

## PART 1 INTRODUCTION

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This *Transportation Research Circular* documents the activities of a workshop held at the National Academy of Sciences's J. Erik Jonsson Center in Woods Hole, Massachusetts on August 11-13, 1994. The workshop, sponsored by the Transportation Research Board Roadside Safety Features Committee (A2A04) and the National Cooperative Highway Research Program, was organized to bring together transportation professionals to discuss the current status of roadside safety research and explore new approaches and methods that could produce safety benefits in the coming decade.

Many tasks are underway with the FHWA, TRB, the states, and others to address issues related to roadside safety. These include efforts to analyze accident trends, formulate improved analysis procedures, develop better hardware, and promote a firmer understanding of the applicability of specific roadside improvements. A fundamental need exists to coordinate these activities on the basis of a common vision of the most critical needs and expected products. It is therefore imperative that the current state-of-the-art be reviewed, gaps or weaknesses in current knowledge be identified, current trends be assessed, research opportunities be explored, products be conceptualized, and consensus be reached on an agenda to improve the processes related to addressing roadside safety problems at federal, state, and local levels. In addition, the influences of the extent and design of the existing infrastructure, agency resources, new national policies, changing vehicle designs, the emergence of innovative materials and technologies, and other factors, must be considered in evaluating the research needs in roadside safety.

This workshop laid the groundwork for the development of a strategic plan for roadside safety research by assembling prominent professionals to identify research needs, define the critical factors and their range of values, assess the advantages and disadvantages of alternative means to resolve persistent safety problems, and producing a document which can promote debate over the issues leading to the adoption of a strategic plan in the future.

Featured at the workshop were six invited papers/presentations on:

- Evolution of Roadside Safety;
- The Roadside Safety Problem;
- The Evolution of Vehicle Safety and Crashworthiness;
- Evolution of Vehicle Crashworthiness as Influenced by the National Highway Traffic Safety Administration;
- Methods for Analyzing the Cost-Effectiveness of Roadside Features; and
- Applications of Simulation in Design and Analysis of Roadside Safety Features;

Following these presentations, the workshop participants were divided into four breakout groups. These groups addressed the following issues:

- Data and analysis needs;
- Selection and design of roadside safety treatments;
- Efficacy of simulation methods; and
- Assessing and developing roadside hardware;

This Digest contains the six invited papers, summaries of the findings of each discussion group, and selected comments by workshop participants. The Roadside Safety Features Committee (A2A04) plans to hold a follow up meeting during the summer of 1995 to formulate a common vision of the roadside safety research agenda for the coming decade.

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 January 1995