Obstructions, "Motor Vehicle collisions with fixed objects are reported by the National Safety Council to have been the cause of 3,750 deaths and 95,000 injuries during 1937. Deaths from this cause have increased 244 percent since 1927. The problem is significant enough to warrant attention leading to possible improvement of the situation. Obstructions include bridge support columns, end posts of narrow bridges, utility poles, pedestal types, stop and go signals and flashing beacons," and so forth.

In 1941, Maxwell Halsey in his book, "Traffic Accidents and Congestion," stated, "Obstructions should be pushed back far enough from the roadway so that if a motorist is forced off the roadway, he

will have sufficient space in which to slow down and stop."

We had testimony of Mr. Ken Stonex of General Motors during these hearings. He was talking about these same matters, certainly as early as the middle and late 1950's.

The staff is perplexed that it was only until recent times when highway people seemed to be giving their attention in a forceful way to these roadside hazards. I wonder if you want to comment on that.

Mr. E. M. Johnson. Well, through the years, the geometrics of the highways have been improved, standardwise, and there is no question particularly on a rural primary even today, there are many, many miles with inadequate length pavements and inadequate length shoulders, and I think by virtue of these particular features being too narrow, that the tendency or the justification even for moving obstructions farther out was somewhat discouraged or not feasible or maybe

impossible to achieve really in view of what public reaction might be.

I am just commenting, as you suggested, because certainly as we say in our statement, we have to assume the responsibility for obstructions being too close. But I don't think that it could be said that they

have been entirely ignored through the years.

Now, if I am not mistaken, and you probably have the statistics on it, this roadside obstruction matter has become much more critical with the faster Interstate traffic. I am not sure that that statement is correct, but I am under that impression. And the Interstate actually as we all know in this room has greater lateral clearance than any other highway. Mr. W. May. Yes. I notice in your statement on page 7, first para-

graph, you say:

The design standards that we have developed have resulted in completed Interstate System sections that have no obstructions closer than 12 feet to the pavement edge. This is the first time that a highway system has been provided that can make that claim.

I would suggest it is probably a claim because that might only apply to the right side of many of our Interstate highways. If you have a 10-foot shoulder and you place the obstruction 2 feet from the shoulder, then you have 12 feet. If you have a 4-foot shoulder on the other side, you have it very close, and it would not be 12 feet. Would it apply on the right side when you come to narrow bridges where we do not carry the shoulders through?

Mr. E. M. Johnson. If you consider the bridge ends and bridge rail as obstruction, and the bridge is not full roadway length, your state-

ment is correct.

Mr. W. May. We do consider that obstruction. Do you?

On page 4 of your statement you say: