

**TRANSPORTATION RESEARCH BOARD**  
**The National Academies**

Executive Committee Meeting  
June 26-27, 2014  
National Academy of Sciences Building  
Washington, D.C.

DRAFT MINUTES

**PRIVILEGED INFORMATION**

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**TRANSPORTATION RESEARCH BOARD**  
**Executive Committee Meeting and Policy Session Discussion Minutes**  
**June 26-27, 2014**  
**Lecture Room – National Academy of Sciences Building**  
**Washington, D.C.**

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**TRB Executive Committee Meeting Attendance  
June 26-27, 2014  
Washington, D.C.  
Attendance**

**EXECUTIVE COMMITTEE**

Kirk Steudle	Chair
Daniel Sperling	Vice Chair
Victoria A. Arroyo	
Scott Bennett	
Deborah Butler	Ex Officio
Alison Conway	Ex Officio
James M. Crites	
Malcolm Dougherty	
Stewart Fotheringham	
John Halikowski	
Michael Hancock	
Susan Hanson	
Steve Heminger	
Jeffrey Holt	
Michael Lewis	Ex Officio
Joan McDonald	
Donald Osterberg	
Steve Palmer	
Sandra Rosenbloom	Ex Officio
Henry Schwartz	
Kumares Sinha	
Paul Trombino	
Phillip Washington	

**MARINE BOARD CHAIR**

Thomas M. Leschine

**TRB STAFF**

Cindy Baker	Lisa Marflak
Ann Brach	Mark Norman
Karen Febey	Thomas Palmerlee
Kim Fisher	Neil Pederson
Steve Godwin	Robert Skinner
Russell Houston	Gary Walker
Chris Jenks	

**GUESTS**

Carl Anderson	FHWA
James Anderson	RAND Corporation
Tom Bolle	OST
John Capp	General Motors
Richard Christel	MARAD
Gene Conti	The Conti Group LLC
Stacy Cummings	Federal Railroad Administration
Anne Ellis	Arizona DOT
Anne Ferror	FMCSA
David Friedman	NHTSA
Raquel Girvin	Federal Aviation Administration
John Gray	AAR
Barbara Ivanov	TAC
Tim Klein	OST
Kevin Knight	U.S. Army Corps of Engineers
Chao Lin	U.S. Maritime Administration
Jeffrey Lindley	FHWA
Michael Melaniphy	APTA
McLean Moore	MARAD
Gabrielle Nugent	MARAD
Jeff Paniati	Federal Highway Administration
Joe Peters	FHWA
Todd Ripley	U.S. Maritime Administration
Peter Rogoff	OST
Tom Schaffnit	A2 Technology Management
Daniel Smith	NHTSA
Peter Sweatman	University of Michigan
Michael Trentacoste	Federal Highway Administration
Vincent Valdes	Federal Transit Administration
William Walsh	Consultant
Matthew Welbes	TAC
David Wilcock	TAC
Vinn White	U.S. DOT
Bud Wright	AASHTO

**TRANSPORTATION RESEARCH BOARD**  
**Executive Committee Meeting and Policy Session Minutes**  
**June 26-27, 2014**

**Washington, D.C.**

*Highlighted areas indicate Executive Committee action.*

**June 26, 2014**

**Welcome**

Transportation Research Board Executive Committee Chair Kirk Steudle called the meeting to order at approximately 8:30 a.m. Mr. Steudle welcomed everyone in attendance, made general announcements, and recognized incoming and outgoing members of the Executive Committee.

**Bias/Conflict-of-Interest Discussion**

A bias/conflict-of-interest discussion was held, in which members of the Executive Committee were given the opportunity to disclose potential biases or conflicts of interest that may be related to possible discussion topics at this or future Executive Committee meetings.

**Executive Director Search: Status**

Bruce Darling discussed the search for the next TRB director when Bob Skinner retires in 2015. Mr. Darling and Mr. Steudle have been working with NAS's director of human resources to hire a search firm that will conduct a national search for potential candidates. A search committee comprised of NAS staff and TRB volunteers will be assembled to narrow the pool of candidates. It is expected that a decision will be made about Mr. Skinner's replacement by October or November 2014. Ideally, the new TRB director will be able to start at the beginning of January 2015 so as to have about a month of overlap with Mr. Skinner before his retirement.

**Previous Meeting Minutes**

The minutes of the January 15-16, 2014, meeting of the Executive Committee were approved as submitted.

**Executive Director's Report**

Mr. Skinner provided a report on items concerning TRB as detailed in the Executive Director's Report (as detailed on p.24 of the agenda book). During his presentation, Mr. Skinner highlighted the following:

- Federal transportation spending and funding issues:
  - The surface transportation bill—MAP 21—will expire at the end of September 2014 and must be reauthorized.

- Before MAP-21 expires, the Highway Trust Fund will likely be depleted, which will stop payment on obligations for future state transportation projects.
- Transportation research is not faring well in the Congress. The Senate Environment and Public Works Committee produced a reauthorization bill that would cut FHWA research funding in half. The House Appropriations Subcommittee proposed funding TRB's Transit Cooperative Research Program at \$1 million, a reduction from \$3 million this year and \$10 million in 2012.

Bud Wright, executive director of the American Association of State Highway and Transportation Officials (AASHTO), added the following remarks:

- Congress passed the Water Resources and Development Act Reauthorization, which authorized water resources programs for the next six years, and includes increases in water resources investment. Such investment is an important part of a national integrated transportation system.
- To proceed with surface transportation reauthorization, Congress would need to identify \$16-18 billion per year in revenue in addition to Highway Trust Fund revenue. It is unlikely that Congress will pass a multi-year reauthorization bill before the November elections.
- MAP-21 legislation expires on September 30, 2014, so a short-term extension is probable before MAP-21 is reauthorized.
- AASHTO is encouraging the Senate Environment and Public Works Committee, which has jurisdiction over reauthorizing the federal aid highway program, to maintain robust transportation research funding.

Michael Melaniphy, president and chief executive officer of the American Public Transportation Association (APTA), added remarks as well:

- Transit falls under the Senate Banking Committee. Transit funding would likely be more predictable if it were to move from the general fund to a formula program.
- Overall funding for bus and bus facilities were cut 57 percent in MAP-21. This is problematic as there is now an \$86 million backlog in bus repairs.

Jeff Paniati, the executive director at the Federal Highway Administration (FHWA), added the following comment:

- FHWA is working on a cash management plan if the Highway Trust Fund is not replenished. In communicating with state DOT directors on the possible insolvency, he told them there will still be money in the fund, but not enough. Thus new research programs and technology investment will be at risk.

Mr. Skinner continued his remarks:

- The core program budget at TRB (i.e., the budget for the Annual Meeting, standing committees, staff that support those committees, publications, the transportation bibliographic database, and workshops and conferences) is on a three-year cycle.
  - Developing the budget involves negotiating with states and FHWA about the scope of their contributions.
  - States and FHWA comprise about 88 percent of the funding from core program sponsors, who provide \$65,000 or more annually.
  - The mechanism to negotiate contributions with core sponsors is TRB's Finance Committee, which is made up of state CEO and FHWA representatives.
  - Decisions about TRB's budget for the next triennium will be made at the Executive Committee meeting in January 2015 because of continuing uncertainty in federal funding.
- TRB has been shifting the balance of funding for its core program from 90/10 (90 percent from public sector and association sponsors revenue and 10 percent private revenue) to 70/30 by generating more private revenue from sources such as from exhibits at the Annual Meeting. TRB has thus been able to make up for the shortfall in federal and state contributions during this triennium.
- The Subcommittee on Policy and Planning Review (SPPR) is ahead of schedule with its work on the TRB Strategic Plan and is recommending approval of the draft plan. The incoming director will have the opportunity to work with the SPPR and the Executive Committee to develop and refine action items in support of the plan.
- An overriding priority for TRB staff this year is successfully moving the Annual Meeting to the new venue.
- TRB's second Strategic Highway Research Program (SHRP 2) is winding down, and all research is on schedule to be completed in March 2015.
  - FHWA and AASHTO are engaged in a large-scale implementation effort of the SHRP 2 products.
  - The naturalistic driving study database is two petabytes of data and includes video data, GIS and GPS data, and vehicle performance data. It will be possible to match continuous visual and numerical data with detailed roadway data.
  - It is not yet clear what the institutional setting will be for housing the database in the long-term. With financial support from FHWA and cooperation from FHWA and AASHTO, TRB will continue to oversee the SHRP 2 safety data through an initial five-year transition phase to a more permanent institutional home or homes.
  - The SHRP 2 Study Committee recommended that during this transitional phase, the dataset remains accessible to researchers and that appropriate measures are taken for secure storage and data retrieval in accord with confidentiality guarantees provided to participants. During this phase, decisions will be made about a long-term home for the database.

- TRB, FHWA, and AASHTO are developing a memorandum of understanding (MOU) under which TRB would manage the safety database during the next five years. A cooperative agreement with FHWA to provide the necessary funding is in the works once that MOU is implemented.
- The highlights of TRB's policy studies are as follows:
  - TRB released a report on the effects of transportation investments as part of economic stimulus spending, which included a release event with the transportation policy community in Washington, D.C.
  - TRB also released a report on Federal Aviation Administration (FAA) staffing models. This report received substantial media coverage related to the section of the report that addressed fatigue of air traffic controllers.
  - Reports on inter-city travel, inland waterways, a review of FHWA's truck size and weight study, and a Congressionally-requested study on the Surface Transportation Board's role in rail regulations are underway and scheduled to be released next year.

Karen Febey, Senior Report Review Officer at TRB added the following remarks about the progress and status of TRB's Minority Student Fellows Program (as detailed on p.26 of the agenda book):

- Fourteen university partners are sending students to the 2015 meeting. The majority of fellows are undergraduate civil engineering students.
- TRB is encouraging fellows to participate at committee meetings and the Young Members Council's Annual Meeting events.
- There will likely be the same five organizational sponsors, including FHWA. TRB hopes to increase sponsorship funds through the checkbox option on the Annual Meeting registration form. The program's total costs are about \$75,000 of which organizational sponsors contribute \$25,000. Approximately \$3,000 comes from the checkbox option, and TRB's contribution is about \$47,000.

Mr. Skinner continued his remarks:

- TRB is in the midst of a multi-year process of upgrading and replacing software used to support several program requirements.
- For the Annual Meeting paper submittal and review process, TRB is developing a new software system based on the APTIFY platform.
  - The current software used to manage Annual Meeting paper submittal and review—called PressAMP—is custom-built and handles approximately 4,500 papers that arrive in July for peer review. This software also facilitates the distribution and review of the papers. Once papers are selected for presentation, the software feeds them to a website that makes them available to Annual Meeting attendees.

- Aptify will replace PressAMP, and will be implemented for the 2016 Annual Meeting.
- TRB also used Aptify to create a web-based user interface called MyTRB. MyTRB enables volunteers to create accounts that will store their personal information about committee membership. MyTRB manages records for TRB's 200+ committees and 6,000-7,000 committee members. Included in those records are committees' project schedules and finances.
  - With implementation of MyTRB, committee members will be able to update their own personal information. In addition, the application will allow for consistent record-keeping on subcommittees and people who are Friends of Committees.
- TRB staff continue to enhance and maintain the TRID database, which has over 1 million completed abstracts of transportation research.
- The Sharon Banks Award and Frank Turner Medal of Honor are two prestigious awards presented at the Annual Meeting on alternating years. In 2015, the Turner award will be presented. Recipients are selected by leaders of AASHTO, the Texas Transportation Institute, APTA, FHWA, and TRB.
- Victor Dzau was appointed as the new president of the Institute of Medicine (IOM). He is the former chancellor for Health Affairs at Duke University and the former President and CEO of the Duke University Medical Center.
- NAS is proposing to reorganize IOM by changing the name of the honorific part of IOM to the National Academies of Medicine. With that change, the program side of IOM would move to the NRC and the overall institution would be called the "National Academies of Sciences, Engineering, and Medicine." The by-laws of NAS stipulate that such organizational changes must be approved by NAS's membership at two successive meetings. As the membership approved the change at its annual meeting in April 2014, it must now be approved at its April 2015 meeting. If that change is made, IOM membership would elect its own president; at present, the president of NAS appoints the IOM president.
- It is unlikely that TRB will host meetings at Woods Hole any time soon. Meetings at the Beckman Center are more likely. The June 2015 Executive Committee meeting will be in Washington, D.C., but might be at the Beckman Center in 2016.
- TRB is less dependent on the states and FHWA for funding, but they are still major sources. The strategic plan discussion should consider how to broaden TRB's funding for core programs. One possibility would be to re-examine the different affiliation categories, which are related to the publications that organizations receive.
- The cutbacks in cooperative research program (CRP) funding have meant that not all positions at TRB have been backfilled.
- The Woods Hole facility is underutilized and has gone to a partial-year schedule, but its operation is supported in part through an earmarked endowment. The Beckman Center is also underutilized, and discussions are taking place about how to make it more viable.



## **Technical Activities, Division A**

Mark Norman reported on activities of the Technical Activities Council (TAC) and the Technical Activities Division as detailed on p.48 of the agenda book. His presentation highlighted the following:

### *Update of Activities*

- The Technical Activities Council meeting included a report from the U.S. DOT Office of the Assistant Secretary for Research & Technology (OST-R) representative on federal requirements for open access of data. This requirement stipulates that publications and data that resulted from federally-funded research be made publically available and free of charge within 12 months after original publication. To comply, the U.S. Department of Transportation submitted a plan to the Office of Science and Technology Policy (OSTP) and the Office of Management and Budget (OMB). These requirements have an estimated implementation date of October 1, 2015.
  - The National Transportation Library (NTL) will be the central repository for research results and publications. Manuscripts are to be submitted to NTL under non-exclusive license agreements and the publications may be embargoed for 18 months from the date of publication. There must be a data management plan for federally-funded research projects and the plan must address whether the data are worth keeping, and if so, for how long, in what formats, and whether cost recovery is allowed.
  - Excluded are data that have confidentiality or privacy stipulations. Awardees may determine the repository for depositing the data, but it must be accessible by NTL.
  - Projects funded by states using SPPR funds, which include NCHRP and pooled-fund projects, are exempt as these are considered state funds. However, university transportation center- and FHWA-led pooled fund projects are not exempt. It is not expected that TRB would be a data repository because it is the contractors' responsibility to house data from their projects.
- The TAC has conducted dialogue among federal agency research directors and sponsoring federal agencies on connected and autonomous vehicles. In doing so, the directors presented their agencies' interest and initiatives on these vehicles, and discussed priority research needs, challenges, and opportunities for cooperation with TRB.
- The TAC looked at its existing strategic plan, and began laying the foundations for the next strategic plan for the TAC and the Technical Activities Division. The TAC plans to complete development of its new strategic plan by January 2015.
- The TAC selected the Deen Lecturer for the Annual Meeting and approved two new standing committees on emergency evacuation and logistics. In addition, the TAC is preparing a proposal for a new section on transportation resiliency.

### *Future Venue for TRB Annual Meeting*

- With the Annual Meeting moving to a new venue, there has been much outreach including disseminating information in the *TR News* magazine, the TRB website, and the TRB E-newsletter.
  - All committee meetings will be held in the Marriott Marquis Hotel, with most other activities held in the Convention Center.
  - TRB is paying for high-speed Wi-Fi for attendees at the venue.
  - To ensure availability of accommodations for attendees, TRB has contracts with 20 area hotels, which provide attendees with the government per diem rate.

### *Conference and Workshop Approvals*

- TRB has experimented with state pooled funding for conferences to reduce reliance on federal support. One such state pooled-fund, which was led by the Iowa DOT, focused on asset management and had 21 states participating.
- Iowa DOT has also established a pooled funding arrangement for a national conference on performance management. So far, 15 states have agreed to participate. There may also be possibilities for webcasting.
- Norman requested, and the TRB Executive Committee approved, one sponsored and five co-sponsored TRB conferences (as detailed on pp.53-58 of the agenda book).

### *Young Members Council Report*

Alison Conway, the Young Members' Council (YMC) representative to the Executive Committee, provided an overview and update on the council's activities.

- The YMC is made up of representatives from each of the 11 groups of committees in the Technical Activities Division. YMC has established six subcommittees that are very active within the different groups.
- YMC has a website for document and information sharing that has nearly 400 members.
- One of YMC's primary activities this year is developing a strategic plan.
- There is a "a young professional gap" of those between the ages of 25-35 who attend the Annual Meeting as students but do not attend again until they become middle-level employees at about the age of 35. YMC leaders are looking at possible strategies to allow these professionals the opportunity to attend.
- For this year's Annual Meeting, YMC is planning the same activities as last year, and would like to add two new groups for its mentorship program.

### **Subcommittee for NRC Oversight Report of the Subcommittee**

Susan Hanson described the role, background, and oversight activities of the SNO (as detailed on p.66 of the agenda book). She stated that the SNO works to ensure that the quality of TRB's research meets NAS standards. This is done in part by ensuring that committees producing the research are high quality and meet NAS standards. In addition, the SNO seeks to sustain a

diversity of expertise, background, age, geography, and gender in committee leadership and members. She recognized Gerry Schwartz as vice chair of the SNO who works on the SHRP 2 reports.

### **Report of Subcommittee on Planning and Policy Review and Strategic Plan Update**

Sandy Rosenbloom presented the report of the SPPR (as detailed on p.70 of the agenda book) and provided the following remarks about the group's most recent meeting:

- The SPPR approved a proposed project to follow up on recommendations in *Special Report 313, Framing Surface Transportation Research for the Nation's Future*, which included holding a summit of transportation officials and research leaders who can identify key research topics to meet the nation's transportation goals.
- Since January, TRB has gathered input on its draft strategic plan (pp.79 of agenda book). The plan is aligned with its *Critical Issues* document and includes the views of a variety of stakeholders.
- The draft plan does not include an implementation plan to address the strategic goals, thus allowing the new executive director the ability to help develop these items. After these action items are developed, the Executive Committee and SPPR will monitor progress of the goals.
- Mr. Norman summarized efforts to obtain input to the draft plan: a survey was conducted of TRB leadership, focus groups were held at the Annual Meeting, and opinions from other leadership groups were sought.
- Analysis of these activities confirmed that there is consensus on the content of the Strategic Plan. However, some revisions to the strategies and action items were made.
- The strategic goals of the Executive Committee should be used as a resource in the choice of the new Executive Director. **Mr. Steudle requested, and everyone approved, a motion to approve the Strategic Plan with a "re-opener" that allows the Executive Committee and the new executive director the opportunity to re-evaluate the plan in a year.**
- The Executive Committee also directed that an action item be added on broadening TRB's base of financial support, and that the action item referring specifically to paid advertising be deleted.

### **Marine Board Report**

Tom Leschine provided an overview of the functions and activities of the Marine Board. He highlighted the following items:

- Last spring, the Marine Board conducted a focus session with the Bureau of Safety and Environmental Assessment (BSEE) and other transportation regulators on safety culture.
- During its fall 2013 meeting, the Board conducted a focus session on the future of marine navigation. This session was followed by a Marine Board-facilitated meeting in April 2014 with relevant federal agencies and primary waterway user organizations. This

spawned a nationwide outreach effort by the U.S. Coast Guard, the results of which will be presented during a panel discussion at the TRB Meeting on Harbor Safety and Maritime Security in August 2014.

- At the Marine Board's April 2014 meeting, there was a session on coastal infrastructure resilience. The Marine Board also discussed training and certification of offshore drilling workers and the importance of near-miss reporting in the maritime domain.
- The Marine Board collaborated with and provided input to the NRC's Division on Earth and Life Sciences' report called *Responding to Oil Spills in the U.S. Arctic Marine Environment* that was released this past spring.
- Regarding policy studies in the marine domain, Mr. Godwin added that the Policy Studies Division has a committee studying the safety culture of the offshore oil and gas industry, including management and human factors issues; this study is funded through a court settlement. Another committee is conducting a study on the future of the inland waterway system, which came out of a previous Executive Committee red meat session and should be ready for release by early 2015.
- The Marine Board's next meeting takes place this fall and will focus on liquefied natural gas as a fuel for marine transportation. The Board's new chair and vice chair will be selected and announced later this year; nominations are currently being sought.

## **Strategic Highway Research Program 2**

Ann Brach, SHRP 2 director, reported on activities of the SHRP 2 program (as detailed on p.155 of the agenda book). Her report highlighted the following items related to program highlights and implementation planning:

- SHRP 2 products have been well-received, and the program is now winding down.
- FHWA and AASHTO have made much progress with implementation of SHRP 2 products. Entities that will be using the products include all state DOTs, metropolitan planning organizations, tribes, private sector companies, and university professors.
- The next major project for the SHRP 2 program is negotiations with FHWA for a \$25 million follow-on agreement for the five years that TRB will oversee implementation of the naturalistic driving study data. Mr. Darling just signed a memorandum of understanding among FHWA, AASHTO, NHTSA, and the NRC that lays out the governance and management of the new program. A new Safety Data Oversight Committee for the data will include state DOTs, big data experts, and researchers.
- Mr. Skinner added that the \$25 million will largely be passed through to the organizations that house the SHRP 2 naturalistic driving study data and roadway information data.
- A staff effort has been initiated to document the legacy of the SHRP 2 program and what it takes to carry out a large-scale transportation research program—including decisions on how types of research and anticipated outcomes were chosen.

- To provide potential users with information on using naturalistic driving data, TRB has held workshops at the Annual Meeting and other locations, funded research teams to use the data in pilot projects, and produced reduced datasets that are easier to access.
- The Safety Data Oversight Committee will be setting performance measures to assess how the data should be shared and researchers' and practitioners' use of the driving data.
- The Turner-Fairbank Highway Research Center is setting up a Safety Data Analysis Center, which will train state DOT employees on potential uses of the data.

### **Input to USDOT's 30-Year Vision Document**

Peter Rogoff, Acting Undersecretary for Policy at the U.S. Department of Transportation (U.S. DOT), discussed U.S. DOT's 30-year vision document, which is in development with Secretary Foxx.

- This vision document is a 30-year plan that grew out of a meeting with former U.S. Secretary of Transportation William Coleman who developed a similar plan in 1977 called *Transportation Trends and Choices*.
- The U.S. DOT used TRB publications and the reauthorized GROW AMERICA Act to develop the document. The Act outlines projected population growth and associated transportation needs, and considers policies and financing mechanisms that will be needed to accommodate this growth.
- The Vision Document is not meant to set U.S. DOT policy for the next 30 years, but to act as a policy map to identify trends and their impacts. It is also meant to be a basis for debate and discussion through successive administrations.
- Ideally, the Vision Document will be finalized by November 1, 2014.
- Gene Conti of the Conti Group LLC and Vinn White of the Office of Transportation Policy at the U.S. DOT, added that Secretary Foxx wants the document to be responsive to changing institutions and capabilities, and the organization of U.S. DOT and the transportation industry as a whole.

### **Cooperative Research Programs, Division D**

Christopher Jenks provided a status report on the National Cooperative Highway Research Program (NCHRP), Transit Cooperative Research Program (TCRP), Airport Cooperative Research Program (ACRP), National Freight Cooperative Research Program (NFCRP), Hazardous Materials Cooperative Research Program (HMCRP), and the National Cooperative Rail Research Program (NCRRP), as detailed in the CRP report (as detailed on pp.127-154 of the agenda book). He said that the six cooperative research programs have produced about 75 reports in the first half of FY 2014. He highlighted the following about the six programs:

#### *NCHRP*

- In March 2014 the AASHTO Standing Committee on Research selected the FY 2015 program. The program consists of 43 new projects and 12 continuation projects,

- amounting to \$28 million in contracts. The AASHTO Board of Directors balloted and approved these projects. Each was then approved by at least 35 states.
- NCHRP is assuming the same funding level as FY 2014, but will proceed cautiously because of budget uncertainties. If there is not enough funding for NCHRP in the MAP-21 reauthorization, some projects may have to be canceled.

#### *TCRP*

- The U.S. House of Representatives' proposed FY 2015 appropriations bill funds TCRP at \$1 million, while the FY 2014 program was funded at \$3 million.
- The Senate Appropriations Subcommittee proposed \$3 million for FY 2015.
- The FY 2014 program selected by the TCRP Governing Board was based on an estimated \$4 million program, but only \$3 million was appropriated. As a result, the TCRP Governing Board will deprogram \$1 million of FY 2014 research.
- The final FY 2015 funding will be determined during the final FY 2015 appropriations process.

#### *ACRP*

- This program is authorized through aviation authorization legislation and full funding is anticipated in the FY 2015 appropriations process.
- The FY 2015 research program will be selected in July by the ACRP Governing Board.

#### *HMCRP*

- This program was not reauthorized in MAP-21.
- There are three projects in process, including one that just started. Over the next year and a half, two of these projects will be completed.

#### *NCFRP*

- The program was not authorized in MAP-21.
- There are 13 remaining projects, all of which are planned for completion by late 2015/early 2016.
- The Administration's MAP-21 reauthorization proposal has language to reinstate the program.

#### *NCRRP*

- The program was originally authorized in the Passenger Rail Investment and Improvement Act (PRIIA), and received one year of funding for \$5 million.
- All projects are underway, and one product—a Research Results Digest—has been published.
- Future funding for NCRRP will be contingent on the PRIIA reauthorization process and subsequent appropriations.

### **Afternoon Session**

The Executive Committee reconvened at approximately 1:15 p.m.

## **Policy Session--Connected Vehicles: A Pathway to Automation**

Kirk Steudle welcomed the policy session panelists and expressed the Committee's appreciation for their participation in the session.

Members of the panel were:

- Peter Sweatman, Director, University of Michigan Transportation Research Institute
- Tom Schaffnit, A2 Technology Management LLC
- John Capp, Director, Electrical and Active Safety Research and Development, General Motors
- James Anderson, Senior Behavioral Scientist, RAND Corporation

### *Peter Sweatman*

- Dr. Sweatman focused his talk on the rapid research pathway to automation and what he called the “new ecosystem for mobility” in transportation that involves many industry sectors and the need for public-private partnerships.
- A central challenge in developing such vehicles is the financial stability of the highway system and commercial options for opening up the licensed bandwidth needed for large-scale vehicle deployment.
- The University of Michigan Mobility Transportation Center (MTC), a public-private research and development partnership, is focused on autonomous and connected vehicles and a commercially-viable ecosystem for bicycles, pedestrians, and all types of vehicles.
- Human factors and cyber security are also key issues to attend to during development of the new technology.
- Automated and connected vehicles will allow for improvements in road safety metrics, including highway fatalities and injuries, carbon emissions, and energy consumption.

### *Tom Schaffnit*

- Dedicated Short Range Communications (DSRC) technology, needed for automated and connected vehicles, is consistent with existing Wi-Fi technology but is more sophisticated.
- One safety concern with attempting a nationwide deployment of vehicle-to-vehicle technology is the possibility of having two parallel systems that do not work together—such as the system's infrastructure being incompatible with technology in the vehicle.
- People perceive automated and connected technologies as having a greater threat to their privacy than there actually is. Therefore, companies must work to counteract these erroneous perceptions.
- Interoperability of autonomous and connected technology systems is a key issue as companies work to ensure that safety systems in cars can be maintained throughout different modes and geographic locations.

- One security issue is that when there are different wireless interfaces in vehicles, there are vectors that are vulnerable to remote attack so effective firewalls are needed.

*John Capp*

- Cadillac now has vehicle-assisted driving with its automated cruise control and lane departure warning signals. These features can prevent rear-end crashes. In addition, Cadillac's high-end cars are available with driver assist packages and include automatic collision preparation, front and rear auto braking, and adaptive cruise control.
- The technology is a long way from drivers not having to pay attention to the road environment.
- To move forward with an integrated system for automated driving, better vehicle sensors and maps/GPS that work with the sensors to detect the road environment will be needed.
- Technology will evolve as follows: full human control, emergency intervention, monitored control (limited on-demand automation), complex automation, cars that drive themselves.

*James Anderson*

- Autonomous vehicles are developing rapidly. However, the time that a technology is possible to the time that it becomes ubiquitous often takes a while.
- Connected and autonomous vehicle technology may be able to reduce the 30,000+ people who die every year in vehicle crashes in the United States. In addition, the vehicles have the potential to improve mobility for the elderly and disabled and others without a drivers' license.
- Automated and connected technologies may have a huge environmental impact by reducing traffic congestion, land use in cities, time that people spend in traffic, and fuel consumption.
- Possible disadvantages of self-driving cars are that more vehicles could be on the roads, thus decreasing in public transit ridership and causing greater congestion. There could also be an economic disruption to industries and public entities that depend on vehicular crashes and revenue from parking and moving violations.
- Less-than-optimal adoption of the vehicles could happen if automakers' liability increases if crashes are viewed as the car and manufacturers' fault, not the driver's.
- Changes in liability laws and tort laws may help facilitate implementation. But if the driver is held responsible for any accidents—rather than the manufacturer, some of the changes in liability laws may be unnecessary.

*Daniel Smith*

Mr. Smith, Senior Associate Administrator for Vehicle Safety from the U.S. National Highway Traffic Safety Administration, added remarks to provide the federal perspective.



- The connected and autonomous vehicle technologies are transformative and the road environment will not look the same 40 years from now.
- The role of NHTSA with regard to these technologies is that of determining what the safety benefits will be and ensuring that those benefits are widely implemented. It will also address safety risks through its regulatory authority and encourage adoption of safety technologies and behavior.
- The areas that NHTSA is focusing on for automated vehicles are the following:
  - safe vehicle control,
  - interface requirements that can bring the driver back quickly in emergency situations,
  - performance requirements that work in all conditions,
  - methods for technology testing, and
  - safety of the electronics on the control systems.
- NHTSA going to move ahead with rulemaking to require all new vehicles have DSRC, thus making it possible to realize the V2I benefits.
- NHTSA identified 37 pre-crash scenarios which account for the 5.7 million types of crashes that happen every year in the United States. NHTSA estimated that V2V and V2I technology could have prevented or mitigated about 80 percent of the crashes.
- Several issues remain for NHTSA to do more research. One of those issues is developing performance standards and metrics for DSRC devices that can evaluate safety applications.

### **Break for the Evening**

Kirk Steudle called a recess to the meeting at approximately 5:30 p.m.

**June 26, 2014, Friday**

Kirk Steudle called the Executive Committee back in session at 8:30 a.m.

### **Summary and Discussion of Special Policy Session**

Phillip Washington of the Denver Regional Council of Governments, the policy session rapporteur, provided a summary of the panelists' presentations and his observations from those presentations and the ensuing discussions:

- Objectives:
  - V2V technology and implementation: The U.S. National Highway Safety Administration is moving ahead with regulating implementation of the V2V technology and implementation for the light and heavy vehicle fleet.
  - V2I technology and implementation
  - V2? (pedestrians, trucks, bikes, trains, and other)
- Challenges (Questions):
  - Quickly-evolving technology that will continue to change rapidly
  - Safety of both the systems and technology of connected vehicles
  - Human behavior: We must be cognizant of the disruption that comes with implementation this connected vehicle technology.
  - Policy and regulation: There is a question of whether we can depend on the federal government for leading policy and regulation in today's contentious political environment. Also, there is the issue of whether implementation and testing could continue even after mistakes are made.
  - Education (users and policy makers): Users—the vehicle drivers—may not make use of all of the capabilities of the new technology's system so education will be necessary to teach them about all components of the technology.
  - Implementation (How do we convince ourselves that the technology is safe and ready?): Someone will have to deem the technology as ready for deployment, so it will be necessary to determine the person/entity that certifies the technology as ready and the standards by which the technology's readiness will be judged.
  - Legal and liability issues
  - Metro/rural: infrastructure differences that will affect implementation
  - Back office and business process (the culture change that will accompany implementation)
- Opportunities (benefits outweigh the costs):
  - Society
  - Enable alternative fuel sources
  - Congestion

- Decrease in crashes (saving lives)
- Environmental
- Improved land use
- Role of TRB:
  - Technical activities (council, standing committees, staff)
  - Already included in the Strategic Plan
  - NCHRP prioritization of activities needed
  - Potential roundtables
  - SHRP 2-like program?
  - P3 opportunity?
  - Bring knowledge in from other transportation modes

### **Future Policy Session Topics**

Russell Houston provided an overview of suggested topics for the January 2015 policy session (as detailed on p.167 of the agenda book).

- Based on the SPPR's April 2014 meeting, suggested topics for the January 2015 policy session are as follows: (1) the transportation of energy from a long-haul perspective including changes in the energy market, modes that transport the energy, safe transportation of energy, and impact of these new energy sources on ports; and (2) the civil application of drones. Mr. Skinner also suggested a session focusing on big data, which is the use of GIS, mapping, and other large-scale data used by transportation agencies.
- After discussion, the Executive Committee approved a motion to have its next policy session focus on the big data.
- Mr. Skinner proposed that the SPPR invite experts to its next meeting to talk about the safe transportation of oil and fuel energy in order to determine if this may be a study topic for a future report.

### **Knowledge Management Initiatives**

John Halikowski, Director of the Arizona State Department of Transportation, gave a presentation about knowledge management initiatives for state DOTs. Mr. Halikowski discussed the following:

- Knowledge management is not just about managing and storing big data; rather, it is about how organizations exist and react to changing demographic, social, and economic conditions.
- State DOT directors must know where their organization is with its knowledge management initiatives and be aware that such initiatives equal effective management.
- Most of the decisions that people make are based on intuition and experience, so an organization must capture and retain their employees' knowledge and experience.

- For state DOTs, one of the greatest benefits of knowledge management is improving the delivery of transportation projects, especially with limited resources.
- Methods that can facilitate knowledge management include the following:
  - “Game-ification”: requiring employees to blog about their work experiences, and basing awards, annual evaluations, and promotions on the extent to which others in the organization find the blog useful.
  - Using live interviews and audio recordings to document how leaders made key decisions and carried out processes.
  - Debriefing after projects are complete to learn from mistakes.
- Successful organizations are using all key knowledge management principles.

### **International Activities**

Sandra Rosenbloom, the Executive Committee’s international secretary, provided a report on TRB’s international activities (as detailed on p.183 of the agenda book). Highlights from Dr. Rosenbloom’s presentation are as follows:

- There are many international participants in all of TRB’s activities, facilitated in part by the committee slots allotted for these participants.
- TRB has a number of MOUs with transportation organizations in Europe.
- Dr. Rosenbloom and Mr. Skinner attended the Transport Research Area Conference in Paris, held in conjunction with the 5th International Conference in Women’s Travel Behavior and the second European Commission symposium. The next symposium will be held in Washington, D.C. and will focus on connected vehicles.

### **Administration and Finance, Division C**

Gary Walker summarized the Administration and Finance Division report (as detailed on p.184 of the agenda book):

- TRB spending peaked in 2011 due to SHRP 2 activities, and TRB is now anticipating a decrease in spending as SHRP 2 winds out. This decrease will be slightly offset by the \$5 million annually that TRB will receive for the naturalistic driving study safety and data oversight activity.
- TRB’s annual expenditures for its core activities are about \$16 million, which include standing committees and task forces, the field visit program, the publications department, TRB’s library, and expenses for the Annual Meeting.
- In the current triennium, which runs through June 2015, about 44 percent of funding for core activities comes from state DOTs, 35 percent from TRB-generated income, 13 percent from FHWA, and 8 percent from other federal and private sponsors.
- TRB has had some success in generating additional revenues, even with reduced contribution from the federal level and state DOTs.
- At the beginning of the current triennium, the reserve fund had a balance of 117 percent of TRB’s annual core expenditures, which the finance committee determined to be higher

than necessary. Therefore a measured drawdown is underway with the estimated balance at the end of the triennium anticipated to be around 100 percent of annual expenses.

- Mr. Steudle provided a summary of the finance committee's recent meeting when it discussed the budget process for the next triennium:
  - The Finance Committee examined the major TRB sponsors and reviewed what their future contributions may be given the uncertainties related to the Highway Trust Fund and states' reduced contributions in the current triennium. These reduced contributions are related to the provision in MAP-21 that allowed states to vote to approve SHRP 2 contributions.
  - In addition, the Committee also discussed the purpose of the reserve fund and how TRB's base of support may be broadened so as to reduce dependence on the Highway Trust Fund. While the Finance Committee did not vote on any action items, it did ask for projections about the right percentage for a reserve fund, and whether it should instead be an endowment fund.
- Dr. Rosenbloom proposed that the SPPR have an action item at its next meeting to discuss development of additional revenue sources. The SPPR would then bring the resulting action item to the Executive Committee's January 2015 meeting.

### **Studies and Special Programs, Division B**

Stephen Godwin provided an overview of policy studies that are pending, potential, underway, and completed in the first half of 2014. Mr. Godwin discussed the following:

- There are two proposals for self-initiated studies:
  - One proposed study explores the domestic transportation of petroleum by all transportation modes. Domestic production of petroleum has increased since the middle 2000s in places like the Bakken field in North Dakota, which has resulted in a growing number of public safety concerns about the transportation of this petroleum. Some concerns grew out of recent rail accidents that resulted in petroleum spills. The central research question for this study would be: What are the safest and most efficient means of transporting this product from source to refinery? In answering this question, an issue to include is emergency response (a local government responsibility), and whether state and federal entities should provide emergency response support to communities where petroleum is transported.
  - The other proposed study is on organizational reform of air traffic control that would allow a public-private partnership or government corporation to directly charge users. Most industrialized nations have adopted the Air Navigation Service Provider (ANSP) model. In the United States, discussion about this option has centered on the general and business aviation, which do not pay the cost for their use of the system. The air traffic controllers' union has come to favor ANSPs as a way to have more funding stability. This proposed study could be done by using

the traditional study format or by convening a roundtable or a private meeting for stakeholders.

- After Executive Committee discussion, Kumares Sinha moved that Mr. Godwin prepare prospectuses for both projects, which can both be reviewed at the January Executive Committee meeting. Mr. Steudle requested, and all approved, this motion.
- Mr. Skinner added that TRB has the capacity to do both studies, but it is unknown if the studies would have other financial partners. In any case, it would still be some time before either study could begin, so it is worth having exploratory conversations about the topics at the next SPPR meeting.
- Godwin requested, and the Executive Committee approved, three requests funded by external sponsors:
  - A frameworks summit—based on a recommendation of the 2013 Special Report 313.
  - As mandated in MAP-21, a review of U.S. DOT's report on dedicated short-range communications.
  - An expert meeting to follow up on the recently-published air traffic control staffing report recommendations.

### **Miscellaneous Reports and Other Business**

There were no miscellaneous reports or other business.

### **Next Meeting and Adjournment**

Kirk Steudle adjourned the meeting at 11:30 a.m.