trucks to 10,000 lbs.

Accident data published by the Bureau of Motor Carrier Safety shows that in 1977 there were 334 over-the-road collisions in which front tire failure may have been a factor. This is a small number considering the hundreds of millions of miles of front tire travel annually on heavy trucks. If the failures had been a result of loading front axles above 10,000 lbs., there would have been many more failures. The probable causes of such failures are manufacturing defects, road damage to tires, or improper maintenance. Such failures would have occurred at weights above or below 10,000 lbs. Most importantly, there is no evidence that the increase granted by Congress in late 1974 resulted in an increase in front tire failures. The number of such failures varies from year to year but not significantly. 1977 failures were less than 1976, 1975 and 1973, but 18 more than in 1974. The data proves the strength and reliability of front tires under the conditions of use.

QUESTION NINE:

Based on your analysis of the situation, would higher and uniform truck weights result in additional commodities being transported? Or would the impact of uniform truck weights be to shift commodities from one transportation mode to another? If so, how much shift would occur and what would be the subsequent economic and energy impact of this shift?

REPLY:

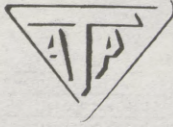
The increases in sizes and weights sought by the trucking industry are in line with those recommended by the Department of Transportation and the American Association of State Highway and Transportation Officials. The increases are compatible with highway construction and design as well as with highway safety.

Adoption of these standards as minimum standards would mean effective uniformity and would result in more efficient handling of freight currently being carried by trucks. The increased payload possible with the same trucks operating today could mean the same total tonnage transported by fewer vehicles.

We do not believe there will be any discernible shifts of traffic from one mode of transport to another. The increased gross weights are not large enough to result in loss of tonnage by the railroads, as claimed by some. More importantly, however, the increases will result in better service in those areas of transportation long ago vacated by the railroad industry.

**AMERICAN
TRUCKING
ASSOCIATIONS, INC.**

1616 P Street, N.W., Washington, D. C. 20036



PRESIDENT
Bennett C. Whitlock, Jr.
(202) 797-5212

April 14, 1978

Federal Highway Administration
U.S. Department of Transportation
FHWA Docket No. 77-21
Room 4230
400 Seventh Street, S.W.
Washington, D.C. 20590

Re: FHWA Docket No. 77-21, Certification of Size and
Weight Enforcement, Advance Notice of Proposed
Rulemaking

Gentlemen:

American Trucking Associations, Inc. (ATA) files this statement in response to the request for public comment, FHWA Docket No. 77-21, appearing in the Federal Register on January 18, 1978, titled, "Certification of Size and Weight Enforcement."

ATA is the national organization of the trucking industry, a federation of 51 state trucking associations and 13 national conferences. In the aggregate, we represent every type of motor carrier operation in every geographical area of the country.

The trucking industry is a major user of the highway systems of the United States, and it supports the improvement and maintenance of these highways through the many special highway user taxes that are levied on their vehicles. Nationally, trucks comprised 18.8 percent of the total vehicle registrations in 1976, traveled approximately 21.8 percent of the total vehicle miles and paid 37.9 percent of the combined Federal and state highway user taxes.

INTRODUCTION:

ATA supports the objectives of Section 141, Title 23, of the United States Code, which requires that each state certify to the Federal Government that it is enforcing all State laws respecting maximum vehicle sizes and weights permitted on the Federal-aid highway systems. The Congress has determined that this requirement is necessary in order to protect the Federal investment in the construction of the Federal-aid system. This new Federal involvement does, however, represent a significant intrusion into the traditional state police power and it is clear that the states must have more information and better guidelines as to the weight enforcement policies which

A National Federation Having an Affiliated Association in Each State Continued. .

are expected of them. Such guidelines must provide specific certification criteria for the states, but must at the same time allow states the flexibility to adopt those enforcement procedures which best suit their particular needs. The Federal guidelines should establish basic criteria for state size and weight enforcement certification programs which ensure reasonable uniformity of reporting from state to state. Minimum interference with interstate commerce, consistent with the needs of an adequate size and weight enforcement program, should result from the Federal regulations.

In drafting Federal guidelines, FHWA should also consider that the states have a primary interest in the highway systems, and that they have had size and weight enforcement programs in existence for many years. While much highway construction may be a joint effort between Federal, State and local jurisdictions, the Federal government does not participate in the direct maintenance costs. The magnitude of the state interest is evidenced by the fact that the states collect, each year, more than twice the total of the highway user taxes going into the Federal Highway Trust Fund. This money is spent to meet the state responsibility in the highway program.

Consequently, the states also have a strong incentive to protect their highway investment through effective enforcement programs. There is considerable evidence that the great majority of the states do exert major enforcement efforts. Federal regulations, therefore, should not be so strict or inflexible as to disrupt well operating programs.

ATA believes that the development of adequate criteria for judging a state size and weight enforcement program can best be accomplished by recognizing the following principles and then providing a list of specific programs which the states may pursue to accomplish the objectives. Accordingly, we will first outline the problem as we see it and give the general principles which should guide the Federal review of the state enforcement programs. Finally, we will describe in some detail specific activities which should enable the states to satisfy the requirements of the Federal regulations.

The problem facing FHWA in the administration of Section 141, Title 23, is two-fold. The first problem is the determination of the specific items or programs which states must put into effect to show a proper weight enforcement effort. The second issue is the establishment of reasonable and proper criteria that can be used to "judge" the adequacy of the enforcement effort.

In order to deal with both facets of the problem, ATA believes that the following principles should guide FHWA in the framing of the new regulations. The establishment of such a set of principles will enable the individual states to choose those specific programs and mix of programs which will, in their opinion, best achieve results desired by the Federal program. It is suggested that the principles which should guide a state program should include the following:

- A. Enforcement programs should be designed to achieve the most cost-effective means of compliance with the size and weight laws. Greatly expanded vehicle weighing programs, per se, may not be the best means of achieving compliance.

Continued. . .

- B. The Federal criteria established should be directed primarily to enforcement programs, and should not burden the states with extensive documentation or accumulation of statistics.
- C. The states should establish penalties or administrative procedures for violations of registration, size, or weight laws sufficient to achieve compliance.
- D. Enforcement should achieve compliance with applicable law and should be applied uniformly and equitably to all classes of vehicles and operations.
- E. The goal of enforcement programs should be to prevent "illegal" operations, while interfering as little as possible with the efficient movement of commerce in the state. Federal standards should neither require nor condone arbitrary unloading requirements or citations resulting from scale error, ice and snow accumulation, or unreasonable requirements regarding hazardous materials or inadvertent violations.
- F. Criteria for judging the adequacy of state enforcement programs must recognize, to the maximum extent possible, the differences in state geography, population concentration, laws, policies, traffic, and practices.
- G. The Federal rules should not be used to force a state to change its size and weight limits or its permit practices.
- H. The Federal involvement should not preempt the police power of the states, or set the schedule of fines, or the disposition of the fines or other liquidated damages.

Currently, FHWA requires that the State Certification include the following information:

- "[1] A copy of any state law or regulation pertaining to vehicle sizes and weights adopted since the State's last certification;
- [2] (Reserved)
- [3] The number of fixed scales operated by the State;
- [4] The number of portable scales operated by the State;
- [5] The number of vehicles weighed or measured, respectively;
- [6] (Reserved)
- [7] The separate numbers of citations, assessments, unloadings, or arrests, for size and weight violations, respectively; and
- [8] The number of State oversize and overweight permits issued, respectively, classified according to the duration of their effectiveness."

This information provides some appropriate data to show the "enforcement" efforts of an individual state. However, it does not contain any criteria that can be used to judge the effectiveness of a program, and in fact, may not be the information that is actually most suitable for this purpose.

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Ideally, a 100 percent adequate program would check every truck trip made in a state. Realistically, this is not physically or financially possible, and only a small percent of the actual truck trips can be checked. Ideally, also, a program that is 100 percent effective would result in no citations, as every vehicle would be operating legally.

Elements of Size and Weight Enforcement Certification

ATA suggests that the elements of size and weight enforcement certification, therefore, need to be broader in scope than the mere collection of statistics about vehicle weighing programs in the individual states. Many of the elements of the current regulation are appropriate, but possibly should be re-arranged.

We suggest that the following certifications, program definition, data collection, and criteria bases would provide reasonable means of evaluating a state size and weight enforcement program. These criteria, in some combination, should meet the Federal need while at the same time limiting the creation of impediments to the movement of the nation's commerce.

A. Administrative

1. The reporting of new laws, as now required.
2. The certification that all scales are calibrated as designated by the Bureau of Standards and that all operators are certified weighmasters.
3. The certification of bonding availability in each state under criteria established by FHWA.
4. The certification that a procedure to prevent multiple weighings and undue delay of a given legally loaded truck on the same trip, is available within each state.

B. Overall Program for Size and Weight Enforcement

1. A policy of using fixed, or permanent scales, with rationale.
2. A policy of using portable scales, with rationale.
3. A policy of reviewing shipping bills at "point sources" as a means of isolating potential offenders for subsequent action, if necessary.
4. A policy of prohibiting a public "certified scale" from issuing a weight ticket if the vehicle is illegally loaded.
5. A fine schedule which is deterrent.
6. An operational plan that is directed to stopping willful "bypass" of fixed scales.
7. An operational plan that is directed to making the "waiting out" of scales not feasible.
8. An operational plan that is directed towards seeking violations of "local type" hauling as well as over-the-road operators.

Continued. . .

C. The Statistics to Collect (to be filed annually)

1. The number of fixed scales, hours of operation, personnel assigned.
2. The number of portable scales, hours of operation, personnel assigned.
3. The number of vehicles weighed, measured, checked for registration, respectively.
4. The number of violations, by the separate categories above. Not to include permit operations or legal exceptions, unless conditions of permit or exception are violated.
5. Number of citations upheld by the courts and fines collected.

ISSUE DISCUSSION:

Locations and Intervals of Permanent Scales

An individual state may decide, and the FHWA may concur, that proper enforcement requires the provision of permanent scales at relatively frequent intervals along the highways, particularly the Interstate System. Current FHWA regulations indicate that permanent scales as close as 100 miles spacing on the Interstate may be eligible for Federal-aid. Location of permanent scales should be carefully determined to make avoidance difficult, and to sample all classes of vehicles, not just the "over-the-road" commerce.

The continuous operation of scales at this minimum distance interval would pose an unreasonable burden on legally loaded vehicles in commerce, and would be contrary to the National Transportation Policy.

Current speed limit regulations, and newly imposed mileage limitations, have recently placed additional restraints on the efficient movement of commerce by truck. These restraints are closely tied to the maintenance of a reasonable average speed of the vehicle. Delays of even a few minutes at intervals of every 100 miles would substantially add to these restraints and make it impossible to legally maintain efficient average speeds, for the scheduled runs. Additionally, there would be a marked increase in fuel consumption, at least 2 gallons per stop, and more pressure on some types of operations to either avoid the scales or to violate the speed limits between the scales.

While ATA recommends no specific mileage spacing for permanent scales, particularly since individual state conditions may vary widely, we are very concerned that the issue of weight enforcement not lead to very real barriers to the efficient movement of the commerce of the United States. FHWA should attempt to assure that a legally registered and loaded vehicle is not stopped more than once, for more than a minute of so, in any given state on any given trip. At least one state has met this problem by issuing a "date and time" certificate to each weighed vehicle that can be shown to subsequent scale

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attendants at a "bypass" lane. While this does not eliminate all of the loss of fuel caused by stopping at the scale, it does permit the vehicle to maintain a more reasonable operating schedule.

Multiple weighing and/or measuring during a given truck trip could very well have disastrous consequences for the users of truck service. A set of regulations and criteria that had the effect of greatly increasing the delay experienced by legally loaded vehicles would be contrary to that portion of the National Transportation Policy that is directed towards the promotion of efficient and economical transportation. Unfortunately, the possibility exists that this situation could result from an unreasonable application of the elements in the current certification program. Therefore, contrary to the stated conclusion of FHWA that "...this document does not contain a major proposal requiring preparation of the Economic Impact Statement...", ATA contends that the possible consequences of this regulation are of great importance to the users of truck service and to the efficient movement of commerce in the United States. We feel strongly that an Economic Impact Statement as to the probable effect on the efficient operation of legally operated vehicles must accompany the final regulation.

Portable Scales

The issue of vehicles willfully avoiding permanent scales is one of the most difficult that must be addressed. Allegations are made that this practice is widespread.

ATA does not have any basis of fact to conclude that the allegations are true, but we recognize that the Federal Government needs to be confident that in practice there is no easy means of operating illegal vehicles.

The use of portable scale units by the state enforcement agency is one means of countering the operation of illegally loaded vehicles. Portable scale units that operate in conjunction with the operation of permanent scales should be able to intercept vehicles that are willfully bypassing the fixed scales.

The operation of portable scales is much slower than that of the fixed scales, however, so that delays at portable weighing stations can be of much longer duration. Thus, the cost per vehicle checked can be rather high for this procedure. There is the additional factor of the traffic problems caused by widespread weighing by portable scale units. Further, the widespread use of citizen band (CB) radios has limited the effectiveness of portable scales at any given location.

Nevertheless, carefully located and operated portable scale units are a proper part of a state weight enforcement program. Portable scales should be particularly suited to enforcing limits for local or intermittent hauling operations.

Hours of Operation of Weighing Stations

The current FHWA regulations require that the numbers of permanent and portable scales in each state be reported. There is now no reporting requirement as to the hours that these scales are in operation.

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In line with our previously stated position that it is the "weight enforcement program" of the state that should be primarily judged by the FHWA, and not "statistics", ATA suggests that the hours of scale operation is one measure that can reflect the effort and cost put forth by the state in the enforcement field. The man-hours used in enforcement could be another useful measure.

We do not recommend that every permanent scale built in a state should operate 24 hours a day, 7 days a week, the year round. This would be very costly, and, as previously discussed, could present a major barrier to commerce.

However, we do suggest that if there are a series of fixed scales on a given route, one scale should be open at all times, and appropriate measures taken to prevent the willful bypass of the scale that is open.

Each state can best determine where scales should be located, both as to routes used by the longer haul trucking, and those used by more local operations. Also, knowledge of trucking practices in the region can provide a basis for scheduling scale operations. If there is to be equity in the weight enforcement activity, FHWA must be satisfied that all classes of trucking are equally sampled by the enforcement efforts, and not just the "over-the-road" trucks.

Other Non-Highway Weight Enforcement Programs

In addition to measuring scale enforcement efforts, FHWA should evaluate non-highway weight enforcement programs conducted by the states. Such programs could include checking of shipper, carrier and public scale weight ticket records, and, possibly, public scale reporting of non-permit overloads.

Careful evaluation of weight records and weight recording systems may show the possibility of weight certification programs which would permit bypassing scales in more instances, thereby reducing road congestion problems. Clearly any program which will provide a means of controlling vehicle weight without the necessity of stopping vehicles at permanent or portable scales will aid the highway enforcement program. In many states, this area of weight enforcement has been largely unexplored up to this time and pilot programs or Federally funded demonstrations may be needed to prove the feasibility of non-highway programs.

Administrative Practices Associated with Enforcement

State practices associated with the enforcement of vehicle size and weight limits vary widely, as do the individual state statutes authorizing regulations. FHWA criteria relative to the certification that a state is enforcing its size and weight laws, therefore, could conceivably put a state in jeopardy of losing its Federal-aid highway funds unless it changes a state law, or practice.

While ATA believes that FHWA should avoid such criteria if at all possible, there are some areas of enforcement, as practiced by some states, that impose unreasonable barriers to commerce, or raise questions concerning the accuracy of the enforcement scales.

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Many major truck lines routinely weigh every truck that is sent out on scales that are certified by the appropriate state agency, and a copy of the weight ticket accompanies the vehicle. It is not uncommon, however, to have these vehicles pass over enforcement scales and be cited for violations which are not shown by the company scale. Similarly, it is not uncommon to have these same vehicles pass over two different scales during a trip and have significantly different weights recorded.

Since FHWA must now judge the adequacy of a state enforcement program, and since vehicle weights are an important element of the FHWA concern, the accuracy of the scales involved in the program should be established. ATA believes that the regulations should require that all scales utilized by the states in their enforcement program are properly certified as specified by the U.S. Bureau of Standards, and that all operators of the permanent and portable scales are also properly trained and are certified weighmasters. Similarly, any tolerances that are properly associated with the scales should be identified. Weights from portable scales, in particular, are subject to significant variation, and vehicles within 5 percent of the legal limits should have the option of going to certified permanent scales for validation.

Similarly, it is our position that FHWA should not consider regulations that set arbitrary or mandatory "unloading" requirements. While some states presently do have such provisions, the requirement usually applies only in the case of flagrant violations, because of the severe problems associated with such a policy.

For instance, many truck cargoes cannot be partially unloaded without imposing a threat to the public, unless there are special facilities available. Some liquid products and hazardous materials require special equipment, facilities, and knowledge to be safely handled. Additionally, the question of the liability for product damage or loss is ever present, and can not be ignored. For these reasons, ATA believes that any mandatory unloading requirement is a determination that should be left completely to the individual states.

Posting of Bonds

Regardless of the desire of any trucking company or individual to operate completely within applicable state law, inadvertent violations can and do occur. Errors in loading can result in an axle weight exceeding the maximum limit, even though the gross vehicle weight is well within the allowable amount.

Some states permit trucking companies with regular operations within their borders to post a bond with the state to provide a guarantee that applicable fines and penalties will be paid. Such a procedure in no way provides an incentive to violate the law, but it does recognize that inadvertent violations can occur and it provides a means for the carrier to efficiently fulfill its responsibility to the state if a violation occurs.

In the absence of such a procedure, the driver of a vehicle found in violation may have to come up with cash, certified check, or money order to pay the fine before being permitted to proceed. Raising the money required can be a major problem for the driver, particularly at night, and can produce a major delay for the freight involved.

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The lack of proper bonding procedures may also open the way to questionable practices in enforcement activities. Stories are widespread within the trucking industry about inconsistencies between scales, and citations that are issued at certain scales, even though the vehicle had previously been weighed and found legal on the same trip. If such a pattern develops in a state where cash payment is required, resentment by the trucking industry is guaranteed, and whether justified or not, it creates a bad enforcement environment.

ATA believes that the Federal interest in efficient transportation is such that this involvement in size and weight enforcement should include means of improving the efficient movement of commerce as well as the control of violations. FHWA should require the state to certify that the bonding procedure is available to all trucking activities.

The Basis for Judging the Adequacy of State Size and Weight Enforcement Efforts

In spite of the fact that the individual states have the primary interest in the adequacy of their size and weight enforcement programs, they are in the position of possibly losing all of their Federal-aid highway fund allocations if the Federal government concludes that such efforts are not adequate. The seriousness of this possible loss is so great as to put significant pressure on the states to be certain that they will be in compliance with the forthcoming FHWA regulations.

The trucking industry faces possible severe operational restraints, on legally operating vehicles, if the criteria established by FHWA is not fully consistent with the needs of commerce, as well as assuring that illegal vehicle operations are controlled. We believe, therefore, that several criteria are in order, and that they should relate to different aspects of the size and weight enforcement problem.

The criteria should relate to administrative policies and enforcement programs. Additionally, statistics will need to be collected, and these should relate to a reasonable and uniform measure of heavy truck use in each state. Static base criteria, such as vehicle registration, are of no value in this issue, because of the interstate travel of many trucks.

It is our opinion that the base for judging the adequacy level for most of the statistics collected should be the gallons of diesel fuel subject to the highway fuel tax in each state. This figure is readily available on an annual basis and is a direct measure of highway use by those vehicles which are the largest and carry the heavy loads. Further, it is the most reliable "use" figure currently available from all of the states.

Summarizing the elements which will provide a basis for judging these programs, the following items seem most important:

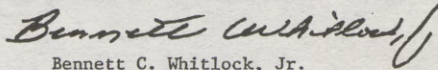
1. Ultimately, all of the elements under "administrative" should be certified by each state.

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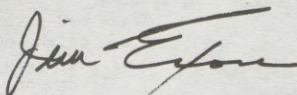
2. There are several paths to adequate and effective size and weight enforcement programs. Some designated number of the types of programs outlined should provide adequate enforcement, but at least one of the vehicle weighing programs must be included.
3. The number of scales and/or number of vehicles weighed and measured may be related to the gallons of diesel fuel subject to the highway fuel tax. The criteria should be developed from investigation of states that have acceptable programs.
4. Citations and fines, per se, have no meaning as to adequacy of the enforcement effort, but should be kept for trend development.
5. Enforcement cannot be effective if fines are not upheld by the courts. Therefore, the percent of fines that are upheld could be determined, or other administrative procedures be adopted.
6. "Non-enforcement" weighing programs of the states and FHWA should be reviewed as a measure of the effectiveness of the enforcement programs.

We respectfully request that the foregoing comments be given appropriate consideration in this proceeding.

Very truly yours,



Bennett C. Whitlock, Jr.



Statement by the Honorable J. James Exon
Before the Committee on Environment and Public Works
Regarding S. 1383, The Fuel Energy and Conservation Act of 1979
October 25, 1979

Mr. Chairman and members of the committee, I appreciate the opportunity to present testimony in support of S. 1383, the Fuel Energy and Conservation Act of 1979, which I consider to be of the utmost importance toward improving our motor carrier transportation system in this nation.

As we all remember, earlier this year the independent truckers of the nation organized a strike for the purpose of protesting the rapidly increasing cost of diesel fuel as well as economic barriers which this government, through certain action and inaction, had placed in front of the trucking industry. S. 1383 addresses one of these barriers which exists primarily due to the lack of sensitivity of the federal government to the importance of rectifying this problem area.

Mr. Chairman, truck lengths and weights and the lack of uniformity of laws governing such requirements throughout the Continental United States has caused an unnecessary economic burden on the trucking industry. A carrier may be within the legal limits on size and weight in one state only to cross the state line and find that he or she is in violation of that particular state's weight and length laws and therefore subject to stiff fines as well as delays which dramatically reduce his or her profit margins.

Also, uniform size and weight laws throughout the nation promise to provide a sufficient contribution to our collective efforts to conserve energy, and this, Mr. Chairman, is a key to the survival of this industry and the future well-being of this nation.

I would say, Mr. Chairman, that there are two principal reasons for the federal government's role in this area which has traditionally been under the jurisdiction of the states. As one who has strongly supported states' rights and defended this principle against federal encroachment, it has long been my belief that the states should control the laws governing the highways within their respective boundries. However, with this specific issue, Mr. Chairman, some of the states in this Union have refused or simply failed to address this problem in a positive and decisive manner. Approximately forty states now have uniform length and weight laws but the remainder are holdouts. It was hoped that this latest strike by the independent truckers would jar these states into action. Unfortunately, this has not been the case. It is my understanding that meetings were arranged between some of the governors of these remaining states and the proponents of uniform laws in an attempt to reach some type of consensus on this problem area. Again, the fly remains in the ointment.

The second reason is that S. 1383 addresses only interstate and defense highways which were constructed for the primary

purpose of providing for the expeditious flow of traffic through this geographically large nation. It must be remembered that the original construction of our interstate and defense highway system was a federal project with the federal government paying for 90 percent of the total construction cost. Continued major repair funds of this system are 75 percent federal dollars. This fact of heavy federal financial involvement in the interstate system and retained state control over all other highways gives further argument for the passage of this legislation.

I believe, Mr. Chairman, that enough is enough. We have been patient, we have in some cases talked until we were blue in the face in an attempt to encourage some of our sister states to change their length and weight laws and bring them into uniformity with the statutes of a majority of the other states. It is now time for the Congress to act and remedy this costly problem. S. 1383 is the means by which we can positively act on this matter and put an end to the issue which has unnecessarily cost this nation untold amounts of energy and created an economic hardship on the motor carrier industry. I strongly urge my colleagues on this committee to expeditiously and favorably report this legislation.

**NORTH DAKOTA
STATE HIGHWAY DEPARTMENT**

CAPITOL GROUNDS, BISMARCK, NORTH DAKOTA 58505

ARTHUR A. LINK
Governor of North Dakota

October 11, 1979

The Honorable Quentin Burdick
The United States Senate
Washington, D.C. 20510

Dear Senator Burdick:

I submit for your review the following information and analysis of the truck size and weight problem for our state and the nation as a whole. In conjunction with the truck size and weight problem one must consider other aspects of the transportation industry.

The trend has been toward longer and heavier commercial vehicles. While this may be a short term solution to the economical woes of the trucking industry, the long term effect may be detrimental to our highway system. Just a few years ago the majority of states had a maximum gross weight for commercial vehicles of 73,280 pounds and allowed 18,000 pounds per single axle. With the increased truck weights since 1975 to 80,000 pounds gross weight and 20,000 pounds per single axle, studies have indicated an average loss of from 25 to 40% in the remaining life span of the highways. Assuming even the most conservative figure of 25% this could result in an extraordinary burden to the states who already feel the pinch of inflation for construction and maintenance. The same study indicates a 60% loss in highway life span with an increase of axle weights to 22,000 pounds. (See Illinois study)

As you can see any relief to the trucking industry with regards to weight increases must be carefully considered. We are left with two options concerning the highway life span. We can either increase loads and decrease life span or we can maintain a reasonable load limit based on our ability to maintain the roads. Today it would appear that 20,000 pounds per single axle, 34,000 pounds per tandem axle and 80,000 pounds gross weight is as much as we can afford. Anything beyond this limit would most likely result in drastically increased maintenance costs. It should be noted that the above figures are those adopted through resolution by the National Governors Association. Another aspect of the size and weight problem has to do with uniformity or the lack of it, between the states. You are no doubt aware of this issue wherein a number of states in the center of our nation have size and weight limitations below the national trend, resulting in reduced load weights for vehicles passing through those states. This is a great hindrance to commerce if a vehicle must travel through one of these barrier states

going from the east coast to the west coast, he is limited to the weights allowed by these barrier states. A uniform weight limit on the interstate system would minimize this problem.

Another aspect of the size and weight issue is identified when one looks at the entire transportation industry. The motor truck accounts for 25% of ton miles transported while the railway accounts for 35%; the remaining modes are 24% pipeline and 16% inland waterways. If we allow greater utility of the commercial truck it could mean a reduction in the percentage of goods moved by the rails as both forms of transportation are regulated and in competition, the issue of unfair competition to the railway becomes more of a problem. Let me give you two examples: Iowa, one of the barrier states was recently taken to court for their size and weight policy. The trucking industry argued that Iowas laws were a hindrance to the constitutionally guaranteed right of interstate commerce. The courts upheld this contention and ordered the state to modify their law. On the other extreme, we see the state of Missouri being taken to court by the rail industry for increasing weight limits, alleging the action allowed unfair competition. As you can see the ripple effects are wide spread and extremely controversial.

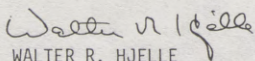
We are looking at a present day problem and must consider both long and short term solutions and effects. The economy of our nation and state parallel the development of the rail industry. Our maturity is the result of the trucking industry. We must not forget that 40,000 communities, 65% of American cities, are without rail service. Nor can we ignore our need to conserve fuel; and the railroad is by far the most cost effective mode of transportation we have for heavy bulk commodities. While it may be true that an increase in pay loads for the truckers from 73,000 to 80,000 is 5% more effective. We cannot ignore the fact that railroads are 2 or 4 times as fuel effective as trucks.

As if it were not complicated enough, another problem in that area has to do with licensing and road use costs for heavy trucks. To state the problem briefly, each state has a different licensing fee requirement and method of computing those fees. A number of states are members of a proration compact of one form or another where highway use fees are allocated on a percentage basis to the states. The lack of uniformity in this area is a problem for the trucking industry and the enforcement personnel of the various states. North Dakota has been a member of the Uniform Compact Agreement for a number of years and is making application and expects membership into two additional compacts beginning with the 1981 registration year. The International Registration Plan being one of them, is the most progressive and the fastest growing plan in the nation. IRP drastically reduces the paper work required for the trucker but increases the workload in most states. Even so it would appear the trend is toward the IRP concept.

What I have said so far may seem more lengthy than necessary, but believe me when I tell you it is only a glimpse at the overall problem. To put our situation as a state and nation in perspective, let me conclude with a historical prospective. The nations truck traffic has almost doubled in ten years. This compares with a 245% increase in the number of units (tractor and trailer) licenses in North Dakota over approximately the same period. The Highway Users Foundation has projected a doubling in the number of commercial trucks on the nations road over the next 15 years. In North Dakota we have seen a 33% increase in truck traffic over the past 5 years alone! I could go on for pages citing statistics and examples of this national and state problem and it would seem that so long as we continue to define the problem and gather information, the longer we can postpone a decision. The federal government at this time is in the middle of research into the various complex aspects of our transportation system, the magnitude of which is staggering.

Our transportation problems today will seem miniscule to us tomorrow unless we finally commit ourselves to a national transportation plan. I am confident that a nation that can get to the moon and back can solve our trucking transportation problem. If I, or my staff, can be of any assistance to you please let us contribute our share to the solution.

Your respectfully,


WALTER R. HJELLE
Commissioner

dji

National Governors' Association

Otis R. Bowen, M.D.
Governor of Indiana
Chairman

Stephen B. Farber
Executive Director

STATEMENT OF GOVERNOR BRUCE BABBITT
STATE OF ARIZONA

BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
WASHINGTON, D.C.

OCTOBER 25, 1979

Attached is a copy of an NGA policy statement adopted last July in Louisville, which proposes specific regulatory and legislative reforms regarding the trucking industry. A major focus of this policy statement urges Congress to adopt uniform national weight and length standards.

The existing hodgepodge of state regulations facing independent truckers has the effect of increasing costs, not only to truckers, but ultimately to all consumers. In practical terms, the current fragmentation of standards between states requires commercial operators to carry only the lowest standard weight as set by any state on their route. The cost and fuel inefficiencies fostered by such standard variances among states has caused national shutdowns by independent truckers and will no doubt continue to cause problems in the future unless immediate action is taken.

I would also urge your support in establishing incentives for states to join the International Registration Plan (IRP) to help eliminate wide variances in vehicle registrations between states. While IRP simplifies many administrative burdens, its standardized procedures are recognized only by the member jurisdictions. Therefore, in order to work effectively, it must apply nationwide.

I believe the appropriate congressional action can complement individual state regulatory prerogatives and allow commercial truckers to continue to conduct their business without undue barriers that slow progress, inflate rates, and frustrate national goals for fuel conservation and reduced inflation.

I urge Congress to act quickly to provide the legal framework, by compact or otherwise, for uniform nationwide regulation, especially in the area of standards for weight and dimensions on the interstate highways.

NATIONAL GOVERNORS' ASSOCIATION POLICY ON TRUCK SIZE AND WEIGHTS AS ADOPTED IN LOUISVILLE, JULY 1979, UNDER HIGHWAY TRANSPORTATION F.2.

4. The Association is concerned with increasing costs to truckers as well as consumers resulting from the lack of uniformity in allowable vehicle weights and dimensions which still exists among many states. The U.S. Department of Transportation should work cooperatively with the states to establish uniform vehicle axle and gross weights, dimensions and vehicle combinations for the interstate highway system. Particular attention should be directed to increased highway deterioration that may result in some states and to the resultant costs.

NGA urges that Congress enact immediately legislation establishing national standards for weight (80,000 gross; 20,000 per single axle; 34,000 for tandem) and length (60 ft.).

For the short run, NGA also supports the position developed by the Administration in its negotiations with the independent truckers, that is, legislation that would enable the president to establish these standards for a temporary period during a declared energy emergency.

The International Registration Plan (IRP) promotes uniformity and efficiency in state registration of interstate truck operations. We urge all nonmember states to take early steps to join the twenty-two current members and allow this important program to function effectively. The Department of Transportation should take steps to provide assistance and incentives for the states to establish this system nationwide.

We recommend that state agencies responsible for fuel tax collection, especially taxes on diesel fuel, work with those agencies responsible for vehicle registration. These agencies and their respective national associations should develop a fuel taxation program similar in operation and intent to the IRP. The states must seek ways to unite these two distinct but important revenue processes into a unified, more efficient, and economical system.

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION
BEFORE THE TRANSPORTATION SUBCOMMITTEE OF THE
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
ON TRUCK SIZE AND WEIGHT LIMITATIONS

October 25, 1979

Farm Bureau is a voluntary, dues-supported organization of more than three million member-families in 49 states and Puerto Rico, encompassing more than 2800 county units, and representing more than 75 percent of the commercial farmers and ranchers in this country.

The broad base and wide scope of Farm Bureau membership requires us constantly to monitor transportation problems and issues, as our members produce every agricultural commodity produced on a commercial basis in this country and are directly or indirectly involved with both shipping and receiving freight.

Agricultural producers generate about 800 million metric tons of freight annually, about half of which moves from farms and ranches to consumer markets. Nearly 300 million metric tons moves largely by truck on and among farms, and some 60 million metric tons of production inputs moves from industrial and manufacturing points to our farms and ranches. It is a well-established economic rule that the cost and availability of transportation has a direct bearing on the prices received by farmers. As the cost of transportation goes up farmers tend to receive less.

In recent years we have witnessed a massive shift from rail to motor carriers in the shipment of fruits and vegetables, livestock and meats, and other highly perishable commodities. This means that both producers and consumers are highly dependent upon truck transportation.

The recent shutdown of service by many of the unregulated independent truckers clearly demonstrates that these small businessmen have serious problems that need to be addressed. One of the most costly and troublesome of these problems is the maze of widely-varying state laws and regulations which affect interstate trucking and the lack of uniformity in maximum truck sizes and weights.

At the most recent annual meeting of the American Farm Bureau Federation, the voting delegates of the member State Farm Bureaus adopted the following policies:

"The best means of reducing the cost of truck transportation and of conserving fuel is to permit the use of twin trailers on the Interstate Highway System. We favor amending federal law to provide for such a national policy.

"We will work for uniform limitations on truck weights and dimensions on the Interstate Highway System aimed at minimum limitations of 80 000 pounds on gross weight and 65 feet on length. States with existing standards which exceed these limitations should be permitted to continue such standards. Standards also should provide for a reasonable distance for trucks to be loaded on and off the Interstate System."

To carry out that policy, we have drafted legislation, H.R. 4563, which was introduced on June 21 by Congressman Daschle of South Dakota. H.R. 4563 would prohibit the award of federal highway funds to any state where it is unlawful for any vehicle with an overall gross weight of less than 80,000 pounds or an overall length of less than 65 feet to use the Interstate System or any highway which--as determined by the Secretary of Transportation--provides access to any portion of the system. We would like to see similar language adopted by the Senate.

For several years we have made every effort to achieve uniform weight and distance standards on the Interstate System by seeking the passage of legislation at the state level. A great deal of uniformity has been achieved in this manner; but 10 states have refused to act. Seven of these states constitute a barrier along the Mississippi River for east-west movements, and three states constitute a barrier for north-south movements with 80,000 pounds gross weight. We have reached the conclusion that the only way to achieve uniformity is through action by the Congress.

We have reviewed the National Cooperative Highway Research Program Report 198, sponsored by the Transportation Research Board of the National Research Council and the American Association of State Highway and Transportation Officials in cooperation with the Federal Highway Administration. The research was performed by R.J. Hansen Associates of Rockville, Maryland.

We believe this to be a most useful report for purposes of your study. After a full analysis of all relevant data, the report concludes that nonuniformity in state laws relating to motor vehicle sizes and weights costs the American public from \$1.6 to \$2.8 billion annually and results in the unnecessary annual use of between 400 million and 875 million gallons of fuel. The report recognizes that some highways would need an overlay to protect them from increased axle loadings but the estimated one-time cost would be about \$2 billion to produce an annual savings of at least \$2 billion. We consider this to be a good bargain for the public.

The study concludes that the most efficient and cost-effective truck transportation would be achieved by:

1. Allowing double trailer combinations with 40-foot trailers and triple combinations with 28-foot trailers to operate on all controlled-access highways throughout the country with access permitted to terminals within a reasonable distance.
2. Bringing the maximum axle load provisions of all states with lesser limits to the AASHTO recommended limits of 20,000 pounds single axle and 34,000 pounds tandem axle.
3. Retaining the bridge formula as commonly applied, but eliminating unnecessarily restrictive gross weight limits.

We will not review this report further, since we are sure it will be presented in detail for your consideration. However, based on the findings in this report and a number of other reports in recent years, we have concluded that:

1. The national interest requires that Congress take necessary action to give the Secretary of Transportation authority to provide for uniform weight, width and height limits for trucks using the Interstate Highway System, with provision for reasonable access to that system.

2. Legislation to provide for such uniformity should "grandfather" laws and regulations in those states that now exceed the uniform standards promulgated by the Secretary.

3. Such uniform standards should permit twin trailers to be used throughout the Interstate System, with an overall length of at least 65 feet.

It is clear that such uniform standards would provide for greater efficiency in the use of manpower and equipment, result in significant fuel savings, reduce the number of truck trips required to carry the same tonnage, and result in lower transportation costs that would benefit shippers, receivers and consumers.

We do not believe that S. 1439 and S. 1689 offer an adequate remedy, as they propose merely to authorize the President to act in a fuel emergency to mandate uniform weights and lengths. We believe fuel shortages and extremely high costs will be an ongoing situation for the foreseeable future, and Congress should provide for a uniform system of weights and lengths on the Interstate System without requiring an emergency determination by the President.

We have not advocated any change in the present bridge formula in Section 127 of Title 23 USC as proposed in S. 1383 since 80,000 pounds gross weight could be accomplished by using twin trailers and the 65-foot maximum length we recommended.

The Interstate System was engineered and constructed to carry the axle loadings that have been permitted by federal statute since 1974. We have no reason to think that such uniform standards would result in any increased maintenance costs on the Interstate System, and we do not know of any evidence that highway safety would be adversely affected. Experts tell us that braking characteristics of the combinations recommended compare favorably with those of vehicles now permitted in every state, and that under wet-pavement conditions these vehicles are safer than single semi-trailer combinations.

We realize that some people in government and those in the railroad business oppose any further liberalization of truck weights and lengths on the basis that it is in the public interest to discourage further expansion of the movement of freight on highways and that, instead, public policy should encourage or force the movement of freight back to the railroads.

Agriculture is an industry that requires the use of all modes of transportation. We are concerned that the shift from rail to truck in the movement of agricultural freight in recent years has resulted in an unhealthy dependence upon trucks. On the other hand, we believe it would be unwise and counterproductive to prevent the development of efficiency in one mode of transportation to permit another mode to compete for traffic. Railroad problems need to be solved on their own. It is not necessary to cripple truck transportation to make rail transportation more efficient and more competitive.

We appreciate this opportunity to present the views of Farm Bureau members.

TESTIMONY FROM MRS. THELMA GRAMING
SIOUX FALLS, SOUTH DAKOTA

Mr. Foster

I would like to thank you very much for the opportunity for us (Truckers) to voice our opinions on this very important issue to the Trucking industry.

It is my husband's and also my opinion that out of the three the only one that would be a complete answer to our problems and would let the owner-operators have a titled thing is S 1313 because it would be a permanent law so it would be able to handle our business and equipment as so.

By enabling us to go the longer length you will find the drivers will become more efficient and it will be easier to handle the D.O. & rules better. I come to this conclusion by this means. We would be able to have a wheel base on our tractor that could give us a much more relaxing ride and enable the driver to get a more restful sleep because it would eliminate the bouncing and jarring ride we have to put up with now ~~and~~ on many of the highways. We could also

the problems "like lily's beds" and more sound proof sleepers this enabling the man in the sleeper better rest so he will be more alert on duty and of course we can see this will mean better safety.

Why should we have more weight or you could ask it why do we have to have more weight. The American people are demanding this of us. The shippers are always after us to take more of their products and the receivers, even when they live in Iowa and Missouri, are always mad because their orders were not met because of weight. The truckers are not going to see a big profit on the larger loads it is more of a convenience to the American public. As you can tell from the rate structure the larger the weight the ~~the~~ lower the rate. But with fuel at the shortage it is now. And the price we (the truckers) have to have every pound we can for economic reasons. It does not take too much figuring to find that we can pull 20,000 with ~~only~~ ^{a small} a fuel increase on 72,000 lbs we get 4 1/2 miles

to the gal. and on 80,000 we get 47 miles
to the gal. This means if we haul
11 loads ^{\$26,000} we will be actually hauling
12 loads at 73,000 at a very small fuel
increase.

I think that federal aid should
be taken away from the state that
do not comply because it is causing
1. waste of energy to run around these
states 2. cost of inflation to increase
because of increased freight costs 3 and
why should part of your tax dollars go to
a state that is not willing to work with
us.

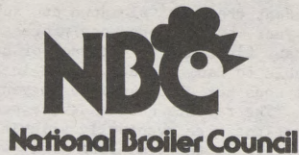
We are tired of paying taxes
(license is nothing else) and not seeing
a return on our dollars. If they were
to build these roads on the Indian and
license of just cars we would not
have an Interstate System today.

I also feel this is the
least the Government can do for the
truckers. Since they can take 50
million dollars of the tax payers money
and pay the wages and up keep
of the railroad.

We the truckers are trying
our best to work for the people and
with the people of America without
taking their tax dollars and we

Can do because we try harder
and can see our problems and
try to get them straightened out
before we go under

Thank you
Mrs. Ethelna D. Garrow
224 N. Franklin
Saint Louis, Mo.



STATEMENT OF
THE NATIONAL BROILER COUNCIL
TO THE
SUBCOMMITTEE ON TRANSPORTATION
SENATE COMMITTEE ON ENVIRONMENT
AND PUBLIC WORKS

RE: S.1863 INCREASED UNIFORM MINIMUM TRUCK WEIGHT STANDARDS

November 5, 1979

The National Broiler Council ("NBC") is the trade association representing the producers and processors of broiler/fryer chicken. NBC's members produce and process more than 75 percent of the broiler/fryer chicken transported to market in the United States.

NBC is proud, especially in these times of rapid inflation, that it continues to make available to the public a nutritious and extremely economical food product. In the period 1950 to 1979, the Consumer Price Index for all food products has increased by 215 percent, while the price for poultry during the same period has increased less than 15%.

Broilers have continued to be a best value for the consumers' food dollars in large part due to the ever-increasing efficiency of America's broiler production, processing and marketing system. Trucking has, and is, a vital and integral part of that efficient system. NBC's members rely heavily on independent interstate trucking to move their finished product to market throughout the United States. The role of the trucking industry in transporting broilers, as well as the hundreds of inputs into the broiler industry, is vital and is, therefore, a matter of national concern.

The efficiency and cost of trucking operations determines, to a large extent, how our members can distribute and market their products, and thus, affects the final cost of broilers to consumers. NBC believes that realistic and uniform size and weight standards are key factors to trucking efficiency.

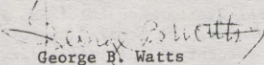
At present, there are ten states and the District of Columbia which do not utilize the Federal minimum weight limits for interstate trucking. The six states bordering the Mississippi which have lower than Federal weight limits continue to make coast-to-coast operations not only impractical but expensive as well. This barrier is particularly serious for broiler producers, the vast majority of whom are located in the southeast, and must traverse a number of the states whose gross and axle weight are significantly below Federal standards.

During the independent truckers' slowdown and subsequent strike which occurred during June of this year, broiler producer/processors were seriously injured in their operations. Many firms had to cut back or halt production entirely, because no trucks were available to haul product. The integrated structure for producing/processing broilers does not allow an inventorying of live production. Market disruptions occurred. The results caused severe economic dislocation within the industry. Some of the problems were eventually alleviated, however, when several states increased, albeit temporarily, their minimum truck weight limitations to meet Federal standards. But the problems encountered during the strike were certainly not unique to the broiler industry--they affected a significant segment of the raw and processed agricultural commodity community.

So that broilers can continue to be an inflation fighter, and so that fuel costs can be saved, the National Broiler Council supports S.1836 which provides for increased uniform minimum truck weight standards and a more effective trucking system.

Inflation and energy shortages are now a fact of life. One step -- the passage of S.1863 -- will be a step in the right direction of slowing rising costs and of better coping with the energy situation.

Respectfully submitted,


George B. Watts
President

BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

PUBLIC HEARINGS ON
UNIFORM TRUCK WEIGHTS AND LENGTHS

SUBMITTED STATEMENT
OF
NATIONAL INDEPENDENT MEAT PACKERS ASSOCIATION
AND
MIDWEST PACKERS TRAFFIC ASSOCIATION

November 2, 1979

My name is Jerry T. Ratledge, and I am Vice President of Physical Distribution for Iowa Beef Processors, Inc. I am submitting this statement on behalf of the National Independent Meat Packers Association (NIMPA) and the Midwest Packers Traffic Association (MPTA). By way of identification, NIMPA has a national membership of approximately 290 companies, including most major beef slaughtering and processing firms and many local and regional processed meat manufacturers. The MPTA consists of several both large and small packing companies with facilities located primarily in the Midwest. I am a member and past president of the MPTA and currently serve as Vice Chairman of the NIMPA Transportation Committee.

Both NIMPA and MPTA vigorously support enactment of legislation providing for uniform truck weights and lengths among the various states.

PRIOR RELATED RESEARCH

We assume that the Committee is aware of and has accepted into the record what must clearly be regarded as the most scholarly and authoritative study ever done on the subject of truck weights and lengths. We are referring to the report entitled State Laws and Regulations on Truck Size and Weight¹ prepared by the consulting firm of R. J. Hansen Associates of Rockville, Maryland. This study was sponsored by the American Association of State Highway and Transportation Officials in cooperation with the Federal Highway Administration. The study was publicly funded and is not "tainted" in any way by private funds from the ATA or other special interest

¹R.J. Hansen Associates, Inc., National Cooperative Highway Research Program Report 198; State Laws and Regulations on Truck Size and Weight, Transportation Research Board, Washington, D.C., February, 1979.

groups. We will not rehash that very comprehensive 117 page report here other than to cite the key finding that "nonuniformity in state laws relating to motor vehicle sizes and weights is costing the American public from \$1.6 to \$2.8 billion annually" (p.1, emphasis supplied). The report goes on to point out that ". . . the lack of optimal uniformity not only is costing the American public excessive amounts for transportation, but it also results in the unnecessary use of between 400 million and 875 million gallons of motor vehicle fuel, largely diesel" (p.1 emphasis supplied).

In the following paragraphs, we will attempt to share some of our observations and recommendations concerning the vital need for uniform weights and lengths, with particular emphasis upon the economic impact of such regulations upon the meat industry.

INDUSTRY BACKGROUND

Motor carriers now form the backbone of the transportation system which serves the meat industry. Trucks transport the live cattle from the farm and feedlots inbound to our plants. Other trucks in turn carry the finished products to their final destinations throughout the U.S. Railroads are still important to us in transporting the by-products of our industry such as hides, tallow, and dried proteins; and they may one day play a more important role in carrying our primary products. But our first concern is the trucking area where we spend over 85% of our transportation dollars.

In the main, our industry is served by irregular route common carriers and some contract carriers. These trucklines, in

turn, rely heavily upon owner-operators as a source of tractor power and drivers. However, the proportion of company tractors appears to be increasing as many trucklines experience difficulty in attracting sufficient owner-operators to support their growth plans. We are hopeful that the owner-operators will continue as a strong and healthy component of our National Transportation System for they are very productive individuals.

Ironically, while many trucking companies and shippers have been espousing the economic merits of uniform truck weights and lengths for many years, it required a system-wide shutdown of the owner-operators to focus national attention on the issue. Lamentably, where reasoned arguments failed, violence and disruption of the nation's food supply lines resulted in the governors of four states issuing emergency proclamations lifting their maximum gross weights to the federally-permitted 80,000 lbs. standard, introduction of emergency legislation in both the Senate and House which would preempt the remaining state restrictions, and newfound support by the Executive Branch for weight and length uniformity among the states. But for all its destructiveness, some good will have come from the owner-operators strike if it serves to galvanize the country into taking the action so vitally needed to achieve uniform weights and lengths throughout the nation.

FORTY TON TRACTOR-TRAILER UNITS

Economic Impact

It is critical that prompt action be taken to correct the lack of uniformity on tractor-trailer gross vehicle weights bringing all

states to the federally-permitted standard of 80,000 lbs. (and 60 feet gross length). The antiquated trucking statutes still on the books of 10 of the 50 states impose an intolerable burden on interstate commerce. The strategic location of these so-called "barrier" states serves to exacerbate the problem.

In the case of IBP, for example, we estimate that approximately 74% of our total shipments must pass through one or more of these problem states. On the outbound finished product alone--assuming we ship 1800 loads per week at full capacity--this amounts to almost 70,000 truckloads a year. If we could increase the shipping weights on these trucks by 6,000 lbs. each, we could ship the same volume using 13% fewer truckloads (or over 9,000 fewer loads). Based on our average freight cost per load, these unnecessary shipments now represent over \$10 million of waste in IBP's outbound distribution system alone. Because the meat packing industry operates on high volumes and narrow margins (typically around 1% of sales), this needless cost is by necessity reflected in the prices we are able to pay farmers for their cattle or in the prices we must charge for our finished products. It is a large and unnecessary burden upon the entire agricultural production and distribution system.

The costs contained in the IBP example must be multiplied by all the other meat shippers in our industry to arrive at the full dimensions of the problem for our industry alone. We know of no other opportunity available today which could provide such an immediate and significant improvement in productivity within our transportation system.

An important note of caution should be injected at this point lest in our zeal for uniformity among the states we succeed in throwing out the baby with the bath water. In the setting of uniform standards, it is essential that the Federal Government continue to "grandfather" into law any higher gross weights currently observed by some states. For example, Nebraska now permits tractor-trailer units meeting certain axle configurations to gross 95,000 lbs. Such states typically created such exceptions to meet the special needs of industry and agriculture within their states. Millions of dollars have been invested in specialized equipment to take advantage of these higher weight limits and it is important that these efficiencies be preserved.

In fact, we believe the 80,000 lb. standard should be viewed as a minimum near-term objective with further study given to even higher future standards nationwide based upon the favorable experience of those states having more liberal weight and length limits.

Intermodal Competition

One of the most specious of all arguments against uniform lengths and weights is that it could alter the competitive balance between truck and rail. Placed in perspective, the real question being asked is "Do we want to continue to force the trucks to waste fuel in order to avoid disturbing existing competitive relationships?" It should be obvious that any traffic which the railroads stand to lose solely because of a move towards uniform weights and lengths is traffic which they manifestly

deserve to lose; indeed, it is being handled now only because of artificial restrictions placed on their competition.

In the real world, however, the amount of traffic subject to such diversion has to be quite small. One study performed on the subject indicates the areas of modal advantage are relatively solid and are not subject to major shifts². In our industry, we would anticipate virtually no traffic shifting from truck to rail as a result of adoption of uniform weights and lengths. Rather, the existing truck traffic would simply move more efficiently at less cost.

Taking a more positive outlook towards the railroads' future, their fundamental competitive position should be progressively enhanced as energy costs continue to escalate. It hardly seems necessary to hamstring the trucks with antiquated weight and length restrictions in order to promote the health of the rail industry.

Highway Costs

It is true that heavier trucks give rise to the need for increased highway spending. However, as explained in the Hansen Report, once highways are designed and built to handle a given level of axle loadings, then they will not deteriorate any faster or experience greater maintenance costs than would roads built to carry lighter loads. A major problem admittedly arises in that some of the nation's existing highways and bridges were not designed to carry the heavier trucks, and hence would experience higher maintenance costs and a shorter life if subjected to the

²Ronald D. Roth, Assistant Director, "An Approach to Measurement of Modal Advantage" (A Presentation to the Transportation Research Board Annual Meeting, Washington, D.C., January, 1977).

heavier loads. The solution is a one-time capital expenditure to bring all highways up to the required standards, which the Hansen study estimates would cost about \$2.0 billion. This initial cost would be more than recovered in the first year's savings from reduced transportation costs. The related future costs of replacing these highways at the end of their normal life cycle would be more modest, since the incremental costs of building the roads to accept heavier loads is not substantially greater than for building roads to handle lighter loads.

On a more local level, the Department of Transportation for one of the "barrier" states, Iowa, estimates that heavier trucks would produce an additional cost factor of only \$1 for each \$10 saved in fuel and other trucking costs on the Interstate Highway System, within their states. There are very few opportunities available which present such an attractive cost-to-benefit ratio.

Safety

The DOT's own National Highway Traffic Safety Administration has completed what is considered the latest and most authoritative study on the subject of safety and truck size³. That study concluded that truck weight is not a major factor in the severity of truck accidents. Recognizing, further, that a nationwide gross vehicle weight of 80,000 lbs. would enable many shippers to eliminate up to one out of every seven truck movements, it becomes clear that the overall exposure for potential accidents would be reduced significantly. Our highways would actually

³James Hedlund, "The Severity Of Large Truck Accidents" (The Mathematical Analysis Division Technical Note Series, National Highway Traffic Safety Administration, April 1977).

become considerably safer because of the reduction in unnecessary truck miles traveled.

This conclusion is also supported by the Iowa Department of Transportation which estimates that passage of a state law permitting 80,000 lb. trucks in the state would eliminate 49 truck/car accidents per year based on the reduction in unnecessary truck miles traveled.

Institutional Barriers

Most of the problem states had bills introduced within their legislatures this year to modernize their weight and length laws. But progress has been extremely discouraging. "Big trucks" can be an emotionally-charged issue which can have political liabilities for state legislators and governors alike. Many of the legislators themselves do not fully understand the economic and technical merits of heavier trucks.

While many of us might prefer that the states make the necessary changes on their own, without federal interference, this is a waiting game that we can ill afford during a growing energy shortage. From a transportation standpoint, the time has come for the United States to become just that: the United States-- a unified system with standardized truck weight and length laws on roads of standard design. The current patchwork of widely varying state limits is simply antithetical to an efficient Interstate Highway System which was designed for uniform speed limits, uniform clearances, uniform signs and signals, and uniform structural design. The Federal Government must exercise strong leadership in ensuring that the necessary changes are made

and made rapidly. As in its program to reduce speed limits to 55 m.p.h. on the nation's highways, the Federal Government has all the powers of persuasion necessary in the form of federal highway funds. The stakes are high and the choices are clear. The time has come to act.

TWIN-TRAILER COMBINATIONS

While the greatest priority should be assigned to achieving uniform tractor-trailer minimum standards among the states, another perhaps even greater opportunity is available to us if we are permitted to utilize the available technology.

A few states now permit operations of twin-trailer combinations having gross vehicle weights of around 130,000 lbs. and gross lengths of 105 feet (allowing twin 40-foot trailers). If all states adopted such standards--with some prodding from the Federal Government--the benefits would be enormous. In many cases, one twin-trailer combination would do the work of two conventional tractor-trailer units. While the capital costs would be somewhat higher, the variable operating costs would increase only marginally, resulting in total cost savings of approximately one-third. To save one-third of the costs on much of the truck transportation with the U.S. has staggering implications!

To make twin 40-foot trailers politically and socially acceptable, the following restrictions could be imposed:

- 1) They could be restricted to the federal interstate and tollway system.
- 2) Their speed could be limited to 50 m.p.h., to facilitate passing by automobiles.
- 3) More stringent driver qualifications could be imposed and perhaps even tighter physical inspection schedules of the equipment itself.

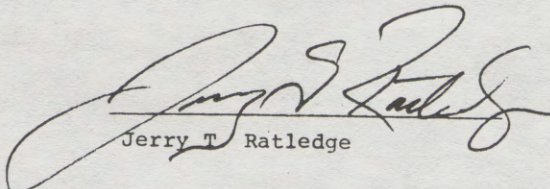
It should be noted that twin 40-foot trailers have established excellent safety records in the states within which they now operate, such as Kansas and Ohio. The units have excellent braking power and since the truck miles traveled can be reduced by up to one-half, it logically follows that the exposure to potential accidents should drop. Likewise, the twin-trailer combinations would inflict less wear and damage to the highways than two conventional tractor-trailer units. The federal "bridge laws" require that the various axles be properly spaced and that the weight be properly distributed over the axles. In addition, the weight of the second tractor is being eliminated. Twin 40-foot trailers are a successfully proven idea whose time has come for expansion throughout the nation.

We appreciate the opportunity to present our views on these vital issues and hope that these hearings will result in legislation which will make a lasting contribution to a more efficient National Transportation System.

VERIFICATION

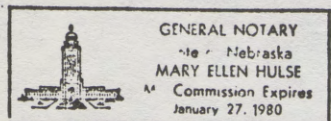
STATE OF NEBRASKA)
) ss.
 COUNTY OF DAKOTA)

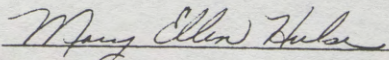
I, Jerry T. Ratledge, being first duly sworn upon oath, depose and say that I have read the foregoing statement, know the contents thereof, and that the same are true to the best of my knowledge and belief.


 Jerry T. Ratledge

Subscribed and sworn to before me this 6th
 day of November, 1979.

WITNESS my hand and official seal.




 Notary Public



PRIVATE TRUCK COUNCIL of AMERICA, Inc.

1101 SEVENTEENTH STREET, N.W., WASHINGTON, D. C. 20036
(202) 785-4900

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Richard D. Henderson, Director of Operations

LYMAN A. McLANE, President
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GTE Systems, Inc. Danvers, MA
*Past Presidents

November 8, 1979

The Honorable Lloyd M. Bentsen
Chairman, Transportation Subcommittee
of Senate Committee on Environment
and Public Works
Room 4204, Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Bentsen:

We want to take this opportunity to state the policy of
the Private Truck Council of America, Inc., on truck sizes
and weights.

May we respectfully request that this letter be incorporated
in the hearing record on S. 1383 and other related bills on which
public testimony was received by your Subcommittee on Thursday,
October 25, 1979.

The Private Truck Council of America, Inc., is the only
independent national organization representing non-transportation
companies which operate trucks in the course of their own manu-
facturing process or business.

As you can well understand, truck sizes and weights have a
direct correlation with energy efficiency. It was with this
point in mind that several years ago the Congress allowed the
states to increase the gross weight on the Interstate System
to 80,000 lbs.

Yet a small but significant number of states are still
holding the limit to 73,280 lbs. Because of the "corridor"
regions where these states are located, primarily along the
Mississippi River and along the East Coast, the effect is
substantial since most fleets operate in or through those
regions out of necessity.

This was brought home all too clearly during the fuel
crunch of this past summer. Some of these states temporarily
lifted their restriction, but many of them by now have reverted
back to the 73,280 lb. limit.

54 333 034

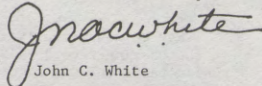
The only solution is a national uniform standard as proposed in S. 1383. We would urge the earliest possible action on this measure and would recommend specifically the following in any final measure acted on by the Committee:

- A minimum gross vehicle weight of 80,000 lbs.
- A minimum tractor/semi-tractor length of 60-feet
- A minimum 65-foot doubles trailer length
- A minimum of 20,000 lbs. on a single axle and 34,000 lbs. on tandem axles

We further believe that the 60-foot length of tractor/semi-tractors should recognize that tractor and cab dimensions should not be traded with trailer lengths and that the minimum 65-foot double standards should in no way limit existing eastern turnpike doubles.

We appreciate the opportunity to state our views on this important energy conservation measure and again urge early and favorable action.

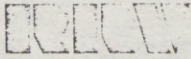
Sincerely,

A handwritten signature in dark ink, appearing to read "J. C. White". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John C. White

JCW/es

cc: Jennings Randolph
Quentin N. Burdick
Robert T. Stafford
Larry Pressler



RED RIVER VALLEY POTATO GROWERS ASSOCIATION

ALL PURPOSE POTATOES



October 19, 1979

Reds,
Whites,
Russets,
Chippers

The Honorable Quentin Burdick
United States Senate.
451 RS08
Washington, D.C. 20515

Dear Senator Burdick:

It is my understanding that Oversight Hearings are being held concerning truck weights and lengths on U.S. Highways.

Senator, I would like to offer you the views of our organization. As you are aware, we have a very serious transportation problem here in the Red River Valley, and in many other parts of the country as well. Shipping 18,000,000 to 20,000,000 cwt. of potatoes each year is an increasingly difficult task.

Throughout the years, we have seen our shipments go from 75% rail shipment and 25% truck shipment, to 25% rail shipment and 75% truck shipment. Although there has been a great deal of talk about railroads getting back into the fresh fruit and vegetable business, it is a fact that there is no system available that can make that happen, especially here. It is very questionable whether or not it can occur nationally. If we can maintain the 25% that we presently have, we will be fortunate.

Assuming then that we will have to move our crop by truck, what changes should be made to make it economically feasible?

One thing that is imperative is the increase in weights and lengths. 80,000 pounds, nationally, and 65 ft., is sensible, and will reduce tremendously the use of fuel, which, in turn, will hold down consumer costs considerably.

I would like to cite our very small area as an example, using 13,500,000 cwt. of potatoes shipped by truck. Under the present system, we must always load light because some states have not gone to the 80,000 lb. limit. Under 73,280 lb. we can have an approximate pay load of 422 cwt., and with 13,500,000 cwt. to move, that equals 31,991 loads in 5-6 months. Loading for an 80,000 lb. load, we could have a 490 cwt. load for only 27,551 loads in 5-6 months.

Now, it is reported that the average fuel consumption is 3.85 miles per gallon. Also, average trips are approximately 3,000 miles. If we were authorized the 80,000 lbs. nationally, we could save 3,459,648 gallons of fuel per year. And, that is considering the potato crop from the Red River Valley...only.

Senator, I do not know, and could not even guess, what the fuel savings could be if we expanded this to all freight with the same problem. It would definitely be billions of gallons.

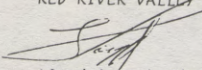
Also, it would save over \$600,000 in freight charges, which the consumer pays for. Again, this is only for potatoes from the Valley, and would mean millions and millions of dollars if expanded nationally.

One additional point, Senator; the government had the authority to set speed limits, overruling states' rights. The same reasoning and incentive can and should be used to force the weights and lengths increase, if necessary.

We strongly urge you to support our views, and ask that you make our views known to the committee.

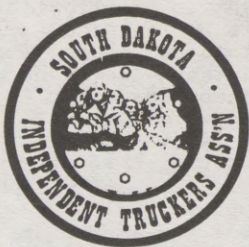
Sincerely,

RED RIVER VALLEY POTATO GROWERS ASSOCIATION



Lloyd A. Schmidt
Executive Vice President

LAS:mp



WEST CHAPTER

Environment and Public Works Committee:

We thank you for the opportunity to present testimony on behalf of a uniform weight and length bill. This is one of the major problems we have trying to transport freight across this country.

As you know, when the independent truckers returned to work one of the promises made to us was that we would get a uniform weight and length bill passed as soon as possible.

Truckers have been tied with a different weight and length regulation from state to state for so long they have given up ever getting a load that would be legal in all states. When one can leave California with a load weighing 80,000 pounds why can he not run that same load all the way to the east coast without having to duck scales and ports of entry in some states.

Some states allow 34,000 pounds on the drivers, others say you must have 36,000 pounds, some say you can only have 10,000 pounds on the steering axle while others say you must have 12,000 pounds. Which way do you load? Some states allow an overall length of 65 feet, some 60 feet and still others say you can have only 55 feet. Why can't they all be the same?

We would like a uniform weight and length bill that is permanent, not one that is good only in a declared fuel emergency. After all, the lack of uniformity hurts us as much when there is no fuel emergency as when there is.

Probably one of the main reasons for the long delay in getting a uniform weight and length law on the federal level is the issue of states' rights. A good many people

feel that is the states' constitutional right to be allowed to set their own weights and lengths. If this be the case, would it not be their constitutional right to set their own speed limits, bill board laws, etc., yet they were forced to comply with the federal laws on these issues or lose their matching federal funds for road building. We feel a uniform weight and length for trucks is just as important as uniform speed limits and bill board laws.

Since the passage of the 55 mile per hour speed limit we all know how fast we can drive in every state and if we drive faster we stand the chance of getting picked up for speeding. We don't like the 55 mile per hour speed limit but we can live with it since all states are the same.

Of all the uniform weight and length bills introduced thus far we feel Senate Bill 1383, introduced by Senator Melcher of Montana is the best. This bill is the fairest and it would be permanent.

Again, thank you.

Dennis Schumacher, Representative
Independent Truckers Assn. of South Dakota
West Chapter

TTMA

Truck Trailer Manufacturers Association

2430 PENNSYLVANIA AVENUE, N. W.

WASHINGTON, D. C. 20037

CHARLES J. CALVIN
President

*Utilizing TTMA Services may give you an Education
not using them will give you experience.*

Telephone (202) 785-5833

October 26, 1979

Honorable Lloyd M. Bentsen, Jr.
Chairman, Subcommittee on Transportation
The Senate Environment and Public Works Committee
142 Russell Office Building
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

On behalf of the Truck Trailer Manufacturers Association (TTMA), I should like to submit the following statement for your Subcommittee's information and consideration with respect to S. 1439 and S. 1689. I should also appreciate it very much if this letter could be made part of the Subcommittee's hearing record.

TTMA is the only national organization serving the manufacturers of truck trailers and intermodal freight containers. It is composed of ninety-five makers of conventional "semitrailers", tank trailers, and containers; and one hundred and thirty-two supplier companies providing components and raw material for trailer manufacture. Member companies produce over ninety percent of the output of our over two billion dollar per year, thirty thousand employee industry. Unique among motor vehicle-related manufacturing industries, trailer manufacturers run the gamut from multi-national corporations to many locally-oriented small businesses.

TTMA strongly believes in a national transportation policy which recognizes the inherent efficiency and convenience of motor truck freight operations. As manufacturers of the equipment used to haul the nation's products, TTMA strongly endorses a national uniform truck size and weight law to eliminate limitations on the efficiency of motor freight.

The current plethora of differing size and weight standards mock any discussion of the existence of a true national transportation policy. Not only do various states differ in such areas as height, length, gross weight, axle weight, and distance between axles; but differences exist between interstate and intrastate highways within the same jurisdiction. This is complicated even more so by various temporary changes and often by intrastate legal squabbling as to authority to make such changes.

Any limitation of truck size and weight by limiting trailer length provides an investment disincentive to manufacturers in an era of economic uncertainties as the nation enters a recessionary period. Any limitation of existing state size and weight limits would result in a negative impact on the trailer manufacturing industry.

More positively, eliminating the peculiarities of existing state standards would provide manufacturing economies through savings in design and assembly costs, tool and die variations, and serve to brake spiraling unit costs to the purchaser.

TTMA strongly supports, as a first step to achieving the necessary national uniformity, that all states adopt:

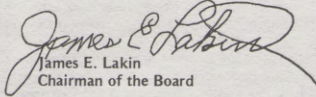
- ... a minimum gross vehicle weight of 80,000 pounds in order to facilitate easy passage without the so-called "iron curtain" limits;
- ... a minimum tractor semitrailer combination length of sixty feet;
- ... a minimum national sixty-five foot doubles trailer length;
- ... a minimum 20,000 pound single axle and 34,000 pound tandem axle loading standard.

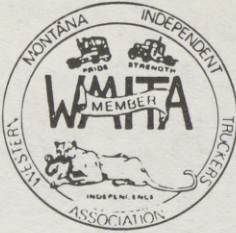
TTMA further believes that the adoption of minimum sixty-foot length of tractor-semitrailers should recognize that tractor and cab dimensions should not be traded with trailer lengths; and that the minimum national sixty-five double standards should in no way limit existing "eastern turnpike doubles."

TTMA supports safe and efficient carriage of freight and believes the trailer provides the most effective method of transportation. TTMA supports the concept of intermodal freight believing that the trailer is the ideal vehicle to haul goods, by truck, rail or ship, but cautions that the impact on competing transportation modes is not a relevant criterion for restricting truck size and weight. Existing truck size and weight limits inhibit energy conservation, discourage intermodal shipments, and serve to needlessly Balkanize the nation's transportation system.

We urge your consideration of this important issue.

Sincerely,


James E. Lakin
Chairman of the Board



WESTERN MONTANA INDEPENDENT TRUCKERS' ASSOCIATION

P. O. BOX 9301 PHONE: (406) 728-5360 MISSOULA, MONTANA 59807

October 19, 1979
Missoula, Montana

Owner-Operators Independent Drivers Assn. of America
P.O. Box 88
Oak Grove, Missouri 64075

Dear Sirs;

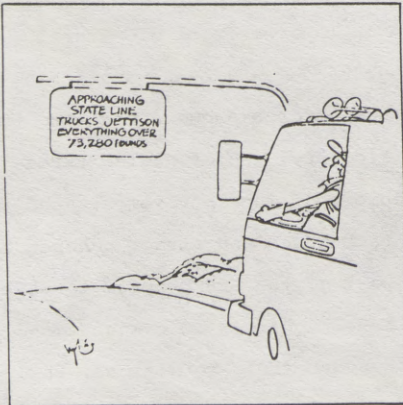
During the month of June this country experienced a serious shutdown. One of the main reasons for the shutdown was the rising cost of fuel. Some of the needs expressed by the truckers and in fact one of the main reasons was to have uniformity on weights and lengths thruout the country. We have spent many hours in the Ad Hoc working party in Washington, D. C. explaining the problems. Now it is time for the congressman we have elected to office to show that they can do something for the American Truckers.

The situation in the Northwest is getting critical, the lumber market is off, as well as other markets and truckers are having problems getting loads further east because of the restrictions placed on them by the Iron Curtain States.

If Senate Bill 1383 is not enacted I'm very much afraid that there are going to be some very grave problems arise. As I stated the truckers are having a very bad time right now. So if this country does not make some changes and soon we stand a very good chance of losing the Owner-Operator Industry.

Sincerely,

Virgil Brenneman



US TRAVELER TRUCKING

TESTIMONY ON BEHALF OF UNITED PARCEL SERVICE

By Thomas W. Browne, Vice President

Mr. Chairman, my name is Thomas W. Browne, I am a Vice President of United Parcel Service, headquartered in Greenwich, Connecticut. I have served United Parcel Service for 22 years in various operating capacities and am currently responsible for the company's relations with Federal agencies. UPS submits this statement to furnish Congress with information on the possible fuel savings by using twin-trailer combinations up to 65 feet in length. We support the establishment of a uniform nationwide minimum length of 65 feet.

Summarizing briefly, UPS provides a nationwide package delivery service. We operate more than 31,000 gasoline powered vehicles for delivery and over 5,000 diesel powered tractors which transport parcels in trailers over long distances. In 1978, UPS used approximately 69 million gallons of gasoline and 69 million gallons of diesel fuel.

For over 40 years, UPS has been in the forefront of efforts to achieve fuel conservation. We have used every means available at the time to save fuel. They include efforts such as vehicle weight reduction, improving route efficiency, use of radial tires effective preventive maintenance, vehicle design improvements and even electric trucks. Good driving techniques and strict adherence to the 55 mph speed limits are also part of the UPS program to save fuel. In a 1977 test, conducted with UPS vehicles in conjunction with the Department of Transportation under field conditions, the 55 mph speed limit provided a 32% fuel savings over vehicles

operating at 65 mph.

Because of the nature of the small package business, UPS is not now experiencing any problems with regard to the overall weight of the vehicles we use. We use high-cube trailers and single axle tractors throughout our fleet and never have any problem with weight limits. We therefore direct our testimony strictly to the fuel savings available by using twin-trailer combinations of up to 65 feet.

We have previously accepted the premise that the individual states should establish truck size and weight limits. This has led to a situation in which there is no uniformity in state regulations. This impacts very seriously on carriers such as UPS, that operate in a large number of states. We now believe that this lack of uniformity is creating an unreasonable and unnecessary burden on our transportation system and to the nation as a whole and is wasting our precious supply of fuel.

We believe that this problem can be solved with minimum Federal interference. We believe that you are correct in proposing minimum truck length requirements and permitting the states to continue regulation of truck lengths beyond that minimum. Dramatic energy savings can be achieved.

Our own experience and studies performed by a variety of organizations have shown that twin-trailer combinations are safer than single trailer units, increase productivity, and save fuel. The Department of Transportation, the American Association of State Highway Officials, other agencies and organizations have recommended the use of 65 foot twin-trailer combinations.

We have recently conducted studies in our Southeast region

to determine fuel savings available if twin-trailer combinations of up to 65 feet were made legal on four lane highways. Our Southeast Region includes Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Tennessee. Our projected savings in those 7 states exceeds 900,000 gallons of diesel fuel per year.

If United Parcel Service were allowed the authority to use twin-trailer combinations of up to 65 feet in states where their use is presently precluded, we estimate that savings of approximately 2,200,000 gallons per year would result. This is the saving available to one large company. We could not estimate what the savings would be if this standard were applied to the many other companies that would also benefit from such a standard but it must be substantial.

We believe it is essential to support your proposal to amend Section 127 of Title 23 of the United States Code to provide as a minimum a gross overall length limit of 65 feet. Such a change is clearly in the public interest and would provide substantial fuel savings at the same time providing even safer use of public highways. We are grateful to the Committee and its Chairman for this chance to present our views on this issue.

96TH CONGRESS
1ST SESSION

S. 1383

To amend title 23, United States Code, to establish uniform national standards for weight and length of vehicles using the National System of Interstate and Defense Highways, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JUNE 20 (legislative day, MAY 21), 1979

Mr. MELCHER introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To amend title 23, United States Code, to establish uniform national standards for weight and length of vehicles using the National System of Interstate and Defense Highways, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Fuel Energy Conserva-
4 tion Act of 1979".

5 Section 127 of title 23, United States Code, is amended
6 to read as follows:

1 "§127. Vehicle weight, width, and length limitation—

2 **Interstate System**

3 "No funds authorized to be appropriated for any fiscal
4 year under section 108(b) of the Federal-Aid Highway Act of
5 1956 shall be apportioned to any State within the boundaries
6 of which the Interstate System may lawfully be used by vehi-
7 cles with weight in excess of twenty thousand pounds carried
8 on any one axle, including all enforcement tolerances; or with
9 a tandem axle weight in excess of thirty-five thousand
10 pounds, including all enforcement tolerances; or with an
11 overall gross weight on a group of two or more consecutive
12 axles produced by application of the following formula:

$$W = 500 \left(\frac{LN}{N-1} + 14N + 36 \right)$$

13 where W = overall gross weight on any group of two or
14 more consecutive axles to the nearest five hundred pounds, L
15 = distance in feet between the extreme of any group of two
16 or more consecutive axles, and N = number of axles in
17 group under consideration, except that two consecutive sets
18 of tandem axles may carry a gross load of thirty-five thou-
19 sand pounds each providing the overall distance between the
20 first and last axles of such consecutive sets of tandem axles is
21 thirty-six feet or more: *Provided*, That such overall gross
22 weight may not exceed eighty thousand pounds, including all
23 enforcement tolerances, or with a width in excess of ninety-
24 six inches, or the corresponding maximum weights or maxi-

1 mum widths permitted for vehicles using the public highways
2 of such State under laws or regulations established by appro-
3 priate State authority in effect on July 1, 1956, except in the
4 case of the overall gross weight of any group of two or more
5 consecutive axles, on the date of enactment of the Federal-
6 Aid Highway Amendments of 1974, whichever is the great-
7 er. Any among which is withheld from apportionment to any
8 State pursuant to the foregoing provisions shall lapse. This
9 section shall not be construed to deny apportionment to any
10 State allowing the operation within such State of any vehi-
11 cles or combinations thereof that could be lawfully operated
12 within such State on July 1, 1956, except in the case of the
13 overall gross weight of any group of two or more consecutive
14 axles, on the date of enactment of the Federal-Aid Highway
15 Amendments of 1974. With respect to the State of Hawaii,
16 laws or regulations in effect on February 1, 1960, shall be
17 applicable for the purposes of this section in lieu of those in
18 effect on July 1, 1956. Notwithstanding any limitation relat-
19 ing to vehicle widths contained in this section, a State may
20 permit any bus having a width of one hundred and two inches
21 or less to operate on any lane of twelve feet or more in width
22 on the Interstate System. Notwithstanding any other provi-
23 sion of this section, no State may enact or enforce any law
24 which provides a gross maximum overall weight limit of less
25 than eighty thousand pounds on five axles, and thirty-five

4

1 thousand pounds per tandem up to a total gross maximum
2 overall weight limit of eighty thousand pounds, nor may any
3 State enact or enforce any law which provides a gross overall
4 length limit of less than sixty-five feet and receive its appor-
5 tionment of funds authorized to be appropriated for any fiscal
6 year under section 108(b) of the Federal-Aid Highway Act of
7 1956.".

○

96TH CONGRESS
1ST SESSION

S. 1439

To prohibit States from enforcing certain vehicle weight and length limitations on the National System of Interstate and Defense Highways during the current period of fuel shortages.

IN THE SENATE OF THE UNITED STATES

JUNE 27 (legislative day, JUNE 21), 1979

Mr. CULVER (for himself and Mr. STEWART) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To prohibit States from enforcing certain vehicle weight and length limitations on the National System of Interstate and Defense Highways during the current period of fuel shortages.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That (a) during the period beginning on the date of the enact-
4 ment of this Act and ending on the date the Secretary of
5 Energy transmits to each House of the Congress written cer-
6 tification under section 2 of this Act, a vehicle with—

1 (1) an overall gross weight which does not exceed
2 80,000 pounds, and

3 (2) an overall length which does not exceed 60
4 feet,

5 may use the Interstate System within any State.

6 (b) No State shall enforce any law, rule, regulation,
7 standard, or other provision to the extent such enforcement
8 would prohibit any vehicle described in subsection (a) from
9 using the Interstate System in such State during such period
10 solely because of such vehicle's overall gross weight or
11 length.

12 (c) Nothing in this section shall be construed to prohibit
13 a vehicle with an overall gross weight of more than 80,000
14 pounds or with an overall length of more than 60 feet from
15 using the Interstate System in a State if such State was au-
16 thorized to allow such vehicles to use the Interstate System
17 within such State before the date of the enactment of this
18 Act.

19 (d) For purposes of section 141 of title 23, United
20 States Code, if a State is required by subsection (b) not to
21 enforce State laws respecting maximum vehicle size and
22 weights, the apportionment of such State shall not be re-
23 duced as a result of the required lack of enforcement.

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1 (e) For purposes of this section, the terms "Interstate
2 System" and "State" have the same meaning as such terms
3 are used in title 23, United States Code.

4 SEC. 2. Within ten days after the Secretary of Energy
5 determines that there are adequate amounts of middle distil-
6 late fuel both in reserve and in commerce to meet national
7 requirements for home heating, agricultural production,
8 transportation, and industrial uses, the Secretary shall trans-
9 mit to each House of the Congress a written certification of
10 that determination.

○

96TH CONGRESS
1ST SESSION

S. 1689

To establish national standards for weight and length of vehicles using the National System of Interstate and Defense Highways during fuel emergencies.

IN THE SENATE OF THE UNITED STATES

AUGUST 3 (legislative day, JUNE 21), 1979

Mr. RANDOLPH (by request) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To establish national standards for weight and length of vehicles using the National System of Interstate and Defense Highways during fuel emergencies.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "Fuel Savings Truck
4 Weight Act of 1979".

5 SECTION 1. The Congress hereby finds that shortages
6 of diesel fuel and gasoline can adversely affect the interstate
7 freight trucking industry and that in such times of shortage

1 measures must be taken to maximize fuel efficiency in that
2 industry.

3 SEC. 2. Beginning 7 days after the President finds that
4 a shortage of fuel is seriously disrupting the interstate freight
5 trucking industry, and for a period of 90 days thereafter, it
6 shall be unlawful for any State or the District of Columbia to
7 prohibit a vehicle from using the Interstate Highway System
8 within its borders because that vehicle exceeds either State
9 weight limits which are less than 20,000 pounds on a single
10 axle, 34,000 pounds on a tandem axle, and 80,000 pounds
11 gross weight, including all enforcement tolerances, or State
12 length limits less than 60 feet. The overall gross weight shall
13 be consistent with the formula set forth in section 127 of title
14 23, United States Code. Those States in which higher
15 weights are permitted under section 127 of title 23, United
16 States Code, or in which longer lengths are permitted by
17 State law shall not be required to lower existing limits.

18 SEC. 3. The President may extend the provisions of this
19 Act for additional 90-day periods. The President may make a
20 determination to extend the provisions of this Act for a 90-
21 day period not less than 15 days prior to the expiration of a
22 90-day period and only after determining that such extension
23 is required because a shortage of fuel is seriously disrupting
24 the interstate freight trucking industry.

