

This is the approach, moving from right to left on the photograph.

With this block installed in the base of the post, you will bring out the face of the rail pretty well to this curbline, so that aspect of it is perhaps something we can commend.

I think, still, this rail is a little lower than would be desirable. That is a 1965 structure, as you can see.

Mr. CONSTANDY. I think that completes the material we have on the bridges.

Now I would like to ask each of the members of the panel to comment overall on what you have seen from the nine States, the nine States being representative of completed Interstate sections open for traffic in late 1966 or 1967.

I would like to have your impressions and the satisfaction or dissatisfaction, generally, with what you have seen.

We realize there are a number of elements that were discussed that go into the features we have been talking about, but overall we would be curious to know whether you are somewhat dissatisfied or whether you are pleased with what the States have done, and what should be done in design and construction of the features we have seen.

Mr. Wilson, will you begin?

Mr. WILSON. I think it shows here, from what we have seen yesterday and today, that a modest cost increase in some of these features, such as decking over structures—and in some cases it may not even be an increase in cost—coming up with rigid structure two-span bridges in some cases, at no increase in cost, would certainly improve the safety features.

I think every member of the panel would agree that we have a lot of work to do in connection with tying the guardrail to the ends of the structures. This is something that apparently has not been solved.

Mr. CONSTANDY. None of the States did that correctly, is that true?

Mr. WILSON. I would not be satisfied with the way I have seen it done here.

Mr. CONSTANDY. Overall, were you satisfied or dissatisfied with what you have seen?

Mr. WILSON. As I have said, there are considerable deficiencies, and with modest increase in costs you could be getting a lot more safety out of it.

Mr. CONSTANDY. Thank you, Mr. Wilson. Mr. Skeels?

Mr. SKEELS. I certainly agree that all of the projects examined showed the same general types of deficiencies, and there are quite a number of them. We saw a number of attempts to improve the situation. There are lots of ideas on railing design. We even saw a few on the attachment of the guardrail to the bridge parapet.

These designs obviously were made by people well intended, who intended to do a good job. Most of them we criticize as not being a good job, or not being as good as we think the state of the art would allow.

I would certainly like to encourage the use of real full-scale tests to evaluate designers' ideas. I am a testing man, and I may be overemphasizing this angle. I realize many of the designers do not have facilities to conduct full-scale tests on their designs. If they do not, they should make use of designs that have been tested or evaluated and proven that they perform properly.