

TRANSPORTATION RESEARCH BOARD

2018 ANNUAL REPORT OVERVIEW



The National Academies of
SCIENCES • ENGINEERING • MEDICINE

IN MEMORIAM



Michael R. Salamone
ACRP Manager, 2006-2018

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

The **National Academy of Sciences** was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Marcia McNutt is president.

The **National Academy of Engineering** was established in 1964 under the charter of the National Academy of Sciences to bring the practices of engineering to advising the nation. Members are elected by their peers for extraordinary contributions to engineering. Dr. C. D. Mote, Jr., is president.

The **National Academy of Medicine** (formerly the Institute of Medicine) was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health. Dr. Victor J. Dzau is president.

The three Academies work together as the **National Academies of Sciences, Engineering, and Medicine** to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The National Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

Learn more about the National Academies of Sciences, Engineering, and Medicine at www.nationalacademies.org.



RESEARCH, COLLABORATION, AND ADVICE ON CRITICAL TRANSPORTATION ISSUES

For nearly a century, the nation's leaders and the global transportation professional community have turned to the Transportation Research Board (TRB) for research, collaboration, and advice on emerging and critical transportation issues.

TRB provides leadership in transportation innovation through timely, evidence-based policy advice, research, and information exchange, conducted within a setting that is independent, objective, interdisciplinary, and multimodal. As one of seven program divisions within the National Academies of Sciences, Engineering, and Medicine, TRB draws upon the expertise of members and staff of the National Academies and leverages the Academies' credibility. TRB engages a vast and diverse pool of transportation experts willing to offer their knowledge to TRB's programs and studies.

As TRB works to identify critical issues and anticipate transportation challenges, it leads

the way advancing and conducting research and policy analysis to help address issues and meet these challenges. TRB promotes knowledge creation and dissemination, especially of innovative practices and technologies in the transportation sector, and provides timely and informed advice on transportation and transportation-related issues to decision makers and others responsible for multimodal transportation systems. TRB also functions as an effective, impartial forum for the exchange of knowledge and information on transportation and its relationship with social, economic, environmental, and other issues and fosters collaboration on transportation research, education, and technology transfer at international, national, regional, state, and local levels; across public and private sectors; and with transportation providers, customers, and other stakeholders.

TRB contributes to the professional development of individuals working in transportation and to the education and enhanced diversity of the pool of future transportation professionals. By engaging in communications efforts, TRB enhances awareness of transportation issues and research and of their contributions to innovation and progress in transportation, and adds to the public's understanding of transportation and its significance to society.

It is an exciting time to be involved in transportation policy and research. Technological transformations are leading



(Left to right:) Katherine F. Turnbull, 2018 Executive Committee Chair; Neil Pedersen, TRB Executive Director; and Victoria A. Arroyo, Executive Committee Vice Chair. (Photo: Risdon Photography)



Jennifer Cortina, University of Texas Rio Grande Valley, describes methods for determining the contract time of highway projects. Cortina was one of 21 Minority Student Fellows who presented research at the 2018 Transportation Research Board (TRB) Annual Meeting. (Photo: Risdon Photography)

to significant changes in transportation, raising questions of how these changes should take place, related consumer and business expectations, economics, and the implications of these changes on society. These transformations directly affect broader societal goals related to safety and security, economic vitality and growth, quality of life, sustainability, equity in providing opportunity, and public health. These changes have significant effects in both the private and public sectors, at all levels of government, and internationally. There never has been a time in which TRB's role in providing policy advice, conducting research, and disseminating information has been more important and needed.

This annual report overview summarizes TRB's accomplishments in each of its major program areas and how TRB has served the nation and the global transportation professional community during 2018. For more details about the activities of each division, see the full TRB Annual Report.

Organization

The National Academies of Sciences, Engineering, and Medicine is a private, nonprofit institution that provides expert advice on some of the most pressing challenges facing the nation and the world. The National Academies' work helps shape sound policies, inform public opinion, and advance the pursuit of science, engineering, and medicine. The National Academies provide independent, objective analysis and advice to the nation; conduct activities to solve complex problems; and inform policy decisions on matters related to science, engineering, and medicine. As one of the program divisions within the National Academies, TRB has access to Academies



Susan Hanson is outgoing chair and Chris Hendrickson is incoming chair of the TRB Division Committee, which provides oversight to TRB activities. (Photos: Risdon Photography)



Wildlife crossing on Montana's Flathead Reservation. Decreasing the environmental impact of transportation is one of the sustainability goals addressed by TRB. (Photo: Djembayz, Flickr)

members—some of the foremost experts in the world on matters related to science, engineering, and medicine, as well as to staff experts from other program divisions.

TRB's direct link to the National Academies is through the TRB Division Committee, which provides oversight of TRB activities. Among the committee's focus areas are ensuring that TRB reports meet National Academies' standards for quality, objectivity, and independence; that committee chairs and members have no conflicts of interest; and that committee chairs and members represent diverse backgrounds and interests. Susan Hanson, professor emerita of Clark University and a member of the National Academy of Sciences, has served as chair of the TRB Division Committee for the past 6 years. In January 2019, Chris Hendrickson, a professor at Carnegie Mellon University and a member of the National Academy of Engineering, will succeed her as chair.

TRB's Executive Committee provides strategic direction to and oversight of TRB's programs and activities. Among the 26 appointed members of the Executive Committee are executives from both the public and private sectors and from all modes of transportation, prominent academics involved in transportation, and members of the National Academies. The 20 ex officio members of the Executive Committee are top executives from TRB's sponsoring agencies.

Periodically, to provide guidance to TRB's programs and committees, the Executive Committee adopts a strategic plan for TRB and identifies critical issues in transportation. Both the Division Committee and the Executive Committee are supported by staff from the TRB Executive Office.

The 220 standing technical committees and task forces of TRB cover all modes and a wide range of issues in transportation. Each committee is comprised of approximately 30 to

35 members as well as many other volunteers who serve as friends of the committee. These committees are responsible for developing the program for TRB's Annual Meeting, held each January in Washington, D.C., along with programs for the conferences and workshops that TRB sponsors or cosponsors. The standing committees also review the more than 6,000 papers submitted for presentation at the Annual Meeting, publication in the *Transportation Research Record: Journal of the Transportation Research Board*, or both. These communities of practice meet to discuss current and emerging issues related to their subject area and to develop problem statements for consideration by TRB and other research programs.

In 2018, 4,963 individuals filled 6,160 positions on TRB's standing committees and task forces, with several thousand additional volunteers participating as friends of the committees and task forces. The Technical Activities Council, chaired by Hyun-A Park, provides oversight of the committees and task forces, which are organized into 11 groups by topic. TRB's Technical Activities Division provides staff support for the committees and task forces and their programs and activities. Ann Brach is Technical Activities Division director.

TRB conducts research through its four Cooperative Research Programs (CRPs). The

content of the research programs is selected and administered by oversight committees, which consist of the ultimate users of the research results: practitioners as well as policy and standards developers throughout the world. CRP research is conducted by contractors; each project is overseen by a panel of experts who also provide peer review. TRB uses open competition to procure contractors, ensuring the quality of the work and the involvement of a wide array of researchers and research organizations.

The Special Committee on Research and Innovation of the American Association of State Highway and Transportation Officials provides oversight to the National Cooperative Highway Research Program (NCHRP). The Transit Cooperative Research Program (TCRP) is governed by the TCRP Oversight and Project Selection Committee, and oversight of the Airport Cooperative Research Program (ACRP) is provided by the ACRP Oversight Committee. A subcommittee of the board of the Governors Highway Safety Association guides the Behavioral Traffic Safety Cooperative Research Program (BTSCRCP). More than 3,200 volunteers serve on CRP oversight committees and project panels. Christopher Hedges is director of TRB's Cooperative Research Program Division, which provides staff support for these programs.



TAC chair Hyun-A Park and Technical Activities Director Ann Brach update the Executive Committee on the activities of TRB's standing committees. (Photo: Risdon Photography)



The 2018 Technical Activities Council (TAC) provides oversight and strategic direction to the nearly 5,000 volunteers on TRB's standing committees and task forces. (Photo: Risdon Photography)

As part of the National Academies of Sciences, Engineering, and Medicine, TRB conducts advisory studies in accordance with procedures of the National Academies. These studies are performed by committees of volunteer experts and supported by staff in TRB's Consensus and Advisory Studies Division. Each study committee is responsible for producing one or more reports that are subject to the Academies report review process and that contain evidence-based conclusions and recommendations. TRB conducts policy studies requested by Congress or executive branch agencies as well as self-initiated studies funded by TRB. In addition, several standing committees advise the research and development programs of various modal administrations in the U.S. Department of Transportation. The director of the Consensus and Advisory Studies Division is Tom Menzies.



Tom Menzies, Director of the Consensus and Advisory Studies Division.

The Marine Board is an internationally recognized source of expertise on maritime transportation and marine engineering and technology. In response to requests from sponsoring agencies or on its own initiative, the Marine Board provides evaluations of and advice on the ability of the nation's marine and maritime industries to operate safely and efficiently and in an environmentally responsible manner. The board also identifies research needs and facilitates the exchange of information on new technologies, laws and regulations, economics, the environment, and other issues affecting the marine transportation system, port operations, coastal engineering, and marine governance. For the past three



The American Association of State Highway and Transportation Officials Special Committee on Research and Innovation guides the work of the National Cooperative Highway Research Program.

years, the Marine Board was chaired by Mary Brooks of Dalhousie University; in November 2018, Edward Comstock, an independent consultant with expertise in naval architecture, became Marine Board chair.

TRB's Executive Office provides strategic direction and oversight of staff activities and is responsible for many administrative, communications, and information technology functions. The Administration and Finance Division manages TRB's finances, including budgeting, revenue management, and contracts.

Critical Issues

TRB deals with a broad portfolio of issues ranging from strategic policy matters to narrow



The Marine Board identifies needs in maritime transportation, engineering, and technology and facilitates information exchange on economics, environment, and legislation.



technical topics. Over the past few years, the TRB Executive Committee emphasized the strategic focus areas of transformational technologies, resilience, and the relationship between transportation and public health. These topics have been featured in many sessions at recent TRB Annual Meetings, conferences and workshops, published papers, research projects, and studies.

Of particular note is the Automated Vehicles Symposium, jointly sponsored each summer by TRB and the Association for Unmanned Vehicle Systems International. More than 1,700 people attended the 2018 symposium, which provided a forum for presentation and discussion of a full range of issues associated with connected and automated vehicles (CAVs) and with shared mobility services. TRB also has established a roundtable, called the “National Academies–TRB Forum: Preparing for Automated Vehicles and Shared Mobility,” that regularly convenes experts from government, the research community, and the private sector to discuss issues associated with the deployment of CAV technologies and related research needs.

TRB has conducted many research projects related to transportation system resilience and hosts many Annual Meeting sessions on this important subject. As severe weather events continue to disrupt the transportation system, transportation agencies are paying greater attention to the topic of resilience. In October, TRB cosponsored the Transportation Resilience Innovations Summit. In addition to sharing the latest developments and best practices in transportation systems resilience, the conference helped inform the development of a research roadmap that will address gaps in knowledge and procedures.

TRB also collaborates with the Health and Medicine Division of the National Academies to address issues associated with the relationship between transportation and public health: traffic safety–related health issues, access to public health facilities, the effects of transportation-generated air and noise pollution, and the transmission of communicable diseases via the transportation system. TRB features these issues at its Annual Meeting and in published papers, and CRP is developing a research roadmap in health and transportation. An event of particular note was a 2018 ACRP workshop on the role of airports in reducing the transmission of communicable diseases.

Approximately every 5 years, the TRB Executive Committee produces *Critical Issues in Transportation*, a document that helps inform policy makers, the general public, and TRB stakeholders what the Executive Committee considers the most important issues in transportation. The next version of *Critical Issues in Transportation* is being disseminated in conjunction with the 2019 TRB Annual Meeting. The Executive Committee has identified 12 topic areas—each with several specific subtopics—that highlight important issues that will take prominence in transportation over the next 10 to 20 years, with the goal of encouraging TRB’s programs and activities to address these issues in the next 5 years. The topic areas are



TRB’s collaboration with the Health and Medicine Division of the National Academies includes published papers, workshops, and such events as the ACRP Insight Event, Airport Roles in Reducing Transmission of Communicable Diseases, in March.



Nearly 14,000 people from around the world attended the 2018 Annual Meeting, the signature convening event of TRB. The sessions and workshops covered policy, practice, and research in all transportation modes. (Photo: Risdon Photography)

- Transformational technologies and services,
- Serving a growing and shifting population,
- Energy and sustainability,
- Resilience and security,
- Safety and public health,
- Equity,
- Governance,
- System performance and asset management,
- Funding and finance,
- Goods movement,
- Institutional and workforce capacity, and
- Research and innovation.

Convening Activities

TRB's signature event is its Annual Meeting, held each year in Washington, D.C., in January. More than 13,700 people attended the 2018 Annual Meeting, with participants nearly evenly divided among professionals from academia, government, and the private sector. Seventeen percent of attendees came from outside the United States.

The more than 800 sessions and workshops at the Annual Meeting covered a broad range of transportation-related topics. All of TRB's 220 committees and task forces also met during the Annual Meeting; most conducted meetings

at other times during the year as well. In 2018, TRB sponsored 23 conferences and workshops and cosponsored another 27.

TRB also produced 100 live webinars and eight prerecorded webinars in 2018, with an estimated 36,000 total participants. This program has been proven effective in making information on current and emerging topics available to TRB stakeholders without participants having to travel to the Annual Meeting, a conference, or a workshop. The Annual Meeting, some TRB conferences and workshops, and most of TRB's webinars also offer continuing education credits for engineers and planners to meet certification requirements.

TRB also has increasingly used workshops to help develop its research agenda on emerging and strategic issues and to generate early products as part of its consensus study process.

Research

TRB has a broad portfolio of research managed through its Cooperative Research Programs. All the CRPs focus on applied research that is useful to practitioners in the field, and all have oversight committees, primarily consisting of research users, that select projects and provide oversight and strategic advice to the TRB staff managing the programs. The oldest and largest of the CRP programs is NCHRP, funded by state departments of transportation (DOTs). The other three programs—ACRP, TCRP, and BTSCRIP, a new program started in 2018—are all funded by Congress. Research organizations, selected by each CRP project's oversight panel via a competitive process, conduct the research in each of these programs. CRP programs had 300 active research projects and completed more than 100 projects in 2018. Many of these products were featured in TRB's webinar program.

TRB also curates and maintains the largest transportation research database in the world. The TRID database has more than 1.4 million records on virtually any topic related to transportation and includes not only completed research reports and articles but also research in progress and problem statements for potential research. One of the responsibilities of TRB's standing technical committees is to develop research problem statements that can be used by TRB's CRPs as well as by other research programs in the United States and around the world.

Publications

Each year TRB publishes approximately 900 articles in its journal, the *Transportation Research Record: Journal of the Transportation Research Board* (TRR). Each summer, TRB issues a call for papers; about 6,000 papers are submitted and peer reviewed by standing technical committees. Approximately half of these papers are selected for presentation at the TRB Annual Meeting and approximately 15% of the submitted papers are selected to be published in the TRR. In 2018, TRB engaged Sage Publications to perform the editing, publication, marketing, and distribution of the TRR. Working with Sage should enable faster publication of papers as well as more-extensive marketing and distribution.

In addition to the TRR, TRB publishes the bimonthly publication *TR News*, featuring timely articles on subjects of interest to the TRB stakeholder community, as well as Special Reports, CRP research products, Transportation Research E-Circulars, Conference Proceedings, and miscellaneous publications.

Advising

The Consensus and Advisory Studies Division issued a number of reports in 2018, several in fulfillment of congressional mandates. In response to a provision in the Fixing America's Surface Transportation (FAST) Act of 2015, a committee advised on whether transit agencies should be allowed to shield from litigation the records generated by their safety management programs. Another committee, tasked with

studying the safety of propane pipeline distribution systems, recommended ways to improve the regulation of these systems in line with the risks they pose. Another FAST Act study examined the challenges that lie ahead in preparing the Interstate Highway System for the growing and shifting demands of the 21st century. The study committee called for a national campaign to renew and modernize the system, executed via a dedicated federal construction program.

One committee, formed to advise the Federal Transit Administration (FTA) regularly on its research and development program, released a report in the form of a “strength, weaknesses, opportunities, and threats” assessment of FTA’s efforts to develop a roadmap for transit automation research. A similar committee advising the Federal Highway Administration’s (FHWA’s) Office of Research, Development, and Technology issued a report recommending ways to develop a more strategic research program and to coordinate and partner with state DOTs, other modal agencies, and the private sector. A committee created to advise the U.S. Coast Guard on its ship stability regulations published a report identifying options for making the regulations more coherent, consistent, and functional by ship builders, designers, operators, and enforcement personnel.

Inclusion and Diversity

In January 2018, the TRB Executive Committee adopted an inclusion and diversity strategic plan. The Executive Committee recognized that an inclusive and diverse environment enhances innovation and creativity in all areas of TRB and is important for cultivating an equitable and supportive atmosphere. As a matter of policy, TRB seeks to engage a pool of transportation stakeholders that is representative of the diverse transportation



An early meeting of the Future Interstate Study Committee. The study recommended actions needed to upgrade and restore the National Highway System to the demands of the 21st century.

workforce and of the greater population that TRB serves. The plan includes strategies to create a more inclusive environment and to increase participation by underrepresented groups in TRB's committees and panels and among TRB contractors and staff.

The plan also focuses on how TRB can better address issues of diversity and equity in its programs and activities. The degree to which various groups are underrepresented varies by program—and even within programs—but applies to minorities, women, persons with disabilities, and young professionals. To ensure successful implementation, the Executive Committee created a Special Committee on the Implementation of the TRB Inclusion and Diversity Strategic Plan. Chaired by Carol Lewis, Texas Southern University, this special committee is monitoring and facilitating actions proactively to ensure progress in this important area.

One strategy is to increase awareness of and participation in TRB among transportation-related and other organizations that traditionally have a more diverse membership than TRB. In 2018, TRB signed memoranda of understanding with the Council on Minority Transportation Officials and with the Women's Transportation Seminar. The memoranda contain provisions for TRB to partner more closely with these organizations.

International Activities

The TRB Executive Committee also adopted a new strategic plan for international activities in



A welcome session for Minority Student Fellows at the 2018 Annual Meeting. Ensuring inclusion and diversity across all aspects of TRB is part of the Board's strategic plan to broaden perspectives, enhance innovation, and increase participation. (Photo: Risdon Photography)

2018, proactively encouraging TRB to increase international participation in its activities, to leverage bilateral international cooperative benefits through joint convening activities, to support new joint international activities, and to enter into memoranda of understanding with international transportation organizations. TRB jointly sponsored many international conferences and workshops during 2018 and has signed memoranda of understanding with several international transportation organizations. TRB also proactively seeks opportunities for twinned research with organizations from other nations. By conducting activities with international partners and involving participants from across the globe, TRB can benefit and can share all that it has to offer.

Communications

TRB is expanding its reach by adding subscribers to its newsletter and increasing engagement with its social media followers. TRB now reaches 70,000 subscribers each week with the E-Newsletter and interacts with nearly 21,000 followers on Twitter, 7,500 on Facebook, and 5,100 on LinkedIn. TRB also is producing 90-second videos to help promote meetings and publications on these social media channels.

In addition to its digital communications, TRB is increasing its partnerships with other transportation agencies and organizations. Whether via memoranda of understanding, conference exhibits, or presentations at other



The TRB communications team produced a video to promote meetings and publications.

organizations, TRB uses in-person and online networks to share information.

Plans for TRB's Centennial

TRB turns 100 on November 11, 2020. In April 2018, the TRB Centennial Task Force developed a Centennial Celebration plan that established the goals for the celebration as well as a primary set of activities to help promote and commemorate the 100th anniversary of TRB.

The goal of the TRB's Centennial Celebration is to promote the value of transportation research and TRB's critical role in the process. In addition, TRB will strive to use the centennial as an opportunity to recognize and honor volunteers, sponsors, major contributors, and staff; highlight TRB's accomplishments and its sponsors' roles in those accomplishments; celebrate and promote the TRB community; and elicit pride in TRB participation.

The Centennial Celebration includes a website, brochure, videos, centennial booths at both the 2020 and 2021 Annual Meetings, and a roaming exhibit. Perhaps the most visible and longest-lasting legacy of the anniversary program will be a book on TRB's first 100 years, documenting the extraordinary impacts of TRB in promoting innovation through research. The book will be available to all full-meeting registrants of the 2020 TRB Annual Meeting.

TRB's Finances

TRB's financial statement for 2018, which shows its revenue sources and expenditures, appears on pages 10 and 11.

TRB's core program consists of its convening activities, publications, and library services. Total revenues for the core program in 2018 are estimated to be \$16.1 million, with total expenditures estimated at \$15.8 million. State DOTs funded 48% (\$7.6 million) of total core program expenditures; federal agencies, 15% (\$2.4 million, with FHWA supplying more than half of total federal funds); other sponsors, 1% (\$0.2 million); and TRB sales and fees, 36% (\$5.7 million). Another \$1.4 million came from conference and workshop fees and was used to cover the majority of the costs associated with these activities.

In 2017, the TRB Executive Committee approved a new Global Affiliate program, which allows organizations that wish to help financially support TRB to participate at one of six different levels in exchange for involvement



Sarah Jo Peterson speaks about the history of TRB at the Annual Meeting. Peterson is writing a book on TRB's first 100 years for its upcoming centennial celebration. (Photo: Risdon Photography)

in various programs and recognition for their support. In its first 12 months, this program raised \$0.7 million.

Expenditures for all CRP-funded activities in 2018 are estimated to be \$62.8 million. The largest portion of CRP program funding goes to NCHRP (\$41.6 million from state DOTs), followed by ACRP (\$15 million from the Federal Aviation Administration), TCRP (\$5.2 million from FTA), and BTSCR (\$0.3 million from the National Highway Traffic Safety Administration).

TRB's expenditures on the Second Strategic Highway Research Program are estimated to be \$4.6 million in 2018. These funds come from FHWA.

Expenditures for TRB's advisory studies are estimated to be \$4.4 million in 2018 and come from each individual study's sponsors, the vast majority of which (95%) are federal agencies.

Total expenditures for all of TRB's programs in 2018 are estimated to be \$90.4 million: 54% from state DOTs, 36% from federal sources, and 10% from other sources.

TRB is ending 2018 in good financial condition and currently is projected to end 2019 in good financial shape. A great deal of uncertainty is associated with future federal funding, however—both in 2020, during the last year of the current surface transportation authorization legislation, and in 2021, when a new authorization act is scheduled to be enacted. Recognizing the uncertainty, the Executive Committee and TRB staff are starting contingency planning for this possibility.

STATEMENT OF ACTIVITIES

Funding Support by Program and Expenditures, Calendar Years 2017 and 2018

	2017 (Actual)	2018 (Projected)*
Core Technical Activities		
State Highway and Transportation Departments (State DOTs)	\$7,395,000	\$7,563,000
Federal Government		
Federal Highway Administration (FHWA)	1,450,000	1,450,000
Office of the Assistant Secretary of Transportation for Research and Technology (OST-R)	300,000	100,000
Federal Transit Administration (FTA)	250,000	250,000
National Highway Traffic Safety Administration (NHTSA)	212,000	70,000
Department of the Interior	85,000	85,000
Federal Motor Carrier Safety Administration (FMCSA)	75,000	75,000
Department of Energy (DOE)	65,000	70,000
Environmental Protection Agency (EPA)	65,000	70,000
Federal Aviation Administration (FAA)	65,000	70,000
Federal Railroad Administration (FRA)	65,000	70,000
U.S. Air Force Civil Engineer Center	65,000	70,000
U.S. Army Corps of Engineers	75,000	0
Subtotal, Federal Government	\$2,772,000	\$2,380,000
Other		
American Public Transportation Association	65,000	70,000
Association of American Railroads	65,000	70,000
California Air Resources Board	65,000	70,000
Fees and Sales	5,872,000	5,950,000
Subtotal, Other	\$6,067,000	\$6,160,000
Total, Core Technical Activities	\$16,234,000	\$16,103,000
Marine Board Core Program		
U.S. Coast Guard	75,000	75,000
U.S. Army Corps of Engineers	75,000	75,000
National Oceanic & Atmospheric Administration	40,000	40,000
Bureau of Safety and Environmental Enforcement	30,000	30,000
Maritime Administration	19,000	19,000
U.S. Navy	12,000	12,000
Total, Marine Board Core Program	\$251,000	\$251,000
Cooperative Research Programs (CRP)		
National Cooperative Highway Research Program (State DOTs)	38,203,000	41,636,000
Airport Cooperative Research Program (FAA)	15,288,000	15,047,000
Transit Cooperative Research Program (FTA)	5,618,000	5,232,000
National Cooperative Freight Research Program (OST-R)	847,000	564,000
National Cooperative Rail Research Program (FRA)	45,000	1,000
Behavioral Traffic Safety Cooperative Research Program (Governors Highway Safety Administration, NHTSA)	42,000	330,000
Hazardous Materials Cooperative Research Program (Pipeline and Hazardous Materials Safety Administration)	49,000	35,000
Total, Cooperative Research Programs	\$60,092,000	\$62,845,000

* Calendar Year 2018 comprises actual data through October and estimates for the rest of the year.

	2017 (Actual)	2018 (Projected)*
Rail Safety IDEA Program	\$436,000	\$227,000
Strategic Highway Research Program 2 Safety Data Phase 1	\$4,464,000	\$4,571,000
Policy Studies	\$4,935,000	\$4,401,000
Conferences and Workshops	\$1,626,000	\$2,050,000
TRB TOTAL	\$88,038,000	\$90,448,000
Sources of Funds		
Federal	34,326,000	33,111,000
State DOTs	45,598,000	49,199,000
Other	8,114,000	8,138,000
	\$88,038,000	\$90,448,000

Expenditures by Major Cost Category

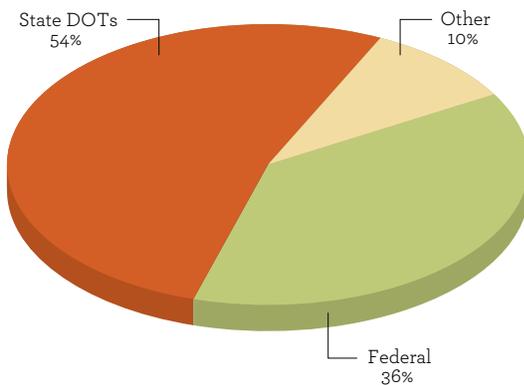
Salaries (including fringe benefits)	15,180,000	15,534,000
Travel and Meetings	4,708,000	5,166,000
Editing, Abstracting, and Publishing	1,944,000	1,653,000
Consultants and Contracts	45,979,000	46,724,000
Other Direct Costs	1,907,000	1,894,000
Indirect Costs	17,913,000	19,212,000
Total Expenditures	\$87,631,000	\$90,183,000

TRB Reserve Fund

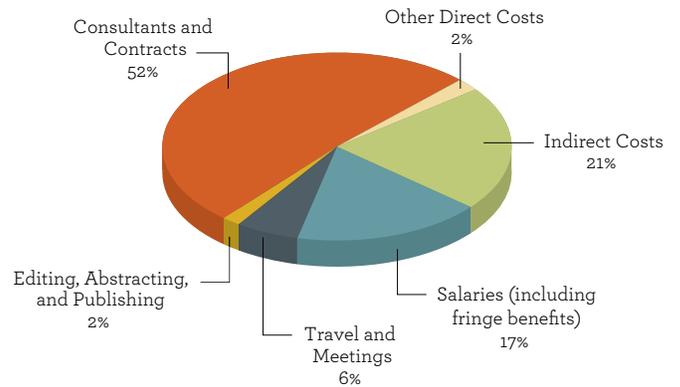
Fund balance, end of previous fiscal year	\$16,734,000	\$17,141,000
Plus (minus) current fiscal year income over (under) expenditures	407,000	265,000
Balance, current fiscal year	\$17,141,000	\$17,406,000

In 1965, the TRB Executive Committee approved a reserve fund to provide for orderly adjustments in the event of a temporary shortfall in anticipated revenues for TRB technical activities. This fund, built up over the years from surplus income in excess of expenditures from nonfederal sources for any one fiscal year, is reserved for expenditures in excess of income for any later fiscal year under a fixed budget approved triennially by the TRB Executive Committee.

TRB Funding Support



Distribution of TRB Expenditures



TRANSPORTATION RESEARCH BOARD

Chair: Katherine F. Turnbull, Executive Associate Director and Research Scientist, Texas A&M Transportation Institute, College Station

Vice Chair: Victoria A. Arroyo, Executive Director, Georgetown Climate Center; Assistant Dean, Centers and Institutes; and Professor and Director, Environmental Law Program, Georgetown University Law Center, Washington, D.C.

Executive Director: Neil J. Pedersen, Transportation Research Board

Scott E. Bennett, Director, Arkansas Department of Transportation, Little Rock

Carlos Braceras, Executive Director, Utah Department of Transportation, Salt Lake City

Ginger Evans, President, Tower Consulting, LLC, Arlington, Virginia

Nathaniel P. Ford Sr., Executive Director-CEO, Jacksonville Transportation Authority, Jacksonville, Florida

A. Stewart Fotheringham, Professor, School of Geographical Sciences and Urban Planning, Arizona State University, Tempe

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Mark L. Rosenberg, Executive Director, The Task Force for Global Health, Inc., Decatur, Georgia

Daniel Sperling, Professor of Civil Engineering and Environmental Science and Policy; Director, Institute of Transportation Studies, University of California, Davis (Past Chair, 2015)

Gary C. Thomas, President and Executive Director, Dallas Area Rapid Transit, Dallas, Texas

Pat Thomas, Senior Vice President of State Government Affairs, United Parcel Service, Washington, D.C. (retired)

James M. Tien, Distinguished Professor and Dean Emeritus, College of Engineering, University of Miami, Coral Gables, Florida

Dean H. Wise, Consultant, Dean Wise LLC, Winchester, Massachusetts



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Holt



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