

# DESIGN SPECIFICATIONS

## CITY OF PORTLAND BIKE CODE OVERVIEW

### I. POLICY

The City of Portland recognizes the need to provide convenient, secure bicycle parking for employees and shoppers.

For more information about bicycle parking in the City of Portland, visit

[www.portlandoregon.gov/transportation/bikeparking](http://www.portlandoregon.gov/transportation/bikeparking)

### II. PURPOSE

The City of Portland Bureau of Transportation (PBOT) issues permits for the installation of short term bicycle racks within the public right-of-way. This guide is intended to provide standards for the design and installation of these racks. A permit is not required for bicycle racks installed on private property.

There are additional building code minimum bicycle parking requirements. See City of Portland Zoning Code, Title 33.266.200 to 220 for complete bicycle parking code requirements.

### III. OBTAINING BICYCLE RACK PERMIT

The following information must be provided to obtain a bicycle rack permit.

[Link to Bicycle Rack Encroachment Permit\(PDF Document\)](#)

A. Printed manufacturer's information for bicycle rack, including:

- a. image or sketch of rack
- b. rack dimensions
- c. material and finish
- d. installation method and bolt type, including additional proposed installation information if surface is not concrete.

B. Site plan(s) that call out a minimum of the following information:

- Proposed location of bicycle rack and placement of bicycle(s). Standard bicycle footprint is 6 feet by 2 feet.
- Distance between proposed rack and any existing street furniture in right-of-way (such as trees, sign poles, mailboxes, corner curb cuts, light poles, mailboxes, trash cans, newspaper racks, tree wells, etc).
- A north arrow, street names, on-street parking adjacent to proposed rack, and sidewalk width, including information about required minimum pedestrian through zone.
- Existing or proposed/future permitted café seating areas (in order to ensure that minimum pedestrian through zones are maintained).
- Existing or proposed/future permitted vendor area (in order to ensure that minimum pedestrian through zones are maintained).

C. Contact name, address, and phone number.

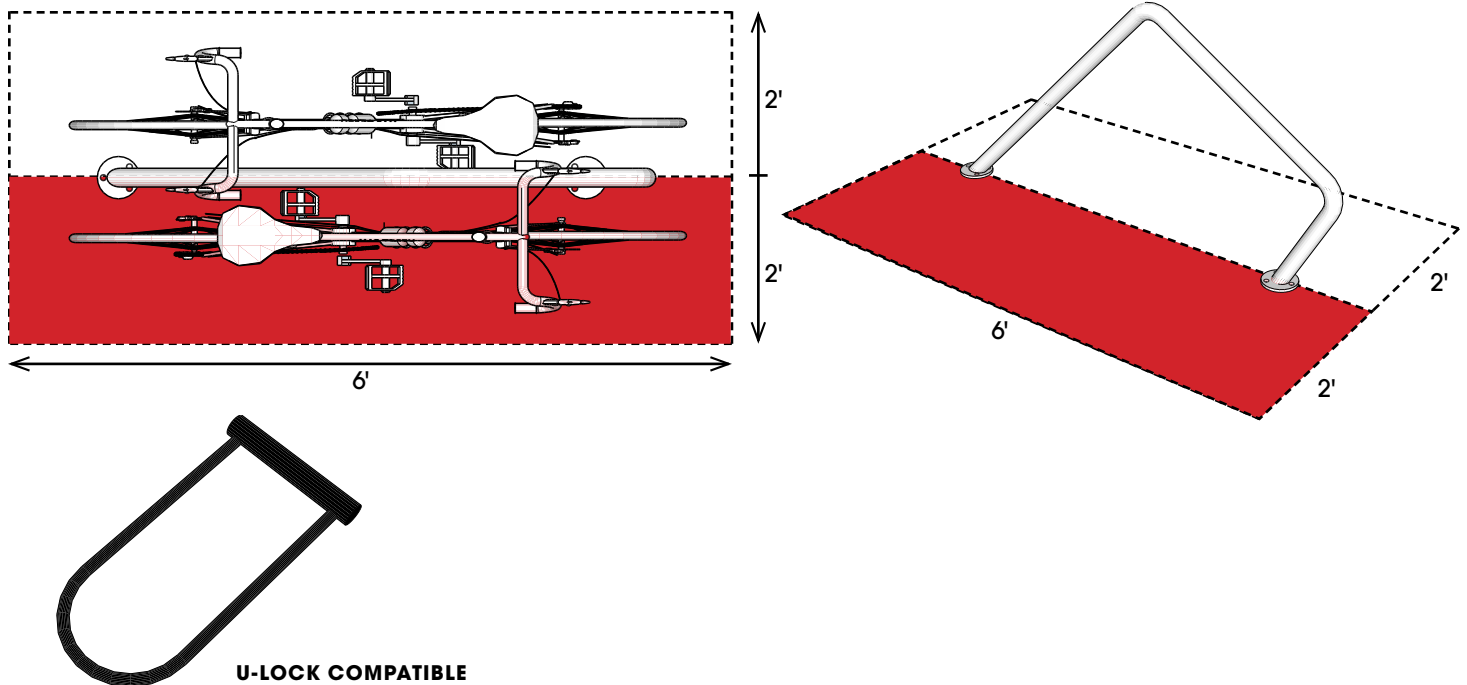
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### IV. DESIGN SPECIFICATIONS

A variety of bicycle rack designs can be obtained from bicycle rack manufacturers. Please note that not all manufactured bicycle racks meet Portland's design specifications.

Alternative rack design, placement, or installation methods that do not meet the below guidelines can be reviewed on a case by case basis.



## FIGURE 1. BICYCLE FOOTPRINT

### IV. EASE OF PARKING

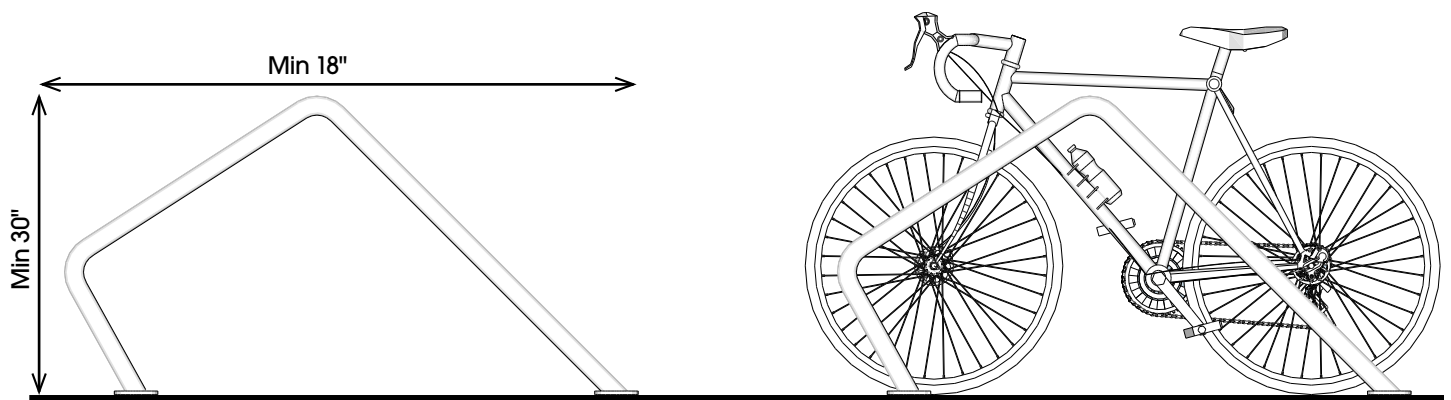
All bicycle racks shall be designed so that:

- The bicycle frame is supported horizontally at two or more places.
- The frame and at least one wheel of the bicycle can be locked to the rack with a standard U-type lock.
- The rack allows varying bicycle frame sizes and styles to be attached.
- The user is not required to lift the bicycle onto the bicycle rack.
- Each bicycle parking space is accessible without moving another bicycle.
- The design is intuitive for users.

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### IV. DESIGN AND MATERIALS



**FIGURE 2. MINIMUM HEIGHT AND WIDTH OF BICYCLE RACK**

All bicycle racks shall be constructed in a manner so that the rack:

- Is a minimum of 30 inches tall (32-36 inches preferred) and 18 inches wide between the two points of contact.
- Does not have gaps where both width and length are between 3.5 inches and 9 inches in width (to prevent children from trapping their heads).
- Is fabricated of schedule 40 steel pipe or minimum 11-gauge tubing with maximum 3 inch outside diameter and minimum ¼ inch thickness.
- Has a surface finish that requires minimum maintenance. The following bicycle rack finish methods are acceptable however galvanized or stainless steel racks

are recommended for their durability:

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**TABLE 1. BICYCLE RACK FINISH METHODS**

FINISH TYPE	APPEARENCE	CHOICE OF COLOR	NOTES
- Galvanized	Silver; may have slight texture	No	Least expensive, durable and maintenance-free; proper application reduces surface texture of finish.
- Powder Coat (minimum 3-5 mils thick)	Color; typically smooth, may be gloss or matte.	Yes	Must be applied over a zinc-rich primer so rust cannot spread beneath the coating from nicks or abrasions that expose bare metal; both powder coating and vinyl may deteriorate quickly and may require on-going maintenance.
- Thermoplastic	Color; typically fairly smooth, comparable in appearance to powder-coat	Yes	Sprayed directly onto cleaned (sandblasted) and heated rack. High adhesion keeps rust from spreading beneath surface from nicks or abrasions.
- Stainless Steel	Silver/chrome, typically smooth	No	High resistance to cutting and most durable. Most expensive.

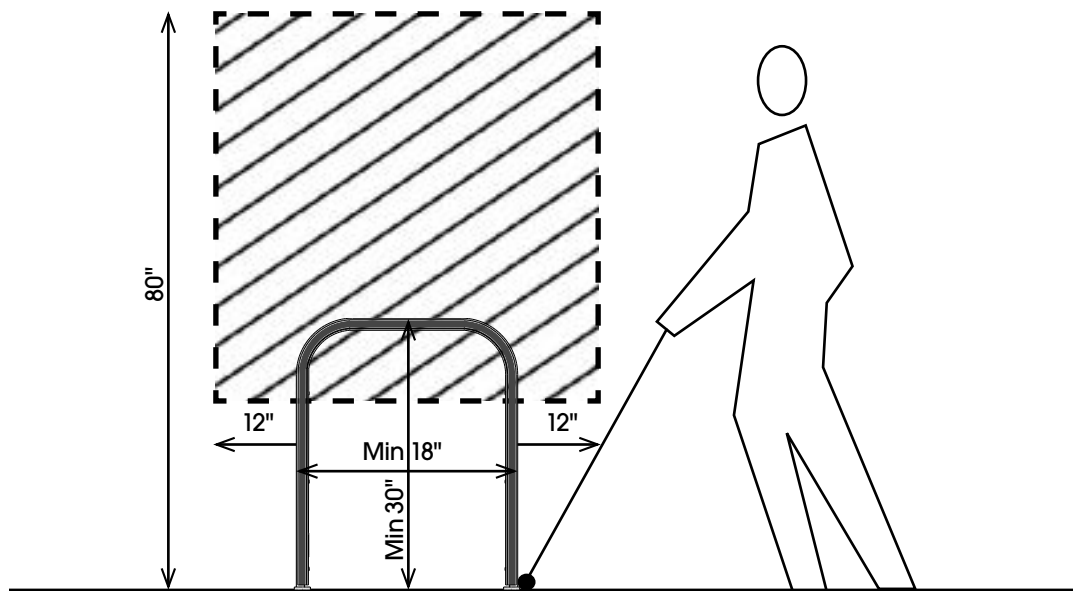
- Source: Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines (2010)

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### AMERICANS WITH DISABILITIES ACT

- Include no sharp edges or moving parts.
- Adhere to the American with Disabilities Act (ADA) standards for protrusions in the right-of-way including the ability to detect the rack with a white cane. To be detected by a white cane the protruding or leading edge of the rack shall be 27" or less above the sidewalk surface. Between 27" and 80" above the sidewalk surface, protruding or leading may overhang a maximum of 12". See Figure 3. This applies to relatively tall racks with horizontal protrusions.



If protrusion is  
between 27" and 80"  
above surface  
> a mask of 12" overhang

This applies to relatively tall  
bicycle racks with  
horizontal protrusions

**FIGURE 3. PROTRUSION LIMITS OF THE AMERICAN WITH DISABILITIES ACT**

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### INSTALLATION OF BIKE RACKS

The installation of all bicycle racks shall:

- Include the use of secure, tamper proof bolts (stainless steel pin hex button socket security bolts, or approved equal).
- Be surface flange mounted. PBOT does not allow embedded installations, even if new concrete sidewalks are being poured.
- Be installed on a surface with a maximum slope grade of 5 percent.
- Be installed on concrete or pavers in conjunction with concrete footings. Bicycle racks may not be installed on landscaped surfaces such as soil, grass, or rock.
  - When a suitable surface does not exist, a pad of appropriate size based on the design of the bicycle rack and as determined by the Bureau of Transportation, will need to be installed under a separate permit.

Note: To obtain a permit to install a bicycle rack, the property owner will need to ensure that the sidewalk conditions in the right-of-way adjacent to the property are up to City Standards.

#### City of Portland Installed Bicycle Racks

The City of Portland purchases and installs hundreds of bicycle racks in the public right-of-way each year. The standard drawing specifications for the bicycle rack installed by the City (Standard Drawing P-576 Bike Rack), may be obtained by contacting Street Systems Management at (503) 823-7002. Alternatively this standard drawing is available on the Bureau's website.

### V. MINIMUM SIDEWALK WIDTH CLEARANCES

- The minimum total sidewalk width permitted to install a bicycle rack is 9 feet.
- The following minimum sidewalk widths must be maintained clear of obstructions, as determined by the width of the sidewalk:

**TABLE 2. MINIMUM SIDEWALK WIDTH CLEARANCES**

TOTAL SIDEWALK WIDTH MEASURED FROM PROPERTY LINE TO CURB	TOTAL SIDEWALK WIDTH MEASURED FROM PROPERTY LINE TO CURB
Less than 9 feet	Bicycle racks not allowed on sidewalk
Greater than or equal to 9 feet and less than or equal to 10 feet	Greater than or equal to 9 feet and less than or equal to 10 feet
Greater than 10 feet and less than 15 feet	Greater than 10 feet and less than 15 feet
Greater than or equal to 15 feet	Greater than or equal to 15 feet

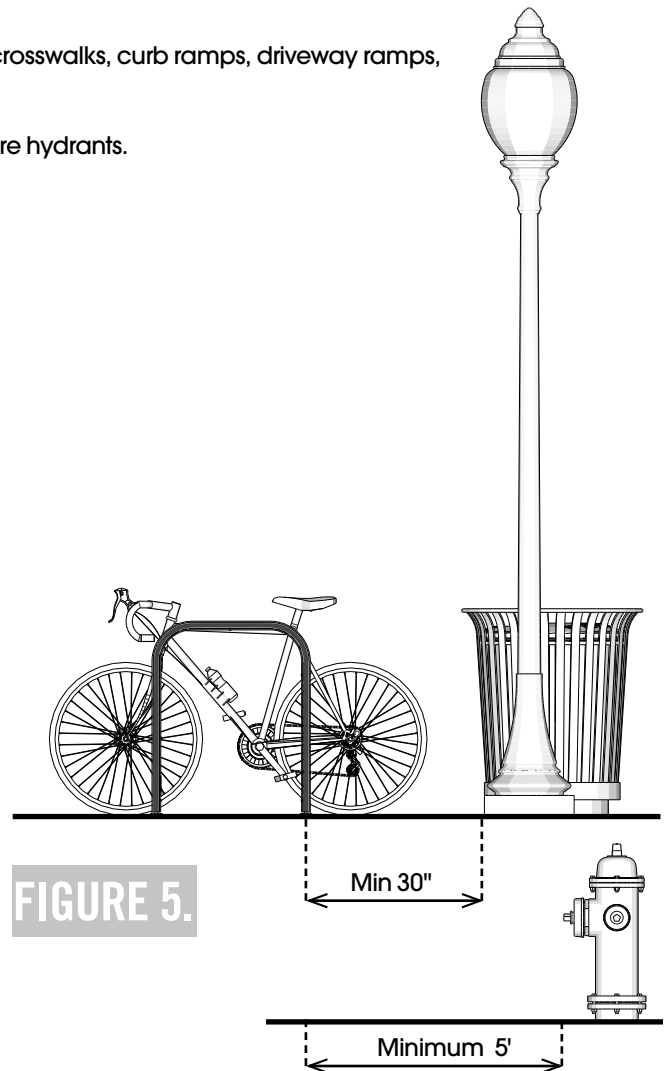
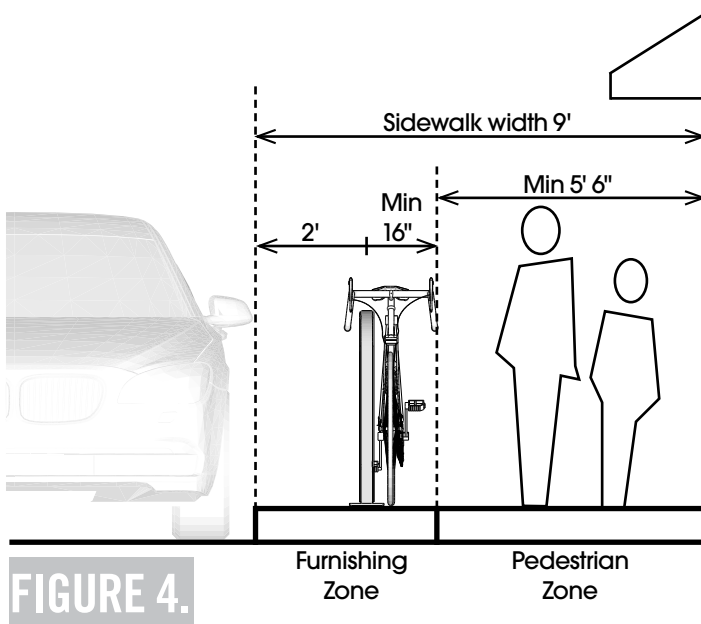
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### VI. PLACEMENT GUIDELINES AND CLEARANCES

Bicycle rack placement shall meet the following clearances:

- Bicycle rack and bicycle footprint shall be located within the furnishing zone.
- Location of the bicycle rack is such that a bicycle will be reasonably safeguarded from damage.
- Maintain a minimum of 30 inches between bicycle rack edge and street furniture such as light poles, mailboxes, trash cans, newspaper racks, tree wells, sign poles, etc
- Maintain a minimum of 4 feet between bicycle rack edge and crosswalks, curb ramps, driveway ramps, transit shelters, and loading zones.
- Maintain a minimum of 5 feet between bicycle rack edge and fire hydrants.



## MINIMUM SIDEWALK WIDTH CLEARANCES & SITE FURNITURE CLEARANCES

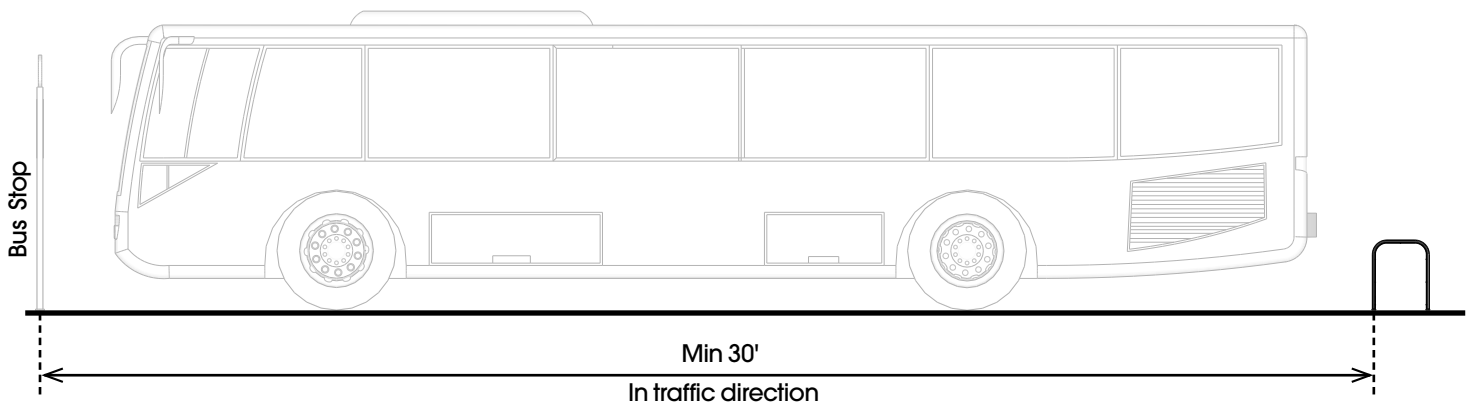
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### VI. PLACEMENT GUIDELINES AND CLEARANCES

The following guidelines are provided as general advice:

- Racks should be placed within 25 feet of main entrance in a visible area.
- Avoid placing bicycle racks directly in front of building doors and locations that impede pedestrian flow.
- Avoid placing bicycle racks directly in front of disabled parking spaces.
- In metered districts, where parked car locations can be assumed, avoid placing place racks in front of door zones. Preferred rack placement is within the yellow painted curb (maneuvering zones) located every two parking spaces.
- Avoid placing bicycle racks within 30 feet of a bus stop, as measured from the bus stop sign counter to traffic flow (see Figure 6).



**FIGURE 6. MINIMUM DISTANCE BETWEEN BICYCLE RACK AND BUS STOPS**



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### IF RACKS ARE TO BE ALIGNED PARALLEL TO THE CURB:

- Generally racks should be installed in line with other furnishings in sidewalk (sign posts, benches, etc). Ideal rack placement is 3 feet from curb; minimum distance 2 feet.
- Minimum sidewalk corridor width is 9 feet.
- Minimum furnishing zone width is 3.5 feet (per Figure 4: Minimum sidewalk width clearances).
- Recommended distance between multiple racks, end-to-end, is 8 feet measured from center of rack; minimum distance is 6 feet.

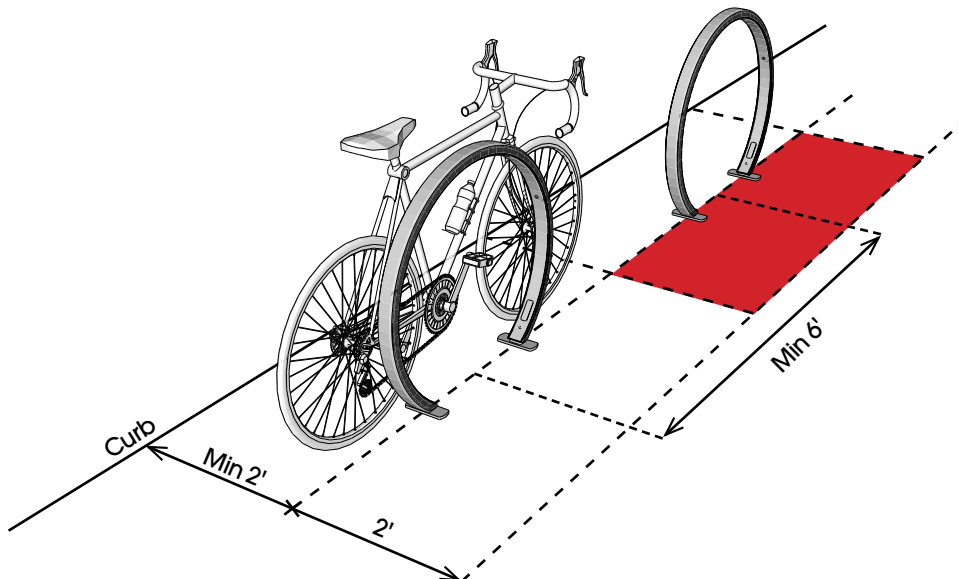


FIGURE 7. PLACEMENT OF BICYCLE RACKS PARALLEL TO CURB

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### IF RACKS ARE TO BE ALIGNED PERPENDICULAR TO THE CURB:

- Minimum distance between center of rack and curb is 4 feet.
- Minimum sidewalk corridor width is 15 feet.
- Minimum furnishing zone width is 7 feet.
- Recommended distance between multiple racks, side-by-side, is 4 feet; minimum distance is 3 feet.

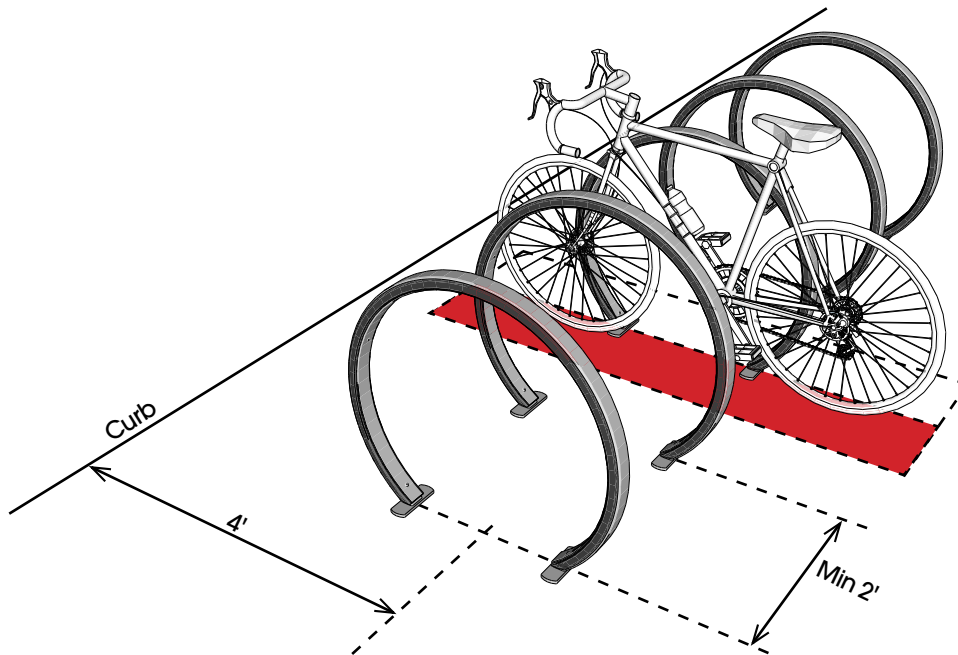


FIGURE 8. PLACEMENT OF BICYCLE RACKS PERPENDICULAR TO CURB

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### IF RACKS ARE TO BE ANGLED TO THE CURB:

- Racks can also be placed on a diagonal at 60 to 45 degrees.
- Minimum sidewalk corridor width is 12 feet.
- Minimum furnishing zone width is 6 feet.
- Due to the angle of the racks and offset of the handlebars, the minimum distance between racks is reduced to 30 inches, as measured per Figure 9 below.

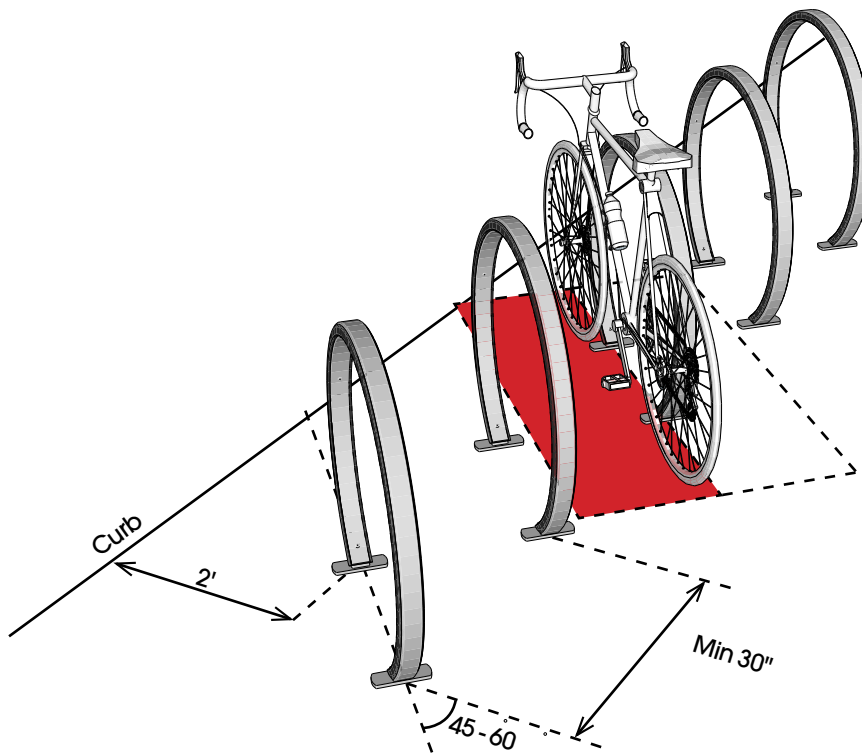


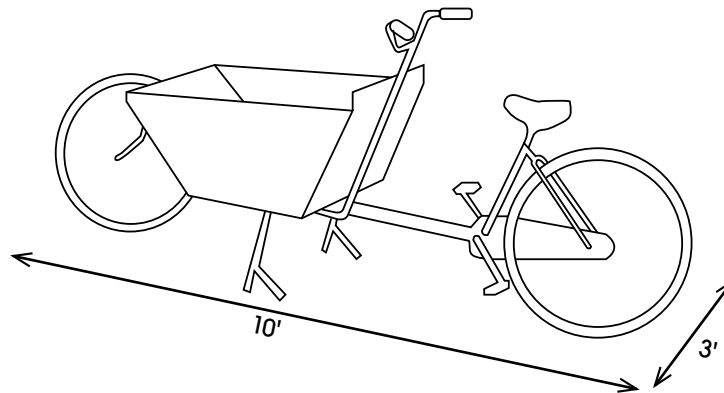
FIGURE 9. PLACEMENT OF BICYCLE RACKS ANGLED TO CURB

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### DESIGNING BICYCLE PARKING FOR CARGO BICYCLES, RECUMBENTS, AND TRAILERS:

- A bicycle footprint of 3 feet by 10 feet is advised when allocating space for different types of bicycles such as cargo, longtail, recumbent, tandem, and bicycles with trailers and trailer bikes.



## FIGURE 10. CARGO BICYCLE

### VII. PERMISSIBLE USES

Bicycle racks installed in the public right of way are intended for the use of temporarily storing bicycles and bicycle related equipment. All other items attached to a bicycle rack or within or blocking access to the bicycle footprint area surrounding a bicycle rack may be impounded based on the procedures according to City Code, 16.70.330 Impounding Bicycles.

### VIII. DEFINITIONS

- **Bicycle Footprint** - a 2 foot by 6 foot space necessary to accommodate a bicycle. Note that accommodating cargo style bicycles requires a larger footprint of as much as 3 feet by 10 feet.
- **Furnishings Zone** - a linear portion of the sidewalk corridor, adjacent to the curb that contains elements such as street trees, signal poles, street lights, bicycle racks or other street furniture. This area does not include the width of the curb zone that can be as wide as 6 inches.
- **Long-Term Bicycle Parking** - Long-term bicycle parking serves employees, students, residents, commuters, and others who generally stay at a site for several hours or more.
- **Right-of-Way** - an easement held by the City over land owned by the adjacent property owners that allows the City to exercise control over the surface and above and below the ground of the right-of-way. Property owners are typically responsible for the construction of transportation improvements adjacent to their property. The City maintains the street, if it meets City standards, while the property owner is responsible for maintaining the sidewalk.
- **Short-Term Bicycle Parking** - Short term bicycle parking serves shoppers, customers, messengers, and other visitors to a site who generally stay for a short time.
- **Sidewalk Corridor** - the area located within the public right-of-way between the curb line of a street or roadway edge and the property line at the edge of the right-of-way.
- **Through Pedestrian Zone** - a linear portion of the Sidewalk Corridor which contains no obstructions, openings, or other impediments that would prevent or discourage movement by pedestrians.

### IX. REFERENCE

- City Code Title17, Chapter 17.28
- Pursuant to Rulemaking Authority under Chapter 3.12
- Link to Bicycle Rack Encroachment Permit(PDF Document)