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Mineta Transportation Institute Issues a Research Report on Measuring Walking and Cycling Using the PABS (Pedestrian and Bicycling Survey) Approach

The research team developed a low-budget survey method and sampling strategy for communities that want to reduce emissions and congestion while improving quality of life.

San Jose, Calif., December 16, 2010 – The Mineta Transportation Institute (MTI) has issued [*Measuring Walking and Cycling Using the PABS \(Pedestrian and Bicycling Survey\) Approach: A Low-Cost Survey Method for Local Communities*](#). The research report, available at no charge on the Institute's web site (www.transweb.sjsu.edu), developed a low-budget survey method and related sampling strategy for communities to easily, affordably, and reliably document the amount of local walking and cycling happening among their residents. A user-friendly manual is included. Co-principal investigators were Ann Forsyth, PhD, and Kevin Krizek, PhD, working with Asha Weinstein Agrawal, PhD.

One of the most important contributions of this research project is that the Pedestrian and Bicycling Survey (PABS) instrument has been tested for reliability across administrations (test-retest reliability). The PABS tool achieved adequate to excellent reliability for most questions, creating a useful instrument and a baseline for future comparison with other instruments.

“To tackle the problems of greenhouse gas emissions, traffic congestion, resident quality of life, and public health concerns, communities are using initiatives to spur more walking and cycling,” said Dr. Forsyth. “Local governments face hard choices about which programs to fund. Decision makers, planners, and residents want to understand if proposed policies to increase bicycling and walking actually work. However, most communities have unreliable means to know how many of these trips occur in their jurisdictions, let alone how the numbers may change over time.”

The Pedestrian and Bicycling Survey (PABS) approach allows communities to answer questions such as: How much walking and cycling is occurring in my community? What is the purpose of these trips? Who is completing the bulk of these trips? How often are people walking and cycling?

Compared with research in public health, very few transportation surveys have been tested for this kind of reliability. That is, researchers typically do not know how likely it is that survey respondents will provide similar answers at different times. Some design-related environmental audit tools have been tested for inter-rater reliability, but there is need for additional reliability testing of surveys that collect travel behavior data.

The PABS tool achieved adequate to excellent reliability for most questions, creating a useful instrument and a baseline for future comparison with other instruments. A number of aspects of this test were successful—obtaining mailing lists from widely available sources, drawing a random sample, using accessible copying and mailing providers to copy and distribute the survey, entering data, and conducting analysis. The test, using a single mailing of the survey instrument netted a low response rate that was nevertheless comparable to that for many similar surveys. The report suggests mechanisms that communities can use to improve the response rate to adequate levels. These generally involve multiple contacts with households, such as reminder postcards, additional survey mailings, and strategies for raising general public awareness of the survey and its importance.

The full report may be downloaded at no charge from <http://www.transweb.sjsu.edu/project/2907.html>. Or visit www.transweb.sjsu.edu, click “Research,” then “Publications” and scroll down to the report.

ABOUT THE AUTHORS

Ann Forsyth, PhD, Mineta Transportation Institute Research Associate, is professor of City and Regional Planning at Cornell University. Trained in planning and architecture, she is an expert in physical planning and urban design. Her particular expertise is in sustainable and healthy city design focusing on challenging issues: suburban design and planned communities, walkability, affordable housing, social diversity, and green space. She has also developed new tools for doing this work, including measuring design features of urban environments, assessing plan impacts, and helping the public participate in urban design and planning.

Kevin J. Krizek, PhD, Mineta Transportation Institute Research Associate, is associate professor of Planning, Design, and Civil Engineering at the University of Colorado. He serves as director of the Ph.D. Program in Design and Planning and heads the Active Communities/Transportation (ACT) Research Group. His research focuses on travel behavior (specializing in cycling), neighborhood accessibility, health and planning, and sustainable development. Krizek is a founding editor of the *Journal of Transport and Land Use*, serves as chair of the Transportation Research Board Committee on Telecommunications and Travel, and is on the editorial board of the *Journal of the American Planning Association*. For more information, see www.kevinjkrizek.org.

Asha Weinstein Agrawal, PhD, Mineta Transportation Institute Research Associate, is associate professor in the Department of Urban and Regional Planning at San José State University, and also director of the MTI National Transportation Finance Center. Her research interests in transportation policy and planning include pedestrian planning, urban street design, and transportation finance. She also works in the area of planning and transportation history. She has a BA from Harvard University, an MURP from the London School of Economics and Political Science, and a Ph.D. from the University of California at Berkeley. For a complete listing of her publications, see <http://www.sjsu.edu/faculty/weinstein.agrawal/>.

ABOUT THE MINETA TRANSPORTATION INSTITUTE

The [Mineta Transportation Institute](#) (MTI) was established by Congress in 1991 as part of the Intermodal Surface Transportation Efficiency Act (ISTEA) and was reauthorized under TEA-21 and again under SAFETEA-LU. The institute is funded by Congress through the US Department of Transportation's (DOT) Research and Innovative Technology Administration, by the California Legislature through the Department of Transportation (Caltrans), and by other public and private grants and donations, including grants from the US Department of Homeland Security. DOT selected MTI as a National Center of Excellence following competitions in 2002 and 2006. The internationally respected members of the MTI Board of Trustees represent all major surface transportation modes. MTI's focus on policy and management resulted from the Board's assessment of the transportation industry's unmet needs. That led directly to choosing the San José State University College of Business as the Institute's home. MTI conducts research, education, and information and technology transfer, focusing on multimodal surface transportation policy and management issues. Visit www.transweb.sjsu.edu

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