



ISSUE

Bicycle infrastructure design has largely emphasized bicycle lanes and paths, with little attention to the facilities at trip's end—those which address bicyclists' needs for security for their bicycle and belongings, shelter from the weather, and making the transition from bicycle rider. These elements comprise what we are calling “bicycle-oriented design” (BOD) and include covered and secure parking, storage for clothing and equipment, and showers and changing rooms. Similar to the concept that in transit-oriented development (TOD), a transit traveler becomes a pedestrian over the course of the entire trip, BOD reflects that a bicyclist becomes something other than a bicyclist at the journey's end.

RESEARCH FINDINGS



This “bicycle wall” at the Lawrence Berkeley Lab provides a safe place for employees to park their bicycles without causing crowding in work spaces or safety problems. It is centrally located in the employee break room.

In our study, we interviewed owners, developers, and managers of four Berkeley sites that are representative of what is found in urban settings: a large, institutional, government complex; a mid-20th century low-rise office building; a contemporary office/retail/residential mid-rise; and a small historic building converted to retail/office/commercial use. We supplemented our interviews with site visits. (Details of each building are provided in the table on the second page.)

We found that there were no regulatory requirements for BOD. In their absence, owners chose to invest in BOD for various reasons. All of them said they used BOD to create a green image for their buildings and that BOD added to employee satisfaction. At the government complex, there was an added desire

Table showing selected characteristics of the four study sites.

Location Surveyed	Setting	Building Type	Size	Number of Occupants	Car Parking Provided	BOD
Lawrence Berkeley National Lab-Building 76	200-acre campus, large institutional, government complex (4,500 daily users)	Mid-20 th Century adaptive reuse (formerly industrial)	5,000 sq. ft.	250	2,000 (free permits)	7 inside bicycle parking racks on wall, showers, lockers; more than 100 bicycle racks added around campus; large capacity racks on buses
Berkeley Electronic Press (BePress)	Commercial street	Mid-20 th Century low-rise office structure	6,000 sq. ft.	60	None	11 indoor bicycle parking racks on walls
David Brower Center	Infill, CBD	Contemporary (2009) mid-rise structure	50,000 sq. ft.	175 (300 capacity)	None	17 bicycle spaces in outdoor locked and sheltered bicycle cage, ~10 spaces in adjoining underground car parking garage, showers and lockers.
2130 Center Street	Commercial street, CBD	Early 20-Century (1924) low-rise landmarked structure, adaptive reuse	25,000 sq. ft.	~100	None	20 indoor, secure spaces in a bicycle room accessible by elevator

The four sites are representative of what is found in many urban settings. They each demonstrate how BOD can be used in a variety of sites.

to “lead by example.” At three of the sites, BOD was seen as a way to improve safety and esthetics by eliminating having bicycles locked dangerously on outside structures or creating clutter in hallways.

In the case of the small historic building, which has no parking, the owner used BOD to market it as a car-free office location. Cost of the BOD fixtures does not appear to be an element in most decisions.

BOD can be incorporated into a wide range of building types, and developers across a range of projects have already taken steps to use BOD. One barrier to BOD inferred from our study is the cost of internal space, even the relatively small 10 sq. ft. that is needed to park a bicycle, unless that space is undervalued or its cost is offset through easing of other obligations (such as the provision of car parking). Another barrier is the lack of standards and readily available sources for BOD design elements.

RECOMMENDATION

We found that broader government policies such as infill zoning exemptions and energy-saving directives made BOD more feasible. A comprehensive survey of existing BOD requirements, guidelines, and best practices of BOD design elements would be useful to policymakers, local officials, and developers as they confront decisions on how or if to encourage BOD. More broadly, additional research on the potential relationship between BOD and mode choice of building tenants could lead to a greater understanding of what benefits are derived from these investments as well as constraints. Finally, an examination of BOD in the residential context, particularly for infill and TOD projects, could “close the circle” on the commute trip by identifying the opportunities and challenges of incorporating BOD into residential projects.

