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STATEMENT OF BENJAMIN O. DAVIS, JR., ASSISTANT SECRETARY FOR SAFETY AND CONSUMER AFFAIRS, U.S. DEPARTMENT OF TRANSPORTATION, BEFORE THE SUBCOMMITTEE ON ROADS OF THE COMMITTEE ON PUBLIC WORKS, U.S. SENATE REGARDING H.R. 4354, RELATING TO INCREASED VEHICLE WIDTH LIMITATIONS FOR BUSES ON THE INTERSTATE HIGHWAY SYSTEM, MONDAY, FEBRUARY 14, 1972.

Mr. Chairman and Members of the Committee:

I welcome the opportunity to appear before you today to present the Department's views on H.R. 4354, a bill relating to increased vehicle limitations for buses on the Interstate Highway System, and to offer further comments and suggestions which we believe would be helpful to the Committee in its deliberations on this proposal. I am accompanied today by Mr. Francis Turner, Administrator, Federal Highway Administration, and Mr. Douglas Toms, Administrator, National Highway Traffic Safety Administration.

At the outset, Mr. Chairman, I want to state that the Secretary of Transportation considers the issue of safety the major factor in the ultimate determination of the usage of wider buses on the Nation's highways. He has placed great emphasis on this particular subject and is personally following the progress of the Department's work related to wide bus safety through monthly progress reports that are made to him on our studies. It is my intent today to outline for you the current legislative authorities the Department possesses to control highway safety specifically relating to truck and bus traffic, to advise you as to what the Department is doing and expects to accomplish in this area of safety, and to suggest for your consideration an alternate approach to this subject.

To begin, let me briefly discuss the Department's current statutory authority relating to the regulation of vehicle sizes and weights. Section 127 of title 23, United States Code, prohibits the apportionment of Federal-aid highway funds for the Interstate System to States which lawfully permit vehicles wider than 96 inches to use their part of the Interstate System. There is, however, a grandfather clause which exempts from that prohibition those States which allowed wider vehicles on their highways prior to July 1, 1956, or, in the case of Hawaii, February 1, 1960. I must point out that there is no equivalent prohibition relating to the primary and secondary highway systems, and the States currently set size and weight limits on all their roads.

There also exists within the Department authority to regulate the safety of operation and equipment of certain motor carriers, including the authority to investigate and report on the need for Federal regulation of sizes and weight. This authority was transferred to the Department from the Interstate Commerce Commission when the Department was created, and it is administered by our Bureau of Motor Carrier Safety (BMCS) within the Federal Highway Administration. This authority extends only to carriers involved in interstate or foreign commerce and does not authorize BMCS to regulate directly the sizes and weights of motor vehicles.

Finally, the National Highway Traffic Safety Administration (NHTSA) has authority under the National Traffic and Motor Vehicle Safety Act of

1966 to set safety standards for motor vehicles, including buses and trucks. Under this authority, NHTSA sets performance requirements for new motor vehicles so that the public is protected against unreasonable risk of accidents occurring as a result of their design or construction or performance. For example, NHTSA, through the imposition of performance requirements, can, in effect, influence the size and weight limitations for new motor vehicles. Unlike BMCS authority, the NHTSA authority extends to all new vehicles, whether used in interstate commerce or not.

In the spring of 1971, and in response to many questions raised in previous congressional hearings relative to the safety of wider buses, the Department initiated a number of studies addressed specifically to the safety of 102-inch buses. These studies related primarily to such factors as aerodynamic disturbances, characteristics and effects; but also include the related factors of lateral placement of vehicles; lateral stability; off-tracking on sharp curves; and accident data analysis needed to support the primary study objectives. In addition, we will examine the safety of the 102-inch buses on both the 12-foot wide lanes of the Interstate System and narrower roads and in situations where buses and other vehicles are traveling in the same direction and in opposite directions on two-lane highways.

Let me now briefly discuss these studies, Mr. Chairman, and give some indication of what we hope to derive from them.

In the past there has been limited research on the aerodynamic effects of large vehicles passing or being passed by other vehicles. It is also recognized that due to varying speed of vehicles, highway geometric

changes (grades, curves, lane widths, road crown characteristics, surface conditions, etc.) and varying wind velocity and direction, the environmental conditions in which vehicles pass each other vary widely. To obtain reliable data on these aerodynamic effects a comparative analysis of 96-inch and 102-inch wide buses has been undertaken, utilizing two approaches to the problem. The first approach uses scale-model wind-tunnel testing, while the second uses moving scale-model testing. Thus, our studies will involve: full-scale tests with instrumented vehicles; one-tenth scale-model tests, some of which are conducted in a wind-tunnel; and in addition a computer-based "analytical model" technique which will enable us to analyze a wide variety of situations. The purpose of the full-scale tests is to verify the accuracy of our computer based "analytical-model" results. The results of these two scale-model testing techniques will be compared with each other and with the results of full-scale tests to provide further validation of the analytical model.

We are studying the aerodynamic forces generated by various bus configurations, and the effect of those forces on passing vehicles or vehicles being passed. A variety of passenger vehicles is being examined, including a sub-compact sedan, a microbus, and a pickup truck with camper. Situations examined include a variety of wind conditions, vehicle speeds, lane widths, car handling characteristics, and driver skill levels.

In addition, we have other related and supporting studies under way. We are evaluating the increased probability of sideswipe accidents

when wider buses are used by obtaining reliable data on both placement of buses within lanes and clearance between buses and other vehicles. Using this information as an input to our aerodynamic studies, we will be able to relate bus-induced aerodynamic disturbances to real-world traffic situations. We consider these data vital to our aerodynamic studies.

We are undertaking observational studies to update the existing data on vehicle lane placement on two-lane rural highways, and to obtain comparable data on freeways. The influence of standard and wide buses on motorist lane placement, as well as the lane placement of the buses themselves, will be observed and evaluated.

We are studying lateral stability for both 96-inch and 102-inch buses to determine the likelihood of a bus turning over, its yaw stability (fish tailing), and ease of control along its intended path employing a hybrid computer simulation. Lateral stability may be critical when buses are executing sharp turns, such as on freeway ramps. The physical properties (dimensions, weight, loading, suspension system, etc.) of particular buses may have major effects on their lateral stability.

We have also undertaken a study into the problem of off-tracking on sharp curves. Maneuvering around sharp highway curves, especially at freeway ramps and intersection turns, could prove to be a key problem of wider buses. The ability of wider buses to negotiate such maneuvers within available lane width restrictions must be verified. The Department is undertaking experiments with scale models to define the off-tracking

characteristics of 96-inch and 102-inch wide buses. The results of this work will be coupled with available information on highway geometric features to define the proportion and types of highway situations that are critical.

Finally, we are conducting a statistical analysis of bus accident experience of 96-inch and 102-inch buses on intercity routes. If the required data are available, the statistical analysis of accident data will include an examination of rollover accidents by type of bus, and will estimate the proportion of accidents and fatalities which are expected to occur in such accidents.

Mr. Chairman, the foregoing gives some indication of what the Department is now doing to find answers to the safety questions raised in this area. At this juncture, with most of our studies and tests recently under way, we are not in the position to provide the Committee with conclusive findings.

At this time, let me briefly refer to an interim report dealing with the aerodynamic effects of trucks recently submitted to the Department. This study was authorized by the Federal Highway Administration in the summer of 1970 and covers a test period from June 1970 through September 1971. From that report, it appears that in the presence of substantial crosswinds, potentially hazardous situations occur at high speeds when cars pass downwind of trucks. The report also suggests that these situations may be hazardous when cars pass buses.

Although we do not accept the results of the truck research as final fact for buses, we do feel it would be imprudent not to follow up on these findings. For example, the aerodynamic studies of tractor-trailer combinations indicate that significant vehicle disturbances and deviations may occur in certain truck-car passing situations involving crosswind conditions. The study also implies similar hazardous conditions may exist in bus-car passing situations. As a result, it appears that in this common highway experience the aerodynamic effect of buses may pose hazardous situations similar to trucks.

As you are well aware, Mr. Chairman, H.R. 4354, as originally introduced in the House, would have increased to 102 inches the maximum permissible width of buses which may utilize the Interstate System. Presently, the maximum width of trucks and buses permitted on the Interstate System without loss of apportioned Interstate funds is 96 inches, except for those States having the benefit of the grandfather clause which I referred to earlier.

The bill, as passed by the House and before us today, would increase to 102 inches the maximum bus width permitted on those lanes of the Interstate System that are at least 12 feet wide. The effective date would be the first to occur of (a) the first day of the first fiscal year which begins after the completion of the necessary safety studies and the promulgation of any necessary safety regulations; or (b) July 1, 1973. However, prior to such time, if the Secretary finds that as a result of

these studies the operation of wider buses on the Interstate's 12-foot lanes will be unsafe and cannot be made safe by safety regulations, usage of the wider buses will not become effective.

As you can see, Mr. Chairman, we are looking at the safety problem in great detail, and we strongly recommend that H.R. 4354 not be enacted at this time. Other than a requirement for the Department to complete its studies and make its findings and recommendations known to Congress by July 1, 1973, we oppose any other legislative action on this matter.

Mr. Chairman, we oppose H.R. 4354 at this time for three basic reasons. First, let me state that this Department has always been concerned about the safety of operation of all motor vehicles, regardless of width and whether or not they operate on or off the Interstate System. We believe that if safety questions are raised and are verified by the Department's research efforts in this area, the Federal response to the problem should be made applicable to buses on all our Nation's highways. The movement of people and goods in interstate commerce is not limited to our Interstate System or our Federal-aid system. It involves our country's entire network of highways. Federal concern over the safety of the traffic should not be limited to only certain of these roads.

Second, we cannot support enactment of this proposal at this time, even though we recognize that the bill presently does provide the Secretary of Transportation with, in effect, a "veto" over the actual usage of wider buses on the Interstate System. We feel the bill places unnecessary and

unreasonable time constraints on the Department. The bill requires the Department, within 18 months, to make its studies and also to promulgate whatever regulations it deems necessary to make the operation of these wider vehicles safe on the Interstate System. If, after our studies are completed, we find rule making proceedings would be necessary in this regard, it would be improbable, if not impossible, for the Department to satisfy the responsibilities placed on it in the time frame set forth in this bill.

Third, let me say that a different date in this bill would not change our opposition to legislative action at this time. We simply feel that, in light of the various studies currently under way, Congress should wait until the findings of those studies are available. Only at that time will the Department, Congress, industry, and other interested parties have the information before them necessary to take an informed position on this subject. That is the time for more meaningful discussion and appropriate congressional action.

In conclusion, Mr. Chairman, I recognize that all of my discussions to this point have dealt with the safety issue. There can be no question that this is the Department's primary concern with respect to this bill. I also recognize, however, that some benefits may accrue to bus riders and bus operators by the usage of wider buses. We recognize that the wider bus may result in greater comfort for the traveling public, due to the increase in the present seat and aisle width. Also, local transit operators, many

of whom now own and operate 102-inch buses on city streets, would be able to conduct transit operations over segments of the Interstate System, where they are now barred. I must emphasize, however, that the Department has always recognized safety as the overriding consideration which must take precedence over other consumer factors.

This concludes my prepared statement, Mr. Chairman, and at this time my colleagues and I will be happy to answer any questions you or the Committee may have.