

Traffic Patterns at a Narrow Bridge

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SYNOPSIS*

Permanent structures narrower than the existing pavement are recognized highway hazards. Information has been published to demonstrate the seriousness of the hazard, but little has been done about the effectiveness of various types of warning signs and pavement markings used to safeguard such locations.

This paper reports a study at a typical narrow highway bridge location on a two-lane pavement to test the effect of several of the types of signing installations on driver-approach patterns. Only free-moving passenger cars on a dry pavement with unrestricted visibility were recorded.

Four types of signing installations were considered. These included standard reflector button warning signs with striped panel boards at the bridge; standard size reflectorized background warning signs with enlarged red button clusters at the bridge; and reflectorized background signs with the panels at the bridge, and with the panels and a painted reflectorized center line through the bridge and extending into the approach.

From this study it was found that the type of sign influences the lateral placement pattern at night. The presence of the warning signs forces the driver toward the center of the roadway, the amount independent of type of sign. The use of the center line provides a desirable pattern in the final approach, its presence channelizing the cars onto the bridge more within their own lane. The cluster exerts an equally strong influence; but it is not desirable, as it forces the drivers away from the edge of the pavement into the opposing lane.

* Reprints of the complete paper, which appeared in the *Highway Research Board Proceedings*, 1947, may be secured from the Joint Highway Research Project, Purdue University. Since it has been printed already, we are omitting it here in the interest of economy.

At the entrance to the bridge, the driver usually enters closer to the truss when panels are used than when clusters are used.

For the daytime lateral placement patterns and in all deceleration patterns, the bridge influences driver behavior. The type of sign produces only minor pattern variations which are not significant.