TRB Committee on Pedestrians—Research Subcommittee
Summary of Activities for 2008
TRB Pedestrian Committee Meeting—January 2009
Prepared by Bob Schneider

1. SUBCOMMITTEE ACTIVITIES IN 2008

1.A. Developed new Research Needs Statements

1) Planning and Policy

- "Institutional Barriers to Improving Conditions for Pedestrians" (lead author: Ilona Kastenhofer)
- "Assessing the Impact of Urban Design on Vehicle Miles Traveled and Greenhouse Gas Emissions" (lead author: Paula Reeves)

2) Design, Operations, and Safety Analysis

- "Improving Pedestrian and Bicyclist Accessibility and Safety at At-Grade Railroad Crossings" (lead author: Sagar Sonar)
- "Evaluation of Automated Pedestrian Detection Technologies" (lead author: Frank Markowitz)
- "Accommodating Pedestrians in Traffic Signal Systems" (lead author: Sagar Sonar)

3) Human Capacity & Sensitivity to Environment

- "Pedestrian Signals: Visibility to Pedestrians with Varying Levels of Vision" (lead author: Billie Louise Bentzen)
- "Pedestrians' Vision Characteristics: Cataloguing Abilities of the General Population with respect to Common Task Requirements" (lead author: David Levinger)

4) Society, Culture & Behavior

- "Evaluating the Effect of Driver Cell Phone Use on Pedestrian and Bicyclist Safety" (lead author: Srinivas Pulugurtha)

1.B. Promoted RNS for Funding and Implementation

- Submitted three RNS to AASHTO Committee on Non-Motorized Transportation in August (Pedestrian signal visibility, Driver cell phone use, At-grade rail crossings)
- Have two RNS being considered in the NCHRP process (Pedestrian signal visibility—Eric Glick of Nevada DOT is key contact; Institutional barriers to pedestrian improvements—Virginia DOT)
- Provided input on Automated Pedestrian Detection RNS for ITE Task Force led by Frank Markowitz
- Provided input on Assessing impact of urban design on VMT, which is being funded by WSDOT
- Collaborated with TRB Bicycle Committee on Cell Phone RNS
- Collaborated with TRB Traffic Signal Systems Committee to refine RNS on Pedestrian Accommodation at Signalized Intersections
- Worked with ITE Pedestrian & Bicycle Council and CDC Physical Activity Policy Research Network as co-sponsors of the Pedestrian Research Symposium in Seattle

- Shared RNS from recent years with FHWA
- Uploaded RNS from 2008 into the TRB Research Needs Statements Database
- Tracking progress on the Safe Routes to School Pooled Fund Study (Washington State, Florida, Texas, and California)

1.C. Modified the Pedestrians Research Needs Statement (RNS) Database

- Finalized the categories in the RNS Database: 1) Planning and Policy; 2) Design, Operations, and Safety Analysis; 3) Human Capacity & Sensitivity to Environment, and 4) Society, Culture & Behavior (Ilona K., David L., Nancy L., Srinivas P., and Laura S.)
- Updated Research Needs Statement Database (138 total records) (Laura Sandt)

1.D. Hosted two workshops to gather input on pedestrian research priorities

- Strategic Research Symposium on Pedestrians & Walkability (David Levinger) (see summary below)
- An Interactive Workshop to Assess Pedestrian Research Activities vs. Research Needs (Ilona Kastenhofer) (see summary below)

1.E. Held three Research Subcommittee conference calls (March, June, and October)

2. STRATEGIC RESEARCH SYMPOSIUM ON PEDESTRIANS & WALKABILITY

Held at ProWalk/ProBike Conference--Seattle, WA—September 2, 2008
Led by David Levinger

1) Planning and Policy

- What will motivate more people to walk?
- Evaluate engineering, education, enforcement, encouragement safety programs in Non-Motorized Transportation Pilot Program cities
- How many people currently walk and bike (children, seniors, income, ethnicities, etc.)?
- Why do retailers locate where they do?
- How well do transportation education programs incorporate a systematic, multi-modal approach?
- How does the focus on climate change affect ped/bike research?
- How can we incentivize and what are the benefits of integrating land use & transportation?
- How many driving trips can be replaced by walking if land use and transportation are coordinated better?
- Develop better methods to predict pedestrian demand and to evaluate pedestrian level of service

2) Design, Operations, & Safety

- Establishing baselines for routine/historical pedestrian counts
- Improve pedestrian crash coding methods (“Synthesis of Pedestrian Crash Reporting”)
    - Geographic accuracy
    - More comprehensive data about the crash
    - Training police

- Impacts of personal electronics use on pedestrian & bicycle safety (e.g., cell phones, hand-held devices)
- Effectiveness of pavement markings and signs on motorist yielding to pedestrians
- Evaluation pedestrian safety and accessibility at roundabouts
- Effectiveness of pedestrian safety stings—impacts of media coverage
- Impact of in-street crosswalk signage on pedestrian behavior and crash rates
- Secondary benefits of active transportation (economic development, pedestrian & bicycle safety, personal security, health effects)
- Evaluation of Institutional Factors Associated with Walkable Design Products (organizational practices and responsiveness to users)
- Development and evaluation of Latent Demand Models for Pedestrians
    - Identify best practices—conduct "state of the practice" research
    - Develop validation process

3) Human Capacity & Sensitivity to the Environment

- Study the impact of land use and transportation infrastructure changes on walkability
- Study the secondary impacts of transportation investments (on health, economic development, security, etc.)
- Improve knowledge of principles of universal design/CSS
- Research user perceptions and perspectives for people with different types of disabilities
- Offer technology transfer and training
- Develop implementation mechanisms that are flexible and interpretive

4) Society, Culture & Behavior

- What are the characteristics of people who walk (e.g., individual, cultural, neighborhood, captive vs. choice walkers, social attitudes)?
- How does the media (including children's books) portray walking and people who walk?
    - Track changes over time
    - Impacts on various groups
    - Does the media create barriers to walking
- How do perceptions of neighborhoods & civic services differ between regular walkers & non-walkers? (How many neighbors can you name?)
- Why is walking viewed favorably in some communities but not in others? What encouragement programs and other factors have contributed to these differences?
- What are the best selling points of walking? (environmental stewardship, promoting community, public safety, convenience, etc.)

3. INTERACTIVE WORKSHOP TO ASSESS PEDESTRIAN RESEARCH ACTIVITIES VS. RESEARCH NEEDS

Held at TRB Conference—Washington, DC—January 10, 2009
Led by Ilona Kastenhofer

1) Data issues and their impact on analyzing pedestrian topics

2) Non-existent sidewalks along existing roads

3) Operational issues for existing facilities

4) Walk to transit

5) Walk to school

6) Transportation disadvantaged

7) Land development

4. SUBCOMMITTEE BACKGROUND

Subcommittee Purpose

The Research Subcommittee has three main responsibilities:

1) Identify pedestrian research needs/topics and develop Pedestrian RNS

The Research Subcommittee is responsible for adding to and modifying the prioritized list of Pedestrian Research Needs Statements (RNS) for the full TRB Pedestrian Committee. The full Pedestrian Committee reviews and endorses the subcommittee research recommendations.

2) Find organizations to fund and conduct necessary research and promote the RNS to these organizations

There are a wide variety of organizations that can fund pedestrian research, and they have different constituents and interests[1]. The Research Subcommittee seeks to identify RNS that match the interests and resources of different groups.

3) Track previous, ongoing, and upcoming research in a RNS database

The Research Subcommittee tracks pedestrian projects in the TRB Research in Progress Database as well as other recently-completed, ongoing, and upcoming pedestrian research projects. It maintains a database of these pedestrian research projects that includes the project title, funding organization(s), researcher(s), and timeframe.

Current Members

- Robert Schneider, UC-Berkeley Department of City and Regional Planning (Research Subcommittee Chair)
- Jonathan Byrd, City of Anniston, Alabama
- Ray Derr, Transportation Research Board, NCHRP
- Ann Do, FHWA Office of Safety
- Amanda Emo, Federal Highway Administration
- Haneen Farah, Technion-IIT
- Joe Fish, City of Bloomington, Indiana
- Laura Fraade-Blanar, Insurance Institute for Highway Safety
- David Guth, Western Michigan University
- Martin Guttenplan, Renaissance Planning Group
- Andy Hamilton, Walk San Diego/San Diego Air Pollution Control District
- Ganesh Karkee, TTI/Texas A&M University System

[1] Potential research organizations include: National Cooperative Highway Research Program (NCHRP), Transit Cooperative Research Program (TCRP), State DOT research divisions, University planning and engineering departments, University Transportation Centers (UTCs), Federal Highway Administration (FHWA) Office of Safety and Office of Environment and Planning, City and County Agencies, League of Cities, Centers for Disease Control and Prevention, Public Health Agencies, Private sector companies, Non-profit organizations, Robert Wood Johnson Foundation, AARP, AAA Foundation for Traffic Safety, etc.

- Ilona Kastenhofer, Virginia Department of Transportation
- Nancy Lefler, VHB
- David Levinger, The Mobility Education Foundation
- Stephanie McVey, Federal Transit Administration
- Meghan Mitman, Fehr & Peers
- Mike Monteleone, Louis Berger Group
- Jeannette Montufar, University of Manitoba
- Dan Nabors, VHB
- Jake Pauls, Consultant
- Srinivas Pulugurtha, UNC Charlotte
- Paula Reeves, Washington State Department of Transportation
- Matthew Ridgway, Fehr & Peers
- Laura Sandt, UNC Highway Safety Research Center
- Sagar Sonar, TranSystems
- Majid Sarvi, Monash University, Australia
- Lisa Spainhour, FAMU-FSU
- Ruth Steiner, University of Florida
- Yolanda Takesian, Kittleson & Associates, Inc.
- Shawn Turner, Texas Transportation Institute (TRB Pedestrian Committee Chair)
- Vinod Vasudevan, University of Nevada Las Vegas
- Anne Vernez Moudon, University of Washington
- Jainhong Ye, Tongji University

Additional support is provided to the Subcommittee by:

- Ron Van Houten, Western Michigan University
- Dwight Kingsbury, Florida Department of Transportation

Subcommittee History

Between 2001 and 2004, the Pedestrian Research Subcommittee developed 16 Research Needs Statements. These RNS are included in *Transportation Research Circular E-C084: Pedestrians: Research Problem Statements* (2005): http://onlinepubs.trb.org/onlinepubs/circulars/ec084.pdf.

Between 2005 and 2008, the Subcommittee developed an additional 27 Research Needs Statements (approximately 10 of these topics are now being funded or researched in some form). Most of these RNS have been posted in the Online TRB RNS Database: http://rns.trb.org/.

Additional Information

More information about the Pedestrian Research Subcommittee is on the TRB Pedestrian Committee website: www.walkinginfo.org/trbped.

Do you have comments or questions about the work or products of the Pedestrian Research Subcommittee? Are you interested in joining or helping the Pedestrian Research Subcommittee? If so, please e-mail Bob Schneider at rschneider@berkeley.edu.