BACKGROUND

For a number of reasons, university settings are ideal environments for studying bicycle use. Bicycle travel is a particularly “student-friendly” mode of transportation, involving physical activity, convenience and feasibility. At Portland State University (PSU), the percentage of students and employees commuting by bicycle has gone up in recent years, which has increased demand at parking facilities. A refined understanding of bicyclists’ parking behavior is critical to accommodating current bicycle commuters and further promoting bicycling use.

FINDINGS

The initial study of 368 bicycle parking spaces on PSU campus shows trends that are consistent with expectations of the users on campus, and signifies that the measures identified were ideal tools to appropriately assess bicycle parking. The occupancy measure was useful in identifying rack locations that were under and over capacity throughout the collection period. Most importantly, simple analysis and comparison between particular racks revealed user preferences for rack locations in close proximity to major destinations and preferences for sheltered facilities.

RESEARCH OBJECTIVES

This research intends to fill the gap in current bicycle research by developing a methodology to study bicyclists’ parking behavior, and identify measures that can be used to evaluate the parking facilities in an area over time. These measures will provide campus facility planners at universities and municipalities with the necessary tools to better plan for appropriate and effective bicycle parking treatments that meet the needs of users and address the demand issues at current parking facilities. Additionally, this research provides a brief evaluation of the methodology and measures developed, in order to quantify the work effort necessary to perform this type of collection and analysis.

CONCLUSIONS

Time-series photography methodology developed throughout this research offers a simple collection method that requires no special equipment or software. The data collection and compilation efforts were efficient for the quantity of data gleaned, and the data offers great insight into the bicycle parking behavior. There is opportunity to expand efforts with detailed statistical analysis and use in other contexts. Combined, the measures identified create a valuable toolkit for decision makers involved in bicycle parking planning. Additionally, the measures provide a basis of comparison for bicycle parking facilities to be evaluated over time.