

FREDERICK COUNTY BICYCLE PARKING DESIGN GUIDE - DRAFT

DRAFT 09.2009 JT, DS, & SL

The provision of secure and convenient bicycle parking is an important part of providing the option for Frederick County residents to consider the use of their bicycles for a wide array of daily trips. This Design Guide is meant to supplement the bicycle parking requirements set forth in the Frederick County Zoning Ordinance and are configured to be flexible in nature to accommodate the unique or unusual aspects of specific sites. The Guide addresses the following best practices:

- Provide suitable, short-term bicycle parking where cyclists stop.
- Locate bicycle parking where it is convenient to use, secure, visible, and protected from weather.
- Provide long-term bicycle parking for commuters, residents or anywhere else cyclists will leave a bicycle for several hours or overnight.



Bicycle Parking Requirements included in the Frederick County Zoning Ordinance

BP.1 Schedule of Requirements

BP.1.1 Specific requirements by use are noted in Table 1

BP.1.2 Any bicycle parking provided shall comply with the standards identified in the Frederick County Bicycle Parking Guide.

Table 1: Required Bicycle Parking by Use

Use Categories	Specific Uses ¹	Required Bicycle Parking	
		Class A (Locked Room or Lockers)	Class B (Bicycle Racks) 1 Rack = 2 bike parking spaces
Residential ²	Multifamily dwelling, multifamily group development, or townhouse w/o garage (8 or more units)	Locked room or lockers with space for 4 bikes for each 10 units	1 rack for each 10 units, minimum 2. Not required if Class A parking is provided
	Motel, hotel	None	1 rack for each 20 auto spaces, minimum 1, maximum 10
Commercial (5,000 Square Feet GFA or Greater)	All	None	1 rack for each 20 auto spaces, minimum 1, maximum 10
Office / Research / Industrial (5,000 Square Feet GFA or Greater)	Planned Industrial / Commercial Development, Office Research or Industrial parks planned as a unit, and MXD zoning district.	None	1 rack per 40,000 SF of GFA, minimum 1, maximum 10
Open Space and Institutional / Government / Commercial Amusements	Commercial amusements / fairground / arena or stadium / civic community center	None	1 rack for each 20 auto spaces, minimum 1, maximum 20
	Transit centers / rail stations	None	minimum 10
	Park and ride	None	1 rack for each 50 auto spaces, min 2
	School - K-8	None	1 rack for each classroom
	School 9-12	None	1 rack for each 2 classrooms
	College	Per campus plan as approved by Planning Commission	
	Hospital	None	1 rack for each 50,000 SF of GFA, min 1
	Place of worship	None	1 rack for each 20,000 SF of GFA, min 1
Child care center	None	1 rack for each 20,000 SF of GFA, min 1	

1: No bicycle parking required in Agricultural or Resource Conservation zoning districts unless the specific use is noted in the above table and the proposed site is within 1.2 miles of a designated growth area.

2: Where required, bicycle parking for residential uses may be provided as class A (locked room/lockers) or class B (racks)

Bicycle Parking Design Guide

Class B Bicycle Spaces (Bicycle Racks)

Short-term bicycle parking, commonly provided in the form of bicycle racks, provides shoppers, customers, messengers and other visitors who generally park for two hours or less a convenient and readily accessible place to park bicycles. The following elements shall be addressed when providing short-term bicycle parking:

- The area devoted to bicycle parking must be hard surfaced (paved, concrete, pervious pavers etc.)
- The rack must be securely anchored.
- Shall be located within 50 feet of the building entrance that cyclists use.
- Where there is more than one building on a site, or where a building has more than one main entrance, the parking should be distributed to serve all buildings or main entrances.
- Required Class B bicycle spaces shall be provided in a convenient, well-lit location that provides visual surveillance by occupants of the building the spaces are intended to serve. Required Class B bicycle parking spaces must be available for shoppers, customers, commuters, messengers, and all other visitors to the site.
- If required bicycle parking is not visible from the street or main building entrance, a sign shall be posted at the main building entrance indicating the location of the parking.
- The bicycle frame and one wheel can be locked to the rack with a high security, U-shaped shackle lock if both wheels are left on the bicycle.
- A bicycle can be securely held with its frame supported so that the bicycle cannot be pushed or fall in a manner that will damage the wheels or components.
- Racks shall provide a minimum clearance width of 15 inches for each bicycle (30" clearance in between two racks).
- Where the bicycle parking is adjacent to a sidewalk, a parked bicycle shall not obstruct the free flow of pedestrian traffic on the sidewalk.

What works?

- Locate parking in visible and prominent locations - if cyclists are unaware of the parking it won't be used.
- Racks that support bicycles at two points.
- Inclusion of bicycle parking locations into local wayfinding programs or maps

What doesn't work?

- Isolation - a bicycle rack that is visually or physically isolated will not be used and is a target for thieves.
- Racks that are in the way of pedestrian traffic.
- Inadequate space to maneuver a bicycle and its gear.

Additional design and placement guidance is available in figures 1 & 2.

Class A Bicycle Spaces (Lockers or Locked Rooms)

Long-term bicycle parking provides employees, students, residents, commuters and others who stay at a site for several hours a secure and weather-protected place to store their bicycles. Class A spaces should be located on site or within 750 feet of the site since daily bicycle commuters are generally willing to walk a short distance if they are confident the parking is secure. The following elements should be addressed when providing long-term bicycle parking:

- Class A bicycle parking must be provided in a locked room; an area enclosed by a floor-to-ceiling fence with a locking door or gate; or within bicycle lockers.
- Where required bicycle parking is provided in a bicycle room, the room shall have solid walls. The entire interior of the bicycle room shall be visible from the entry door. A motion-activated security light enclosed in a tamper-proof housing shall be provided in each room.
- Where required bicycle parking is provided in lockers, the lockers must be securely anchored. Bicycle lockers must have a minimum 4" by 4" security viewing window.
- Required Class A spaces must be located no lower than the first cellar level, or complete parking level below grade. Spaces must be available for employees, residents, or long-term building tenants. Class A spaces at rail stations or transit centers must be available to the public.
- Spaces must be independently accessible by means of an aisle of a minimum width of 48 inches and a minimum vertical clearance of 75 inches. A minimum of 50 percent of the required Class A bicycle spaces shall allow for the bicycles to be placed horizontally on the floor or ground. Vertical bicycle space racks shall support the bicycle without the bicycle being suspended.
- Required Class A bicycle spaces shall have a minimum vertical clearance of 75 inches, shall be a minimum of 24 inches in width and shall be:
 - a minimum of 72 inches in length if the bicycles are to be placed horizontally; or
 - a minimum of 40 inches in length if the bicycles are to be placed vertically.

What works?

- Cyclists are more likely to park where their bicycles are safe and protected from weather. At least 50% of long-term bicycle parking should be covered. Indoor storage is best. It is often possible to find a secure room, or an area in a basement or under stairs. Bicycle parking can often use odd-shaped interior spaces that have few other purposes.
- Wall-mounted racks are well suited to indoor storage.
- Locate in well-lit areas - lighting increases security of property and personal safety.
- Enclosed bicycle lockers are the optimal solution in areas where security is in question or where there is limited opportunity to provide weather protection.
- In some situations cyclists pay a monthly fee to lease such lockers.
- The provision of secure showers and locker rooms for bicycle users.

What doesn't work?

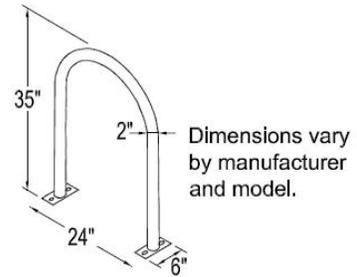
- Isolation - a bicycle rack that is visibly or physically isolated will not be used and is a target for thieves.
- Vertical space racks that do not fully support the bicycle.
- Bicycle lockers without security viewing windows.



Figure 1

BICYCLE RACK DESIGNS

PREFERRED "U Rack" DESIGN



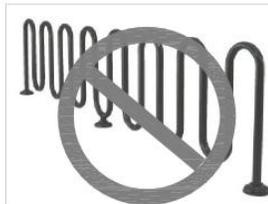
ACCEPTABLE DESIGNS



UNACCEPTABLE DESIGNS



This type of rack can bend the wheel.



This type of rack does not support the bicycle frame in at least 2 places.

RACK ELEMENTS

The rack must:

- Support the bicycle frame in at least 2 places, allowing the frame and wheel to be locked using a U-lock or cable lock.
- Prevent the wheel of the bicycle from tipping over.
- Not damage the bicycle.
- Be durable and securely anchored.
- Allow front-in or back-in parking.



Frederick County Division of Planning
Bicycle Parking Design Guide

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Figure 2

