

# Transportation Operations— Back to the Future!

SINCE ITS INCEPTION IN 1930, ITE and its members have championed the importance of the effective operations and management of our surface transportation systems. The operations spectrum ranges from the everyday operations and maintenance of individual facilities to managing transportation resources and systems over the long term.

Twentieth-century surface transportation programs substantially focused on the development of basic infrastructure networks. The new challenge for transportation in the 21st century is managing the performance of transportation resources to deliver integrated transportation services to customers under varying conditions in a manner that is performance driven, not project driven. This evolution reflects the reality that today's economy and quality of life are critically dependent on maintaining the service on the basic network in the face of growing travel demand and capacity limitations.

The Institute and the U.S. Federal Highway Administration (FHWA) have therefore initiated a major long-term effort to provide transportation professionals and others with the opportunity to move beyond "fine tuning" and to significantly advance the state-of-the-practice of transportation operations.

## SETTING THE STAGE

During 1999, a series of discussion groups was conducted by ITE with support from the FHWA. The groups consisted of individuals from organizations representing state, regional and local transportation agencies, private consultants, industry and universities. Disciplines represented included traffic operations, safety, ITS, planning, research and intermodal logistics. Also participating in these discussions were Dr. Christine Johnson, FHWA Associate Administrator for Operations, and her leadership team. These discussion groups

generated the following set of recommended objectives and observations to help guide this effort.

**1. Develop a vision that will support a long-term mission for transportation operations:** A vision and mission to advance the state-of-the-art and improve the state-of-the-practice in transportation operations needs to be developed. Unlike TOPICS and Transportation Systems Management (TSM) initiatives in past years, a core discipline will be needed to underpin a successful transportation-operations program. State departments of transportation (DOTs) are becoming more aware of the need to play a stronger role in operations, but additional work is needed to turn this awareness into practice. Intelligent Transportation Systems (ITS) can serve as a model for the evolution of the state role. ITS will need to be viewed as a system that helps to enable effective transportation operations. Case studies will be needed to demonstrate how the vision can be related to performance objectives. We should learn from the past experiences in operating systems such as air travel, transit, freight and pipelines. A stronger scientific and systems foundation for operations needs to be provided.

**2. Establish an authorizing environment for operations that includes a broad range of stakeholders:** FHWA's primary partners in transportation operations will need to include other primary partners in addition to the traditional federal/state partnership. The constituency for operations needs to be identified and an operations family will need to be coalesced before we can expect additional resources to be directed toward operations. Potential stakeholders include government agencies at all levels, traffic engineers, freeway and tollway operators, traffic information providers, transit operators, planners, zoning boards, elected and

appointed officials, business development authorities, chambers of commerce, owners of parking facilities, freight movers, law enforcers, emergency personnel, construction companies, weather response and environmental communities, broadcast media, commuters, tourists and others.

**3. Educate national leaders on needs and issues of the operations stakeholders and on the potential benefits:** Education of stakeholders cannot be exclusively a top-down approach. The "local" nature of operations makes it imperative that the needs and issues faced by stakeholders at the state, regional and local levels be identified, that leaders at the national level be educated on these and the potential benefits of improved transportation operations and that these be used to help drive the resulting program.

**4. Foster coalitions at local, regional and national levels and among agencies and associations to carry out the mission:** We must think in terms of encouraging continuing progress, rather than re-engineering existing institutions. It is expected that institutions will evolve to meet the needs. At the same time, it must be recognized that the customer wants "seamless" operation of the system. Incident management in many cases may be the catalyst that fosters the coalitions, and the National Incident Management Coalition may be used as a model. Other potential models include the Olympics and major reconstruction projects. Coalitions will need to consist of people who are related by the common element of operations, even if they are not currently aware of the relation.

**5. Define and deliver agendas for operations:** Clear payoffs to be gained from improved operations need to be identified, resulting in a "new bargain" to encourage allocation of resources to operations. Resulting short-term and long-term agendas need to be developed for

research and education. On the funding side, the potential role of operations in the successor to the Transportation Equity Act for the 21st Century (TEA-21) will need to be identified and put forward as appropriate.

#### PHASE 1: LAYING THE FOUNDATION

Phase 1 of the ITE/FHWA effort to meet the above objectives began in mid-1999. It consists of fact gathering, establishing benchmarks and involving stakeholders in transportation operations. Input is being generated from a national steering committee and a broad range of stakeholders from around the United States. Information from international experiences also is being collected and applied. Examples and case studies of transportation operations are being documented. Performance objectives will be proposed to help establish the range between the state-of-the-art and state-of-the-practice benchmarks. Tools for measuring performance also will be recommended.

The findings generated will be presented at the ITE International Conference "Transportation Operations—Moving Into the 21st Century," April 2–5, 2000, in Irvine, Calif., USA. (For more information on this conference, please see pages 9–10 of this issue of *ITE Journal*.) The findings will be summarized in an overview issue paper and used to generate specific actions to be accomplished during Phase 2. The Institute also will use its network and array of communications mechanisms to make information and tools generated from this effort available to a broad range of transportation professionals and other stakeholders on a continuing basis.

The specific steps being taken as part of this Phase 1 effort include:

**Convene a national steering committee on transportation operations:** The Institute is serving as the convener of a national steering committee on transportation operations for the FHWA. Chairing the committee is Frank Francois, who recently retired after serving 18 years as Executive Director of the American Association of State Highway and Transportation Officials. The committee includes recognized leaders in transportation

operations and representatives of stakeholder groups. The committee is generating operations vision statements, providing a foundation for involving stakeholders and serving as the advisory committee for this effort. The committee also will recommend research, education and other agendas, and will provide guidance on outreach that might be implemented in Phase 2.

**Generate white papers and overview issue papers on transportation operations:** A series of white papers on transportation operations is being commissioned. These white papers will include case studies and examples to demonstrate the state-of-the-art and the state-of-the-practice. These papers will be presented as part of the April 2000 ITE Conference in Irvine. In addition, an overview issue paper is being prepared by Frank Francois. Drawing from the white papers, input from the national steering committee and other resources, the overview issue paper will address the following questions:

- What is the general state-of-the-practice of transportation operations?
- What are the best examples we have today?
- What would be the ideal experience/vision of travelers and stakeholders?
- What is wrong with the current situation, and what more do we want?
- What do we believe would be improved with better operations, and what evidence do we have?
- What are the performance measures and benchmarks, and what measurement tools are needed?
- How much do we actually know that can be used to provide guidance?
- What knowledge, skills and abilities will be needed by those who will be essential to the delivery of the vision and mission?
- What are the products, tools and actions that will make an immediate difference?
- What are the next steps that need to be taken for the long term?

The overview issue paper also will be presented at the April 2000 ITE Conference in Irvine. The overview issue paper will be used as a guide and resource for the activities under Phase 2 of this effort.

**Generate input from stakeholders:** A series of efforts to generate input from stakeholders is being conducted. Stakeholders are being asked to respond to the above questions, discuss what their needs are, what role they can play, their perceived roles of others and how they can work with others. Input is being generated from individual stakeholder groups offering input from their perspective. In addition, input is being solicited from combinations of stakeholder groups for a multidisciplinary synergy.

**Present findings at April 2000 ITE Conference in Irvine:** Phase 1 efforts will culminate at the April 2000 ITE Conference in Irvine, expected to be attended by over 500 persons. The conference will provide a forum for the authors of the white papers and the overview issue paper to present their findings. These presentations, supplemented by other presentations, will help to set the agenda for the multiyear Phase 2 effort.

#### PHASE 2: MULTIYEAR EFFORT

At this time, it is anticipated that Phase 2 of this joint ITE/FHWA effort will consist of involving the broad range of stakeholder groups for transportation operations and the delivery of the recommendations generated from Phase 1 above. Some of the steps that may be taken to accomplish this beginning in the year 2000 include:

- Conduct a series of regional conferences on operations issues;
- Conduct a national "summit" on transportation operations;
- Develop tools and disseminate information and resources; and
- Develop and deliver education and training programs.

The Institute can be proud of its efforts over the last 70 years to champion the role that improved systems management and operations can play in providing safe and efficient transportation services to the public. As we enter the new millennium, a number of driving forces have come together that are providing us with the opportunity to significantly increase the role of operations in meeting the transportation needs of society. The Institute is seizing that role. ■