BICYCLE PARKING

Secure bicycle parking is a key ingredient in efforts to encourage bicycling at the local level.

PROBLEM OVERVIEW

Providing secure bicycle parking is a key ingredient in efforts to encourage bicycling at the local level. Many bicycle journeys end somewhere other than the bicyclist's home and, as a result, the bicyclist must park his or her bicycle. For those who live in apartment complexes, college dormitories, or other high-density settings, the issue of where to leave a bike while home is also a serious issue. In short, at one time or another most bicyclists have experienced the frustration of finding no secure place to leave their bikes.

Some have experienced the even greater frustration of returning to find their bicycles stolen. In fact, statistics compiled by the Federal Bureau of Investigation show that between 1988 and 1992, an average of approximately 450,000 bicycles were reported stolen each year. These figures are low, according to the Lock Smart Campaign, which estimates that roughly twice as many are stolen but never reported. They suggest that, with an average cost of $380 per bike, the financial loss to American bicyclists amounts to some $450 million per year.

While providing secure bicycle parking is not the entire solution to the problem of theft, it certainly can help and it can increase bicyclists' comfort in leaving their bicycles unattended. As a result, many bicycle owners may be encouraged to make bicycle trips they might otherwise forego.

SOLUTION OVERVIEW

Bicycle parking can be provided in a wide variety of settings using three basic approaches: bicycle racks (open-air devices to which a bicycle is locked); bicycle lockers (stand-alone enclosures designed to hold one bicycle per unit); and bicycle lock-ups (site-built secure enclosures that hold one or more bicycles). See page 90 for two types of bicycle parking devices.

For short-term parking, bicycle racks work well. At sites that require long-term parking for a variety of potential users, lockers are the devices of choice. For long-term parking for a limited number of regular and trustworthy users, bicycle lock-ups can solve the problem.

OBJECTIVES

1 To provide well-located secure bicycle parking at popular destinations in business districts and at other public sites:

- By installing bicycle parking at public centers.
- By installing bicycle parking on public rights-of-way in neighborhood commercial and downtown business districts.
- By encouraging private businesses to provide bicycle parking for their customers.
- By installing bicycle parking at transit stops and in parking garages.
- By encouraging the installation of high-security bicycle parking at existing worksites, schools, and high-density residential developments.

2. To require new commercial, public, and high-density residential developments to include plans for bicycle parking:

- By adding provisions to local zoning regulations requiring bicycle parking as part of new developments, particularly commercial, public, and high-density residential developments.
- By making these requirements part of the process of getting a building permit.

IMPLEMENTATION STRATEGIES

Implementing bicycle parking in a community requires a combination of three primary strategies: 1) acquiring and installing bicycle parking devices on public rights-of-way or at public destinations (e.g., city hall, libraries, and parks); 2) encouraging businesses to provide bicycle parking for their customers; and 3) altering zoning regulations to ensure bicycle parking is provided in new developments. Typically, the first strategy helps "prime the pump" for the second; and the third strategy helps ensure long-term improvements in newly developed areas.

SUBTASKS

1. Identify key implementors

Each of the three implementation strategies requires the cooperation of a different group of constituencies. To put bicycle parking in public places requires the cooperation of agencies that control the land involved. Side-

walks may be controlled by the streets or public works department while parks and recreation may have responsibility for public open spaces and recreational sites. There may be an agency in charge of all public property. Alternately, agencies that run specific services (e.g., the library, public health clinics) may control their own sites.

Encouraging businesses to install bicycle parking requires the cooperation of such groups as the Chamber of Commerce, downtown business associations, and shopping center managers. In addition, agencies that routinely deal with businesses should be enlisted as outlets for any literature developed as part of the program.

Altering zoning regulations to require consideration of bicycle parking in new developments requires close cooperation with planning and zoning agency staff, as well as assistance from appointed zoning boards and builders' associations. Typically, regulations are revised on a schedule; therefore, the opportunity to revisit parking requirements may or may not be imminent.

2. Structure the program

In some communities, a reactive program that simply fills orders and answers questions can prove successful. This would be most likely in a "bicycle town" with a high degree of interest in bicycling matters. However, in many places, such a passive approach would result in little response. Business owners and managers of large employment centers or residential complexes often see bicycles as clutter and "problems" to eliminate rather than as solutions to traffic congestion or air quality problems. As a result, a successful bicycle parking program should include elements of marketing and promotion.

With the help of the key players identified in Subtask 1, create three adhoc task groups covering each of the three primary thrusts. The groups should create the ground rules and materials necessary for the following tasks:

Task Group 1: public bicycle parking

- Install bicycle parking at public centers
- Install bicycle parking on public rights-of-way
- Install bicycle parking at transit stops and in parking garages

Task Group 2: private bicycle parking

- Encourage private businesses to provide bicycle parking for their customers
- Encourage installation of high-security bicycle parking at worksites, schools, and high-density residential developments

Task Group 3: zoning regulation revision

- Add provisions to local zoning regulations requiring bicycle parking
- Make these requirements part of the process of getting a building permit

3. Choose appropriate bicycle parking devices

As one of the first tasks, assemble packets of information on available bicycle parking devices, along with pros and cons for endorsing each device.

In a joint meeting(s) with all three task groups, adopt a set of criteria and decide which devices to endorse. A set of possible criteria are listed in the Specifications section given on page 91. Next, give each task group its marching orders. They are as follows:

4. Tasks for Task Group 1: public bicycle parking

Task Group 1 should set criteria for installing bicycle parking devices on sidewalks, as well as at public destinations. For sidewalks, criteria could include such things as minimum width of sidewalk, rack position on sidewalk and proximity to other street furniture and vegetation, number per block or number per site. For public sites, they could include proximity to the main entrance, and minimum number of bicycle parking spaces per installation (perhaps keyed to type of facility served).

Next, they should create an agreed-upon step-by-step procedure for planning and installation. This should include initial identification of the potential site, discussion with relevant agency personnel, determination of the specific site's needs (number of parking devices and location), cost analysis and budgeting, procurement, installation, and follow-up.

To support this activity, they should create a project sheet for rack installation that includes places for the source of the request (if any), signatures of any required agency personnel, a schematic diagram of site, installation date, and any comments.

Next, they should estimate the total bicycle parking need for public places, given a list of potential sites. Estimates can be conservative and based to some extent on existing bicycle traffic, as long as participants realize that latent demand may be significant. For this reason, phased installations can be particularly appropriate.

For sidewalks, a base number of racks to be installed during the fiscal year (e.g., 100, 500, 1000) should be decided upon, along with a map showing area priorities. Downtown might, for instance, be a top priority area, neighborhood commercial areas could be second, and strip development areas might be third.

Finally, the Task Group should set an annual budget for the program and decide how the bicycle parking should be paid for. Potential sources include a wide variety of Federal transportation programs, as well as local funding opportunities.

Funding Bike Rack Installation:

One small city started a cooperative downtown bike parking program in which the engineering department did the installation while the redevelopment agency bought the racks. The rack purchasing budget was approximately $2500 per year and installation cost slightly less. With approximately $5000 per year in funding, the city was able to install 50 racks each year. Over the past decade, they have installed between 400 and 500 racks in this manner.

Other cities have created ambitious programs using money provided under the Intermodal Surface Transportation Efficiency Act. For example, one large midwestern city used nearly $1 million of its Congestion Mitigation/Air Quality Program money to install several thousand bike racks around the community.

5. Tasks for Task Group 2: private bicycle parking

Task Group 2 should assemble a packet of information for potential private sector bike parking providers. The packet should include a cover letter describing the importance of bicycle parking to businesses and giving any organizational endorsements for the program; a list of available parking devices, along with information on how to order them and which are best suited for which settings; tips on deciding how many bikes need to be accommodated; and tips on locating and installing the devices.

The Task Group should also work out details of any promotional activities that will need to be planned. For instance, they should develop a list of groups to talk with, determine who should be responsible for reaching each one, and start making contacts. To this end, the Task Group should develop a standard presentation, possibly including slides and handouts.

6. Task Group 3: zoning regulation revision

This Task Group should start by identifying passages in the existing zoning codes where motor vehicle parking is discussed. They should find out when the regulations are going to be next modified and use that in determining their schedule of work. They should next assemble sample bicycle parking laws or ordinances from other communities. Based on the sample laws, they should create a draft revision to the regulations and circulate it for comment. Once comments have been received and considered, they should forward a final draft revision for action at the proper time.

7. Implement the program

With the program set up, materials at the ready, and initial funding identified, implementing the program can begin. Routine responsibilities for the various tasks should be taken care of by the agencies identified through the previous steps. Oversight of the program may require the attention of a project coordinator. This may be a task delegated to a member of the planning or public works staff.

8. Evaluate progress

As the work is proceeding, keep track of successes and failures. Early on, get the word out to the bicycling public that 1) the program exists; and 2) that they should submit comments and ideas for potential parking sites. Keep records on how many parking devices have been installed, how many comments have been received, how many information packets have been sent out, what proportion of public places have adequate bicycle parking, how well the parking is working (e.g., whether the public likes it, whether it holds up well to vandalism), and how successful the zoning regulations appear to be (once they are adopted). Use this feedback in fine-tuning the program and determining future levels of funding.

RESOURCE REQUIREMENTS

For the most part, bicycle parking requires basic equipment: racks and lockers. These can be ordered or fabricated in large or small quantities. Ordering in quantity can save money as long as storage needs can be satisfied until installation can be accomplished. Once a community gets actively involved in bicycle parking installation, it is quite possible that local sources will emerge. For instance, in some communities, welding shops make and sell approved bike racks on a routine basis. This not only helps agencies satisfy a growing bicycle parking demand but it can also lead to the development of new local industries.

SCHEDULE

Installing bicycle parking at public places and on sidewalks can begin with little delay. Encouraging businesses to install bicycle parking, being more of a marketing and promotion activity, involves building interest over time and may not pay off for several years. Even longer term are the results of changes in zoning ordinances. At the same time, these changes can lead to the greatest overall effect.

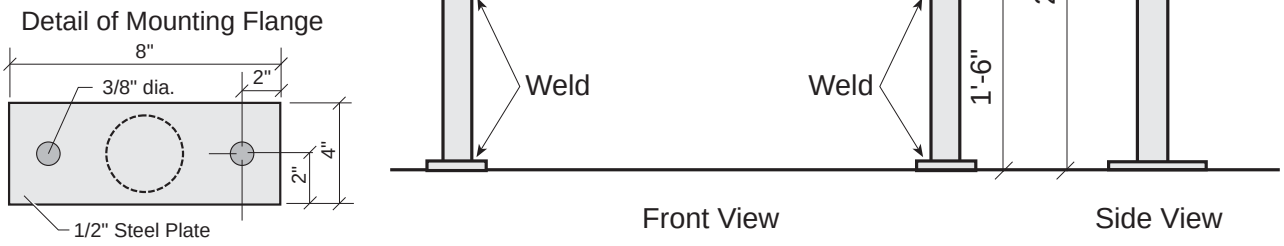
Figure 12.1

An inexpensive bicycle rack design

The design shown at right has proved popular and effective in numerous communities. It is inexpensive to fabricate locally, easy to install, vandal-resistant, and works well with the popular high-security bicycle locks. In addition, it can be installed singly, as on a sidewalk, or in quantity, as at a major recreational center.

Schedule 40 steel pipe works well and, for best results, the rack should be galvanized after fabrication. Typical costs run about $75 per rack installed, when purchased in quantities of 50 or more.

Adapted from Lubbock Metropolitan Area Comprehensive Plan,
Bicycle Federation of America



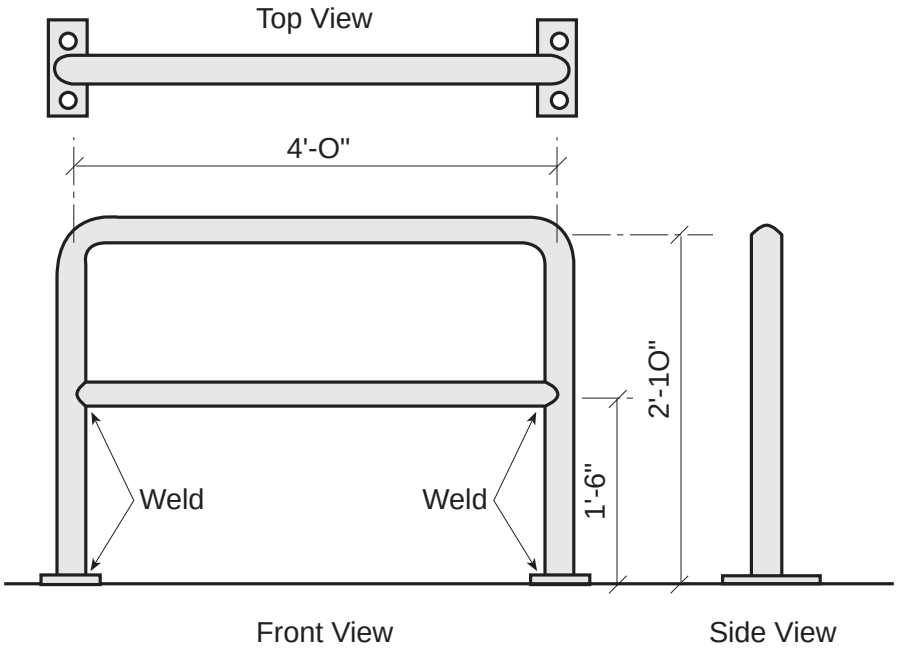
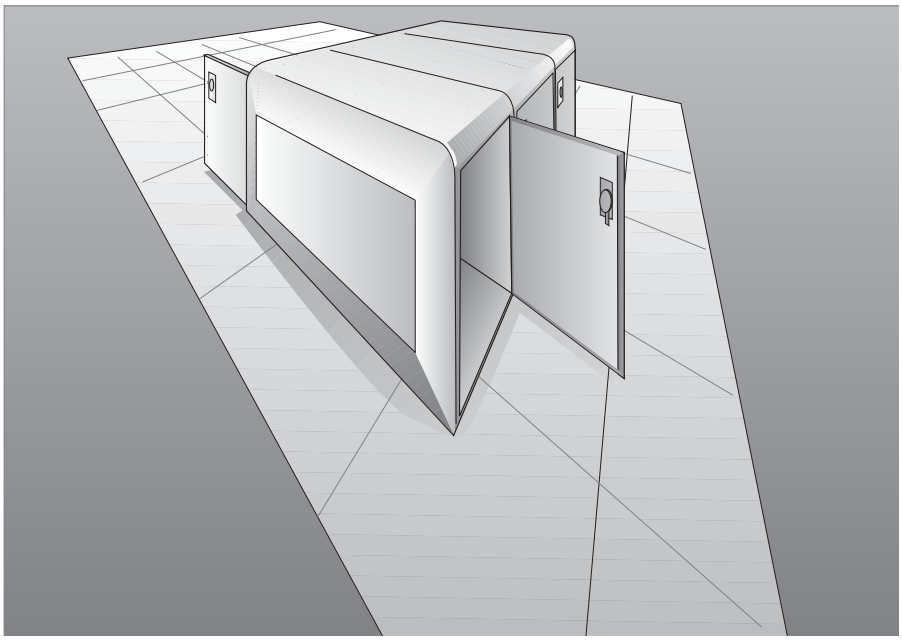


Figure 12.2

Typical bicycle locker installation



Bicycle lockers provide a higher level of security than do bicycle racks. They are the preferred option where long-term security is more important than short-term convenience. Work site locker installations for bike commuters are particularly welcome, as are installations at large residential complexes. Unlike racks, lockers provide protection for a bike's components, as well as the user's luggage and other belongings. Each locker unit is divided diagonally to allow separate storage for two bicycles.

Some agencies use coin operated units but the most popular approach is to rent the lockers on a monthly or quarterly basis or to provide them free. Lockers are generally installed in multiples of two or more units, since each installation requires a "starter unit," which is approximately twice the cost of subsequent units. Typical costs run $3300 for starter units and $1600 for add-on units. Each unit has two enclosures.

Adapted from Lubbock Metropolitan Area Comprehensive Plan, Bicycle Federation of America

SPECIFICATIONS

Criteria for selecting bicycle parking devices

Selecting bicycle parking devices should be based on the following considerations, in addition to any special needs of the local community.

Bike racks

- Security, especially how well the device works with common bike locks
- Durability and resistance to vandalism
- Ease of use
- Aesthetics
- Cost

Bike lockers

- Security
- Durability
- Aesthetics
- Cost

REFERENCES

Bicycle Parking, Ellen Fletcher, 1990

Source Book of Designs, Manufacturers and Representatives, Bicycle Federation of America, 1992

Technical Notes: *Bicycle Parking Location; Choosing Parking Devices; A Simple Bike Rack Design; Bike Parking Ordinances,* Bikecentennial, 1987-'89

Sample bike parking ordinance from Madison, Wisconsin

A growing number of communities have included bicycle parking requirements in their development regulations. By so doing, they ensure that bicycle parking is included in the normal course of development. This example is from the Madison City Code.

Purpose

...

(d) Providing adequate and safe facilities for the storage of bicycles.

...

4. Bicycle parking facilities shall be provided as required for all new structures and uses established as provided in Sec. 28.11(2)(a)1. or to changes in uses as provided in Secs. 28.11(2)(a)2. and 3.; however, bicycle parking facilities shall not be required until the effective date of this paragraph. Notwithstanding Secs. 28.08(1)(i) and 28.09(5)(a), bicycle parking facilities shall be provided in all districts including districts in the Central Area.

...

1. In the residential district, accessory off-street parking facilities provided for uses listed herein shall be solely for the parking of passenger automobiles and bicycles of patrons, occupants or employees and not more than one truck limited to one (1) ton capacity.'

...

(e) Size. ... Required bicycle parking spaces shall be at least 2 feet by 6 feet. An access aisle of at least 5 feet shall be provided in each bicycle parking facility. Such space shall have a vertical clearance of at least 6 feet.'

...

d. Bicycle Parking Facilities. Accessory off-street parking for bicycles shall include provision for secure storage of bicycles. Such facilities shall provide lockable enclosed lockers or racks or equivalent structures in or upon which the bicycle may be locked by the user. Structures that require a user-supplied locking device shall be designed to accommodate U-shaped locking devices. All lockers and racks must be securely anchored to the ground or the building structure to prevent the racks and lockers from being removed from the location. The surfacing of such facilities shall be designed and maintained to be mud and dust free.

...

3. Bicycle parking facilities shall be located in a clearly designated safe and convenient location. The design and location of such facility shall be harmonious with the surrounding environment. The facility location shall be at least as convenient as the majority of auto parking spaces provided.

...

1. Bicycle parking facility spaces shall be provided in adequate number as determined by the Zoning Administrator. In making the determination, the Zoning Administrator shall consider when appropriate, the number of dwelling units or lodging rooms, the number of students, the number of employees, and the number of auto parking spaces in accordance with the following guidelines (see chart at left).'

Off-Street Bicycle Parking Guidelines

Land Use	Bike Space
Dwellings/lodging rooms	1 per dwelling unit or 3 lodging rooms
Clubs/lodges	1 per lodging room plus 3% of person capacity
Fraternities/sororities	1 per 3 rooms
Hotels/lodging houses Galleries/museums/libraries	1 per 20 employees 1 per 10 auto spaces
Colleges/universities/junior and high schools	1 per 4 employees plus1 per 4 students
Nursery/elementary schools	1 per 10 employees plus students above second grade
Convalescent and nursing homes/institutions	1 per 20 employees
Hospitals	1 per 20 employees
Places of assembly, recreation, entertainment and amusement	1 per 10 auto spaces
Commercial/manufacturing	1 per 10 auto spaces
Miscellaneous/other	To be determined by the Zoning Administrator based on the guideline for the most similar use listed above

"a. In all cases where bicycle parking is required, no fewer than two (2) spaces shall be required.

"b. After the first fifty (50) bicycle parking spaces are provided, additional bicycle parking spaces required are 0.5 (one half) space per unit listed.

"c. Where the expected need for bicycle parking for a particular use is uncertain due to unknown or unusual operating characteristics of the use, the Zoning Administrator may authorize that construction and provision of not more than fifty (50) percent of the bicycle parking spaces be deferred. Land area required for provision of deferred bicycle parking spaces shall be maintained in reserve."