

# The Transportation Research Board at 90

*Everyone Loves It, but No One Can Explain Why*

THOMAS B. DEEN

*The author served as eighth Executive Director of TRB, from 1980 to 1994; he continues to work as a transportation consultant in Stevensville, Maryland. His professional achievements are acknowledged through TRB's annual Thomas B. Deen Distinguished Lecture; in 2009, he received the Frank Turner Medal for Lifetime Achievement in Transportation.*

**I**t was 1980. TRB was 60 years old. I was 52 and president of a medium-sized transportation planning and engineering firm with offices in several cities in the United States and abroad. My position gave me the opportunity to work on some big projects in interesting places, I was paid well, and life was good. Yet I was considering quitting to become executive director of the Transportation Research Board (TRB)—although that would mean a pay cut.

The decision was difficult and took more than three months of pondering and consultation with family and close friends. Although difficult, the decision turned out to be one of the best I have ever made.

## Understanding TRB

The consultations with family and friends, however, raised problems. I couldn't talk to many of my fellow transportation professionals because of the sensitivity of my position. If people in my company had an inkling that I was considering leaving, my leadership would have been impaired and morale would have been damaged.

But when I turned to friends outside transportation and talked about TRB, I found it impossible to explain what TRB was. I was almost frantic for advice about a career-changing decision. But that advice was mostly unavailable, because the only people I could consult could not understand why I would accept reduced compensation to run an organization I could not explain.

The conversation would proceed as follows: I would explain that TRB was not a profit-making company or a government agency but a not-for-profit organization. "Was it a foundation, or a think tank, or a college, a church, or something like that?" "No." "Was it a hospital or something like the Boy Scouts or the Red Cross?" "No." "Did it lobby?" "No." TRB was not like anything else, and trying to draw analogies to something familiar did not work.

## Essential Node

Part of the problem was that I did not understand TRB either. I was introduced to TRB in 1956, when my entire class at the Yale University Bureau of Highway Traffic came to the annual meeting in a bus. I

The author, in his role as Executive Director, conducts a meeting at the TRB office, circa 1990. In the 28 years before and in the 16 years after his term, he has contributed to the work of many technical and policy study committees.



# TRB'S EVOLUTION

## Selected Major Milestones

- 1916** Federal-Aid Road Act provides funding for highway construction by state highway departments on an equal-share, matching basis.
- 1920** National Advisory Board on Highway Research formed in New York City; Alfred D. Flinn is first Executive Director. The Bureau of Public Roads (BPR) provides initial funding and remains sole funder until 1945, when states assume a large share of the funding for the Board's core program.
- 1921** First Annual Meeting in New York City; 30 attendees; William K. Hatt appointed second Executive Director; first-year budget of \$14,500 approved; six technical committees organized.
- 1924** Charles M. Upham becomes third Executive Director; establishes contact representatives in each state and many universities. TRB moves into new National Academy of Sciences building on Constitution Avenue, NW, Washington, D.C.
- 1925** Board is renamed Highway Research Board (HRB).
- 1928** Roy W. Crum appointed fourth Executive Director; initiates the first Highway Research Information Service;



was dazzled by the transportation luminaries of the day addressing matters ranging from engineering to finance. That was the largest meeting I had attended—1,200 people in all—and I was impressed.

In the 24 years since that first meeting, I had

participated in various TRB activities; had several of my papers published—one had received a best paper award; made many presentations; and chaired a committee or two. But I knew that TRB did other things that were less familiar to me—somehow it was part of the National Academy of Sciences (NAS); the National Academy of Engineering (NAE) also was a partner, but I had no idea what that meant—or what the National Research Council (NRC) was, and how it fit in.

All I knew was that TRB was a prestigious organization, that I was willing to serve on its committees without compensation, and that I felt good about it. TRB was good for networking; it provided opportunities to learn about aspects of transportation that were less familiar to me—for example, about other modes and how they were organized, financed, planned, and built. I got to know about competing firms, about the jobs they were winning, and about

- organizes all activities into six major divisions.
- 1931** HRB publishes first in series of *Highway Research Abstracts*.
- 1942** HRB issues Wartime Bulletins to provide information on dealing with wartime road problems.
- 1945** Scope of Board activities expands to include Research Correlation Service (much of today's core program); 41 states subscribe funds for the initial year of operation.
- 1946** HRB establishes Research Reference Library.
- 1950** HRB and BPR jointly publish the first *Highway Capacity Manual*; the Board develops and publishes all subsequent editions.



Researchers collect bridge data in the 1955 American Association of State Highway Officials Road Test.

- 1951** HRB conducts Maryland Road Test to measure the effect of axle loads on pavement stress. Fred Burggraf appointed fifth Executive Director.
- 1955** American Association of State Highway Officials (AASHO) Road Test, directed by HRB, results in first pavement design guide published by AASHO in 1961; guide is employed in road design nationwide.
- 1962** National Cooperative Highway Research Program (NCHRP) organized within HRB with funding by state DOTs on a voluntary basis.
- 1963** First *Highway Research Record*, the Board's peer-reviewed journal, is published.
- 1964** HRB organizes Department of Legal Studies from Special Committee on Highway Laws. D. Grant Mickle is appointed sixth Executive Director.
- 1966** HRB launches computer-based bibliographic research information service for highways, forerunner of today's Transportation Research Information Services (TRIS). William N. Carey, Jr., is appointed seventh Executive Director.

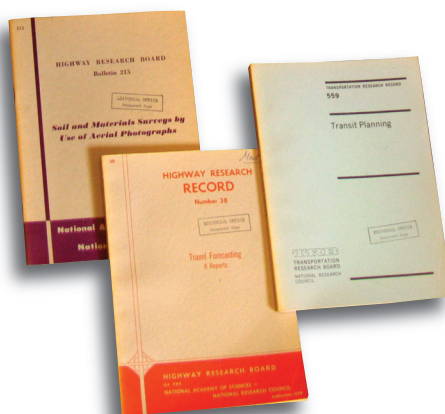
their people—some of whom I might need to hire or team with on a future project.

TRB was a place to find out about new opportunities for our firm. It was an essential node for business networking. But beyond that, I did not understand TRB at all.

## Institutional Mystery

When I decided to make the move to TRB, this problem did not end. I had to explain my decision. My parents—both college graduates—never could figure it out. I overheard my mother telling one of her friends that “Tom had taken a new job in Washington, directing traffic.” She is still healthy today at 104—and still has no idea what TRB is, despite my 14 years as Executive Director.

Even TRB’s name appears designed to obfuscate, not elucidate. A “board” conjures images of 20 peo-



A few of the early Highway Research Bulletins and Highway Research Records—the precursors to the *Transportation Research Record: Journal of the Transportation Research Board*—that included papers by the author.



W. N. Carey, Jr. (center), was TRB Executive Director from 1966 to 1980.

- 1974** HRB is renamed Transportation Research Board (TRB) in recognition of increasing multimodal interests of the states and federal government.
- 1980** Reorganization of National Research Council elevates TRB to a major unit. Thomas B. Deen is appointed eighth Executive Director.
- 1982** Congress requests first in series of studies that make specific policy recommendations.
- 1984** TRB recommends the first Strategic Highway Research Program (SHRP), which is authorized by Congress and funded by the Federal Highway Administration (FHWA); SHRP produces Superpave®, a revolutionary set of flexible pavement specifications, as well as other highway innovations.

- 1990** First Innovations Deserving Exploratory Analysis (IDEA) program organized to provide seed money for potentially useful innovations.
- 1992** Transit Cooperative Research Program is organized within TRB; authorized by Congress with funding from the Federal Transit Administration.
- 1994** Robert E. Skinner, Jr., is appointed ninth Executive Director. TRB establishes first Internet outreach; by 2010, TRB website is visited more than 3 million times annually.
- 1999** NRC transfers the Marine Board, which focuses on maritime and inland waterway transportation and related issues, to TRB.
- 2002** Annual Meeting program adds 35 sessions to address

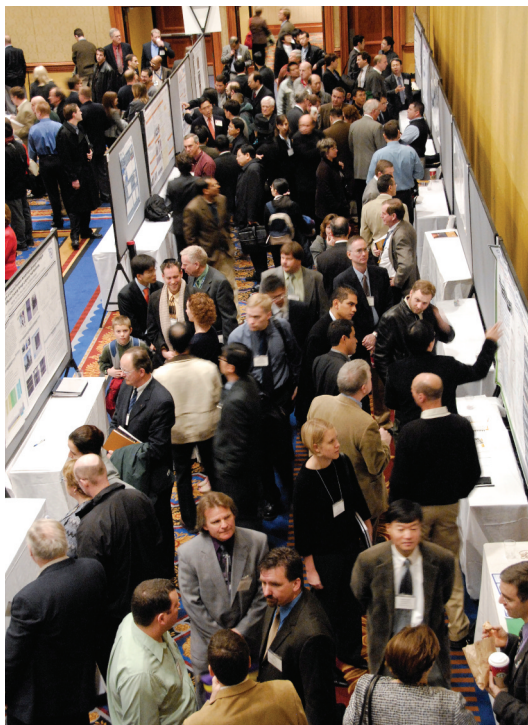


The Marine Board (above, in a 2008 meeting) became part of TRB in 1999.

- transportation security issues stemming from the September 11, 2001, terrorist attacks. TRB launches Transportation Research E-Newsletter; by 2010, circulation of the free newsletter approaches 40,000.
- 2005** Airport Cooperative Research Program organized within TRB; authorized by Congress and funded by the Federal Aviation Administration.
- 2006** Second SHRP is established; authorized by Congress and funded by FHWA. Hazardous Materials Cooperative Research Program and National Cooperative Freight Research Program are organized within TRB; the two programs are authorized by Congress and funded by the Pipeline and Hazardous Materials Safety Administration and the Research and Innovative Technology Administration, respectively.
- 2008** Exhibits from commercial firms debut at Annual Meeting.
- 2010** National Cooperative Rail Research Program organized within TRB; authorized by Congress and funded by the Federal Railroad Administration.



Through the better part of the 20th century and into the 21st, participation in TRB continues to grow and make essential contributions to advance transportation research and its applications.



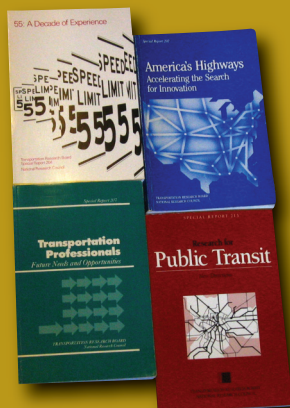
ple sitting at a polished table making institutional policies, appointing executives, and establishing budgets—but that does not describe TRB. TRB is an institutional mystery. It is a small jewel in the midst of huge private companies, government agencies, and universities. TRB exerts an influence disproportionate to its size and authority—although it has no authority.

In writing about TRB at earlier anniversaries—the 25th, the 50th, and 75th—my predecessors struggled with the mind-numbing and eye-glazing exercise of explaining what TRB does and how it is organized. The effort necessarily involves a word salad of unfamiliar acronyms—for example: TRB manages several CRPs, the IDEA program, and SHRP 2, and is a division of NRC, which is overseen by NAS, NAE, and IOM.<sup>1</sup> To duck that task, I have assembled a time line (see pages 8–9), so that I can address instead what it is that distinguishes TRB from other organizations and what makes TRB so useful.

<sup>1</sup> CRPs: Cooperative Research Programs; IDEA: Innovations Deserving Exploratory Analysis; SHRP 2: second Strategic Highway Research Program; IOM: Institute of Medicine.

## Significant Policy Studies Informing Decision Makers

1984	<i>America's Highways: Accelerating the Search for Innovation</i> (Special Report 202)	1991	<i>In Pursuit of Speed: New Options for Intercity Passenger Transport</i> (Special Report 233)	2001	<i>Making Transit Work: Insight from Europe, Canada, and the United States</i> (Special Report 257)	2006	<i>The Fuel Tax and Alternatives for Transportation Funding</i> (Special Report 285)
1987	<i>Zero Alcohol and Other Options: Limits for Truck and Bus Drivers</i> (Special Report 216)	1991	<i>Data for Decisions: Requirements for National Transportation Policy Making</i> (Special Report 234)	2002	<i>Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards</i> (National Research Council)	2008	<i>Potential Impacts of Climate Change on U.S. Transportation</i> (Special Report 290)
1989	<i>Improving School Bus Safety</i> (Special Report 222)	1994	<i>Curbing Gridlock: Peak Period Fees to Relieve Traffic Congestion</i> (Special Report 242)	2004	<i>The Marine Transportation System and the Federal Role: Measuring Performance, Targeting Improvement</i> (Special Report 279)	2009	<i>Driving and the Built Environment: Effects of Compact Development on Motorized Travel, Energy Use, and CO<sub>2</sub> Emissions</i> (Special Report 298)
		1997	<i>Toward a Sustainable Future: Addressing the Long-Term Effects of Motor Vehicle Transportation on Climate and Ecology</i> (Special Report 251)	2006	<i>Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States</i> (National Research Council)	2010	<i>Achieving Traffic Safety Goals in the United States: Lessons from Other Nations</i> (Special Report 300)
		1999	<i>Entry and Competition in the U.S. Airline Industry: Issues and Opportunities</i> (Special Report 255)				





## Surviving the Cycles

As TRB celebrates its 90th anniversary, many U.S. institutions are suffering from real or perceived shortcomings. Our nation and the world are undergoing the most severe economic contraction since the Great Depression. We are trying to find our way out of two wars on the other side of the globe.

Most citizens still believe in our system of free-market capitalism, but its recent, unbridled excesses seem to cause great suffering as it lurches from boom to bust in never-ending cycles. Government seems unable to stem these swings and sometimes appears to be the captive of corporations and special interests, while increasing public debt to record and probably unsustainable levels.

The lobbying industry flourishes even as the economy struggles, and Congress often seems paralyzed by the tidal waves of money from K Street to Capitol Hill. Our schools are unable to educate our young, and our health care system costs more and does less than the systems in other countries. Polls show that confidence in our institutions is at an all-time low, with no clear path to reform.

Despite the public's skepticism about institutions, TRB seems to grow and to maintain the confidence of its sponsors and of its larger constituency, and the transportation industry continues to find new issues and problems for TRB to address. I often have marveled how in 1920 a few leaders organized a tiny unit, complex in its setting, that has survived the Great Depression, World War II, the Cold War, several smaller wars, and many cycles of boom and bust, and has grown through it all.

Yet TRB manufactures no products, cannot levy taxes, and depends on the voluntary participation and contributions of organizations and individuals. Despite its name, TRB performs little or no research on its own. Its methods are often slow and ponderous, and it sometimes seems bound by arcane rules and strictures imposed by its overseers, who seem more interested in its processes than in the substance of its work.

## Origin and Mission

TRB's uniqueness reflects its origin and mission. Organized in response to a need identified by state and federal highway agencies, the Board provided a mechanism for the exchange of information and research results about highway technology when the states were setting out on the unprecedented task of designing and constructing a national highway system.

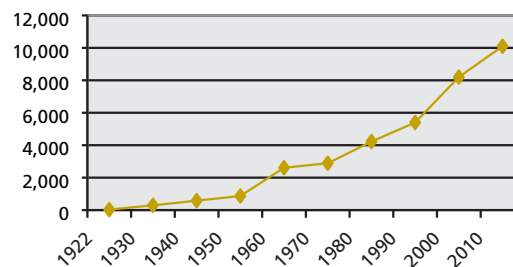
TRB has relied on and benefited from a special partnership with the states and the federal government. The organization fulfilled its original mission beyond anything its founders could have imagined,



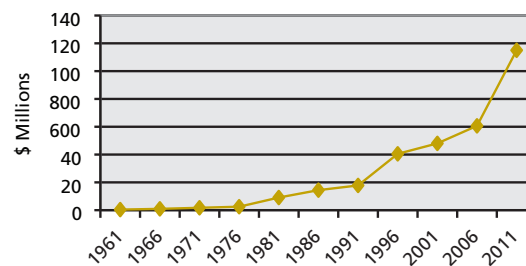
and it has added services over the years, including research management and policy studies.

I often have wondered why other economic sectors or other countries have not formed TRB-like organizations. For example, education and health care, like transportation, are large in scope, highly decentralized, depend on the effective collaboration of federal, state, and local government, and are vital to the national welfare. They also are composed of public and private interests.

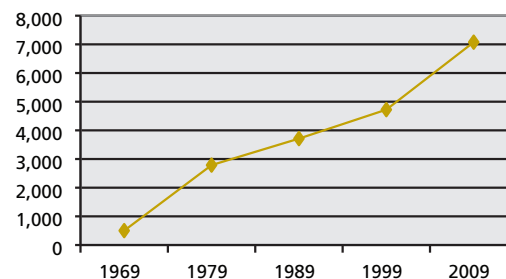
A delegation of Iraqi transportation professionals attended the TRB Annual Meeting in 2008, and were greeted by former U.S. Secretary of Transportation Norman Y. Mineta (*fourth from left*) and 2008 Executive Committee Chair Debra Miller (*fifth from right*). Annual Meeting attendance from overseas continues to increase.



**FIGURE 1** TRB Annual Meeting attendance, 1922–2010.



**FIGURE 2** TRB budgeted expenditures, 1961–2011.



**FIGURE 3** Number of TRB committee members, 1969–2009.



A meeting of the first Strategic Highway Research Program (SHRP) task force in 1986 (above). The success of SHRP led to the establishment of a second program, SHRP 2, in 2006 (right), a partnership with the federal government and states.



More than once, representatives from both of these sectors visited with me at TRB—they had heard of TRB's vital work for transportation and sought to organize an Education Research Board or a Health Care Research Board modeled after TRB. The attempts have not been successful. Perhaps the appearance of a newcomer would threaten too many organizations in health and in education; or perhaps creating and funding a complicated organization of any kind today is too difficult.

Foreign countries also have attempted to emulate and organize TRB-like entities for their transportation sectors. Foreign experts increasingly attend TRB's annual meeting and participate in sessions and projects, as the global economy and the issues of energy, climate change, and transportation cross over national borders.

## Milestones and Statistics

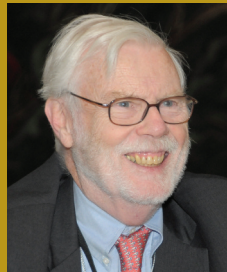
The time line illustrates TRB's trajectory over the



Wilding



Sperling



Downey



Kassoff



Scott

TRB strikes a remarkable balance, supporting sound, imaginative, collaborative research through a structure that keeps the process moving forward, free of extraneous influences. TRB makes me aware of how much about our fields—in my case, aviation—we have yet to discover, while providing a rewarding opportunity to learn and to contribute.

—James A. Wilding  
Former President, Metropolitan Washington Airports Authority; Chair, Airport Cooperative Research Program Oversight Committee; former member, TRB Executive Committee

TRB is a national treasure. It is the focal point for the entire transportation research commu-

nity in the United States and increasingly for international initiatives. I have attended every Annual Meeting for 27 years, served on many committees and chaired two, and I look forward to many more years of benefiting from the many activities TRB sponsors.

—Daniel Sperling  
Director, Institute of Transportation Studies, University of California, Davis; member, TRB Executive Committee

Congratulations to TRB on its 90 years of service to the transportation community. From my first participation in sessions at the Highway Research Board until now, I always have taken away more useful knowledge from a

TRB event than I brought in. The work of the TRB staff and the thousands of volunteers is at the heart of the innovation we need to solve America's transportation issues. Where would we be without TRB?

—Mortimer L. Downey  
Former Deputy Secretary, U.S. Department of Transportation; former member, TRB Executive Committee; 2001 Recipient, Frank Turner Medal for Lifetime Achievement in Transportation

The annual TRB gathering has become the world's premier event for transportation professionals. I don't know of a close second. It has evolved into the ultimate experience for hatching new ideas, networking among profes-

sionals, and debating what is on the leading edge or the next big thing. TRB is the ultimate outreach organization, providing countless opportunities for career enrichment and growth. For a 90-year-old institution, it has amazing powers to attract budding generations of transportation professionals. If there is one model of sustainability in our industry, it is TRB.

—Hal Kassoff  
Senior Vice President and Highway Market Leader, Parsons Brinckerhoff; former Administrator, Maryland Department of Transportation's State Highway Administration

On a personal and professional level, my TRB participation helps



past 90 years, with emphasis on the 15 years since the 75th anniversary. Selected milestones include the 1920 creation of the National Advisory Board on Highway Research, which later morphed into TRB. Space precludes listing many other significant events, but the organization repeatedly responded as needs arose and technology provided innovative ways to serve transportation.

New committees, new modes, new programs, new publications, computers, and the Internet make their appearances. These changes have accelerated, as transit, railroads, aviation, highway freight, and marine transportation, along with crosscutting concerns—such as the environment, energy conservation, safety, electronics, and a range of economic issues—have increased in importance for TRB, without diminishing its traditional service to highway infrastructure.

Annual Meeting attendance, budgeted expenditures, and numbers of committee members show these trends in statistical terms (Figures 1–3, page 11). TRB's annual meeting is one of the largest in Washington, D.C., with attendance exceeding 10,000 in recent years, after steady growth through



For the first time in 2008, commercial businesses sponsored exhibit booths at the Annual Meeting. This exhibit from Cardinal Systems, LLC, featured an interactive demonstration.

good times and bad. Similar growth can be seen in TRB's budget and in the numbers of people serving on committees.

Spending more money in troubled times is not necessarily a virtue but indicates that agencies large and small, public and private, are relying on TRB to accomplish necessary work. Annual Meeting sessions and workshops have increased by 100 percent in the past 15 years, the numbers of presentations have increased by 114 percent, and the numbers of papers overseen in peer review have increased by



Borrone



Butler



Sussman



Martinovich



Mendez

to stretch and round me out. I enjoy interacting with the young professionals who are coming into our industry—I appreciate TRB's efforts in this area. I always seek the best available data—whether on current best practices or on strategic thinking about new ideas, future directions, and trends. Quality information is the key to effective decision making. Participating in TRB and the work it produces helps me to keep current.

—Beverly A. Scott  
General Manager and Chief Executive Officer, Metropolitan Atlanta Rapid Transit Authority; member, TRB Executive Committee

Like many others in the transportation industry community in

the United States and internationally, I have benefited professionally and personally from TRB's products and from active involvement with committees and at conferences, workshops, and Annual Meetings. Starting as a highway-oriented research organization, TRB has evolved into one of the few key international institutions for cross-modal national and international research, idea development, skill development, and policy networking for transportation practitioners and educators. By encouraging and embracing diversity, TRB is truly a center for lifelong learning, as well as a place through which we can contribute to the common good at every stage of our careers.

—Lillian C. Borrone  
Chairman, Board of Directors, Eno Transportation Foundation; former Assistant Executive Director, Port Authority of New York and New Jersey; former Chair, TRB Executive Committee

As a private-sector practitioner in the freight rail industry, I was honored by the invitation to join the TRB Executive Committee. At the same time, however, I was somewhat skeptical about the value of my participation in a research organization that appeared to be filled with academics and public-sector officials with a strong bias to highway issues. My first review of TRB's *Critical Issues in Transportation* relieved me of that misconception;

congestion, infrastructure, and institutions—among other critical issues—are as relevant to the rail industry as to other modes. Many important transportation issues face our nation today; no other forum gives voice to all of the stakeholders as effectively as TRB.

—Deborah H. Butler  
Executive Vice President, Planning, and Chief Information Officer, Norfolk Southern Corporation; member, TRB Executive Committee

I have benefited extraordinarily from my involvement with TRB—through service as Chair of the Executive Committee and through other activities—but I prefer to highlight the impact that  
(continued on next page)



All of the past four U.S. Transportation Secretaries have participated in one or more TRB Annual Meetings—(top row from left) Rodney E. Slater (1997–2001), Norman Y. Mineta (2001–2006), (bottom row from left) Mary E. Peters (2006–2009), and Ray LaHood (2009–present).

154 percent—yet TRB has never made growth an explicit goal. The Board has responded to sponsor needs for comprehensive coverage of transportation issues, which have expanded over the years.

## Launches and Mainstays

These growth statistics are the result of expansion into the full range of transportation modes, as well as an expansion of the services and programs provided by TRB. Two decades ago, TRB launched its series of policy studies, which draw conclusions and make recommendations on timely and sometimes contentious issues.

Many of the studies are conducted at the request of Congress or the federal government. One recommended the establishment of the first Strategic Highway Research Program (SHRP), now completed. SHRP was highly regarded as a successful approach to highway innovation, and Congress followed it up with SHRP 2, currently in progress. The Innovations Deserving Exploratory Analysis or IDEA program started under SHRP and has expanded beyond roads to include bridges, rail, transit, and motor carrier transportation.

New cooperative research programs similarly have expanded beyond roads to conduct practical research for transit, airports, hazardous materials, freight transportation, and most recently, rail transportation. These contract research programs have accounted for much of TRB's budget growth.

After the September 11, 2001, terrorist attacks, transportation security gained new emphasis. The Internet has provided new modes of outreach, including an expanded website, the Transportation Research E-Newsletter, a webinar series, a Twitter page, and the online Transportation Research Information Services.

In 2008, commercial firms were invited to present exhibits at the Annual Meeting; with sponsor exhibits, the number of booths reached 200 in 2010. Meanwhile, the more traditional publications programs also have grown—published titles have increased by 124 percent in the past 13 years.

## Information and Trust

What is it about TRB that has allowed it to flourish for an extended period, regardless of the external circumstances, when few fully understand it, and

(continued from page 13)

TRB has had on transportation students at the Massachusetts Institute of Technology. The TRB Annual Meeting often is their first professional exposure to the field outside of academia and has become a rite of passage for our program. These are the new transportation professionals, and TRB's role in their early professional life cannot be overstated.

—Joseph M. Sussman  
JR East Professor of Civil and Environmental Engineering and Engineering Systems, Massachusetts Institute of Technology; former Chair, TRB Executive Committee

TRB provides the foundation for collaborative work among all areas of transportation research. The findings of transportation research programs are fundamental for helping states prioritize and maximize limited resources. TRB is a great partnership and a great asset.

—Susan Martinovich  
Director, Nevada Department of Transportation; Member, TRB Executive Committee



Millar

TRB has become what other organizations can only aspire to be—the go-to forum for the latest body of knowledge and research on all facets of transportation. No other entity brings to bear such an organized and systematic approach to transportation research or such a vibrant forum for exchanging ideas. Without a doubt, TRB is helping set the course for our industry in the 21st century.

—Victor M. Mendez  
Administrator, Federal Highway Administration; member, TRB Executive Committee

TRB has been essential to my professional growth and development. Serving on committees, task forces, and as Executive



Turnbull

Committee Chair has allowed me to meet people I would not have met and to learn about transportation issues outside my field of expertise. As a reliable source of transportation information and ideas, TRB continues unmatched in the world.

—William W. Millar  
President, American Public Transportation Association; member and former Chair, TRB Executive Committee

TRB is truly a community of individuals interested in transportation. Participating in TRB committees, meetings, conferences, and other activities has greatly enriched my professional and personal development. I have met new people, gained



Neumann

long-lasting friendships, and been challenged to take on new responsibilities and to think about innovative approaches to addressing critical issues. Making sure the next generation of transportation professionals has these same opportunities is a priority for me and others.

—Katherine F. Turnbull  
Executive Associate Director, Texas Transportation Institute; member, Technical Activities Council

Without question, TRB has been the most rewarding and helpful professional organization I've been involved with throughout my career. The opportunity to address the key policy and research issues facing the transportation industry, coupled with the opportunity to establish personal and professional friendships, has been wonderful. I would urge any young professional to get involved and to stay involved with TRB—the rewards will follow.

—Lance A. Neumann  
President, Cambridge Systematics, Inc.



many other institutions are suffering? In an information age, professional success depends on knowing the latest about technology, about which methods work and which do not, and about current trends in funding, regulation, and legislation; success also depends on meeting other professionals who are working on the same problems.

TRB's Annual Meeting has become essential for keeping up in a fast-changing world. Until recently, most DOT modal administrators and the Secretary of Transportation rarely appeared at TRB Annual Meetings, but now it is rare that they don't. Also participating are many state transportation directors and a rising array of private executives. Any entity that wants to display a technology, a new program, a regulation, or other initiative finds the Annual Meeting the only place to gain exposure to nearly everyone in the field.

But the Annual Meeting is more a symptom of TRB's success than a cause. The one quality that most explains TRB's success is trust. TRB treats the issues—large or small, complicated or simple, controversial or benign—with balance, fairness, and competence.

## Competing Interests

Transportation is full of competing financial and policy interests. Truck companies compete with railroads and with each other and contend with the states about load limits and taxes. Airlines compete with each other and challenge airport authorities over landing fees and taxes. River traffic competes with railroads and pipelines and struggles with government over user charges for dredging and navigation. Asphalt competes with concrete for pavements, and steel competes with concrete for bridges. The federal government often pressures the states over the distribution and uses of federal gas tax revenues and the imposition of standards. The public interest in safety often seems at odds with the profit interests of transportation providers.

These competing interests are unending and must be resolved in the marketplace, by regulation, or through legislation. Policy makers need unbiased information, and practitioners need to know the results of tests, research, or others' experience to make informed decisions about technical issues.

## Ensuring Objectivity

Such an environment needs a clearinghouse to accumulate research and studies; to distinguish facts from opinion; and to distill, discuss, and share knowledge from investigations, under the peer review of unbiased experts. Objective, fact-based analysis is needed to inform the debate over complex issues of transportation policy. TRB provides this—nearly every-

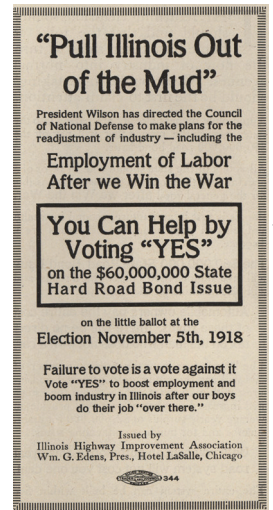
thing TRB does is guided by a committee of the best experts on the particular subject at hand.

Francis B. Francois, former Executive Director of the American Association of State Highway and Transportation Officials, has noted, "If TRB didn't exist, then we would have to invent it." But could TRB be invented today, given the current institutional environment and prevailing attitudes? Many transportation organizations would feel threatened. But TRB was blessed with founders who had vision and insight, who organized it before many of the trade associations and professional societies arose, and who established a place for TRB, independent of all.

To ensure that TRB's selection of experts for committees does not favor financial sponsors or staff bias, it was embedded in an organization that has nothing to do with transportation—NRC, which serves NAS, NAE, and the Institute of Medicine. The elected members of these three honorific organizations include many of the nation's most distinguished scientists, engineers, and health care experts.

Under the charter granted by Congress to NAS in 1863, the institution provides advice on scientific and technical matters to the federal government and other institutions. TRB has benefited enormously from the independence, reputation, and standards of its parent institution, an unusual nonprofit, non-governmental organization. NRC must approve—directly or indirectly—every TRB committee to ensure that it is competent and fair.

This alphabet soup, however, reflects a complex organizational structure that is difficult to explain and sometimes cumbersome to operate. But without this structure, TRB would lose its way, and its reduced credibility would soon have a negative impact on its effectiveness and support.



A 1918 poster from the Illinois Highway Improvement Association exhorts residents to vote for a bond to improve state highways. The Federal-Aid Road Act of 1916 apportioned federal road funds to states based on a formula of size, population, and number of mail delivery routes.

## Approaching Milestones

The Innovations Deserving Exploratory Analysis program observed its 20th anniversary in 2010. Upcoming TRB milestones include the following:

- ◆ 5th anniversaries of the second Strategic Highway Research Program, the National Cooperative Freight Research Program, and the Hazardous Materials Cooperative Research Program (2011)
- ◆ 150th article in the Research Pays Off series (2011)
- ◆ 20th anniversary of the Transit Cooperative Research Program (2012)
- ◆ National Cooperative Highway Research Program 50th anniversary (2012)
- ◆ Transportation Research Information Services 45th anniversary (2012)
- ◆ *Transportation Research Record* 50th anniversary (2013)
- ◆ TR News 50th anniversary (2013)
- ◆ 30th anniversary of TRB policy studies (2013)



A Good Roads Convention in Grand Rapids, Michigan, in 1915. Similar conventions were held across the country in the early years of federal transportation activities under the Office of Road Inquiry, started in 1893.

Although few fully understand this complex little jewel, and even fewer can explain it, the thousands of people who participate in some facet of TRB sense that it has credibility, deals with complex issues that affect our society, and is therefore worthwhile. This sense grows during times when the credibility of many other institutions is suffering in the public esteem.

### No Cause for Complacency

Yet for all this, TRB must guard against complacency. The robust image depicted in the foregoing paragraphs may suggest a metaphorical roaring lion, but a delicate flower is a more accurate likeness. A flower can bloom and flourish, yet remain fragile. TRB's future could be fragile.

Throughout TRB's 90 years, the federal-state partnership in our nation's transportation has been important and robust. The states, the federal government, and TRB have maintained a three-way partnership. The states and the federal government view TRB as a tool for facilitating research and disseminating technical information in a decentralized environment.

The founding of TRB only 5 years after the first Federal-Aid Road Act—which required the establishment of highway departments in each state—was no coincidence. Over the years, federal legislation initiated the Interstate Highway System, aid to transit, airport assistance, research programs, Amtrak, environmental legislation, safety initiatives, and countless other regulations and requirements.

## The Airport Cooperative Research Program Celebrating Five Years of Serving Airports

MICHAEL R. SALAMONE

A well-functioning airport system is essential to U.S. participation in the global economy. The Airport Cooperative Research Program (ACRP), administered by the Transportation Research Board (TRB), is celebrating its fifth anniversary of producing research that offers technical and functional solutions for improving airport efficiency and effectiveness and that provides in-depth insight into the issues airports face.

Airport facilities and infrastructure accommodate a variety of services for the national and international air transportation system, operating in a complex environment with a range of challenges. The 3,400 airports in the national integrated airport system are diverse—located in urban and rural areas and operated by a variety of entities, including airport commissions, state and municipal governments, and airport authorities. These entities are responsible for commercial and general aviation operations, but often communication and organizational interconnections are informal.

Despite the diversity, most airports share many issues and challenges. All airports are subject to federal, state, and local regulations, which pose significant challenges for compliance, and all seek cost-effective solutions to improve efficiency, effectiveness, and services to customers. Research to find practical solutions to these issues can be too expensive for one airport to fund by itself, particularly if faced with sev-



Members of the independent ACRP Oversight Committee are chosen by the U.S. Secretary of Transportation from various airport-related industries and academic fields.

eral other challenges simultaneously.

ACRP works to resolve these challenges, addressing problems important to the airport industry and airport operators by managing applied research and distributing the results. ACRP is sponsored by the Federal Aviation Administration. The U.S. Congress appropriated approximately \$75 million for ACRP for fiscal years 2006 through 2011.



State interests in transportation also have expanded and often have required cooperative federal–state actions. Highway and rail vehicle manufacturers, universities, aviation interests, railroads, environmental organizations, trade associations, and consultants found TRB the place to network. TRB established its niche in the information age.

Today, many question the federal role in transportation, and the long-running cooperative transportation consensus appears to be unraveling. Congress has struggled to agree on reauthorizing surface transportation and aviation funding. Failure to enact the legislation would not doom TRB to extinction but may threaten its long-term viability.

The decentralized nature of transportation and transportation organizations creates a tendency to underfund research. Yet research and technical innovation have remained the most consistent and long-running federal transportation activities since the establishment of the Office of Road Inquiry in 1893. A reduction of the federal role in transportation could change the institutional environment and would cloud TRB's future.

## Sustaining the Partnership

Even without a change in the federal role, TRB has no guarantee of continuing success. The expansion into multiple modes and interdisciplinary activities could reduce its viability if its responsiveness to individual modes and the interests of particular constituencies diminishes. TRB cannot be everything to everybody; its vitality stems from its strong bonds to the states and the federal government. TRB's leadership must maintain its reputation for independence, service, and responsiveness to the real problems that its constituency is experiencing.

Transportation problems that require research solutions will not disappear. Transportation will need to resolve the issues between ever-improving technology, environmental issues, financial interests, and safety concerns. TRB's niche is at the intersection of these forces. If future transportation legislation sustains the collaborative relationship between federal, state, and private interests, then TRB can continue to serve and thrive for another 90 years.

The program began publishing the results of research projects in 2007 to airports across the country. As of December 2010, ACRP has published nearly 100 titles in several series and has distributed and disseminated the documents to airports. Research topics have ranged from administrative practice to technical modeling and design and have addressed the needs of airport operators on issues involving administration, environment, legal matters, policy, planning, safety, security, human resources, design, construction, maintenance, and operations. (For a list of ACRP publications in six series, see [www.trb.org/Publications/Public/PubsTRBPublicationsbySeries.aspx](http://www.trb.org/Publications/Public/PubsTRBPublicationsbySeries.aspx).)

An independent governing board provides program oversight. The U.S. Secretary of Transportation appoints the primary members of the ACRP Oversight Committee (AOC), choosing individuals from airport operating agencies, academic institutions, and airport consulting firms. Several industry organizations—such as the American Association of Airport Executives, the Airport Consultants Council, the Airports Council International–North America, the National Association of State Aviation Officials, and the Air Transport Association of America—also participate on the AOC, providing vital links to the airport community.

The ACRP research process begins with an annual call for problem statements from the industry. The AOC identifies the problem statements of highest priority and allocates available research funds.

A panel of volunteers approved by the National Research Council provides technical guidance throughout each ACRP project. During its first 5 years, ACRP has engaged more than 700 airport industry practitioners on panels overseeing more than

200 research projects. Panel members include experienced airport professionals, airport planning and engineering consultants, vendors, suppliers, airport tenants, airline representatives, academicians, and research specialists.

A recent highlight that typifies ACRP's accomplishments is the publication of research into the complex task of charting an airport's strategic plans and measuring airport performance; the publications together present the most complete guidance available on improving the effectiveness and efficiency of airport operations:

- ◆ ACRP Report 20, *Strategic Planning in the Airport Industry*, provides practical guidance and includes a comprehensive interactive workbook of tools and step-by-step procedures.

- ◆ ACRP Report 19 presents guidance on *Developing an Airport Performance-Measurement System* and includes an electronic workbook with tools to help users implement and complete the process.

- ◆ Now in preparation, ACRP Report 19A, *Resource Guide to Airport Performance Indicators*, assembles a comprehensive list of more than 700 performance indicators; airports can select appropriate indicators for use in benchmarking, which is a key to a successful performance measurement system.

For information about projects under way, see the ACRP website at [www.trb.org/ACRP/Public/ACRP.aspx](http://www.trb.org/ACRP/Public/ACRP.aspx).

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