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TRANSPORTATION RESEARCH BOARD

June 13, 2017

**MEMORANDUM**

To: Members, TRB Executive Committee  
TAC Representatives to TRB Executive Committee

From: Neil Pedersen *Neil J Pedersen*  
Executive Director

Subject: Agenda for TRB Executive Committee Meeting  
June 21 & 22, 2017

Enclosed or attached is the agenda book for the Executive Committee meeting on June 21 & 22 (all day Wednesday and Thursday until noon) in the Lecture Room of the National Academy of Sciences Building, 2101 Constitution Avenue, N.W., Washington, D.C. Many of you are receiving this information electronically, while others have requested a hard copy. In either case, Chair Malcolm Dougherty urges all members to review the agenda material carefully prior to the meeting so that time spent in oral briefings can be reduced to a minimum. This will also expedite the handling of the more routine items on the agenda, allowing more time for discussion of substantive transportation issues. The Subcommittee on Planning and Policy Review (SPPR) met in April and spent a day discussing the status of implementation of the new TRB strategic plan. SPPR decided that several strategic plan items warrant discussion, but that other items and division reports should be included in a consent agenda and only discussed if members have specific questions or comments after reviewing the materials. The goal is to have as much as possible for discussion. The agenda book contains copies of the PowerPoint slides that will be used by presenters in addition to selected additional briefing materials. In addition to our traditional policy session on the afternoon of June 21<sup>st</sup>, we will be having an hour and a half discussion on development of the next edition of the "Critical Issues in Transportation" document on the morning of June 21<sup>st</sup>. You are asked to bring your agenda material with you as only late items or corrected material will be distributed at the meeting. (A few extra agendas will be available in case you forget yours.).

For those who are receiving an electronic PDF version of the agenda book, note that the PDF includes bookmarks. In the left column, please click the "Bookmark" icon to find tabs that will take you directly to each agenda item.

On **June 21 (Wednesday)**, the meeting will start promptly at 8:30 a.m. Breakfast will be served in the East Court of the **National Academy of Sciences Building** at 7:30 a.m. SNO members only will meet at 7:15 a.m. and take their breakfast to

**NAS Room 120.** We will break for evening activities at 5:30 p.m. The reception/dinner for members of the TRB Executive Committee and the Technical Activities Council and their guests will begin at 5:30 p.m., in the NAS West Court and the Great Hall. The dinner will consist of Herb Crusted Salmon w/Whipped Cauliflower Mash and Grilled Asparagus.

On **June 22 (Thursday)**, the meeting will start at 8:30 a.m. and adjourn by 12:00 noon. Breakfast (7:30 a.m.) and lunch (12 noon) will be served on Wednesday in the NAS East Court, and Thursday, lunch tickets will be available if you are planning to be around.

### **Getting to the National Academy of Sciences Building**

*Please enter the NAS Building through the front entrance on Constitution Avenue.*

- **By Taxi**

The Palomar DC is 1.6 miles from the NAS Building. The estimated fare is between \$4-8 one way, including tip. Due to a high volume of traffic on Constitution Avenue, your driver may drop you off on one of the side streets (21<sup>st</sup> St or 22<sup>nd</sup> St).

- **Directions to the NAS Building from the Palomar DC**

<http://mapq.st/2sEtYNC>

The Palomar DC is located at 2121 P St NW, Washington, DC 20037. The hotel telephone number is (202) 449-7021.

- **Directions to the NAS Building from Area Airports**

[http://www.nationalacademies.org/about/contact/na\\_069684.html](http://www.nationalacademies.org/about/contact/na_069684.html)

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Wireless internet will be available at no charge at the National Academy of Sciences Building.

*Note: If you find your plans change and you cannot attend the meeting, please call the hotel directly— Palomar DC (202 -449-7021). You must cancel 48 hours prior to your arrival. I would appreciate your letting us know also.*

*If you requested a hard copy of the agenda book, it is on its way to you via UPS. If you intended to request a hard copy but did not do so, please email Cindy Baker ([CBaker@nas.edu](mailto:CBaker@nas.edu)) with your request **no later than Monday, June 13.***

## AGENDA FOR JUNE 2017 EXECUTIVE COMMITTEE MEETING

**WEDNESDAY, JUNE 21, 2017**

Item	Time	Speaker	Type	Page
1. Welcome and Announcements	8:30 a.m.	Dougherty	Information	1
2. Self-Introductions; Bias/Conflict of Interest	8:35	All	Discussion	6
3. Approval of January 11-12, 2017 Minutes	8:50	Dougherty	Action	8
4. Approval of Consent Agenda	8:55	Dougherty	Action	
5. Executive Director's Report	9:00	Pedersen	Information	18
6. Finance and Revenues	9:10			
a. Budget/Reserve Fund		Pedersen	Information	28
b. New Revenue Task Force		Bennett	Discussion	31
c. Global Affiliates Program		Norman	Discussion	35
d. TRB Career Fair		Davenport	Discussion	37
7. Expanding Participation in TRB				
a. International Task Force	9:30	Brooks	Discussion	38
b. Diversity and Inclusion	9:50	Ford	Discussion	42
8. Break	10:10			
9. Critical Issues in Transportation	10:30			46
a. Proposed Process for New Edition		Pedersen	Discussion	
b. Proposed Topics		Members	Discussion	62
10. Lunch	12:00 p.m.			
11. Transformational Technology Task Force	1:00	Turnbull	Information	69
a. Forum on Preparing for AVs and Shared Mobility Systems		Norman	Discussion	
12. Policy Session on Smart Cities	1:15	Dougherty		75
a. Adrian Pearmine, National Director for Smart Cities and Connected Vehicles, DKS Associates				
b. Randall J. Bowman, Smart Columbus Deputy Program Manager, City of Columbus				

c. Gordon Feller, Consultant, Cisco Systems				
13. Plenary Discussion	2:15	Dougherty	Discussion	
14. Break	3:00			
15. Breakout Groups	3:20	All	Discussion	
16. Break for Evening Activities	5:00			
17. Reception/Dinner	5:30			

**THURSDAY, JUNE 22, 2017**

<b>Item</b>	<b>Time</b>	<b>Speaker</b>	<b>Type</b>	<b>Page</b>
18. Rapporteur Reports from Breakouts	8:30 a.m.	Dougherty	Information	
19. Discussion of Policy Session Follow Up	8:50	Dougherty	Discussion	
20. Future Policy Sessions	9:30	Houston	Discussion	78
21. Centennial Planning	9:45	Larson/Houston	Discussion	84
22. Break	10:15			
23. SNO Update	10:30	Hanson	Information	89
24. Technical Activities Update	10:35	Park/Brach	Information	
a. 2018 Annual Meeting Plans				92
b. TRR Review				97
c. Staffing changes in TAD				
d. SHRP 2 Safety Database Update				
25. Marine Board Update	10:50	Brooks	Information	98
26. Policy Studies Update	11:00	Godwin	Information	103
27. Discussion of Consent Agenda Items	11:30	Dougherty	Discussion	
28. Other business	11:50	Dougherty	Discussion	
29. Lunch	12:00 p.m.			
30. Adjourn	1:00			
<b>Consent Agenda Items</b>				
1. Marketing and Communications Plan Update				118
2. CRP Update				125
3. Conferences and Workshops				130
4. SPPR Meeting Minutes				142
5. Resilience Task Force Report				150
6. Public Health Task Force Report				158

7. Leadership Development Program Update				159
8. Strategic Plan Implementation Dashboard				160
9. SHRP 2 Safety Database Update				171

**BACKGROUND ATTACHMENTS:**

Rosters and Staff – page 174

Organization Charts – page 183

Division Descriptions – page 185

Purpose and Duties of Executive Committee – page 199

Standing Oversight Committees – page 201

Project Approval Processes – page 205

Policy on Executive Committee Participation – page 208

**Next Meeting: January 10 & 11, 2017 (Wednesday & Thursday)  
Marriott Marquis  
Washington, DC**

**Next Summer Meeting: June 13-14, 2018 (Wednesday & Thursday)  
Woods Hole, MA**

## 2. Conflict of Interest and Bias Definitions

- “Conflict of interest” means any financial or other interest which conflicts with the participation of an individual in particular decisions of the institution because the interest (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization.
- “Bias” ordinarily relates to views stated or positions taken that are largely intellectually motivated or that arise from the close identification or association of an individual with a particular point of view or the positions or perspectives of a particular group.

## 2. Conflict of Interest

- Financial in nature;
- For individual and immediate family;
- Includes *current* employment, investment, and property interests and only lasts for the duration of the project;
- Details provided on forms are confidential;
- Financial conflicts are usually disqualifying.

## Bias

- Perspective -- point of view;
- Expertise -- relevant to understanding and analyzing the issues;
- Goal is to achieve balance, not disqualify.

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TRANSPORTATION RESEARCH BOARD

**TRB Executive Committee Meeting**

**-Draft Minutes-**

Wednesday, January 11, 2017, 8:30 a.m. – 11:45 p.m.; 2:30 p.m.-5:30 p.m.

Thursday, January 12, 2017, 8:30 a.m. – 11:45 a.m.

Marriott Marquis Hotel, Liberty L&M, Washington, DC

- I. **Welcome, Introduction, and Overview of Agenda (p. 4)** **Crites**
- A. **Bias/Conflict of Interest Discussion (p. 7)** Crites/Pedersen
- Recognition of committee members rotating off of the committee, new appointments, and reappointments.
  - Meeting attendee list is attached to the end of this document.
  - No conflicts or biases were reported by newly appointed members present at the meeting and no changes were reported by previously appointed members.
- II. **Approval of June 22 and 23, 2016 Minutes (p. 9)** **Crites**
- **Approved**
- III. **Approval of Consent Agenda (see list on p. 4)** **Sperling**
- Technical Activities Council Report
  - Conference Approvals
  - Marine Board Report
  - Cooperative Research Program Report
  - Subcommittee on Policy and Planning Review Report
  - Transformational Technologies Task Force Report
  - Transportation and Public Health Task Force
    - Working with and considering metrics to measure TRB and NASEM Health and Medicine Division (HMD) partnerships.
    - Communicating the synergies between transportation and public health.
    - Also working with the National Academy of Medicine (NAM), which is an honorific society of the NASEM.
  - Resilience Task Force Report
  - New Revenues Task Force Report
  - Freight Activities
  - Cybersecurity Activities
  - TRB Strategic Plan Implementation Dashboard
- **Approved**
- IV. **NTSB's Top 10 Safety Priorities (p. 142)** **Hart**
- National Transportation Safety Board (NTSB) Chairman Christopher Hart provided updates about the [Most Wanted List](#), which was released in November 2016.
  - The list will now be published in a two-year cycle as opposed to every year.
  - Items on the list include areas where there are the most fatalities in transportation. The list focuses on highways, particularly since fatalities have increased in the past year.
  - Themes of the list include:
    - Distraction, which cause fatal accidents in every mode of transportation.



- Fatigue-related accidents: treatable conditions like sleep apnea and sleep deprivation; requiring medical fitness for operators.
- Safety: strengthening occupant protection and exploring more robust event recorders.
- Automation, including how to investigate potential failures with automation.
- NTSB is celebrating its 50-year anniversary.

#### V. Executive Director's Report (p. 144)

Pedersen

- Neil Pedersen highlighted the priorities of NAS President Marcia McNutt:
  - Strategic product and process review
  - Highlighting evidence-based scientific and policy conclusions
  - Better communications
  - International engagement
- Technical Activities Council / Division
  - Annual Meeting Update, over 13,000 attendees
  - Implementation of Technical Activities Council (TAC) Strategic Plan
  - Thanks to Dan Turner, outgoing TAC Chair
  - Welcome Hyun-A Park, incoming TAC Chair
  - TRB has hired four new senior program officers within the Technical Activities Division in 2016
- Cooperative Research Program (CRP) staffing changes:
  - Chris Jenks, former Director of CRP, has retired.
  - Chris Hedges has been named Director of CRP.
  - Lori Sundstrom has been named Director of the National Cooperative Highway Research Program (NCHRP) and Deputy Director of CRP.
  - Gwen Chisholm-Smith has been named Director of the Transit Cooperative Research Program (TCRP).
  - Thanks to John Halikowski, who is outgoing Chair of the American Association for State Highway and Transportation Officials (AASHTO) Standing Committee on Research (SCOR), the governing committee for NCHRP.
- CRP published 126 reports in 2016.
- Pedersen is working with CRP on expediting its research schedule, which includes creating efficiencies with contracting processes and procedures.
- CRP is ramping up its dissemination strategy to help products transition to implementation.
- Finances:
  - On track to meet reserve fund targets after implementing measures endorsed by the Executive Committee.
  - The Environmental Protection Agency (EPA) and California Air Resources Board have joined TRB as Sponsors.
  - Planned Giving Program has secured support from the NASEM Office of Development.
  - Scott Bennett is the Chair of the New Revenues Task Force.
  - TRB welcomes Patrice Davenport, Deputy Director, Program Development and Strategic Initiatives.
- Thank you to outgoing Executive Committee Members:
  - Ysela Llort
  - Kumares Sinha

- Kirk Steudle
- USDOT executives
- Created several subcommittees and taskforces as outlined in the Executive Director's report.
- Pedersen thanked Jim Crites as 2016 Chair of the Executive Committee and welcomed Malcolm Dougherty (incoming Chair) and Katie Turnbull (incoming Vice Chair).

## VI. Financial Issues

- A. TRB Budget and Reserve Fund Status (p. 151) Pedersen
- \$87.7 million in expenditures estimated for 2016
  - Increased Annual Meeting Registration Fees and elimination of printed *Transportation Research Records* have offset the reduction in funding from the U.S. Federal Highway Administration (FHWA).
  - Pedersen projects that TRB will hit reserve fund targets
- B. Organizational Affiliate Package (p. 155) Bennett
- TRB has created a strawman affiliate package proposal and will be meeting with target audiences to see what packages would suit a subscribers' needs.
  - Packages will be presented to the National Academies' leadership, TRB's New Revenues Task Force, and key existing TRB stakeholder organizations.
  - Options will be revised, finalized, and marketed aggressively.

## VII. Transformational Technologies: (p. 156) Shaheen

- A. [Partners in Research Symposium](#) took place on October 31-November 1, 2016, in Detroit, Michigan and attracted 125+ attendees.
- B. Exploring critical research needs and potential partnerships.
- C. Cities can become living laboratories that can pilot projects and provide new data. A systemic framework is needed to help inform policy roadmaps.
- D. First roundtable may focus on automated vehicles.

## VIII. Break

## IX. Panel Discussion Regarding Incoming Administration's Infrastructure Proposals (p. 163)

- A. Jeff Davis is a Senior Fellow with the Eno Center for Transportation and is also the Editor of the *Eno Transportation Weekly*. His report focused on the current state of the incoming Administration's infrastructure and transportation proposals.
- B. Jack Schenendorf, of Council, Covington & Burling LLP, provided comments about the incoming Administration's proposals, focusing on Congressional reaction to date, as well as anticipated Congressional reaction. He spent 25 years on the staff of the House Transportation and Infrastructure Committee, including six years as the Committee's Chief of Staff. He also served on the Bush/Cheney transition where he was Chief of the Transition Policy Team for the U.S. Department of Transportation. In addition, he was the Vice Chair of the National Surface Transportation Policy and Revenue Study Commission. His report focused on likely Congressional reaction to various infrastructure proposals.
- C. Bryan Grote, Principal with Mercator Advisors, works with state and local governments as well as federal agencies to develop, implement, and assess

transportation policies and finance programs. He is a former member of the National Surface Transportation Infrastructure Financing Commission. He provided comments on the incoming Administration's proposals, particularly focusing on the financing issues associated with the various proposals offered to date.

**X. Chairman's Luncheon – Washington Convention Center, Ballroom AB**

**XI. Activities of the National Academies of Sciences, Engineering, and Medicine (p. 174)**

- A. Lauren Alexander Augustine is the Director of the Program on Risk, Resilience, and Extreme Events in the Office of Special Projects in the Division of Policy and Global Affairs for the National Academies of Science, Engineering, and Medicine. Augustine provided a briefing on the Resilient America Roundtable which aims to help communities and the nation build resilience to extreme events, save lives, and reduce the physical and economic costs of disasters.
- B. William Anderson is a Senior Program Officer in the Technical Activities Division for the Transportation Research Board. Anderson outlined TRB efforts to address resilience in its NCHRP and standing technical committee activities in its Resilience Section.

**XII. Policy Session on Resilience (p. 174)**

<http://www.trb.org/Main/TRBExecutiveCommitteeMinutes.aspx>

- A. Donald Wuebbles, Harry E. Preble Professor of Atmospheric Sciences, School of Earth, Society, and Environment, Department of Atmospheric Sciences, University of Illinois
  - Discussed climate data, the current status of the climate, and anticipated trends for the future. The presentation included information about climate-related hazards and risks, and potential ways to reduce vulnerability and increase resilience to climate change in various regions of the U.S. as well as within the transportation sector.
- B. Susanne DesRoches, Deputy Director, Infrastructure Policy, NYC Mayor's Office of Recovery and Resiliency
  - Discussed lessons learned from Superstorm Sandy and actions taken by transportation agencies in the New York area to better prepare for climate-related natural disasters.
- C. Alan McKinnon, Professor of Logistics, Kuhne Logistics University, Hamburg, Germany
  - Summarized the June 2016 symposium involving the European Commission, TRB, and U.S. DOT on the adaptation of transportation systems to climate change/extreme weather events. The presentation focused on research needs identified during the symposium.

**XIII. Break for the evening**

**January 12, 2017**

**XIV. Summary of Policy Session**

**Houston/Crites**

<http://www.trb.org/Main/TRBExecutiveCommitteeMinutes.aspx>

- A. For the policy session next year, attendees suggested more incorporation of international components within the presentations.
- B. Discussion centered on how physical infrastructure can interact with societal networks. Social networks helped affected communities revitalize after an extreme weather event.
- C. Good news: lots of work has been done; Bad news: it's not going away and there's uncertainty in the modeling. The models are improving; however, the ice melt is happening faster than the models predicted.
- D. Uncertainty with the new Administration: Data collected at universities may provide needed information to help analyze current environmental trends.
- E. The science has gotten better, but more work is needed to translate the science for transportation policy makers and practitioners.
- F. How can TRB help the decision makers in dealing with the degree of uncertainty presented within climate change data?
  - Provide decision makers with risk assessments and tools to make sound decisions.
- G. What are the next steps? Plans should address adaptation and mitigation.
- H. How can we make the impacts tangible for this generation rather than talking about 2100? For scientists, can we attribute certain events to climate change? For engineers, we need to think about operating facilities during these events much differently.
- I. NASEM report mentioned: [Attribution of Extreme Weather Events in the Context of Climate Change](#).
- J. States have developed integrated programs. Also, states face tension when shifting assets to risk management. This requires allocating scarce resources from maintenance and other programs.
- K. The transportation resource allocation process is one of prioritization. Many day-to-day concerns like congestion or public transportation availability may capture attention, but extreme events could prove to be high-consequence for an agency. We need to figure out how to allocate resources prior to an emergency.

**XV. Future of the Resilience Task Force (p. 177)**

**Crites**

- A. State DOT CEOs need guidance, including that focused on infrastructure resilience in the face of climate change.
- B. There is recognition that humans are influencing the changes taking place in the climate.
- C. Locations that are more susceptible to extreme events need toolboxes and best practices to help their agency prepare proactively by using mitigation and adaptation techniques.

- D. Address the problem using an interdisciplinary lens. For example, NASEM is working with DHS on the Resilience Roundtable so TRB could use this information to apply to transportation.
- E. Does the taskforce specialize on adaptation or risk management?
- **Action: The resiliency taskforce will continue, in coordination with the NASEM, to help the broader transportation community know about its work.**
  - Communicate current reports.
  - The Executive Committee will form a smaller group to define a focused scope.

#### **XVI. Future Policy Session (p. 184)**

- **Action: The concept of “smart cities,” including virtues and limitations of the concept.**

#### **XVII. Communications**

- A. Marketing and Communications Plan (p. 190) Marflak
  - Website improvements:
    - A new www.TRB.org front page redesign will be released in March 2017.
    - Provided an overview of TRB’s social media strategy and growth during 2016, highlighting the channels of Facebook, Twitter, and LinkedIn.
  - E-Newsletter:
    - 67,000 subscribers
    - Data collected on newsletter clicks over the course of one year, combined with a survey of newsletter subscribers concluded the following:
      - Most readers are satisfied with the content of the TRB E-Newsletter.
      - Those who were not satisfied with the newsletter did not know they could customize their newsletter. TRB will undertake a customization campaign to inform subscribers about how they can modify their preferences.
      - No additional action will be taken to refine the newsletter at this time.
  - New partnerships fostered with transportation organizations in 2016:
    - American Traffic Safety Services Association (ATSSA)
    - Women’s Transportation Seminar (WTS)
    - Conference of Minority Transportation Officials (COMTO)
    - Intelligent Transportation Society (ITS) of America
    - Association of Metropolitan Planning Organizations (AMPO)
    - Transportation Research Congress (TRC – China)
    - Transport Research Arena (TRA – Europe)
    - World Road Association (PIARC): Memorandum of Understanding signed September 2016

- B. TRB Centennial (p. 204) Houston
- TRB will be organizing a Centennial Task Force to start planning for TRB's 100th anniversary in 2020. The Task Force will be developing recommendations in 2017 for review by the SPPR in October 2017.
  - In 2018, the role of the Centennial Task Force will be to develop a marketing and communications plan for the effort; identify events to promote the centennial; and develop a timeline for development, delivery, marketing, and promotional items leading up to the events.
  - In 2019, the Centennial Task Force will provide oversight and advice to implement the various events.

**XVIII. Break**

**XIX. Broadening Participation (p. 208) Hanson**

- A. The role of the SNO is to ensure that all TRB reports meet NRC standards for objectivity and quality; and to track and promote overall participation of minorities and women in all TRB committees. Age, gender, geography, race, and ethnicity are dimensions that the Academies track because diversity provides better research and policy outcomes.
- Hanson provided an update on the project approvals and recent minority participation TRB volunteer committees.
  - 25 percent of TRB committee members are women.
  - 16-17 percent of TRB committee members are minorities. A number of minorities include Hispanics, who often identify as white.
  - Underrepresented minority group membership remains low at 5-6 percent.
  - Hanson asked the new Diversity and Inclusion Task Force for assistance, particularly with recruiting more underrepresented groups to attend the TRB Annual Meeting.
- B. Diversity and Inclusion Task Force (p. 222) Ford
- The newly established Diversity and Inclusion Task Force will be focusing on:
    - Stakeholder diversity and inclusion among contractors and volunteers
    - TRB staff inclusion
    - Strategic partnerships
    - TRB's programs and research on diversity and inclusion
    - Workforce development
  - An interim report will be delivered in 2018
- C. Minority Student Fellows Program (p. 225) Febey
- To date, 103 fellows have presented research papers and networked at the TRB Annual Meeting. Fellows connect with potential employers, including private companies and transportation agencies.
  - The 2016-2017 program had 21 fellows.
  - The program is supported by TRB, FHWA, the North Central Texas Council of Governments, Stantec, and the South Coast Air Quality Management District.

- After completing the program, fellows have sought to get involved with Technical Activities and Cooperative Research Program panels.
- Febey is exploring ways to keep the fellows returning to TRB after completing the program.

D. Young Members Council (p. 230) Kirley

- Organized session on workforce development issues.
- Kirley has seen momentum at the group level this year, as participation and programming has increased.
- Highlighting the work of young members.
- Brainstorming how to continue to evolve the Young Members Council.

E. International Activities (p. 231) Llort

- Aimed at increasing involvement of international members in both TRB committees, and meetings and conferences.
- In 2016, the International Subcommittee of the Executive Committee was established.
- In addition to growing the pool of international TRB representatives, a goal of the subcommittee includes increasing cooperation and sharing of international research with TRB stakeholders.

**XX. Signing of PIARC Action Plan and ECTRI Memorandum of Understanding (MOU) and Action Plan (p. 241)**

- A. The World Road Association (PIARC) and TRB signed an Action Plan to carry out the objectives of their Memorandum of Understanding which was signed in September 2016.
- B. The European Conference of Transport Research Institutes (ECTRI) and TRB signed a MOU and Action Plan to foster and facilitate greater synergies for information exchange and cooperation, and to share that information in transportation communities in their respective regions.

**XXI. Policy Studies**

A. Future of the Interstate Study (p. 251) Hendrickson

- The Future Interstate Study is being done pursuant to Section 6021 of the Fixing America's Surface Transportation Act of 2015 which calls for the Transportation Research Board to conduct "a study on the actions needed to upgrade and restore the Dwight D. Eisenhower National System of Interstate and Defense Highways to its role as a premier system that meets the growing and shifting demands of the 21st century."
- First and second meetings have been held, and materials are [available online](#).
- Timeline:
  - 2017: Information Gathering, listening sessions, white papers, case studies, and modeling
  - January-June 2018: Analysis completed



- June 2018: Report finalized
- December 2018: Report delivered to Congress
- January-March 2019: Dissemination activities

B. Policy Studies

Godwin

➤ Action: approved the Structured Health Monitoring Expert Meeting for the U.S. Army Corps of Engineers

- Potential Studies summarized: (p. 263)
  - Truck Size and Weight R&D Agenda: FHWA has approached TRB about developing a research and data-gathering agenda to close knowledge gaps.
  - The FAST Act calls for a TRB Review of the Innovative Bridge Research and Deployment Program authorized in TEA-21. Initiation in 2017 expected.
  - Update: the Office of Naval Research has requested an update to a 2011 report that evaluated its support of the National Naval Responsibility in Naval Engineering (NNR-NE) initiative.
  - The Water Infrastructure Improvements for the Nation Act of December 2016 requested a study on the Use of Innovative Materials in Water Resource Projects; however, the funding for this request is uncertain.

**XXII. Other Business / Summary of Key Points by Chairman Crites**

- Use of the Strategic Plan to guide initiatives outlined above.
- Diversity and inclusion is a challenge. In response, new members have been added to the Executive Committee Task Force to help provide direction.
- Enhancements to communications continue.
- Continuing work to connect international participants to TRB's research.

**Next Meeting takes place June 21-22, 2017, Keck Building, Washington, D.C.**



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TRANSPORTATION RESEARCH BOARD

**XXIII. TRB Executive Committee Attendance**

**Executive Committee Members**

1. James Crites (Chair)
2. Malcom Dougherty (Vice Chair)
3. Vicki Arroyo
4. Scott Bennett
5. Mary Brooks (Marine Board)
6. Jennifer Cohan
7. Nathaniel Ford
8. Susan Hanson
9. Steve Heminger
10. Chris Hendrickson
11. Jeff Holt
12. S. Jack Hu
13. Roger Huff
14. Geraldine Knatz
15. Ysela Llort
16. Margaret Melinda McGrath
17. James Redeker
18. Mark Rosenberg
19. Craig Rutland
20. Kumares Sinha
21. Dan Sperling
22. Gary Thomas
23. Pat Thomas
24. Paul Trombino
25. Katie Turnbull
26. Dean Wise
27. Charles Zelle

**Ex Officio Members**

1. Steve Cliff (California Air Resources Board)
2. Carolyn Flowers (FTA)
3. John Gray (AAR)
4. Daphne Jefferson (FMCSA)
5. Bevan Kirley (YMC)
6. Timothy Klein (USDOT/OST-R)
7. Kevin Knight (U.S. Army Corps of Engineers)
8. Stephen Lane (TAC)
9. Mary Leary (FTA)
10. Gregory Nadeau (FHWA)
11. Mary Leary (FTA)
12. Jonathan Mueller (FMCSA)

13. Hyun-A Park (TAC Incoming Chair)
14. Ram Pendyala (TAC)
15. Stephen Popkin (OST-R Volpe Center)
16. Todd Ripley (Maritime)
17. Craig Rutland (US Air Force)
18. Reuben Sarkar (DOE)
19. Robert Shea (TAC)
20. Nan Shellabarger (FAA)
21. Eric Shen (TAC)
22. Karl Simon (EPA)
23. Michael Trentacoste (FHWA)
24. Daniel Turner (TAC)
25. Walter Waidelich (FHWA)
26. Matthew Welbes (FTA)
27. Richard White (APTA)
28. Bud Wright (AASHTO)

**TRB Staff**

1. Cindy Baker
2. Ann Brach
3. Gwen Chisholm-Smith
4. Patrice Davenport
5. Karen Febey
6. Steve Godwin
7. Chris Hedges
8. Russell Houston
9. Lisa Marflak
10. Mark Norman
11. Lori Sundstrom
12. Neil Pedersen
13. Gary Walker

**Invited attendees:**

1. Christopher Hart, (NTSB)
2. Jeff Davis, Eno Center for Transportation
3. Bryan Grote, Mercantor
4. Jack Schenendorf, Covington & Burling LLP

**Policy Session Speakers:**

1. Susanne DesRoches
2. Alan McKinnon
3. Donald J. Wuebbles

## ITEM 5

### EXECUTIVE DIRECTOR'S REPORT

The Executive Director's Report for the Agenda Book for the Executive Committee Meeting consists of Neil Pedersen's 2016 Performance Review and 2107 Performance Goals.

## ATTACHMENT A

### ACHIEVEMENT OF GOALS ESTABLISHED BY BRUCE DARLING FOR THE PERFORMANCE PERIOD

1. Develop a plan, in consultation with OCFO and the NRCEO, to address the operating deficit and to maintain the reserve fund at or above 75% of TRB revenues through 2021.
  - TRB developed a plan in consultation with OCFO and the NRCEO, which included increases in annual meeting registration fees and the elimination of printed versions of the *Transportation Research Record*, as well as a several smaller changes, including adjustments to sponsor fees.
  - After obtaining concurrence from the TRB Executive Committee, the plan was implemented. Based on the experience from the 2017 TRB Annual Meeting and anticipated savings in the future, it is projected that the TRB Core Program Operating Reserve should remain at or above 75% through 2021.
2. Continue to reach out to other sponsors, public and private, to carry out TRB's program of activities.
  - During 2016, both the U.S. Environmental Protection Agency and the California Air Resources Board became sponsors of TRB.
  - TRB was successful in increasing private sector support for its annual meeting patron and exhibit programs by 19%.
  - Private sector sponsorships were secured for several of TRB conferences/workshops.
  - TRB developed a proposal for a revised Affiliate program, which will be marketed in 2017, with the goal to increase private sector support for TRB programs and services.
3. Develop plans for TRB's strategic issues and carry them out with appropriate involvement of other divisions.
  - In 2015 the TRB Executive Committee identified three strategic issues for all TRB programs to address: transformational technologies, resilience, and public health. Executive Committee task forces were established for each of the strategic areas, and these task forces developed plans that identified issues, activities, and gaps that should be addressed.
  - Staff from other divisions participated as members of each of the three task forces and assisted in planning of activities, a number of which were jointly conducted with other divisions. For example HMD and TRB jointly sponsored the workshop "Exploring Data and Metrics of Value at the Intersection of Health Care and Transportation." Jim Card is representing TRB on PGA's Resilient America Roundtable. Jon Eisenberg has participated in several of TRB's transformational technologies activities.
  - TRB had over 100 sessions at its annual meeting on topics related to the three strategic issues.
  - TRB held several conferences and workshops on topics related to these issues.

4. Continue to increase the involvement of members of the three Academies.

- As members of the TRB Executive Committee, the following Academy members have provided strategic direction and oversight of TRB activities: Susan Hanson (NAS), Stewart Fotheringham (NAS), Chris Hendrickson (NAE), Kumares Sinha (NAE), Geraldine Knatz (NAE), Jack Hu (NAE), and Mark Rosenberg (NAM).
- The Subcommittee on NRC Oversight, which serves as TRB's Division Committee, is chaired by Susan Hanson (NAS), Chris Hendrickson (NAE) became Vice Chair during 2016, and Stewart Fotheringham (NAS) is also a member. The subcommittee largely focuses on TRB's report review process and on diversity and inclusion issues.
- The Subcommittee on Planning and Policy Review provides strategic direction and oversight between Executive Committee meetings. Members include Susan Hanson (NAS) and Chris Hendrickson (NAE).
- The Executive Committee's newly formed International Subcommittee includes Jack Hu (NAE) and Stewart Fotheringham (NAS) as members.
- The following Academy members are involved in TRB task forces on strategic issues:
  - Transformational Technologies: Chris Hendrickson (NAE)
  - Resilience: Geraldine Knatz (NAE)
  - Public Health: Mark Rosenberg (NAM)
- Ali Mosleh (NAE) and Donald Liu (NAE) were members of the Marine Board in 2016.
- Craig Philip (NAE) was appointed to the Marine Board in November 2016.
- Don Walsh (NAE) was liaison to the Ocean Studies Board and attended the Marine Board Spring Meeting in June 2016.
- The following Academy members were involved in completed policy studies in 2016 (note that Susan Hanson (NAS) serves as Coordinator for all TRB reports):
  - Real-Time Monitoring of Oil and Gas Operations. Monitor: Bonnie McCay (NAS); Reviewers: Keith Michel (NAE), Michael Hanemann (NAS), Dolores Etter (NAE), Donald Paul (NAE), Allen Marr (NAE), Roland Horne (NAE)
  - Review of Department of Transportation Testing of Electronically Controlled Pneumatic Brakes: Letter 2. Monitor: Robert Sproull (NAS); Reviewers: Robert McMeeking (NAE), John Samuels (NAE), Roger Schmidt (NAE)
  - Review of Research and Technology Coordinating Committee Letter Report. Reviewer: A. Ray Chamberlain (NAE)
  - Long-Term Pavement Performance Committee Letter reports #37, #38, and #39. Reviewer: Carl Monismith (NAE)
  - Long-Term Bridge Performance Committee Letter Report #6 and #7. Reviewers: John Breen (NAE), Paul Zia (NAE)
- The following Academy members are involved in ongoing projects:
  - Future Interstates Study. Chairman: Norman Augustine (NAS/NAE); Members: C. Michael Walton (NAE), Chris Hendrickson (NAE)
  - Performance-Based Safety Regulation. Member: Kenneth Arnold (NAE)

- Review of USDOT Testing of ECP Brakes: Chairman: Lou Lanzerotti (NAE); Member: Roger McCarthy (NAE)
  - Polar Icebreakers Cost Assessment. Member: Keith Michel (NAE)
  - Transportation Petroleum, Natural Gas, Ethanol, Chairman: Paul Gaffney (NAE); Members: Ali Mosleh (NAE), Craig Philip (NAE)
  - W-beam Guardrail End Treatments (in review). Monitor: Susan Hanson (NAS); Reviewer: Dean Carlson (NAE); Committee Member: Priyaranjan Prasad (NAE)
  - Long-Term Bridge Performance: Members: John Kulicki (NAE), Alfredo H-S. Ang (NAE)
  - Research and Technology Coordinating Committee: Member: Chris Hendrickson (NAE)
5. Continue to expand collaborations with other divisions.
- John Eisenberg from DEPS is a member of the TRB Task Force on Transformational Technologies, and has helped TRB in planning activities in this area.
  - Lauren Alexander Augustine from PGA is a member of TRB's Task Force on Resilience. TRB is working together with her and the Resilience Roundtable on their work on resilience issues for the transportation system in the Seattle area. Jim Card is representing TRB as a member of the Resilient America Roundtable.
  - Alina Baciu (HMD) is a member of TRB's Transportation and Public Health Task Force and is helping identify opportunities for TRB and HMD to work together in this area. She worked jointly with Steve Andrie from TRB in the planning and execution of the workshop "Exploring Data and Metrics of Value at the Intersection of Health Care and Transportation."
  - Collaboration is occurring between TRB and other NRC divisions on policy studies as follows:
    - Accelerating Progress to Reduce Alcohol-Related Fatal Crashes, HMD in lead, TRB assisting
    - Polar Icebreakers Cost Assessment, TRB lead with OSB, PSB assisting
    - Performance-based Safety Regulation, TRB lead, BOHSI assisting
    - Long-Term Coastal Zone Dynamics, BESR lead with TRB assisting
    - Reducing Fuel Consumption, Medium and Heavy Duty Vehicles, Phase II, BEES lead, TRB assisting
    - Transportation of Petroleum, Natural Gas, and Ethanol, TRB lead, BEES assisting
    - Review of the FMCSA Correlation Study, CNSTAT lead, TRB assisting
    - Roundtable on Unconventional Drilling Technologies, TRB assisting BSER
    - Evidentiary Protection of Transit Safety Information, TRB lead with CLAJ and CSTL
6. Continue to work with NAP on reengineering TRB publications and gaining greater effectiveness and efficiencies in TRB publication activities.

- In 2015 TRB staff worked together with NAP staff to conduct a peer review process that developed in a series of recommendations to speed up the delivery of the *Transportation Research Record*, including actions to use current technology to improve efficiency. TRB implemented several of the recommendations in 2016, and as a result 167 TRR papers were published up to eight months sooner than they would have been under the old process and were available in time for the 2017 TRB Annual Meeting. With the assistance of a consultant and NAP staff, an implementation plan was developed for additional recommendations, which is currently being used to implement additional measures.
  - With the retirement of TRB's Publications Manager in April 2017, TRB staff and NAP staff are currently exploring additional options for privatizing certain functions and/or having NAP manage some of the functions that TRB historically has managed.
7. Continue to adapt TRB's organizational structure to changing program developments.
- During the Summer of 2016, TRB conducted an organizational review, which concluded that the overall structure for TRB remains appropriate, but several minor changes were appropriate to address current challenges and opportunities. The following actions have been taken to address these issues.
  - To assist in TRB's efforts to diversify its revenues and to raise monies to support its continued growth, TRB created the position of Deputy Director of Strategic Initiatives and Program Development. Ms. Patrice Davenport was hired to fill this position beginning in January, 2017.
  - To support the emphasis on implementation of its research results and products called for in its strategic plan, TRB created the position of Implementation Coordinator for the NCHRP program. Mr. Waseem Dekalbab has assumed responsibilities for this position.
  - An International Subcommittee of the Executive Committee was established in 2016. This subcommittee provides oversight of TRB's international activities and reviews international conferences and agreements and MOUs with international organizations.
  - The Executive Committee established a Diversity and Inclusion Task Force, with representatives of each of TRB's oversight committees, as well as several at large members. See #8 for more information on the task force and its charge.
8. Increase diversity in TRB's volunteer base and staff.
- In order to support TRB's goal to increase diversity in its volunteer base and staff, the TRB Executive Committee established the TRB Diversity and Inclusion Task Force, which is chaired by Executive Committee member Nathaniel Ford.
  - This 19 member task force is addressing issues of diversity and inclusion in the following areas
    - TRB volunteers (committee and panel membership)
    - TRB contractors
    - TRB staff
    - TRB programs and research projects
    - TRB partnerships

- Workforce development
  - TRB is proactively considering diversity in putting together committees and panels.
  - The latest hires/promotions for TRB management positions have included two African American females and one Caucasian female.
  - DBE involvement is a consideration in the selection of contractor teams for research projects.
  - TRB has been proactively addressing issues raised regarding accessibility during the TRB Annual Meeting.
  - I have proactively reached out and worked with the leadership of the Women's Transportation Seminar and the Council of Minority Transportation Officials to identify ways we can more effectively partner.
  - Despite these efforts, the percentage of TRB committee members who are female has consistently remained around 25 percent over the past five years, and the percent of committee members who are minority has consistently remained around 17 percent.
9. Complete TRB's strategic marketing and communications plan and begin implementing it.
- After incorporating staff comments into the draft plan, TRB's strategic marketing and communications plan was adopted in early 2016.
  - Created two general videos about TRB, a TRB brochure, and five flyers on TRB's major initiatives.
  - Integrated the Office of Communications branding materials into TRB's materials. Barbara Klein Pope addressed a TRB staff meeting on use of the new Academies' branding materials.
  - Initiated partnerships with the following transportation organizations in an effort to get their members more involved in TRB:
    - American Traffic Safety Services Association (ATSSA)
    - Women's Transportation Seminar (WTS)
    - Conference of Minority Transportation Officials (COMTO)
    - ITS America
    - Association of Metropolitan Planning Organizations (AMPO)
    - Transportation Research Congress (TRC – China)
    - Transport Research Arena (TRA – Europe)
    - World Road Association (PIARC): Memorandum of Understanding signed September 2016
  - Expanded and heavily marketed TRB's webinar program
    - Total live webinars in 2016: 97
      - Average estimated attendance: 340
      - Average satisfaction rating: 91%
    - Total pre-recorded webinars in 2016: 14
      - Average estimated attendance: 371
    - Total estimated number of webinar attendees in 2016: 33,000
  - Evaluated whether to modify TRB's e-newsletter

- Number of subscribers to the e-newsletter: 68,000
- 35% open the TRB E-Newsletter weekly
  - Industry standard is 23% (source: MailChimp)
- 9.39% clicks on links in the TRB E-Newsletter:
  - Industry standard: 2.79% (source: MailChimp)
- E-Newsletter Survey: Based on 2,000 responses, 87% satisfied or very satisfied with the newsletter
- Based on these results, TRB decided not to make any major changes to the newsletter format
- Making revisions to the TRB webpage
  - Working with the NASEM Central Web Office on the Unified Web.
  - New TRB.org front page redesign will be released in March 2017



## ATTACHMENT B

### 2016 PERFORMANCE GOALS THAT NEIL PEDERSEN HAD IN ADDITION TO BRUCE DARLING'S GOALS

Neil Pedersen submitted 12 performance goals to Bruce Darling for 2016 as part of his performance appraisal submission. Nine of those were very similar to the goals established by Bruce Darling and reported on in Attachment A. Achievement of the three additional goals is reported on below.

7. Provide oversight to TRB's policy studies, with particular emphasis on the newly congressionally mandated studies.
  - The following Congressionally mandated studies are all underway.
    - Future Interstates Study
    - Evidentiary Protection of Transit Safety Program Information
    - Review of USDOT Testing of ECP Brakes (Ray Wassel from DELS is report officer)
    - FMCSA Compliance, Safety Accountability (CNSTAT in the lead)
    - Polar Ice Breakers Cost Assessment
    - Propane Pipeline Facilities
  - Considerable work and coordination was done by TRB staff to get these studies underway.
  - All these studies are on schedule. The workload has kept Studies and Special Programs staff at capacity for the past year.
9. Identify and implement methods to produce Cooperative Research Program research in a more timely manner for high priority, quick turnaround research issues.
  - The cooperative research programs are developing research roadmaps for each of the three strategic priority issues identified by the TRB Executive Committee. These roadmaps are being used to identify research gaps and other research priorities in each of these areas, so projects do not have to wait to go through the annual priority setting process.
  - TRB has begun the process to procure open-ended task order contracts for each of the strategic areas. These contracts will enable research projects to begin immediately after a research topic is selected, rather than waiting to go through a lengthy procurement process.
  - TRB is making research results available online once the peer review process is complete and before reports go through final editing and printing. This has enabled research results to be available as much as six months earlier than they would be through the traditional process.
11. Collect data on the impact of TRB research, policy, and convening activities, and report this information to stakeholders.
  - TRB produced and maintained a database of national impacts of TRB research, policy, and convening activities and products over the course of 2016.

- A summary report was produced for distribution at the 2017 TRB Annual Meeting.
- As the database continues to be populated, more systematic analysis of impacts can be conducted for use in marketing brochures and funding solicitations.

## ATTACHMENT C

### NEIL PEDERSEN'S PERFORMANCE GOALS FOR 2017

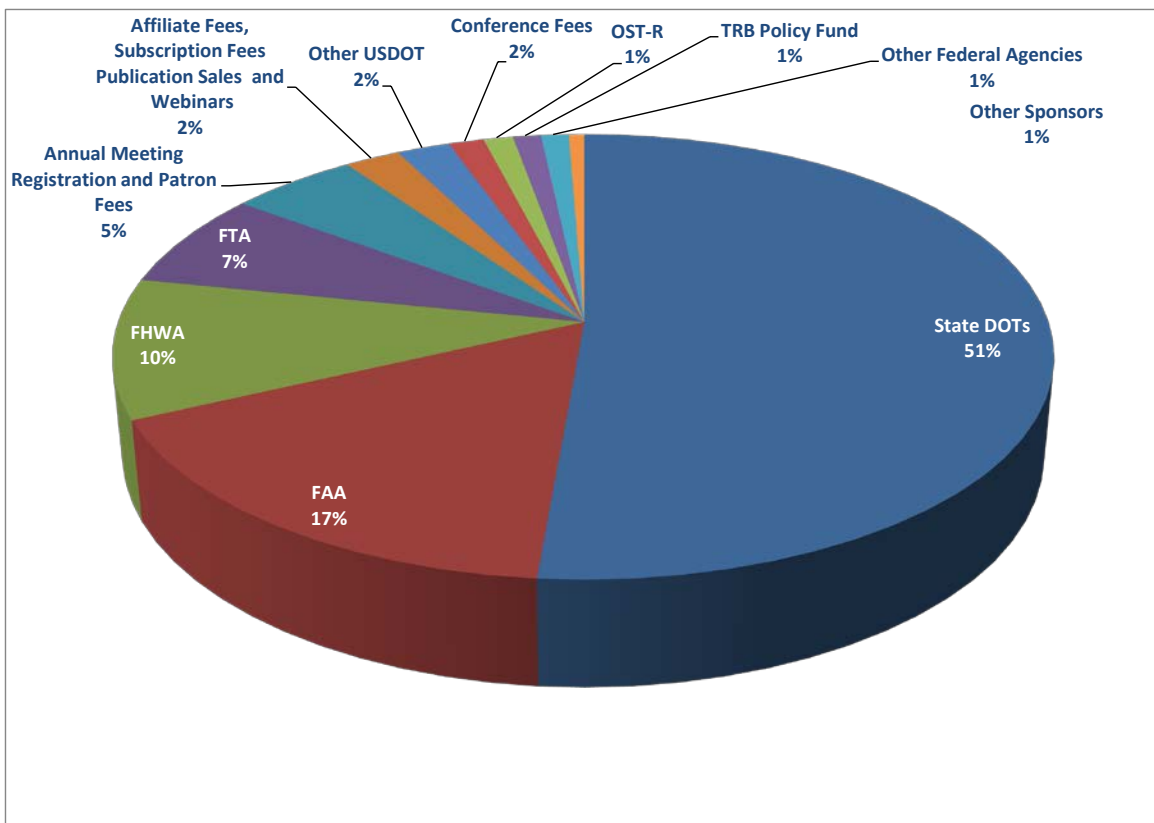
1. Manage TRB's finances to ensure that long term revenues and expenditures come closer to being in balance and TRB's Core Operating Reserve remains above 75 percent through FY 2021.
  - a. Secure additional financial support from sponsors and affiliates.
  - b. Implement TRB Global Affiliates Program, career fair, job board, and other revenue measures that are consistent with the Academies mission and policies.
2. Manage sponsor relations to ensure that TRB is meeting sponsor needs.
  - a. Engage with new CEOs of sponsor agencies after they are appointed.
  - b. Attempt to minimize any potential loss of sponsor support in light of Administration budget proposals.
3. Carry out the planned portfolio of activities for each of TRB's strategic issues with appropriate involvement from other NRC divisions.
4. Continue significant involvement of members of the three Academies in TRB policy and program activities.
5. Collaborate with other NRC divisions to conduct joint activities that meet sponsor and stakeholder needs.
6. Support the Academies' External Review of NRC Activities, Products, and Processes and implement appropriate recommendations from the review.
  - a. Continue to implement changes to existing processes that have been identified to improve efficiencies.
  - b. Adapt TRB's organizational structure in response to changes in processes, products, and stakeholder needs.
7. Partner with U.S. and international transportation organizations in order to leverage joint activities that benefit TRB and its stakeholders.
8. Working together with the National Academies Press, implement organizational and process changes to improve efficiency and reduce the time to produce TRB publications.
9. Increase diversity in TRB's volunteer base and staff.
  - a. Working with the TRB Executive Committee's Diversity and Inclusion Task Force, complete development of a diversity and inclusion plan for TRB.
  - b. Proactively work with transportation organizations representing women and minorities to attract their members to participate in TRB programs and committees.
10. Continue to expand TRB's marketing and communications efforts, including implementing the next set of recommendations in TRB's Marketing and Communications Plan.
  - a. Implement changes to TRB's website as part of the NASEM Central Web Office on the Unified Web
11. Facilitate use of TRB's products by TRB stakeholders and measure the impact of these products and TRB's convening activities.
12. Provide oversight to TRB's policy studies, ensuring timely completion and effective marketing and communication.

## TRB Spending by Program and Source(s) of Funds

	2015	2016	2017 (est)	Source(s) of Funds
Core Technical Activities	\$17,216,000	\$17,161,000	\$17,046,000	State DOTs (42%), Self Generated (39%), FHWA (10%), Other (9%)
Cooperative Research Programs				
NCHRP	\$38,270,000	\$37,983,000	\$39,991,000	State DOTs (99%) FHWA (1%)
ACRP	\$17,147,000	\$14,647,000	\$15,595,000	FAA
TCRP	\$5,372,000	\$5,883,000	\$5,617,000	FTA
HMCRP	\$258,000	\$73,000	\$223,000	OST-R
NCFRP	\$1,558,000	\$510,000	\$220,000	OST-R
NCRRP	\$1,802,000	\$685,000	\$175,000	FRA
Policy Studies	\$3,207,000	\$4,071,000	\$3,955,000	Policy Fund (31%), FHWA(30%), OST-R (12%) BSEE (9%) FRA (6%), Other (12%)
Conferences & Workshops	\$2,254,000	\$2,020,000	\$1,950,000	Registration Fees (58%), State DOTs (13%), FHWA (10%) OST-R (7%), Other (12%)
SHRP2 (including Safety Database)	\$7,771,000	\$5,336,000	\$5,708,000	FHWA
Marine Board	\$251,000	\$251,000	\$251,000	Coast Guard (30%), Army (30%), NOAA (16%), BSEE (12%), MARAD (7%), Navy (5%)
<b>Total</b>	<b>\$95,106,000</b>	<b>\$88,620,000</b>	<b>\$90,731,000</b>	

## TRB 2016 Program Expenditures by Funding Source

Source of Funds	Amount
State Departments of Transportation	\$ 45,428,766
Federal Aviation Administration	\$ 14,745,859
Federal Highway Administration	\$ 8,981,370
Federal Transit Administration	\$ 6,167,147
Office of the Assistant Secretary for Research and Technology	\$ 1,039,194
Other US Department of Transportation Modes	\$ 1,879,960
Annual Meeting Registration and Patron Fees	\$ 4,494,115
Affiliate Fees, Subscription Fees, Publication Sales and Webinars	\$ 2,135,048
Conference Fees	\$ 1,242,695
TRB Policy Fund	\$ 985,073
Other Federal Agencies	\$ 975,564
Other Sponsors	\$ 545,053
<b>Grand Total</b>	<b>\$ 88,619,843</b>



TRB CORE BUDGET ESTIMATE FOR THE NEXT SIX FISCAL YEARS (July 1 - June 30)

	<u>FY2017</u>	<u>FY2018</u>	<u>FY2019</u>	<u>FY2020</u>	<u>FY2021</u>	<u>FY2022</u>
<b><u>Revenue</u></b>						
State Highway & Transportation Departments (State DOTs)	7,308,000	7,482,000	7,644,000	7,817,000	8,004,000	8,164,000
Federal Highway Administration (FHWA)	1,450,000	1,450,000	1,450,000	1,450,000	1,450,000	1,450,000
Other Federal Agencies						
Office of the Assistant Secretary for Research and Technology (OST-R)	300,000	300,000	300,000	300,000	300,000	300,000
Federal Transit Administration (FTA)	250,000	250,000	250,000	250,000	250,000	250,000
National Highway Traffic Safety Administration (NHTSA)	206,000	210,000	214,000	218,000	222,000	226,000
Bureau of Indian Affairs/Department of The Interior (DOI)	80,000	80,000	80,000	80,000	80,000	80,000
Federal Motor Carrier Safety Administration (FMCSA)	75,000	75,000	75,000	75,000	75,000	75,000
Army Corps of Engineers (COE)	65,000	70,000	70,000	70,000	70,000	70,000
Federal Railroad Administration (FRA)	65,000	70,000	70,000	70,000	70,000	70,000
Air Force Civil Engineer Center (AFCEC)	65,000	70,000	70,000	70,000	70,000	70,000
Department of Energy (DOE)	65,000	70,000	70,000	70,000	70,000	70,000
Environmental Protection Agency (EPA)	32,500	70,000	70,000	70,000	70,000	70,000
Federal Aviation Administration (FAA)	65,000	70,000	70,000	70,000	70,000	70,000
	<u>1,268,500</u>	<u>1,335,000</u>	<u>1,339,000</u>	<u>1,343,000</u>	<u>1,347,000</u>	<u>1,351,000</u>
Other Non-Federal						
Association of American Railroads (AAR)	65,000	70,000	70,000	70,000	70,000	70,000
American Public Transportation Association (APTA)	65,000	70,000	70,000	70,000	70,000	70,000
California Air Resources Board (CARB)	32,500	70,000	70,000	70,000	70,000	70,000
South Coast Air Quality Management District (AQMD)	32,500	-	-	-	-	-
	<u>195,000</u>	<u>210,000</u>	<u>210,000</u>	<u>210,000</u>	<u>210,000</u>	<u>210,000</u>
TRB Fees & Sales	6,388,000	6,295,000	6,421,000	6,549,000	6,680,000	6,814,000
	<b><u>16,609,500</u></b>	<b><u>16,772,000</u></b>	<b><u>17,064,000</u></b>	<b><u>17,369,000</u></b>	<b><u>17,691,000</u></b>	<b><u>17,989,000</u></b>
<b><u>Expenses</u></b>						
Salaries & Benefits	6,212,000	6,351,000	6,542,000	6,738,000	6,940,000	7,148,000
Committee Meetings & Travel	713,000	744,000	766,000	774,000	782,000	790,000
Publishing & Report Production	1,725,000	1,398,000	1,440,000	1,469,000	1,498,000	1,528,000
Consultants & Contracts	2,124,000	2,107,000	2,170,000	2,213,000	2,257,000	2,302,000
Other	508,000	523,000	539,000	550,000	561,000	572,000
Indirect Cost	6,107,000	6,018,000	6,147,000	6,354,000	6,513,000	6,676,000
	<b><u>17,389,000</u></b>	<b><u>17,141,000</u></b>	<b><u>17,604,000</u></b>	<b><u>18,098,000</u></b>	<b><u>18,551,000</u></b>	<b><u>19,016,000</u></b>
<b><u>Reserves</u></b>						
Yearly Surplus/Deficit	(779,500)	(369,000)	(540,000)	(729,000)	(860,000)	(1,027,000)
Reserve Fund Balance	16,490,702	16,121,702	15,581,702	14,852,702	13,992,702	12,965,702
Percent of a Core Operating Year	95%	94%	89%	82%	75%	68%

# New Revenues Task Force

June 2017 Report



## Task Force Members



Members	Organization
Scott Bennett (Chair)	Arkansas DOT
John Gray	Association of American Railroads (AAR)
John Hallkowski	Arizona DOT
Jeff Holt	Bank of Montreal/Capital Markets
Michael Murphy	National Academies Office of Development
Dan Sperling	UC Davis
Pat Thomas	UPS
Bud Wright	AASHTO
Patrice Davenport Mark Norman Neil Pedersen Gary Walker Ann Brach Russell Houston	TRB Staff

## Task Force Mission



- Identify opportunities for enhancing existing revenue streams and prospective new sources of revenue
- Provide guidance to the TRB leadership on the potential, viability, and priority for pursuing these revenue streams
- Provide advice on the implementation and sustainability of those revenue streams that are pursued

## Task Force Actions: Laying the Groundwork



- ✓ Reviewed TRB budget, revenues, & future risk scenarios
- ✓ Developed criteria for evaluating potential revenue streams
- ✓ Developed suggested priorities and timeframes for pursuing options



## Highest Priority Revenue Options



- ✓ Pursue new TRB Sponsors and Affiliates
  - Restructure TRB Organizational Affiliates packages
- ✓ Review TRB fees/prices & adjust accordingly
- ✓ Launch TRB planned giving program
- ✓ Consider leveraging TRB e-Newsletter
  - Sponsorships
- ✓ Investigate feasibility of TRB Roundtables/Forums
  - Public sector/private sector/universities

## Task Force Providing Implementation Guidance



- TRB Global Affiliates Package
  - See separate agenda item
- TRB Forum(s) on Automated Vehicles
  - See separate agenda item
- Planned Giving Program
  - Website established
  - Solicitation letters sent to past and current TRB leaders
  - Launching newsletter
- Marketing of TRB Offerings

# Sample Marketing Pieces



**2017 | 2018**  
**TRB NEW ENGAGEMENTS**  
**INTERACTIVE PROSPECTUS**  
 New opportunities for knowledge, networking, and innovation in transportation  
 THE TRANSPORTATION RESEARCH BOARD  
 The National Academies of  
 SCIENCES • ENGINEERING • MEDICINE

## BECOME A GLOBAL AFFILIATE!

Your organization's passport to knowledge, networking, and innovation in transportation

The **Global Affiliate** program offers a new TRB designation to organizations seeking to **shape the way the world travels, ships goods, and moves.** As a TRB **Global Affiliate**, your organization will be supporting thousands of transportation leaders and professionals at all levels of government, the private sector, and academia, working together to promote progress in transportation through innovation and research.

**Global Affiliates** are able to access TRB services and products at a discount. These include opportunities for participation, access to knowledge, philanthropic support, and brand exposure at higher levels. **Global Affiliates** are eligible to realize additional savings by applying large discounts to a wider selection of TRB services and products. Organizations can select those that best match their specific interests and needs. **Sample benefits include:**

- TRB Webinar registration waivers for employees
- Discounted Exhibitor spaces during TRB Annual Meeting
- TRB Annual Meeting registration waivers
- Discounted participation in TRB Roundtable programs

For more information please contact  
 Patrice Davenport at [pdavenport@nas.edu](mailto:pdavenport@nas.edu)

## GROW YOUR BRAND AT THE TRB ANNUAL MEETING!

Network at and support the largest global gathering of transportation professionals

The Transportation Research Board (TRB) 97th Annual Meeting will be held in Washington, D. C. at the Walter E. Washington Convention Center. The education-packed program attracts more than 12,000 transportation professionals from around the world to Washington, D. C., January 8-12, 2017.

The TRB Annual Meeting program covers all transportation modes, with more than 5,000 presentations in nearly 700 sessions and workshops addressing topics of interest to all attendees—policy makers, administrators, practitioners, researchers, and representatives of government, industry, and academic institutions. Your organization can support the TRB Annual Meeting in the following ways (click links below):

- Become a TRB Annual Meeting Patron
- Exhibit and reserve your table at the new Career Fair
- Advertise in the Program Book
- Be the Title Sponsor for the International Reception, the Young Professionals Reception or one of four Coaches events:
  - Fleet Field Coaches
  - Freight Coaches
  - Rail and Public Transportation Coaches
  - Aviation Coaches

For more information please contact  
 Patrice Davenport at [pdavenport@nas.edu](mailto:pdavenport@nas.edu)

The National Academies of  
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**TRB**  
 TRANSPORTATION RESEARCH BOARD

# Other New Initiatives



- Careers in Motion Job Fair and Job Board
- Support for TRB e-Newsletter
- Sponsorships for TRB Annual Meeting Receptions

**SPONSOR THE ANNUAL MEETING'S MOST ANTICIPATED RECEPTIONS!**  
 Personalize your support while making your organization's presence felt as an exclusive **Reception Patron**

Reception Sponsors receive exclusive recognition in the Annual Meeting Program Book, the Official App, Special Event Signage, and mention in all reception-related communications efforts.

**Young Professionals Reception Sponsor (\$5,500 | LIMIT 2)**  
 Sunday, January 8, 9:00 p.m. – 10:30 p.m.  
 Co-hosted by the TRB Young Members Council (YMC) and Young Professionals in Transportation (YPT), this networking reception is open to all young professionals and supporters to discuss career development and to meet peers from around the country.

**International Participants Reception Sponsor (\$5,500 | LIMIT 2)**  
 Sunday, January 8, 7:00 p.m. – 8:30 p.m.  
 Meeting delegates are invited to this international networking reception to reconnect with colleagues and make new acquaintances.

To reserve a Reception Sponsorship please contact  
 Patrice Davenport at [pdavenport@nas.edu](mailto:pdavenport@nas.edu)

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**TRB**  
 TRANSPORTATION RESEARCH BOARD

## TRB GLOBAL AFFILIATE BENEFITS

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TRANSPORTATION RESEARCH BOARD

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You and your organization are cordially invited to become a Global Affiliate of the Transportation Research Board (TRB) of the National Academies of Science, Engineering and Medicine and help shape the way the world travels, ship goods, and connects.

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1. Inclusion in TRB Staff Field Visit Program to facilitate ideas exchange <sup>2</sup>	✓					
2. Logo with link to homepage in weekly issue of <i>TRB e-Newsletter</i> (65,000+ subscribers)	✓	✓				
3. Sponsored VIP Table at TRB Annual Meeting Chairman's Luncheon	✓	✓				
4. Complimentary or discounted TRB Webinar registrations included for employees	<b>INCLUDED</b>	<b>50%</b>	<b>25%</b>			
5. Access to invitation-only and limited-space events and receptions	✓	✓	✓			
6. Discounted TRB Annual Meeting Patron participation	<b>25%</b>	<b>15%</b>	<b>10%</b>			
7. Discounted sponsorship of Annual Meeting Receptions	<b>25%</b>	<b>15%</b>	<b>10%</b>			
8. Discounted sponsorship of TRB Webinars, and other learning events	<b>25%</b>	<b>15%</b>	<b>10%</b>			
9. Logo with link to homepage on TRB Supporters website page	✓	✓	✓	✓		
10. Logo in TRB Annual Report as a Special Contributor	✓	✓	✓	✓		
11. Complimentary or discounted Exhibitor space during TRB Annual Meeting (first 100 sq. ft.)	<b>INCLUDED</b>	<b>50%</b>	<b>25%</b>	<b>15%</b>	<b>10%</b>	
12. Complimentary or discounted participation in TRB Roundtables	<b>INCLUDED</b>	<b>50%</b>	<b>25%</b>	<b>15%</b>	<b>10%</b>	
13. Complimentary or discounted annual subscription to place employment opportunities on <i>Careers in Motion Job Board</i>	<b>INCLUDED</b>	<b>50%</b>	<b>25%</b>	<b>15%</b>	<b>10%</b>	
14. TRB Annual Meeting registrations	<b>50</b>	<b>35</b>	<b>20</b>	<b>12</b>	<b>8</b>	<b>3</b>
15. Annual collection of TRB Printed Publications	<b>THREE SETS</b>	<b>TWO SETS</b>	<b>ONE SET</b>	<b>ONE SET</b>	<b>ONE SET</b>	<b>ONE SET</b>
16. 25% off purchases of TRB Publications	✓	✓	✓	✓	✓	✓
17. Unlimited <i>TRR Online</i> Subscriptions	✓	✓	✓	✓	✓	✓
18. <i>TR News</i> Individual Subscriptions (includes Annual Report)	<b>50</b>	<b>35</b>	<b>20</b>	<b>12</b>	<b>8</b>	<b>3</b>
19. Annual customized literature searches by professional TRB Library staff from TRID	<b>12</b>	<b>9</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>2</b>
20. Listing in Global Affiliates Directory	✓	✓	✓	✓	✓	✓

<sup>2</sup> Click on these links for a more detailed explanation of this benefit  
TRB Executive Committee Meeting, June 11-12, 2017





NEW

EVENT HOSTED IN PARTNERSHIP WITH:



Advancing Women in Transportation



YOUNG PROFESSIONALS in TRANSPORTATION



Moving the Nation



Center for Transportation

Walter E. Washington Convention Center  
Sunday, January 7, 2018  
10:00 a.m. – 2:00 p.m.  
Table Fee: \$1,250

# INDUSTRY EMPLOYERS AND WORKFORCE CHAMPIONS!

Join us at the **new** *Careers in Motion Fair!*

The *Careers in Motion* Fair is a networking event planned in service and support of expanding the multi-modal transportation workforce during TRB's 97th Annual Meeting. The event will provide an opportunity for prospective employers from a wide range of sectors to meet with young to seasoned professionals interested in working for their organizations.

Event attendees will be conference registrants whose careers and professional interests span across multiple transportation-related disciplines. Hiring managers will be onsite and ready to network and offer career information and advice.

The *Careers in Motion* initiative also helps serve the mission of TRB's new Diversity and Inclusion Task Force--to facilitate making diverse and inclusive involvement a core value for TRB staff, volunteers, contract awardees, projects, and the transportation communities TRB serves.

Please contact Patrice Davenport at [pdavenport@nas.edu](mailto:pdavenport@nas.edu)

# INTERNATIONAL SUBCOMMITTEE REPORT

UPDATE TO EXECUTIVE COMMITTEE  
JUNE 2017

## What are International Activities?

- The Subcommittee has yet to define “international activities” precisely.
- Activities will follow mission, vision, and goals as well as resources and capacity.
- Initial timeline for some TRB international activities by volunteers (further elaboration to follow once goals final):

### SHORT-TERM (1-12 Months)

- Enhancing international collaboration among TRB committees
- Sharing relevant and actionable research and innovation results

### MID-TERM (13-36 Months)

- Conducting international cooperative research and twinning of research
- Implementing an international communication policy for current TRB resources

### LONG-TERM (37-60 Months)

- Providing guidance to developing countries on the use of TRB research products and resources
- Marketing to and analysis of key international participation

## Subcommittee Mission and Vision

The **mission** of the Subcommittee on International Activities of the TRB Executive Committee is to provide guidance and support on building, strengthening, and leveraging strategic international partnerships to advance the mission of NASEM and TRB.

The **vision** of the of the Subcommittee on International Activities of the TRB Executive Committee is a safe, secure, and sustainable world where knowledge is seamlessly shared, research is cooperatively conducted, and education creates transformative human and institutional capital.

## Goal 1: International Participation/Engagement

*Draft: Increase participation by colleagues from outside the United States in TRB activities and committees.*

Should revise to consider:

- Greater **engagement** of international members on committee to participate in committees, webinar and research proposals, on CRP panels, etc.
- TRB increasing its participation in international partner activities
- Question for Executive: Is quality or quantity of participation more important? (Subcommittee consensus was quality.)

Next steps to develop objectives:

- Identify why international colleagues previous years have not returned so that we can identify objectives to address this goal.
- Encourage committees to fill all 5 international member roles.

## Goal 2: International Convening

*Draft: Benchmark TRB's participation in international forums and conferences.*

Should revise to consider:

- Defining the level of and type of engagement with international conferences / sponsorships
- Mutual benefits for international partners and TRB
- Ensure NASEM can participate and benefit when appropriate

Next steps to develop objectives:

- Assess the existing TRB (co-)sponsored international meetings for accomplishing international goals and objectives.
- What are principles and measures for when and how to convene for international collaboration based on the international mission and vision of TRB and NASEM?

## Goal 3: Memoranda of Understanding

*Draft: Standardize attributes of and make recommendations for Memoranda of Understanding between TRB and international organizations and national organizations outside the United States.*

This task-oriented goal can be advanced during a later, revised strategic plan for international activities.

Next steps to develop objectives:

- Review older MOUs with the newer PIARC and ECTRI MOUs and Actions Plans
- Identify principles and measures for international relationships based on the international mission and vision of TRB and NASEM



## Goal 4: Program Development

*Draft: Produce opportunities for cooperative or coordinated research activities with international organizations and national organizations outside the United States.*

Should revise to consider:

- For the volunteers supporting program development, what are the appropriate incentives? How should TRB prepare the volunteers to be good ambassadors for TRB?
- Maintaining and sustaining international membership and attendance
- Focus on ways to increase American engagement in the International Reception at annual meeting and other international activities?

Next steps to develop objectives:

- The subcommittee will consider how to routinely highlight international cooperative projects and activities.
- The subcommittee will identify where TRB could pilot our new international activities approaches.

## Pathway to January Executive Committee Meeting

- **Today:** Present the Mission and Vision from the Subcommittee for approval.
- **July-September:** Perform next steps to finalize Goals and develop Objectives.
- **October:** Discuss at SPPR. Prioritize tasks within three phases over a five year period.
- **November-December:** Draft a five-year strategic plan for TRB international activities.
- **January:** Present the strategic plan to Executive Committee for approval.

**REPORT – Diversity and Inclusion Task Force  
Executive Committee  
Transportation Research Board**

Background:

Diversity and inclusion is one of the priorities of TRB. As such, the TRB Executive Committee created a Diversity and Inclusion Task Force. The mission of the Diversity and Inclusion Task Force is to facilitate making diverse and inclusive involvement a core value for TRB staff, volunteers, contract awardees, projects and the transportation communities TRB serves. A diverse and inclusive culture will enhance the mission of TRB because it will increase innovation and creativity.

The Diversity and Inclusion Task Force met for the first time on January 10<sup>th</sup>, 2017. After that initial meeting, the group divided into a steering committee and four subcommittees that have been working on establishing goals, objectives, outcome based key performance indicators and action items.

Following a status update or suggested strategies of each of the subcommittees.

**Working Group 1 - Diversity Task Force Issues – Background, data and analysis**

This subcommittee has been working to review the definition of diversity and inclusion. It has also been investigating the diversity data from other parallel organizations. At the end, they will use the information to draft the background and context section of the Diversity Plan.

**Workgroup 2a**

Workgroup 2a developed goals, strategies, and action items to address stakeholder diversity and inclusion among volunteers, and with TRB partnerships. The goals focused on increasing diversity on CRP panels and on Technical Activities committees, identifying strategies for collaborating with organizations that represent those underrepresented on panels and committees, and focusing on strategies to increase Annual Meeting involvement of those underrepresented groups. The three strategies and highlights of action items are as follows:

*Strategy 1: Develop best practices/primers for committee and panel chairs, and TRB staff about strategies and resources to recruit the most diverse committee and panel membership.*

- a. Talk with committees/panel chairs, and TRB staff who are successful in recruiting diverse members, and ask them to share best practices.

- b. Develop training modules for panel structuring, and consider whether a slot on CRP panels could be reserved for an underrepresented person.
- c. Identify volunteers from groups underrepresented on our committees/panels and ask how they got involved, and best practices/any barriers to involvement.
- d. Learn what other large organizations like TRB do to promote diverse involvement.
- e. Review TRB promotional material to determine if there are any biases in the messaging.

*Strategy 2: Engage with transportation-related organizations whose members are under-represented among TRB volunteers to increase awareness of TRB involvement.*

- a. Identify a TRB staff and/or volunteer who can attend organizations' annual conferences/events in order to discuss TRB involvement opportunities, and to create "local tentacles" to reach more people.
- b. Identify how those organizations communicate with their members (e.g., quarterly magazine, Facebook) and include information about TRB involvement in those media.
- c. Use state visits for diversity outreach so TRB can better articulate what TRB is, how to get involved, and how involvement can benefit one's career.

*Strategy 3: Find new ways for Annual Meeting (AM) attendees to engage in a way that creates inlets for everyone to make connections and feel included/ welcomed.*

- a. Create a framework so that people at the AM can create affinity groups to meet up with people with similar interests or backgrounds groups.
- b. Encourage standing committees to build bridges by inviting someone who wouldn't normally attend the AM to attend/present at their meeting.
- c. For TRB's pilot Career Fair at 2018 AM, work with the orgs (in Strategy 2) to promote their internships and bring their members to the AM for job/internship interviews.
- d. Build up existing efforts to create mentorship opportunities, make all feel welcome at committee meetings, and to address obstacles to more diverse attendance.
- e. Encourage and make easier self-reporting of demographic information during Annual Meeting registration.

## **Working Group 2b**

**The group has been working to develop** goals, strategies, and action items to address stakeholder diversity and inclusion among contractors, and with staff diversity and inclusion. The working group is in the initial stages but have suggested the following as possible strategies:

*Strategy 1. Develop best practices/primers for TRB staff and the contracting office to identify and minimize barriers to achieving greater diversity among TRB contractors.*

- a. Conduct focus groups with members of the industry.
- b. Include handout in panel contractor selection material listing benefits of diversity and inclusiveness in research.
- c. Hold pre-bid meetings to provide opportunities for DBEs to learn about TRB business practices
- d. Modify TRB business practices to address DBEs business' limited capital.
- e. Increase frequency of "re-competes."
- f. Require proposers to demonstrate good-faith effort in teaming with DBEs.
- g. Have project panels set DBE goals for each RFP.
- h. Require proposers to demonstrate of "good faith effort" for teaming with DBEs.
- i. Move from "honor system" to verified DBEs in proposals.
- j. Improve monitoring of DBE participation.

*Strategy 2. Improve outreach to potential contractors, outside usual pool.*

- a. Develop and execute outreach efforts to DBE-oriented trade associations frequented by contractors.
- b. Identify and execute targeted outreach initiatives for key groups (i.e., African American, Latino, Asian, Native American, women, and disabled).
- c. Develop online "market" of small businesses and DBE firms.

*Strategy 3. Identify and minimize additional barriers to achieving greater TRB staff diversity.*

- a. Conduct focus groups with staff and industry.

## **Working Group 2c**

**The group has been working to develop** goals, strategies, and action items to address stakeholder diversity and inclusion through TRB's programs and research

projects, and issues of workforce development. The working group is in the initial stages but has suggested the following as possible strategies:

*Strategy 1. Develop best practices/primers for TRB staff/committee chairs so that diversity and inclusion and issues of workforce development could be address through TRB programs and research projects*

- a. Integrate diversity and inclusion into the TRB strategic plan to demonstrate executive level commitment to diversity and inclusion.
- b. Ask each division within TRB to identify strategies for increasing diversity and inclusion in the programs and initiatives they oversee.
- c. Proactively engage the organization in the effort to achieve diversity and inclusion as a TRB “hot topic” or focus area for not only the Annual Meeting, but all TRB divisions and programs.
- d. Include a statement on the importance of addressing diversity and inclusion (and related topics such as equity and environmental justice) as part of the introductory remarks to project panels overseeing policy and synthesis studies to inform the oversight of project work programs.

*Strategy 2. Develop strategies to address issues of workforce development in the transportation industry*

- a. Develop a TRB Career Day or Jobs Fair at the Annual Meeting that seeks the participation of a broad array of employers including agencies, firms and businesses, universities including the HBCU and HSI communities, other transportation organizations.



# Critical Issues in Transportation

2013





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\* Membership as of November 2013.

# Critical Issues in Transportation

2013

The United States depends on transportation to compete globally and to help revive a sluggish domestic economy. Individuals depend on transportation not only to get to work but to shop, socialize, and access health care, among other goals (1). For all of its benefits to the nation and individuals, however, transportation imposes large costs—lost time in traffic congestion,

deaths and injuries from crashes, demand for imported petroleum, and the release of greenhouse gas emissions and other forms of pollution.

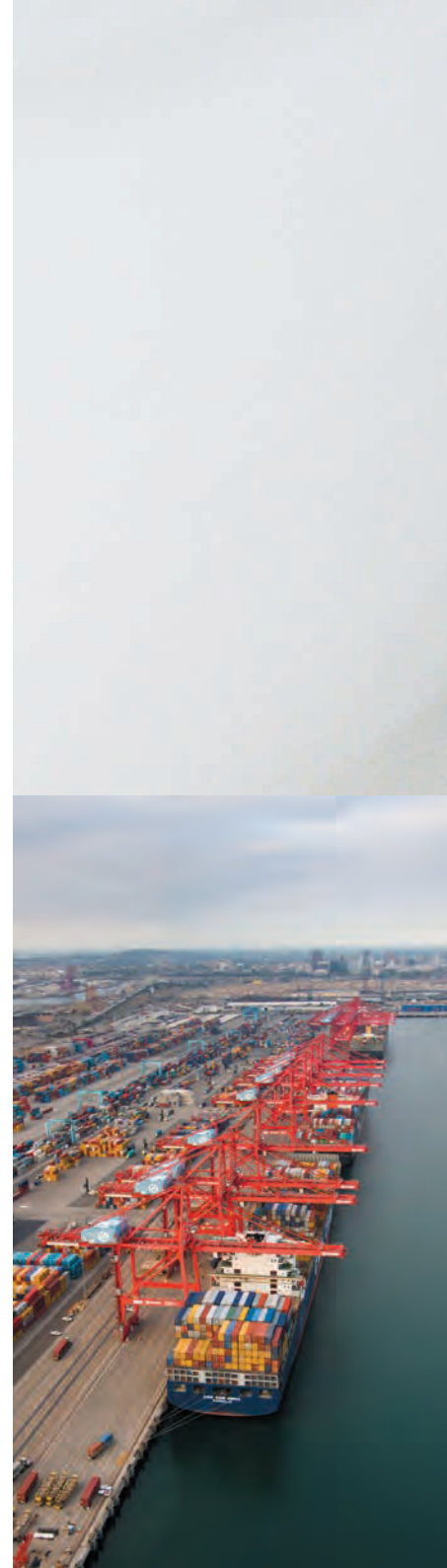
## FOCUSING ON RESEARCH

The Executive Committee of the Transportation Research Board (TRB) has compiled a list of critical issues in transportation for 2013 to stimulate awareness and debate and to focus research on the most pressing transportation issues facing the nation:

- *The performance of the transportation system is neither reliable nor resilient, yet transportation's role in economic revival and in global economic competition has never been more important.*
- *The nation suffers significant, avoidable deaths and injuries every year, although safety has improved markedly.*
- *Although essential in meeting economic and social goals, transportation exerts large-scale, unsustainable impacts on energy, the environment, and climate.*
- *Inadequate funding sources for public infrastructure impede the performance and safety of the transportation system, but alternative sources of funding may place a larger financial burden on users who are least able to pay.*



Passengers wait for a delayed flight at an airport. Despite the nation's leading role in the world economy, its transportation system lacks reliability.



The freight transportation system must adapt to a projected 80 percent growth in gross domestic product in the next 25 years.



- Although the United States is known for its creativity and its problem solving, *innovation in passenger mobility services and in public-sector infrastructure lags far behind that in the private sector.*
- *The research and development (R&D) investment necessary for finding and adopting new solutions is low and declining.*

The following discussion highlights information developed in recent reports by TRB and other divisions of the National Research Council.

### SYSTEM SCALE AND SCOPE

The U.S. transportation system is enormous by any measure (see text box, below), and its tremendous scale and scope testify both to its importance and to its impacts, positive and

negative. This massive transportation system may be adequate to serve today's population and economy, although highly congested locations make that contestable. Nevertheless, maintenance and expansion are necessary to accommodate an expected 20 percent growth in population—an additional 66 million people—and an 80 percent growth in the gross domestic product (GDP) in the next 25 years (2, 3). Whether the transportation system can meet these needs is an open question.

This unranked list of critical issues presents recurrent themes made more prominent by the concerns of the day. The rancorous debate about deficits and taxes has precluded the national government from addressing the investment needed to improve transportation system performance. Congress reflects the differing visions that Americans have for the federal role in funding infrastructure—for

## Transportation Modes and Usage

**HIGHWAY:** More than 250 million vehicles generate nearly 4 trillion passenger miles and 1.3 trillion motor carrier ton miles annually on 4 million miles of roadways.

**AIR:** 7,800 commercial aircraft generate 550 billion passenger miles annually between major airports.

**TRANSIT:** 7.5 percent of work trips in the largest metropolitan areas; 22 billion passenger miles by bus and trolley transit; commuter and urban rail transit generate 30 billion passenger miles annually on almost 11,000 miles of track.

**WALKING AND CYCLING:** Nearly 12 percent of daily trips are by walking or cycling, a total in excess of 45 billion trips annually.

**RAIL:** 24,000 Class I locomotives pull more than 1 million cars, generating 1.3 trillion ton miles on 96,000 miles of freight railroad track.

**PORTS AND WATERWAYS:** More than \$1 trillion in commerce moves in the nation's 12 largest ocean ports. More than 9,000 vessels and 30,000 barges move 157 billion ton miles annually on 25,000 miles of navigable channels of the Inland Waterway System.

**PIPELINE:** More than 175,000 miles of crude oil and 325,000 miles of gas transmission lines move two-thirds of the nation's energy supplies.

### SOURCES

- Bureau of Transportation Statistics (BTS). *Pocket Guide to Transportation*. U.S. Department of Transportation, 2012, Tables 2-1, 2-2, 3-1, 4-6.
- BTS. *National Transportation Statistics*, Table 1-51, [www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national\\_transportation\\_statistics/index.html](http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html). Accessed May 25, 2013.
- Census Transportation Planning Products*, Chapter 4. [www.fhwa.dot.gov/planning/census\\_issues/ctpp/data\\_products/journey\\_to\\_work/jtw4.cfm](http://www.fhwa.dot.gov/planning/census_issues/ctpp/data_products/journey_to_work/jtw4.cfm). Accessed May 20, 2013.
- National Bicycling and Walking Study*. U.S. Department of Transportation, 2010. [http://katana.hsrc.unc.edu/cms/downloads/15-year\\_report.pdf](http://katana.hsrc.unc.edu/cms/downloads/15-year_report.pdf). Accessed July 12, 2013.





Dynamic message signs alert motorists to upcoming congestion. On many of the nation's highways, population and traffic growth have outstripped capacity.

example, whether to raise federal taxes or to rely on the states or to fund intercity high-speed passenger rail. States are shouldering greater responsibility for funding, but whether they can—or should—without substantial federal support is part of the debate.

Continued uncertainty about the direction of federal policy and about funding shortfalls underscores the importance of research. The discovery and adoption of new solutions to the critical issues can help address the daunting challenges ahead.

### CRITICAL ISSUES 2013

#### System performance is neither reliable nor resilient.

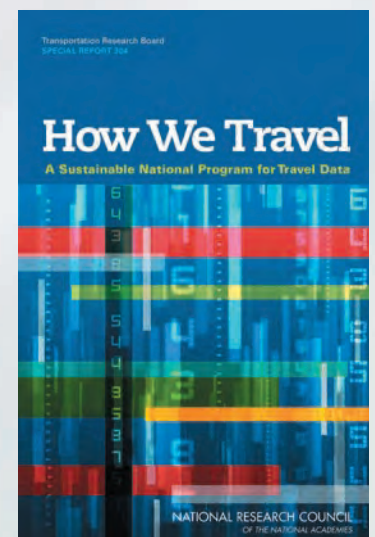
Transportation systems operate at capacity for substantial periods of the day. Unanticipated events, such as crashes or inclement and extreme weather, can greatly disrupt traffic and intensify congestion and delays. Motorists and motor carriers on metropolitan area highways and travelers on intercity planes, trains, and buses experience delays more routinely, because expansion of the system has slowed despite the continuing growth in the population and in the economy.

In many major metropolitan areas, motorists who must arrive at their destinations on time must allow 60 minutes for trips that take only 20 minutes in lighter traffic (4). The delays to motor carriers raise the cost of

goods shipped by truck, which account for three-quarters of the value of domestic goods shipped.

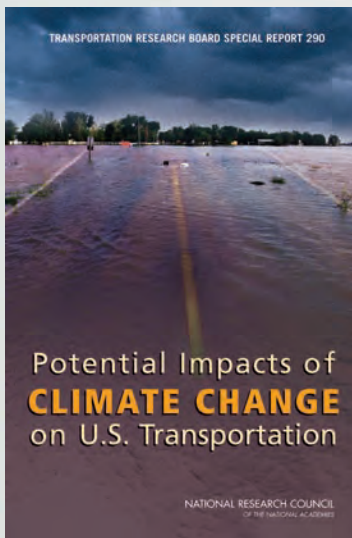
In the 2012 legislation reauthorizing federal highway and transit programs, Congress moved toward measuring the performance and increasing the accountability of recipients of funds. Meaningful performance measures, however, are difficult to define and implement. Many of the intended outcomes, such as improving safety and accessibility, are affected by far more than infrastructure capacity. Moreover, agencies do not collect the data required to measure other outcomes, such as system reliability or travel times in peak periods. A major effort is required to define appropriate performance measures; to develop consistent, valid indicators; and to support data collection (5, 6).

Competition between modes and shortages of funding are forcing all modes to operate more efficiently; this challenge, however, particularly affects public infrastructure agencies, which lack the necessary resources (7). Agencies that were established to build systems are only slowly adapting to the need to operate the systems efficiently. Because the individual modes of transportation are organized, funded, and managed independently, optimizing system performance to take advantage of the relative strengths of each mode is difficult. Research and policy analysis can guide agencies and Congress in making good decisions

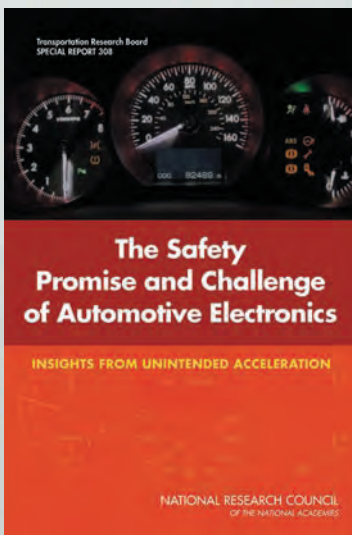


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about technologies and operating practices that can improve system performance.

A major performance issue across all modes is the inadequacy of preparation for natural and human-made disasters, as well as for extreme weather events, which may become more frequent with climate change. For example, in 2012, Superstorm Sandy flooded subways, airport runways, roads, marine terminals, and railroad tracks in New York and New Jersey, causing tens of billions of dollars in economic losses and physical damage. Systems were quick to respond but slow to recover because of the amount of devastation, which vividly illustrated the physical and economic vulnerability of coastal infrastructure to storm surges and sea level rise (8). Planning for adaptation, accompanied by an analysis of alternative strategies, is required to guide policy decisions about protecting and locating extensive vulnerable transportation assets, particularly in coastal areas where the majority of the U.S. population resides (9).

**Safety has improved, but avoidable losses are still significant.**

The crash of the South Korean Asiana jet at San Francisco Airport in July 2013 was the first large passenger aircraft crash in the United States since 2001. Between 2007 and 2011, highway fatalities in the United States declined sharply. Yet despite improvements in safety, the toll in death and injury on U.S. highways is high, with more than 30,000

The damage to transportation systems caused by Superstorm Sandy in 2012 revealed a need for better preparation for and response to emergency weather events.

motor vehicle deaths annually (10). Highway fatalities increased in 2012 (11).

Almost all transportation fatalities—approximately 94 percent—occur on highways and mostly involve passenger vehicle crashes. New entertainment and navigation systems threaten to increase driver distraction. New technologies hold great promise for avoiding crashes, yet the unintended consequences of increasingly complex electronics systems can undermine public confidence and acceptance (12). As safety technologies become increasingly automated and complex, the task of integrating the human with the system



Although highway safety has improved, the number of motor vehicle deaths remains high.





Field sobriety tests and other enforcement strategies can prevent highway fatalities and injuries.

becomes more important and demanding, as does the process of safety assurance to avoid electronic and software failures.

Meanwhile, well-known enforcement measures can prevent thousands of highway deaths and injuries every year. The United States could learn from successful programs and enforcement strategies used in other industrialized nations (13).

Each mode has specific safety issues, but managing the fatigue from shift work in support of 24-hour operations is common to all. Rail, pipeline, commercial aviation, and air traffic control have good safety records, but must continually manage against the risk of low-probability, high-consequence events. Ongoing research on risk analysis, high-reliability organizations, safety culture, and fatigue management, with implementation of the findings, could yield important safety benefits.

**The impacts on energy, climate, and the environment are unsustainable.**

Dramatic increases in the U.S. domestic production of shale oil and gas have profound implications for national security, climate impacts, and transportation. Forecasts indicate that the United States may become nearly energy independent, although large oil imports are expected well into the future (14, 15).

Transportation accounts for two-thirds

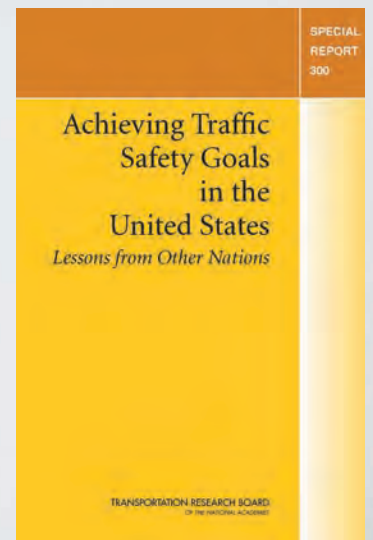
of U.S. petroleum consumption and has driven the demand for oil imports, often from unstable parts of the world. A reduction in imports will be good for the economy, but the availability of fossil fuels for transportation will have significant climate impacts as transportation demand continues to grow. A combination of technological innovation and regulation is placing the nation on a trajectory of greatly reduced fuel consumption and greenhouse gas emissions for cars and possibly for trucks.

**Greenhouse Gas Emissions**

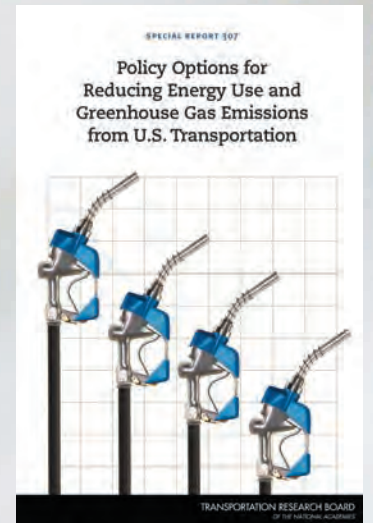
Despite projected improvements in fuel efficiency and a gradual shift to low-carbon energy—in the United States and elsewhere—nations may not achieve the shared policy goal of stabilizing atmospheric concentrations of greenhouse gases by midcentury. Reaching these goals would require emissions reductions of 60 to 80 percent worldwide in the next four decades (16).

In the United States, transportation produces one-third of U.S. carbon dioxide emissions and is therefore a target for additional regulation, following the examples of California and other states. A policy debate will have to determine how to sustain and enhance the economic and social benefits of transportation while reducing transportation emissions of greenhouse gases. Objective research is sorely needed to inform this debate.

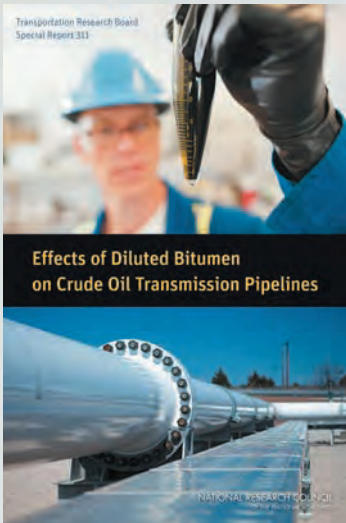
A drill pad in the Marcellus Shale gas play in southwestern Pennsylvania. Greater domestic oil and gas production has altered the U.S. energy landscape dramatically.



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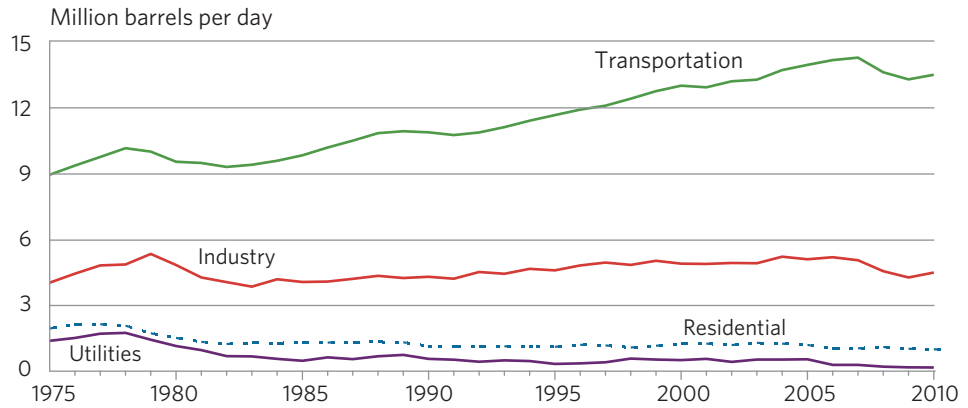


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## TRANSPORTATION'S SHARE OF U.S. PETROLEUM USE



### Freight Repercussions

The changing energy supply is also affecting freight services. The increased regulation of emissions at coal-burning utilities, coupled with low natural gas prices from an abundant domestic supply, has contributed to natural gas displacing coal as the baseload fuel for generating electricity in many parts of the country. This is a positive change from a climate perspective but has affected railroads' traffic mix and revenues. Increased demand for coal exports may partly offset the reduced demand for coal transportation to domestic utilities but introduces other controversy over coal dust and the impacts of new export terminals in environmentally sensitive areas.

Geographic shifts in oil and gas supply, often in areas not well served by pipelines, leads to the greatly expanded transport of oil

by truck and rail. The drilling of new oil wells requires transport of heavy equipment, fracking sands, and other supplies to rural locations, which may have inadequate roads and bridges for the heavy traffic. Despite growth in domestic production, the pipeline transportation of diluted bitumen from Canada's oil sands region is in high demand at U.S. refineries, stoking public concerns about continued dependence on fossil fuels and about the risks of spills.

### Development Patterns

Motor vehicle use has rapidly expanded in the United States in recent decades, resulting in large increases in transportation energy demand. The nation's large land area has contributed to the increased travel. But development in the United States, compared with that in most other heavily populated industrialized nations, has spread population at a low density per square mile. The blessing of abundant land becomes a curse in terms of energy consumption and vehicle emissions.

The United States consumes far more energy per capita than other developed countries do—approximately twice as much as the European nations in the Organisation for Economic Co-operation and Development (17). Total automobile travel per capita in the United States is three times that of Japan and nearly twice that of Germany and the United

Geographic shifts in U.S. oil and gas supply have led to increased rail and truck transportation of fuel.







Although pedestrian and bicycle travel in the United States are growing, along with transit- and pedestrian-friendly development, automobile travel remains high.

Kingdom (18), in part because origins and destinations in the United States are spaced farther apart. In addition, the United States has not invested as heavily as other developed nations in public transportation and has not placed constraints on patterns of development. Not surprisingly, more Americans have chosen travel by automobile than comparable travelers in other industrial countries.

Concerns about sustainability, personal physical activity, health, and livability have renewed debates about the form and density of development and about transportation's role. In response to changing preferences for urban lifestyles, many jurisdictions are changing policies to allow for denser development that supports greater reliance on transit, cycling, and walking. This has stimulated interest in reorienting autocentric places, as well as a vigorous debate about how much the strategies would reduce automobile demand and associated emissions (19).

#### *Other Effects*

Total U.S. travel per capita appears to have leveled off, and the youngest driving-age cohorts appear to have different driving and lifestyle preferences from those of previous genera-

tions. The effects of the Great Recession on these changes, however, are unclear. A deeper understanding is needed of people's choices and how they change in response to the economy, lifestyle preferences, the use of information technologies and social media to replace travel and to provide more efficient travel options, the aging of the baby boom generation, and immigration. This knowledge could help localities improve planning for transportation services, infrastructure, and policies.

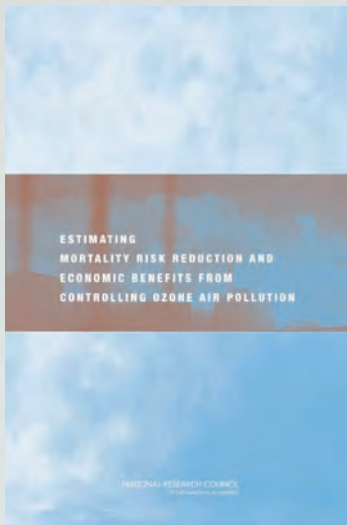
One of the biggest environmental success stories in the United States is cleaner air, partly the result of cleaner-burning engines and fuels. More improvements are expected from tighter emissions standards for transportation vehicles and fuel economy standards for highway vehicles. Nonetheless, 123 million people—more than one-third of the U.S. population—live in areas that do not meet federal standards for ozone (20), resulting in respiratory and other health effects that likely contribute to premature deaths (21).

#### **Funding sources for public infrastructure are inadequate.**

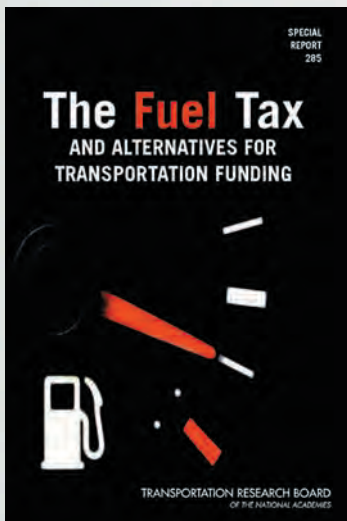
In the past century or more, the nation has invested in a massive transportation system



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that has to be maintained and expanded to accommodate the world's largest economy and a growing population. The cost is formidable. As with any asset, the infrastructure that supports the nation's transportation demand wears out and requires maintenance to avoid premature failure.

The costs for maintaining and improving public roads and highways exceed \$100 billion annually; indications are that this level of investment is inadequate (22–24). With the scale of federal deficits and the potentially dramatic reductions in transportation trust fund expenditures,<sup>1</sup> obtaining federal funds to maintain and expand the transportation system will be a challenge, as will increased reliance on state and local governments, which have been unable to close the funding gap.

<sup>1</sup> Unless Congress acts to change expenditure levels or taxes, the trust fund will have fewer receipts than expenditures in 2015, continuing a trend of the past several years. Moreover, if Congress chooses not to transfer monies from the general fund in 2015—projected at \$15 billion in 2015, compared with \$6 billion in 2013—the trust fund would not be able to support any new obligation of federal funding in 2015, because any cash on hand would be required to liquidate previous obligations. This would result effectively in a cut of approximately \$50 billion in federal aid in that year. See K. P. Cawley, *Testimony: Status of the Highway Trust Fund*, Congressional Budget Office, July 23, 2013.

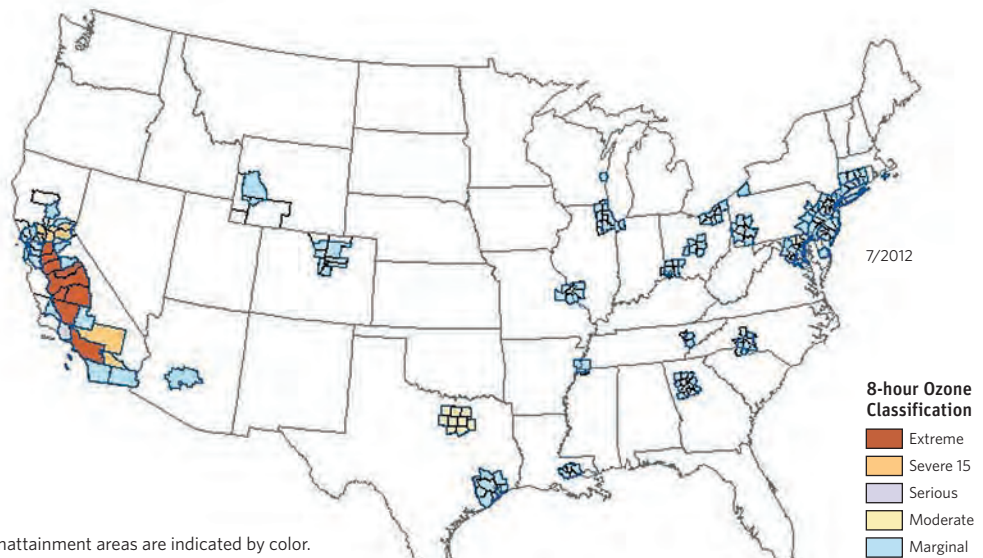
### Surface Transportation

Federal and state highway taxes that generate revenues dedicated for highway and transit funding are declining as a result of fuel economy and inflation; increased wear and tear from growing travel exacerbates the decline in funding (25). A federal emphasis on improving the state of good repair in transit systems and on overall asset management is occurring at the same time that funding to meet growing demand—and to address a backlog of capital needs—is in question.

Two national commissions have sounded alarms and have identified options and potential new revenue sources (23, 24). Resistance at the state and national level to fuel tax increases reflects perceptions of public opposition, which nonetheless appears to be mutable.<sup>2</sup> Congressional inaction to evaluate

<sup>2</sup> Many general opinion polls show majority opposition to fuel tax increases, but the answers depend on how the questions are framed. For example, one research project found that the majority supported increases under certain conditions, such as when the revenues are specifically dedicated to improving maintenance. See A. W. Agrawal and H. Nixon, *What Do Americans Really Think About Federal Tax Options to Support Public Transit, Highways, and Local Streets and Roads? Results from Year 4 of a National Survey*, Mineta Transportation Institute, 2013. <http://transweb.sjsu.edu/PDFs/research/1228-American-tax-poll-2013-public-transit-highways-streets-roads.pdf>. Accessed July 12, 2013.

### 8-HOUR OZONE NONATTAINMENT AREAS, JULY 2012 (2008 STANDARD)



Nonattainment areas are indicated by color. When only a portion of a county is shown in color, it indicates that only that part of the county is within a nonattainment area boundary.



alternative, innovative electronic means of charging highway users directly has postponed a national pilot test to determine the technical and political feasibility and affordability. The equity considerations of these financing approaches depend on the use of the revenues; in contrast, the growing state and local reliance on sales taxes, instead of user fees, places a greater burden on those who use the system least and who are least able to pay (26).

### Aviation

The demand for air travel has increased steadily but slowly since the Great Recession began. With capacity flat—or slightly declining—the number of passengers per flight has increased, and profitability has improved for many U.S. airlines, although marginally.

At the same time, however, collections to the aviation trust fund that supports the operating and capital costs of air traffic control and airport capital assistance have not kept pace with costs; as a result, transfers from the general fund have increased. Uncertainty about the federal government's willingness to pay as much as 25 to 40 percent of annual federal aviation agency budgets for operations from the general fund (27) threatens the level of air traffic services offered, the modernization of the air traffic control system, and capital grants to fund infrastructure renewal and expansion at airports.



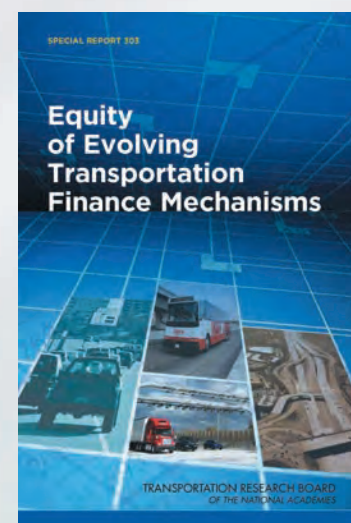
### Freight Railroads

Major freight railroads are privately owned and make extensive capital investments to sustain their systems; recent capital investments have reached record levels (28). Federal policies that affect capital allocation can divert these private investments from essential needs. For example, a federal regulation requires freight railroads to invest in train control technologies that would avoid train-to-train collisions and that would allow passenger trains to mix safely on track shared with freight trains, including those carrying toxic inhalation hazards. Compliance involves large costs and significant technical hurdles for freight railroads (29). Meanwhile, the

Fuel tax revenues have declined steadily, even as infrastructure demands continue to grow.



Airplanes line up for takeoff. Federal funds for air traffic control and airport capital assistance face an uncertain future.



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Private railroad capital investments have reached record levels.



proposed large-scale expansion of intercity passenger rail service, including services that would share track with freight trains, lacks funding at the federal and state levels.

### *Water Transportation*

Marine transport moves low-cost shipments of coal and other bulk products and helps sustain agricultural exports, yet user-fee revenues to the inland waterway trust fund are well below the levels required to sustain and operate the system. National policy makers disagree about what share of the cost should be borne by general taxpayer revenue (30).

Debates in Congress and at the state and local level are addressing who should pay—and in what proportion—for inland waterways

The nation's inland waterway system lacks the funding to address infrastructure needs.



and whether agricultural and other shippers can rely on other modes or have alternative markets for their goods. In 2012, low river levels from a prolonged drought in the Midwest sharpened debates about devoting water resources to transportation instead of to other public uses.

Many ocean ports are seeking deeper channels and harbors in response to possible shifts in logistics and in port calls after the widening of the Panama Canal and the possibility of Asian imports arriving directly to East Coast ports instead of crossing North America by rail. A major realignment of shipping patterns would affect many large-scale investments and jobs. The federal harbor maintenance fund for improving harbors and channels for larger vessels has a surplus that Congress has been unwilling to spend, although many harbors and channels that could be affected by the Panama Canal expansion are not adequately maintained to meet current or expected demand (31, 32).

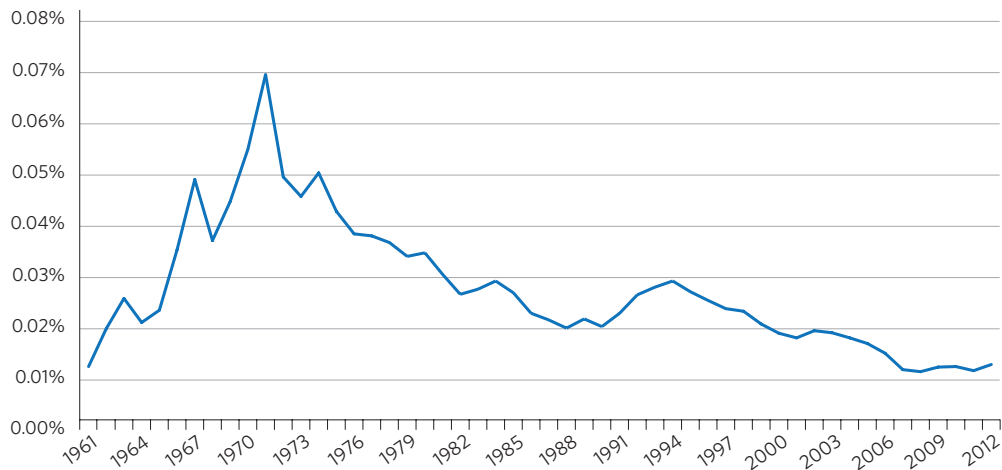
States, local governments, and special authorities share capital funding with federal sources but bear the majority of operating and maintenance expenses for public infrastructure. As the federal government struggles to constrain the budget deficit, more capital funding responsibilities may shift to these levels of government.

Increasing state sales and other general taxes to fund transportation, however, threatens to undermine the user-pay principle that has sustained highway funding for decades and raises broad equity concerns. The emergence of a few privately financed toll facilities, although supported by user fees, also raises questions about equity. For public infrastructure, a better economic basis is needed for deciding which investments to make, where, and how to finance such improvements (33). More extensive evaluation research in this and other areas could pay large dividends.

### **Innovation lags—and R&D investment is low and declining.**

New technologies and innovations that promise more efficient and sustainable travel have been implemented haltingly and incompletely, particularly in the public sector. For example, the long-needed upgrades to air traffic control

## TRANSPORTATION RESEARCH AND DEVELOPMENT AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT, 1961–2012



systems and technologies face controversy over the sharing of the expense between the private and public sectors and uncertain federal funding (27). Safety regulators are hard-pressed to ensure that new safety technologies will work as intended (12). The new required systems to avoid train crashes on shared track must overcome daunting technical challenges. Major public-sector investments in information and communications technologies have yet to produce the dramatic changes in mobility services—such as dynamic ridesharing or

demand-responsive transit—that could play a large role in improving passenger transport efficiency, serving those without access to cars, and reducing greenhouse gas emissions.

Nevertheless, innovations are being introduced and implemented. Electronic stability control technology is saving lives by reducing motor vehicle rollover crashes (34). Electronic toll passes are increasingly interchangeable across multiple toll collection systems. Real-time data on traffic and parking are being delivered to mobile devices



New vehicles and technologies face funding, regulatory, and other hurdles.





Investment in research and development can foster innovation in the technology and infrastructure of a changing transportation landscape.

to aid traveler decision making. New services, built on telecommunications technologies, to share rides, cars, and bikes, are gaining use in several metropolitan areas. New vehicles, including trucks and locomotives, incorporate multiple energy-saving technologies. Increasingly sophisticated logistics continue to reduce shipping and inventory costs. The increased automation of vehicles and the transformation in urban travel services offer exciting prospects. Another positive sign is that state transportation departments and the Federal Highway Administration are gearing up to implement a host of innovations developed through the second Strategic Highway Research Program (35).

The public sector, however, remains averse to risk—sometimes for good reasons. Concerted R&D is needed to identify and manage the risks and to evaluate the benefits and challenges of new technologies. This funding also supports the technology transfer required to push innovation in the public sector.

R&D that informs public policy can accelerate innovation—for example, by reforming institutions and restrictive laws and policies that constrain the efficient and integrated performance of all modes. This funding also helps

train the professionals who will design, implement, and maintain the needed innovations.

U.S. R&D has been increasing as a percentage of GDP and now approaches 3 percent (36), but federal investments in transportation R&D have declined steadily in real terms and amount to a mere 0.01 percent of GDP. Yet this funding is the basic building block for innovation in the public sector—through discovery and through the education of the future workforce.

## HARNESSING THE WILL

People use transportation as a means to achieve what they seek in their lives—access to employment; connections with family, friends, and communities; and access to consumer goods, health care, and recreational opportunities. Addressing the major challenges discussed above implies broad changes that may prove disruptive in the short run but also open up exciting new possibilities.

Although critical issues are identified one by one in this document, they do not stand alone. Technological innovations, for example, provide new means to increase fuel economy, and improve system performance, which reduces demand for new capacity and energy consumption and thereby reduces emissions. Technological innovations also could allow revenues to be raised from users more efficiently, equitably, and effectively. Institutional and policy reforms, if achieved, could allow wider exploitation of technologies and policies that improve performance and safety.

In the 21st century, transportation collectively can support or undercut national aspirations. The challenges are great, but the opportunities also are great, if the United States can harness the will to invest and innovate for a brighter future.

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# Critical Transportation Issues in the United States and Worldwide

Neil J. Pedersen  
Executive Director  
Transportation Research Board

## *Critical Issues in Transportation*

- Produced every 3-5 years
- Most important issues in transportation
- TRB is beginning process to update
- Seeking global input



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## Context

- Longer term, future focus
- Multimodal
- Global perspective
- All levels of government
- Public and private sector
- Transportation policies in a broader context
- What outcomes are we trying to achieve?

## Safety

- Reversing increases in fatalities of 2015-2016
- Expectations of autonomous vehicles and other technology
- Acceptance of crashes and fatalities with autonomous vehicles. Liability issues?
- Political will to implement effective counter measures (e.g. seat belt laws)



Credit: Car-Accidents.com



## State of Good Repair

- Definition of “state of good repair”
- Magnitude of backlog
- Asset management versus “worst first”
- Generating policy and funding support
- Roles of different levels of government



Credit: eremedia.com

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## Technology/Innovation

- Promoting and incentivizing innovation while ensuring safety
- How to get policy to drive technology, instead of technology driving policy
- Role of shared mobility in transit
- Cybersecurity issues
- Roles of different levels of government



Credit: U.S. Dept. of Transportation

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## Freight/Goods Movement

- Role of autonomous vehicles in freight deliveries
- How to prioritize freight bottleneck projects
- Major changes in freight flows due to global changes
- Public-private partnerships
- Operator shortages



Credit: seanews.com.tr

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## Resilience/Climate Change/ Sustainability

- Addressing increasing frequency of severe storms and sea level rise
- Protection of transportation from terrorist attacks
- Clean energy
- Reducing greenhouse gas emissions
- “Generational equity” in decision making



Credit: housingworks.com

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## Economic Development/ Growth

- Ensuring investments support economic development and long term job creation
- Investments for growth in global marketplace
- Growth concentration in megaregions
- Rural access/interregional travel
- Priority of economic growth vs. safety and state of good repair



Credit: asianjournal.com

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## Congestion/Reliability

- Role of automation and operational improvements in addressing congestion
- Increasing priority on reliability
- Role of pricing in congestion management
- Use of real time data for congestion and reliability management



Credit: scmp.com

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## Equity

- Ensuring access and mobility for elderly, disabled, economically disadvantaged
- Rural vs. urban accessibility and investments
- Implications of private financing on equity
- Impacts of technology solutions on non-technologically savvy travelers



Credit: BBC News

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## Governance

- Federal vs. state vs. local role
- Decision making for multi-jurisdictional megaregions and corridors
- Multi-modal decisions
- Aligning private sector investment decisions with the public good



Credit: popularmechanics.com

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## Financing/Revenues/Expenditures

- Future of user fee based financing
- Building support for raising needed revenues
- Role for private financing for what has historically been publicly financed
- Funding for high cost projects that benefit many jurisdictions
- Multi-modal funding decisions



Credit: keywordsuggest.com

## TRB Wants Your Input

- Are these the right topics ? Are there any missing?
- What additional issues should TRB be addressing under each topic?
- What insights do you have on the topics covered?
- How do we get policy makers to address future and emerging policy topics?

# Transformational Technologies Task Force June 2017 Report



## Task Force Members



Katie Turnbull (Chair)	Texas A&M Transportation Institute
Michael Dinning	US DOT/Volpe
Jon Eisenberg	National Academies Computer Science and Telecommunications Board Director
Roger Huff	Ford Motor Company (retired)/HGLC
Jane Lappin	Chair of TRB Standing Committee on Intelligent Transportation Systems, Toyota
Tim Schmidt	FHWA Research Center
Susan Shaheen	UC Berkeley (TSRC)
Steve Shladover	Chair of TRB Standing Committee on Vehicle-Highway Automation, PATH
Kirk Steudle	Michigan DOT
James M. Tien	University of Miami
Dean Wise	BNSF (Retired)
Mark Norman	TRB Staff



## Task Force Accomplishments to Date



- ✓ Developed action plan for TRB
- ✓ Assisted in developing June 2016 TRB Executive Committee policy session on cybersecurity
  - ✓ Followed up on recommendations generated from session
- ✓ Guided project to attract participation of stakeholders (w/CAVita)
  - ✓ Partners in Research Symposium; Oct. 31-Nov. 1
- ✓ Peer reviewed “State-of-the-Activities” e-Circular
- ✓ Initiated development of TRB webpage
- ✓ Participated in “Accelerated Research” dialog
- Providing Guidance for TRB Forum on Preparing for Automated Vehicles and Shared Mobility Services



## National Academies/TRB Forum: Preparing for Automated Vehicles and Shared Mobility Services







# National Academies/TRB Forum



- Input solicited from more than 100 organizations in 2017 (discussions, meetings, survey)
- Considerable support for the Forum objectives, activities, and focus areas
- Many offered additional comments/suggestions
  - Some expressed concern on dues
- Financial Participation/Sponsorship:
  - 8 organizations “very likely”
  - 14 organizations “somewhat likely”
  - NCHRP funds for state/local participation
  - “At-large” seats for other key players



# National Academies/TRB Forum: July 10<sup>th</sup> Scoping Meeting




**Preparing for Automated Vehicles and Shared Mobility Services** will bring together organizational partners to identify and facilitate first-based research needed to deploy automated vehicles and shared mobility services in a manner and timeframe that informs policy to best meet long-term goals which include increasing safety, reducing congestion, enhancing accessibility, increasing sustainability, and encouraging economic development.

**Proposed Forum Areas of Focus:**

- Developing and maintaining an updated research roadmap for automated vehicles and shared mobility systems
- Infrastructure enablers for shared/automated vehicles and
- Critical paths to level 4/5 automation
- Impacts of automated vehicles on traveler behavior and freight
- Impact of shared mobility on the transportation system
- Synergy among AVs, shared mobility, and alternative fuels
- Addressing social inclusion, equity, and workforce implications in shared mobility
- Impacts on land use, and how land use impacts AVs and shared mobility
- Data Considerations, including cybersecurity and privacy challenges

**Join us for the new Forum on *Preparing for Automated Vehicles and Shared Mobility Services***

If your organization is interested in joining the first Automated Vehicles Forum scoping meeting (to be held Monday July 10, 2017 during the Automated Vehicles Symposium in San Francisco) please contact Mark Norman at [mnorman@nas.edu](mailto:mnorman@nas.edu)

**SCOPING MEETING MODERATORS**

  
 Dr. Kellie Terribili  
 Executive Associate  
 Director, Texas A&M  
 Transportation  
 Institute

  
 Malcolm Dougherty  
 Director, California  
 Department of  
 Transportation

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## National Academies/TRB Forum: Scoping Meeting



### Expected Participants (as of July 13<sup>th</sup>)

- U.S. DOT
- U.S. DOE
- U.S. EPA
- 4 State DOTs
- 3 Local DOTs
- 6 Universities
- 6 Non-Profits
- 3 Technology Firms
- 2 Consulting Firms
- 2 Vehicle Manufacturers
- 1 Shared Mobility Service



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## Other Recent & Ongoing Activities of Note



- 2017 TRB Annual Meeting: 80 Sessions!
- A Look at the Legal Environment for Driverless Vehicles
  - May 2017 Webinar – 475 participants
  - Potential TRB Forum on Legal Issues
- NCHRP Reports:
  - Challenges to CV and AV Applications in Truck Freight Operations (April 2017)
  - Policy & Planning Actions to Internalize Societal Impacts of CAVs into Market Decisions (soon to be released)
    - Focus of TRB-sponsored session at 2017 ITS World Congress
- 2018 TRB Annual Meeting “War Game”
  - Based on the U.S. DOE report on “The Transforming Mobility Ecosystem”
- TRB presentations at numerous meetings and conferences

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## Cybersecurity

(Follow-up to June 2016 TRB ExComm Policy Session)

- Added cybersecurity expert Michael Dinning (Volpe) to this Task Force
- Working with TRB Subcommittee on Cybersecurity
  - Mike Dinning (Chair) appointed working group
- High profile session(s) at 2017 TRB Annual Meeting
- Key TRB ExComm recommendations being pursued
  - Raise awareness of executive managers
  - Involve broad array of TRB standing committees
  - Collaborate with experts from National Academies, NCHRP panels, others
  - Consider cybersecurity research priorities from July 2016 Automated Vehicle Symposium
- 2018 EU-US Symposium on Cybersecurity (tent.)

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# Transformational Technologies Webpage

[www.TRB.org/main/TransTech.aspx](http://www.TRB.org/main/TransTech.aspx)



## Transformational Technologies

News and Events	Research and Projects	Publications
<p><b>Transformational Technologies Open</b> Nominations for TRB's 2017-2018 Transformational Technologies Committee</p> <p><b>Transformational Technologies Committee</b> Review meetings beginning in October by TRB</p> <p><b>Other Research Projects</b> All TRB's 2016-2017 Research in Progress releases</p> <p><b>Research Abstracts</b> Research Projects from TRB's Research Needs Statements database</p>	<p><b>TRB Committees</b> TRB's advisory committees and task forces</p> <p><b>TRB Strategic Council</b> Review TRB's 2016-2017 Research in Progress releases</p> <p><b>TRB Strategic Council</b> All TRB's 2016-2017 Research in Progress releases</p> <p><b>TRB Strategic Council</b> Research Projects from TRB's Research Needs Statements database</p>	<p><b>TRB Policy Studies</b> Review TRB Policy Studies</p> <p><b>TRB Reports</b> Review TRB Reports</p> <p><b>TRB Publications</b> Review TRB Publications</p> <p><b>TRB News</b> Review TRB News</p> <p><b>TRB News</b> Review TRB News</p>

**Recent Publications:**

- Evolution of Transportation Infrastructure from 1800 to 2015  
MAY 12, 2016
- Transformational Technologies in Transportation  
MAY 12, 2016
- Autonomous and Connected Vehicles: A Summary of TRB's Research in Transportation, Policy Studies  
MAY 12, 2016
- TRB News, Volume 2016, Number 10  
MAY 12, 2016

- TRB Reports
- Academies Reports
- TRR Journal Papers
- TRB Committees
- TRB Research Projects
- Other Research Projects
- Research Needs
- TRB Conferences
- News

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TRANSPORTATION RESEARCH BOARD

June 7, 2017

**MEMORANDUM**

TO: Members, TRB Executive Committee

FROM: Russell Houston 

SUBJECT: June 21-22, 2017, Policy Session on Smart Cities and Transportation

Drawing from special invited experts, the session will explore the smart cities concept and the transportation components that can contribute to a smart city; Columbus, Ohio's efforts to implement its award-winning Smart City Challenge plan which emphasizes access and public health; and the lessons learned from other smart cities. A focus of the session will be on the social and economic challenges and opportunities associated with implementing the smart cities concept, as well as transportation's role in supporting livability, workability, and sustainability in a smart city.

The session will begin at 1:15 p.m. on Wednesday, June 21. Panel presentations, general discussion, and breakouts will last until approximately 5:30 p.m. The session will conclude with the rapporteurs' presentations and committee discussion from 8:30 a.m. to 9:30 a.m. on Thursday, June 22.

Activity Briefings

- **Jennifer L. Weeks**  
Senior Program Officer, Technical Activities Division, Transportation Research Board  
*Briefing on TRB smart cities-related activities.*

Session Panel Members

- **Gordon Feller**  
Founder, Meeting of the Minds; and Cisco Systems Consultant  
*An overview of the components that make a smart city, as well as transportation factors within those components.*
- **Randall J. Bowman**  
Assistant Director of Public Service/Smart Columbus Deputy Program Manager, Department of Public Service, City of Columbus  
*An examination of the Columbus experience. What have those leading the implementation efforts have learned during the initial stages of deployment and the challenges that Columbus is addressing.*
- **Adrian Pearmine**  
National Director for Smart Cities and Connected Vehicles, DKS Associates  
*Lessons learned associated with the roll-out of intelligent systems in communities inside and outside of the United States, and the partnerships among governments, universities, industry, communities, and others that are integral to a smart cities success.*

## Session Panel Members' Biographies

### Gordon Feller

Founder, Meeting of the Minds; and Cisco Systems Consultant



Gordon Feller is the Co-Founder of Meeting of the Minds, a global thought leadership network and knowledge-sharing platform focused on the future of sustainable cities, innovation, and technology. He serves as a consultant to Cisco focused on Internet of Things and Talent.

Gordon has worked in the area of emerging technology for three decades, most recently consulting on projects which harness the power of data (whether in the cloud, pulled via mobile networks from Internet of Things-enabled end-points, or other advanced technologies) for solving complex problems. From 2010–2016, Feller was the Director of Urban Innovation at Cisco Systems headquarters in Silicon Valley where he served in an executive capacity within the company's programs focused on cities. Prior to joining Cisco, Feller was the CEO of Urban Age Institute, an international non-profit research and training organization which began inside the World Bank, and spun off in 2001.

For 30 years, Gordon has advised on economic and technology issues with leaders of multinational companies, cities, NGOs, foundations, and national governments. He has published hundreds of articles in publications like CFO Magazine, Urban Land Magazine, TIME, and the Financial Times, among others. He serves as a Fellow at the Urban Sustainability Lab within the Smithsonian Institution's Wilson Center.

He received both his bachelor's and master's degrees from Columbia University.

### Randall J. Bowman

Assistant Director of Public Service/Smart Columbus Deputy Program Manager, Department of Public Service, City of Columbus



Randall Bowman's career in public service spans over 29 years. Bowman is presently an Assistant Public Service Director with the City of Columbus.

He served as Columbus City Engineer for much of the last decade, joining the City to help reorganize the Department and guide an extensive, multi-year, multi-million-dollar program to comply with a consent decree for the construction of wheelchair ramps.

As Columbus' first Mobility Options Administrator, he directed and managed implementation of complete streets, pedestrian accommodation, and a complete modernization of the parking meter program. He also oversaw development of the city's first Bikeways Plan and Complete Streets policy.

Bowman led the application writing team for the Columbus Smart City Challenge application, and he is now serving as Deputy Program Manager for Smart Columbus. He received his Bachelor of Sciences degree in Civil Engineering from the University of Illinois at Urbana-Champaign.

## **Adrian Pearmine**

National Director for Smart Cities and Connected Vehicles, DKS Associates



Adrian Pearmine is the National Director for Smart Cities and Connected Vehicles for DKS Associates in the Portland, Oregon office where he is leading DKS's initiatives in the Internet of Things and the connected and autonomous vehicles industry. He has also been involved with Portland's Global Cities Team Challenge (GCTC) since its inception. Adrian chairs the Smart Cities Lab coordinated by the Technology Association of Oregon, which helps coordinate the GCTC project and many local and state smart cities initiatives.

For more than 20 years, he has specialized in the planning, design, and implementation of Intelligent Transportation Systems (ITS) and telecommunications networks. For the last several years, he has been combining his background in transportation technology with his telecommunications experience to help deliver smarter solutions to the problems that our cities face.

Adrian helped coordinate the Portland region's response to the Smart Cities Challenge and is a member of the Vehicle-to-Infrastructure (V2I) Deployment Coalition.

Prior to joining DKS Associates, Adrian spent more than 15 years as an Associate Director at IBI Group, where he led the western states Smart Cities and Transportation sector for IBI.

He received his Bachelor of Sciences degree in Civil Engineering with a focus on Transportation from the University of Washington.


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June 7, 2017

**MEMORANDUM**

TO: Members, TRB Executive Committee  
FROM: Russell Houston   
SUBJECT: Future Executive Committee Policy Sessions

**January 2018 Policy Session on Public Transportation – Action**

At its April 2017 meeting the Subcommittee on Planning and Policy Review identified public transportation as a potential topic for the January 2018 Executive Committee Policy Session. The SPPR believes that while members of the Executive Committee are aware of the importance of the role of public transportation within the transportation network, a session focusing on the topic and the issues that public transportation is facing would be beneficial.

**Topic Overview**

According to the American Public Transportation Association, Americans took 10.4 billion trips on public transportation in 2016, up 34% in twenty years. This growth outpaced population growth by 13% and slightly exceeded vehicle miles traveled, which was up about 33% over the same 20-year period. However, in the past few years this growth has slowed and there have been decreases in transit ridership in many metropolitan areas. Access to affordable, convenient, and reliable transportation is a key factor in quality of life. Public transportation is a key player in helping to foster healthy communities; promote civil rights; and enable access to jobs, affordable housing, education, and training. Federal and state efforts are underway to leverage public transportation assets and services to improve access to health care, improve outcomes, and reduce health care costs; however, public transportation faces challenges in areas such as safety and security, funding, changing demographics and needs, new travel options, and workforce development. The relationship of shared ride services to transit and the role of technology, particularly regarding autonomous transit vehicles, could significantly change the way transit services are provided. This session will explore challenges to the public transportation industry and areas where additional research may be needed or helpful.

**Proposed Policy Session Panel Slots**

The Impact of Shared Mobility and Technology

*Technology is transforming transportation. The ability to conveniently request, track, and pay for trips via mobile devices is changing the way people get around and interact with their environments. This speaker will explore the relationship of public transportation, including*



*paratransit and demand-responsive services, to shared modes, including bikesharing, carsharing, microtransit, and ridesourcing services provided by companies such as Uber, Lyft, and Capital Bikeshare. The speaker will be asked to explore opportunities and challenges to public transportation as they relate to technology-enabled mobility services, and examine ways that transit might learn from, build upon, and interface with these new modes.*

**Workforce Development**

*The public transportation industry faces a critical shortage of skilled and seasoned employees as thousands of workers near retirement during the next 5 to 10 years. Recent studies indicate that having proactive and systematic approaches to address future workforce development needs is critical and must include strategies for attracting new and nontraditional candidates to careers in public transportation. The public transportation industry is further challenged by its desire to be an employer of choice. This speaker will be asked to explore ways to alleviate some of the challenges faced by public transportation agencies in addressing workforce recruitment, retention, and development, and public transportation image management.*

**Holistic, Integrated Public Transportation Delivery**

*The American Public Transportation Association recently completed a study mission focusing on safety culture, state of good repair, and innovative operations in Hong Kong, Singapore, and Tokyo. The study mission emphasized the need for a United States transit business model based on a holistic and integrated organizational approach as a means to effectively deliver high-quality transit services. Also key is an oversight structure that values a commitment to safety, maintenance, reliability, customer service, asset management, state of good repair, and workforce development—all supported by stable, long-term operating and capital funding. This speaker will explore the contrast between the United States and international management models for public transportation services. The speaker will also be asked to examine challenges and opportunities the United States has in adopting international best practices.*

**June 2018, Policy Session – Action**

The Executive Committee is asked to provide their suggestions for topics to consider for the June 2018.

**Past Session Topics  
Follow-Up Since 2002**

Date	Topic	Rapporteur
1/88	Current Status & Future Outlook for Air, Rail, Trucking, Highway, Urban, & Water Transportation	Hoel & Koltnow
6/88	Small Group Discussion of Exec. Comm. Policy Initiatives	
1/89	Marine & Intermodal Transportation	Hoel
6/89	Transportation Response to Problems of Air Quality	Paaswell
1/90	High-Speed Ground Transportation	Walton
6/90	Relationship Between Transportation & Economic Development	Wolpert

Date	Topic	Rapporteur
1/91	The Environmental Imperative, Fuel Use, & Surface Transportation Funding	Sussman
6/91	Air Passenger Transportation: Congestion Pricing for Airports	Harris
1/92	Transportation Policy Research Priorities for the 1990s (USDOT Associate Administrators for Policy)	Lamm
6/92	International Economic Development & U.S. Transportation	Walton
1/93	U.S. & International Efforts to Assist Russia & Other Former Soviet Republics on Transportation-Related Problems	Borrone
6/93	Implications of U.S. Defense Conversion for Transportation	DeLong
1/94	Transportation Policy Priorities to Support a National Transportation System	Millar
6/94	The "Green" Car: Technological, Institutional, & Environmental Issues	Yerusalim
1/95	Intermodal Freight Transportation: Barriers, Linkages, and New Technologies	Wormley
6/95	Financing Transportation in the Post-ISTEA Era	Kelly
1/96	ISTEA: Impacts and Issues for Reauthorization	Wachs
6/96	Cross-Border Transportation Issues	Martinez
1/97	Institutional Arrangements for Transportation: Impacts of Changing Roles	Sterman
6/97	Effects of the Federal Role on the U.S. Aviation System: Current Status, Prospects for & Barriers to Change	Riniker
1/98	Zero-Car Households: Strategies To Improve Mobility & Accessibility for the Carless	Fitzgerald
6/98	Land Use and Transportation: Relationships and Trends	Gilbert
1/99	The Clean Air Act: Goals, Issues, & Impacts on Transportation	Winstead
6/99	Industry Consolidation: Regulatory Issues, Cross-Modal Comparisons	McCaig
1/00	Approaches to Achieving Advances in Transportation Safety	Canby
6/00	Transportation Implications of E-Commerce and Telecommunications Technology	Giuliano
1/01	A System Wide View of Transportation Finance	Campbell
6/01	Freight Transportation in the U.S. Economy: Capacity Issues and Operating Challenges	Wilding
1/02	U.S. Petroleum Dependence: Issues and Prospects for the Transportation Sector	Frosch
6/02	Work Force Development and Staffing Needs in Transportation <i>* Input into Special Report 275 - The Workforce Challenge.</i>	Meyer



Date	Topic	Rapporteur
01/03	Decision-Making Processes for Public Sector Transportation Investments * <i>Developed prospectus on self initiated study – no funding secured.</i> * <i>Theme of Division A 2004 mid-year meeting in Park City, UT.</i>	Kirby
6/03	Transportation Security Initiatives: Balancing Public Perceptions, Political Expectations, and Practical Applications * <i>Developed two prospectuses for self-initiated studies.</i> * <i>Adopted as a theme for 83<sup>rd</sup> Annual Meeting.</i> * <i>Pursuing DHS participation in TRB.</i> * <i>06/14-15/04 workshop: The Role of TRB &amp; How Division A Can Organize to Address the Issue.</i>	Rebensdorf
01/04	The Impact of Global Warming on Transportation * <i>Resulted in TRB Special Report 290: The Potential Impacts of Climate Change on U.S. Transportation, which was published in March 2008.</i>	Kanafani
06/04	Shifting Patterns and Growth of Global Trade: Implications for the Transportation System * <i>Task Force is developing options for future ExComm consideration.</i>	Shucet
01/05	Innovative International Roadway Safety Initiatives * <i>Resulted in the development of a TRB Special Report 300 released in 2010.</i>	McNeil
06/05	How Should America Pay for Transportation? * <i>Future of the fuel tax study underway.</i> * <i>One summer meeting session and four Annual Meeting sessions.</i>	Morris
01/06	Raising the Public Profile of Transportation * <i>TRB will continue to develop information that helps provide the foundation for answering the question of why transportation matters; however, TRB's role is not to take on a major transportation profile-enhancement campaign.</i> * <i>TRB broad and proactive dissemination of the critical issues document.</i>	Butler
06/06	20 <sup>th</sup> Century Institutions Mismatched to 21 <sup>st</sup> Century Missions * <i>A theme for the 2006 Technical Activities summer meeting.</i> * <i>A theme of the 2007 Annual Meeting and the subject of several sessions.</i> * <i>The subject of five future specialty conferences and workshops including "Transforming Transportation Organizations: Tools and Techniques for Organizational Development" workshop held in July 2007.</i>	Miller
01/07	The Energy Component of Transportation Sustainability * <i>Addressed by several sessions at the 2008 Annual Meeting.</i>	Gittens

Date	Topic	Rapporteur
06/07	Innovative Transportation Performance Measures <i>* The session fulfilled a request by Secretary Peters who was briefed on the discussion.</i>	Garber
01/08	Public-Private Partnerships: With an Emphasis on Equity <i>* Article by Dr. Sandra Rosenbloom was published in the March/April 2009 issue of TR News on equity issues associated with public-private partnerships.</i>	Rosenbloom
06/08	The Role of Transportation in Climate Change Mitigation <i>* Spotlight theme of the 2009 Annual Meeting is Transportation, Energy, and Climate Change (already selected before policy session). * Resulted in TRB Special Report 299: A Transportation Research Program for Mitigating and Adapting to Climate Change and Conserving Energy, which was released in September 2009.</i>	Johns
01/09	Key Issues in Transportation and Climate Change <i>* Provided input into the papers used to develop TRB Special Report 299: A Transportation Research Program for Mitigating and Adapting to Climate Change and Conserving Energy, which was released in September 2009.</i>	N/A
06/09	Issues and Perspectives on Water Transportation <i>* Marine Board now provides regular updates to the SPPR.</i>	Scalzo
01/10	Dialogue with the U.S. DOT Deputy Secretary <i>* The TRB Executive Committee held a two-part dialogue with U.S. Department of Transportation (DOT) senior officials on key policy issues. The sessions were designed to introduce some of the key DOT leaders to the Executive Committee and provide an opportunity for a back-and-forth discussion of the administration's policy plans. No formal follow-up.</i>	
06/10	Definitional Issues Related to the Concept of Livability	Clark
01/11	Multimodal Freight Policy, Corridor-Level Priorities, and Funding Strategies <i>* Considered as part of an SPPR review in November on the role of policy sessions in development of Special Reports and other products.</i>	Conti
06/11	Financing and Funding Transportation in a Transitional Period <i>* National experts will convene in July 2012 to discuss the issues and advise TRB on how it could contribute to the discussion.</i>	Seltzer
01/12	Inland Waterway Transportation: Issues, Challenges, Opportunities <i>* April 2012 SPPR meeting recommended a policy study. Details to be presented to the Executive Committee at its June 2012 meeting.</i>	Hancock
06/12	New Information and Telecommunication Technology Applications to Transportation: Opportunities and Challenges <i>* SPPR decided that no follow-up was warranted.</i>	Spierling

Date	Topic	Rapporteur
01/13	International Research Activities: Issues, Priorities, and Lessons Learned <i>* An article for publication in the TR News is being solicited on the subject.</i>	Sinha
06/13	Energy: Transportation Fuels and Sources <i>* Issues identified may be able to be incorporated into TRB's strategic planning process. Sessions at the 93<sup>rd</sup> Annual Meeting.</i>	Hendrickson
01/14	Session on Aviation Issues: Challenges and Opportunities <i>* Reform of FAA air traffic control as a government owned, privately operated entity was added to the list of possible self-initiated policy studies.</i>	Arroyo
06/14	Connected Vehicles—A Pathway to Automation <i>* In October the SPPR will review a series of potential activities that TRB might undertake as a result of this session.</i>	Washington
01/15	Big Data <i>* TR News article based on policy session being developed.</i>	Fotheringham
06/15	The Intersection Between Urban Goods Movement, Smart Growth, and Public Health <i>* Spawned January 2105 Policy Session on Public Health and Transportation * Multiple 2016 workshops and sessions on urban goods movement issues addressed by the session</i>	Breakouts
01/16	Advancing Public Health Through Transportation: Challenges, Opportunities, and Lessons Learned <i>* Provided input to Transportation and Public Health Task Force Report</i>	Breakouts
06/16	Cyber Security in an Age of Transportation Technology <i>* Actions taken by Executive Committee Transformational Technology Task Force including development of high profile sessions at the TRB Annual Meeting; efforts to raise awareness of executive managers and broaden array of TRB standing committees involved in the topic; collaborated with experts from National Academies, NCHRP panels, and others; and sponsored the Automated Vehicle Symposium.</i>	Breakouts
01/17	Climate and Extreme Weather Resilience <i>* Revision of the Technical Activities Division's Transportation Systems Resilience Section to position it to more comprehensively address risk and resilience management and operations; will establish an advisory group of chief resilience and chief sustainability officers; establish a new Executive Committee Resilience Task Force; and better share TRB and partner information regarding resilience and activities and updates.</i>	Houston

## TRANSPORTATION RESEARCH BOARD

# Centennial Task Force Update

Katie Turnbull & Sandra Larson

June 2017

## Centennial Task Force

**Asha Weinstein Agrawal**, Director,  
Transportation Finance, Mineta Transportation  
Institute's National Transportation Finance  
Center

**Socorro "Coco" Briseno**, Dept. Director,  
Planning and Modal Program, CalTrans

**James Crites**, Former Executive Vice  
President, Operations, Dallas Fort Worth  
International Airport

**Chris Hendrickson**, Hamerschlag University  
Professor of Engineering Emeritus, Carnegie  
Mellon University

**Sandra Larson** (Chair), Systems Operations  
Bureau Director, Iowa Department of  
Transportation

**Joung Lee**, Policy Director, American  
Association of State Highway and  
Transportation Officials

**Deb Miller**, Commissioner, Surface  
Transportation Board

**Dale Peabody**, Director, Transportation  
Research Division, Maine DOT

**Alan Pisarski**, Principal, Alan Pisarski  
Consulting

**Bob Skinner**, Former Executive Director,  
Transportation Research Board

**Michael Townes**, Former President and CEO,  
Hampton Roads Transit

**Michael Trentacoste**, Associate Administrator  
for RD&T, U.S. Federal Highway Administration

**Katherine Turnbull**, Executive Associate  
Director, Texas A&M Transportation Institute

**Dan Turner**, Emeritus Professor of Civil  
Engineering, University of Alabama



- Goals for Today Awareness and Concurrence on Goals
  - Background on the Task Force Charge and Roles;
  - Highlight some decisions that have been made to date;
  - Brief you on some of our major activities;
  - Ask your concurrence for goals of the centennial; and
  - Get your feedback

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- Charge -A Successful Centennial Celebration
- Success = meeting goals
- Role to Make Recommendations
  - Establish goals, themes, and logo
  - Identify primary products, and promotional opportunities
  - Develop marketing and communications plan
  - Oversight and advice to staff and ExComm
- Ensure our eyes are not too big for our stomachs
- Deliver a Centennial Celebration Plan by January 2018

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- TF Accomplishments
  - National Academies Press assistance on Logo, Theme, and Tagline
  - Concurrence of First Recommendations by SPPR
    - Celebrate from January 2020 (history) to January 2021 (a look ahead)
    - Development of a book
  - Established Four Subcommittees
    - Goals (completed)
    - Products
    - Book
    - Marketing and Communications Plan (recently constituted)

## Goals

- Promote the Value of Transportation Research and TRB's Critical Role in the Process
  - Recognize and Honor Volunteers, Sponsors, Major Contributors, and Staff
  - Highlight TRB Accomplishments and Sponsors Roles in those Accomplishments
  - Celebrate and Promote the TRB Community
  - Elicit Pride in TRB Participation



- **Products**

- Book\*,
- Website\*,
- Social Media\*,
- Videos\*,
- TR News Series\*,
- “100 Lists\*,”
- Booklets/Brochures\*,
- Roaming Exhibit\*,
- AM Exhibit\*,
- Gala\*,
- Keepsake, and
- Logo



*\* Area/opportunity for committee input participation*

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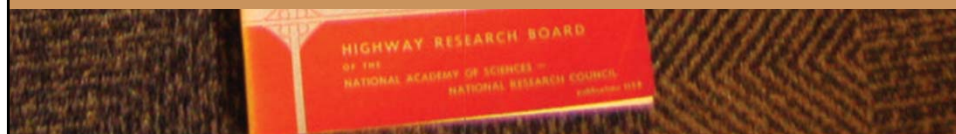
## Book

2017 - Prospectus, Research, Select an Author

2018 - Write

2019 - Editing and Composition

2020 - Release



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# Comments, Input, Questions?



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## Report of the Subcommittee for NRC Oversight (SNO) for January-May 2017

Role of SNO: Oversight of CRP panels and reports, Policy Studies committees and reports, and conference proceedings, and monitor diversity indicators

- Committees/panels approved
  - 11 CRP panels
  - 2 policy studies committees
- Reports reviewed
  - 46 CRP reports
  - 8 policy studies reports
  - 1 conference proceedings

## Monitoring Diversity

The SNO tracks the following indicators:

- Members, chairs, and friends of committees in the Technical Activities Division
- Contractors and panel members for CRP
- Committee members and chairs for Policy Studies reports
- Involvement of diverse groups at the Annual Meeting
- Efforts to further TRB's diversity initiatives

## “Friends” of TA Standing Committees

Increase N of those in all minority groups, and overall % of minority and underrepresented minority involvement as “friends” (which is pipeline for committee membership)

	December 2016		June 2017	
	N Friends	% of Total Reporting	N Friends	% of Total Reporting
American Indian or Alaskan Native	13	0.3%	14	0.3%
Asian or Pacific Islander	704	16.2%	802	17.0%
Black/African-American	185	4.3%	202	4.3%
Hispanic	213	4.9%	238	5.0%
Two or More Races	64	1.5%	69	1.5%
White	3157	72.8%	3397	71.9%
<b>Total Minority</b>	<b>1179</b>	<b>27.2%</b>	<b>1325</b>	<b>28.1%</b>
<b>Total UR Minority</b>	<b>411</b>	<b>9.5%</b>	<b>454</b>	<b>9.6%</b>
<b>Total Reporting Race/Ethnicity</b>	<b>4336</b>	<b>55.3%</b>	<b>4722</b>	<b>53.0%</b>
<b>Total Not Reporting</b>	<b>3499</b>	<b>44.7%</b>	<b>4182</b>	<b>47.0%</b>
<b>Total Friends</b>	<b>7835</b>		<b>8904</b>	

## Members of TA Standing Committees

Increases in minority involvement driven by greater Asian involvement

	December 2016		June 2017	
	N Members	% of Total Reporting	N Members	% of Total Reporting
American Indian or Alaskan Native	13	0.4%	12	0.3%
Asian or Pacific Islander	519	14.4%	541	15.4%
Black/African-American	132	3.7%	133	3.8%
Hispanic	123	3.4%	126	3.6%
Two or More Races	41	1.1%	40	1.1%
White	2766	77.0%	2672	75.8%
<b>Total Minority</b>	<b>828</b>	<b>23.0%</b>	<b>852</b>	<b>24.2%</b>
<b>Total UR Minority</b>	<b>268</b>	<b>7.5%</b>	<b>221</b>	<b>6.3%</b>
<b>Total Reporting Race/Ethnicity</b>	<b>3594</b>	<b>78.3%</b>	<b>3524</b>	<b>74.9%</b>
<b>Total Not Reporting</b>	<b>998</b>	<b>21.7%</b>	<b>1180</b>	<b>25.1%</b>
<b>Total Members</b>	<b>4592</b>		<b>4704</b>	



## Latest Selection of New CRP Panel Members

	Total N	% Minority	% UR Minority	% AA	% Hispanic	% NA	% White	% Unknown
NCHRP	315	24.7	13.3	7.3	5.4	0.6	70.3	4.8
TCRP	72	28.8	17.8	13.7	4.1	0	68.5	1.4
ACRP	118	18.7	8.4	5.0	3.4	0	78.2	3.2
All CRP	505	24%	13%	7.8%	4.8%	0.4%	72.3%	3.8%

*New NCHRP and ACRP members selected Fall 2018, and TCRP members selected Winter 2018. Updated NCHRP and ACRP data will be included in January 2018 SNO report.*

## Yearly Comparisons of Diversity Indicators to be Included January 2018 SNO report

- Gender and race/ethnicity of TRB staff
- Gender and race/ethnicity of 2017 & 2018 CRP panels
- Women and minority involvement as NRC- and non-NRC-appointed chairs and members from 2009-2018
- Women and minority participation in CRP and TAD panels and standing committees
- Race/ethnicity of friends of TAD standing committees
- Women and minority involvement as NCHRP university contractors, and DBE involvement as CRP contractors

**2017 Annual Meeting update for TRB Executive Committee**  
June 21, 2017

Trade Show Executive ranked our 2017 Annual Meeting among:

- The 50 Fastest-Growing Shows by Net Square Feet of Exhibit Space
- The 50 Fastest-Growing Shows by Number of Exhibiting Companies

Registration:

*Note: Attendees may fall into more than one registration category and will naturally choose the one that costs them the least, so numbers of registrants in subgroups below may not accurately reflect the number of attendees who actually fall into that category. For example, a young professional who is also an employee of a sponsor will register as a sponsor at no fee rather than as a young professional at a reduced fee.*

- Total verified: 13, 377. This is a 6% increase over last year
- Young professionals: 1,489 (11%)
- Students: 2,406 (18%)
- Employees of sponsors and affiliates: 2,720 (20%)
  - 1,089 verified State DOT (down 0.5% from last year but down 7-8% from a peak in 2015)
  - 49 from EPA
  - 96 from DOE and affiliated labs (500% more than last year)
- Roughly evenly split among public sector agencies (32%), private sector organizations (37%), and academic institutions (31%).
- Of those who answered the demographic questions, 28% were women and 33% were minorities.
- International attendance: ~18% of total attendance
  - 86% North America
  - 6% Europe
  - 5% Asia
  - 1% Central and South American and Caribbean
  - 1% or less for each of Africa, Middle East, and Oceania

Program:

- 800+ sessions and workshops
- 35 spotlight sessions
- 29 sessions on Public Health Hot Topic
- 25 sessions on Resilience Hot Topic
- 83 sessions on Transformational Technologies Hot Topic
- Sec. Foxx session well-attended.
- State CEO sessions received many positive tweets, especially the panel of women CEOs.
- Collections of “curated” sessions were well-received:
  - Spotlight Sessions

- Transportation and Public Health
- Transportation Resilience
- Transformational Technologies: Automated Vehicles in All Modes
- Transportation Technologies: New Mobility and Smart Cities
- Transformational Technologies: Big Data, LIDAR, Space Travel, and Others
- Selected Modal Sessions: Aviation, Rail, Marine and Freight, Public Transportation, Trucking
- International
- Infrastructure Development and Rehabilitation
- Security and Privacy
- Sustainability
- Research and Technology Transfer o Presentations Related to SHRP 2
- Research on Millennials

Changes from previous year in response to attendee feedback:

- Ability to sync one's personal program between the Interactive OnLine Program and the Mobile App.
- Earlier evening sessions to allow attendees more time for dinner and evening activities.

Social Media:

- Overall sentiment analysis :
  - 44% positive (number of positive tweets up 26%)
  - 54% neutral (number of neutral tweets down 16%)
  - 2% critical (number of critical tweets down 45%)

Highlights from Twitterverse: #TRBAM

- Great! 25% of committee members are #women
- Hearing a variety of accents at #TRBAM, struck by how an open and inclusive society makes our country smarter, more resilient, better
- Good multigenerational discussion at panel on Workforce, Millennials, & Baby Boomer Retirement
- All-Women's Exec. Panel has turned into a discussion about open data, data-driven decisions & communication. #mykindofpanel
- State DOT women warrior leaders at #TRBAM is a breath of fresh air
- Women CEOs sharing stories. Huge crowd!



# *The First Annual Careers in Motion Job Fair*

The **TRB Careers in Motion Job Fair** has the potential to become the largest multi-modal professional career fair in the country held specifically in service of expanding the transportation workforce. The event will provide an opportunity for prospective employers from a wide range of industries to meet with professionals interested in working for their companies.

A career fair will help TRB identify new exhibitor contacts, increase conference registration, and solidify partnerships with other transportation organizations. Targeted attendees will be conference registrants as well as seasoned executive-level professionals, young professionals, or job seekers anywhere in between. Hiring managers will be onsite and ready to offer networking opportunities and job leads.

*Careers in Motion* will serve as a physical manifestation of the mission of TRB's Diversity and Inclusion Task Force--to facilitate making diverse and inclusive involvement a core value for TRB staff, volunteers, contract awardees, projects and the transportation communities TRB serves. *Careers in Motion* might also evolve into a pipeline for new sponsorship revenue while enhancing employee and volunteer awareness and recruitment.

## **TIMING/ OPPORTUNITIES**

- Effort aligns with and supports TRB's strategy to promote "diversity and inclusion"
- Provides an upsell opportunity to existing exhibitors
- Engages Meeting audience, stimulates foot traffic, and further connects attendees to the industry
- Provides an opportunity to match industry mentors and mentees, and facilitates distribution of transportation career information through literature, online, and workshops.
- Engages broader professional audiences and facilitates new revenue support
- Partner organizations may be able to provide quickfire presentations
- Ideal program to place training or seminars covering topics such as career management and job search strategies.

## **PROJECTED FIRST YEAR REVENUE:**

Table Sales: \$100,000

**PROJECTED COST:** \$45,000

**PROJECTED NET REVENUE:** \$55,000





# *The First Annual* Careers in Motion Job Fair

## Q&A

### **Q: What would be the duration of the Career Fair?**

**A:** Many career/ job fairs are one- or two-day events, held from 3-8 hours. The recommendation would be one-day 4-5 hour event that compliments the timing and traffic of other Annual Meeting events.

### **Q: Would attendance be part of the registration fee or something extra, and could a person attend just the career fair and not the other sessions?**

**A:** The minimum \$50 Exhibit Hall pass would include admission to the Career Fair and be the minimum registration required for admittance.

### **Q: How will the Careers Fair be advertised?**

**A:** The team will leverage marketing and communications resources include the e-newsletter; mailing lists of existing organizations who host their own job events during TRB; mention in Annual Meeting marketing communications; and career networking sites such as LinkedIn, Indeed, and partner organization job boards.

### **Q: What kind of “market research” has been or needs to be done to determine if this is an employer need?**

**A:** Several employers go through the trouble to stage their own independent job fairs at TRB. As TRB seeks to capture constituent data, network attendees, and grow profit centers, there is the opportunity to leverage and facilitate existing activities occurring around the Annual Meeting. TRB serving as a Career Fair host has been conceptually socialized with positive feedback from the National Academies HR department, contacts from Deloitte, Jacobs Engineering, and several transit CEO's. An industry survey may not hurt but there seems to be a good number of participants willing to pay for this service.

TRB Executive Committee Meeting, June 11-12, 2017

## Q&A (cont'd)

### **Q: Where would the Job Fair take place and is there space for individual interviews?**

**A:** Individual interview space would be ideal as an upsell opportunity, however as the pilot is rolled out, this may not be feasible for 2018.

### **Q: What does the \$45,000 projected cost include and how many employers are expected?**

**A:** Ideally the event would be hosted in a room or space already being used at other times during the Annual Meeting. Costs include tables, chairs, draping, and wifi/ electric. Additional benefits may include a membership to an online TRB Job Board where employers can review resumes. The gross revenue projection includes selling 80 tables at \$1,250. Exhibitors may receive a small discount.

## **PAST PARTICIPANTS IN CAREER RELATED NETWORKING EVENTS HELD DURING TRB**

WSP Parsons Brinckerhoff | Deloitte | Jacobs Engineering | Cambridge Systems | Hatch Mott MacDonald | HDR | Iteris | JL Patterson | Port of Long Beach | STV | AECOM

## **POTENTIAL PARTNER ORGANIZATIONS**

WTS | COMTO | ASCE | USDOT | AASHTO | APTA ITE | CUTC | APTA | ACPA | APA | ATA | AEM | NAM | AOPA | NRC | NATCA | US Chamber [etc]

**CONTACT:** Patrice Davenport at [PDavenport@nas.edu](mailto:PDavenport@nas.edu) or Page 35 of 2096

Jobs

Career Tools



TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

# Careers in Motion Job Board

The transportation sector is facing critical workforce shortfalls today. For example, according to a report by the Transportation Learning Center half of the industry’s current workforce will be retiring within 10 years. These shortfalls are occurring across aviation, freight, transit, engineering and infrastructure, and span from blue collar positions to transportation’s executive and general management leadership.

TRB proposes launching the *Careers in Motion Job Board* as an online platform that will help TRB address and get ahead of the broader transportation industry’s impending challenges around professional workforce development while creating a new and substantial non-dues revenue stream through employers purchasing paid job postings. The platform would offer a multimodal marketing and awareness opportunity for TRB to attract new corporate funders, while creating and continuing momentum around the proposed job fair concept to be held at the Annual Meeting.

There is presently no job board that specifically curates transportation jobs across the US, across sectors, and from multiple employers—this opportunity would showcase TRB’s leadership in the industry and serve as a tool to reinforce our multimodal focus while providing additional value to industry partners.

### KEY BENEFITS

- Job board would facilitate increased visibility and visits to the website
- TRB would be consistent in its role as an industry convener and information aggregator
- Job board information and data would be proprietary to TRB and could later be used as the foundation for reports on the transportation workforce and other topics
- New employer contacts would feed the development pipeline for upsell opportunities
- TRB might have the opportunity to use the platform to partner with other professional societies and trade organizations whose members are facing a dearth of talent
- TRB can frame this initiative as a way to better serve our partners and the broader transportation industry

**PROJECTED FIRST YEAR REVENUE:**  
**JOB POSTING REVENUE:** \$600,000

**PROJECTED COST:** \$35,000

**PROJECTED NET REVENUE:** \$565,000



# Transportation Research Record

- Tracking impacts, beyond the impact factor:
  - Downloads as potential measure of non-academic use.
  - Committee citation pages using Google Scholar
  - Will seek committees to pilot these additional measures
- Improving review and paper quality:
  - Make it easier for reviewers to reject on basis of English quality
  - Clarify guidelines for authors, reviewers, review coordinators
- Review and update author guidelines

# MARINE BOARD

## UPDATE TO EXECUTIVE COMMITTEE

### JUNE 2017

## Spring Meeting 2017

- Two Sponsor Visits
- Spring Meeting Focus Sessions
- CCA Study Report Presentation
- Two Fall Focus Sessions Planned

## MARINE BOARD Sponsor Challenges

### Maritime Administration

- Recalibrating their environment priorities for bottom-line economic focus of current administration.
- High-fidelity multimodal freight flow model strategy. This positions marine issues in a broader capacity and suggests a convening event to gather multiple agencies to identify the way forward.
- Autonomy will require a different workforce skill set and is linked to cybersecurity processes and strategies.
- Do risk, safety culture, cybersecurity concerns also require new workforce education strategies?

## MARINE BOARD Sponsor Challenges

### Department of Interior Bureau of Safety and Environmental Enforcement Bureau of Offshore Energy Management

- How do we define that industry has made progress in implementing and monitoring a safety culture? What sort of metrics are needed by industry? By regulators?  
(A convening activity would facilitate a dialogue focusing on consistency of definitions, standardized, and suitable for all players—majors, independents, subcontractors.)
- The challenge in the education pipeline faced by sponsors could be a boom & bust cycle or a demographic degrading one.

## 'Go Forward' Questions

- Will TRB play a role where issues brought to Marine Board attention have multi-modal context?
- Are the human and intellectual challenges seen in work force issues a broader TRB Critical Issue?

## Marine Board Spring Meeting

**Date:** May 24 - May 25, 2017

**Location:** Keck Center in Washington, D.C.

### Focus Session Topics:

- Funding Marine Transportation Infrastructure
- Autonomous Ships, Vehicles, and Shipping

Spring Meeting Focus Session on  
*"Funding Marine Transportation Infrastructure"*

Financial Markets Perspective

Jeff Holt, Managing Director,  
BMO Capital Markets

National Infrastructure Financing Perspective

Roger Bohnert, Director, Outreach and Project Development,  
Build America Bureau, U.S. DOT

U.S. Army Corps of Engineers Perspective

Pauline Thorndike, Alternative Financing Program Manager  
U.S. Army Corps of Engineers

Seaport Infrastructure Perspective

Kathy Broadwater, Former Deputy Executive Director,  
Maryland Port Administration

Commercial Beneficiary Perspective

Scott Sigman, Transportation and Expert Infrastructure Lead  
Illinois Soybean Association

Spring Meeting Focus Session on  
*"Autonomous Ships, Vehicles, and Shipping"*

Automotive Autonomy State-of-the-Art

Dr. James R. Sayer, Director and Research Scientist  
University of Michigan Transportation Research Institute

Technologist's Perspective

Dr. Thomas Porathe, Professor  
Norwegian Technical University of Science

Ship Operator's Perspective

Captain George A. Quick, Vice President  
International Organization of Masters, Mates & Pilots

Ship Regulator's Perspective

Captain Scott Smith, Chief of Office of Navigation Systems  
U.S. Coast Guard

Legal Perspective

Mr. Sean T. Pribyl, Associate  
Blank Rome LLP



Presentation to Marine Board Members  
May 24, 2017

# The Value of Commercial Marine Shipping to Canada

MARY R. BROOKS,  
CHAIR OF THE EXPERT PANEL  
ON THE SOCIAL AND  
ECONOMIC VALUE OF MARINE  
SHIPPING TO CANADA



Council of Canadian Academies

## Marine Board Fall Meeting

**Date:** November 6-8, 2017

**Location:** Keck Center in Washington, D.C.

### Focus Session Topics:

- Safety Culture Redux
- Marine Infrastructure-Based Resilience

**STUDIES AND SPECIAL PROGRAMS DIVISION**  
**Acting Director, Thomas Menzies**

*The Studies and Special Programs Division provides consensus advice to the federal government and the transportation community more broadly based upon the deliberations of special, ad hoc committees appointed by the chairman of the National Research Council. In addition, it includes the Synthesis Unit, which prepares reports on current practice in the highway, transit, and airport fields, and the IDEA programs, which provide seed funding for innovative concepts in rail safety, highways, and transit.*

**ACTION/DISCUSSION ITEMS**

Update--National Naval Responsibility: Naval Engineering (powerpoint) Menzies  
Revise and Update USCG Ship Stability Regulations (powerpoint) Menzies

**INFORMATION ITEMS**

Pending Studies (previously approved)  
Potential Studies  
Policy Studies Under Way  
Status of Policy Studies in Fast Act  
Completed Policy Reports (2017)  
Memo on Status of SASP Action Items from SPPR

## **Update USCG Ship Stability Regulations**

- USCG believes ship stability regs need to be made more accurate, aligned w/IMO standards, updated to incorporate years of policy guidance, and made easier to use by designers, regulators, and classification societies
- USCG has requested a TRB/Marine Board study to assess:
  - Stability regs for clarity and according to latest technical knowledge and IMO criteria. Identify opportunities for updates, substitution with IMO standards, and means of ensuring regs remain current and useable
  - pros/cons of requiring periodic surveys of in-fleet vessels to assess changes in their stability as result of modifications

## **Update: National Naval Responsibility in Naval Engineering (NNR-NE)**

- NNR-NE calls upon Navy to support R&D in naval engineering in areas essential to the Navy that are not otherwise supported by public and private sectors.
- TRB/Marine Board completed report for Office of Naval Research (ONR) in 2011 evaluating ONR's support of NNR-NE initiative with recommendations.
- ONR has requested an update of the 2011 report, with a first project focusing on the status of fields of R&D supported by ONR and a possible second project addressing potential new fields such as cybersecurity and autonomous vehicles.

## SUMMARY OF PENDING STUDIES

(Previously approved)

<u>Study</u>	<u>Sponsor</u>	<u>Scope</u>	<u>Status</u>
1. Innovative Bridge Research and Construction Program Review	FHWA	Assess performance of bridges funded through TEA-21 Innovative Bridge Research and Construction Program	Requested in FAST Act, Sec. 1422. In contract negotiations.
2. Review of FHWA Infrastructure R&D	FHWA	Review and assessment of products being delivered	In contract negotiations.

## SUMMARY OF POTENTIAL STUDIES

<u>Study</u>	<u>Sponsor</u>	<u>Scope</u>	<u>Status</u>
1. Update--National Naval Responsibility: Naval Engineering (NNR-NE)	ONR	Update definition of NNR-NE and assess health of research and education programs.	For Action.
2. Revise and Update USCG Ship Stability Regulations	USCG	Advice to USCG regarding revising the USCG stability and subdivision regulations to (a) align with international standards, (b) incorporate long-standing policy, and (c) improve ease-of-use for vessel designers and regulators alike.	For Action.
3. Study on the Performance of Innovative Materials	USACE	Evaluate use, and potential use, of innovative materials in USACE water resources projects. Evaluate sources of infrastructure degradation and opportunities to use innovative materials cost-effectively. Recommendations to USACE.	Approved in Sec. 1046 of the Water Infrastructure Improvement for the National Act 12/2016. USACE potentially interested in funding, depending on 2017 budget.
4. Coast Guard Maritime Domain Awareness	USCG	Assessment of available unmanned, autonomous, or remotely controlled maritime domain awareness technologies for use by the Coast Guard.	Included in H.R. 2518, Coast Guard Authorization Act of 2017, introduced in the House of Representatives, May 18, 2017.

## SUMMARY OF POTENTIAL STUDIES

<u>Study</u>	<u>Sponsor</u>	<u>Scope</u>	<u>Status</u>
5. Recreational Off Road Vehicle Lateral Stability and Handling	Consumer Product Safety Commission	Evaluation of proposed vehicle dynamics and handling regulation.	Approved in Sec. 629, Omnibus 2016 Appropriations and reiterated in Omnibus 2017 Appropriations. <u>No activity under way.</u> CPSC has no plans to request the study. This may change if they are dissatisfied with industry self-regulation of vehicle stability.
6. Costs and Benefits of Autonomous Vehicles	NHTSA	“study of cost benefit impact of multimodal autonomous self-driving vehicles. The Committee suggests that the study focus on impact of autonomous vehicles on motor carriers, ports, transit, and related industries, and on the so-called crash economy that includes the insurance and healthcare industries.”	In FY 2017 Senate DOT Appropriations Report to Accompany S.2844.
7. Routing of Hazardous Materials Trains Around Urban Areas	PHMSA?	Study the cost and impact of rerouting freight rail traffic of hazardous material to avoid its transportation through urban areas.	H.R. 988. 115 <sup>th</sup> Congress. Introduced in House 2/9/17.



**STATUS OF POLICY STUDIES UNDER WAY**  
(Expenditures through April 2017)

<u>PROJECT</u>	<u>SPONSOR</u>	<u>FUNDED AMOUNT</u>	<u>SPENT</u>	<u>SCHEDULE BEGAN</u>	<u>COMPLETION</u>	<u>COMMENT</u>
1. Alternative Inspection Program-Offshore Platforms	BSEE	\$582,000	---	5/17	5/18	Committee formation under way.
2. Accelerating Progress to Reduce Alcohol-Impaired Driving Fatalities	NHTSA	\$1,000,000	---	---	mid 2018	HMD <sup>1</sup> project. TRB assisting.
3. Assessment of Technologies for Reducing Fuel Consumption of Medium and Heavy-Duty Vehicles -- Phase 2	NHTSA	\$3,100,000	---	---	TBD	BEEs <sup>2</sup> in lead Draft final report in review.
4. Evaluation of the FRA R&D Program	FRA	\$386,000	76%	4/02	continuing	Committee report released 3/16/15. Project on hold.
5. Evidentiary Protection of Transit Safety Information	FTA	\$600,000	12%	10/16	4/18	Second meeting 7/13-14/17. Third meeting 9/18-19/17.
6. FMCSA Research Analysis Committee	FMCSA	\$150,000	97%	8/16	4/17	Letter report delivered 3/6/17. Project continuation uncertain.
7. Future Interstates Study	FHWA	\$4,745,000	18%	6/01/16	12/04/18	4 <sup>th</sup> meeting, Chicago 7/11-12/17; 5 <sup>th</sup> meeting, Austin 9/12-13/17.

<sup>1</sup> Health and Medicine Division

<sup>2</sup> Board on Energy and Environmental Systems

**STATUS OF POLICY STUDIES UNDER WAY**  
(Expenditures through April 2017)

8	Performance-Based Safety Regulation	PHMSA TRB	\$890,000	68%	10/15	9/17 (rev.)	Final report in preparation. BOHSI <sup>3</sup> assisting.
9	Polar Icebreakers Cost Assessment	USCG	\$600,000	41%	10/16	6/17	Report in review.
10.	Propane Gas Pipeline Facilities	PHMSA	\$780,000	6%	12/16	8/18	First meeting 6/8-9/17.
11.	Research and Technology Coordinating Committee	FHWA	\$200,000 (per year)	72%	10/03	continuing	Letter report delivered 3/17. Next meeting 6/14-15/17.
12.	Review of FMCSA CSA Program	FMCSA	\$1,000,000	--	3/16	7/17	CNSTAT <sup>4</sup> in lead. Report in review. June release expected.
13.	Review of USDOT Testing of ECP Brakes	FRA/PHMSA	\$730,000	46%	6/16	9/17	Letter report released 2/22/17. Committee reviewing FRA testing of train brakes. Final letter report schedule uncertain.
14.	Transportation of Petroleum, Natural Gas, and Ethanol	TRB	\$811,200	90%	9/15	Spring 2017	Final draft in review. BEES <sup>5</sup> assisting

<sup>3</sup> Board on Human-Systems Integration

<sup>4</sup> Committee on National Statistics

<sup>5</sup> Board on Energy and Environmental Systems

**STATUS OF POLICY STUDIES UNDER WAY**  
(Expenditures through April 2017)

15. Transit Research Analysis Committee (TRAC): Federal Role in the National Program	FTA	\$200,000	80%	9/03	TBD	Meeting 4/6-7/17. Letter report delivered in June.
16. Truck Size & Weight Research Roadmap	FHWA	\$470,000	4%	3/17	10/18	Committee formation under way.

## STATUS OF POLICY STUDIES IN FAST ACT

<u>Study</u>	<u>Sponsor</u>	<u>Scope</u>	<u>Status</u>
1. Future of Interstates Study	FHWA	Broad overview and policy guidance on capacity and funding needs over next 50 years. 3-yr, \$5 million study.	Sec. 6021 of FAST Act. Study under way.
2. Evaluation of FMCSA Compliance, Safety, Accountability (CSA) Program	FMCSA	Correlation of CSA program features with truck and bus safety. 16-month, \$1,000,000 study.	Sec. 5221 of FAST Act. Committee on National Statistics in lead. Study expected to be delivered in June 2017.
3. Testing of Electronically Controlled Pneumatic (ECP) Brakes	FRA	Actual large-scale test of emergency application of ELP brakes in 70 tank car consist.	Sec. 7311 of FAST Act. National Academies negotiated an advisory role rather than accepting responsibility for testing. First letter report delivered 2/22/17. Committee reviewing FRA tests recommended in first letter report. Timing of second letter report uncertain.
4. Transit Safety Information Study	FTA	Weigh balance of interests in protecting transit safety data and safety plan information from legal discovery and admissibility as evidence in court proceedings.	Sec. 3021 of FAST Act. Study under way.

**STATUS OF POLICY STUDIES IN FAST ACT**

<u>Study</u>	<u>Sponsor</u>	<u>Scope</u>	<u>Status</u>
5. Performance of Bridges Study	FHWA	Estimate of performance of bridges funded through the innovative bridge research and construction program.	Sec. 1422 of FAST Act. Anticipated start date by mid-2017.

## Policy Studies Completed Reports 2017

**TRB Special Report 323: *In-Service Performance Evaluation of Guardrail End Treatments*** develops a research design for evaluating the in-service performance of guardrail end treatments and other roadside safety devices and identifies the data required to do so. Given the substantial data requirements and methodological challenges of conducting successful evaluations of particular end treatments, the committee concludes that state highway agencies will require more information about the benefits, costs, and practicality of routine in-service evaluation of end treatments in general before deciding to undertake new data collection and analysis programs necessary to carry out more challenging analyses. The committee recommends research to advance practice and test the feasibility of and costs associated with more complex evaluations. It also recommends research to examine whether procedures for testing the performance of devices should be altered.

**Motor Carrier Safety Research Analysis Committee Letter Report: March 13, 2017** advises the Federal Motor Carrier Safety Administration (FMCSA) Research and Technology (R&T) program on a number of topics. At the request of the FMCSA, this first letter report explores the goals and strategy of the FMCSA R&T Program as well as the recommendations regarding data made in the 2016 National Academies of Sciences, Engineering, and Medicine report, Commercial Motor Vehicle Driver Fatigue, Long-Term Health, and Highway Safety: Research Needs. Among other topics addressed in the letter, the Committee provides suggestions and recommendations to FMCSA on using existing data sets to assemble motor coach and truck crash relevant information and approaches to validating proxy measures for crashes used in naturalistic driving studies. The charge of the MCSRAC is to strengthen FMCSA's R&T program to better meet the needs of the Agency's safety mission as well as to inform commercial motor vehicle carrier enforcement, the research community, safety advocates, and industry of active and planned projects. In addition, the MCSRAC assists FMCSA in refining its research methodologies; identifying and utilizing current research in the transportation and related communities; and promoting transparency of the FMCSA R&T activities.

**Long-Term Pavement Performance and Long-Term Bridge Performance Committees Joint Letter Report: March 14, 2017** advises the Federal Highway Administration (FHWA), and the American Association of State Highway and Transportation Officials (AASHTO) regarding reductions in funding for research, development, and technology in the Fixing America's Surface Transportation (FAST) Act and the implications for the LTPP and LTBP programs. In response to a joint meeting held at the request of FHWA, the committees make recommendations to preserve the essential elements of the LTPP and LTBP programs, on future areas of emphasis for the two programs, possible alternate sources of supplemental funding, and possible areas for enhancing program efficiency.



**The Research and Technology Coordinating Committee (RTCC)**, in a March 28, 2017 report to the U.S. Federal Highway Administration (FHWA), offers recommendations addressing the barriers to deploying private-sector innovations and technologies; the evaluation of demonstration programs deploying technologies and pilot testing user-fee financing mechanisms; the completion of case studies of FHWA's research and technology program; and planning for a research and technology program to address the major challenges facing highway transportation for Congress's next transportation authorization. The RTCC's charge is to monitor and review FHWA's research and technology activities; advise FHWA on setting a research agenda and coordination of highway research with states, universities, and other partners; review strategies to accelerate the deployment and adoption of innovation; and identify areas where research may be needed. RTCC's review includes the process of research agenda setting; stakeholder involvement; and the conduct of research, peer review, and deployment. The committee's role is to provide strategic, policy-level advice on topical priorities, processes, and strategies to accelerate the adoption of innovation.

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TRANSPORTATION RESEARCH BOARD

June 13, 2017

**MEMORANDUM**

TO: TRB Executive Committee

FROM: Thomas Menzies, Acting Director,  
Studies and Special Programs Division (SASP), TRB

SUBJECT: SASP Action Items from Subcommittee and Planning Review Meeting

The SPPR requested that staff develop two projects for possible consideration by the Executive Committee at its upcoming June, 2017 meeting: (a) lowering barriers to use of proprietary products in federal-aid highway projects and (b) on alternative user-fee mechanisms for the federal-aid highway system.

The potential project addressing barriers to use of proprietary products was recommended in the Research and Technology Coordinating Committee (RTCC) letter report of March 2017. The RTCC recommended that TRB convene a meeting with FHWA and AASHTO to discuss a possible scope of work for a study on this topic. The meeting was held after the SPPR meeting in April, the result of which was to recommend a study by the National Cooperative Highway Research Program (NCHRP). This project would update an earlier NCHRP report that addressed how alternative contracting methods can foster innovations in highway construction and maintenance, including use of proprietary products. The draft scope of the proposed study is attached. It has been referred to the appropriate AASHTO committees for their consideration.

Due to the flurry of activities in SASP since the SPPR meeting, a scope for a study addressing alternative user-fee mechanisms for funding the federal-aid highway system will have to be deferred to the October SPPR meeting. The idea behind this study is to build upon the alternative user fee demonstration projects funded in the FAST Act. We need to consult with the stakeholders in these projects and determine the status of the projects before we can develop a prospectus for a study, which we will do in time for the next SPPR meeting.

DRAFT SCOPE

Update to NCHRP 428: *Guidebook to Contracting for Highway Innovation: The Role of Procurement and Contracting Approaches in Facilitating the Implementation of Research Findings* (1999) to include Proprietary Products

In 1999 NCHRP published a guidebook that described how states' use of alternative contracting methods facilitated the adoption of innovations discovered through research. This problem statement would update that guidebook to include proprietary products, innovative materials, and novel design concepts developed by the private sector in responding to requests for proposals on projects using alternative contracting methods. (For the purpose of this document, "proprietary products" is used to refer to patented and trademarked products and processes.) Proprietary products face restrictions in federal and state regulation when they lack effective competitors.

Federal regulation (23 CFR 635.411) requires competition in materials and products used in construction, which is not always possible with some proprietary products. In recent years, FHWA has provided states with more latitude in using proprietary products. FHWA's revised criteria allow for use of proprietary products if one of the following criteria is met:

- The item is purchased or obtained through competitive bidding with equally suitable unpatented items;
- The contracting agency certifies either that the proprietary item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists;
- The item is used for research or for a special type of construction on relatively short sections of road for experimental purposes;
- The Division Administrator approves of its use in the public interest when there are equally acceptable materials or products available.

FHWA has provided flexibility in the implementation of its policy by allowing contracting agencies to issue certifications for proprietary products without FHWA approval (23 CFR 635.411(a)(2)). The FHWA has also allowed State DOTs to assume FHWA's responsibility for approving public interest findings (23 CFR 635.411(c)) and research projects (23 CFR 635.411(a)(3)) for proprietary products when documented under the Stewardship and Oversight agreement between the State DOT and FHWA.

FHWA interprets 23 CFR 635.411 to apply to specifications developed by the contracting agency and included in the contract specifications or request-for-proposal requirements. The policy does not apply to particular products proposed for use by a contractor. Thus, in a design-build contract or Public Private Partnership (PPP), the

contractor would be permitted to specify or use proprietary products that are consistent with the requirements in the request-for-proposal document. (At the time NCHRP 428 was published, design-build and PPPs were considered promising mechanisms for advancing innovation but were being used rarely. Most states now have authority to use design-build and many have authority for PPPs; the use of performance criteria in these contracts has fostered adoption of innovative materials and processes.)

As states increasingly (a) outsource to the private sector many of the functions that states have traditionally carried out and (b) rely on alternative contracting methods, these techniques could be effective ways to foster innovations identified through public *and* private research and development.

This project would include a review of changes in use of alternate contracting methods that have been implemented since NCHRP 428, revisions to policies that FHWA has made regarding proprietary products since 1999, a survey of state DOT officials, and any other contracting methods or procedures that have been effective in fostering the use of innovative products and materials. The study would develop guidance to the states on barriers to innovation and best practices to overcome these barriers in introducing research findings and innovative proprietary products for public benefit.

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*Marketing and Communications  
Update: June 2017*

Lisa Marflak  
Director, Communications/Media



## Topics

- TRB Annual Meeting 2017: Twitter Analysis
- CRP Communications Task Force
- Using TRB Webinars for Critical Issues
- Diversity and Inclusion Outreach

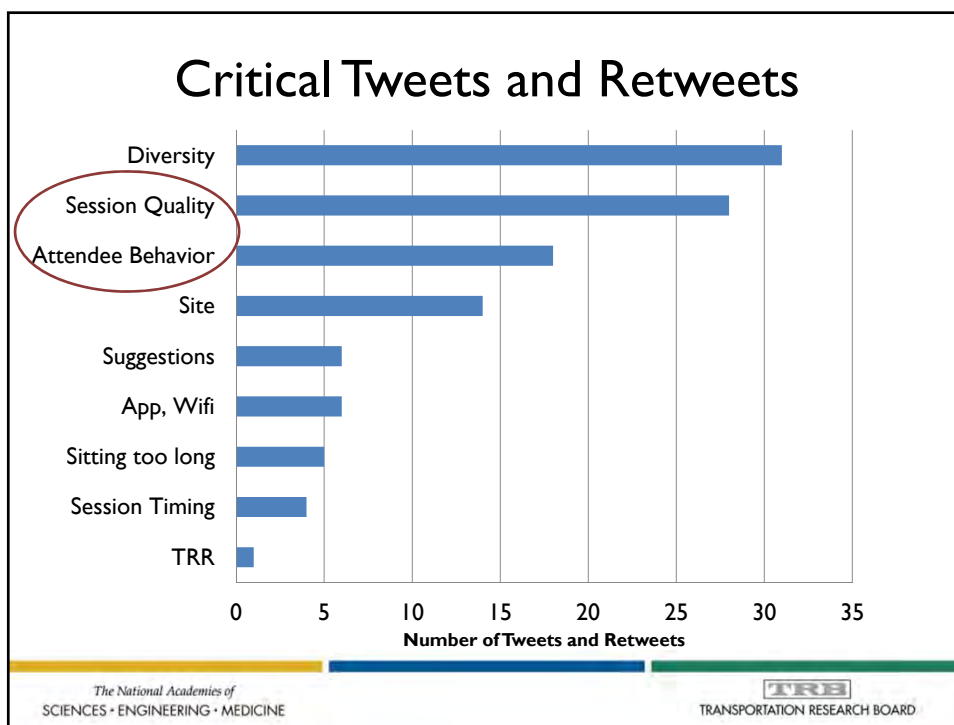
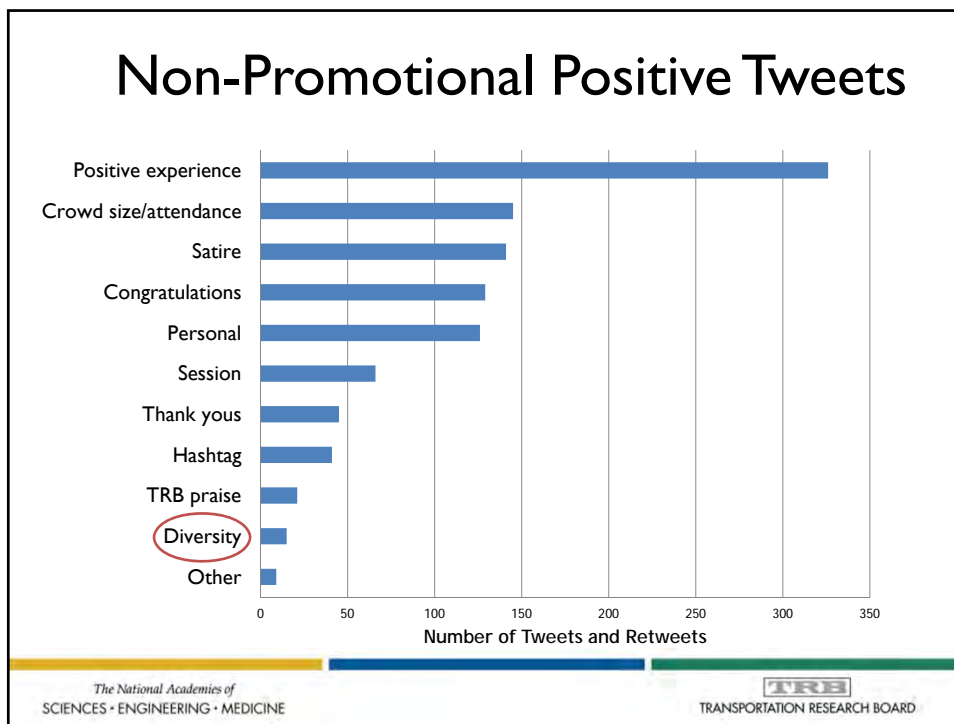
## *TRB Annual Meeting 2017: Twitter Analysis*

- Tweets indicate the Annual Meeting is a very positive experience
  - Number of critical tweets halved in 2017 versus 2016
  - Presidential transition and outside events may have impacted overall number of tweets
- As a “trending topic,” advertisers used #TRBAM to promote their own products
- Some gains made in the perception of TRB’s diversity / inclusion
  - Work still needs to be done

## 2017 vs 2016 #TRBAM Comparisons

	2016	2017	% change
Unique Tweets	2962	3204	+8%
Tweets and Retweets	6907	6739	-2%
Positive Tweets and Retweets	2343	2958	+26%
Critical Tweets and Retweets	203	113	-45%
Research and Events Tweets and Retweets	4361	3668	-16%





## *CRP Communications Task Force*

- Selecting 1-3 projects and piloting the application of a dissemination plan to elevate the profile of TRB in accordance to its mission.
- The plan may be for a single project/report or about several projects on a specific topic (e.g. connected and automated vehicle projects)
- Involves CRP program leadership and Executive Office staff

## *Using TRB Webinars to Disseminate Critical Issues*

- TRB's webinar features 100 live webinars a year (plus an additional 10 "straight to recordings")
  - Average estimated attendance: 370 people
  - Average satisfaction ratings: 90% or higher
  - Credits provided in 2016:
    - 124 Professional Development Hours
    - 47 American Institute of Certified Planning Credits
- Content for webinars is "volunteer driven"
- How can we use webinars to convey strategic messages?
  - Including credits would increase attendance

### *Diversity and Inclusion: Data Collection from the 2017 Annual Meeting*

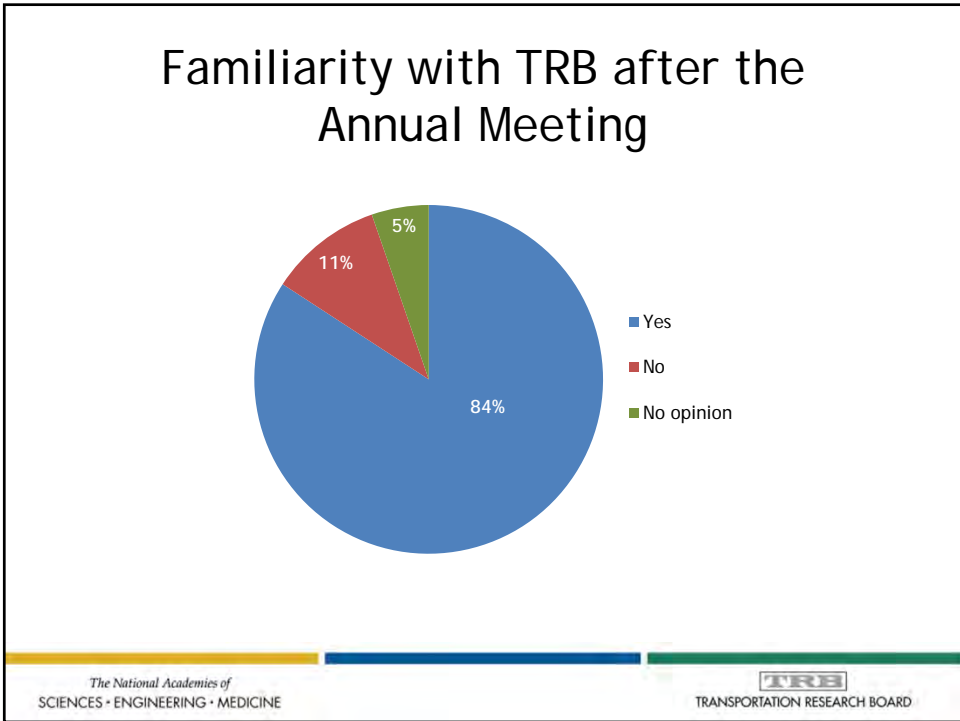
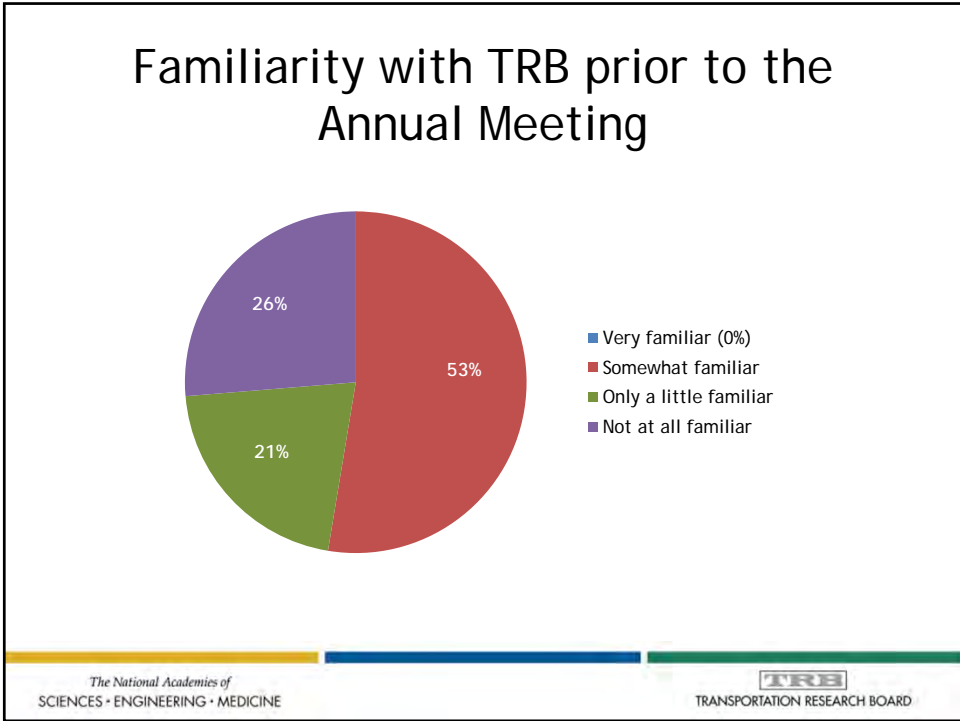
- Goal: recruit underrepresented transportation professionals to volunteer with TRB Standing Committees and CRP Panels
- TRB staff attended the welcome session, exhibit, and receptions with talking points and handouts.



Chatting with students from Carnegie Mellon University at the Young Members Reception

## Results from Annual Meeting Outreach

- Collected contact information from 66 professionals.
- Surveyed the individuals about involvement and received 16 complete responses (24% response rate) in May 2017
- Conclusion: Annual Meeting increases familiarity with TRB, but does not directly increase involvement.
- Conclusion: More work needed convey TRB volunteer opportunities
- *Next steps: Attending COMTO in July 2017 with a goal of helping prospective/new volunteers identify committees within MyTRB.*



## Comments from those who are getting more involved with TRB:

1. The meeting location is too far away from China
2. Not involved because of lack of resources of the employer
3. Making the time to be more involved is a challenge
4. I actually signed up as Friend of Committee
5. [Volunteered for] Paper review
6. [Became a] friend of a committee
7. Demands of work and a young family, along with my civic and community volunteering have siphoned most of my time. Thus, I am hesitant to commit in apprehension of not being able to deliver.
8. I have been invited to committees and wish to become more involved.

## Comments from those who have not gotten more involved:

### Time / Confusion about the process:

1. [Time limitations] Executive with strong background in commercial motor vehicle safety, and security, small business owner in defensive driver improvement, and university board member.
2. I haven't been too active
3. I have meant to, but I haven't really understood how to best get involved.
4. I still do not know what kind of involvement is possible and/or beneficial
5. Lack of time, and lack of knowledge about the committee's out there to get involved in.

### Other reasons:

1. I have not yet reached out to the standing committees for my new areas of interest.
2. [At one] Committee meeting I have offered to help with Committee website update with a verbal agreement of the members for me to do so. When I contacted Committee Chair I found out there is another person that is responsible for that. The web page still very outdated, and when I contacted the Chair the second time, again to offer my help, I've got no answer.

TRB  
Cooperative Research Programs  
Report to TRB Executive Committee

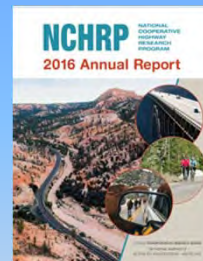
June 21-22, 2017

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**National Cooperative Highway  
Research Program**

- The AASHTO Standing Committee on Research (SCOR) selected the FY2018 program in March:
- 57 projects for a total research budget of \$37,017,000
- New SCOR Chair: Brian Ness, Director of the Idaho Transportation Department



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## NCHRP Publications past six months:

- 13 NCHRP Reports
- 9 NCHRP Synthesis Reports
- 2 NCHRP Legal Research Digests
- 3 NCHRP Web-Only Documents

- As part of AASHTO's reorganization, greater role for SCOR on innovation and implementation.
- SCOR will hold a special meeting on August 8-9, 2017 to update their strategic plan and identify near-term actions to incorporate these changes to their purpose.
- Continued development of implementation program and tracking research impacts.

## Staff news - new NCHRP senior program officers:

- Dr. Ann Hartell holds a doctorate in socio-economics from the Vienna University of Economics and Business, and has been an active researcher in the fields of land use planning, social indicators economic resilience, environmental justice and sustainability.
- Camille Crichton-Summers is currently the Manager of the New Jersey Department of Transportation, their TRB State Rep, and a member of the AASHTO Research Advisory Committee.

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## Airport Cooperative Research Program

- ACRP in its 11<sup>th</sup> program year.
- From 2006 through May 2017
  - Studies Authorized: 510
  - Studies Completed: 455
  - ACRP Publications: 423
  - Number of Panel Slots (Active Projects): 1216 (41.1% Minorities, 31.8% Women)
  - Problem Statements Considered: 1434 (through FY 2018)



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- AOC met on February 1, 2017 to review ACRP's progress and strategic direction.
  - Project panels have been formed, all project RFPs have been issued, and most projects are under contract for the FY 2017 projects.
  - Problem statements for FY2018 are being evaluated and will go to the ACRP Oversight Committee on June 16, 2017.
  - FY2018 program will be selected on July 21, 2017.
  - A new project announcement will go out Aug. 2017
- ACRP Publications Jan-Jun 2017
- Reports = 7
  - Syntheses = 1
  - Websites = 2
  - Web-Only Doc = 3
  - Legal Digests = 1
- ACRP IdeaHub to be launch in Nov 2017.
  - New project to explore methods to assist implementation under way.
  - 2017 Dissemination Plan authorized and contractor on-boarding Jul. 2017

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## Transit Cooperative Research Program

Marking 25 Years of Service through Research

- TCRP marking 25 years of service through research.
- From 1992 through May 2017
  - Studies Authorized: 754
  - Studies Completed: 710
  - TCRP Publications: 639
  - Number of Panel Slots (Active Projects): 647 (20.01% Minorities, 29.36% Women)
  - Panel Meetings: 1011 (through 5/17/17)
  - Problem Statements Considered: 2764 (through FY 2017)



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- TOPS met on June 1, 2017 to review TCRP's progress and strategic direction.
- Project panels have been formed for the FY 2017 projects.
- Meetings to draft the RFP have been held for the majority of projects and most of the meetings to select contractors have been scheduled.
- Problem statements for FY2017 were due on June 16, 2017.
- FY2018 program will be selected on October 20, 2017.

TCRP Publications January-June 2017

(2) Reports (6 ) Syntheses ( 1) Digest (1) Web-Only Doc (3) Legal Digests = (13) published documents since January 2017

## **Proposals for TRB Sponsored/Cosponsored Conferences (ACTION – Consent Agenda)**

*The following criteria are used in evaluating proposals for conferences, workshops, and similar activities. In general, an activity should not be proposed unless it draws a favorable response to all applicable criteria. The TRB staff and the proposing committees feel that the conferences being proposed satisfy these criteria.*

1. Is the proposed activity consistent with TRB's mission?
2. Does it have a high probability of producing worthwhile results?
3. Is the purpose of the activity objective and noncommercial?  
(Might the undertaking of the activity or the potential result give TRB an image of bias in an area in which it must remain neutral?)
4. Are the available time and funding adequate to conduct it in a proper manner and to carry it to a logical conclusion?
5. Is it within the existing staff capability of TRB or a capability that can reasonably be established?
6. Can committee members necessary to guide it be identified and their services obtained?
7. Does TRB retain the requisite control? Alternately, in case where TRB is not the lead organization, will TRB be involved in developing the program, and will TRB receive appropriate recognition?
8. Does it duplicate other efforts? Has the subject received all of the attention that is justified for the present time?
9. Is there a more appropriate organization, within the National Research Council or elsewhere, to handle it?

Executive Committee approval is requested for one sponsored and three co-sponsored conferences as part of the consent agenda.

**CONFERENCES PROPOSED FOR SPONSORSHIP BY TRB**

<b>Title</b>	<b>Date</b>	<b>Location</b>
1. National Household Travel Survey (NHTS) Data for Transportation Applications Workshop	May 15-16, 2018	Washington, DC
2. 2017 Midwest Rail Conference*	August 15-17, 2017	Kalamazoo, MI
3. 5 <sup>th</sup> Florida Automated Vehicles (FAV) Summit*	November 14-15, 2017	Tampa, Florida
4. 7th International Conference on Bituminous Mixtures and Pavements*	June 12-14, 2019	Thessaloniki, Greece

\* TRB participates as a cosponsor



**1. National Household Travel Survey (NHTS) Data  
for Transportation Applications Workshop  
TRB Sponsored**

Location:	Washington, DC
Date:	May 15-16, 2018
Description:	The NHTS is a source of national data on the travel behavior of the American public. The dataset allows analysis of daily travel by all modes, including characteristics of the persons traveling and their households, their vehicles, and their trips. This workshop is series done every 5-6 years. Workshop participants will explore the needs and opportunities for future improvements to data, tools and techniques. Workshop topics will examine how NHTS data has been used to support key transportation policy considerations, such as energy use, congestion, highway finance, safety, and mode share. A major focus will be the methods and techniques for using the survey data and the performance measures to which it can be applied, especially in terms of integrating it with other data sources.
Expected Attendees:	140 – open to all
Anticipated Products:	TRB Circular
Sponsor:	TRB
Other Sponsors:	FHWA Office of Highway Policy Information
Funding:	Registration Fees and FHWA Sponsorship
TRB Committees:	Task Force on Understanding New Directions for the National Household Travel Survey (ABJ45T)
TRB Role:	Symposium logistics finance and support the program committee
TRB Staff:	Thomas M. Palmerlee

**2. 2017 Midwest Rail Conference  
TRB Co-Sponsored**

Location:	Kalamazoo, MI
Date:	August 15-17, 2017
Description:	In conjunction with the midyear meeting of the Freight Rail Transportation Committee (AR040), conduct a conference with the theme "Midwest Connections: Passenger and Freight Rail Look to the Future." The conference is in combination with the annual Summerail Conference as well as the annual meeting of National University Rail Center (NURail), the first USDOT OST-R University Transportation Center dedicated to the advancement of North American rail transportation. The conference will bring together students, academics, consultants, state DOTs, and private industry representatives to present and discuss current topics and issues affecting the railroad industry. Emphasis is on exposing students and young professionals to real world railroad practices and practitioners.
Expected Attendees:	120—open to all. Targeted groups include students, academia, private sector railroad practitioners, consultants, and public sector participants.
Anticipated Products:	None
Sponsor:	Michigan Technological University
Other Sponsors:	University of Tennessee Knoxville
Funding:	TRB will have no financial obligations with respect to this conference.
TRB Committees:	AR040, Freight Rail Transportation Committee
TRB Role:	Assist in program planning
TRB Staff:	Scott Babcock

**3. 5<sup>th</sup> Florida Automated Vehicles (FAV) Summit  
TRB Co-Sponsored**

Location:	Tampa Florida
Date:	November 14-15, 2017
Description:	<p>The 5<sup>th</sup> Florida Automated Vehicles (FAV) Summit, led by the Florida DOT in conjunction with the Tampa Hillsborough Expressway Authority (THEA) and the Center for Urban Transportation Research (CUTR) at the University of South Florida, brings together industry leaders from around the country to address technologies, operations, and policy issues.</p> <p>Participants in the Summit would gain insight into what Florida and other State DOTs are doing to create the climate for the implementation and deployment of autonomous and connected vehicle technologies.</p> <p>Delegates to the Summit include legislators, transportation officials, engineers, planners, manufacturers, consultants, and other automated and connected vehicle technology stakeholders.</p>
Expected Attendees:	450 – open to all
Anticipated Products:	On-line Compendium produced by CUTR and FDOT
Sponsor:	Florida Department of Transportation
Other Sponsors:	Tampa Hillsborough Expressway Authority and the Center for Urban Transportation Research (CUTR) at the University of South Florida
Funding:	None
TRB Committees:	Committees in the Operations Section (ITS; and Vehicle-Highway Automation) and Public Transportation Group (Automated Transit Systems; and Emerging and Innovative Public Transport and Technologies)
TRB Role:	Members of the various committees are assisting in developing the technical program. TRB would help publicize the event through our Calendar and e-Newsletter
TRB Staff:	Richard Cunard and Steve Andrlé

**4. 7th International Conference on Bituminous Mixtures and Pavements  
Co-Sponsored**

Location:	Thessaloniki, Greece
Date:	June 12-14, 2019
Description:	The objectives of the 7th International Conference are to present new developments, technologies, specifications and research activities worldwide, in asphalt materials and pavements. Also, to exchange ideas and experiences, to the benefit of those engaged in Highway and Airport Engineering and in particular design, construction, maintenance and pavement management, reclaimed and recycled materials as well as the production and use of materials and asphalt mixtures. The Conference is a continuation of six past Conferences organized successfully in the years 1992, 1996, 2002 and 2007, 2011, 2015. The conference website is <a href="http://iconfbmp.civil.auth.gr">http://iconfbmp.civil.auth.gr</a>
Expected Attendees:	400-500 - open to all. Expected to attract participants from abroad and Greece.
Anticipated Products:	Papers presented at the conference will be published in conference proceedings by CRC Press/Balkema (Taylor & Francis Group)
Sponsor:	Highway Engineering Laboratory of the Department of Civil Engineering, Aristotle University of Thessaloniki (AUTH) is the primary sponsor.
Other Sponsors:	The 6 <sup>th</sup> ICONFBMP was supported by the following Institutions, Associations, or Organizations: Institution of Civil Engineers (ICE), UK, Transport Research Laboratory (TRL), UK, Chartered Institution of Highways & Transportation (CIHT), UK, Transportation Research Board (TRB), ASCE Transportation & Development Institute (ASCE T&DI), Institute of Asphalt Technology (IAT), European Asphalt Pavement Association (EAPA), International Society for Asphalt Pavements (ISAP), and Federal Aviation Administration (FAA).
Funding:	The financial responsibility will be taken from the Highway Engineering Laboratory, Department of Civil Engineering, Aristotle University. However, most expenses will be covered by participant fees and Sponsors and is a non-profit event.
TRB Committees:	AFK40 Standing Committee on Surface Requirements of Asphalt Mixtures.
TRB Role:	Dr. Louay Mohammad, a member of AFK40, will deliver the keynote presentation. Members of AK40 will serve on the conference Scientific Committee and assist in reviewing abstracts and selecting papers to be published in conference proceedings.
TRB Staff:	Nelson Gibson, Senior Program Officer (Materials and Construction)

**TRB Conferences, Webinars, and Recordings  
January 8, 2017 – June 21, 2017**

Conferences

(\*indicates event cosponsored by TRB)

Workshop on Future Highway Capacity Manual Updates  
Minneapolis, Minnesota  
June 14-17, 2017

World Conference on Pavement and Asset Management (WCPAM2017)\*  
June 12-16, 2017  
Baveno, Italy

First International Roadside Safety Conference  
June 12-15, 2017  
San Francisco, California

Rail Safety Management Systems, Risk Reduction and Improving Safety Culture: What Do You Need to Know?  
June 10, 2017  
Baltimore, Maryland

6th International Symposium on Naturalistic Driving Research\*  
June 8-9, 2017  
The Hague, The Netherlands

3rd North American Symposium on Landslides\*  
June 4-8, 2017  
Roanoke, Virginia

1st World Transport Convention\*  
Beijing, China  
June 4-6, 2017

5th Urban Street Symposium\*  
May 21-24, 2017  
Raleigh, North Carolina

Innovations in Freight Data Workshop  
May 17-18, 2017  
Irvine, California

Meeting Announcement: Committee for a Study of the Future Interstate Highway System - Detroit, Michigan  
May 16-17, 2017  
Detroit, Michigan

2017 International Conference on Ecology and Transportation (ICOET)\*  
May 14-18, 2017  
Salt Lake City, UT

16th TRB National Transportation Planning Applications Conference  
May 14-18, 2017  
Raleigh, NC

2017 Ferry Safety and Technology Conference\*  
May 11-12, 2017  
New York, New York

5th International Conference on Roundabouts  
May 8, 2017  
Green Bay, Wisconsin

Second Annual Texas A&M Transportation Technology Conference  
May 4, 2017  
Bryan, Texas

TRB Workshop at the 68th Highway Geologists Symposium 2017  
May 1, 2017  
Marietta, Georgia

11th International Bridge and Structures Management Conference: Register Today  
April 25, 2017  
Mesa, Arizona

Critical Issues and Emerging Technologies in Asphalt Committee Midyear Meeting (AFK10)  
April 19, 2017  
Villanova, Pennsylvania

International Congress on Transport Infrastructure and Systems\*  
April 10-12, 2017  
Rome, Italy

2017 Joint Rail Conference\*  
April 4-7, 2017  
Philadelphia, Pennsylvania

10th International Conference on Managing Fatigue\*  
March 20-23, 2017  
San Diego, California

Geotechnical Frontiers 2017 Conference\*  
March 12-15, 2017  
Orlando, Florida

Geotechnical Frontiers 2017 Conference\*  
March 12, 2017  
Orlando, Florida

2017 Planning for Shifting Trade Workshop\*  
February 2, 2017  
Tampa, FL

TransportationCamp DC 2017\*  
January 7, 2017  
Washington, DC



## Webinars

TRB Webinar: Business Continuity Planning for Disruptions at Airports  
June 20, 2017  
Online

TRB Webinar: Assessing, Coding, and Marking of Highway Structures in Emergency Situations  
June 15, 2017  
Online

TRB Webinar: Information Technology Systems at Airports  
June 12, 2017  
Online

TRB Webinar: Use of Traffic-Speed Deflection Devices in Network-Level Pavement Management Applications  
June 8, 2017  
Online

TRB Webinar: Innovative Financing for Public Transportation: Value Capture and Small-and Medium-sized Public Private Partnerships  
June 7, 2017  
Online

TRB Webinar: High-Tension Cable Barriers: Lessons Learned  
May 31, 2017  
Online

TRB Webinar: Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual: Part 1, Contents  
May 30, 2017  
Online

TRB Webinar: NextGen for Airports – Resources and Guidebooks  
May 24, 2017  
Online

TRB Webinar: NextGen for Airports - Introduction and Overview  
May 22, 2017  
Online

TRB Webinar: Environmentally Sensitive Stream Bank Protection  
May 18, 2017  
Online

TRB Webinar: Lessons Learned from the International Roughness Index Smoothness Specifications  
May 17, 2017  
Online

TRB Webinar: Incorporating Oversize/Overweight Data into Transportation Planning  
May 16, 2017  
Online

NTI Webinar: Current Trends in Multi-Agency Transit Electronic Fare Systems  
May 11, 2017  
Online

TRB Webinar: Planning for Millennials: What Do They Want and How Do Agencies Prepare?  
May 11, 2017  
Online

TRB Webinar: Prioritizing Accessibility in Major Cities  
May 10, 2017  
Online

TRB Webinar: A Look at the Legal Environment for Driverless Vehicles  
May 3, 2017  
Online

TRB Webinar: Texture Measurements and Their Correlation with Pavement Functional Performance  
April 27, 2017  
Online

TRB Webinar: Civil Integrated Management: Moving Forward with Implementation  
April 26, 2017  
Online

TRB Webinar: Reducing the Impact of Lead Emissions at Airports  
April 25, 2017  
Online

TRB Webinar: Planning and Growing Intercity Passenger Rail Programs at the State and Regional Levels  
April 24, 2017  
Online

TRB Webinar: Comparing the Volumetric and Mechanical Properties of Laboratory and Field Specimens of Asphalt Concrete  
April 20, 2017  
Online

TRB Webinar: Reconstructing Old Traffic Circles into Modern Roundabouts  
April 19, 2017  
Online

TRB Webinar: Bases/Subbases for Concrete Pavements  
April 17, 2017  
Online

TRB Webinar: Fundamentals of Resilient and Sustainable Buried Structures  
April 13, 2017  
Online

TRB Webinar: Practical Technology-Based Approaches to Highway Infrastructure Maintenance  
April 12, 2017  
Online

TRB Webinar: Introducing the Guidelines for Implementing Managed Lanes  
April 10, 2017  
Online

TRB Webinar: The Evolving Surface Transportation Maintenance and Operations Workforce Part II: Developing a More Versatile Workforce Through Enhanced Training and Technology  
April 6, 2017  
Online

TRB Webinar: Performance Specifications for Asphalt Mixtures  
March 30, 2017  
Online

TRB Webinar: Performance-Based Design and Improving the Geometric Design Process  
March 29, 2017  
Online

TRB Webinar: Highway Rumble Strips: Approaches to Balancing Public Safety and Community Noise  
March 28, 2018  
Online

TRB Webinar: Advancing Collaborative Decision-Making (CDM) at Airports  
March 23, 2017  
Online

TRB Webinar: Guidelines for Lighting Overhead Signs  
March 22, 2017  
Online

TRB Webinar: Mini-Roundabouts: Is the US Ready to Take Advantage of Their Benefits?  
March 21, 2017  
Online

TRB Webinar: Advances in Concrete Pavement Joint Durability  
March 20, 2017  
Online

TRB Webinar: Livable Transit Corridors  
March 16, 2017  
Online

TRB Webinar: Winter Operations: Understanding Aircraft Deicers and Their Impact on Stormwater Runoff  
March 14, 2017  
Online

TRB Webinar: Permeable Concrete Pavements  
March 9, 2017  
Online

TRB Webinar: Legal Research for Airport Programs – Security Screening  
February 28, 2017  
Online

TRB Webinar: Strategic Information Management for State Departments of Transportation  
February 27, 2017  
Online

TRB Webinar: Emergency Ventilation for Smoke Control in Roadway Tunnels  
February 23, 2017  
Online

TRB Webinar: Springtime Damage to Roads and Seasonal Load Limits  
February 22, 2017  
Online

TRB Webinar: Effective Practices for the Protection of Highway Transportation Infrastructure from Cyber Incidents  
February 21, 2017  
Online

TRB Webinar: Internal Curing of Concrete Pavements  
February 16, 2017  
Online

TRB Webinar: The Economic Costs of Unreliability in Freight and Truck Travel Time  
February 15, 2017  
Online

TRB Webinar: U.S. DOT's Smart City Challenge and FTA's MOD Sandbox: Advancing Multimodal Mobility and Practices  
February 13, 2017  
Online

TRB Webinar: A Safety Management System (SMS) Approach for Wildlife Hazard Management at Airports  
February 9, 2017  
Online

TRB Webinar: Human Factor Issues with Roundabouts: The Need for Better Guidance  
February 8, 2017  
Online

TRB Webinar: Introduction of the New Culvert and Storm Drain Inspection Manual  
January 30, 2017  
Online

TRB Webinar: Roller-Compacted Concrete Pavements  
January 23, 2017  
Online

**Subcommittee on Planning and Policy Review**  
**Meeting Summary**  
**Keck Center, Washington, D.C.**  
**April 13, 2017**

Members present: Daniel Sperling, Mary Brooks, Malcolm Dougherty, Susan Hanson, Christopher Hendrickson, Roger Huff, Melinda McGrath, Hyun-A Park, Gary Thomas, and Katherine Turnbull

Guests: Sandra Larson (by phone)

Staff: Neil Pedersen, William Anderson, Scott Babcock, Ann Brach, Patrice Davenport, Karen Febey, Mariella Garcia-Colberg, Stephen Godwin, Chris Hedges, Russell Houston, Mark Norman, Amelia Mathis, and Gary Walker (note that several staff participated for short periods of the meeting)

Action Items:

- Invite a Group Chair for up to 1-hr discussion of issues and initiatives with SPPR (*note that this will entail extending the length of meeting to conclude at 3:30 PM*);
- Global Affiliates – staff should compute the cost to TRB of each of the items offered in the menu of options for affiliates to ensure that TRB will recover its costs;
- Public Health Task Force – link Technical Activities committees interested in public health with new UTC in this area and non-traditional stakeholders;
- Resilience Task Force – appoint new leadership; address linkages with non-traditional stakeholders;
- Transformational Technologies Task Force – address concerns about possibly excluding key constituencies in proposed Forum on Transformational Technologies and report back to Executive Committee in June; hold planning meeting with interested parties; and begin fundraising;
- Critical Issues – develop criteria for defining “critical”; propose process and schedule for future issues of Critical Issues; and develop strawman list of topics for discussion at the June 2017 Executive Committee meeting;
- TRB Centennial – address concerns about schedule for producing book on TRB history;
- Executive Committee Policy Session for January 2018 – begin developing session on transit and new mobility providers;
- Potential Self-Initiated Studies –develop for Executive Committee consideration possible studies on (a) lowering barriers to use of proprietary products in federal-aid highway projects and (b) on alternative user-fee mechanisms. Consult with stakeholders about appropriate scopes for projects in development process.

Dan Sperling began the meeting by reviewing the role of the SPPR for new members.

**Consent Agenda**

Conferences for co-sponsorship, Policy Studies Report, and Marketing and Communications Plan Update **Approved**. (See attachment for list of conferences approved.) A subsequently provided late addition – 29<sup>th</sup> Road Profile Users Group Conference – was also **approved**. Dan Sperling indicated that he would like to see the Communications Plan discussed at a future meeting. Neil Pedersen indicated that a good plan for communications tools and

processes is in place and he would now prefer to focus more on the content of communications in the upcoming year.

**October 2016 Meeting Summary.** Susan Hanson asked that the meeting summary be changed on page 8 because the two definitions of sustainability mentioned are not consistent. [This change was subsequently made by staff.]

The Meeting Summary synopsis of TRB's activities in the freight area led to a discussion about inviting Technical Activities Group Chairs to brief the subcommittee on their activities. There was agreement that this would be a good addition to the agenda. Pedersen pointed out that the meetings might have to be extended to a full day to add up to an hour for this sort of discussion.

### **Executive Director's Report**

Pedersen referred to his performance appraisal goals for 2017 and recounted accomplishments in 2016. He noted that

- TRB has made good progress in a number of areas, but hasn't made as much progress in involving Academies members as desired;
- TRB hasn't advanced the diversity of volunteers and staff much over the previous five years – the new Task Force on Diversity and Inclusion (discussed in a subsequent agenda item) is intended to address this;
- TRB's biggest challenge at the beginning of the year was the budget cut from FHWA, which is being addressed by expanding the revenue base and drawing down the Reserve Fund, which is on target to reach the goal of a 75% reserve;
- Regarding expanding the revenue base:
  - He is constantly working on building relationships with state CEOs, who have an average tenure of 2.5 years, in order to maintain sponsor relationships with the state DOTs; and
  - Possible budget cuts to federal sponsors is concerning, as are discussions about potential cuts to DOT's research budgets;
- He is continuing to emphasize three Strategic Plan issues of transformational technologies; public health; and resilience, which were featured at the 2017 Annual Meeting;
- Regarding the National Academies, he is
  - Trying to get members of three Academies more involved in TRB, including the new member of the Executive Committee, who doesn't have a transportation background, but has an interest in systems engineering applications in autonomous vehicles;
  - Continuing to expand collaborations with other NRC divisions;
  - Assisting in Marcia McNutt's initiative for an external review of the NRC study process;
- TRB is partnering with other US and international organizations to leverage more from each other's activities;
- TRB is reassessing TRB's publications process, marketing and communication, and working on measuring impact beyond the collection of anecdotes; and
- He is continuing his oversight of TRB's Policy Studies, which are at a peak level.

Sperling commented on the extraordinary changes at TRB in marketing, strategic plan implementation, task forces, fundraising, and focus on diversity. He noted that it was rewarding to see staff following through on the strategic plan. Malcolm Dougherty noted that TRB will be challenged by the changing priorities of the new administration regarding the environment and climate change.

## **New Revenues**

Mark Norman and Patrice Davenport reported on follow-through on recommendations of the New Revenues Task Force to repackage TRB's affiliates program. They indicated the repackaging into the Global Affiliates Program has been widely vetted, including by NRC leadership and by TRB stakeholders. Following some discussion about how to portray the value to affiliates of various services TRB offers, ***the SPPR concurred with the revised program, and recommended that staff compute the direct costs to TRB for each of the benefits being offered.***

Norman and Davenport also briefly described a new "Careers in Motion/Job Fair and Job Board" initiative as both a service to TRB's constituents and a revenue-raising opportunity. A pilot run of the program will be offered at the January 2018 Annual Meeting.

## **Future of Executive Committee Task Forces**

### *Public Health*

Norman described some of the new initiatives, such as the NCHRP project to develop a research roadmap on transportation and public health and a "Rides to Wellness" workshop with the NRC's Health and Medicine Division (HMD). In response to a question about whether the task force has been successful, Norman and Pedersen pointed to the new NCHRP project, the new relationships with HMD, and increased general awareness about the importance of the links between public health and transportation. Melinda McGrath described her state's efforts to bring rural residents to regional hospitals and, via telemedicine, delivery of medical care to rural residents via fiber optic cables in highway rights of way. She also noted that the sponsors for these efforts, such as FEMA, are not transportation agencies. Discussion ensued about linking Technical Activities committees with an interest in public health with the new University Transportation Center (UTC) at Texas A&M and the non-traditional stakeholders who are active in this area.

### *Resilience*

Norman noted that this group presented its report last year to the Executive Committee and the current need is to determine the future direction of this effort and how broad it should be, including whether it should be on resilience (broadly defined) or sustainability. The SPPR ***concurred*** that the scope should be on resilience (including preparing for, responding to, and recovering from natural and man-made disasters). Members encouraged reaching out beyond state DOTs to include the freight sector, cities, counties, airports, ports, faith-based and community organizations, etc. Pedersen indicated that he would identify new leadership for the task force to replace former chairman Jim Card.

### *Transformational Technologies*

Norman indicated that TRB is ready to propose a Forum (aka a Roundtable) on Transformational Technologies. With some exceptions, participation on the Forum will require sponsorship, which is a new model for TRB, although not new to the National



Academies. Norman has surveyed potentially interested participants and has received some positive and negative responses. About 15 organizations have expressed some interest. A dozen more are considering it seriously. Some organizations are resisting because they haven't had to pay before to participate in TRB events. TRB will host a meeting of interested organizations at TRB's summer conference on automated vehicles. TRB's niche in this area might be in research to inform regulatory policy and standards setting.

Members pointed out some of the regulatory issues being raised by shared mobility companies, such as Uber, which appear to be increasing VMT at the expense of high-occupancy transit and airport shuttles. Sperling raised a concern about a "pay-to-play forum" on regulatory issues since cities and counties are the main regulators yet probably unwilling or unable to be funders. He questioned whether the proposed Forum is the right model for this issue. Perhaps it could be a workshop or series of workshops. Members agreed about the need for research on this topic to serve as a foundation for policy. Also discussed was raising funds for the Forum from sources that would permit city/county government staff to participate. Katie Turnbull thanked the members for the discussion and agreed to provide these comments to the Transformational Technologies Task Force, which will report to the Executive Committee in June. It was agreed that planning for the July meeting with interested parties should proceed.

### **Critical Issues in Transportation**

Pedersen asked for guidance on future development of the *Critical Issues* document. He provided some historical background and pointed out that the NRC has concluded that future issues will need to comply with NRC report review requirements, which will add to the cost. (Past editions were produced as ancillary activities of core and indirect budgeted activities and not budgeted for separately. Future editions may require a budget, for which the Policy Fund is the likely only source.) Pedersen asked for discussion about purpose, frequency of issuance, and audience which also led to comments about the process for producing the document.

*Purpose.* Mary Brooks described how the Marine Board uses a similar set of issue papers to engage with and support sponsors of the Marine Board. It creates opportunities to identify research needs and for education. Pedersen would like for the next issue to precede TRB's next strategic plan and drive selection of Executive Committee policy session topics. He would like for the document to be more oriented towards the issues transportation will have to face over the next 10 to 20 years. Sperling commented that looking ahead more than 10 years is difficult, but it would be possible to identify the policy issues the nation will face in the future.

#### *Frequency*

Pedersen noted that things are changing so fast that TRB ought to be producing it more frequently than every three to five years. If the document were to be produced every two years it would likely require a separate budget. Members also commented on the durability of many of the issues, which implies that it does not have to be produced as frequently as every two years.

#### *Audience*

In addition to serving TRB's strategic planning, Pedersen would like for the document to have public appeal, perhaps by creating a brochure similar to the National Transportation Safety Board's "Top 10" safety issues. This led to discussion about developing a document that can meet the requirements of NRC report review and that would drive TRB's agenda setting and a second document for public awareness. The latter could be designed to gain greater public and policymaker interest and awareness.

### *Process*

Brooks commented on the value of a bottoms-up process involving TRB's standing committees. Hyun-A Park agreed. Steve Godwin noted that the earliest versions were produced by the Technical Activities Division, and that a previous Executive Director, Tom Deen, decided that the document lacked strategic focus after filtering through all of TRB's standing committees. For this reason, he shifted responsibility to the SPPR. He also noted that the chairs of the standing committees had been invited to provide input during the last two cycles of producing *Critical Issues*. Chris Hendrickson indicated that he liked the model of grounding the issues in previous TRB policy studies, which would also help meet NRC report review requirements. Roger Huff asked about the rigor and transparency of developing the list, which Godwin described as a judgmental process highly reliant on the collective knowledge and insight of the Executive Committee. It was agreed that criteria ought to be defined for what makes an issue "critical."

Pedersen summarized the discussion and recommended that documents be planned around the upcoming TRB Centennial in 2020-21 (see subsequent item), which implies producing a document beforehand (2018) and 2020 document, the latter of which would be future oriented consistent with the intent of the Centennial plan for the 2021 Annual Meeting. His sense is that the document should be like what TRB has done in the past and that is backed up by evidence. A shorter brochure-like document could be produced for policymakers that identifies the biggest transportation issues that the nation should be dealing with. He indicated that staff would sift through the SPPR's comments and come back with a proposal to the SPPR before the Executive Committee's June meeting for presentation at the June meeting. He would like to have a discussion of the Critical Issues with the Executive Committee in June.

### **TRB's Centennial Plan**

Russell Houston introduced the topic by noting that the TRB Centennial will be November 11<sup>th</sup>, 2020, which TRB would celebrate during the 2020 and 2021 Annual Meetings and in between. TRB Executive Committee Chair Dougherty appointed a task force to carry out the plan, which is chaired by Sandra Larson. Larson presented the elements of the plan to date by teleconference.

The task force has embraced the idea of a year-long celebration in which TRB would celebrate the history of TRB at the January, 2020 meeting and celebrate the future at the January, 2021 meeting. Themes will include innovation and the components of TRB's "DNA" (collaboration, community, cooperating, service, volunteers). The celebrations will promote the value of transportation research and TRB's role in it, while honoring the volunteers and staff. Task force subcommittees are developing plans for goals and products. The group has agreed that there should be a history prepared. The SPPR discussed the challenges of producing a book by 2020, with some members expressing skepticism that the schedule could be met. Houston acknowledged that it is an ambitious timeframe, that

potential writers have been identified, previous histories were prepared for the 50<sup>th</sup> and 75<sup>th</sup> anniversaries, and that some of the research would be done by staff and volunteers. Susan Hanson warned about the problem of having the research done independently of the writing. Also discussed was the need to begin fundraising to reach the estimated \$350,000 budget. Larson indicated that the task force will have a prospectus ready for the June Executive Committee meeting.

### **Executive Committee Policy Sessions**

Houston provided a brief overview of the plan for the June session on “Smart Cities” and inquired about possible topics for January, 2018. Sperling suggested three possible topics: safety, transit (including linkages with shared mobility services), and transportation funding/finance. Discussion ensued about challenges of first mile/last mile alliances of transit agencies with mobility services, competition with these same services, transit representing a declining share of total person trips, options for funding transit, and transit’s role in economic development. The group agreed upon the transit as the topic for January, 2018, perhaps building on the Federal Transit Administration’s (FTA’s) “Mobility Sandbox” initiative, which includes, among other innovations, a variety of integrated fare technologies.

### **Potential Self-Initiated Studies**

Steve Godwin noted that TRB will be in a position to fund a self-initiated study within a few months and asked for guidance on possible topics to develop. He floated several possible ideas that fall under TRB’s “Critical Issues” list, two of which SPPR members deemed worthy of developing and bringing to the Executive Committee at the June meeting: (a) the challenges of introducing proprietary products in the highway sector and (b) alternative user-fee based mechanisms for funding transportation (building upon the demonstration program in the FAST Act that is providing \$20 million per year during the current authorization).

### **Marine Board Report**

Mary Brooks gave an overview of the Marine Board’s membership, its list of issue paper topics, and the focus session topics for the upcoming meeting: (a) funding marine transportation infrastructure and (b) the future of autonomous vessels. Brooks indicated that she would prefer to have a shorter list of issue papers, but the variety of different sponsors of the Marine Board requires including topics that appeal to agencies with such varied missions as the U.S. Army Corps of Engineers, the U.S. Coast Guard, the National Oceanographic and Atmospheric Administration, the Office of Naval Research, and the U.S. Navy Supervisor of Salvage.

### **Technical Activities Report**

With respect to the time, Ann Brach deferred her presentation to Hyun-A Park’s subsequent report and simply cited some highlights about the Annual Meeting regarding growth in overall attendance, a high proportion of attendees under age 35, and growth in international attendance.

Huyn-A Park gave an overview of standing committee groups and sections:

- Strategic realignment of Design and Construction group;
- Strategic planning by Planning and Environment group;
- Leadership retreat by Freight and Marine Systems groups;
- Networking among chairs of Policy and Organizational group;
- Public Involvement and Economic Development subcommittees recognized for involving younger members;

Park also mentioned innovations in information dissemination and welcomed the opportunity of input by standing committees in the development of *Critical Issues* and in planning for TRB's Centennial.

### **Diversity and Inclusion Task Force**

Mariela Garcia-Colberg provided a brief status report on the work of the Task Force. The goal is to deliver a strategic plan by 2018. The Task Force will have an interim status report in time for the June Executive Committee meeting. Members of the various subgroups are addressing data and analysis; diversity and inclusion among volunteers, through partnerships, staff, contractors; and addressing diversity and inclusion through TRB programs and research projects and issues of workforce development.

### **International Subcommittee**

Pedersen introduced Mary Brooks as the new chair of the Executive Committee International Subcommittee. Bill Anderson provided a brief report on the work of the subcommittee. At its most recent meeting, the group decided to revise its charter to –

- Clarify the vision and purpose of TRB's international collaboration activities;
- Refine the mission and scope of the task force to include scalable objectives that are measureable; and
- Request the Executive Committee approve the strategic guidance for TRB's international collaboration during the June meeting.

Among the questions the subcommittee plans to address are:

- What is the vision and purpose of TRB's International Activities?
- What are the staff and resource needs to achieve objectives?
- Why has international participation in TRB events steadily increased year after year?
- By focusing on international what is the benefit to the United States participants?

SPPR members discussed whether other countries have organizations such as TRB. Pedersen mentioned Europe's Transport Research Arena (TRA), which holds a meeting every other year with about 2,000 attendees and Chinese efforts to develop something like the TRB Annual Meeting. A Chinese ministry will be hosting the first Chinese version of the TRB Annual meeting this summer with TRB's assistance. He also mentioned TRB's close partnership with the Transport Association of Canada. Pedersen indicated that TRB is seeking research topics with international research organizations that can be "twinned" with CRP projects (conducted collaboratively without the exchange of funds).

The meeting concluded at 2:30 PM.

ATTACHMENT CONFERENCES APPROVED BY CONSENT

CONFERENCES PROPOSED FOR SPONSORSHIP BY TRB		
Title	Date	Location
1. International Conference on Demand Responsive Transportation	April 2018	New York, New York
2. Innovations in Travel Demand Forecasting – 2018	Spring/Early Summer 2018	Atlanta, Georgia
3. 6 <sup>th</sup> National Bus Rapid Transit Conference (BRT)	June or July 2018	Los Angeles, California
4. Transportation Leadership Summit: Adopting Resilience to All Hazards, 2018	Late August or September 2018	TBD
5. 14 <sup>th</sup> National Light Rail & Streetcar Conference	October 21-23, 2018	Jersey City, New Jersey
6. 15th International Conference on Mobility and Transport for Elderly and Disabled Persons (TRANSED)	November 2018	Taipei, Taiwan
7. 12th TRB International Conference on Low Volume Roads	Summer 2019	Montana, TBD
8. WIT 2019: Women's Issues in Transportation Conference	September 10-13, 2019	Irvine, California
9. Sixth International Human Factors Rail Conference*	November 6-9, 2017	London, United Kingdom
10. Road Safety on Five Continents (RS5C)*	May 16-18, 2018	Jeju Island, South Korea
11. 8th International Conference on Bridge Maintenance, Safety and Management (IABMAS2018)*	July 9-13, 2018	Melbourne, Australia
12. <b>Late addition:</b> 29 <sup>th</sup> Road Profile Users Group Conference	November 14-16, 2017	Denver, Colorado

# TRB STRATEGY FOR RESILIENCE AND SUSTAINABILITY ACTIVITIES

## 1.0 Introduction

“Resilience is the immune system of our nation,” a statement by Admiral Thad Allen of which the sentiment was learned commanding the response and recovery to Hurricane Katrina’s disaster in New Orleans. The damage was so devastating that our national leaders met and considered abandoning the city. The United States has a history of failed communities; we call them Ghost Towns.

**Como, Colorado:** Started as a coalmining town in 1871, 10 years later the town grew as the terminus for the South Park & Pacific Railroad. The tracks were eventually extended to Gunnison. The extension killed the town and the stone rail barn still stands in an empty field.

**Asbury Park, New Jersey:** Founded as beachfront property during the 1870s and by the 1880s was attracting over half a million people during the summer months. The real boom period occurred between the 1920s and the 1960s, however, when it was the Jersey Shore's number one destination. Its downfall came about due to race riots during the 4th of July weekend in 1970.

**Cheshire, Ohio:** In 2002, American Electric Power purchased it for about \$20 million because of high levels of sulfuric acid emissions produced by its adjacent power plant.

**Hindustan Falls, Indiana:** Founded in 1814 and became the Martin County Seat. Although it was a prosperous milling town, it was suddenly abandoned 1928 due to a possible Smallpox outbreak.

**Holly Springs, North Carolina:** Founded during the early 19th century. Most of the town's men died during the battle at Gettysburg. When the war ended there were several failed attempts to revive the Holly Springs economy. While it never completely disappeared, it remains a very small community.

Examining the causes for communities to fail and the devastation sustained during a disaster, it was discovered that mistakes were made through planning, engineering, and/or operations and maintenance. Additional discoveries were made when examining the response and recovery efforts. Communities depend on five lifeline functions and services to survive: transportation, communications, energy, water and wastewater, and civic groups and associations (churches, clubs, schools, halls, etc.). For a community to withstand and bounce back from a disaster it must work together, and with technical professionals, to create a holistic, sustainability and resilience proactive framework that reduces risk, improves services, sustains or grows its economy, adapts to changing conditions and empowers citizens.

Transportation is essential for creating communities of opportunity, with broad-reaching impact on the structure of metropolitan and rural communities, job creation, commerce distribution, energy efficiency, housing stock, access to better schools and well equipped doctors, economic opportunity for business, and more. Businesses, agencies, schools, distributors, and so on depend daily on transportation to be properly functioning and to be accessible by employees and customers. What is the role of transportation in supporting a community, employers, and workforce through revitalization or disaster recovery?

## **2.0 Recent TRB Activities Addressing Resilience**

### 2.1 Executive Committee Task Force on Resilience:

The TRB Executive Committee Resilience Task Force presented its final report to the SPPR in October 2016. The Task Force recommended that:

- Research projects or studies in 25 areas be considered by the TRB Technical Activities Division standing committees and the Cooperative Research Programs that TRB manages
- TRB maintain a strong connection to the National Academies' Resilient American Roundtable
- The TRB Executive Committee's next step should be to focus on transportation resilience research needs to address the impact of climate change
- That a new Task Force be formed to increase the understanding of transportation resilience issues and to recommend next steps and research needs as identified in the report from the June 2016 EU-US Transportation Symposium on Adaptation

### 2.2 Formation of the Transportation Systems Resilience Section

Twelve years ago, TRB committees in supply chain management, maritime, emergency management, and infrastructure protection began discussing transportation resilience, within its current context, through cooperative research projects, committee meetings, and committee events. Ultimately, TRB established the Transportation Systems Resilience Section (the Section) in 2014. The Section included three committees focused on infrastructure security, evacuations, and emergency response and business continuity of operations. The Section assessed the transportation resilience landscape to determine how it can support the TRB mission within its new scope. Findings by the Section are described below and mapped in brackets in section 4 of this paper [Finding X].

*Finding One: Key risk and resilience subjects not addressed by current committee structure.* Missing from the convening committee scope and structure are the subjects of (1) risk and resilience management/assessment, (2) preparedness, (3) mitigation and adaptation, and (4) recovery from disasters.



*Finding Two: Membership models lack cross-modal and cross-sector representation.* Within the limitations of the guidelines of TRB committee members, it is difficult to include representatives from all modes, interdependency infrastructure sectors, behavioral and ecological sciences, and include the essential professional skills. The assessment identified the primary professional and organizational audiences to target for research and implementation:

Professional Audiences:

- Engineers and Architects
- State and Community Economic Analysts and Developers
- Emergency and Asset Managers
- Lawyers and policymakers
- Security and Protection Personnel
- Chief Resilience and Chief Sustainability Officers
- Planning Consultants
- Transportation Systems Operators and Managers
- Sociologists and Ecologists
- ITS and Cyber professionals

Organizational Audiences:

- Engineers, Architects, and Construction Firms
- Industry and Professional Associations
- Security Analysis and Risk Management Association (SARMA)
- All Modal Agencies
- U.S. Department of Transportation and their federal partners
- U.S. Department of Homeland Security and their federal partners
- Transportation Research Board committees and leaders
- National Academies of Sciences, Engineering, and Medicine
- AASHTO committees and leaders
- Metropolitan Planning Organizations
- Regional Economic Development Organizations

*Finding Three: Lack of overarching strategic resilience framework for transportation community.* TRB has conducted 39 Aviation ACRP, 7 Hazardous Materials HMCRP, 3 Freight NCFRP, 60 Transit TCRP, 114 Highway NCHRP, and 1 Commercial Truck & Bus Safety Synthesis which relate to the subject of resilience without directly stating it sometimes. These projects have not been mapped to achieving the goals and objectives of an overarching strategic plan or framework for transportation systems resilience or the National Infrastructure Protection Plan, National Disaster Resilience Framework, National Response Plan, etc. Similarly, work in asset management, performance measures, and sustainability which may correlate to resilience aspects and should be leveraged for a potential dual benefit.

*Finding Four: No mechanism to convene and fund research for lifeline sector interdependencies.* Transportation Systems Resilience cannot exist without critical functions of fuel, water, and communications. As stated above, there are core functions and services which our communities need to withstand and bounce back from any hazardous event. Transportation is no different. We demand fuel to operate, our employees need water and wastewater services, and we a method of communications to function. Therefore, interdependencies have a role in our resilience. We need a coordinated program of research which is sponsored by agencies in different departments of government or by the private sector.

*Finding Five: Need for a comprehensive TRB communications plan for resilience and sustainability.* Educational development, sharing of information, and knowledge transfer needs a coordinated communication plan and resources to allow stakeholders, researchers, and practitioners to sustain their attention and support implementation.

### **3.0 Questions Raised by TRB Staff and Volunteers**

#### **3.1 Sustainability vs. Resilience**

During the October 2016 SPPR meeting and at the January 2017 TRB Executive Committee meeting the agenda included discussion asking “*What is next for the Resilience Task Force?*” The discussions largely focused on whether a follow-on Task Force should concentrate on climate change adaptation as recommended by the earlier Task Force, or whether a task force on broader sustainability issues that would include resilience would be more appropriate.

The National Academies generally uses the definition of sustainability originally put forth in 1987 by the UN Brundtland Commission, which reads as follows:

*The ability of humanity to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.*

The basic thrust of the Brundtland Commission definition is “generational equity,” which is achieved through consideration and balance of three policy dimensions – economic, social, and environmental (aka, the “triple bottom line”).

While definitions of sustainability tend to be very broad in nature, some definitions of resilience can be very narrow (e.g. limited to the ability to recover and regain functionality after a major disruption or disaster). The National Academies of Sciences, Engineering, and Medicine’s Resilient America Roundtable, which is sponsored by 8 federal agencies, has adopted the broader National Imperative<sup>1</sup> definition of resilience:

<sup>1</sup> Disaster Resilience: A National Imperative, National Research Council, 2012

*The ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events.*

Since we should be considering the authority of the funding entities and sponsors, the NCHRP 20-59 Project Panel also references a federal government definition for resilience offered in Presidential Policy Directive 21 – Critical Infrastructure Security and Resilience

*The term "resilience" means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents.*

### 3.2 Resilience Strategic Frameworks and Research Roadmaps

NCHRP 20-59(54) Transportation System Resilience: Research Roadmap and White Papers will develop a research roadmap and includes three white papers written for senior executives to consider needs for achieving transportation resilience. The resilience research roadmap will be a plan documenting high-priority research needs, potential programs, and strategic initiatives encompassing the funding period 2020-2025

- Informed by USDOT, FHWA, AASHTO, DHS, TSA, TRB, and other transportation leaders
- Developed cooperatively and collaboratively by government, industry, and academic participants
- Two planned releases of the Transportation Resilience Research Roadmap
  - Pre-summit Draft Roadmap (Summer 2018)
  - Post-summit Final Roadmap (Winter 2018)

It builds upon the 2015 “Fundamentals” report and is guided by the 2017 resilience roadmap, both of which were formally adopted and published by AASHTO.

#### **Resilience Research Roadmap (Pre and Post Summit versions) (2017-2019)**

The objective of this project is to develop and prepare a research roadmap for use in focusing the efforts of the transportation community in implementing a broad based program addressing a resilient transportation system. The work will inform, complement, enhance, and augment work and conclusions arising from NCHRP Project 20-59(117).

## **Transportation Resilience White Papers (2017)**

The second major objective of this project is to document and communicate certain aspects of resilience in order to focus discussion and enhance knowledge within the transportation sector. These executive-level briefing papers will be 12-15 page summaries of three topical areas:

- Extreme Weather/Sea Level Rise Aspects of Resilience
- Economic Aspects of Resilience
- Cyber Aspects of Resilience

Each discussion paper will explore the interdependencies associated with various state DOT resources that are impacted by the actions or inactions taken to build resiliency around that particular subject area. The papers will also address vital questions such as: What should I know? What can I do now?

## **CEO Primer on Transportation Resilience (2017-2019)**

This research proposes to prepare an executive level primer on transportation resilience. The focus of the primer would provide senior executives with a short and easy to follow report to dimension and understand the implications of the emerging focus on resilience in transportation and potential impact agency programs.

TRB is working with AASHTO, National League of Cities, National Association of Counties, and the National Institute of Standards and Technology on a white paper to describe transportation's role in community resilience, but the product is not intended to be a strategy for achieving transportation resilience.

### 3.3 What is the applicability for Resilience?

In an agreement between federal agencies, USDOT is the sector specific agency leading the development of transportation resilience.

No federal office or agency, and no association, has claimed to be the primary convener of all transportation stakeholders interested in advancing the policies and practices for achieving regional, community, and state transportation resilience. Although a number of agencies and associations have made such claims for some modes.

## **4.0 TRB Strategy for Resilience and Sustainability Activities – THE PATH FORWARD**

### 4.1 TRB's Resilience and Sustainability Scope

4.1.1 The Transportation Systems Resilience Section, in collaboration with its committees, *will recommend revisions in scope and triennial strategic plans to the TAC*. The revised focus will more comprehensively address pre-event (protection,

prevention, preparedness, and mitigation), post-event (response, recovery, and adaption), and during event (evacuation, risk prioritization, consequence, operations and management) functions in risk and resilience management and operations. [Finding One]

4.1.2 To *perform as the essential, professional convener of transportation organizations* for resilience and sustainability research (Paragraph 4.4), the Transportation Systems Resilience Section will establish -

- an advisory group of Chief Resilience and Chief Sustainability Officers,
- a subcommittee of TRB liaison from core committees addressing sustainability and resilience in other sections to enable a multi-modal and multi-sector approach to transportation resilience, and
- a model section membership structure to include key resilience public and private sector partners that can assist in resilience efforts, convene and coordinate for peer exchange, and provide guidance to TRB Sections and committees. [Findings Two & Four]

4.1.3 *Convene a new Resilience Task Force of the Executive Committee* to consider Resilience at the intersection with sustainability as an overarching strategy that includes<sup>2</sup>:

- A RISK and RESILIENCE MANAGEMENT PROCESS (some call resilience engineering or systems resilience engineering) to withstand and bounce back from a disaster, pandemic, or disruption, and
- MITIGATE, ADAPT, and RECOVER as a post-disruption strategies to help create a holistic, sustainability and resilience proactive framework that reduces risk, improves services, sustains or grows its economy, adapts to changing conditions and empowers citizens.

This approach will provide the flexibility for the Resilience Task Force to deliver strategic direction on a reasonable cross-section of resiliency and sustainability issues facing the transportation community. It is possible that the priorities that the Task Force places on these issues will vary over time. In today's environment, it is expected that the Task Force would place a high priority on resilience as it pertains to all modes and all hazards/threats.

[Finding  
Three]

4.2 Implement the Transportation Systems Resilience Section Communication Plan to share TRB and partner information regarding resilience activities and updates.

<sup>2</sup> Adapted from "Understanding Transportation Resilience: A 2016-2018 Roadmap," NCHRP 20-59(14C), 2016.

4.2.1 Establish a subcommittee to *implement the resilience communication plan* that is co-chaired by a member of the section and AASHTO.

[RTF Recommendation & Finding Five]

4.2.2 Nurture a reciprocal relationship between *TRB and Marine Board resilience activities and the NAS ResilientAmerica Roundtable*.

[RTF Recommendation & Finding Four]

4.3 Articulate the mission of the TRB Resilience Section ABR00 by publishing notable and important publications.

4.3.1 Finalize and publish in 2017 *The Role of Transportation in Community Resilience white paper* which should add clarity to the issue. Central themes include multi-modal and all hazards to include sustainability.

[Findings Three & Five]

4.3.2 Support the *TR News special publication on "resilience"* to be published in the summer of 2017 which will raise awareness and set the stage for Transportation's role.

[Finding Five]

4.3.3 Convene the executive committee resilience and sustainability task force, sections and committee, and key stakeholder for *an invitation only meeting in late summer 2017 to consider the intersection between sustainability and resilience* and its research needs.

[Findings Three & Four]

4.4 Become an essential convener for transportation resilience so that we may capture the research needs and implementation of products produced of all modes considering all hazards.

4.4.1 Connect *climate scientists to the engineers/operators to provide actionable climate data* that is forward looking in order to better understand potential impacts and opportunities to mitigate.

[Findings Three & Four]

4.4.2 In addition to the technical aspects of resilience, ensure that the TRB approach is *community focused and addresses the human aspects* of resilience.

[Findings Two, Three & Four]

4.4.3 Ensure TRB activities *consider professional and workforce development needs* that are sustainable and agile for the changing operational and analytical skills to perform sustainability and resilience functions.

[Finding One & TRB Focus Area]

**Public Health and Transportation Task Force  
Update for Executive Committee Meeting June 21-22, 2017**

**Task Force Members**

Jim Crites (Chair)	Dallas/Ft. Worth International Airport
Ed Christopher	Chair, TRB Subcommittee on Health & Transportation
Stephen Hargarten	Medical College of Wisconsin
Steve Heminger	Metropolitan Transportation Commission
Therese McMillan	Los Angeles County Metro Transportation Agency
Mark Rosenberg	The Task Force for Global Health
Kamillah Wood	US DOT
Marci Greenberger & Bernardo Kleiner	TRB Staff
Alina Baciu	HMD Staff liaison

**Mission**

Make recommendations to the TRB Executive Committee on actions that should be taken to establish a self-sustaining strategic partnership between TRB and Academies' Health & Medicine Division (HMD) regarding Public Health and Transportation.

**Recent Activity**

- Task Force met during TRB Annual Meeting in January, where we also held 3 Health & Transportation specific sessions, along with over 28 other sessions and 35 meetings on related topics. Each had good participation and the health and transportation link is clearly becoming more of a focus area across a number of groups.
- *NCHRP 20-112: Research Roadmap for Transportation and Public Health*, has been launched and the researcher was selected on March 23. Currently working on contract to begin work.
- Activities such as the June 2016 Rides to Wellness Workshop, show how the focus on PHT can successfully take a given topic even further and demonstrate the advantage of a combined health and transportation approach. The Task Force is exploring how to take this model and expand to other potential opportunities.
- Collaborative partnership growing between HMD and TRB staff. Several projects now engage staff from both units. Continuing to explore ways to engage more volunteers and Academies Members in collaborative activities. TRB-HMD SPO meetings continue, with most recent focused on potential topics for joint efforts, such as processes and uses for health impact statements (HIAs).
- We are working to further define the goals, objectives, and strategies of the Task Force, along with metrics to determine progress/success, so that the Executive Committee and TRB have a clear direction for moving forward.



## Leadership Development Program Update

The pilot program for the Academies' Leadership Development has been ongoing since fall 2016. TRB staff in the program has completed 9 of the 13 courses offered to date. The group will complete the final courses, a class project, and participate in a commencement between now and September 2017. Feedback from the cohort will be used to guide the structure of the program for future offerings.

Sessions completed to date:

- Kickoff Session with Academies Branding Update
- Transition to Leadership
- Advanced Meeting Facilitation
- The Communication Challenge
- Succession Planning, Staff Development, Performance Management
- 363 Leadership Assessment
- Change Management
- Excellence in Management, Motivation, and Delegation
- Financial Management

Topics yet to be covered:

- Collaboration and Partnerships
- Sponsorship Development Strategies
- Inclusive Leadership
- Management and Regulatory Requirements

Item #	Strategy/Action Item	Status Summary (5-star scale)
01	Develop and implement processes to identify and address emerging and critical transportation issues in a more strategic and proactive manner	★★★★
02	Take steps to involve a broader cross section of stakeholders and constituencies in TRB programs and activities	★★★
03	Conduct strategic reviews of the portfolio of TRB legacy programs and products, and introduce new activities, to meet the critical needs in today's marketplace	★★★
04	Apply more systematic approaches for identifying and tracking the impacts of TRB's research programs	★★★
05	Strengthen the long-term financial stability of TRB by augmenting traditional federal or federally derived sources of funding	★★★★
06	Develop and implement coordinated approaches to communicate information on TRB activities and products	★★★★
07	Provide TRB staff with the knowledge, resources, and tools necessary to meet and exceed the expectations of TRB stakeholders and customers	★★★

Item #	Strategy/Action Item	Status Summary (5-star scale)
01	<b>Develop and implement processes to identify and address emerging and critical transportation issues in a more strategic and proactive manner</b>	★★★★★
01A	Annually designate one or more "hot topics"	COMPLETE. Three hot topics approved at June 2015 TRB Executive Committee meeting (see below).
01B	Develop and implement action plans to address each hot topic	COMPLETE: TRB Executive Committee Task Forces established for each hot topic developed and approved action plans in 2016. UNDERWAY: Action items in plan now being implemented (see separate Task Force reports.)
01B4	Cooperative Research Programs	ONGOING: The NCHRP has funded the development of research roadmaps in the following areas: freight transportation, transportation and public health, resilience, and transformational technologies. These research roadmaps are being used to identify specific research topics that can be addressed in the NCHRP. We have had success in trying different procurement procedures for fast-track projects.
01C	Involve other NRC units	ONGOING: Each TRB ExComm hot topic task force includes at least one representative from another NRC division. Added representation from other NRC Divisions and National Academies to TRB Executive Committee, hot topic task forces, and research panels. Collaborating with the Committee on National Statistics (two projects), Board on Energy and Environmental Systems (two projects), Committee on Science Technology and Law and Committee on Law and Justice (one project), Board on Human Systems Integration (one project), and Ocean Studies Board and Polar Research Board (1 project).
01D	Critical Issues: Other	
01D1	Conduct new TRB policy studies mandated in FAST Act and other legislation	UNDER WAY: Future Interstates, FMCSA motor carrier safety ratings, ECP Brakes, Evidentiary Protection of Public Transportation Safety Information, Polar Icebreakers Cost Assessment, Propane Pipeline Facilities have been initiated.

Item #	Strategy/Action Item	Status Summary (5-star scale)
01D2	Schedule at least one overview session on each hot topic for TRB Annual Meeting	COMPLETE. 2016 Annual Meeting: More than 50 sessions focused on one or more of these hot topics, including at least one overview session for each. 2017 Annual Meeting: 80 sessions on Transformational Technologies; 25 on resilience; 20 on public health.
<b>02</b>	<b>Take steps to involve a broader cross section of stakeholders and constituencies in TRB programs and activities</b>	★ ★ ★
02A	Conduct a strategic review of TRB's Sponsor and Affiliate programs	COMPLETE: Completed data mining on existing stakeholders. Vetted various versions of proposed restructured Affiliates program with external stakeholders, and National Academies/TRB leadership, including TRB ExComm New Revenues Task Force. UNDERWAY: Preparing to launch and announce program in 2017.
02B	Pilot and implement roundtables	COMPLETE: Completed review of Academies' options for roundtables. Vetted various options with stakeholders, and with National Academies/TRB leadership. Guidance provided by TRB ExComm Task Force on Transformational Technologies. Determined that TRB roundtables may differ from typical Academies' roundtable model. ACRP Oversight Committee approved funding for Insight Events - convening events that are intended to be forum or symposium discussions. ACRP and contracts now being pursued. UNDERWAY: Convening scoping meeting of proposed TRB Forum on Preparing for Automated Vehicles and Shared Mobility Services in July, along with a related Forum on Legal Aspects of Automated Vehicles.
02C	Involve state DOT CEOs and other agency leaders in TRB activities	ONGOING: CEOs and leaders routinely invited to serve on policy study committees and research program oversight projects like LTPP and LTBP. Three CEO Roundtable sessions conducted at each recent TRB Annual Meeting.
02D	Increase involvement of non-traditional stakeholders	ONGOING: Routinely done for policy study committees, depending on the topic. Involving non-traditional stakeholders being pursued as one of the desired outcomes of transformational technologies hot topic action plan. First annual Symposium on ACRP Research in Progress conducted in January 2016 @ TRB AM attracted 12-15 research contractors that would not have attended TRB AM normally.

Item #	Strategy/Action Item	Status Summary (5-star scale)
02E	Reach out to other U.S. and international organizations	ONGOING: Neil Pedersen has been meeting with the leaders of numerous organizations inside and outside of the U.S. Developing guidelines for alliances with U.S. nonprofits and MOUs with international organizations.
02E1	Conduct strategic review of TRB International activities	ONGOING: TRB ExComm task force on international activities has completed its strategic review that included a wide array of recommendations. Established new International Activities Subcommittee of the TRB Executive Committee to provide strategic guidance on TRB's international activities.
02F	Proactively involve other units of the NRC	ONGOING: Have taken numerous steps that have increased involvement of Academies members and NRC staff in TRB activities.
02G	Stakeholders: Other	
02G1	Increase involvement of younger and more diverse transportation professionals, and pursue succession planning for volunteers	ONGOING: Young Members Council continues to pursue this, including a mentorship program for new and younger volunteers. Encouraging our sponsors to nominate young "up and comers" for CRP panels. ACRP Champions was launched in September 2015 as a targeted outreach to young professionals in the airport industry. Presently, 44 YPs are enrolled in the program. Plans are in place to include Champions in 2017 ACRP project panels and 2018 TRB AM. Additional plans are being developed to engage ACRP Ambassadors Emeritus as mentors with Champions. Draft diversity and inclusion strategic plan developed.
03	<b>Conduct strategic reviews of the portfolio of TRB legacy programs and products, and introduce new activities, to meet the critical needs in today's marketplace</b>	★★★
03A	Identify and pursue opportunities for further enhancements and streamlining for TRB research and policy study programs.	UNDER WAY: See below for CRP. Using letter reports, virtual meetings, conference calls to expedite committee advice for ECP brakes and Polar Icebreakers projects.

Item #	Strategy/Action Item	Status Summary (5-star scale)
03A1	Identify alternatives to traditional TRB policy studies, and implement when possible	ONGOING: Air Traffic Control Symposium approved by TRB ExComm Jan 2015, conducted July 2015, report released mid Aug 2015. "Meeting of Experts" on emerging trends conducted for FHWA Policy Office - contract signed in March 2017, meeting conducted in May 2017.
03A2	Develop and present proposals for consideration by CRP oversight panels	UNDERWAY: Considering changes to CRP annual schedules, authorizing more pre-contract expense authorization starts, attempting to increase budget per project to increase contractors' on-time performance, offering on-time bonuses. Now posting pre-publication versions of reports. CRP Problem Statement development, evaluation, and selection process are currently being examined with the intent to streamline and expand engagement within modal industries. Also, CRP is examining process options, which would enable receipt of electronic proposals for CRP research projects. NCHRP and TCRP have allocated \$ towards implementation of products, as per SHRP2 model.
03B	Identify opportunities to take maximum advantage of the new TRB Annual Meeting meeting venue	ONGOING: Conducting attendee surveys after each Annual Meeting, identifying common themes for improvement, and implementing series of action items. Significantly expanded opportunities for Patrons, Exhibits, and advertising. Launching a Job Fair in conjunction with 2018 meeting.
03C	Conduct evaluations of the value, quality, and timeliness of TRB legacy publications (TR News, proceedings, annual reports, e-circulars, etc.)	UNDERWAY: Using new "workshop-in-brief" reports for conferences. Posting more conference presentations on web. Piloting parallel review processes. Revised format for 2016 & 2017 TRB Annual Report, including publication of an executive summary for 2017. Survey of TR News readers indicated general satisfaction with the format and frequency of the publication. Readers evenly split over wanting electronic only, print only, and both. Editorial Board in conjunction with the IT group is exploring option to use MyTRB as a secure delivery mechanism for electronic version of TR News.

Item #	Strategy/Action Item	Status Summary (5-star scale)
03D/E	D. Evaluate and evolve the Transportation Research Record; E. Review TRB's processes and timelines for paper submissions, peer reviews, and publication	ONGOING New TRR Review Advisory Board appointed to provide guidance on conducting a review of the TRR's focus, quality, and processes. Started editing of select TRR papers earlier after acceptance. Implementing action plan designed to increase the speed by which TRRs are published. Initiating development of an RFP for an electronic document management system to enhance the efficiency of the post-acceptance, TRR production process.
03E1	Conduct peer review of TRR publication process and implement recommendations	COMPLETE: Peer review completed in summer 2015. Expedited publication process for 2016 resulted in 166 early decision papers being published by April 1. UNDERWAY: Implementation of remaining peer review recommendations.
03E2	Identify and implement longer term action items to expedite the TRR review and publication process and to increase the TRR impact factor	UNDERWAY: Includes earlier assignment of DOI to accepted papers, and earlier publication of early acceptance papers.
03F	Develop and implement a TRB training program for transportation research program managers	ONGOING Course curricula developed. Materials and pilots for core courses developed and presented with NCHRP funding assistance.
03G	Legacy Programs: Other	
03G1	Test virtual/hybrid conferences	ONGOING: Conducting hybrid conferences consisting of online speaker presentations in advance, combined with roundtable discussions with authors on-site. Webcasting selected conference sessions.
<b>04</b>	<b>Apply more systematic approaches for identifying and tracking the impacts of TRB's research programs</b>	<b>★ ★ ★</b>
04A	Conduct periodic stakeholder surveys for each major TRB program	ONGOING: NCHRP, ACRP, and TCRP have been conducting periodic surveys in recent years to collect information on the use of their research. May need a more formalized schedule. IDEA program officers keep track of grantees experience post completion of projects.



Item #	Strategy/Action Item	Status Summary (5-star scale)
04A1	Identify and implement actions to generate feedback from users of TRB research reports	UNDERWAY: NCHRP has created staff Implementation Coordinator position. ACRP is utilizing contract services in developing plans for tracking impacts from ACRP research. In 12 months ACRP will revisit contract services vs. hiring staff. Presently, ACRP is developing a set of action items and processes to launch later this year. New metrics also being generated by National Academies Press assuming management of TRB publications in August 2016, including impact stats generated by NAXchange.
04B	Expand efforts such as the Research Pays Off series, the Key Research Achievements database, the AASHTO RAC annual "Sweet 16," and the CRP Impacts on Practice	NCHRP has implemented an expanded program of dissemination as part of the \$2 mill provided by SCOR for implementation support. Initiated annual "Sweet 16" presentations to AASHTO Board and at TRB Annual Meeting.
04C	Augment programs such as the TRB–State visits and the ACRP Ambassadors Program to solicit specific information on the impacts of TRB’s research activities	ONGOING ACRP Ambassadors and Champions have been asked to submit leads for Impacts on Practice from ACRP research during this spring and summer. NCHRP is developing a plan to better utilize TRB Standing Committees as communities of practice to evaluate research implementation potential and impacts.
04D	Request committees that receive an annual allocation of CRP funds to report on the benefits from previous funded projects	ONGOING: Committees are now requested to provide this information each year. NCHRP Implementation Coordinator is pursuing a more systematic approach. SCOR approved new procedures for the NCHRP committee-support projects that will be implemented for the FY2019 program.
04E	Implement a strategic approach to communicate the impacts of TRB research programs to TRB stakeholders and to decision makers	PLANNED: Implement in conjunction with TRB Communications & Marketing Strategic Plan (Strategy #6) beginning in 2017. All three CRPs have either developed or are planning enhanced communication strategies and products. DEVELOPED: Dissemination Plan for Policy Study Reports to use at the report release meeting. Dissemination template to use for CRP publications. UNDERWAY: Started CRP Communications Task Force to provide additional resources to a few select projects that are geared to a broader, general audience. Developed criteria for selecting projects. Developing action plan to help ensure that these products receive increased exposure.

Item #	Strategy/Action Item	Status Summary (5-star scale)
04E1	Develop materials that highlight examples of TRB products that have had a significant impact	UNDERWAY: Database of impacts of TRB products on federal and state policy developed, and summary flyer prepared for 2017 TRB Annual Meeting. Listing of CRP reports that have been used as the basis for adopting state DOT standards and guidelines developed. Initiated CRP's Communications Task Force to disseminate high profile CRP products established in May 2017. Additional metrics/impacts may be generated by NAXchange.
<b>05</b>	<b>Strengthen the long-term financial stability of TRB by augmenting traditional federal or federally derived sources of funding</b>	<b>★★★★</b>
05A	Pursue funding from a broader range of sources	UNDERWAY: Range of options identified and being pursued, including restructured Affiliates package, and TRB Roundtables/Forums. See separate reports. TRB conducting policy studies for Dept. of Interior (BSEE) and DHS (US Coast Guard).
05A1	Close the anticipated budget gap for TRB core programs	ONGOING: Options for increasing revenue and reducing expenses identified and being implemented. Currently projected to achieve reserve targets through 2021. However, will still be operating under deficit budgets, so additional revenue generation needed. See separate reports.
05A2	Initiate TRB Executive Committee Task Force to provide advice on enhanced and new revenue options	COMPLETE: Task force established and provided advice on revenue options, along with priorities and suggested timeframes. ONGOING: Task Force providing guidance on implementation of recommendations. See separate reports.
05A3	Initiate and implement TRB planned giving program	ONGOING: Program announced at 2016 Annual Meeting. Website launched. Outreach plan developed and being implemented. Letter to current and past TRB volunteer leaders sent in late 2016. Newsletter to be launched in 2017.
05B	Offer more private-sector funding opportunities in conjunction with the TRB Annual Meeting and other conferences	ONGOING: Additional options for "patrons" added for Annual Meetings, along with advanced reservations of exhibit space. Revenue generated has increased significantly since move to new venue.

Item #	Strategy/Action Item	Status Summary (5-star scale)
05C	Seek direct funding from agencies for CRP activities	INITIATED: Currently in discussions with NHTSA and the Governors Highway Safety Association to transfer responsibility for a \$2.4 million annual program on safety research from NHTSA to TRB.
05D	Offer pooled-funding arrangements to state DOTs and other stakeholders to support TRB activities such as conferences and policy studies	ONGOING: Employing state pooled funding to support conferences on asset management and performance management.
05E	Develop and implement capital budgeting processes for selected larger, multiyear investments	UNDERWAY: Discussions taking place within TRB and with the Academies Office of Chief Financial Officer.
05F	Funding: Other	
05F1	Conduct marketplace review of TRB fees for registrations, subscriptions, publications	COMPLETED: Implemented general increases averaging 5% above inflation in 2016.
05F3	Make the case for funding for research	ONGOING: Worked with AASHTO and met with Congressional staff on research \$ in lead-up to FAST Act. Pursue ongoing efforts in conjunction with identifying impacts of research, and TRB Communications & Marketing Strategic Plan (Strategy #6).
<b>06</b>	<b>Develop and implement coordinated approaches to communicate information on TRB activities and products</b>	<b>★★★★</b>
06A	Develop and implement a marketing plan for each TRB policy study report	ONGOING: Using TRB policy study funds for publicizing reports. Developed a report marketing spreadsheet in Summer 2016 that tracks dissemination activities pre- and post-dissemination. The spreadsheet includes metrics that can be used to evaluate reach. Using this spreadsheet for Strategic Issue reports, in addition to policy study reports. Marketed Mobility Services Report in advance of release. Held release events for Inland Waterways and Urban Mobility Services study reports. Featured Interregional Travel report (SR 320) at 2016 Annual Meeting, including audio/video recording of session and sharing information. Made video recording of Chairman summarizing results of study. Extensive briefings at industry events of Offshore Safety Culture report and held special dissemination events in Houston for Safety Culture and Remote Real Time Monitoring Studies. Supported travel by committee members of the Modernizing Rail Regulation study to participate in Surface Transportation Board meetings to discuss recommendations.

Item #	Strategy/Action Item	Status Summary (5-star scale)
06A1	Proactively offer to make presentations at meetings of other organizations	ONGOING: Presentations on Urban Mobility Services report made at meetings of AASHTO, ITE, ITS America, Conference of International Taxi Regulators, WTS, and others. Extensive dissemination implemented for report on Offshore Oil and Gas Industry Safety Culture. Organized and held workshop in Houston with 85+ registrants to disseminate Offshore Safety Culture and Real-Time Monitoring study results. Routinely require presentations to stakeholder groups on CRP projects.
06B	Take steps to coordinate the roles and messages across TRB communications outlets	ONGOING: Common themes being employed through Executive Director messages, e-Newsletter, TRB Annual Report, Annual Meeting, social media. Developed newsletter and social media marketing timelines/campaigns for major topics or events, like the Annual Meeting.
06C	Take steps to accommodate the increasing reliance on electronic communications and social media over printed publications	ONGOING: Redesigned the TRB website homepage - ranked as #1 for active transportation resources by the media company The Global Grid. Surveyed E-Newsletter subscribers in September 2016. Announced elimination of printed version of the Transportation Research Record. Create timelines and campaigns on LinkedIn, Twitter, and Facebook. Conduct a yearly sentiment analysis of the Annual Meeting conversations on twitter, and presented this information to TRB staff to help them plan for next year.
06D	Enhance TRB's capacity to deliver webinars	COMPLETE: Additional staff hired in 2015 increased webinar capacity to about 100/year. Increased number of "on-demand webinars" (prerecorded webinars) to 14 in 2016. New Aptify/MyTRB-based webinar registration process launched in 2017. The database provides users with a quick way to register and pay for webinars, as well as provides data to state DOT representatives on webinars their colleagues have attended.
06E	Produce easy-to-understand communications that provide overviews of TRB and its programs and activities	COMPLETE: Developed PowerPoint Slides, Video, Brochures, and Handouts in 2015; Developed a staff resource page for these materials and logos in 2016 and provided updates in 2017; Trained staff on using social media and telling the TRB story in Fall 2016. Published and distributing an executive summary of TRB Annual Report beginning in 2017.

Item #	Strategy/Action Item	Status Summary (5-star scale)
07	<b>Provide TRB staff with the knowledge, resources, and tools necessary to meet and exceed the expectations of TRB stakeholders and customers</b>	★ ★ ★
07A	Work with the NRC to rationalize the software and information infrastructure, considering what portions should be common, shared, and standardized	ONGOING: TRB has joined the Academies Content Management Systems Unification process. Working with unification team to incorporate TRB into the POC for Unified Web. Have had some initial discussions on how to further incorporate TRB content that won't move in the first phase to Unified Web. TRB is now part of the Academies' wide team reviewing the functionality of the "Current Project" system. Exploring the possibility of including non-NRC projects in the system.
07B	Implement and advance software applications for volunteer engagement management and for paper review and Annual Meeting planning	ONGOING: New Annual Meeting paper submission and review, and program development software supporting the 2016 meeting cycle launched in 2015. Integrated with MyTRB. Continuing enhancements being made. Receiving positive feedback from users and staff on the Annual Meeting system. New Aptify/MyTRB-based webinar registration process expected to be live in 2017.
07C	Develop and employ succession plans and scenarios for senior leadership positions, including training in administration and leadership	ONGOING: Conducted meetings with Division Directors and other staff to determine general approach and training needs. First stage focusing on leadership training developed with assistance from National Academies' training office. Training started in October 2016 and will be completed by summer 2017. Succession plans are being rolled out as we address retirement in key positions.
07C1	Develop and implement diversity and inclusion strategic plan	UNDERWAY: Strategic Plan developed. TRB Executive Committee Diversity and Inclusion Task Force formed to engage the larger transportation community in TRB's diversity and inclusion efforts. Working groups appointed.

## SHRP 2 Safety Data: Phase 1 of Implementation

Update for TRB Executive Committee  
June 2017

### Data Use License Update

- Officially “open for business” since mid-March 2015
- 234 research projects pending, underway, or finished using the data; 196 currently active
- Examples of recent research areas addressed:
  - Benefits of active safety and autonomous driving systems
  - Episodic speeding
  - Impacts of driver age, secondary tasks, and other factors on swerving behavior
  - Driver behavior in the vicinity of closely-spaced interchange ramps
  - Predictors of occasional seat belt use
  - Crowd sourcing of unsafe intersections and traffic signals
  - Safety impacts of medians/divided highways
  - Teen driving meta database
  - Calibrate traffic simulation models
  - Urban driving profiles, e.g. “eco-driving”

PDF 25

## SHRP 2 Safety Data Publications List

Summary Table of 70 Published Papers, as of 4/19/17

Subject Area	Number
Driver Behavior (includes run off road and work zones)	15
Data Set Description and methods	10
Distraction	8
Eye glance/Head position	6
Crash risk	5
Roadway Geometry	4
Tools	4
Weather	4
Speed	3
Lighting	3
Other– Pedestrians: 2, Seat Belts: 1, Older Drivers: 2, AV: 1, Health: 1	8

## Dataverse: Sharing Data Sets

- Dataverse is an open source web application to share, preserve, cite, explore and analyze research data
- Created at Harvard University
- SHRP 2 using it to make previously developed datasets available to other researchers (with permission of original research team)
- Provides metadata; actual data set available with data use license, usually at no cost
- 32 datasets currently available for request
- 92 “draft” datasets with metadata being finalized
- 43 data re-use requests executed to date



## User Community-Driven Webinar Series

- **Goal:** Provide a periodic opportunity for users to engage in discussions on topics suggested by the user community
- **Format:** short intro, presentations from 2-3 users, Q&A
- **Topics to date:**
  - Complex Queries on InSight
  - Map Matching the NDS and the RID
  - Post Processing of RADAR data
  - Processed Cellphone Data - Collection and Uses
- **Future topics:**
  - Video Analytics
  - Event Reduction (Crashes, Near-crashes, Baselines)

# TRANSPORTATION RESEARCH BOARD

## 2017 EXECUTIVE COMMITTEE

### OFFICERS

CHAIR: **Mr. Malcolm Dougherty**, Director, California Department of Transportation, 1120 N Street, Sacramento, CA 95814  
(916)654-5791, fax (916) 654-6608  
email: [malcolm.dougherty@dot.ca.gov](mailto:malcolm.dougherty@dot.ca.gov)

VICE CHAIR: **Dr. Katherine F. Turnbull**, Executive Associate Director, Texas A&M Transportation Institute, 3136 TAMU, College Station, TX 77843-3135, (979) 845-6005,  
[k-turnbull@tamu.edu](mailto:k-turnbull@tamu.edu)

EXECUTIVE DIRECTOR: **Mr. Neil J. Pedersen**, Transportation Research Board, National Research Council, 500 Fifth Street, N.W., Washington, D.C. 20001, (202)334-2936, fax (202)334-2920, [npedersen@nas.edu](mailto:npedersen@nas.edu)

### MEMBERS

**Ms. Vicki Arroyo**, Executive Director, Georgetown Climate Center, 2018 Asst. Dean, Centers & Institutes, Professor from Practice, and Environmental Law Program Director, Georgetown Law, 600 New Jersey Ave, NW, Suite 357 E.B.W. Library, Washington, D.C. 20006, (202) 661-6556,  
[arroyo@law.georgetown.edu](mailto:arroyo@law.georgetown.edu)

**Mr. Scott E. Bennett**, Director, Arkansas State Highway and Transportation Department, P.O. Box 2261, 2019 Little Rock, AR 72203-2261, (501) 569-2211;  
email: [scott.bennett@arkansashighways.com](mailto:scott.bennett@arkansashighways.com)

**Ms. Jennifer Cohan**, Secretary, Delaware Department of Transportation, 2018 800 Bay Road, Route 113, Dover, DE 19903-0778  
(302)760-2303, email: [jennifer.cohan@state.de.us](mailto:jennifer.cohan@state.de.us)

**Mr. James M. Crites**, (Retired) Executive Vice President of Operations, 2019 Dallas-Fort Worth International Airport, P.O. Box 619428, DFW Airport, TX 75261-9428, (469)767-1995,  
[j.m.crites@att.net](mailto:j.m.crites@att.net)

**(Members continued)**

**Mr. Nathaniel P. Ford**, Chief Executive Officer, Jacksonville Transportation Authority,  
2020 121 W. Forsyth Street, Suite 200, Jacksonville, FL 32202,  
(904) 632-5500, email: [nford@jtafla.com](mailto:nford@jtafla.com)

**Dr. A. Stewart Fotheringham**, Professor,  
NAS 2020 School of Geographical Sciences and Urban Planning,  
Coor Hall, Fifth Floor, Arizona State University,  
Tempe, AZ 85287-5302, (480)965-7533,  
email: [stewart.fotheringham@asu.edu](mailto:stewart.fotheringham@asu.edu); [sfotheri@asu.edu](mailto:sfotheri@asu.edu)

**Mr. John S. Halikowski**, Director, Arizona Department of Transportation,  
2019 206 South 17<sup>th</sup> Avenue, Room 135 – Mail Drop 100A,  
Phoenix, AZ 85007, (602) 712-7227, email: [jhalikowski@azdot.gov](mailto:jhalikowski@azdot.gov)

**Dr. Susan Hanson**, Distinguished University Professor Emerita, School of Geography,  
NAS 2019 Clark University, Worcester, MA  
Mailing Address: 645 Natural Turnpike, Box 5,  
Ripton, VT 05766, (802) 388-9977, email: [shanson@clarku.edu](mailto:shanson@clarku.edu)

**Mr. Steve Heminger**, Executive Director, Metropolitan Transportation Commission,  
2019 375 Beale Street, San Francisco, CA 94105, (415) 778-5210,  
email: [SHeminger@mtc.ca.gov](mailto:SHeminger@mtc.ca.gov)

**Dr. Chris T. Hendrickson**, Duquesne Light Professor of Engineering,  
NAE 2018 Dept. of Civil and Environmental Engineering,  
Carnegie Mellon University, 5000 Forbes Avenue, Porter Hall 119,  
Pittsburgh, PA 15213-3890, (412) 268-1066,  
fax (412) 268-7813, email: [cth@cmu.edu](mailto:cth@cmu.edu)

**Mr. Jeffrey D. Holt**, Managing Director, Power, Energy and Infrastructure Group,  
2019 BMO Capital Markets Corp., 3 Times Square, 28<sup>th</sup> Floor,  
New York, NY 10036 (212) 605-1606; email: [jeff.holt@bmo.com](mailto:jeff.holt@bmo.com)

**Dr. S. Jack Hu**, Vice President for Research and J. Reid and Polly Anderson  
2019 Professor of Manufacturing, University of Michigan,  
4080 Fleming Administration Building, 503 Thompson Street  
Ann Arbor, MI 48109-1340, (734)936-2680, [jackhu@umich.edu](mailto:jackhu@umich.edu)

**Mr. Roger B. Huff**, President, HGLC, LLC, 29828 Harrow Drive  
2018 Farmington Hills, MI 48331, (313)550-3322; email: [rhuff10208@aol.com](mailto:rhuff10208@aol.com)

**Members continued)**

**Dr. Geraldine Knatz**, Professor of Practice of Policy and Engineering  
NAE 2018 USC Sol Price School of Public Policy, USC Viterbi School of Engineering  
3620 South Vermont Avenue, KAP 268A, Los Angeles, CA 90089-2531,  
(562)-343-0226, [gknatz@charter.net](mailto:gknatz@charter.net), [knatz@usc.edu](mailto:knatz@usc.edu)

**Mr. Patrick K. McKenna**, Director, Missouri Department of Transportation,  
2020 P.O. Box 270, Jefferson City, MO 65102-0270, (888) 275-6636,  
[patrick.mckenna@modot.mo.gov](mailto:patrick.mckenna@modot.mo.gov)

**Ms. Melinda McGrath**, Executive Director, Mississippi Department of Transportation,  
2019 P.O. Box 1850, Jackson, MS 39215-1850, (601) 359-7004,  
[mmcgrath@mdot.ms.gov](mailto:mmcgrath@mdot.ms.gov)

**Mr. James P. Redeker**, Commissioner, Connecticut Department of Transportation  
2018 2800 Berlin Turnpike, Newington, CT 06131-7546  
(860) 594- 2802, email: [james.redeker@ct.gov](mailto:james.redeker@ct.gov)

**Dr. Mark L. Rosenberg**, Executive Director, The Task Force for Global Health, Inc.,  
NAM 2018 325 Swanton Way, Decatur, GA 30030-3001, (404)687-5635,  
fax (404)371-1087-5635, email: [mrosenberg@taskforce.org](mailto:mrosenberg@taskforce.org)

**Dr. Daniel Sperling**, Professor of Civil Engineering and Environmental Science  
2018 and Policy; Director, Institute of Transportation Studies,  
University of California, Davis, One Shields Avenue,  
Davis, CA 95616, (530)752-7434, fax (530)752-6572,  
[dsperling@ucdavis.edu](mailto:dsperling@ucdavis.edu)

**Mr. Gary C. Thomas**, President/Executive Director, Dallas Area Rapid Transit,  
2019 1401 Pacific Avenue, Dallas, TX 75266, (214) 749-2544,  
email: [gthomas@dart.org](mailto:gthomas@dart.org)

**Mr. Pat Thomas**, (Retired) Senior Vice President, UPS State Government Affairs,  
2019 12314 Blair Ridge Road, Fairfax, VA 22033,  
(307)267-4078, [plthomas4@verizon.net](mailto:plthomas4@verizon.net)

**Dr. James M. Tien**, Distinguished Professor and Dean Emeritus,  
2020 College of Engineering, University of Miami,  
1251 Memorial Drive, Coral Gables, FL 33146-2509  
(305) 284-7888, [jmtien@miami.edu](mailto:jmtien@miami.edu)

**Mr. Dean H. Wise**, BNSF Railway Company (retired), 6 Stratford Road,  
2019 Winchester, MA 01890, (781) 570-9159, [Dean@DeanWiseLLC.com](mailto:Dean@DeanWiseLLC.com)

**Mr. Charles A. Zelle**, Commissioner, Minnesota Department of Transportation,  
2020 395 John Ireland Boulevard, St. Paul, MN 55155-1899,  
MS 100, Transportation Building, (651)366-4800  
[charlie.zelle@state.mn.us](mailto:charlie.zelle@state.mn.us)

## EX OFFICIO MEMBERS

**Mr. Alberto Ayala**, Deputy Executive Officer, California Air Resources Board, Planning and Technical Support Division, 1001 I Street, Sacramento, CA 95812, (916) 322-2892, [aayala@arb.ca.gov](mailto:aayala@arb.ca.gov)

**Dr. Mary R. Brooks**, Adjunct Professor, Rowe School of Business, Dalhousie University, PO Box 15000, Halifax, Nova Scotia BH3 4R2 Canada (902)494-1825, email: [m.brooks@dal.ca](mailto:m.brooks@dal.ca)

**Mr. Jack Danielson**, Acting Administrator, National Highway Traffic Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, (202) 366-9700, fax (202)366-2106, [jack.danielson@dot.gov](mailto:jack.danielson@dot.gov)

**Ms. Audrey Farley**, Acting Assistant Secretary for Research and Technology Office of the Secretary, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C., 20590, (202)366-4412, fax (202)493-2381, [audrey.farley@dot.gov](mailto:audrey.farley@dot.gov)

**Mr. LeRoy Gishi**, Chief, Division of Transportation, U.S. Bureau of Indian Affairs (BIA), U.S. Department of the Interior, 20817 Tall Forest Drive, Germantown, MD 20876, (202) 513-7711, fax (202)219-1193, email: [irrgishi@earthlink.net](mailto:irrgishi@earthlink.net)

**Mr. John T. Gray**, Senior Vice President, Policy and Economics, Association of American Railroads, 50 F Street, NW, 12th Floor, Washington, D.C. 20001-1530, (202) 639-2319, fax (202)639-2286, [jgray@aar.org](mailto:jgray@aar.org)

**Mr. Michael P. Huerta**, Administrator, Federal Aviation Administration, U.S. Department of Transportation, 800 Independence Avenue, SW, Room 1010, Washington, D.C., 20591, (202)267-8111, fax (202)267-5047, [michael.huerta@faa.gov](mailto:michael.huerta@faa.gov)

**Ms. Daphne Y. Jefferson**, Acting Administrator, Federal Motor Carrier Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, (202)366-1927, fax (202)366-3224, [daphne.jefferson@dot.gov](mailto:daphne.jefferson@dot.gov)

**Ms. Bevan B. Kirley**, Research Associate, UNC Highway Safety Research Center, 730 Martin Luther King, Jr. Boulevard, Chapel Hill, NC 27599, Suite 300 CB 3430, (919)962-5836, [kirley@hsrc.unc.edu](mailto:kirley@hsrc.unc.edu)

## **Ex Officio Members (continued)**

**Mr. Howard McMillan**, Acting Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, (202)366-4433, fax (202)366-3666, [howard.mcmillan.ctr@dot.gov](mailto:howard.mcmillan.ctr@dot.gov)

**Mr. Wayne Nastri**, Acting Executive Officer, South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, CA 91765 (909) 396-3213, email: [wnastri@aqmd.gov](mailto:wnastri@aqmd.gov)

**Dr. Craig A. Rutland**, U.S. Air Force Pavement Engineer, Air Force Civil Engineer Center 139 Barnes Drive, Suite 1, Tyndall AFB, FL 32403-5319 (850) 283-6083, email: [craig.rutland.1@us.af.mil](mailto:craig.rutland.1@us.af.mil)

**Mr. Reuben Sarkar**, Deputy Assistant Secretary for Transportation, Energy Efficiency and Renewable Energy, U.S. Department of Energy, 1000 Independence Avenue, N.W., Washington, D.C. 20585, (202)586-0367, (fax) (202)586-9260 email: [reuben.sarkar@ee.doe.gov](mailto:reuben.sarkar@ee.doe.gov)

**Lieutenant General Todd T. Semonite**, Chief of Engineers and Commanding General, U.S. Army Corps of Engineers, 441 G Street, NW, Washington, D.C. 20314-1000, (202)761-0001, fax (202)761-4463, [todd.t.semonite@usace.army.mil](mailto:todd.t.semonite@usace.army.mil)

**Mr. Karl Simon**, Director, Transportation and Climate Division, U.S. EPA Office of Transportation and Air Quality, 1301 Constitution Ave, NW, Washington, D.C. 20004, (202) 566 1191, [simon.karl@epa.gov](mailto:simon.karl@epa.gov)

**Mr. Joel Szabat**, Acting Administrator, Maritime Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, (202)366-5823, fax (202)366-3890, [joel.szabat@dot.gov](mailto:joel.szabat@dot.gov)

**Mr. Walter C. Waidelich, Jr.**, Acting Administrator, Federal Highway Administration, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, (202)366-0650, fax (202)366-3244, [walter.waidelich@dot.gov](mailto:walter.waidelich@dot.gov)

## **Ex Officio Members (continued)**

**Mr. Patrick Warren**, Acting Administrator, Federal Railroad Administration,  
U.S. Department of Transportation, 1200 New Jersey Avenue, SE,  
Washington, D.C., 20590, (202)493-6014,  
fax (202)493-6009, [patrick.warren@dot.gov](mailto:patrick.warren@dot.gov)

**Mr. Matthew Welbes**, Acting Administrator, Federal Transit Administration,  
U.S. Department of Transportation, 1200 New Jersey Avenue, S.E.,  
4th Floor - East Building, Washington, D.C. 20590, (202)366-4040,  
fax (202)366-9854, email: [matt.welbes@dot.gov](mailto:matt.welbes@dot.gov)

**Mr. Richard A. White**, Acting President and CEO, American Public Transportation  
Association, Suite 1100, 1300 I Street, NW, Washington, D.C. 20005,  
(202)496-4815, fax (202)496-4324, [rwhite@apta.com](mailto:rwhite@apta.com)

**Mr. Frederick G. "Bud" Wright**, Executive Director,  
American Association of State Highway and  
Transportation Officials, 444 N. Capitol Street, NW, Suite 249,  
Washington, D.C. 20001, (202)624-5810, fax (202)624-5806,  
[bwright@aashto.org](mailto:bwright@aashto.org)

**Admiral Paul F. Zukunft**, Commandant, U.S. Coast Guard, U.S. Department of  
Homeland Security, 2100 Second Street, SW, Stop 7000,  
Washington, D.C. 20593-7000, (202)372-4411, fax (202)372-4960,  
[Paul.F.Zukunft@uscg.mil](mailto:Paul.F.Zukunft@uscg.mil)

**Representatives to the TRB Executive Committee:**

**Technical Activities Council:**

Hyun-A Park, President, Spy Pond Partners, LLC

2017 1165 Massachusetts Avenue, Suite 101  
Arlington, Massachusetts 02476-4333  
(617)500-4857, [hpark@spypondpartners.com](mailto:hpark@spypondpartners.com)

David Harkey, Director, Highway Safety Research Center,

2017 University of North Carolina, Chapel Hill  
7 30 MLK Blvd, CB# 3430, Chapel Hill, NC 27599-3430,  
(919) 962-8705, [david.harkey@unc.edu](mailto:david.harkey@unc.edu)

Dennis Hinebaugh, Director, Transit Institute,

2017 USF Center for Urban Transportation Research,  
4202 E. Fowler Avenue CUT100, Tampa, FL 33620-5375  
(813)974-9833, [hinebaugh@cutr.usf.edu](mailto:hinebaugh@cutr.usf.edu)

Anne Goodchild, Associate Professor, University of Washington,

2017 111 Wilson Ceramic Lab, Box 352700, Seattle, WA 98195-2700,  
(206) 543-3747, [annegood@u.washington.edu](mailto:annegood@u.washington.edu)



## **Changes in Executive Committee Membership**

### **Members Who Have Been Appointed Since the Executive Committee's Last Meeting**

**Mr. Patrick K. McKenna**, Director, Missouri **Department of Transportation**

**Dr. James M. Tien**, Distinguished Professor and Dean Emeritus, College of Engineering,  
University of Miami

**TRB STAFF ATTENDING JANUARY 11-12, 2017  
EXECUTIVE COMMITTEE MEETINGS**

**EXECUTIVE OFFICE**

**Neil J. Pedersen**, Executive Director, TRB 334-2936  
[npedersen@nas.edu](mailto:npedersen@nas.edu)

**Cynthia 'Cindy' Baker**, Executive Assistant 334-2936  
[cbaker@nas.edu](mailto:cbaker@nas.edu)

**Claudette Louard-Clarke**, Director, TRB Human Resources 334-3616  
[clouard@nas.edu](mailto:clouard@nas.edu)

**Mark Norman**, Director, Program Development and Strategic Initiatives 334-2242  
[mnorman@nas.edu](mailto:mnorman@nas.edu)

**Patrice Davenport**, Deputy Director, TRB Program Development &  
Strategic Initiatives 334-2516  
[pdavenport@nas.edu](mailto:pdavenport@nas.edu)

**Karen S. Febey**, Senior Report Review Officer 334-2829  
[kfebey@nas.edu](mailto:kfebey@nas.edu)

**Russell W. Houston**, Associate Executive Director 334-3252  
[rhouston@nas.edu](mailto:rhouston@nas.edu)

**Lisa Berardi Marflak**, Director, Communications/Media 334-3134  
[rhouston@nas.edu](mailto:rhouston@nas.edu)

**Lisa Loyo**, Director, Information Technology and Research Services 334-2990  
[lloyo@nas.edu](mailto:lloyo@nas.edu)

**TECHNICAL ACTIVITIES (Division A)**

**Ann M. Brach**, Director 334-2242  
[abrach@nas.edu](mailto:abrach@nas.edu)

**STUDIES AND SPECIAL PROGRAMS (Division B)**

**Stephen R. Godwin**, Director 334-3261  
[sgodwin@nas.edu](mailto:sgodwin@nas.edu)

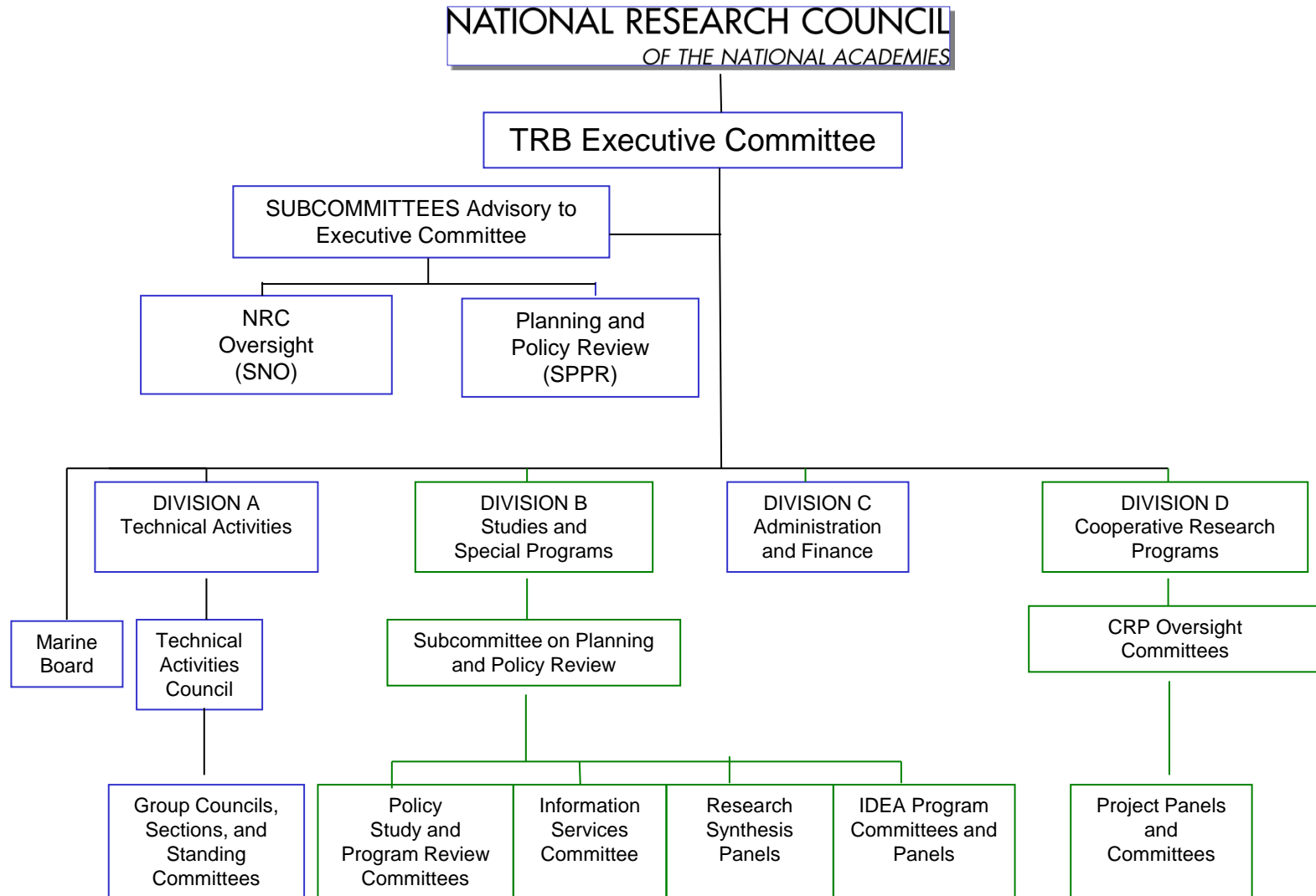
**ADMINISTRATION AND FINANCE (Division C)**

**Gary Walker**, Director 334-3215  
[gwalker@nas.edu](mailto:gwalker@nas.edu)

**COOPERATIVE RESEARCH PROGRAMS (Division D)**

**Christopher Hedges**, Director 334-1472  
[chedges@nas.edu](mailto:chedges@nas.edu)

# TRB Committee and Task Force Structure



# TRB Staff Organization and Divisional Responsibilities

**EXECUTIVE DIRECTOR**  
**Neil J. Pedersen**

**ASSISTANT EXECUTIVE DIRECTOR**

**Russell W. Houston**

- Committee and Project Approvals
- Communications and Technology
- Publications
- Annual Meeting Exhibit
- Research Information Services
- Library

**PROGRAM  
DEVELOPMENT AND  
STRATEGIC INITIATIVES  
DIRECTOR**

**Mark Norman**

- Revenue Development
- Critical & Emerging Issues
- Strategic Initiatives

**SR. REPORT REVIEW OFFICER**

**Karen S. Febey**

- Report Review

**HR DIRECTOR**

**Claudette Louard-Clarke**

- Personnel
- Staff Development Training

**DIVISION A –  
TECHNICAL  
ACTIVITIES**  
**Ann Brach**

- Annual Meeting Program
- Conferences and Workshops
- Standing Committees
- State Visits
- Legal Studies
- Safety Data

**DIVISION B - STUDIES AND  
SPECIAL PROGRAMS**  
**Stephen R. Godwin**

- Policy Studies
- Research Program Advisory Committees
- Syntheses of Current Practice
- IDEA (Innovations Deserving Exploratory Analysis) Programs
- Marine Board

**DIVISION C -  
ADMINISTRATION AND  
FINANCE**  
**Gary J. Walker**

- Budgets and Finance
- Affiliates Accounts
- Administrative Services
- Publications Sales and Distribution

**DIVISION D - COOPERATIVE  
RESEARCH PROGRAMS**  
**Christopher Hedges**

- National Cooperative Highway Research Program (NCHRP)
- Transit Cooperative Research Program (TCRP)
- Airport Cooperative Research Program (ACRP)
- National Cooperative Freight Research Program (NCFRP)
- Hazardous Materials Cooperative Research Program (HMCRRP)
- National Cooperative Rail Research Program

## **DESCRIPTIONS OF TRB DIVISIONS**

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<b>Administration and Finance (Division C)</b>	<b>11</b>
<b>Cooperative Research Programs (Division D)</b>	<b>12</b>

## **EXECUTIVE OFFICE**

**Neil J. Pedersen, Executive Director**

### **TRB Executive Office**

TRB's Executive Office is headed by Executive Director Neil Pedersen. The TRB Executive Office provides policy and operational guidance for programs and activities; oversees committee and panel appointments and report review; provides support and direction for human resource issues and staffing needs; develops and directs the Board's communications and information technology efforts; operates a bibliographic database of transportation research and provides library reference services; provides staff support to the Executive Committee and its Subcommittee for National Research Council (NRC) Oversight (SNO); and maintains liaison with the executive offices of the National Academies of Sciences, Engineering, and Medicine, the Board's parent institution. The Executive Office also manages the editing, production, design, and publication of many TRB reports, including its journal series, TR New magazine, and other titles.

### **Oversight Activities**

The Executive Office supports the work of the TRB Executive Committee, which provides policy direction to TRB programs and activities within the overall policies of the Academies. Oversight of committee and panel appointments and of report review is the responsibility of the Executive Committee's SNO, which ensures that TRB meets institutional standards and that its activities are appropriate for the Academies. As part of its oversight function, the subcommittee monitors the Board's progress in expanding the representation of minorities and women on TRB committees and panels.

Susan Hanson, TRB Division Chair for NRC Oversight, heads the subcommittee and represents TRB as an ex officio member on the NRC Governing Board. The Executive Office processes the Board's large volume of committee and panel appointments and maintains committee membership records. A hallmark of the Academies is its institutional process to ensure the independent, rigorous review of reports. In maintaining these high standards, TRB follows Academies' guidelines that carefully match the review criteria and procedures to the type of report.

### **Program Development and Strategic Initiatives**

In addition, the Executive Office is responsible for ensuring stable, long term revenue streams for TRB and for coordinating strategic initiatives across the board's various divisions. To carry out these responsibilities, the EO helps facilitate the increased use of technology to deliver TRB products and services; oversees the development and implementation of action plans for strategic, long

term, cross cutting, and critical issues; encourages the exploration of new and innovative ways to facilitate information transfer within the rules of the Academies; helps promote the value of TRB products and services; oversees TRB's international participation strategy; administers the Minority Student Fellows Program; and is responsible for helping to ensure the continued development of the next generation of TRB volunteers.

## **Publications**

To fulfill one of its oldest missions, TRB disseminates transportation research results and technology information through an extensive array of timely publications. The Board has gained national and international prominence for its books and reports assessing the state of the art or practice in specific areas of transportation, presenting the results of transportation research, addressing major national transportation policy issues, and identifying research needs. TRB continues to expand its publishing effort by releasing a growing number of titles electronically, some exclusively in electronic format. TRB books and reports span the range of transportation functions, disciplines, and modes. The TRB Publications Office produces titles in the following series:

- **Transportation Research Record: Journal of the Transportation Research Board** gathers technical papers that have been accepted for publication through a rigorous peer review process refereed by TRB technical committees. TRR Online, inaugurated in 2007, is an online subscription and pay-per-view service for the Transportation Research Record series. Record papers are posted to a searchable, password-protected section of the TRB website, which also includes all journal papers published since 1996. The service allows all visitors to identify papers of interest and to review abstracts of those papers. Access to the full papers is available to service subscribers and employees of TRB sponsors and on a pay-per-view basis to the general public.
- The bimonthly magazine **TR News** features timely articles on innovative and state-of-the-art research and practice in all modes of transportation. News items of interest to the transportation community, profiles of transportation professionals, book and journal summaries, meeting announcements, and highlights of TRB activities also are included. Selected features of TR News are posted on the TRB website, and the full issue is made accessible on the web on a four-month delay.
- **Special Reports** contain the results of TRB policy studies on issues of national importance in transportation. These studies, many conducted at the request of federal agencies or of Congress, focus on a variety of complex, often controversial, topics. All current and selected out-of-print special reports are posted on the Board's website.
- **Conference Proceedings** assemble formal papers, presentations, and summaries of discussions from TRB conferences and workshops.

- Transportation Research E-Circulars collect research problem statements, reports, and technical information from the work of TRB technical activities committees. Circulars are available exclusively in electronic format on the TRB website.
- Miscellaneous Reports include special publications, such as the Highway Capacity Manual and the Access Management Manual.

## Communications

The Executive Office is charged with developing, coordinating, and carrying out communications activities that span the entire organization. The following communications activities are overseen by the Executive Office:

- The [Transportation Research E-Newsletter](#) is a free weekly electronic service designed to keep individuals up-to-date on TRB activities and to highlight selected transportation research related activities taking place at the federal and state levels, and within the academic and international transportation communities. More than 63,000 people from around the world receive the E-Newsletter.
- The [TRB Webinar Series](#) produces approximately 100 webinars per year on a variety of topics. TRB's webinars are produced with funding received from TRB Sponsors and TRB Sustaining Affiliates. Accordingly, employees of TRB Sponsors and TRB Sustaining Affiliates may attend the session without a fee. TRB is authorized to issue Professional Development Hours (PDH) for select, live webinars. TRB is also a registered with the American Planning Association's professional institute, the American Institute of Certified Planners (AICP), to provide Certification Maintenance credits.
- TRB uses [Social Media](#) such as Twitter, Facebook, and LinkedIn to help our audience stay connected to transportation research. Social media also helps TRB to better understand how its reports and products are being used.

## Information Technology and Research Services

In late 2014, TRB reorganized and consolidated the management of the Information Technology (IT) and Transportation Research Information Services (TRIS) departments. Both groups had key responsibilities that included the development, maintenance, and application of software in support of various TRB missions.

The IT department's primary focus has shifted from the development of systems to operation, maintenance, and management. The new focus aligns with the TRIS staff's responsibilities in relation to the Transport Research International Documentation ([TRID](#)) database, the Research in Progress ([RiP](#)) database and website, the Research Needs Statements ([RNS](#)) database, the Practice-Ready Papers ([PRP](#)) database, and the TRB [Publications Index](#).



The responsibilities of the IT and Research Services group include customer support for internal and external users of TRB's software systems; software enhancement and development; server and website monitoring and security; general IT support activities, such as training, documentation, and troubleshooting; and management and operation of transportation research services, bibliographic databases, and the [TRB Library](#).

## **[TRID](#)**

In January 2011, TRB and [ITRD](#) released [TRID](#), the TRIS and ITRD Database. TRID is the world's largest and most comprehensive bibliographic resource on transportation research information. It is produced and maintained by the Transportation Research Board of the US National Academies with sponsorship by State Departments of Transportation, the various administrations at the U.S. Department of Transportation, and other sponsors of TRB's core technical activities. ITRD is produced by ITRD member organizations under the under the sponsorship of Joint Transport Research Centre (collectively JTTC) of the International Transport Forum and Organisation for Economic Cooperation and Development (OECD) and ITRD. The records comprise published or ongoing research in English, German, French, or Spanish; more than 200,000 records link to full-text publications. The service offers simple and advanced searching and allows users to download and e-mail results, as well as to share via social media. TRID is available free of charge on TRB's website.

## **[Publications Index](#)**

The TRB Publications Index includes more than 65,000 citations and abstracts for all TRB, Highway Research Board (HRB), SHRP, and Marine Board publications since 1923. The index offers simple and advanced searching and allows users to download and e-mail the results in a variety of formats. Records contain links to available full-text documents and to ordering information.

## **[Research Needs Statements Database](#)**

The RNS database is a dynamic collection of highest-priority topics developed by TRB technical standing committees. The database serves as a tool for reviewing research needs, setting research priorities, and identifying gaps in current research.

## **[Research in Progress Database](#)**

RiP is a searchable database of records of active or recently completed research projects from State Departments of Transportation, the modal administrations at the U.S. Department of Transportation, the Transportation Research Board, and

university transportation centers. The current awareness service notifies users about new and updated project records in specified subject areas. [TRID](#) offers users an option for searching the [RiP](#) database or the [RiP](#) and [TRID](#) databases simultaneously.

### **[Practice-Ready Papers Database](#)**

The PRP database helps practitioners easily find TRB Annual Meeting and TRR papers identified by peer reviewers on TRB's standing committees as presenting research results immediately applicable to problems or issues. The database offers a search by keywords, title, author, index term, subject area, and date of publication.

### **[TRB Library](#)**

The TRB Library provides research and reference services to TRB sponsors, committee members, and staff. The library subscribes to almost 250 serial titles and contains the complete collection of TRB, HRB, SHRP, and Marine Board publications.

The TRB Library participates in the Eastern Transportation Knowledge Network and in the National Transportation Knowledge Network.

## TECHNICAL ACTIVITIES (Division A) Ann Brach, Director

### About the Technical Activities Division

#### Who We Are

The Technical Activities Division provides a forum for transportation professionals to identify, facilitate, and share research and information related to transportation. The Division carries out activities on behalf of TRB sponsors and the transportation community through a network of over 200 [standing committees](#) made up of more than 5,000 volunteers and supplemented by designated [TRB representatives](#) from each state, over 150 universities, and 35 transit agencies.

#### Our Mission

The Technical Activities Division supports TRB's mission of promoting innovation and progress in transportation through research and information exchange by identifying [needed research](#) and [research in progress](#), and disseminating [completed research results](#).

#### Our Staff

The [Technical Activities Division staff](#) consists of specialists within each transportation mode and topic. They oversee the activities of the Division's network of volunteers, who carry out the following activities:

#### Our Activities

- [Standing committees and task forces](#) provide an opportunity for you to network with others in your field, and stay current on emerging issues while contributing to the continuing evolution of transportation research and practice. Learn [how to get involved in standing committees and task forces](#)  
[Aviation Group Brochure](#)  
[Design and Construction Group Brochure](#)  
[Freight Systems Group Brochure](#)  
[Law Group Brochure](#)  
[Marine Group Brochure](#)  
[Public Transportation Group Brochure](#)
- [Technical Activities Council](#), consisting of the overall Chair and the Chairs of each of the [Groups of committees](#), provides a forum for interchange between the Groups of committees, the [TRB Executive Committee](#), and [TRB Staff](#). They assist in identifying emerging topics of interest to the transportation community and cross-cutting issues, and foster outreach efforts to other transportation organizations.
- [Conferences, Meetings, Webinars & Workshops](#) are sponsored and cosponsored by many of the Division's standing committees and task forces

- [TRB Annual Meeting](#) is hosted every year and is the largest transportation conference in the world with over 700 sessions, workshops and 300 meetings that attracts over 12,000 professionals from around the globe. The Annual Meeting is held in January of every year in Washington, DC.
- [Supporting State DOT Representatives & Our Field Visit Program](#) serves as a major source of information collected and disseminated by TRB. Transportation professionals on the TRB staff meet on site with representatives of state departments of transportation, and with representatives of universities, transit and other modal agencies and industry. Annual results of field visits are published each year
- [Publications](#) are disseminated by the Technical Activities Division that showcase transportation research results through [Transportation Research Records](#), [Conference Proceedings](#), and [Transportation Research Circulars](#).
- [The SHRP 2 Safety data program](#) promotes conditions under which the safety data from the second Strategic Highway Research Program is made available to qualified users and provides technical and policy guidance for data implementation and oversight.”
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June 14, 2017

## **STUDIES AND SPECIAL PROGRAMS (DIVISION B)**

**Stephen Godwin, Director**

The Studies and Special Programs Division conducts policy studies at the request of the U.S. Congress, executive branch agencies, states, and other sponsors; produces syntheses of current practices in highway, transit, and airport operations; and manages Innovations Deserving Exploratory Analysis (IDEA) programs in highways and transit and rail safety.

### **POLICY STUDIES**

With the guidance of committees drawn from the nation's leading experts, [the Policy Studies group](#) produces reports examining complex and controversial transportation issues. Studies cover all modes of transportation and a variety of safety, economic, environmental, and research policy issues. The U.S. Congress and the executive branch have adopted many recommendations from TRB policy reports, attesting to the substantive value of the findings. The Subcommittee on Planning and Policy Review provides oversight for TRB's policy work. Since 1998, all completed policy study reports are posted on the TRB website. *Informing Transportation Policy Choices*, a document that provides an overview of all TRB policy studies from 1983 through 2003, is also posted on the Policy Studies page of the website.

### **SYNTHESIS OF INFORMATION REPORTS**

Under the sponsorship of the Cooperative Research Programs administered by TRB, the Synthesis unit prepares reports on current practice and knowledge for a range of key highway, transit, and airport topics. Practitioners and researchers make extensive use of the reports.

A highway committee, a transit committee, and an airport committee of the Cooperative Research Programs select the study topics each year. A consultant experienced in the topic area researches and writes each Synthesis report, with guidance from an expert panel.

### **INNOVATIONS DESERVING EXPLORATORY ANALYSIS PROGRAMS**

[Innovations Deserving Exploratory Analysis](#) (IDEA) programs fund early-stage investigations of potential breakthroughs in transportation technology. Through small projects, researchers investigate the feasibility of innovative concepts that could advance transportation practice. IDEA programs sponsor high-risk research that is independent of the immediate mission concerns of public agencies and of the short-term financial imperatives of the private sector.

The state DOTs collectively fund highway-related research through the NCHRP IDEA program. Research on innovations applicable to transit practice is carried out under the Transit IDEA program, funded by FTA through TCRP. FRA sponsors the Rail Safety IDEA program, which funds projects to improve the safety of rail operations.

Each IDEA program follows a similar administrative model, adapted for sponsorship arrangements and target audiences. Each program operates through a committee or panel of volunteer transportation experts who solicit, review, and select proposals that merit research contracts. Because IDEA projects are high-risk investigations of unproven concepts, funds awarded for any one project are usually less than \$100,000. Frequently, however, IDEA funds are augmented through cost-share arrangements, nearly doubling the amount of research that can be supported through the IDEA programs.

An annual summary of completed and current projects is published for each of the IDEA programs and distributed at the TRB Annual Meeting. These summaries also are available on the IDEA page of the TRB website, along with the IDEA Program Announcement, which contains forms and guidelines for submitting proposals. A less formal publication, Ignition, features interviews with IDEA investigators and transportation leaders, plus articles that highlight promising projects. Issues of Ignition are archived on the IDEA website.

## ADMINISTRATION AND FINANCE DIVISION (Division C)

Gary J. Walker, Director

TRB's Finance and Administration division manages more than \$100M in annual revenue and expenditures in support of TRB's various transportation research programs. Finance staff monitors federal and state contracts and grants, prepare budgets for continuing operations and individual projects, and control expenditures. Financial staff also assists in managing various aspects of TRB's member and sponsor relations, other benefits and services to our customers, subscription programs, TRR Journal Online, and the TRB e-Bookstore. Our services are aligned with the three core areas of our interaction with TRB members and customers as follows:

▶ **Join / Support TRB**- Find information on the many ways to become involved with, give funding support to, and/or become an affiliate member of TRB, including:

- High level agency sponsorship for TRB's Core Programs
- Mid-range organizational affiliation with TRB
- Individual levels of membership and services
- Subscriptions to our publications – most available in both hard copy and electronic form

▶ **TRB Products and Services**- Browse or search for various products and services, including:

- Purchasing individual publications via our e-Bookstore
- Pay-per-view certain TRB publications on-line
- Visit and browse in our TRB Library
- Conference registrations

▶ **Financial Information**- Find answers to customer questions such as:

- How to get reimbursed for committee/panel travel
- Who are the points of contact for financial questions on programs such as SHRP2, NCHRP, Marine Board
- Who to contact regarding a contract or consulting agreement with TRB

## **Cooperative Research Programs Division (Division D)**

### **Christopher Jenks, Director**

The Cooperative Research Programs Division of the TRB, led by Director Chris Jenks, administers a number of major research programs sponsored by other organizations.

#### **National Cooperative Highway Research Program**

Sponsored by the member departments of the American Association of State Highway and Transportation Officials (AASHTO) in cooperation with the Federal Highway Administration, the NCHRP was created in 1962 as a means to accelerate research on acute problems that affect highway planning, design, construction, operation, and maintenance nationwide. All of the state highway and transportation departments contribute to an annual cooperative pool to fund the program's activities. AASHTO committees and member departments and the Federal Highway Administration recommend research topics each year, and the AASHTO Standing Committee on Research (SCOR) determines both the projects to be funded and the levels of funding for those projects. A close working relationship with AASHTO during execution of the projects and the participation of experienced practitioners on project panels help ensure the application of completed NCHRP study results.

#### **Transit Cooperative Research Program**

The TCRP was initiated in 1992 by three cooperating organizations: the Federal Transit Administration, the program sponsor; the Transit Development Corporation, a nonprofit educational and research organization established by the American Public Transportation Association, which provides program governance through the TCRP Oversight and Project Selection (TOPS) Committee; and the National Academies, acting through TRB, which serves as program manager. Under TCRP, the transit industry develops innovative near-term solutions to operating problems and adapts appropriate new technologies and approaches to help meet the demands placed on the nation's public transit systems. The program's research covers topics relating to all aspects of public transportation, including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices. Each year, the TOPS Committee selects a program of research from the large number of candidate research problem statements submitted by organizations and individuals in the transit community.



### **Airport Cooperative Research Program**

The ACRP was authorized in federal aviation legislation and funding is made available through the annual federal appropriations process. ACRP, which began in 2006, is an industry-driven applied research program that develops near-term, practical solutions to problems faced by airport operators. The federally authorized program is sponsored by the Federal Aviation Administration (FAA). Research topics are selected by an independent governing board appointed by the U.S. Secretary of Transportation that includes individuals from airports, universities, FAA, and the aviation industry.

### **National Cooperative Freight Research Program**

The NCFRP carries out applied research on problems facing the freight industry that are not being adequately addressed by existing research programs. The program, which began in late 2006, is sponsored by the Office of the Assistant Secretary for Research and Technology (formerly Research and Innovative Technology Administration) of the U.S. Department of Transportation. NCFRP covers a range of issues to improve the efficiency, reliability, safety, and security of the nation's freight transportation system. The NCFRP was not reauthorized in the MAP-21 surface transportation legislation. However, work on previously approved projects will continue until completed.

### **Hazardous Materials Cooperative Research Program**

The HMCRP is a stakeholder-driven, problem-solving program, researching real-world, day-to-day operational issues in hazardous materials transportation with near- to mid-term time frames. The program, which began in late 2006, is sponsored by the Pipeline and Hazardous Materials Safety Administration of the U.S. Department of Transportation. The HMCRP was not reauthorized in the MAP-21 surface transportation legislation. However, work on previously approved projects will continue until completed.

### **National Cooperative Rail Research Program**

The NCRRP, initiated in Spring 2012, conducts applied research on problems that are shared by freight, intercity passenger (including high speed rail) and commuter rail operators. Authorized in the Passenger Rail Investment and Improvement Act, the NCRRP undertakes research and other technical activities in a variety of rail subject areas, including design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration. The program is sponsored by the Federal Railroad Administration (FRA), with program oversight provided by an independent governing board (the NCRRP Oversight Committee) appointed by the Secretary, U.S. DOT. One year of funding was provided for the program, with no additional funding thereafter. Work on previously approved projects will continue until completed.

Under all of these programs, TRB organizes panels of experts to provide guidance on technical aspects of the research and to translate the problems into project statements with well-defined objectives. Research proposals are then solicited from private and public research organizations with capability and experience in the problem areas to be studied. The technical panels review the proposals, recommend contract awards, monitor research in progress, provide technical guidance, and determine the acceptability of the final reports. More than 3,000 experienced practitioners and research specialists currently serve on Cooperative Research Program panels. TRB also manages programs of smaller studies focused on synthesizing current practices and analyzing legal issues in the NCHRP, TCRP, and ACRP programs. Findings and publications from these synthesis and legal research projects have been well received by highway, transit, and airport practitioners.

## **PURPOSES AND DUTIES OF THE TRB EXECUTIVE COMMITTEE**

The TRB Executive Committee is the senior policy body of TRB, composed of approximately 25 members appointed by the Chairman of the National Research Council (NRC). These members are selected so as to provide balanced representation of transportation modes, academic disciplines, private and public sectors, levels of government, geographical regions, and other relevant factors. Members are appointed for a term of three years and may be reappointed for one term. In addition, approximately 20 *ex officio* members serve on the Executive Committee; these members have no vote but otherwise participate fully in Executive Committee activity. *Ex officio* members include the representatives of the Board's various sponsoring organizations.

The Executive Committee meets twice a year, once at TRB's Annual Meeting in Washington each January and once in June. The Chair of TRB's Executive Committee, appointed by the Chairman of the NRC, serves a one-year term, and presides over the Committee discussions, which are directed toward obtaining consensus on issues wherever possible. When formal rules of debate are required, Roberts' Rules of Order are employed.

The Executive Committee performs a number of functions in serving four different constituencies — the National Research Council (NRC), TRB, TRB's sponsors, and itself.

### **Executive Committee Responsibilities to the NRC**

The TRB Executive Committee is officially an advisory group to the Chairman and the Governing Board of the NRC, who look to the Executive Committee to provide oversight of TRB's activities. Such oversight is intended to ensure that TRB's activities are appropriate for the NRC and constructive to the transportation system and the nation. Reports (both written and oral) of ongoing and proposed TRB projects are brought to the Executive Committee at each meeting and are approved, rejected, or accepted after modification. The Board is also expected to note new opportunities for TRB to provide its services or projects and, where appropriate, to find ways to bring such projects into being.

A subcommittee of the Executive Committee, the Subcommittee for NRC Oversight (SNO), is charged to ensure that NRC procedures and policies are faithfully employed with respect to study and project committee appointments and report review. The SNO is chaired by the TRB Division Chair for NRC Oversight, who must be a member of the National Academy of Sciences or the National Academy of Engineering and a member of the TRB Executive Committee. The TRB Division Chair for NRC Oversight serves as an *ex officio* member of the NRC Governing Board.

Also assisting the Executive Committee is its Subcommittee on Planning and Policy Review (SPPR), which reviews and approves proposed projects and studies, develops lists of Critical Issues in Transportation, plans and develops opportunities for new Executive Committee initiatives, and generally handles those substantive transportation issues that require action during the interval between the twice-yearly meetings of the Executive Committee. Items approved by the SPPR are brought before the Executive Committee for its concurrence at its next meeting.

## **TRB's Expectations of the Executive Committee**

Most TRB projects and activities are conducted by expert volunteers who agree to serve on TRB standing committees, study committees, panels, task forces, and other similar groups. At any one time, about 500 such groups are in existence, composed of some 5,000 professionals serving without compensation. The Executive Committee, either directly or through one of its subordinate committees, provides oversight on the formation, termination, and membership of committees and on the review of projects undertaken and reports produced. The Executive Committee can also influence committee and other TRB activities by developing and monitoring strategic plans, preparing the critical transportation issues, and undertaking special activities of its own. From time to time, Executive Committee members are also called on to perform special duties, such as assisting with report review or fundraising for special projects.

The Executive Committee also serves as a symbol of the prestige attached to serving on TRB committees. Executive Committee members are selected in part because they occupy some of the most prestigious and influential positions in the industry. Their participation on the Executive Committee demonstrates support for research and cross-modal dialogue at the highest levels, and thereby provides motivation for the uncompensated service of otherwise highly paid experts on whom TRB depends for its products and services.

## **Sponsors' Expectations**

At the core of TRB, and perhaps its most visible feature, is a collection of Technical Activities, which include about 200 TRB standing committees, the TRB Annual Meeting, publications programs, field visits to organizations conducting transportation research, and information services. About \$12 million—approximately one-fifth of TRB's total budget—is spent annually on these activities, supported by funding from individual states, federal agencies, private transportation organizations, local governments, individual affiliates, publication sales, and conference registration fees. These funds are pooled and spent in accordance with budgets approved by the Executive Committee. TRB's sponsors look to the Executive Committee to ensure that these funds are spent in ways appropriate to TRB's mission and in ways that encourage research and its dissemination.

## **Executive Committee's Own Expectations**

Although the responsibilities summarized above indicate that the Executive Committee has more than enough duties for a group that only assembles twice a year, members often comment that their greatest personal satisfaction in serving comes from participating in discussions of substantive transportation issues and that they would like to devote more time at meetings to such discussion. The caliber and diversity of talent represented on the Executive Committee make serving on it a unique experience for most members, providing an unusual opportunity to share different perspectives in far-reaching discussions of major transportation issues. Thus, an effort is made to conduct the Executive Committee's official business expeditiously at meetings, in order to leave time for these other important activities of the Board. Executive Committee policy sessions and other discussions of substantive issues have led to the initiation of important TRB projects and other activities.

June 8, 2016

## TRB STANDING OVERSIGHT COMMITTEES

### **Subcommittee for NRC Oversight (SNO)**

#### **Composition**

Subcommittee of TRB Executive Committee composed of 7 members of Executive Committee (at least three of whom must be members of one of the Academies). The SNO Chair, Vice Chair, and 2 other members serve 3-year terms. The Chair, Vice Chair, and the immediate Past Chair of the TRB Executive Committee serve 1-year terms, the Vice Chair and immediate Past Chair as *ex officio* nonvoting members.

#### **Function**

To ensure that TRB meets NRC standards for objectivity and that its activities are appropriate for the NRC; to monitor TRB with respect to specially funded project committee and panel appointments, report review, and the biennial summary of Division programs presented to the NRC Governing Board. The SNO Chair serves as the TRB Division Chair for NRC Oversight and as an *ex officio* member of the NRC Governing Board.

#### **Appointment Procedure**

Appointed by NRC Chair upon recommendation of Executive Director in consultation with NRC and Chair of TRB Executive Committee, subject to approval of the NRC Governing Board. Appointment letters signed by NRC Chair. Selection of members complies with TRB *Terms of Reference*. Bias/conflict of interest statements are required.

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### **Subcommittee on Planning and Policy Review (SPPR)**

#### **Composition**

Subcommittee of the TRB Executive Committee, composed of 11 members. The Chair and 10 other members serve 3-year terms.

#### **Function**

To advise the Executive Committee and staff on matters relating to selection, scope, and execution of policy-oriented studies within TRB; establish goals and directions for those parts of TRB engaged in policy studies; plan and develop opportunities for new Executive Committee initiatives; identify critical transportation issues warranting TRB consideration; act for Executive Committee on all matters requiring its attention between regular Executive Committee meetings; advise the Chairs of the Executive Committee and the SNO of actions taken; and report to the Executive Committee on all of its activities at each Executive Committee meeting. The SPPR is also charged to identify major transportation problems, with particular attention to multimodal and intermodal issues; propose action plans for TRB that address these problems; and suggest sources for the funds needed to pursue these plans. The SPPR also oversees TRB's strategic planning process, including development of TRB

Strategic Plans, and develops policy session agendas and other program initiatives of the TRB Executive Committee.

**Appointment Procedure**

Appointed by Chair of the TRB Executive Committee following guidelines approved by the Executive Committee. Bias/conflict-of-interest statements are not required.

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**Technical Activities Council (TAC)**

**Composition**

The Technical Activities Council consists of the overall Chair, the Chairs of each of the eleven Groups, and one or more at-large members. All serve 3-year terms. Members who are in the second year of their 3-year term serve as the Council’s representatives to the TRB Executive Committee, along with the Technical Activities Council Chair.

**Function**

***Program Function:*** Provides a forum for interchange and interaction among the Groups, between the Groups and the TRB Executive Committee, and between the Groups and TRB staff. Assists in identifying emerging topics of interest to the transportation community and cross-cutting issues. Facilitates interaction among Groups, Sections, and committees to address cross-cutting issues and opportunities. Fosters outreach efforts to other transportation organizations and groups.

***Administrative Function:*** Plays a significant role in refining and implementing processes and techniques for improving the quality of meetings and publications emanating from Technical Activities Division volunteer activities. Serves as a focal point for the continuing review in each of the Group Executive Boards of the need for establishing new committees and for discharging those that are no longer necessary.

**Appointment Procedure**

Appointed by the TRB Executive Director with approval by SNO Chair. Bias/conflict of interest statements are required.

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## **MARINE BOARD**

### **Composition**

15-20 members. The Chair and the other members serve 3-year terms.

### **Function**

To identify research and policy study needs and provide a forum for the exchange of information relating to new technologies, laws and regulations, economics, the environment, and other issues affecting the marine transportation system, port operations, coastal engineering, and marine governance. Also, to oversee standing technical committees in related areas.

### **Appointment Procedure**

Appointed by NRC Chair following recommendation of TRB Executive Director in consultation with NRC and members of Marine Board. Appointment letters are signed by the TRB Executive Director. Bias/conflict of interest statements are required.

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## **SHRP 2 Oversight Committee**

### **Composition**

15 voting members with expertise in highway program administration and operations, design, construction, traffic, research, highway impacts, and highway user needs. Four non-voting *ex officio* members representing the Federal Highway Administration, the National Highway Traffic Safety Administration, the Canadian Provinces, and the American Association of State Highway and Transportation Officials.

### **Function**

To oversee the conduct of the multi-year Strategic Highway Research Program (SHRP) 2 including provisions for competitive, merit-based selection of research contractors, research project oversight, and dissemination of research results.

### **Appointment Procedure**

Appointed by the TRB Executive Director following approval by SNO and NRC Chairs. Appointment letters are signed by the TRB Executive Director. Bias/conflict of interest statements are required.

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## **COOPERATIVE RESEARCH PROGRAM OVERSIGHT COMMITTEES**

### **Composition**

Varies according to program and origin. Some oversight bodies (NCHRP, TCRP, ACRP, NCRRP) are entities that are appointed and exist outside the NRC/TRB. Others (NCFRP, HMCRP) are internally appointed.

### **Function**

To select research problems and program the funding for them, on behalf of the constituent user groups associated with the program.

### **Appointment Procedure**

Varies according to program and origin. Internally appointed committees are appointed by TRB Executive Director following approval by SNO Chair and, as appropriate, by NRC Chair. Appointment letters are signed by the TRB Executive Director. Bias/conflict of interest statements are required.



## TRB PROJECT APPROVAL PROCESSES

### **Policy Studies and Program Reviews**

#### Description

Projects conducted by NRC-appointed committees that provide consensus findings, recommendations, advice

#### Approval Steps

Approval by TRB Executive Committee or Subcommittee on Planning and Policy Review; approval by Executive Committee of NRC Governing Board

#### Product

Full-length study reports, interim reports, letter reports

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### **Conferences and Workshops**

#### **I. Organized by TRB Standing Technical Committees**

#### Description

Outgrowth of standing committee activity; no significant outside funding; often self-supporting; no consensus findings, recommendations, or advice

#### Approval Steps

Approval by TRB Executive Committee or Subcommittee on Planning and Policy Review

#### Product

Transportation Research Circular

#### **II. Organized by Other Organizations and Cosponsored by TRB**

#### Description

Conference formats vary, but TRB must have a role in conference planning

#### Approval Steps

Approval by TRB Executive Committee or Subcommittee on Planning and Policy Review

#### Product

No TRB publication

### **III. Organized by Specially Appointed (“Ad Hoc”) TRB/NRC Committee**

#### Description

Supported by outside funding; may not include consensus findings, recommendations, or advice

#### Approval Steps

Approval by TRB Executive Committee or Subcommittee on Planning and Policy Review; approval by Executive Committee of NRC Governing Board

#### Product

Conference or workshop report, summary, or proceedings (in the TRB Conference Proceedings series)

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### **Cooperative Research Program Projects**

#### Description

Supported by NCHRP, TCRP, ACRP, NCRRP, NCFRP, or HMCRRP funding; projects selected by NRC/TRB-appointed oversight committees or by non-NRC/TRB entities representing the user communities; research conducted by contractors selected by individual project panels, which oversee the work and review final report

#### Approval Steps

Approval by the Subcommittee for NRC Oversight Chair of research problems selected by the non-NRC/TRB entities (SCOR, TOPS, AOC, and ROC Committees)

#### Product

CRP Reports, Research Results Digests

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### **Synthesis Projects**

#### Description

Supported by NCHRP, TCRP, ACRP, or FMCSA funding; projects selected by oversight panels representing the user communities; research conducted by contractors under the guidance of individual topic panels. Topic panels and two members of umbrella panel review final documents.

#### Approval Steps

Approval by the TRB Executive Director of research topics selected by oversight panels.

#### Product

Synthesis report

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## **Strategic Highway Research Program (SHRP 2) Projects**

### Description

Supported by SHRP 2 funding; projects selected by SHRP 2 Oversight Committee based on advice of Technical Coordinating Committees in the four focus areas; research conducted by contractors selected by SHRP 2 Oversight Committee based on recommendations from project-specific expert task groups; Technical Coordinating Committees oversee work of contractors and review final reports

### Approval Steps

Approval by SHRP 2 Oversight Committee

### Product

SHRP 2 Research Report

**TRB POLICY ON EXECUTIVE COMMITTEE PARTICIPATION IN  
COOPERATIVE RESEARCH PROGRAM (CRP) AND STRATEGIC HIGHWAY  
RESEARCH PROGRAM 2 (SHRP 2) PROJECTS**  
**Revised 1/24/2007**

In the administration of its contract research programs, TRB wishes to maximize both the substance and the appearance of fairness in the selection and management of its contractors, at the same time ensuring the quality and expanding the number of potential researchers as much as possible.

It is in TRB's interest to use the expertise of the best qualified individuals and organizations available to perform the research programs, where no actual or apparent conflicts of interest exist. However, conflicts may arise or appear to exist if members of TRB's Executive Committee or organizations with which they are affiliated submit proposals on projects.

To prevent such problems in the administration of the National Cooperative Highway Research Program and other Cooperative Research Programs (CRP) administered by TRB, and in the Strategic Highway Research Program 2 (SHRP 2) administered by TRB, members of the Executive Committee are not permitted to serve as principal investigators on any CRP or SHRP 2 projects. Additionally, the following rules will apply to all members of the Executive Committee:

1. No involvement is permitted in the selection process for CRP and SHRP 2 contractors, where the individual Executive Committee member or an affiliated organization is being considered.
2. No involvement is permitted in TRB's administration of a contract in which the individual or an affiliated organization is involved.
3. No involvement is permitted in setting or modifying administrative policies that would directly or materially affect either the administration of existing contracts with the individual or affiliate organization, or the individual's or affiliate organization's ability to submit proposals.

The Chairman of the TRB Executive Committee, serving a one-year term; the Chairman of the Subcommittee for NRC Oversight (SNO), serving a three-year term; and the Vice Chairman of the SNO, serving a three-year term, have close ties to the Executive Director and to the activities of TRB. Neither of the Chairs nor the Vice Chair has any role in the selection of contractors for CRP or SHRP 2 projects. Nevertheless, because of these special relationships, the following additional rules also will apply to their activities on CRP and SHRP 2 projects during their terms as Executive Committee Chair, SNO Chair, and SNO Vice Chair:

4. Individuals serving in these positions may not personally propose on any CRP or SHRP 2 project during their years of service as Executive Committee Chair, SNO Chair, and SNO Vice Chair. This limitation on their right to propose on a CRP or SHRP 2 project as an individual does not extend to a governmental or academic entity with which they are affiliated provided that the individuals in question do not hold a significant financial interest (other than their salaries) in the governmental entity or academic institution of higher learning. Affiliated organizations in which an Executive Committee Chairman, SNO Chairman, or SNO Vice Chairman holds a significant financial interest, other than a salary derived from a position in a governmental entity or an academic institution of higher learning, may also propose, but only in accordance with case-specific guidelines established by the SNO in advance of that individual's appointment as Executive Committee Chair, SNO Chair, or SNO Vice Chair to ensure that there is neither actual nor perceived conflict of interest.
5. They may not be personally consulted or participate in any way in the preparation of a proposal, or otherwise provide information that would be advantageous to a proposal team.
6. They may not work on a project as a member of the research team or as a consultant to the team.

Where a newly appointed Chairman of the Executive Committee, Chairman of the SNO, Vice Chairman of the SNO, or other member of the Executive Committee has existing activities or commitments covered in the foregoing list of rules on a CRP or SHRP 2 project at the time of appointment, those activities will be reviewed and recommendations made on a case-by-case basis by the members of the SNO (exclusive of a newly appointed chairman, vice chairman, or member if his/her activities are being considered).

June 8, 2016