

Chairman of the Board, and on behalf of the National Association of Motor Bus Owners, (NAMBO). Greyhound is the nation's largest intercity passenger bus operator and the identity of NAMBO has been described in the preceding testimony of the President of the Association.

The over-all size and weight of the intercity bus needs to be increased in response to demands of the bus-traveling public for greater comfort and safety. One of the principal factors necessitating increased over-all vehicle width is the current increase in the physical size of the average American—we are not only getting taller, we are getting broader. Present dimensions in the seating areas of conventional bus equipment are no longer adequate to provide a proper level of passenger comfort. In this connection, I invite your attention to a recent study of the American Seating Company on the trend toward installing wider and more comfortable seats in theaters, stadiums and other public places. Excerpts from that study are appended to my statement.

At the same time, design progress is possible to produce a vehicle offering greater safety to passengers, the driver, and other traffic. Key mechanical components which have either a direct or indirect effect on over-all safety can be increased in size and capacity more than proportionately to increased vehicle size and weight. Engine power can be greatly increased to give performance characteristics more consistent with those of today's high-speed expressway traffic.

If you build a wider bus, you can also build it higher and still stay within present height limitations. From this engineering relationship, between width and height, come significant safety advantages. By adding six (6) inches to the width, the height can be increased to twelve (12) feet as compared with the ten (10) and eleven (11) feet for the present single and dual-level buses. Here are the major safety advantages:

1. Greater over-all height directly contributes to safety because it allows placement of passenger seats at a height from the ground above the point at which most collision impacts take place. The driver's position is also raised, giving him better visibility and more safety in case of head-on collision. Greater height reduces the accumulation of road splash and dirt on windshield and side windows in wet weather. The increased over-all width also reduces the tendency of the front wheels to throw road splash and dirt up on the side windows because the coach structure can extend farther beyond the outside edges of the front wheels.

2. Even though the bus is higher the extra width permits a lower center of gravity which, in turn, improves resistance to overturning and excess sidesway.

3. Liberalized widths and rear-axle weight limitations permit more extensive use of stronger materials, such as stainless steel which provides greater passenger protection and less structural weakening through corrosion.

4. The addition of only six (6) inches in width in combination with the increased height makes it possible to use much larger tires. The tire footprint (the area in contact with the road) is substantially larger—46 percent—providing:

- (a) greatly improved road adhesion

- (b) better steering control

- (c) greater skid resistance

- (d) more effective braking

- (e) improved sidewise stability because it permits the use of a special rear suspension arrangement giving a lateral spacing between bellows of more than $2\frac{1}{2}$ times that possible with a conventional design.

- (f) wider spacing between dual-wheel tires for cooler operation, which reduces the possibility of blow-outs due to excessive heat buildup.

5. Larger wheel diameter and width mean greater brake shoe area, that is 68.8 percent greater total effective brake shoe area and 20.6 percent greater effective brake shoe area per ton of gross vehicle weight.

6. Wider brake drums reduce heat buildup, cutting down on fading tendencies.

With respect to passenger comfort, each pair of seats can be made from two (2) to three (3) inches wider, that is from 38 inches to 40 or 41 inches. From my own personal experience, I can testify that the additional seat widths add immeasurably to the comfort and convenience of an extended bus trip. By not using all of the additional six-inch width in widening the seats, we can increase the aisle width by at least one-half inch to facilitate loading and unloading of passengers and their hand baggage.

The additional height inside the passenger compartment makes it possible for most passengers to walk down the aisle to their seat without stooping.