TRAFFIC MANAGEMENT AND PLANNING FOR FREEWAY EMERGENCIES AND SPECIAL EVENTS

In 1984 the Transportation Research Board's Freeway Operations and Travelers Services committees jointly decided that a specialty conference was needed to focus attention on the operational and managerial problems associated with freeway incidents and special events. As a result of this decision, a 1-day conference was held on January 13, 1985, at the Omni-Shoreham Hotel in Washington, D.C. The conference was attended by 75 people. About 90 percent of the attendees found the conference highly successful and recommended that it be repeated. Plans are in the process of being completed for the second specialty conference, which will be held in January 1986.

The objective of the conferences is to provide an understanding of the actions and planning that can be undertaken in advance to reduce the impact of congestion due to freeway incidents and special events. The problems of such nonrecurrent congestion are not nearly as well recognized as the regular peak-hour congestion problems. Emphasis is placed on the discussion of (a) nonrecurrent congestion resulting from incidents and (b) the control of incidents and traffic generated by special events.

During the January 1985 conference, a total of 12 speakers participated in the program. Some of the major points under discussion concerned freeway incidents. For example, a one-lane blockage on a three-lane section of freeway reduces capacity by 50 percent, but physical blockage of two of three lanes reduces capacity by about 80 percent. Shoulder incidents can also reduce capacity, sometimes as much as 26 percent.

Both special events and incidents on freeways can be more easily and quickly removed and traffic flow restored if incident management or corridor management teams are used. These teams plan for incident management, develop detour plans, organize individual team jobs, acquire equipment, and establish on-site management procedures. Included on the teams are representatives from enforcement, traffic engineering, highway maintenance, hazardous materials, fire, ambulance, and tow trucks. Alternate route maps developed in advance have been found to be helpful, especially in the case of major incidents.

It was reported at the 1985 conference that in Los Angeles in a 10-year period a benefit-to-cost ratio of 5 or 6 was realized by means of an incident management program. Furthermore, as many as 220 incidents per year cause major blockages of freeway lanes in Los Angeles alone. It was also reported that the Illinois Department of Transportation emergency traffic patrol fleet averaged 203 assists per day in 1983 on 70 miles of the 135-mile Chicago-area freeway system.

During the afternoon session of the January 1985 specialty conference, the attendees participated in the examination of three case studies. These studies were developed from incidents that had occurred on an operating freeway in the United States. Each of the case studies was described to the participants, who were then divided into two groups; each group discussed and reviewed the problem as if it was an on-site team responsible for developing the traffic management plan. A spokesman for each of the six groups presented the results of the individual group recommendations, after which a presentation was made for each case study by an agency representative who had first-hand knowledge about the incident "solution." Listed below are the case studies reviewed,

all of which were on major Interstate freeways:

1. A pedestrian bridge was struck by an oversized truck, the impact of which moved the bridge deck so that it was inadequately and unsafely supported by the pier structure.
2. An overloaded tractor-semitrailer carrying 1,000-lb paper bales collapsed in the right lane of a bridge that was already a bottleneck on a beltway around a major urban area.
3. A tractor-trailer tanker developed a leak and spilled a large quantity of toxic material on the freeway.

In the first two of these case studies, traffic through the site was disrupted for more than 10 hours, and for about 4 hours in the last case.

The specialty conference planned for January 1986 will be presented in much the same way as was the 1985 conference. As currently planned, six to eight speakers will participate in the program. Emphasis will again be placed on discussing how and when traffic management for freeway emergencies and special events is beneficial for highway agencies whether in large or small cities. The film "Traffic Management for Freeway Incidents" will be shown. Several new case studies will be used by the participants for study and group presentations.

The Conference on Traffic Management and Planning for Freeway Emergencies and Special Events will be held on Sunday, January 12, 1986, just before the TRB 1986 Annual Meeting, at the Sheraton Washington Hotel, Washington, D.C. Registration and the required fee will be separate from the Annual Meeting registration. For further information, contact Marilou Damon, Transportation Research Board, 2101 Constitution Avenue, N.W., Washington, D.C. 20418 (telephone 202-334-2934).

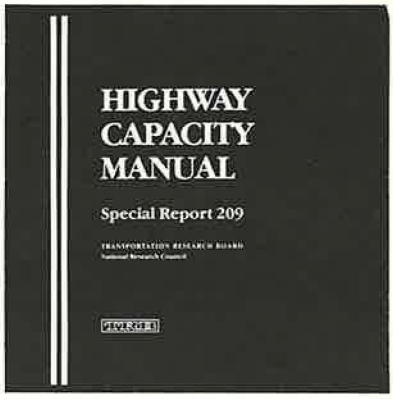
A preliminary program for the specialty conference will be available in November.

1985 EDITION OF *HIGHWAY CAPACITY MANUAL* PUBLISHED BY TRB

The third edition of the *Highway Capacity Manual*, developed through the National Cooperative Highway Research Program (NCHRP), is now available from the Transportation Research Board. The 1985 edition departs significantly in both appearance and content from the preceding 1965 edition, which was translated into several languages and had a total printing of more than 40,000 copies.

The *Manual*, a collection of procedures and methodologies for calculating highway capacity, neither constitutes nor attempts to establish legal standards for highway construction. The publication reflects the changes in highway engineering practice and highway use, such as changing vehicle characteristics of the past two decades. It is designed for use in planning, design, and operational analyses and is particularly relevant to the current concerns of maximizing the utility of existing streets and highways. "The manual provides a way to analyze in advance the quantity of service a highway can provide—and the quality of that service," explained Carlton C. Robinson, vice president of the Highway Users Federation, who chaired the TRB committee that coordinated and reviewed the material for the new *Highway Capacity Manual.*

The 14 chapters are organized into four parts: Part I—Principles of Capacity; Part II—Freeways; Part III—Rural Highways; and Part IV—Urban Streets. The expanded material in the section on Urban Streets includes chapters on transit capacity, pedestrians, and bicycles. Increased attention is given to urban transportation and transit problems, and the manual encourages planners to use computers to analyze complex situations, such as traffic patterns at downtown intersections. Also presented is material on how to get the most service from existing roads instead of building new ones.



The 1985 edition of the *Highway Capacity Manual* is now available from TRB (price $40.00).

Research leading to the development of the *Highway Capacity Manual* was sponsored primarily by NCHRP and the Federal Highway Administration; however, international contributions are also recognized. A large measure of support came from volunteer efforts, especially those of the members of the TRB Committee on Highway Capacity and Quality of Service. The document represents a consensus on the best practices in this important area of concern to the nation's highway builders and managers.

The 512-page *Highway Capacity Manual* has been published in a loose-leaf format with an expandable high-quality binder to facilitate repeated use and to accommodate updated material as it becomes available annually. Announcements of the availability of updated pages/chapters will be made in future issues of *TRNews.*