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Business Cycles

Catering to the Bicycling Market

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Cycling is on the rise across the United States, and its popularity has grown beyond the usual leaders—Portland, Oregon; Seattle, Washington; Davis, California; Minneapolis, Minnesota; and Boulder, Colorado. Other cities making significant investments in bike infrastructure in recent years include New York City; Chicago, Illinois; and Washington, D.C.—all three have realized substantial growth in the numbers of people taking to the streets on two wheels.

New York City has added more than 200 miles to its bicycle network, for example, and the number of bicycle commuters has more than doubled since 2007 (1). Many other cities, large and small, are eyeing these successes and recognizing the potential of cycling as a viable mode of transportation for their communities.

Although improvements that support bicycling can offer benefits such as reduced congestion, improved air quality, and healthier communities, many question the economic impacts, specifically for the business community. Some evidence supports the assertion that bicycling is good for business, but many business owners express concern that cyclists



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A bike parking area at a Fred Meyer grocery store in Portland, Oregon. Portland has long been a national leader in urban bicycling, serving as a model for other cities as the popularity of bicycling grows.

(Above:) A University of Minnesota study is examining consumer-oriented business activity near bike-share stations.

are not a lucrative market compared with customers who arrive by automobile. They argue that efforts to cater to cyclists—such as increasing bicycle parking and adding bike lanes—can hamper access for automobiles and that an economic return from new facilities is not guaranteed.

Empirical evidence to settle these claims is lacking, but anecdotal evidence points to an increasing awareness of the benefits that bicyclists bring to local businesses—for example, some businesses have made concerted efforts to cater to bicyclists, including the addition of features that support cycling, as well as programs or services for cyclist customers. A few emerging studies are working to understand the returns on these investments for businesses and for the community at large.

Returns on Investments

Several studies have aimed at understanding the influence of bicycle tourism and the cycling industry—such as bicycle manufacturers, retail and repair shops, and clothing merchandisers—on local and regional economies. Fewer studies have focused on the cyclist as a consumer and on the potential economic benefits to specific types of businesses.

Industry, Retail, and Tourism

Research into the benefits of recreational bicycling and bicycle tourism has tracked expenditures directly related to bicycle equipment or to travel-related food and lodging. A study of the Outer Banks in North Carolina estimates that tourists who come to the area specifically for bicycling generate approximately \$60 million a year for the local economy, nine times the cost of constructing the bicycle facilities in the area (2). More than half of the visitors on the Greenbrier River Trail in West Virginia spend more than \$100 per visit and most come from out of state (3). According to a recent study, the revenue generated by recreational cyclists and by bicycle tourism in Wisconsin amounts to nearly \$1 billion annually (4). Colorado similarly estimates the impact of cycling by out-of-state tourists and active residents at \$1 billion (5).

Some analyses have examined the bicycle manufacturing, retailing, and service sectors of the economy. Wisconsin claims nearly 20 percent of the bike manufacturing in the United States; the industry contributes \$556 million annually to the state economy (6). In 2008, bicycle-related industries in Portland accounted for \$90 million in direct economic activity, with 60 percent coming from the retail, repair, and rental sectors (7). Since 2006, these industries have grown by 50 percent and provide 850 to 1,150 jobs in Portland.



PHOTO: BIKE AND ROLL, WASHINGTON D.C.

Several other studies have focused on the perceptions of business owners about efforts to discourage driving or to improve nonautomobile access to commercial districts. In some cases, business owners reported that restrictions to vehicular traffic to improve facilities for cyclists or pedestrians had a positive impact on their businesses. For example, business owners on a street in San Francisco, California, noted that the installation of bike lanes increased the number of customers arriving by bike and had improved sales or had no impact on sales (8). Businesses located near bicycle parking corrals in Portland estimated that one-quarter or more of their customers arrived by bicycle (9).

A bicycle rental station in Washington, D.C. Research has uncovered economic benefits of bicycle tourism and recreational biking for localities.



PHOTO: JESSICA DOWNING, APHA

Some studies show a positive impact when bicycle facilities, such as bike lanes, are added near retail businesses.

Research into grocery shopping patterns showed that bicyclists spend less than automobile drivers, especially when they travel long distances to reach the store; however, bicyclists, pedestrians, and transit users shop more frequently.



PHOTO: STEVE VANCE, FLICKR

Spending Patterns

Few U.S. studies have documented the interrelationships between mode, expenditures, and frequency of trips. In Seattle, researchers studied the mode choice of customers for trips to the grocery store (10). The results showed that stores in higher-density neighborhoods had a higher likelihood of shoppers using an alternative mode of transportation or transit. A survey in a commercial corridor in San Luis Obispo, California, revealed that consumers arriving by bike spent similar amounts yet visited more frequently than those who arrived by car (11). Internationally, studies from Münster, Germany (12), and from Utrecht (13) and Amsterdam (14) in The Netherlands have found that cyclists spent less per visit to a business but visited the business more frequently, which results in higher spending patterns over time.

U.S. researchers are beginning to explore this topic, working to measure the value of the cyclist as a customer for local establishments. At the University of Minnesota, a local economic activity study is conducting surveys and interviews of businesses near Minneapolis bike-share stations to collect information about changes in sales and in customer activity; bike-share system users are asked about their expenditures at local businesses. The data collected will be used to associate bike-share use patterns with consumer-oriented business activity.

Portland State University researchers recently collected survey information about customers and their transportation to various establishments, including high-turnover restaurants, convenience stores, and drinking establishments across the greater metropolitan area (see sidebar, page 29, for details and prelimi-

nary results). The study aims to provide answers about the links between the mode of travel to these destinations, the amount spent, and the frequency of trips, while controlling for income, urban form, the transportation environment of the establishment, the number of persons in the household, and other factors.

Supermarket Data

As part of this effort, the researchers analyzed survey data collected independently by a supermarket chain on customer travel choices to 10 stores across the Portland metropolitan region (15). The limited data included information about the store's location, the residential locations of customers, the time of day and the day of the week, the mode of travel to the store, and expenditures on that day.

The findings revealed that customers who traveled by automobile to the grocery store spent more per trip compared with those who arrived by bike, walking, or transit. Cyclists spent approximately \$13 less per visit than automobile patrons. Results also highlighted the importance of bicycle infrastructure, urban form, the distance from home to the store, and the day of week in the choice to bike.

In addition, cyclists who traveled farther spent approximately \$5 less per mile of travel. No information was collected on the frequency of trips; therefore, the expenditures of customers across modes cannot be evaluated over longer time periods. The same grocery chain, however, collected data more recently that included the frequency of trips, and the preliminary results suggest that customers who walked, biked, and rode transit shopped more frequently.

Exploring the Relationship Between Consumer Behavior and Mode Choice

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Researchers at Portland State University are studying the relationship between mode choices and customer expenditures. Funded primarily by the Oregon Transportation Research and Education Consortium, the study aims to provide a quantitative analysis of the connections between consumer spending and travel behavior.

During the summer of 2011, patrons of restaurants, bars, and convenience stores in different urban settings throughout greater Portland were asked to complete short surveys as they exited the establishments. Survey results suggest that patrons who arrive by automobile do not necessarily convey greater monetary benefits to businesses than bicyclists, transit users, or pedestrians. This finding is contrary to what business owners often believe. Nevertheless, motorists comprise the largest share of customers across establishment types and urban contexts.

Results from all establishment types show that customers who arrive by automobile spend more on average per trip than others (see Table 1). Taking the frequency of visits into account, however, reveals a different result—cyclists are greater spenders on average. The monthly differences are not statistically significant, however, and suggest that business owners may not realize gains by appealing to customers solely on their mode choices.

When consumer expenditures by mode of travel are examined in the context of the establishment's location, statistically significant differences emerge. The contexts include central business district (CBD); urban core—the central city outside of the CBD; neighborhood centers—commercial centers within neighborhoods; and low-density suburban business districts. Establishments in the urban core receive the highest average expenditures per visit across all modes at \$14.55, followed by establishments in neighborhood centers at \$11.55, in the CBD at \$11.07, and in suburban contexts at \$10.08 (see Figure 1). Patrons who arrive by automobile spend more per visit in all urban contexts, but the expenditures vary across contexts for consumers who travel by other modes.



Portland State University researchers survey customers about their travel behavior outside local establishments.

The study includes different types of establishments—high-turnover restaurants selling pizza and Mexican food, convenience stores, and bars. The average expenditures vary significantly across these different establishment types, as shown in Table 1. Convenience stores have the lowest average expenditures per visit at \$7.36 but the highest average expenditures per month, at \$80.40, because of the frequency of

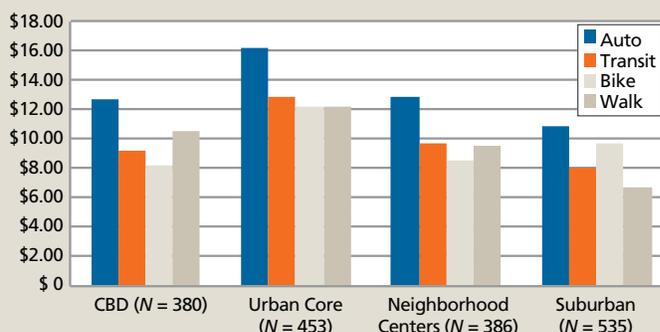


FIGURE 1 Average consumer expenditures per visit, by type of district.

visits. Customers who arrive by automobile spend the most per visit across all of the establishments, but cyclists spend the most per month.

These results suggest that marketing to cyclists is likely to generate a positive expenditure return for businesses in the right context. Profit margins and net gains must be evaluated on the basis of operating costs, which vary by location and space requirements. More evidence is needed to provide more conclusive direction for economic development. This ongoing study will examine the findings more closely, controlling for establishment characteristics, customer demographics, and the built environment near the business in disaggregate models of expenditures.

TABLE 1 Average Customer Expenditures by Mode of Travel and Type of Establishment

Mode	Establishment	Trips per Month	\$ per Trip	\$ per Month	N
Auto	Bar	1.6	25.55	40.21	88
	Convenience	9.9	7.98	79.37	543
	Restaurant	2.2	18.74	41.16	409
	Total	4.5	13.70	61.03	1,040
Bike	Bar	4.9	14.08	68.56	42
	Convenience	14.5	7.30	105.66	63
	Restaurant	3.5	12.08	42.52	48
	Total	7.1	10.66	75.66	153
Transit	Bar	1.8	19.54	35.35	13
	Convenience	10.9	6.91	75.62	53
	Restaurant	3.5	11.52	40.68	36
	Total	5.7	10.15	58.16	102
Walk	Bar	3.1	22.17	68.42	53
	Convenience	12.6	6.13	77.34	254
	Restaurant	2.6	16.74	43.77	131
	Total	5.9	11.25	66.22	438
Total	Bar	2.5	21.78	53.59	196
	Convenience	10.9	7.36	80.40	913
	Restaurant	2.4	17.39	41.78	624
	Total	5.0	12.60	63.46	1,733

NOTE: N = number of respondents.



One or two car parking spaces can be converted to bike corrals for 20 to 40 bicycles. In Portland, bike corrals are a growing feature of the urban landscape.

Bicycle-Supported Development

Transit-oriented development (TOD) has become an accepted term in the transportation vernacular, but bicycle-supported development is a lesser known term. Similar to TOD, bicycle-supported developments are areas with attributes and features conducive to bicycling—such as density of development and mix of uses, abundant and convenient bicycle parking, and proximity to cycling facilities.

Business establishments in these developments have a culture that accepts the bicycle mode, sometimes offering specials for those who arrive by bike, plus amenities such as lockers, showers, and other services that are less obvious from the street. Portland is actively pursuing this development concept, but the individual elements of bike-supported development are catching on nationwide, even when support from the business community is mixed.

Some local businesses embrace bicycling and are recognizing the potential new market share of these

consumers. Not all efforts to accommodate this market, however, are met with enthusiasm, and some have encountered organized opposition. For example, Memphis, Tennessee, is adding dedicated bicycle lanes to Madison Avenue as part of a facility redesign and repaving project funded by federal stimulus dollars, but many local merchants have opposed the changes, fearing a loss in their customer base.

Bike Corrals

Bicycle infrastructure can be controversial, particularly when on-street parking for motorists is removed to make way for bicycle lanes or parking. Typically, one or two automobile parking spaces can be converted to on-street parking for 20 to 40 bicycles; these clusters of bicycle racks are termed bike corrals. Businesses sometimes fear that the loss of automobile parking will have a negative effect, making their establishment less accessible to customers who drive and leading to a loss in their customer base that will not be replaced by cyclists. Evidence suggests that these concerns may be unfounded.

Pioneered in Portland, bike corrals have become so popular with local businesses that the city cannot keep up with the requests. More than 75 bike corrals currently have been installed at the request of adjacent business owners who see cyclists as an important customer base. Bars and restaurants have capitalized on this new infrastructure, which provides a buffer from moving traffic, by adding outdoor seating for sidewalk cafes. Because demand is so high, the city must place future corrals strategically and may institute a fee for installation.

This movement is catching on in other parts of the country, with corrals recently installed in such cities as Chicago; Milwaukee, Wisconsin; Los Angeles, California; Cincinnati, Ohio; Baltimore, Maryland; and Salt Lake City, Utah, as well as in Toronto, Ontario, Canada. In the past year, Austin, Texas, has installed seven bike corrals adjacent to bars, live music venues, and coffee shops. The businesses had been trying to accommodate their cycling customer base but the available bicycle parking was insufficient to meet the demand. Somerville, Massachusetts, has added two corrals and plans to install several more.

Built-In Accommodations

In New York City, housing and office buildings are offering more bicycle parking and storage, complementing the new bicycle lanes and parking areas that the city has built in the past several years. Dedicated bicycle rooms in private buildings are on the rise, with amenities ranging from secure indoor bicycle racks to locker rooms. Real estate listings for office spaces and apartments advertise these features.

A bike storage area in a Seattle condominium building. More private buildings in urban areas are incorporating bicycle storage and bike parking.



In 2009, the city endorsed this trend through the Bicycle Access to Office Buildings Law, which guarantees that employees who have bicycle storage or parking facilities inside their workplace cannot be refused building access by security or management. Hostels and hotels in New York increasingly are offering loaner bicycles or repair tools to encourage guests to travel by bicycle.

In response to the strong bicycling culture in Portland, developers have started taking advantage of the marketing possibilities along heavily-traveled bicycle corridors. Bike-supported developments are cropping up in commercial and residential projects, offering amenities and services that appeal to cyclists. For example, a successful urban renewal project along North Williams Avenue, a popular bicycle commuting corridor, has attracted a cluster of new businesses catering to cyclists: restaurants, bars, coffee shops, a guest house, a bicycle-oriented apartment building, and a bike repair and frame-building shop.

This level of bicycle-supported development has not yet become popular beyond Portland. Nonetheless, if cities continue to support bicycling through infrastructure investments, the private sector appears poised to respond to advantage.

Bike-Sharing Programs

Bicycle-supported development and the TOD model may come together with the rise of bicycle-sharing programs in cities across the United States. Systems are in place in Minneapolis; Denver, Colorado; New York City; Boston, Massachusetts; Miami Beach, Florida; and Washington, D.C. The placement of bike-share stations at rail stops aims at the traveler's "last mile," extending access from transit to destinations.

In Washington, D.C., the program is popular with tourists and residents alike. Bike-sharing stations are strategically placed near Metrorail stops and concentrations of employment, housing, and entertainment. As TODs mature around rail stations, bicycle-supported development may become an important link in their success.

Smaller bike-share programs operate on institutional and workplace campuses, capitalizing on the short trip lengths and connections to retail, shopping, and other local destinations. San Luis Obispo's bike-share program is designed to facilitate the use of bicycles for workplace trips. The program has provided 15 participating employers with bicycles, helmets, and locks and has conducted safety workshops. Higher education also has embraced the approach, with nearly 90 programs serving students, staff, and faculty at colleges and universities across the country (16).

PHOTO: JENNIFER WEEKS



Capital Bikeshare in Washington, D.C., is a popular bike-sharing program, with stations placed near transit stops and concentrations of employment. The slogan boasts, "150 locations, endless temptations!"

Programs and Special Events

Commercial districts around the country are also experimenting with programs, special events, and services aimed at attracting cyclists or encouraging customers to travel by bicycle. The City of Long Beach, California, has established four bike-friendly business districts under a pilot project funded by the Los Angeles Department of Public Health in 2010 as a part of a larger program to combat obesity, improve nutrition, and increase physical activity. Efforts include providing bicycles for area employees to run errands and conduct business in the area, providing discounts for bicycle patrons on Saturdays, conducting courses on bicycle safety, and offering maintenance and valet parking for bikes during special events, such as street fairs and art festivals. The hope is that the districts will continue the programs after the pilot project ends in 2012.

Bike Valet Parking

Bike valet parking is becoming a popular strategy to encourage bicycling to special events. Tucson, Arizona, has offered the service at its semiannual Fourth Avenue Spring and Winter Street Fairs. In Washington, D.C., bicycle valet service was available for the Presidential inauguration in 2009 and for the annual National Cherry Blossom Festival. The San Francisco Bicycle Coalition provides free bike valet service for San Francisco Giants home games and other major public events; city law requires monitored bicycle parking at all events with an anticipated attendance of 2,000 or more.

These bike valet programs are intended to encour-



PHOTO: CARL SUNDBLUM

Cyclists comprise a growing share of the consumer market, creating opportunities for research on the effects of bicycle infrastructure on commercial environments.

age attendees to consider bicycling and to reward those who do with free and convenient service. The strategy has focused on special events, however, and has yet to be embraced for everyday shopping and dining trips, although the University of Arizona and the Oregon Health and Sciences University recently began offering free valet parking to cyclists on campus. Business corridors and commercial districts may find the approach worthwhile if bicycle demand increases.

Marketing Efforts

Many businesses are working together to market their goods and services to cyclists. In Vancouver, British Columbia, Canada, Business for Bikes promotes the bike-friendly establishments of its more than 100 members, who receive information on how to market to cyclists and attract new customers who cycle. A recent publication, *Bicycling Brings Business: A Guide for Attracting Bicyclists to New York's Canal Communities (17)*, provides information to businesses along the Erie Canal about accommodating cyclists. Clearly, recognition is growing that cyclists constitute a current or potential consumer market and that certain kinds of infrastructure and services may attract cyclists or encourage business patrons to shift modes.

Tracking the Evolution

With the growth in bicycling investments throughout the United States, the need for more rigorous and detailed evidence on the economic impacts of cycling is pressing. The opportunities are abundant to conduct longitudinal studies that track the evolution of commercial environments before and after the introduction of bicycle infrastructure and services. The profitability and benefits to the private sector should be given more scrutiny, as many advocate for increased public investment in bicycling.

Clearly, the topic is a prime area for more research. More information is needed to document the planning and political processes that make these projects successful, the balance of investments between public and private entities as bicycle-supported developments mature, and the changes—in customer characteristics that occur with mode shifts.

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