



Perceptions of Bicycle-Friendly Policy Impacts on Accessibility to Transit Services: The First and Last Mile Bridge

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MTI Project 1104

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Public transit planners have made important efforts to coordinate bicycle and transit modes in the past decade by installing bicycle racks on transit vehicles, implementing bicycles-on-trains policies, improving bicycle parking facilities, and promoting bicycle-transit integration in other ways. These efforts help bridge the first-mile and last-mile gaps that often separate trip origins and destinations from established transit service and discourage would-be transit users from taking bus, rail or ferry.

This research project was designed to profile the transit patrons who are the beneficiaries of efforts to better integrate bicycling with transit and rail facilities (people we refer to as cycle-transit users, or CTUs) and investigate the ways in which transit catchment areas change as a result. To do so, we designed the project to answer the following questions about CTUs in two major U.S. metropolitan regions (Philadelphia and San Francisco):

- What are the characteristics of people who combine bicycling and public transit?
- To what extent do cycle-transit coordination policies extend the range of access to transit on the origin and destination ends?
- What benefits and challenges do CTUs perceive from cycle-transit coordination policies and investments?
- To what extent are current transit agency policies and practices effective in meeting CTU travel needs?

Study Methods

A mixed-methods approach was employed for this study, including a review of the literature on cycle-transit coordination; a preliminary survey of bus operators in Philadelphia, Pennsylvania; an intercept survey of CTUs near transit terminals, stations and stops in Philadelphia and San Francisco; and a series of follow-up telephone interviews with a subset of CTU respondents.

Findings

CTU catchment areas are significantly larger than pedestrian catchment areas.

Not surprisingly, respondents confirmed that transit catchment areas for CTUs are much larger than for pedestrian-transit users: on average, Philadelphia respondents estimated they traveled 2.8 miles by bicycle as part of their cycle-transit trips, while San Francisco respondents estimated that they traveled even farther, an average of 5.4 miles.



Photo: <http://www.philadelphiatransitvehicles.info/index.php>

But the notion of a “CTU catchment area” is more complex than expected.

CTUs frequently combine two or more trip purposes (e.g., work commutes with recreation, exercise, or shopping), as they combine two modes of transportation. In doing so, they often extend the bicycle segments of their trips beyond the shortest or most direct routes to transit stops and stations (for example, to include more scenic, interesting or aesthetically-pleasing routes). In fact, their responses to our questionnaire reveal that bicycles and public transit serve as access modes for each other, enabling CTUs to travel in ways they might not otherwise be able to (See Fig. 1).

CTUs appreciate the ability to travel to, on, and from transit with their bicycles for the time savings and other reasons, but they are emphatic that cycle-transit coordination could be much improved.

The reasons for combining cycling and public transit are varied. Time-savings are important, as expected, but the flexibility bicycle-transit policies convey – to avoid bicycling on hills and congested or unsafe roads, in the dark, on unfamiliar routes and in bad weather – is equally important to CTUs. Though they value existing bicycle-transit coordination policies and investments, they easily identify changes that would facilitate their travel: improved bicycle parking, higher capacity spaces for bicycles on buses and trains, and clearer and more engaging promotional materials, for example.

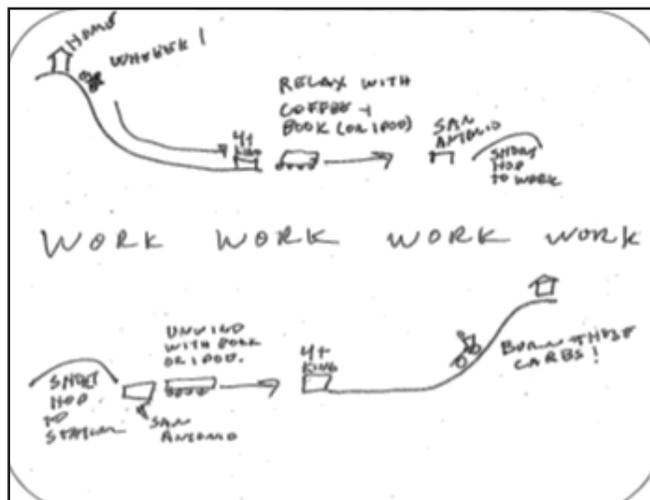


Figure 1: Respondent maps illustrate the diverse and complicated ways CTUs combine bicycling and public transit.

Policy Recommendations

Based on the results of this study, the authors recommend that planners:

- Prepare for a future in which the demand for cycle-transit use continues to increase.
- Develop joint transit agency/municipal bicycle parking facilities to accommodate CTUs who travel to transit by bicycle (but do not travel on transit with their bicycles).
- Improve transit agency data collection in order to track the numbers and behaviors of CTUs.
- Expand CTU orientation materials.
- Encourage the growth and expansion of bicycle share programs.
- Identify means of expanding bicycle capacity on transit vehicles.

About the Authors

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To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/project/1104.html