



# Measuring Walking & Cycling with PABS: A Low-Cost Survey Method for Local Communities

**Ann Forsyth, Kevin J. Krizek, and Asha Weinstein Agrawal**

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SJSU Research Center  
210 N. Fourth St., 4th Fl.  
San José, CA 95112

Tel // 408.924.7560  
Fax // 408.924.7565

www.transweb.sjsu.edu

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Many communities want to promote walking and cycling. However, few know how much nonmotorized travel already occurs in their communities. This research project developed the Pedestrian and Bicycling Survey (PABS), a method that local governments can use to assess levels of local walking and cycling behavior. PABS is a four-page mail-out/mail-back survey that allows communities to reliably answer such questions as:

- How much walking and cycling is occurring in my community?
- What is the purpose of walking and cycling trips?
- Who is completing the bulk of the walking and cycling trips?
- How often are people walking and cycling?

## Study Methods

This research project tested the PABS method to ensure that it is both cheap and simple to administer, and also that it produces reliable data.

To test the quality of the questionnaire, the survey was administered twice to the same set of respondents, a week apart. This process checks for so-called *test-retest reliability*: do respondents answer questions about their general behavior the same way when they take the survey multiple times? An early version of the questionnaire was tested with 100 people, and the final version with another 87.

In addition, the survey was administered in San Jose, California, to verify that the sampling and administration procedures developed were sound. An important part of the test was to verify the feasibility of the random sampling strategy chosen, a two-stage cluster sample.

## Findings

### **The PABS survey questions produce reliable data on walking and cycling.**

This finding confirms that the PABS questionnaire produces quality data, with most questions achieving adequate to excellent reliability when tested using standard statistical techniques. PABS is also the first known survey that collects walking and cycling data for transportation planning purposes with questions tested for reliability.

***The PABS survey questions produce reliable data . . . And PABS is simple and inexpensive to administer, too.***

## The San Jose field test identified many kinds of walking and cycling trips, including trips missed by other common survey approaches like the American Community Survey.

The field test successfully picked up a wide variety of walking and cycling trips. In fact, PABS identified considerably more walk and bike trips than the American Community Survey, which is often used as a measure of walk and cycle trips. PABS picked up more of these trips because the survey asks different questions, including questions about walking and cycling up to a year earlier and about many different trip purposes.

Sample results from the San Jose field test:  
Percent of residents who walked or cycled in the last month, by trip purpose

| Trip Purpose                   | Cycled | Walked |
|--------------------------------|--------|--------|
| To/from public transit         | 4%     | 13%    |
| Destination OTHER than transit | 14%    | 60%    |
| Recreation/exercise            | 17%    | 80%    |

### PABS is simple and inexpensive to administer.

The San Jose pilot showed that the survey could be administered and analyzed by a small team: a local supervisor, three research assistants to coordinate, enter data, and analyze data, and volunteers to address and mail surveys. In addition, the two-stage cluster sampling method that was tested proved cost-effective, even for a large city like San Jose with a population of almost one million people.

### Policy Recommendations

The authors recommend that communities consider using PABS to document levels of walking and bicycling. This quality-tested survey has a number of advantages:

- The well-documented method for administering the survey reduces staff time and costs compared with developing a non-standard approach.
- Because PABS uses a random sampling technique, the results can be generalized to the full community.
- Questions about habitual behaviors have high reliability—that is, people asked the same questions at different times will give similar answers.
- Answers can be compared across communities.

### About the Authors

Ann Forsyth is Professor of City and Regional Planning at Cornell University, Kevin J. Krizek is Associate Professor of Planning, Design, and Civil Engineering at the University of Colorado, and Asha Weinstein Agrawal is Associate Professor of Urban and Regional Planning at San José State University.

### To Learn More

For more details about the study, download the full report at [transweb.sjsu.edu/project/2907.html](http://transweb.sjsu.edu/project/2907.html). In addition, the authors have prepared a manual for practitioners who wish to use PABS. The current version of the manual is at the same website, and later updates will be posted at <http://www.designforhealth.net/health/PABS.html>.

