Improving Roadway Safety Programs Through University–Agency Partnerships

A Conference

November 2–3, 2011
The Keck Center of the National Academies
Washington, D.C.

Supported by
University Transportation Centers Program
Research and Innovative Technology Administration

Conference Planning Committee

Daniel S. Turner, University of Alabama, Tuscaloosa, Chair
Bernard J. Arseneau, Minnesota Department of Transportation
Benjamin H. Cottrell, Virginia Department of Transportation
Leanna Depue, Missouri Department of Transportation
Karen K. Dixon, Oregon State University
Barbara Harsha, Governors Highway Safety Association
Jake Kononov, Colorado Department of Transportation
Denise Osborn, Attorney, Public Health Consultant
Reginald R. Souleyrette, University of Kentucky
Nicholas Ward, Western Transportation Institute

Liaisons
Thomas G. Bolle, Robert C. Johns, Robin Kline, and Curtis J. Tompkins, RITA
Tamiko Brim-Burnell, FHWA

2012 Spotlight Conference for the
University Transportation Centers

November 8 and 9, 2012, Keck Center, Washington, D.C.
The conference will address sustainable energy and transportation.

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

The Transportation Research Board is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The National Research Council is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board’s varied activities annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

www.TRB.org
Improving Roadway Safety Programs Through University–Agency Partnerships

The Good News: The past decade has seen major advancements in roadway safety in the United States, resulting in a 60-year low for the number of fatalities. This success can be attributed to many factors, including increased emphasis on roadway safety by transportation agencies, use of interdisciplinary 4-E approaches (engineering, education, enforcement, and emergency medical services), use of strategic highway safety planning, development of improved safety tools and concepts, and more transportation professionals concentrating on safety.

The Not-So-Good News: Even with these advancements, more than 30,000 lives are lost on American highways each year. U.S. efforts in roadway safety still lag behind those of Europe, Australia, and other nations. Simply put, there is still much work for us to do.

The Current Situation: The United Nations now considers roadway fatalities to be a global health issue and has initiated a major program to reduce fatalities. AASHTO is now emphasizing the “toward zero deaths” concept that argues that even one fatality is too many and emphasizes safer drivers, safer vehicles, and safer roads, while bringing safety culture to the forefront. TRB volunteers have addressed safety in multiple formats, including development of the Highway Safety Manual (HSM), published by AASHTO in 2010. FHWA has been very active in roadway safety, especially in developing software, implementation assistance, and training associated with the HSM.

Many new safety methodologies and tools are already available, with others in production. And enhanced safety programs are being organized by major agencies. But so much is happening that some state and local agencies feel inundated by the wave of good safety tools and programs.

This Conference: This conference brings together practitioners and researchers to review the current situation and identify the path forward to enhance roadway safety for state and local agencies. It will serve as a forum to

- Review new safety tools and concepts;
- Highlight current successful university–Transportation agency safety partnerships;
- Identify current and needed capabilities to fully use new tools and concepts; and
- Explore transportation agency–university collaborative approaches to improve highway safety.

Stakeholders and Attendees: This conference will benefit state department of transportation safety engineers and planners, governor’s representatives for roadway safety, public health and local government safety specialists, transportation and safety data experts, and academics involved in transportation safety research.

I encourage you to participate actively in discussions the next two days, both to enhance university–agency collaboration and to embrace the ultimate goal of improving roadway safety.

—Daniel S. Turner, Chair, Conference Planning Team
University of Alabama
Wednesday, November 2

7:30 a.m.–8:15 a.m.
Planning Committee Meeting (by invitation), Room 110, Keck Center

7:30 a.m.–8:30 a.m., outside Room 100, Keck Center
Registration Opens and Breakfast Is Served

8:30 a.m.–10:00 a.m., Room 100, Keck Center
Opening Session: Realizing Safety Improvements from University–Agency Partnerships
Daniel S. Turner, University of Alabama, presiding

This session includes speakers who will give their perception of the potential of university–agency partnerships to produce real safety improvements and those factors that determine the success of the partnership. Emphasis will be on demonstrated benefits accrued from partnerships and the multidisciplinary nature of safety and partnership requirements for new tools.

United States Department of Transportation: Importance of Safety
John Pocari, Deputy Secretary, United States Department of Transportation

Minnesota Department of Transportation: Importance of Safety
Thomas K. Sorel, Commissioner, Minnesota Department of Transportation

Importance of Improving Safety Program–University Transportation Centers (UTC)–Agency Partnerships from the University Perspective
Stephen Albert, Director, Western Transportation Institute

10:00 a.m.–10:30 a.m., outside Room 100, Keck Center
Morning Break

Introduction to Breakout Sessions

The working sessions for the conference are the discussion breakout where conference participants build on the general session presentations by suggesting actions to make university–agency partnerships more effective in improving roadway safety. This approach uses the high level of experience of conference attendees.

Each breakout discussion session lasts 120 minutes, with the last 15 minutes reserved to finalize the group’s report.

Each breakout group consists of about 25 people, a flip chart, a computer with projector, and two leaders (one will serve as facilitator and the other as official recorder). One of the leaders will have served for many months on the conference planning committee.

Introductions will occur during the first breakout Wednesday morning, and participants will stay in the same breakout group for all three discussion sessions. All groups will be addressing the same topics concurrently.
Breakout: What Makes a Successful Agency–UTC Partnership?

This breakout will discuss the various perspective and goals of stakeholders in university–agency partnerships and identify the main barriers and keys to success for these partnerships.

1. Introductions
2. Discuss the differing perspectives and goals of agencies–universities who wish to partner
3. Identify the keys to success for these partnerships
4. Identify challenges and barriers
5. Provide examples of mutually beneficial and enduring partnerships (success stories)

Breakout Group Coleads
Group 1: Leanna Depue, Missouri Department of Transportation
        Benjamin H. Cottrell, Virginia Department of Transportation
Group 2: Karen K. Dixon, Oregon State University
        Jake Kononov, Colorado Department of Transportation
Group 3: Barbara Harsha, Governors Highway Safety Association
        Denise Osborn, Attorney, Public Health Consultant
Group 4: Nicholas Ward, Western Transportation Institute, Montana State University
         Reginald R. Souleyrette, University of Kentucky

Lunch Is Served
(Tabletop seating available in third-floor atrium and breakout rooms)

General Session: Collaborative Efforts to Enhance Value of New Tools and Techniques
Leanna Depue, Missouri Department of Transportation, presiding

After a summary of key points from the breakouts, speakers will discuss the respective goals and skills of universities and agencies, as well as the tools and processes for cooperation that can generate synergy within these partnerships to make successful projects. The focus will be on examples of project collaboration and process that have resulted in successful safety tools. This will extend to the discussion of how continuing collaborations can support the use and deployment of these tools.

Summary of Key Points on What Makes a Successful Agency–UTC Partnership
Jake Kononov, Director of Research, Colorado Department of Transportation

John Milton, Director, Enterprise Risk Management, Washington State Department of Transportation

Evaluation Tools and Skills Necessary to Achieve Potential Benefits from University–Agency Collaboration
Monique R. Evans, Director, Office of Safety Research and Development, FHWA

Successful Examples and Techniques for Collaboration with Nontraditional Partners Such as Public Health Agencies
Denise Osborn, Attorney, Public Health Consultant
3:00 p.m.–3:30 p.m., Room 100, outside Keck Center
Afternoon Break

3:30 p.m.–5:30 p.m., Rooms 100, 101, 105, and 110, Keck Center
Breakouts: Methods to Enhance Project Collaboration and Synergy

This breakout will discuss how the goals and skills of universities and agencies may contradict, duplicate, or complement each other. It will also identify specific project-based methods (tools and processes) that can enhance collaboration and synergy to support project success.

**Breakout questions may include:**
1. Who are the stakeholders in traffic safety?
2. How is the goal of “improved traffic safety” perceived by universities and agencies?
3. What role can universities and agencies have in the improvement of traffic safety?
4. What are the common and distinct skill sets that universities and agencies possess that can be applied to support improved traffic safety?
5. What tools and processes for collaboration can achieve the most synergy between the skills or universities and agencies?

5:30 p.m.–7:00 p.m., third-floor atrium, Keck Center
Welcome Reception and Poster Session

**iRAP–University Partnerships in International Road Safety: Knowledge, Action, Results**
Rob McInerney, iRAP (International Road Assessment Programme); Reginald R. Souleyrette, University of Kentucky; Peter Kissinger, AAAFTS; and Doug Harwood, MRI Global

**Wyoming Rural Roads Safety Program**
Khaled Ksaibati, University of Wyoming; Matt Carlson, Wyoming Department of Transportation; and Bart Evans, Wyoming LTAP

**Road Characteristic Factors Affecting Motorcycle Crashes**
Mansoureh Jeihani, Morgan State University

**Traffic Assistance Services for Kansas (TASK)**
Robert Stokes, Kansas State University; Thomas Mulinazzi, University of Kansas; and Lynn Berges, Kansas Department of Transportation

**Collaborative Effort to Promote Use of Safety EdgeSM in Iowa**
Shauna Hallmark, Tom McDonald, and Bob Sperry, Iowa State University; and Jerry Roche, Iowa Division, FHWA

**Case Study of a University–Transportation Agency Partnership: Assessing Traffic Safety Culture Initiatives in Iowa**
Chris Albrecht and Konstantina Gkritza, Iowa State University Institute for Transportation

**Collaborating to Improve Road Safety in Louisiana: The Louisiana Transportation Center and LADOTD**
Marie Walsh, Louisiana LTAP

**Application of Advanced Tools to Achieve Cost-Effective Traffic Safety Management**
Zong Tian, University of Nevada, Reno

**Improving Safety on Rural Roads: A University–DOT Partnership to Increase Crash Location Data Quality**
Randy Smith, Andrew J. Graettinger, and Allen Parrish, University of Alabama; and Dana A. Steil, Harding University
University of Kansas Adaptive Information Display Project
Gregory Thomas, University of Kansas, Center for Design Research; Chris Depcik and Ron Dougherty, University of Kansas Mechanical Engineering; and Paul Atchley, University of Kansas School of Psychlogy

Establishing Connecticut Crash Data Repository
Eric Jackson, John Ivan, and Gerald Klein, University of Connecticut

Traffic Safety Evaluations for Local Rural Roads
Kimberly Vachal, Mountain Plains Consortium, UGPTI, North Dakota State University

Identifying Factors That Predict Teen Driver Crashes
Kimberly Vachal, Mountain Plains Consortium, UGPTI, North Dakota State University

Collaboration of Utah Department of Transportation and Local Governments to Improve Sign Management
Kevin Heaslip and Travis Evans, Utah State University

Pedestrian Access Management at Modern Roundabouts
George Lu, Transportation Research Center, University of Vermont; Fang Guan, RSG, Inc.; and David Noyce, University of Wisconsin–Madison

Using Peer Influence to Prevent Teen-Driver Crashes
Russell Henk, Texas Transportation Institute

Operational Analysis of Transit Bus Collisions
James Strathman and Paul Wachana, Portland State University–OTREC; and Steve Callas, TriMet

Development of Transportation Safety–Technical Assistance in Massachusetts
Michael Knodler and John Collura, University of Massachusetts

Road Safety Audits: Assisting Local Communities in New Jersey Through Cooperation
Brian Tobin, Center for Advanced Infrastructure and Transportation at Rutgers University

Journal of Transportation Safety and Security: Leveraging Research Partnerships Worldwide
Lissa Gay, University of Tennessee Center for Transportation Research; and Stephen Richards, Southeastern Transportation Center

Improving Rural Roadway Safety Programs Through University–Public School Collaboration
Lawson Bordley, University of Tennessee

Studying Bottleneck Issue at Work Zones and Assessing Effectiveness of Portable Dynamic Lane Merging System in Promoting Zip Merging Behavior
Justin Messina and Jyh-Hone Wang, University of Rhode Island; Martin Pipa, Transport Research Center, Czech Republic; and Daniel Berman, U.S. Department of Transportation, FHWA-RI

Driving Down Deaths Through Comprehensive Measures and Planning
Brian Tobin, Center for Advanced Infrastructure and Transportation at Rutgers University

Plan4Safety
Brian Tobin, Center for Advanced Infrastructure and Transportation at Rutgers University
Transportation Safety Resource Center: One-Stop Safety Shopping
Brian Tobin, Center for Advanced Infrastructure and Transportation at Rutgers University

Evaluating the Impacts of Biomass Ethanol Production on Traffic Safety and Air Quality: A Unique Partnership
Stephen Richards, University of Tennessee, Southeastern Transportation Center

Relation of Truck Driver Hours of Service and Crashes: 25 Years of University-Based Research
Paul Jovanis, Thomas D. Larson, and Kun-Feng Wu, Pennsylvania Transportation Institute

Evaluating Safety Implications of Innovative Bicycle Facilities
Jennifer Dill, OTREC; Chris Monsere and Nathan McNeil, Portland State University; Robert Burchfield, Portland Bureau of Transportation

Improving Transit Safety in Florida Through Implementing Yield-to-Bus LED Signs
Aldo Fabregas, Pei-Sung Lin, and Enrique Gonzalez-Velez, Center for Urban Transportation Research

Successful Collaboration for Acquisition and Use of Driving Simulator in Research, Teaching, and Community Education
Valerie Maier-Speredelozzi and Jyh-Hone Wang, University of Rhode Island; Deborah Rosen, University of Rhode Island Transportation Center; and Daniel Berman, FHWA

Pilot Study for Integrating Simulation into Rhode Island Teen Driver Education
Valerie Maier-Speredelozzi, Jyh-Hone Wang, Charles Collyer, and Grisel Garcia, University of Rhode Island

Collaborative Approaches to Using and Implementing FHWA’s Interactive Highway Safety Design Model
Michael Dimaiuta, Mohamad Banihashemi, and Hui Wang, Genex Systems

Accelerated Safety Improvement Using University–Agency–Industry Collaboration
Cody Stolle and Dean Sicking, Midwest Roadside Safety Facility, University of Nebraska–Lincoln

Tennessee Governor’s Highway Safety Office and University of Tennessee Transportation Center Partnership
Jerry Everett and Jason Ivey, University of Tennessee Center for Transportation Research

United States Road Assessment Program: Pilots, Partnerships, and Progress
Reginald R. Souleyrette, University of Kentucky; Zach Hans, Iowa State University; Peter Kissinger, AAAFTS; and Doug Harwood, MRI Global

A Scoping Study for Implementation of the Highway Safety Manual in Alabama
Steven Jones, Daniel S. Turner, and Yingyan Lou, University of Alabama; and Tim Barnett, Alabama Department of Transportation

On the Collaborative Trail
Chris Monsere, Portland State University, and Karen Dixon, Oregon State University

Implementing Pedestrian Safety Countermeasures Through University and Government Partnerships: A Case Study from Las Vegas, Nevada
Shashi Nambisan, Iowa State University; Srinivas S. Pulugurtha, University of North Carolina at Charlotte; Vinod Vasudevan, Indian Institute of Technology Kanpur, India
Thursday, November 3

7:30 a.m.–8:30 a.m., outside Room 100, Keck Center
Breakfast Is Served

8:30 a.m.–10:00 a.m., Room 100, Keck Center
General Session: Actions to Improve Collaborative Capabilities in Agencies and Universities
Barbara Harsha, Governors Highway Safety Association, presiding

Goals:
1. Discuss the problems that the roadway safety workforce of the future faces, the progress that has been made to date, and the role of universities in meeting roadway safety workforce needs.
2. Provide examples of successful agency–university collaboration in areas beyond workforce development.

Summary of Key Points from Tools and Techniques Breakouts
Chris Monsere, Portland State University

Workforce Needs and Collaborative Approaches to Developing Capabilities in Transportation Agencies and Universities
Paul Jovanis, Pennsylvania State University

Missouri Department of Transportation: Efforts to Improve Collaboration Capacity in Roadway Safety Program with Agency–University Partnerships
William Stone, Missouri Department of Transportation

University of Minnesota’s Efforts to Improve University–Agency Collaboration in University Transportation Center Roadway Safety Program
Max Donath, Professor of Civil Engineering, University of Minnesota

10:00 a.m.–10:30 a.m., outside Room 100, Keck Center
Morning Break

10:30 a.m.–12:30 p.m., Rooms 100, 101, 105, and 110, Keck Center
Breakouts: Moving Forward and Research Directions

Breakout questions may include:
1. What are the issues?
2. Why are these issues important?
3. How can research help?
   - Identify opportunities and barriers for moving forward with new safety tools and concepts, successful partnerships and partnering issues, and workforce.
   - Propose specific research and directions that may be funded by state or federal partners and conducted by research organizations.
   - Identify possible: (a) topics for research problem statements, (b) potential sources of conventional or innovative funding mechanisms, and (c) potential sponsoring organizations and committees.
   - Identify targets for future webinars, meetings, workshops, and conferences.
The five concurrent breakout groups will each make suggestions that a planning committee representative will consolidate and present in the following general session. Each group will use a standard reporting format that can be consolidated quickly, similar to the following:

<table>
<thead>
<tr>
<th>Key Issues</th>
<th>Importance</th>
<th>Research Activity on Opportunities and Barriers</th>
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12:30 p.m.–1:30 p.m., outside Room 100, Keck Center
Lunch is Served
(Tabletop seating available in third-floor atrium and breakout rooms)

1:30 p.m.–3:00 p.m., Room 100, Keck Center
General Session: Priorities for Moving Forward
Daniel S. Turner, University of Alabama, presiding

Speakers will give their perspectives to kick off general discussion on the following objectives:

- Emphasize key points of topics covered in the conference;
- Identify progress and unresolved issues to address for sustaining partnerships and progress in introducing new technology and tools for roadway safety;
- Identify issues on training, human resources, and technology that need resolving to advance roadway safety; and
- Thank participants for helping advance agency–university partnerships to implement roadway safety technologies and tools.

Summary of Key Points on Research Directions Breakout
Shauna Hallmark, Professor, Iowa State University

Actions for Universities to Improve Collaboration
Karen K. Dixon, Associate Professor, Oregon State University

Actions for Transportation Agencies to Improve Collaboration
Bernard J. Arseneau, Deputy Commissioner–Chief Engineer, Minnesota Department of Transportation

Federal Perspective on Next Steps for Improving Roadway Safety Program in University–Agency Partnership Framework
Robert C. Johns, Director, Volpe National Transportation Systems Center

3:15 p.m.–4:15 p.m.
Planning Committee Meeting (by invitation), Room 110, Keck Center
Summit: Emergency Medical Services Systems, Safety Strategies, and Solutions

TRB is sponsoring the Emergency Medical Services (EMS) Systems, Safety Strategies, and Solutions Summit on February 29, 2012, in Washington, D.C. This one-day workshop will review the state of the art of transportation safety in EMS operations. Ongoing research and research needs statements in this area will be reviewed and discussed. This summit is not designed to address issues such as patient care. Contact Rick Pain at RPain@nas.edu for details.

Model Curriculum for Highway Safety Core Competencies
http://onlinepubs.trb.org...bs/nchrp/nchrp_rpt_667.pdf

This report and enclosed CD-ROM presents course materials, including the instructor’s guide and student workbook, for a fundamental highway safety training course. The course presents the core competencies all highway safety practitioners should have or acquire. The CD also includes a brochure and short Microsoft Power Point presentation for marketing the training course. The report will be of particular interest to personnel responsible for professional staff development and managing safety programs.

Highway Safety Manual

The Highway Safety Manual (HSM) is an American Association of State Highway and Transportation Officials (AASHTO) publication that introduces science-based technical approaches to conducting quantitative safety analyses. For the first time, using the HSM, practitioners at the state, county, metropolitan planning organization, and local levels will be able to quantitatively evaluate safety management efforts alongside other transportation performance measures such as traffic operations, environmental impacts, and construction costs.

This ground-breaking AASHTO publication was funded by the National Cooperative Highway Research Program (NCHRP) and developed based on NCHRP research, with guidance and review by the TRB Task Force on the Development of the Highway Safety Manual. The manual provides practitioners with

• Methods for developing and evaluating roadway safety management programs;
• A predictive method to estimate crash frequency and severity; and
• A catalog of crash modification factors for a variety of geometric and operations treatment types.
Plan to Attend
Conference on Energy Sustainability and Transportation

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U.S. Department of Transportation

More information will be available shortly.
Contact Ann R. Purdue, Senior Program Officer, Transportation Research Board, at apurdue@nas.edu.