

Mr. CONSTANDY. The whole philosophy is predicated on a 6- or 8-inch curb being sufficient to prevent the car from hitting the pedestrian anyhow, is it not?

Mr. WILKES. No. Another part of the specification is that a safety walk must be 18 inches. Anything wider than that is called a sidewalk by definition.

Mr. CONSTANDY. Well, assume a pedestrian on the 18-inch safety walk, with a curb 6 or 8 inches above the roadway. If an automobile does go out of control, will a 6- or 8-inch curb cause it to keep from hitting the pedestrian?

Mr. WILKES. No; it will not.

Mr. CONSTANDY. It raises the question of whether it is really a safety walk. Does it cost more to install a safety walk than if the safety walk were omitted from the structure? You have to take into consideration the concrete that you use to make it, and secondly, it would seem to add additional weight—might it not add additional weight to the bridge that you may have to take into account in the design of the strength of the structure?

Mr. WILKES. In the design of a structure, the design load of course is a heavy truck. And by having a curb in the design consideration, the wheel is placed a certain dimension from the base of the curb. Now if the curb were not there, then the wheel could occupy the entire roadway, so that my answer is this: By eliminating a curb or safety walk, much more of the structure can be loaded with a truck, and would therefore have to be strengthened as a general rule.

Mr. CONSTANDY. In other words, the bridge has to be stronger if it does not have a safety walk, than if it does have it?

Mr. WILKES. Then the structure has to be designed in the event a truck gets against the parapet, whereas with the curb the design assumptions are that the vehicle will be contained inside the curb. As an overload condition, in which overstresses are permitted, the designer then places a truck wheel up on the safety walk or sidewalk; but under those conditions, he is using higher unit stresses and considers that to be an unusual occurrence.

Mr. CONSTANDY. I think the pedestrian would too.

Mr. WILKES. Of course a pedestrian load is much less.

Mr. CONSTANDY. There is some weight to the safety walk itself, is there not?

Mr. WILKES. Yes, there is some weight, and it is generally expensive concrete to build a sidewalk or curb.

Mr. CONSTANDY. Would you prefer to see bridges built without safety walks?

Mr. WILKES. Very definitely.

Mr. CONSTANDY. You would?

Mr. WILKES. Yes, sir.

Mr. CONSTANDY. You feel they create a hazard?

Mr. WILKES. I do.

Mr. CONSTANDY. Mr. Wilson.

Mr. WILSON. As a matter of information, in the early 1950's, California did in fact design a bridge rail without a safety walk and utilizing the whole width—in other words, we ended up with 2 feet wider distance between the rail itself and the travel way.