

INTRODUCTION

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During the past decade or so we have learned to think about highway transportation as a system that includes the roadway, the traffic control devices, the vehicle, and the driver. The systems engineering approach helped us to understand the functions of the highway transportation system, to identify and characterize the elements and the environment of the system, and to learn more about the operation of the system.

We have become conscious of the existing disorder in the operation of the highway transportation system. Some of the sources of the disorder are easily identified. One source, for example, is the adverse effect of environment changes: snow, ice, rain, or fog. In general, however, the disorder is due to the limited "integration" of the elements of the system. The most striking improvements in traffic operation are associated with the reduction of this constraint by improving communication and coordination among elements of the system.

The communication between the roadway and the driver is provided by traffic signs and pavement markings. The conventional or static sign can do a good job of conveying a message to the driver about a static situation. The solution to some of the problems created every day by variation in the environment or in the system, however, can only be provided by changeable-message signs.

This Special Report contains papers presented at the conference on the design, operation, and use of changeable-message signs.