



## **Bicycle Parking Plan for Watertown**

*Prepared by Watertown Bicycle and Pedestrian Committee*

*<http://watertownbikeped.org>*

*Updated March 7, 2007*

# **1. Introduction**

This document has three purposes:

1. To raise an awareness of the current lack of acceptable bicycle parking in Watertown.
2. To recommend installation of new bicycle racks in key locations around town.
3. To explain how Watertown can acquire state-of-the-art bicycle racks at very low cost by taking advantage of a grant program sponsored by the Metropolitan Area Planning Council (MAPC).

## ***1.1 Benefits of Bicycle Parking***

While automobiles remain the dominant mode of transportation in our community, it is critical that we not ignore accommodation of alternative modes such as bicycling. Rising energy costs and an increasing awareness of the benefits of bicycling are resulting in more cyclists on the road each year, and Watertown can benefit by embracing and encouraging this trend.

Bicycle access to our business districts promotes the vitality and livability of the community. Adequate numbers of appropriately designed bike racks are a key part of this equation. Like drivers, cyclists are potential customers, and our businesses are served by enabling them to properly secure their bikes in convenient locations.

Providing parking for bicycles takes some pressure off the limited number of automobile parking spaces. An individual who has the option to use a car or a bike for a given trip is more likely to use the bike if suitable bike parking is available.

Bike parking serves not only the cyclist, but non-cyclists as well by keeping parked bikes where they are intended to be, not in the way of pedestrians or otherwise impinging on the streetscape.

## ***1.2 Lack of Good Bicycle Racks in Watertown***

In May 2006, the Bicycle and Pedestrian Committee conducted a complete inventory of bicycle parking in Watertown. Section 2 of this document details the results of this survey. The overall finding is that while there are numerous bike racks in the town, the vast majority of them are

- Old, rusted, or otherwise damaged
- Improperly placed in locations that are inconvenient or prone to theft
- Of an outmoded or insecure design

More importantly, the inventory shows that our two major business districts, i.e. Watertown Square and Coolidge Square, are particularly lacking in bike parking.

## ***1.3 The MAPC Regional Bike Parking Program***

The MAPC Regional Bike Parking Program presents a tremendous opportunity for Watertown to address the bike parking shortage at very little cost. This program fully reimburses the town's investment in qualifying bike racks. MAPC has allotted funds for

all of its member communities to participate in this program. We must act without delay to claim our share.

## 2. Existing Conditions

A survey of bicycle parking in Watertown made earlier this year by the Watertown Bicycle and Pedestrian Committee shows that the Town is doing a poor job of providing acceptable parking for bicyclists. The inventory document is downloadable at <http://watertownbikeped.org/documents/WatertownBicycleParkingInventory.pdf>.

The inventory found a total of 55 bicycle racks in the Watertown. Of these, about a dozen were on town property, primarily at schools. None of these racks, including the new racks at the library, meet the currently accepted standards for bicycle parking.



Privately owned racks found in the inventory were not much better. Like the racks on Town property, many are old and damaged, and very few are of the proper design.

The prevalence of bicycles chained to fences, signposts, and parking meters indicates a clear need for improved bike parking. The photos in Figure 1, taken in Watertown Square and Coolidge Square, document the need for significant improvements.

The need for effective bike parking is clearly not being met in many areas of Watertown. This includes business districts as well as recreational facilities, such as parks and playgrounds.

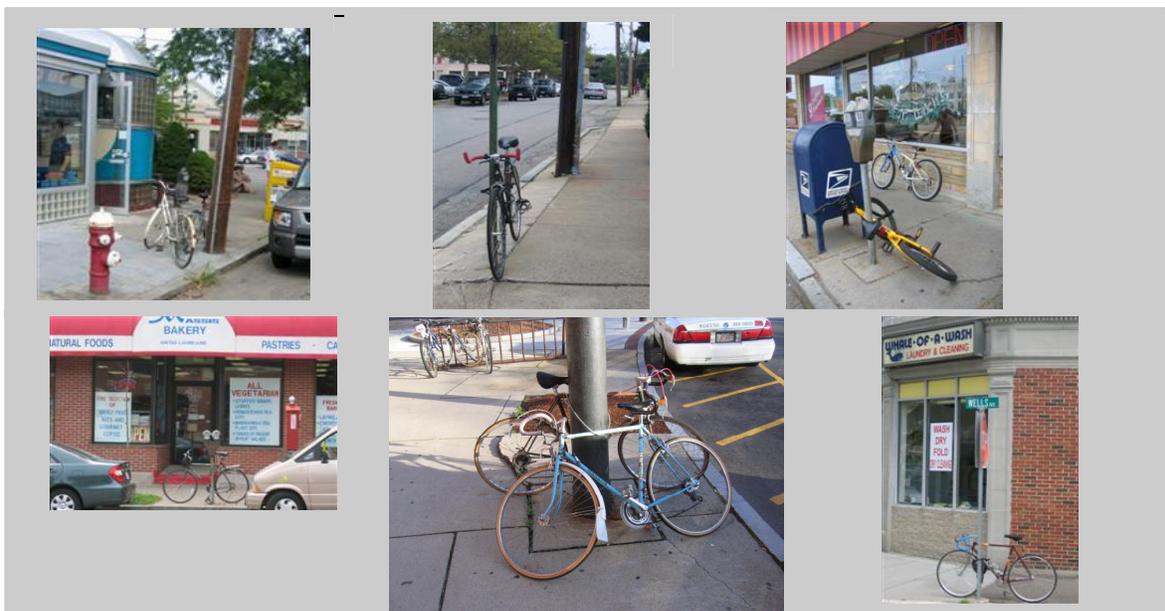


Figure 1. Examples of bike parking around Watertown

## 2.1 Types of Racks in Use

One major problem is the design of racks found throughout Watertown. Most prevalent is the old “dish rack” design, as seen in Figure 2.



**Figure 2. "Dish rack" at Town Hall. This rack is not properly secured to pavement.**

This style of rack is designed such that the bike's front wheel is chained to the rack. Since most modern bikes have quick-release wheels, this is not a secure rack. Cyclists often end up mounting the bike on the rack with the front wheel over the top rack, in order to secure the bike's frame. This can easily damage the bike.

A second very common rack is the “ribbon” rack (see Figure 4), also known as a rolling rack.

While popular and attractive, it is not a very good rack. The rack is designed to have bikes parked perpendicular to it. This does not allow the bike frame to have two points of contact to the rack, which is one of the requirements of a stable, secure rack. Cyclists often end up securing bikes *parallel* to the rack, which is more secure but greatly limits the capacity of the rack. The racks at the new library and at Phillipello



**Figure 4. Ribbon rack at Arsenal Mall**

While popular and



**Figure 3. Dish rack at Riverbend Office Park. Note bike in front has fallen from upright position.**

Park are ribbon racks. Ribbon racks are marginally acceptable, and areas already served by ribbon racks are a lower priority for remediation.

In some cases, the rack installed at a site is simply too small for the number of bikes likely to be parked in the vicinity. A perfect example is the ribbon rack in Figure 5, at the MBTA station in Watertown Square. With a capacity of three or four bikes, it does not begin to fill the need for this busy area.

Consequently, cyclists are forced to improvise

parking using utility poles and parking meters.

Figure 6 shows a bicycle secured to a parking meter. Although cyclists often resort to using parking meters for lack of a better alternative, they do not constitute acceptable bike parking. Because there is only one point of contact to the bike frame, the bike is likely to fall over and suffer damage. Furthermore, thieves have learned to simply lift chained bikes up over the meter to steal them. Motorists may object to bikes on meters as obstacles.



**Figure 5. Rack is too small for busy MBTA station**

## **2.2 Watertown Square**

The inventory conducted by the Bicycle and Pedestrian Committee found no acceptable racks in the Watertown Square area, with one exception being the rack at the DCR pool on Pleasant Street. Old “dish rack” units are found at the Town Landing, in front of Riverbend Office Park, and in the municipal lot between Church and Spring Streets. There are one or two racks on private property. The new library has two ribbon racks.



**Figure 6. Parking Meters are *not* bike racks**

There is a small ribbon rack at the Watertown Yard (MBTA) parking area that does not meet demand. Bikes are commonly seen secured to trees and fences around this parking area.

There is no bike parking in the primary commercial district along Main Street and along Mount Auburn Street, except for one small, rusted “dish rack” unit improperly positioned against a wall near the CVS.

There is no bike parking at Saltonstall Park.

## **2.3 Coolidge Square**

Coolidge Square is an area of high demand for bike parking. The many stores and eateries along Mount Auburn Street draw large numbers of people, some of whom use bikes as transportation to the neighborhood.

Coolidge Square currently has virtually zero bike parking, neither public nor private. There are no racks along the Mount Auburn Street commercial district, no racks in the municipal lot, and no racks for the playground next to the old Coolidge School.

The limited amount of automobile parking in Coolidge Square makes the need for improved bicycle parking even more acute.

## **2.4 Other Business Districts**

While Watertown Square and Coolidge Square are the two areas of highest priority, there are other business zones that could also benefit from improved bicycle parking. One such area is the commercial cluster along Mount Auburn Street near the intersection of Common Street. Similarly, the intersection of Orchard Street and Waverley Avenue is the site of several busy commercial establishments, and would definitely benefit from improved bike parking.

### 3. Recommendations

This section presents the recommendations of the Bicycle and Pedestrian Committee for improving the bicycle parking situation in Watertown. Before looking at recommendations for specific areas, we discuss the types of racks that we feel are appropriate for deployment.

#### 3.1 Recommended rack types

##### 3.1.1 Post-and-ring Rack

Figure 7 shows a “post-and-ring” rack. No racks of this design were found in Watertown by the May 2006 survey.

The post-and-ring rack is designed for narrow spaces such as sidewalks. It requires about as much space as a parking meter. The metal ring enables a bike to be chained securely, and provides two points of contact to the frame. This design is appropriate for business districts in Watertown, and the Bicycle and Pedestrian Committee recommends its use in many situations.

The post-and-ring rack is widely used in urban settings. The city of Toronto has installed over 16,000 such racks. In Cambridge, there is a program under which the city provides free installation of racks on the sidewalk on behalf of businesses that agree to cover the cost of the hardware. Over 220 racks have been installed under this program.



Figure 7. Post-and-ring rack

##### 3.1.2 Inverted-U Rack

An “inverted-U” rack, also known as a hoop rack, is shown in Figure 8. This set of inverted-U racks is located adjacent to the DCR pool on Pleasant Street. These racks are firmly secured to the ground and allow two points of contact to the bike’s frame. They are space-efficient and not expensive.

The inverted-U rack has become a de-facto standard design for parks and playgrounds. Racks of this type have been widely deployed by the DCR.



Figure 8. DCR Inverted-U Rack

### **3.2 Placement Guidelines**

It is important to place racks such that they can be conveniently accessed by cyclists, but at the same time they must not create a hindrance to other members of the community. In all cases, racks would be sited such that they in no way interfere with pedestrian access to businesses. Under no circumstances would a rack be installed in a loading zone, at a bus stop, or in front of a funeral home.

Bicycle racks should not be relegated to the far corners of parking lots. MAPC guidelines suggest that bicycle parking should be at least as convenient to the locations it serves as is the most convenient automobile parking for those same locations. Putting racks in isolated or hard-to-see locations often leaves cyclists unaware of their existence, and generally increases the likelihood of theft or vandalism.

MAPC provides guidance on placement of bike parking at this address:

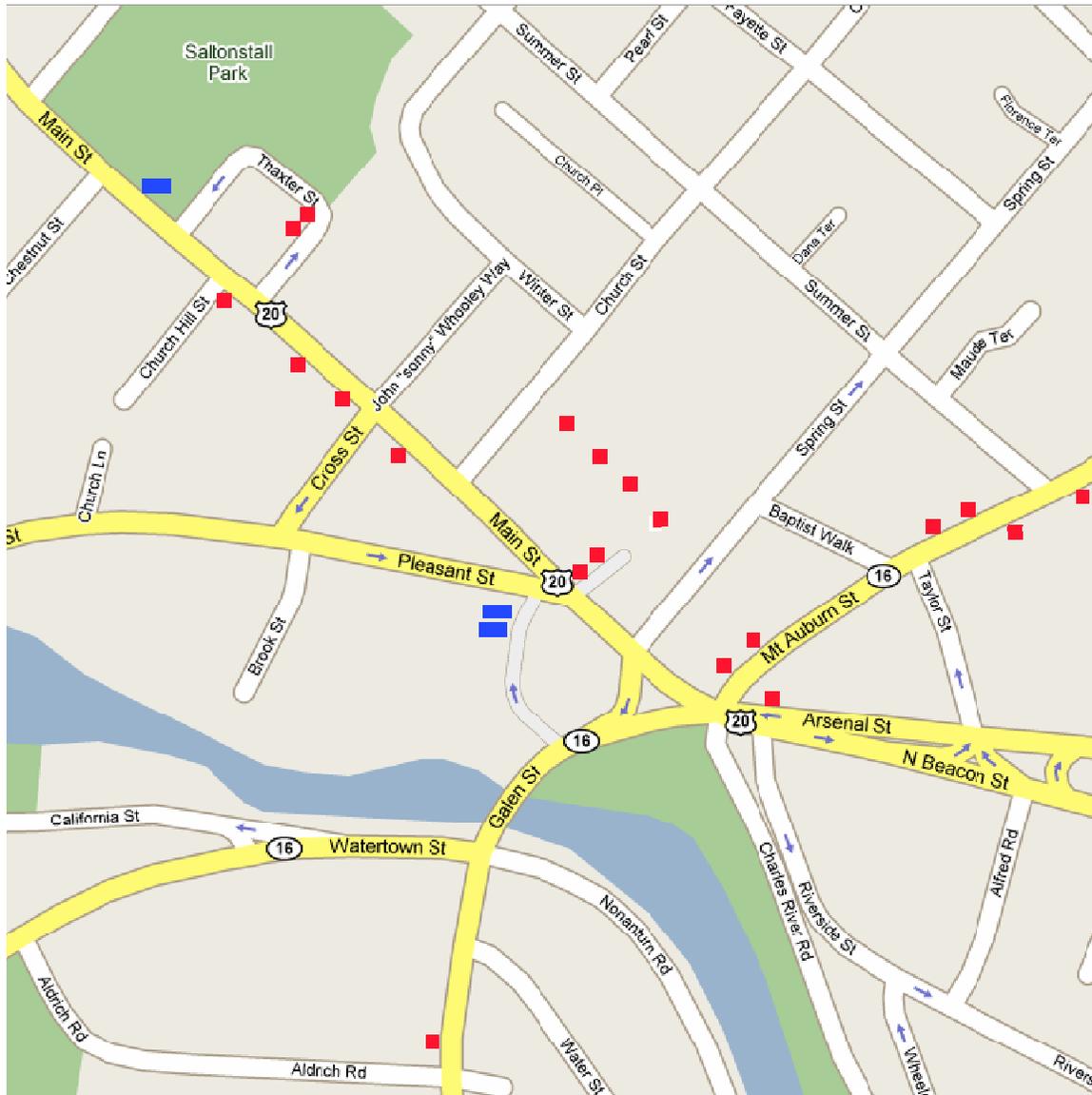
[http://www.mapc.org/transportation/bike\\_parking\\_program/location\\_guide.html](http://www.mapc.org/transportation/bike_parking_program/location_guide.html)

Additional information is available on the Bicycle and Pedestrian Committee's website at this address: <http://watertownbikeped.org/parking2.html>

### **3.3 Determination of Number of Racks Needed**

Both the MAPC guidelines and the Watertown zoning ordinance for bike parking recommend accommodation of one bicycle per roughly 15 automobiles. The recommendations below fall approximately within this guideline, as best we can estimate.

### 3.4 Proposal for Watertown Square



**Figure 9 Proposal for Watertown Square**

Figure 9 shows proposed bike parking in the Watertown Square area. The red squares ■ indicate sites for single post-and-ring units (see Figure 7). The blue rectangles ■ represent a gang of five inverted-U type racks (see Figure 8).

Sidewalk widths in the Watertown Square are generally 12' in areas where bike racks are proposed.

### **3.5 Proposal for Coolidge Square**

In Coolidge Square, 13 post-and-ring units are recommended along the Mount Auburn Street business district between Dexter Avenue and Templeton Parkway, and a set of five inverted-U units for the playground area. Figure 10 shows the suggested treatment.



**Figure 10. Proposal for Coolidge Square**

Sidewalk widths in Coolidge Square run from 9' to 14' in sections where bike racks are proposed.

### **3.6 Proposal for Minor Business Districts**

#### **3.6.1 Mount Auburn Street and Common Street**

Three post-and ring racks are recommended for this intersection. The sidewalk width here is 9' or greater. See figure 11.

#### **3.6.2 Orchard Street and Waverley Avenue**

Two post-and-ring racks are recommended for this intersection. Sidewalk width is 7.5'. See figure 12.



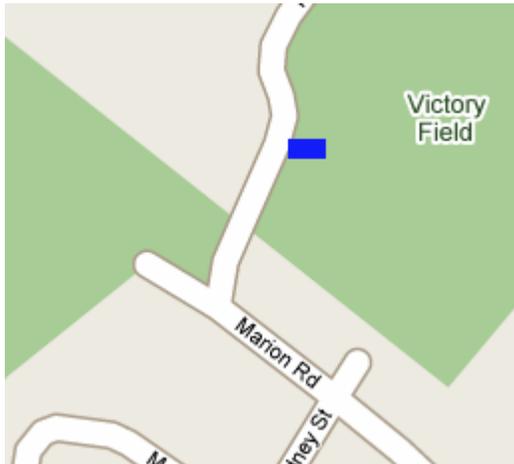
**Figure 11. Proposal for Mt.Auburn and Common**



**Figure 12. Proposal for Orchard and Waverley**

### ***3.7 Proposal for Victory Field***

Victory Field is a major recreational center for Watertown. Unfortunately, there are no bike parking facilities, and this must be remedied. A set of five inverted-U racks adjacent to the tennis courts is an appropriate treatment.



**Figure 13. Proposal for Victory Field**

## **4. MAPC Regional Bike Parking Program**

The Metropolitan Area Planning Council is a state agency concerned with economic development and transportation planning in the Boston metropolitan area. The transportation division sponsors various programs related to transit, bicycle planning, and pedestrian concerns. More information is available here:

[http://www.mapc.org/transportation/transportation\\_alternatives.html](http://www.mapc.org/transportation/transportation_alternatives.html).

### ***4.1 Program Overview***

The MAPC Regional Bike Parking Program enables member communities to acquire new bicycle racks at minimal cost. MAPC reimburses 100% of the cost of eligible racks purchased from participating vendors, excluding shipping and installation.

The program imposes a ceiling on the amount that can be reimbursed to each community based on a formula determined by MAPC. Watertown's limit for the first year of the program is \$8670.

### ***4.2 Procedure for participation***

Participation in the program requires following these steps:

1. We submit a subscription form to MAPC. This is simply an agreement to conform to the procurement and reimbursement procedures established by MAPC for the program. This must be signed by an official with contractual authority for the town.
2. We finalize our determination of how many and what kind of bike racks we need, and identify a vendor from among the three who are participating. This presumes there is a consensus on the locations for rack deployments.
3. Before placing the order, we contact MAPC to verify that our order is fully qualified for reimbursement.
4. The purchase order is issued and sent to the vendor.
5. Upon receipt of the racks, the DPW installs them at the determined locations.
6. We file the proper paperwork with MAPC to receive reimbursement for the cost of the racks. This requires photographic evidence of installation.

### ***4.3 Requirements for reimbursement***

#### **4.3.1 Type of Rack**

The post-and-ring and inverted-U type racks both qualify for reimbursement. "Dish rack" units, bike lockers, and certain other types do not.

### 4.3.2 Rack Location

Proper placement of racks is necessary in order to qualify for reimbursement. For locations where the rack serves a particular building or facility, it must be within 50' of the destination served, and as close as the nearest automobile parking.

Racks must be installed permanently, outdoors, and on public property.

### 4.3.3 Deadline

Watertown must file for reimbursement with MAPC by December 1, 2007.

## 5. Cost Estimates

In this section, we make rough estimates of the costs implied by implementation of the foregoing recommendations.

Total number of post-and-ring racks recommended	38
Total number of inverted-U racks recommended	25
Cost for racks (assuming, for purposes of estimate, Dero models)	<b>\$4598</b> $(38*82.50) + (25*58.50)$
Shipping (estimated, figure provided by Dero)	<b>\$600</b>
Total initial payment to vendor by Watertown	<b>\$5198</b>
Installation cost (estimate to be revised by DPW)	40-80 hours of labor
Amount reimbursed by MAPC	\$4598
Net cost to Watertown	<b>\$600 + installation cost</b>

There will be some additional costs associated with the inverted-U racks, in order to provide paving of some kind around each of the four proposed sets of racks. The actual amount depends on the treatment that is used (e.g. concrete, asphalt, stone, etc). This is not a reimbursable cost.

# 6. MAPC Subscription Form

## SUBSCRIPTION TO COLLECTIVE PROCUREMENT CONTRACT

For the Provision of

### BICYCLE PARKING RACKS AND SECURING DEVICES

The municipal corporation named below, by action of its duly authorized contracting authority, hereby declares its engagement of the provider of the above listed goods and/or services. This engagement is made subject to the terms and conditions of the contract cited below, entered into by the Metropolitan Area Planning Council (MAPC) pursuant to M.G.L. c.75.22B, as a collective procurement on behalf of its participating member municipalities, and subject to applicable Massachusetts municipal procurement statutes, to which MAPC certifies compliance.

The municipality acknowledges and accepts that:

This agreement to consume and to provide the subject goods and/or services is made by and between the municipality and the contractor, and that MAPC is not a party to nor liable for any obligations arising from any consumptive transactions.

The municipality alone is responsible for payment to the provider for any goods and/or services rendered through the contract.

The municipality alone is responsible for obtaining, from the provider, any and all bonds, insurance and other certificates required for completion and consummation of the contract, which were not provided as part of the bid or proposal.

Contract Number: **MAPC\_2006\_BR2**

(Attached and fully incorporated by reference)

For Provision of: **Bicycle Parking Racks and Securing Devices**

By [Vendor(s)]:

**Cycle Safe, Inc.**

**4630-B Ada Drive SE**

**Ada, MI 49301**

**Dero Bike Rack Company**

**2657 32nd Avenue South**

**Minneapolis, MN 55406**

**Madrax**

**2700 Laura Lane**

**Middleton, WI 53562**

For Consumption by  
[municipality/agency]:

Address:

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By (signature):

X

Type/Print Name:

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Title:

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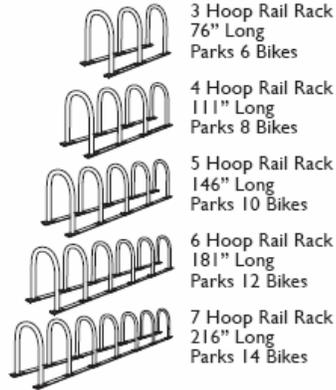
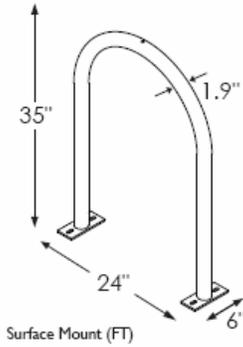
Date:

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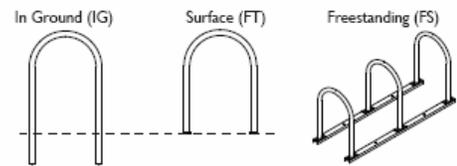
## 7. Manufacturer Information

### 7.1 Dero (<http://www.dero.com>)

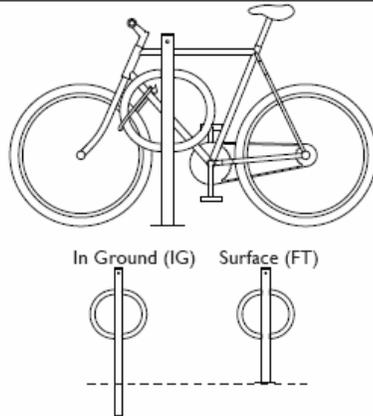
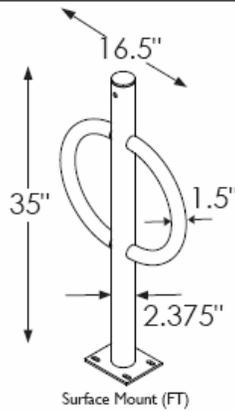
#### Hoop Rack



Price per Swerve with Mounting Options	IG	\$58.50
	FT	\$71.25
	FS	\$146.25
Bikes Parked per Unit		2
Finish Options	Galvanized	Included
	Powder Coat Color (instead of galvanized)	+\$15.00
	Black Rubber Dip (over galvanized finish)	+\$30.00
	Stainless (instead of galvanized)	+\$225.00



#### Bike Hitch



Mounting Options	IG	\$82.50
	FT	\$97.50
	FS	N/A
Bikes Parked per Unit		2
Finish Options	Galvanized	Included
	Powder Coat Color (instead of galvanized)	+\$15.00
	Black Rubber Dip (over galvanized)	+\$37.50
	Stainless (instead of galvanized)	+\$225.00

## 7.2 Madrax (<http://www.madrax.com>)

Prices are actually 25% less than shown in most cases (MAPC discount).

Item No.	In-Ground (IG) Price (Wt)	Surface (-SF) Price (Wt)	Description (Capacity/2 Bikes)
<b>1.90" OD Tubing 20" Long</b>			
U190-G*	\$69 (20)	\$99 (21)	'U' Rack (2 Bikes) - 20" L - Galvanized
U190-P*	89 (20)	119 (21)	'U' Rack (2 Bikes) - 20" L - Powder Coated
U190-S*	289 (21)	319 (22)	'U' Rack (2 Bikes) - 20" L - Stainless Steel
<b>2<sup>3</sup>/<sub>8</sub>" OD Tubing 22" Long</b>			
U238-G*	89 (26)	119 (27)	'U' Rack (2 Bikes) - 22" L - Galvanized
U238-P*	99 (26)	129 (27)	'U' Rack (2 Bikes) - 22" L - Powder Coated
U238-S*	359 (27)	389 (28)	'U' Rack (2 Bikes) - 22" L - Stainless Steel
<b>2<sup>3</sup>/<sub>8</sub>" OD Tubing 30" Long</b>			
UX238-G*	109 (29)	139 (30)	'U' Rack (2 Bikes) - 30" L - Galvanized
UX238-P*	119 (29)	149 (30)	'U' Rack (2 Bikes) - 30" L - Powder Coated
UX238-S*	459 (30)	489 (31)	'U' Rack (2 Bikes) - 30" L - Stainless Steel
UX238-LB-G*	139 (34)	169 (35)	'U' Rack with Lean Bar (2 Bikes) - Galvanized
UX238-LB-P*	149 (34)	179 (35)	'U' Rack with Lean Bar (2 Bikes) - Powder Coated
UX238-LB-PS*	569 (35)	599 (36)	'U' Rack with Lean Bar (2 Bikes) - Powder Coated Stainless Steel
UX238-LBC-G*	169 (37)	199 (38)	'U' Rack with Lean Bar & Cable (2 Bikes) - Galvanized
UX238-LBC-P*	179 (37)	209 (38)	'U' Rack with Lean Bar & Cable (2 Bikes) - Powder Coated
UX238-LBC-PS*	659 (38)	689 (39)	'U' Rack with Lean Bar & Cable (2 Bikes) - Powder Coated Stainless Steel

\*Racks Can Ship UPS



U238-SF



U190-SF



UX238-LB-SF



UX238-SF

**ACCESSORIES:**  
GCS-IG Grout Cover - In-Ground      Add \$20.00 each  
GCS-SF Grout Cover - Surface Mount      Add \$30.00 each  
(Not Available For Surface Gusset)

**INSTALLATION OPTION:**  
(-SG) - Surface Gusset Mount      Add \$60.00  
(Surface Gusset Not Available In Stainless Steel)



UX238-LBC-SF