

PROFESSIONAL EXPERIENCE

Transportation Research Board
National Academy of Sciences

1999 - Present

The Transportation Research Board influences strategic developments in transportation, a \$1.8 trillion industry. The Board attracts thought leaders, researchers, and industry providers responsible for analysis, design, and implementation across all modes of transportation: highway, public transportation, rail, marine, aviation, pipelines, and emerging transportation technologies and services. Market dynamics such as demand, alternative energy solutions, population trends, and globalization are critically evaluated in the context of the essential service of transportation in the country's economic and social systems. Corresponding policy, infrastructure, and operational priorities are also addressed and developed as these crucial systems evolve.

Technical Activities Division, Director: 2015-present

- Lead the transformation of the TRB's century-old technical activities program, of iconic status in the industry, building on its success and reputation, involving:
 - Transformation rooted in a renewed focus on mission and values: clarifying focus on service, outcomes, and impacts
 - Realignment and restructuring of volunteer activities: emphasizing critical and emerging transportation issues, a mission of national service, development of volunteer leaders, and the impacts of committee activity on transportation research, innovation, and professional development
 - Restructuring dedicated staff: refocusing technical experts on directing content and measuring the impact of committee activities; empowering and training operational staff to oversee execution of initiatives; delivering efficient and effective support for the industry; driving research and publishing; creating state-of-the-art products and services that provide value to the market and generate revenue; and redefining leadership roles to rationalize operations and facilitate strategic and future development
- Lead a \$20 million/year multi-disciplinary division in delivering products and services that advance the knowledge and practice of transportation; supported by federal, state, local, academic, and private sector sponsors and affiliates; through initiatives designed and carried out by five thousand qualified volunteers who serve on some 400 committees and subcommittees across all areas of expertise in transportation and related disciplines
- Host TRB's Annual Meeting, bringing over 14,000 industry experts, transportation agency leaders, researchers, and consultants from around the world to share knowledge and develop solutions for continuous evolution of engineering, economic, and social systems underlying transportation
- Facilitate specialty conferences and workshops dealing with the latest issues, research, and innovation on a wide variety of technical and management topics of current interest to the industry
- Publish *The Transportation Research Record*, the largest transportation research peer-reviewed journal; doubled the citation impact factor

Second Strategic Highway Research Program (SHRP 2)

Director: 2012–2015

Deputy Director: 2005–2011

Planning Manager: 2001-2005

Study Director: 1999–2001

SHRP 2 was a high-impact research program that addressed highway safety, infrastructure, and congestion, resulting in new discoveries in transportation and creating a wealth of resources for the betterment of transportation, society, and the economy. The cornerstone of SHRP 2 was the largest and most comprehensive

Naturalistic Driving Study, an unprecedented treasure of driving, roadway and related data that are the foundation of highway safety solutions aimed at saving thousands of lives.

- From inception to completion, framed, proposed and led SHRP 2, a congressionally authorized research program of over \$200 million
- Created the strategic vision, focusing on customer goals, as well as the conceptual design of the program; oversaw development of detailed program design, protection of intellectual property, regulatory and ethical compliance, extensive stakeholder engagement and communication
- Identified and briefed congressional staff, drafted authorizing language, and negotiated memorandum of understanding and underlying funding agreement
- Introduced 70 products, with more than 300 deliverables, to the market: oversaw transfer of products to implementation agents and users to improve quality, timeliness, and cost-effectiveness of their operations
- Delivered the program on time and budget: led a global, multi-disciplinary team of experts including staff, contractors, and volunteers through the delivery of 130 research and development contracts involving over 400 public, private, and academic organizations in the US and abroad
- Established a new unit within TRB: developed budgets and staffing plans, hired staff, and developed policies across all capabilities
- Authored articles on transportation research funding, stakeholder involvement, and earmarking of research funds; performed legislative analysis; provided technical assistance to congressional staff; directed review of intermodal strategic research plan for USDOT.

The Catholic University of America

2020

Lecturer, Professional Ethics in Engineering

Federal Highway Administration

1997-1998

Program Manager, Research and Technology

Managed agency-wide Research and Technology (R&T) Program and budget, coordinating work of six offices engaged in highway R&T activities. Provided legislative and policy analysis for R&T program and technical assistance to congressional committees.

Maryland State Highway Administration

1993-1997

*Chief, Division of Research and Technology
Staff Engineer to the Chief Engineer*

Managed MDSHA's research and technology activities, its contributions to national and regional programs, and an interoffice team for evaluation of new technologies. Developed plan to improve these activities. Staffed senior management team that handled federal policy issues and wrote Strategic Plan for Federal Legislation. Led team to re-engineer the agency's training and employee development division. Performed construction inspection.

Massachusetts Institute of Technology

1985-1992

*Technical Writer and Editor
Research Assistant/Research Fellow*

Performed feasibility research on use of engineered ceramics in construction applications, project-oriented innovation in construction, and the maintenance management system of the Massachusetts Department of Public Works. Edited and wrote portions of a book about the globalization of the engineering and construction industry.

PROFESSIONAL REGISTRATION AND EDUCATION

Registered Professional Engineer in the Commonwealth of Virginia

The Catholic University of America, Washington, DC
School of Philosophy
Master of Arts, 2010

Massachusetts Institute of Technology, Cambridge, MA
Center for Construction Research and Education
Department of Civil and Environmental Engineering
Doctor of Philosophy, 1991
Master of Science Civil Engineering, 1987

Northeastern University, Boston, MA
Bachelor of Science Civil Engineering, 1985

SELECTED INVITED PRESENTATIONS AND ACTIVITIES

- *Transformational Technologies and International Collaboration*, Summit on Transport Safety in an Era of Digital Mobility, University of Melbourne, Australia, October 1, 2018.
- *Have Naturalistic Driving Studies Lived Up to Their Hype? A Retrospective*, Keynote Speech at the 6th International Symposium on Naturalistic Driving Research, Madurodam, The Hague, The Netherlands, June 8, 2017.
- *Doing Great Things*, Keynote Speech at First Conference of Virginia Tech Chapter of the Woman's Transportation Seminar, Virginia Tech Transportation Institute, September 1, 2016.
- *Second Strategic Highway Research Program: Results and Lessons*, Transportation Research Congress, Beijing, China, June 7, 2016.
- *Our Place in History*, Keynote Speech at 4th International Symposium on Naturalistic Driving Research, Virginia Tech Transportation Institute, August 27, 2014.

Moderated Economic Roundtable for Public Discussion of Issues, Conclusions, of Independent Study on Rate Case Methodologies, at the Surface Transportation Board office, Washington, DC, October 25, 2016. Roundtable members:

- Michael Tretheway, InterVISTAS Consulting LLC
- Richard Schmalensee, Massachusetts Institute of Technology
- Wesley Wilson, University of Oregon
- John Mayo, Georgetown University
- Jeffrey Macher, Georgetown University
- Mark Cooper, Consumer Federation of America
- Russell Pittman, U. S. Department of Justice
- William Huneke, Surface Transportation Board Office of Economics
- William Brennan, Surface Transportation Board Office of Economics

Participated in Book Workshop to provide feedback on proposals for books taking a philosophical approach to transportation, at the Institute for Advanced Studies in Culture, University of Virginia, May 12, 2017. The books are:

- *Why We Drive: Toward a Philosophy of the Open Road*, by Matthew Crawford.
- A book on walking, not yet published, by Garnette Cadogan

PEER-REVIEWED PUBLICATIONS

- Antin, Jonathan F.; Lee, Suzie; Perez, Miguel A.; Dingus, Thomas A.; Hankey, Jonathan M.; and Brach, Ann. 2019. Second strategic highway research program naturalistic driving study methods. *Safety Science*. Elsevier. <https://doi.org/10.1016/j.ssci.2019.01.016>
- Brach, A. and M. Wachs. 2005. Earmarking in the US Department of Transportation research programs. *Transportation Research Part A* 39(6): 501–521
- Brach, A.M. 2005. A Taxonomy for Stakeholder Involvement in Public Sector Transportation Research and Technology Programs. *Public Works Management and Policy*, 9(3): 223–231.
- Markow, M. J. and A. M. Brach. 1988. Materials Technology in U.S. Construction: Part 1. In *New Horizons in Construction Materials*, edited by D.Y. Lee and S.P. Shah. American Society of Civil Engineers, New York. Pp. 58–73
- Markow, M. J. and A. M. Brach. 1988. Materials Technology in U.S. Construction: Part 2. In *New Horizons in Construction Materials*, edited by D.Y. Lee and S.P. Shah. American Society of Civil Engineers, New York. Pp. 74–88.

REPORTS WRITTEN UNDER THE DIRECTION OF NATIONAL RESEARCH COUNCIL (NRC) COMMITTEES (PEER-REVIEWED)

- Committee on Implementing the Research Results of the Second Strategic Highway Research Program:
March 19, 2012, Letter Report to Victor Mendez, Administrator of the Federal Highway Administration (FHWA), and John Horsley, Executive Director of the American Association of State Highway and Transportation Officials, providing recommendations related to strategic issues and institutional arrangements for implementing the results of SHRP 2.
- Transportation Research Board (TRB). 2009. Special Report 296: Implementing the Results of the Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life. NRC, Washington, DC. Written under the direction of the NRC Committee for the Strategic Highway Research Program 2: Implementation.
- TRB. 2001. Special Report 260: Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life. NRC, Washington, DC. Written under the direction of the NRC Committee for a Future Strategic Highway Research Program.
- Committee for the Review of the National Transportation Science and Technology Strategy:
January 9, 2001, Letter Report to Neal Lane, Assistant to the President for Science and Technology, Office of Science and Technology Policy (OSTP), reviewing the National Transportation Science and Technology Strategy of the National Science and Technology Council.
March 28, 2000, Letter Report to Rodney E. Slater, Administrator, FHWA reviewing the U.S. Department of Transportation's Strategic Plan, Performance Plan, and Program Performance Report with respect to surface transportation research and technology development.
September 3, 1999, Letter report to Neal Lane, Assistant to the President for Science and Technology, OSTP, reviewing the Next Generation Surface and Marine Transportation Vehicles initiative and the Monitoring, Maintenance, and Rapid Renewal of Physical Infrastructure initiative.

OTHER PUBLICATIONS

- Brach, A.M. 2013. "Research Designed for Implementation and Historic Impact," TR News, 289 (November-December): 3-4.
- Brach, A.M. 2009. Implementing the Results of the Second Strategic Highway Research Program: Saving Lives, Reducing Congestion, Improving Quality of Life, TR News, 241 (March-April): 35-39.
- Brach, A.M. 2007. Identity and Intersubjectivity. In Fashion and Identity: A Multidisciplinary Approach. Social Trends Institute, New York.
- Brach, A.M. 2005. Identifying Trends in Federal Transportation Research Funding: The Complex Task of Assembling Comprehensive Data, TR News, 241 (November-December): 3-9.
- Brach, A.M. 2005. Surface Transportation Reauthorization Arrives: What Are the Outcomes and the Prospects for Research? TR News, 240 (September-October): 39-42.
- Wachs, M. and A. Brach. 2005. Earmarking in U.S. Department of Transportation Research Programs: What Is the Rationale? What Are the Risks? TR News, 239 (July-August): 16-23.
- Brach, A.M. 2004. A Framework for Stakeholder Involvement: Managing Research with a Focus on Users. TR News, 234 (September-October): 11-16.
- Brach, Ann M., Ed. 2003. NCHRP Report 510: Interim Planning for a Future Strategic Highway Research Program. Transportation Research Board, Washington, D.C.
- Brach, A.M. 2002. Strategic Highway Research: Saving Lives, Reducing Congestion, Improving Quality of Life. TR News, 218 (January-February): 69-71.
- Markow, M.J., A.M. Brach. 1990. Ceramics as Construction Materials. Concise Encyclopedia of Building and Construction Materials, ed. Fred Moavenzadeh. Pergamom Press, Oxford, United Kingdom.
- Moavenzadeh, F. and A. M. Brach. 1988. Research and Development in the U.S. Construction Industry. CCRE88-15, Department of Civil Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts. (Prepared for the National Research Council of Canada)

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Road Gang, Member 1999-Present
Advisory Committee, Member, 2015-Present
Chair, 2019
Various Vice Chair positions 2015-2018
- American Society of Civil Engineers, Member, 1982-Present
Chair, Research Committee, Transportation and Development Institute, 2005-2007
Member, National Transportation Policy Committee, 2001-2005
- National Cooperative Highway Research Program (NCHRP) Project Panel Member:
NCHRP Project 20-7 (74), "Manual for Scientific Inquiry into Transportation Problems", 1995-1997
NCHRP Project 20-5, Topic 29-01, "Effective Research Programs", 1996-1999
NCHRP Project 10-49, "Improved Contracting Methods for Highway Construction Projects", 1997-1999
NCHRP Project 20-45, "Scientific Approaches for Transportation Research", 1997-1999
- Transportation Research Board Committee on the Conduct of Research (A5001), Member, 1998-1999
- Tau Beta Pi, Member
Chi Epsilon, Member
Oakcrest School, Trustee, 1999-2015