Transportation Safety: Highways

Introduction

The United States has one of the finest transportation systems in the world today. Through a vast network of modes and facilities, this system provides levels of mobility that could not have been imagined even 100 years ago. Despite this impressive accomplishment, however, there are problems that need to be addressed—and none is more critical than the need for improved safety. Two issues of *TR News* are being devoted to research aimed at addressing this need: this issue (Part I) focuses on highway transportation, the mode with the most significant safety problem; the forthcoming July–August issue (Part II) will focus on the other modes.

In 1997 nearly 42,000 persons lost their lives and about 3.4 million were injured in more than 6.7 million highway crashes. Economic losses associated with these crashes totaled more than $150 billion. Efforts currently under way to meet the need for improved highway safety in the United States, as well as abroad, focus on a broad range of issues associated with the driver, the roadway and its environs, and the vehicle, and are exploring engineering, enforcement, and educational solutions. The authors of the articles in this issue provide a look at some of the research initiatives in each of these areas.

Barry M. Sweedler, National Transportation Safety Board, sets the context by reviewing the transportation safety problem across the various modes. Tom Bryer, Pennsylvania Department of Transportation, and Kenneth S. Opiela, Transportation Research Board, then describe the *AASHTO Strategic Highway Safety Plan*, developed by the American Association of State Highway and Transportation Officials to provide a comprehensive approach for achieving substantial near-term reductions in highway fatalities and injuries.

The key role of human factors in highway safety is increasingly being recognized. Alison Smiley, Human Factors North, Inc., reviews research efforts aimed at reducing driver error. Taking the perspective of enforcement, Richard A. Retting, Insurance Institute for Highway Safety, then reviews efforts aimed at automated enforcement of traffic laws.

Atze Dijkstra and Fred C. M. Wegman, SWOV Institute for Road Safety Research, the Netherlands, summarize the European SAFESTAR effort, which developed recommendations and standards to support the establishment of enhanced roadway design across Europe. Finally, when crashes occur, prompt response by emergency services is of critical importance. Edward A. Starosielec, Douglas J. Funke, and Alan J. Blatt, Veridian Engineering, Inc., describe an ongoing effort in western New York State to test the use of automated crash notification systems.

The National Highway Traffic Safety Administration has begun a campaign to avoid use of the term "accident," which suggests that an incident is due to random forces of nature. A "crash," on the other hand, can be prevented or mitigated through driver, vehicle, roadway, or environmental interventions. While the term "crash" is generally used throughout this issue to refer to highway incidents, at times "accident" is also used because the distinction has not yet been adopted by many transportation modes or by the international community.