

Seattle Department of Transportation

SEATTLE BICYCLE PARKING GUIDELINES



June 2017 DRAFT



Seattle
Department of
Transportation

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Bicycle Racks at Husky Stadium (Photo: MIG/SvR)

1. INTRODUCTION

OVERVIEW AND PURPOSE

Safe and secure bicycle parking is a key amenity that encourages people to bike to work, school, or to run errands. Bicycling is good for one's health, it's an affordable transportation option, and it's environmentally friendly. To encourage ridership there is a need for convenient short-term (4 hours or less) and long-term (more than 4 hours) bicycle parking facilities. There are many benefits to providing bicycle parking including:

- Bike parking facilities legitimizes biking as an important mode of transportation that reduces the number of vehicles on the road. Bike parking requires less space than vehicles and in many situations allows you to park closer to your destination.
- Convenient bike racks provide an amenity for customers and businesses benefit by making it more convenient for people riding bicycles to patronize their establishment.
- Well organized and planned bike parking maintains pedestrian access, prevents clutter and minimizes impacts on adjacent uses.



On-street bicycle parking corral (Photo: SDOT)

This guide centralizes information for providing bicycle parking for both short and long-term use. It addresses public and private bicycle parking requirements, design standards, optional guidance, and practical information such as how to request a bicycle rack in the public right-of-way (ROW). This guide is both a resource for new development that is required to provide bicycle parking and for property and business owners who would like to add bike parking in or near existing buildings and in the right of way. These guidelines include key considerations, best practices, and resources for selecting and installing bike racks for public and private use.



Screen shot from the interactive SDOT Online Bike Rack GIS Map [see Appendix A for link]

1. In the Overview and Purpose, make it clear that bike parking is an important infrastructure investment to reach the city's performance target to quadruple bicycle ridership by 2030. Add the following paragraph between the sentence that ends, "... and it's environmentally friendly," and the sentence that begins, "... To encourage ridership there is ...":
 - a. *The 2014 Bicycle Master Plan established a performance target of quadrupling bicycle ridership by 2030. If the ridership represented in the three-year average of 2014 ACS bicycle commute mode share were quadrupled, it'd be roughly a 12.5% commute mode share in 2030, based on population and employment projections. There can only be as many people biking as there are safe, convenient places for people to lock-up their bikes at their end destinations.*
2. In the Overview and Purpose, clearly establish that these guidelines are meant as standards by which SDCI and SDOT will evaluate whether developers' and businesses' site plans for bike parking are compliant with city codes, standards, & guides. Add the following paragraph to the end of the existing text:
 - a. *The Seattle Department of Transportation and Seattle Department of Construction and Inspections will use this guide to determine the sufficiency and adequacy of bicycle parking planned, installed, and provided by developers, contractors, businesses, event producers, and governmental agencies.*

USING THIS GUIDE

Planning for bike parking should begin by understanding the needs of the users. Users may include business customers, residents, employees, and facility visitors. Types of bikes, length of visit, expected route to parking from nearest bike route or facility and desired/expected volume are all considerations. This guide divides bicycle parking into short-term and long-term parking.

- **Chapter 2** covers short-term parking with guidelines on rack types, placement, permitting process, and how to request a bike rack.
- **Chapter 3** provides information on long-term parking with required standards and recommendations on how to create exceptional long-term parking facilities that appeal to residents, employees and other bicycle commuters.
- **Chapter 4** includes standard and pre-approved bike racks, and custom bike rack guidelines, including rack and mounting hardware specifications.
- The **Appendices** compile additional useful information for both bikers and those interested in offering bike parking.

BACKGROUND INFORMATION Guiding Documents

The following are the primary documents referenced in the development of these guidelines. See Appendix A for links.

- [Seattle Streets Illustrated Right-of-Way Improvements Manual \(ROWIM\)](#)
- Association of Pedestrian and Bicycle Professionals (APBP) Bicycle Parking Guidelines (2nd edition) www.apbp.org
- San Francisco Municipal Transportation Agency Bicycle Parking: Standards, Guidelines, Recommendation (2015)



Sidewalk racks on Lincoln Way (Photo: MIG/SvR)

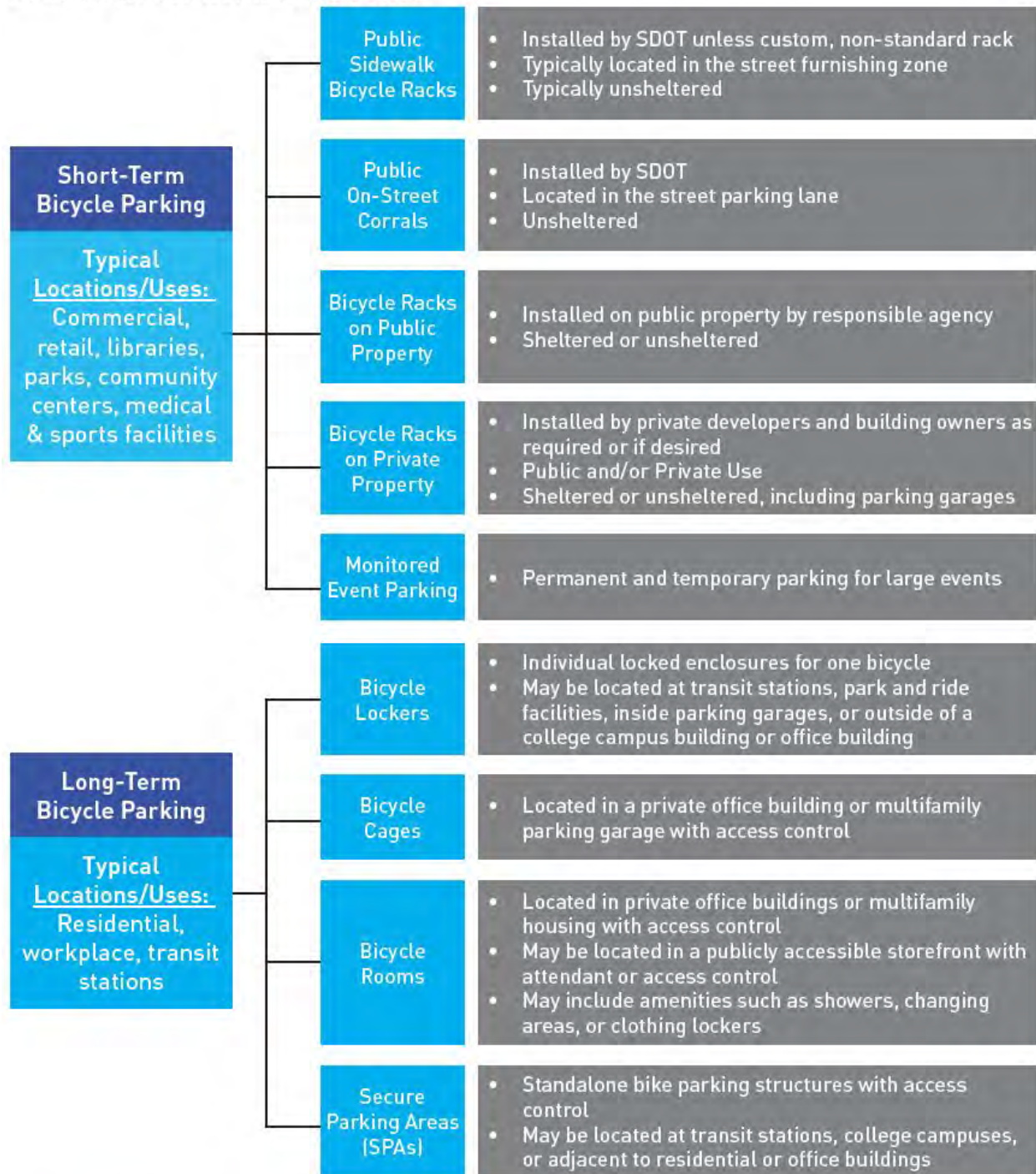


Short-term sheltered bike racks next to a long-term secure parking area at UW (Photo: MIG/SvR)

BICYCLE PARKING CLASSIFICATION

- Short-term bicycle parking is for bicycles parked less than 4 hours in locations that are easily accessible.
- Long-term bicycle parking is for bicycles parked 4 or more hours and requires more secure parking.

FIGURE 1-1: BICYCLE PARKING CLASSIFICATION



2. SHORT-TERM BICYCLE PARKING

INTRODUCTION

Short-term bicycle parking accommodates bikes parked less than four hours in locations that are easily accessible, such as sidewalks, bicycle corrals located in the street parking lane, parks and other public facilities, and on private property for visitors, customers and residents. Short-term bicycle parking encourages people to bike by offering convenient parking options. Bicycle parking can provide parking for more visitors and customers as bike racks require less space than vehicle parking. Designating locations for bicycle parking in the ROW prevents visual and physical clutter of unplanned parking and avoids bicycle parking that might block pedestrian access or damage trees.

OVERVIEW OF SHORT-TERM BICYCLE PARKING TYPES

Public Sidewalk Bicycle Parking

- Racks are typically installed by Seattle Department of Transportation (SDOT). Custom or non-standard racks can be installed by a private party or in partnership with SDOT.
- Typically located in the street furnishing zone
- Typically unsheltered



Inverted U sidewalk rack on 2nd Ave
(Photo: MIG/SvR)

Public On-Street Bicycle Parking Corrals

- Installed by SDOT
- Located in the street parking lane
- Often sited near the intersection in areas with high demand for bike parking.
- Typically unsheltered

Public Bicycle Parking on Public Property

- Installed on public property by responsible agency (e.g. Seattle Public Library, Seattle Parks and Recreation, Seattle School District, King County Metro, etc.)
- Sheltered or unsheltered

Private Property Bicycle Parking

- Installed by private developers and building owners as required or desired. These racks are primarily located at commercial frontages.
- Public and/or private use
- Sheltered or unsheltered

Monitored Event Parking

- Monitored permanent and temporary bicycle parking at sport facilities, large public events including festivals and races. This could include valet bike parking.



Rail type sidewalk racks on 1st Ave (Photo: SDOT)

SHORT-TERM BICYCLE PARKING REQUIREMENTS

Public Sidewalk Bicycle Parking

Standard Bicycle Racks:

- The SDOT Bicycle Spot Improvement Program installs bicycle racks in neighborhood business districts to encourage bicycling for short trips and errands. The racks provide safe and convenient bicycle parking.
- Standard Bicycle Racks are installed by SDOT at the request of citizens and business or property owners or managers. Bicycle Program staff are available to meet with representatives from interested businesses to explain the program, answer questions and select locations for racks.
- Public sidewalk bicycle racks remain the property of SDOT and SDOT assumes responsibility for standard racks, but not for parked bicycles.
- See Chapter 4 Bicycle Rack Examples and Specifications for more details on sidewalk bicycle rack requirements.

Custom Sidewalk Bicycle Racks:

- Custom bicycle racks require a street use permit or a partnership with SDOT to install in a neighborhood or district.
<http://www.seattle.gov/transportation/stuse/permitlist.htm>
- Custom bicycle racks are typically maintained by the applicant.



On-street bicycle corral on Fremont Ave
(Photo: MIG/SvR)

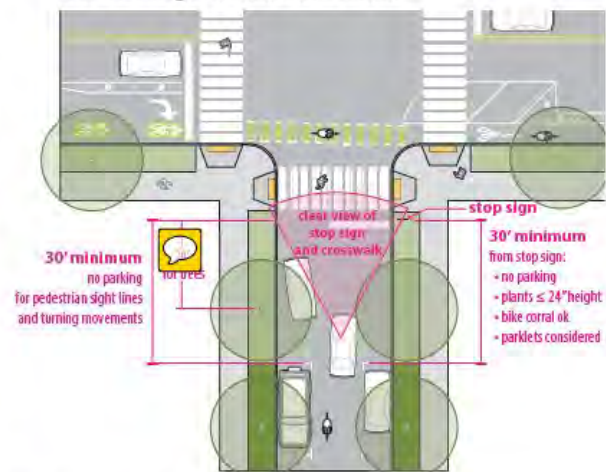
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- See Chapter 4 Bicycle Rack Examples and Specifications for more details on custom sidewalk bicycle rack minimum requirements.

Public On-Street Bicycle Parking Corrals

Corrals or on-street bicycle parking can accommodate many more bicyclists than a typical bicycle rack. Pedestrians also benefit from the reduced clutter along increasingly-encumbered sidewalks. Installing bike corrals near intersections or driveways can also protect sight distance clearances for motorists.

- On-Street bicycle corrals are placed in the street parking lane
- Located in areas with high bicycle parking demand and/or where there is limited sidewalk space.
- Can accommodate approximately 8 to 12 bicycles for each motor vehicle on-street parking space.
- Corrals are often located near the intersection where vehicle parking is not allowed due to sightlines.
- Bike corrals provide increased visibility for bicycle parking.
- Bike corrals may provide opportunities for the incorporation of public art.
- Bikes parked in corrals in the parking lane allow more room for pedestrians and other furnishings on the sidewalk.



Horizontal clearances from a stop sign
(Image: Seattle Right-of-Way Improvements Manual)

3. The photo in the bottom-left shows a corral that was installed too close to the curb. Use a different photo.
4. The diagram in the bottom-right is from the new Streets Illustrated Guide. However, there are a number of problems with this diagram, including the fact that SDOT does not have 30' no-parking zones on the opposite side of the street from stop signs. Also, the Streets Illustrated Guide does not show or discuss the city's required 20' no parking zones near all crosswalks. As a result, this diagram from the Streets Illustrated Guide should not be used and instead a correct should be drawn/illustrated.



On-street bicycle corral installation at Capitol Hill Light Rail Station (Photo: SDOT)



Bike parking at Lake Union Park (Photo: MIG/SvR)

SDOT will consider installing on-street bicycle corrals upon the request of the adjacent business owner. Converting a motor vehicle parking space to on-street bike parking is typically warranted in locations where bicycle parking demand is high and sidewalks are constrained—for example, outside of restaurants with sidewalk cafes or in neighborhoods with narrow sidewalks flanked with tree pits and assorted street furniture.

- See Chapter 4 for more details on bicycle corral requirements.

Public Bicycle Racks on Public Property

- Bicycle racks provide short-term parking at public facilities such as schools, libraries, parks and transit stations.
- These racks are either designed as part of new facility, a facility upgrade or as a retrofit.
- SDOT provides bike racks to Seattle public agencies, such as the Seattle Public Library, Seattle School District and Seattle Parks and Recreation for retrofit projects. SDOT supplied racks are then installed by the agency receiving the racks.

Private Property Bicycle Rack

- Racks offer short-term bicycle parking at stores, businesses, offices, institutions, and multi-family residences.
- Location should be highly, visible, safe, well-lit and accessible, emphasizing user



Private bicycle parking at REI (Photo: MIG/SvR)

convenience and deterrence of theft.

- When possible, it's encouraged that bike parking facilities be shared by more than one business.
- Racks installed on public property may be counted toward bicycle parking requirements.



Bike parking at the Amazon Campus (Photo: MIG/SvR)

5. Remove the phrase, “When possible, it’s encouraged that bike parking facilities be shared by more than one business.” It’s not clear to what purpose this statement is included, except to discourage more bike parking or to make it less convenient.
6. The guidelines should clarify that while SDOT-owned & -provided racks can count towards a land use’s Parking Code requirements, the developer or property manager still needs to pay the cost for the racks.
7. The Amazon triangle bike racks in the image in the bottom-right of the page are non-compliant with this guide’s spacing requirement that the racks/triangles be spaced 3’ apart from each-other. This image should not be used.



Festival bike parking at Ballard Street Fair
(Photo: SDOT)

Monitored Event Bicycle Parking

- Permanent and temporary short-term parking presents alternative transportation options to attendees of sporting events, stadiums, festivals, fairs, etc.
- Providing bicycle parking at large events helps ease traffic congestion at the start and finish of these events
- We sent email to Bike Works to see if they'd like to be listed as a resource for monitored event parking. Haven't heard back yet. Cascade said they don't do this.

REQUESTING OR PERMITTING BICYCLE RACKS IN THE ROW Sidewalk Bicycle Rack or On-Street Bicycle Corral Request

- Send requests to walkandbike@seattle.gov or (206) 684-7583
- To expedite the bike rack/bike corral request process, include the following items:
 - Name of the business
 - Address of the business
 - Location for rack if different
 - Name of the requester (or the name of the business owner)
 - Phone number of requester (or that of the business owner)
 - Email of requester (or business owner)
 - Type of rack requested (either a sidewalk rack or an on-street corral)
 - A description of the need for bike parking (ideas for placement are helpful but not



Sidewalk bike racks at the Seattle Municipal Tower
(Image: Photo: Alta Planning + Design)

required)

- An estimation of the quantity needed
- SDOT staff will contact the requester to coordinate installation of standard rack

Bicycle Rack Permit Process

- Street Improvement Plan or Building Site Plans show location of bike racks in relation to building entries, utilities, trees, furnishings, etc. SDOT approves locations in the ROW
- Custom bike racks as part of a development permit require a Street Use Permit while standard racks do not.
- If custom rack meets SDOT's minimum requirements (See Chapter 4), SDOT may take ownership of rack if desired by owner after first year of street use permit. Confirmation is obtained on a case by case basis.
- Street Use Permit Basic Permit #52 for bike racks and corrals
 - Permit Fee is \$146 for the first year; \$140 for subsequent years. Fee Schedule: www.seattle.gov/transportation/docs/stuse/SDOT%202011%20Street%20Use%20Fee%20Schedule%20v8.pdf
 - Permit Application Form: www.seattle.gov/transportation/docs/stuse/AnnualsApplicationFormFILL.pdf
 - Include the following with the permit application form:
 - * Site Plan (11x17 paper size preferred)

8. I talked with Deb Salls of Bike Works, and she said they'd like to be listed in this guide, with the direction that businesses should email director@bikeworks.org to procure valet operations.
9. Through amendments to the city code, I'm working to require bike valet to be provided at any event that's permitted through the Special Events Committee. The baseline requirement will be to require bike valet for 10% of expected attendance, with allowance for SDOT to set different percentage requirements based on event type. This requirement and the percentages should be set-out on this page. In addition, this page should specify that the bike valet should be monitored, fenced-in, ticketed, and promote bicycle registration.
10. Spell-out "ROW" in the section header.
11. The "Sidewalk Bicycle Rack or On-Street Bicycle Corral Request" subsection might be best left simply as a new online form, with a web-link provided here.
12. Divide the "Bicycle Rack Permit Process" subsection into two subsections, one that focuses simply on the multiple steps for SDOT to review a request, and another that focuses solely on Street Use Permits for custom bike racks.
13. Add a subsection about neighborhood-subsidized racks, like those in Pioneer Square.

Note the following on the site plan:

- Proposed location of bike rack. See the Right-of-Way Improvements Manual (ROWIM) for standard clearance from bicycle parking. These clearances are also listed in the following section on short term bike parking requirements.
- Street name and building address
- * Include bike rack product information:
 - If standard bike rack, note type and model.
 - If non-standard bike rack, submit the manufacturer's cut sheet, including model, dimensions, material and finish, and installation method and type.
 - For custom bike rack see customization, in Chapter 4 Bicycle Rack Examples and Specifications

SHORT-TERM BICYCLE PARKING REQUIREMENTS

Required Number of Bicycle Racks

- See Appendix B for Required Bicycle Parking per Seattle Municipal Code.

General Bicycle Rack Location and Layout

Refer to the [Seattle Streets Illustrated Right-of-Way Improvements Manual \(ROWIM\)](#) for

TABLE 2-1: ROWIM BICYCLE PARKING CLEARANCES

From	To	Standard Clearance
Bicycle Parking	Curb when adjacent to parking	3 feet (including rack in use with parked bicycle)
	Curb when adjacent to vehicle travel lane	2 feet (including rack in use with parked bicycle)
	Street tree pits and street furniture	1 foot (including rack in use with parked bicycle)
	Fire Hydrant	5 feet (including rack in use with parked bicycle)

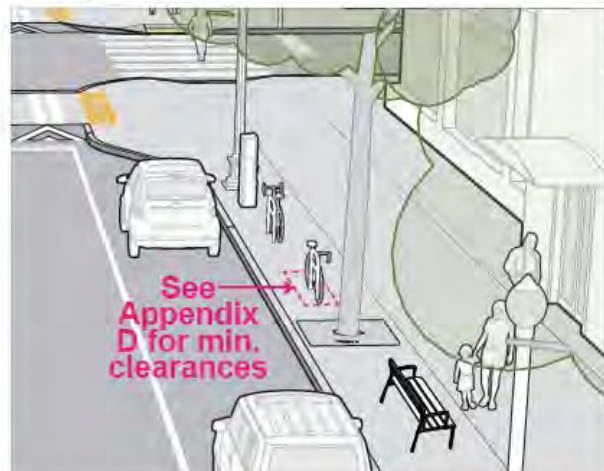
current standard clearances from bicycle parking and other related clearances in the ROW. See Appendix D for short-term bicycle parking layout and clearances.

- Standard bicycle dimensions are 2-feet wide by 6-feet long. Racks and their placement must accommodate this space at a minimum.
- It is preferable to locate racks on a fairly level surface. When locating racks on a steeper slope, align racks perpendicular to the slope, if possible, to prevent bikes from rolling when the bicyclist is locking or unlocking the bike from the rack.

Sidewalk Bicycle Rack Location and Layout

SDOT will review and approve all proposed bicycle racks locations in the ROW. Location requirements for public sidewalk bicycle racks and public on-site bicycle racks:

- Are installed as close to, without being directly in front of, the main entrance(s) of a building or site.
- Provide required clearance from driveways, curb ramps, transit loading areas and immediately adjacent to shelters, and utility poles per the ROWIM.
- At high volume locations, provide for the widest variety of bicycles (family bikes and mobility trikes) and allow for greater clearances than the standards, referenced above.



Horizontal Clearances (Image: Adapted from ROWIM)

14. Please help clarify in this document and in Table 2-1, in particular, that the clearance requirements in the Streets Illustrated Guide establish optimal minimum clearances, not absolute minimums. Set-out an acceptable range for bike rack clearances, including a minimum of 1.5' of the rack to curb edge for a parallel rack, and 2' for a perpendicular rack.
 - a. The Streets Illustrated Guide specifically authorizes the SDOT Director to allow different setbacks to be established based on circumstances. Providing an allowed setback range through this Bicycle Parking Guide is consistent with that allowance and will enable SDOT to more efficiently install bike racks.
15. Provide a diagram of the 2' by 6' bicycle dimensions alongside a bicycle rack, with two bikes locked onto a single staple rack, in order to show how much space and setbacks that are required for a bike.



Bike corral on University Way NE (Photo: SDOT)

- Are to be installed in public space usually on a sidewalk. When installed on a sidewalk, a minimum clear sidewalk space (pedestrian access route) of **6-feet in downtown areas** and **4-feet in other areas** shall remain.
- Racks can be installed in bus stops or loading zones only if they do not interfere with boarding or loading patterns and there are no alternative locations.

Public On-Street Bicycle Corral Location and Layout

- Selection of the number of on-street bike U-rack clusters is based on available space as well as demand for bicycle parking.
- On-street bike corrals must be oriented so that bicyclists can safely enter and exit without conflicting with motor vehicles or pedestrians.
- Locate on-street bike parking near entrances (within 50-feet) of locations with high demand for bicyclists.
- Placing bike corrals near intersections allows them to function like curb extensions, providing visibility and protected space for crossing pedestrians as well as bicyclists entering and leaving the corral. Pavement markings, bollards or wheel stops may be used to define the corral.
- Avoid locating bike corrals in areas where public utilities are located or where curbsides are prone to flooding.



Private bicycle parking (Image: Sportworks)

Private Property Bicycle Parking Location and Layout

- Racks shall be placed at convenient, usable and visible locations in close proximity (within 25 to 50-feet) of destination/building entrances without impeding pedestrians or blocking building entrances.
- Provide wayfinding to bicycle parking location if it is not visible from the site or building entrance.
- Provide signage to clarify if bicycle parking is for public use.
- At high volume locations, consider the widest variety of bicycles (family bikes and mobility trikes) and allow for greater clearances.

SHORT-TERM BIKE PARKING ENHANCEMENTS

- Customization options
 - Weather protection – use building awnings, overhangs and shelters



Bike shelter at Woodland Park Zoo (Photo: MIG/SvR)

16. The diagram in the appendix shows different minimum clear sidewalk space (pedestrian access route) requirements than is listed in red here as “6-feet in downtown areas and 4-feet in other areas.” Make the two standards the sync-up.
17. The “Public” and “Private” requirements state that bike racks should be installed within 50’ and within 25-50’ of main entrances. These requirements should be described the same, which could be put into the previous heading that sets out the requirements for both public & private racks. Use the following language:
 - a. *Racks shall be placed at convenient, usable and visible locations in close proximity to the main entrance to the intended destination location. Racks should be within 25 feet of the entrance, and no farther than 50 feet. For buildings with multiple groundfloor land uses or businesses, the required number of racks for each land use shall be located within the 50 feet to the applicable land use.*
18. All parking that is publicly accessible should be available to the public for public use. If the signage requirement is meant to only apply to the previous wayfinding requirement for hard-to-find parking, then the two requirements should be combined.
19. Provide guidance on how to accommodate family bikes, cargo bikes, and mobility trikes.

- Electrical outlets for charging of electric bicycles.
- Lighting for all hours visibility
- For passive surveillance, locate bike parking in front of business windows and in high traffic areas to allow bicyclists and others to keep an eye on the bikes

MAINTENANCE OF BICYCLE RACKS & CORRALS IN THE ROW & PUBLIC PROPERTY

- SDOT will assume ownership and maintenance of standard bicycle racks and corrals located in the ROW once they are installed.
- SDOT may take ownership of permitted custom racks that meet their minimum requirements after the initial street use application and first year. See Chapter 4.
- Racks located on public property will be maintained by the associated City department or institution (Library, Parks, Schools, etc.).
- Use the City’s “Find It, Fix It” smartphone app or call the City’s Customer Service Bureau at 206-684-2489, TTY: 7-1-1 to report rusted or damaged bike racks in the ROW.



Sidewalk bike rack on 3rd Ave (Photo: Alta Planning + Design)



Bike corral on Fremont Ave (Photo: MIG/SvR)



On-street bicycle parking at Pike Place Market (Photo: SDOT)

20. Remove the photo of the long-rail rack and remove it as an approved bike rack. No company manufactures these, so no developer is going to buy one. SDOT isn't procuring any of the long-rail racks. And they're giant sidewalk blockers for pedestrians and people getting out of cars— just look at the photo, with the two bikes and the rack, six feet of space is blocked. Even if SDOT would approve of such a rack (although it shouldn't), there's no reason to highlight, show, or list it as an approved rack.

GOOD SHORT-TERM BICYCLE PARKING EXAMPLES



On-street bike corral near an intersection in Ballard (Photo: Alta Planning + Design)



Racks are protected under building cover at Swedish First Hill (Photo: Alta Planning + Design)



Racks under a shelter with lighting & repair station at UW (Photo: MIG|SvR)



Multiple public racks at a high demand location at the University Stadium Light Rail Station (Photo: MIG|SvR)



Rail type rack with space for a cargo bike on Greenwood Ave N (Photo: MIG|SvR)



On-street racks in leftover space from angle parking on Terry Ave (Photo: MIG|SvR)

NOT SO GOOD SHORT-TERM BICYCLE PARKING EXAMPLES



Rack does not provide 2 points of support or place to lock to frame (Photo: MIG|SvR)



Non-intuitive rack does not provide 2 points of support (Photo: Alta Planning + Design)



Rack does not provide 2 points of support (Photo: MIG|SvR)



Rack does not allow use of a u-lock (Photo: Alta Planning + Design)



Rack is not intuitive (Photo: MIG|SvR)



Inadequate bike parking provided (Photo: SDOT)

21. The guide probably doesn't need to show all these good parking examples, although it's appreciated.
 - a. Please note: The UW high-density racks under the shelter are not sufficiently spaced (3') apart from one another.
22. Under the "Not So Good Short-Term Bicycle Parking Examples" header, include text that makes it clear that SDOT and SDCI will not approve "not so good" bike racks within the public right-of-way or as part of building site plans.
23. Add photos of coathanger racks, bollard/post-pounder racks, wheelbender racks, and wave racks & U racks that are mounted horizontally onto walls.

3. LONG-TERM BICYCLE PARKING

INTRODUCTION

When bicycles are parked for more than 4 hours, there are additional security needs to ensure that the bikes are safe from theft and vandalism and sheltered from weather over prolonged periods of time. This is especially important for building residents, employees, commuters or other individuals who require overnight or workday storage. Users of special bicycles, such as e-bikes, may opt for more secure bicycle parking even if the bike is parked for less than 4 hours. Typically, secure long-term bicycle parking is located in a building bike room, shared cage in a garage, or in a standalone enclosure such as a locker or structure. Any bicycle parking should still be in a convenient, visible, and safe location to encourage use. New buildings are required to provide long term parking per SMC 23.54.015 Table D - See Appendix B. Building and business owners may voluntarily retrofit to meet these criteria.

OVERVIEW OF LONG-TERM BICYCLE PARKING TYPES

Bicycle Lockers

- Box enclosures which can hold one individual bicycle that may be keyed or accessed by a smart card (e-lockers)
- May be located at transit centers, parking garages, or outside of buildings

Bicycle Cages

- Shared bicycle racks placed in a caged enclosure in a parking garage
- Typically located in a private office building or multifamily residential building with keyed access

Bicycle Room


- Indoor room with shared bicycle racks
- Typically located in a storefront or ground floor location of an office building or multifamily residential building

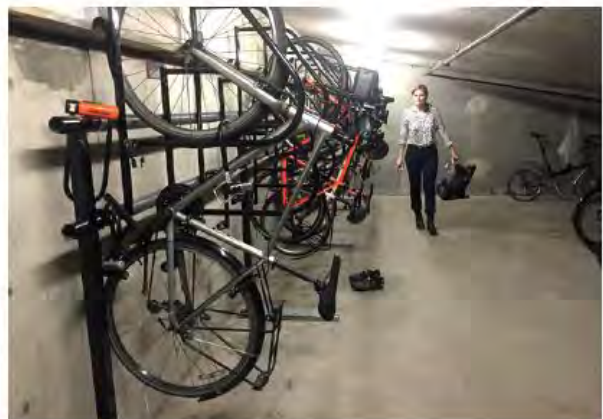
Secure Parking Area (SPAs)

- Shared racks within a standalone structure or building extension.
- May be located at transit stations, college campuses, or destination hubs such as a downtown retail areas.

LONG-TERM BICYCLE PARKING REQUIREMENTS

General

- Must provide bicycles weather and theft protection
- Typically provided at no cost to users. A nominal fee is appropriate  publicly accessible lockers and cages when turnover or high demand is a concern.
- Located on site or within 100-feet of pedestrian entrance, no further from building entrance than closest non-disabled vehicle parking space



Wall-mounted racks (Photo: MIGISvR)

24. The current Parking Code encourages bike racks to be co-located with other uses. While Bicycle Security Advisors hopes that the Parking Code is amended to remove this encouragement, one of the unintended consequences is that other storage uses sometimes get more than co-located, they become the same. New apartment buildings often charge \$50 or more per month for bike lockers. Because the fees are so high, often these bike lockers are duplicated as just storage lockers. The bike parking guidelines should make clear that bike lockers cannot be dual-purpose for meeting a development's long-term bike parking requirements. In addition, guidelines should be established to discourage high fees for what is code-required bike parking. In my recommended code amendments, I requested the following language be added:
- a. *Building and property managers shall not charge for long-term bicycle parking beyond a reasonable amount that covers the maintenance, operations, and other relevant costs as determined by the Director of the Seattle Department of Transportation. For the calendar year 2018, rates of 15 dollars per month or 150 dollars per year, shall be considered a reasonable amount. Building managers may charge more if it can show its maintenance and operations costs significantly exceed these amounts. Calculations shall be based on total possible capacity, not on the number of people using the facility.*
25. Set a requirement that bike cages, rooms, and SPAs to be sized to be at least 9 square-feet for every bike space, with a preference for at least 12sf/bike. This will provide an easy metric for SDCI staff and design review boards to know whether a developer's site plan provides sufficient space for their required bike parking.
26. Amend last bullet to read:
- a. Located on-site, ~~or~~ within 100-feet of pedestrian entrance, no further from building entrance than closest non-disabled vehicle parking space.



Changing room with shower and lockers
 (Photo: MIG/SvR)

- In bike rooms, cages and SPAs, provide ground-level bike racks to allow for use by those unable to lift their bicycles to higher racks and those with bicycle types that may not fit in upper-level or wall-hanging racks such as recumbents, folding bicycles, cargo bicycles, or those with trailers.

Layout

See Appendix E for long-term bike parking layout examples.



Parking garage with signed bike entrance over a delineated bike path (Photo: Alta Planning + Design)

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Access

- Logical well-lit path of travel from building or garage entry to bicycle parking, marked with signage or entry door to a bicycle room or cage is visible from building entrance or elevator doors
- No stair or escalator use shall be required to access the bike parking. Ramps or elevator access should be limited to no more than one floor above or below the main pedestrian entry.
- Minimum elevator cab dimensions for bicycle use shall be 70 sq. ft. and no less than 7-feet in any dimension
- Bicycle parking access plan must be submitted to Seattle Department of Construction and Inspections (SDCI) during building permit review

Showers and Storage Facilities

- Workstation space should be provided in office, commercial, and retail buildings over 50,000 sq. ft.
- Clothing lockers should be provided in office, commercial, and retail buildings over 50,000 sq. ft.
- See Appendix B for Bike Parking Requirements per Seattle Municipal Code

Bicycle Lockers

General

- Should be labeled as bicycle parking

Location

- Preferably located in covered area for



Bicycle lockers protected under building cover
 (Photo: Alta Planning + Design)

27. The draft Parking Code update only requires bike showers and lockers for office buildings with more than 100,000 sf. Bicycle Security Advisors is trying to get this requirement to also apply to other commercial uses. However, the “Shower and Storage Facilities” requirement should be clear that showers and other facilities are encouraged for any nonresidential building over 50,000 sf, and required for any building over 100,000 sf. Use the following language:
- a. *The Seattle Municipal Code requires two showers (one for each gender) for every 100,000 square-feet of commercial and institutional use of a building. This Bicycle Parking Guide also recommends that buildings have two showers, clothing lockers, and a bicycle workstation for every 50,000 square-feet of non-residential use.*
28. The requirements for bicycle lockers should make clear that if the lockers are not in a covered area, then the lockers themselves should be fully weather protected. Also, the guide should require lockers to either have a transparent window or holes in the locker walls so it's so it's possible to see into the lockers in order to prevent lockers from being used for illicit purposes.

weather protection

- Located on a hard-surfaced area for anchoring

Dimensions / Layout

- Minimum depth of 6-feet, minimum door width of 2-feet
- Minimum access aisle of 6-feet wide to allow full 90 degree door opening

Bicycle Cages & Bicycle Rooms

Location

- Located in a well-lit area with a minimum average illumination level of 200 lux (recommended light levels from the US General Services Administration for public areas including stairwells, pedestrian tunnels and bridges, elevator lobbies and corridors <https://www.gsa.gov/portal/content/101308>)
- If bicycle parking is accessed from garage entry, must have delineated path in garage entry to bicycle parking entry that is separate from path of motor vehicles
- Path or hallway to bike room or cage must be a minimum of 5-feet wide

Security

- The bicycle cage or room must be secured by key, smart card, or code access and under surveillance by attendant, video camera, or under passive surveillance of employee offices

Dimensions / Layout

- Spacing of racks no less than 30-inches O.C. or 17-inches O.C. for high density offset arrangements



Secure parking area at UW (Photo: Alta Planning + Design)



Bike room with stacked racks, service station and lockers (Photo: Dero)

- Minimum vertical clearance of 7-feet
- Minimum aisle of 5-feet between bicycle racks
- Minimum rack wall clearance of 2-feet

Racks

- Racks should be mounted with secure theft resistant anchoring
- All racks must support a bicycle in two places and a bicycle should be able to lock a front wheel with a U style lock without having to remove the wheel of the bicycle
- Minimum 50% of racks which do require lifting and allow bicycles to sit horizontally on ground. No more than 30% vertical style racks.

Secure Parking Areas

General

- May be conditioned or an open air structure
- Enclosure must not permit a 4-inch ball from passing through to prevent unauthorized access
- Must have average illumination of 200 lux

Security

- Must be secured by key, smart card, or code access and under surveillance by attendant or video camera

Dimensions / Layout

- Spacing of racks no less than 30-inches O.C. or 17-inches O.C. for high density offset arrangements
- Minimum vertical clearance 6.7-feet

29. Wayfinding should be standardized for all bike parking, including signage and on-ground markings and paint to long-term bike storage areas.
- a. Provide a diagram of a standardized sign for bike parking (a circle sign with a white “ P” and a bike symbol on a rave green background).
 - b. Require that if bike parking is in a vehicle parking garage, there should be a dedicated green bike lane from the garage entrance to the bike cage/room.
 - c. Encourage the bike rooms/cages to be designed & decorated for wayfinding and to be bike-positive, such as painting the bike cage wall green with a large white bike symbol.
 - d. Require bike rooms and cages to provide an informational board
 - i. Encourages bike registration
 - ii. With the city bike map.
 - iii. For the cycling community to interact, such as a calendar of upcoming rides.
30. Add the following requirement:
- a. *Bicycle cages and bicycle rooms should be within 50’ of the building entrance, and shall be no more than 100’ from the entrance, whether it’s a garage entrance or other building entrance.*
31. Clarify what “two points of contact” means. Amend the language to the following:
- a. *All racks must support a bicycle in two places, where the downtube is closest to the front wheel and where the seat tube and seatstays meet on a typically-sized bike. A bicycle should be able to lock a front wheel with a U style lock without having to remove the wheel of the bicycle.*
32. The requirements that 50% of racks be on-ground horizontal and that no more than 30% of racks be vertical are super confusing. Because staple racks hold two bikes, in a room with only staple racks and vertical racks, the result would be 70% of the racks having to be staples and 30% being vertical.
- a. I recommend stating that 50% of the bicycle spaces must be on-ground, horizontal, and no more than 30% of the bicycle spaces may be vertical.
 - b. Set requirement for providing at least one spot for a family/cargo bike for every 20 bike spaces, with an adjacent outlet and signage/markings to make clear the space is for a family/cargo bike.

- Minimum aisle of 5-feet between bicycle racks
- Minimum rack wall clearance of 2-feet

Racks

- Racks should be mounted with secure theft resistant anchoring
- All racks must support a bicycle in two places and a bicycle should be able to lock a front wheel with a U style lock without having to remove the wheel of the bicycle
- Provide a minimum 50% of racks which do not require lifting and allow bicycles to sit horizontally on ground. No more than 30% vertical style racks.

LONG-TERM BICYCLE PARKING ENHANCEMENTS

- Electrical outlets for ebike charging
- Automated doors
- Showers (office, commercial, retail buildings under 50,000 sq. ft.)
- Clothing lockers (office, commercial, retail buildings under 50,000 sq. ft.)
- Public artwork to enliven space
- Workstation space (office, commercial, retail buildings under 50,000 sq. ft.)
- In lieu fee to bicycle parking facility

PUBLIC VS. PRIVATE LONG-TERM BICYCLE PARKING

Public Long-Term Bicycle Parking

- Publicly accessible long-term parking: Transit, Civic Buildings



Bicycle cage at the Beacon Hill Light Rail Station (Photo: Alta Planning + Design)

- City owned and leased properties have set standards to provide bicycle parking and standard racks
- Require regular survey of amount, location, usage of bicycle parking spaces
- Monitored bicycle parking with public access typically limited to building hours

Private Long-Term Bicycle Parking

- Privately accessible long-term parking: Residential, office, institutional, healthcare, retail, live-work
- See Appendix B for specific locker & shower requirements for building size minimums



Bike facility wayfinding (Photo: MIG/SvR)



Parking in clear view of employees (Photo: Alta Planning + Design)

33. Amend “minimum rack wall clearance” to “*minimum clearance of rack from wall.*”
34. Our previous comment regarding the 50% requirement for bike racks in bike rooms and cages also applies to the 50% requirement in bike SPAs. Change “racks” to “spaces.”
35. It’s not entirely clear what the defining differences between bike rooms and bike spas are, or why it matters.
36. The new Parking Code establishes the threshold for requiring showers at 100,000 sf for an office building. The guidelines should clarify here that showers and lockers are encouraged at 50,000 sf and required at 100,000 sf, as described previously.
37. I believe the in-lieu fee is being eliminated in the Parking Code update. I’m not sure if these guidelines could somehow reinstate the in-lieu fee in certain circumstances, but it might be a good idea.
38. I do not understand the purpose of the section that attempts to distinguish “Public vs. Private Long-Term Bicycle Parking.” I do not see how it’s useful and I think it can be removed.
39. The image of the “bike parking / locker rooms” sign should match approved wayfinding signage, as should be established in this guide and illustrated in the appendix.

GOOD LONG-TERM BICYCLE PARKING EXAMPLES



A variety of rack types including floor racks is provided (Photo: Alta Planning + Design)



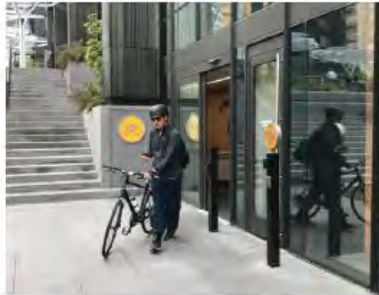
Racks are in a secure cage with artwork (Photo: Alta Planning + Design)



SPA with steel bars provides high level of security (Photo: MIG|SvR)



Adequate aisle space provided (Photo: Alta Planning + Design)



Bike room is in a secure, accessible location with signage (Photo: MIG|SvR)



Covered bike lockers at Angle Lake Light Rail Station (Photo: Alta Planning + Design)

NOT SO GOOD LONG-TERM BICYCLE PARKING EXAMPLES



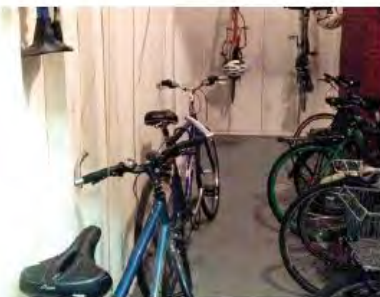
Anchoring is not theft resistant (Photo: MIG|SvR)



Anchoring and wood mounting is not theft resistant (Photo: MIG|SvR)



Racks are wheel benders (Photo: Alta Planning + Design)



Poor circulation (Photo: Alta Planning + Design)



Racks do not provide 2 points of support & there is no delineated bike exit (Photo: Alta Planning + Design)



Racks do not provide 2 points of support (Photo: Alta Planning + Design)

40. Under the “Not So Good Long-Term Bicycle Parking Examples” header, add text to state that SDCI will not approve bike rooms with “not so good” bike parking.

4. BICYCLE RACK EXAMPLES AND SPECIFICATIONS

OVERVIEW

The following are guidelines for both standard and custom bicycle racks. The goals of the specifications are to provide safe, secure, durable, low-maintenance bike racks and corrals that are easily identifiable as such.

SPECIFICATIONS

The following are Seattle standard bike racks and pre-approved bike racks for the ROW.

- **Seattle standard bike racks:**
 - Rail-Type Bike Rack
 - Inverted "U" Bike Rack
- Approved pre-manufactured models
 - **Manufacturer: Dero**
 - * **Dero Models:** Hoop Rack, Hoop Rack Heavy Duty, Swerve Rack, Downtown Rack, Round Rack, Arch Rack
 - **Manufacturer: Sportworks**
 - * **Sportworks Models:** Tofino No Scratch, Oahu No Scratch Circular, Westport No Scratch
 - **Manufacturer: Urban Racks**
 - * **Urban Racks Models:** Urban Staple, Urban Corral

STANDARD ON-STREET BICYCLE PARKING CORRAL

See Appendix C for City of Seattle standard corral plans and elevations.

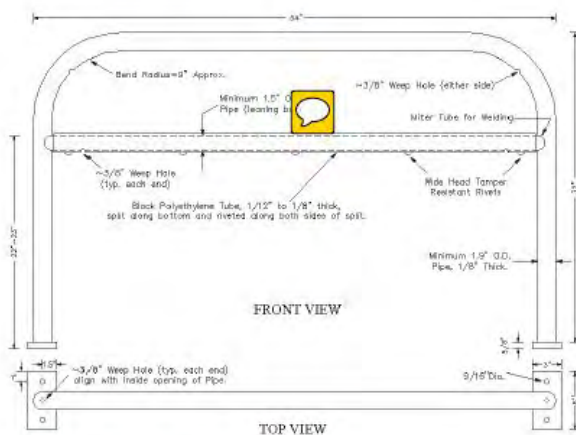


Bike corral on University Way NE (Image: SDOT)

CUSTOM BICYCLE RACK MINIMUM SPECIFICATIONS

SDOT will review and approve all non-standard bicycle racks in the ROW. The following are required minimum specifications for all bicycle racks in the ROW and recommended specifications for bicycle racks on public and private property:

- are intuitive to use correctly;



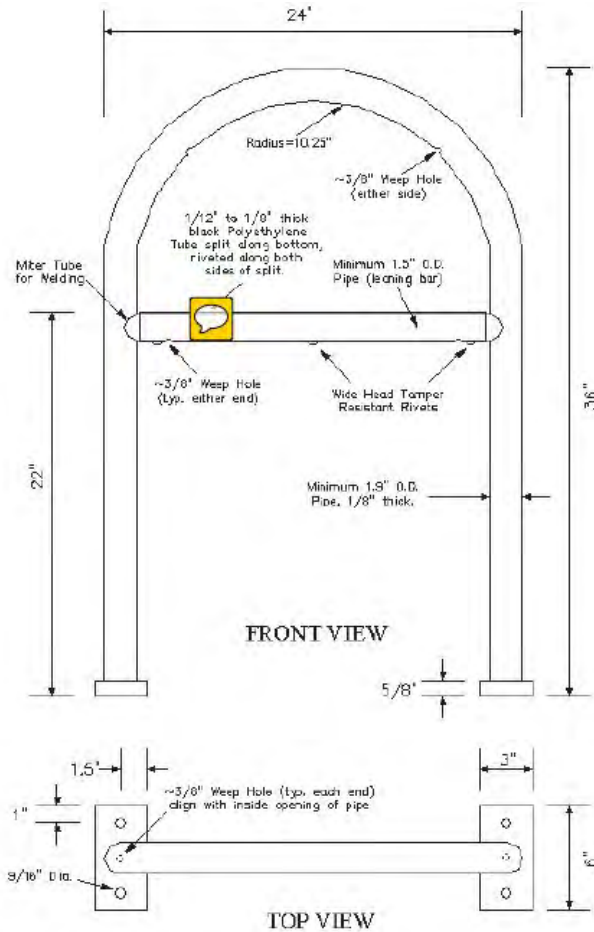
Rail Type Bike Rack (Image: SDOT)



Non-standard racks on Blanchard St (Photo: MIG/SvR)

41. Remove all references, images, and diagrams to/of the Long “Rail-Type Bike Rack.” No company manufactures these, so no developer is going to buy one. SDOT isn’t procuring any of the long-rail racks. And they’re giant sidewalk blockers for pedestrians and people getting out of cars and pedestrians. Even if SDOT would approve of such a rack (although it shouldn’t), there’s no reason to highlight it or to list it as an approved rack.

- have a minimum height of 32 inches so it is not a tripping hazard;
- support bicycle frame at 2 points;
- allow a u-style lock to secure one of the wheels and the frame to the rack;
- allow the bike to be locked by a U-Lock through the bike frame and at least one wheel, or preferably lock both wheels using two locks;
- support bicycles of various dimensions;
- can be securely installed with tamper-proof hardware to prevent rack removal by bicycle thieves;
- meet requirements for protruding objects under ADA standards;
- all spaces and openings will not cause entrapment issues such as a child's head getting stuck.



Inverted "U" Bike Rack (Image: SDOT)




Grouped sidewalk bicycle racks on Terry Ave N (Photo: SDOT)

42. Explain what “2 points” of contact means, i.e. the rack provides contact (1) where the front wheel is closest to the downtube, and (2) where the top tube, seat tube, and seatstays meet.
43. Explain how family bikes and cargo bikes can be accommodated.
44. Instead of saying, “can be securely installed ...” say “*is securely installed ...*”
45. The ADA requirements pose a potentially significant issue. Under a strict interpretation, this ADA requirement would require a cross-bar on all bike racks. However, almost all custom bike racks installed by developers & businesses in Seattle do not include a crossbar. We should make clear how SDOT & the city attorney interpret this requirement. My hope is that a crossbar is not required, instead recognizing that a bike rack isn’t two independent posts with a bar above 24” connecting them, but instead one integrated unit.
46. Update SDOT’s standard bike rack with thinner gauge tubing, and has a crossbar that isn’t tubing (instead a simple bar), is at 9-12” in height, and doesn’t have the rubber.
47. Use a different photo. The triangle bike racks do not meet the standards of 3’-4’ spacing.

MATERIALS & FINISHES

Durable materials and low-maintenance finishes are required for public bicycle racks and are recommended for private bike racks.

- All public bicycle racks shall have a no-maintenance finish that t chip, peel, or rust. Galvanized steel finishes are preferred.
- Material is durable enough to prevent being cut by a bolt cutter or other means.
- See Appendix F for APBP's table on bike rack materials and finishes.



Tamper-proof hardware (Photo: MIG|SvR)

MOUNTING/ INSTALLATION

Mounting to be tamper proof to prevent thieves from accessing the parked bikes.

- Surface mounting only - no concrete embed?
- Min. concrete depth?
- Minimum hardware size?
- All hardware to be tamper-proof and low maintenance/weatherproof
- Custom rack mounting to be tamper-proof per manufacturer's recommendations
- See Appendix G for APBP's tables on bike rack installation.



Non-standard stainless steel racks on 2nd Ave (Photo: SDOT)



On-street bike racks at Bell Street Park (Photo: MIG|SvR)

48. Replace the sentence, "Galvanized steel finishes are preferred"; and insert: "Preferred finishes include bead-blasted stainless steel, polished stainless steel, and thermoplastic powder coat. TGIC powder coat finishes are discouraged."
49. I'm assuming you'll get the right language for mounting requirements, with tamper-proof bolts or 10" depth in concrete.

APPENDICES

- Appendix A Additional Resources
- Appendix B Required Bicycle Parking per Seattle Municipal Code
- Appendix C City of Seattle Bike Standard Corral Plans and Elevations
- Appendix D Short-Term Bicycle Parking Layout
- Appendix E Long-Term Bicycle Parking Layout Examples
- Appendix F Bike Rack Materials and Coatings from APBP
- Appendix G Bike Rack Installation from APBP
- Appendix H SDOT's Five Core Values

50. Add an appendix for bike theft and registration with information for bicyclists and property managers, including how to properly lock-up a bike, register a bike, and recommended signage and materials for property managers to provide in bike rooms.
51. Add an appendix for bikeshare, including bikeshare corral design.
52. Add an appendix for bike valet best practices.

APPENDIX A - ADDITIONAL RESOURCES



The following are additional bike parking and bicycling resources.

- **Seattle Department of Transportation**
 - Bike program page with links to Seattle biking resources including the current Seattle bike map, Seattle bike laws, the bike parking site with information on how to request a bike rack or corral, City standard bike rack details and the site on how to report abandoned bicycles.
<http://www.seattle.gov/transportation/bikeprogram.htm>
 - Interactive map of downtown sidewalk rack locations
<https://data.seattle.gov/Transportation/Downtown-Seattle-Bike-Racks/55n4-ddnu>
- **City of Seattle Right-of-Way-Improvements Manual (ROWIM)**

The ROWIM is an on-line resource to help property owners, developers, architects, landscape architects, and engineers involved with the design, permitting, and construction of improvements to Seattle's street right-of-way. The manual includes clearance requirements for bicycle parking.
<https://www.seattle.gov/transportation/rowmanual/manual/>
- **City of Seattle Municipal Land Use Code**
- **Sound Transit**

Bicycle riders guide, bike loading tips video and parking information.
www.soundtransit.org/rider-guide/bringing-your-bike
- **King County Metro**




Bike travel information including parking at transit facilities & how to load your bike on a bus.
metro.kingcounty.gov/tops/bike/
- **Seattle Police Department (SPD)**

If your bike is lost or stolen, email SPD at FindMybike@Seattle.gov
- **Washington State Dept. of Transportation**
 - Biking resources including Washington State bike map, bike laws, and bike safety tips
<http://wsdot.wa.gov/bike>
 - **Washington State Ferries**

Information on bike parking, how to ride your bike on a ferry, how to pay your fare
<http://www.wsdot.wa.gov/ferries/bicycles>
- **Commute Seattle**

Interactive Bike Map that includes trip planning, private bike amenities and public bike parking
<https://commuteseattle.com/commuteportal/>
- **Seattle Cycling Tours**
 - Interactive map with bike parking in parking garages
<http://www.seattle-cycling-tours.com/seattlebicycleparkingguide.html>
 - Bicycle parking etiquette
<http://www.seattle-cycling-tours.com/bicycleparkingetiquette.html>

53. Organize these listed resources/organizations by topic.
54. The URL for the city's bike program needs to be updated to:
<http://www.seattle.gov/transportation/projects-and-programs/programs/bike-program>
55. The SPD information wrongly says theft victims should email SPD to report a theft. That is not correct. In general, they should call their local precinct office to report the theft and get a case file number. They should also report the bike as stolen to Bike Index.
56. Possibly list Twitter and two local Facebook stolen/lost bike groups as good ways for getting bikes back through crowdsourcing.
57. I'm pretty sure the Seattle Cycle Tours interactive map is out-of-date. Also, the "bicycle parking etiquette" page is not very professional.

- **Port of Seattle**
Sea-Tac Airport Bicycle Resources
 Information on bike parking at Sea-Tac airport
<https://www.portseattle.org/Sea-Tac/Parking-and-Transportation/Ground-Transportation/Pages/Bicycle-Resources.aspx>
- **Bicycle Security Advocates** 
 Seattle-based organization that advises on best practices in bicycle security issues, including bike theft and bike parking
<http://bicyclesecurityadvocates.org/>
- **Bike Link Secure Bike Parking**
 Sign up for a card to rent bike lockers. Lockers in Seattle are currently located at the King County Northgate Transit Center.
www.bikelink.org
- **National Bike Registry & 529 Garage** 
 - Register your bike
<http://www.nationalbikeregistry.com/>
 - Information on how to lock your bike.
<https://www.nationalbikeregistry.com/proplack.html>
- **Bike Index**
 Register your bike and information on how to protect your bike.
<https://bikeindex.org/>
- **Cascade Bicycle Club** 
<https://cascade.org/>
- **Washington Bikes**
<http://wabikes.org/>
- **Association of Pedestrian and Bicycle Professionals**
 Bicycle parking solutions
http://www.apbp.org/?page=Bike_Parking
- **San Francisco Municipal Transportation Agency**
 “Bicycle Parking: Standards, Guidelines, Recommendations” (2015)
https://www.sfmta.com/sites/default/files/file_attach/2017/1_SFMTA_bicycle_parking_guidelines-Updated-01-17-2017.pdf
- **American Bicyclist Bike Friendly Business**
 Become a League of American Bicyclist Bike Friendly Business
<http://bikeleague.org/business>
- **American Association of State Highway and Transportation Officials (AASHTO)**
 See AASHTO’s Guide for the Development of Bicycle Facilities (Fourth Edition) for information on bicycle dimensions.
<http://www.transportation.org/>

58. Please change “Bicycle Security Advocates” to “Bicycle Security Advisors.” We’re transitioning names.
59. The National Bike Registry was purchased this year by Project 529 and no longer functionally exists. People should be directed to <http://project529.com/garage>.
60. Cascade Bicycle Club and Washington Bikes merged in 2016. Washington Bikes is now the political arm of Cascade. Cascade and Washington Bikes should probably be listed together rather than separately.
61. More resources:
 - a. Transit
 - i. FTA’s “Manual on Pedestrian and Bicycle Connections to Transit” (Aug. 2017),
<https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/64496/ftareportno0111.pdf>
 - ii. APTA’s “Bicycle Accessibility to Transit Facilities” (due out soon).
 - iii. Caltrain’s “Bicycle Access and Parking Planning” webpage,
[http://www.caltrain.com/projectsplans/Plans/Bicycle Access and Parking Plan.html](http://www.caltrain.com/projectsplans/Plans/Bicycle%20Access%20and%20Parking%20Plan.html)
 - iv. BART’s Bike Program, <https://www.bart.gov/guide/bikes>
 - b. General
 - i. APBP’s “Essentials of Bike Parking: Selecting and Installing Bike Parking that Works” (2015),
[http://c.ymcdn.com/sites/www.apbp.org/resource/resmgr/Bicycle Parking/EssentialsofBikeParking FINA.pdf](http://c.ymcdn.com/sites/www.apbp.org/resource/resmgr/Bicycle%20Parking/EssentialsofBikeParking%20FINA.pdf)
 - ii. Portland’s Bicycle Parking Program,
<https://www.portlandoregon.gov/transportation/34813>
 - iii. Westside Transportation Alliance’s Suburban Bike Parking Guide (2015),
<http://www.wta-tma.org/suburban-bike-parking-guide/>
 - c. Locks
 - i. <http://thebestbikelock.com/>
 - ii. “Best Bike Lock” Reviews, Wirecutter,
<https://thewirecutter.com/reviews/best-bike-lock/>

APPENDIX B - REQUIRED BICYCLE PARKING PER SEATTLE MUNICIPAL CODE

The following are excerpts related to Bicycle Parking from the current City of Seattle Land Use Code:

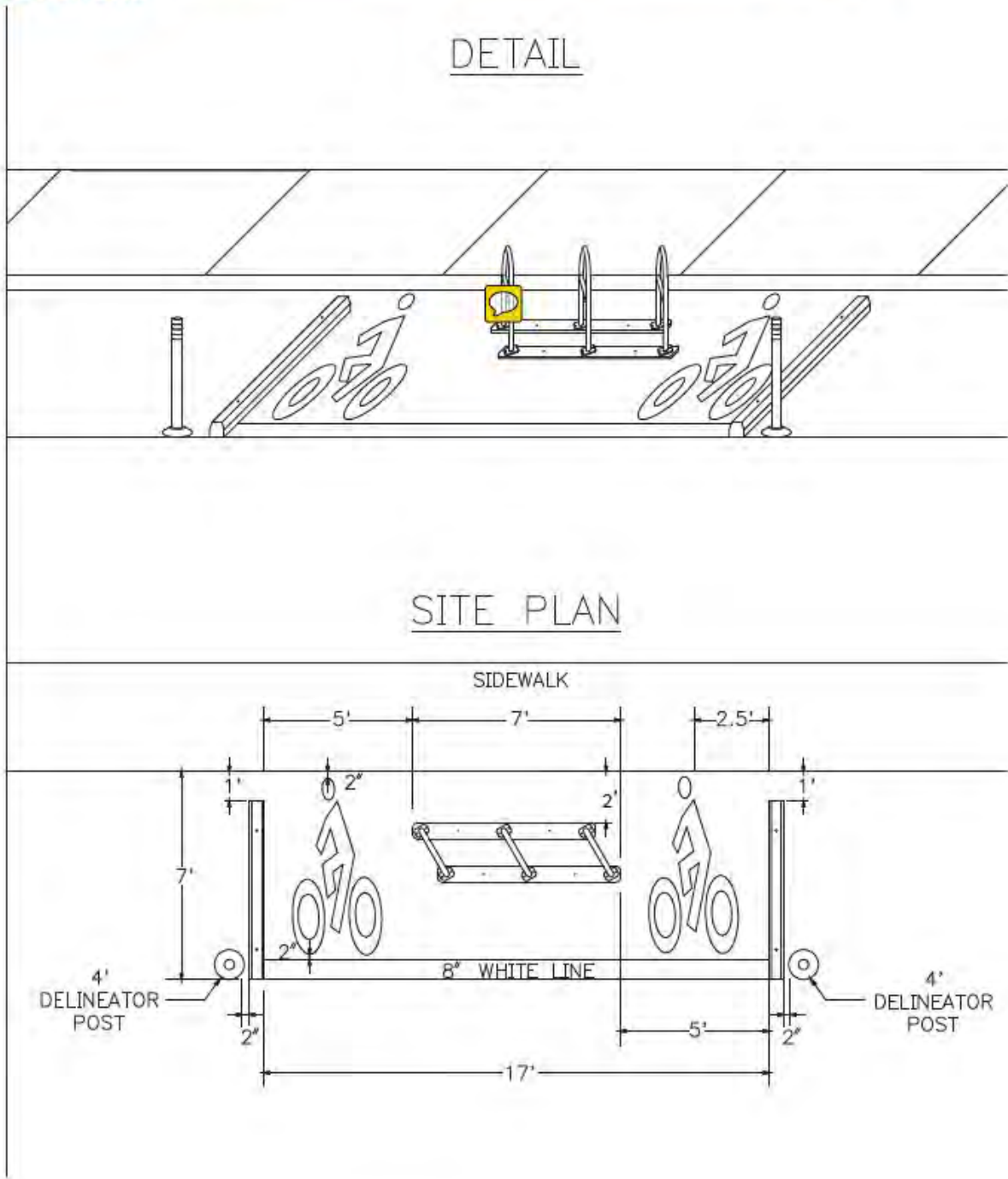
CHAPTER 23.54 - QUANTITY AND DESIGN STANDARDS FOR ACCESS, OFF-STREET PARKING, AND SOLID WASTE STORAGE

23.54.015 - Required parking

- K. Bicycle parking. The minimum number of off-street parking spaces for bicycles required for specified uses is set forth in Table D for 23.54.015. In the case of a use not shown on Table D for 23.54.015, there is no minimum bicycle parking requirement. The minimum requirements are based upon gross floor area of the use in a structure, or the square footage of the use when located outside of an enclosed structure, or as otherwise specified.
1. After the first 50 spaces for bicycles are provided, additional spaces are required at $\frac{1}{2}$ the ratio shown in Table D for 23.54.015, except for rail transit facilities; passenger terminals; and park and ride lots.
 2. Required bicycle parking shall be provided in a safe, accessible and convenient location. Bicycle parking hardware shall be installed so that it can perform to its manufacturer's specifications and any design criteria promulgated by the Director of Transportation, allowing adequate clearance for bicycles and their riders. Directional signage shall be installed when bike parking facilities are not clearly visible from the street or sidewalk. If any covered automobile parking is provided, all required long-term bicycle parking shall be covered. If located off-street, bicycle and automobile parking areas shall be separated by a barrier or painted lines.
 3. Long-term parking for bicycles shall be for bicycles parked four hours or more. Short-term parking for bicycles shall be for bicycles parked less than four hours.
 4. Bicycle parking required for residential uses shall be located on-site.
 5. Bicycle parking required for small efficiency dwelling units and congregate residence sleeping rooms is required to be covered for weather protection. If the required, covered bicycle parking is located inside the building that contains small efficiency dwelling units or congregate residence sleeping rooms, the space required to provide the required bicycle parking shall be exempt from Floor Area Ratio (FAR) limits. Covered bicycle parking that is provided beyond the required bicycle parking shall not be exempt from FAR limits.
 6. Bicycle parking facilities shared by more than one use are encouraged.
 7. Bicycle parking facilities required for nonresidential uses shall be located on the lot or in a shared bicycle parking facility within 100 feet of the lot, except as provided in subsection 23.54.015.K.8.

62. Obviously replace text with new Parking Code language when adopted.

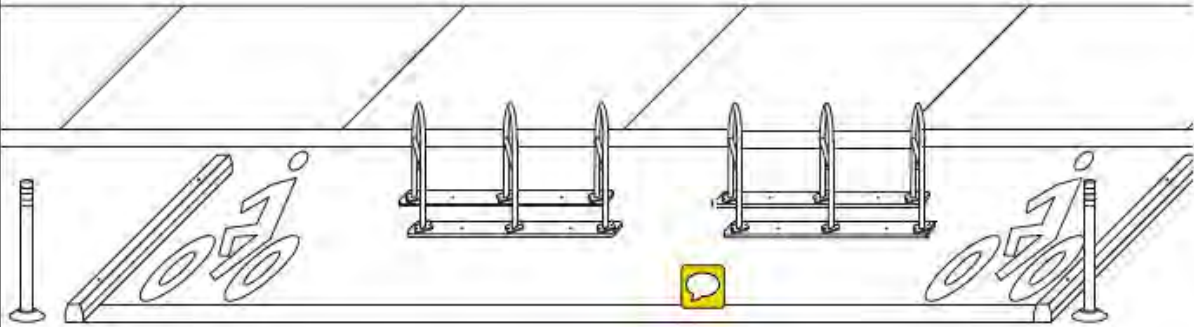
APPENDIX C - CITY OF SEATTLE STANDARD BIKE CORRAL PLANS & ELEVATIONS



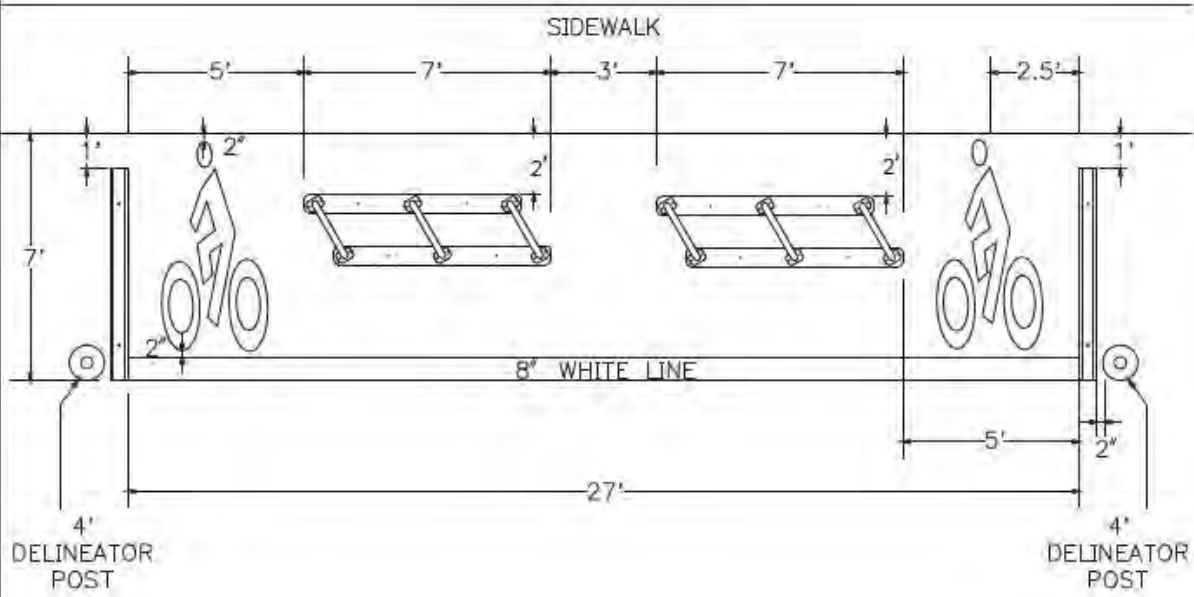
Single Bike Corral Elevation and Site Plan (Image: SDOT)

63. Please update Seattle's standard bike corral to be 20' in total size, to match the 20' no-parking areas adjacent to crosswalks
64. Update the spacing between the racks to 42" or 48".
65. Make it abundantly clear that the corral should be no closer than 2' from the curb.

DETAIL



SITE PLAN



Double Bike Corral Elevation and Site Plan (Image: SDDOT)

66. Please update Seattle's standard bike corral to be 30' in total size, to match the 30' no-parking areas adjacent to stop signs.
67. Update the spacing between the racks to 42" or 48".
68. Make it abundantly clear that the corral should be no closer than 2' from the curb.

69. These clearance standards are extremely excessive and should be viewed as optimal, not minimums. Also, these clearances are not what is in the Streets Illustrated table for bike parking, which states:

Standard Clearances from Bicycle Parking

From	To	Standard Clearance	What Graphic Shows
Bicycle parking	Curb when adjacent to parking	3 feet (including rack in use with parked bicycle)	4 feet
	Curb when adjacent to vehicle travel lane	2 feet (including rack in use with parked bicycle)	3 feet
	Street tree pits and street furniture	1 foot (including rack in use with parked bicycle)	3 feet
	Fire Hydrant	5 feet (including rack in use with parked bicycle)	6 feet

The difference may be the standard’s statement “including rack in use with parked bicycle” to add the additional foot. However, note that fire hydrant illustration should then show the clearance as 7’, not 6’. Regardless, all these clearances are way too excessive. Because of constrained sidewalk spaces, we highly encourage the Seattle Bike Parking Guidelines to distinguish between the “standard clearances” and “minimum clearances.”

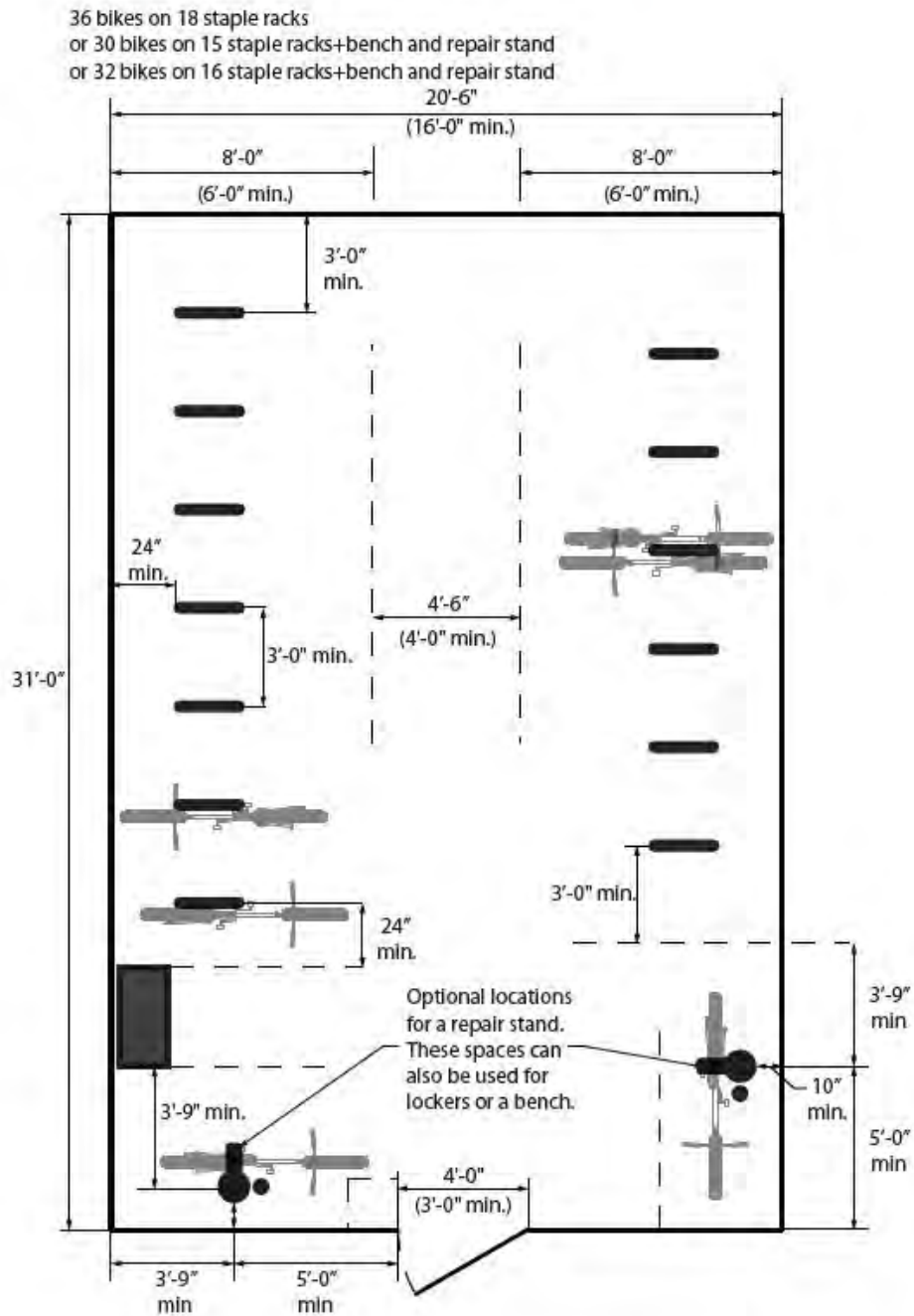
The Streets Illustrated Guide provides discretion on a case-by-case basis:

“The minimum clearances defined in this section are requirements. When minimum clearances cannot be met due to site condition constraints, the City staff will work with the applicant to determine an acceptable solution. Deviations from the standard clearances in this section are considered on a case by case basis and are evaluated by SDOT, SPU, SCL and other departments as needed.”

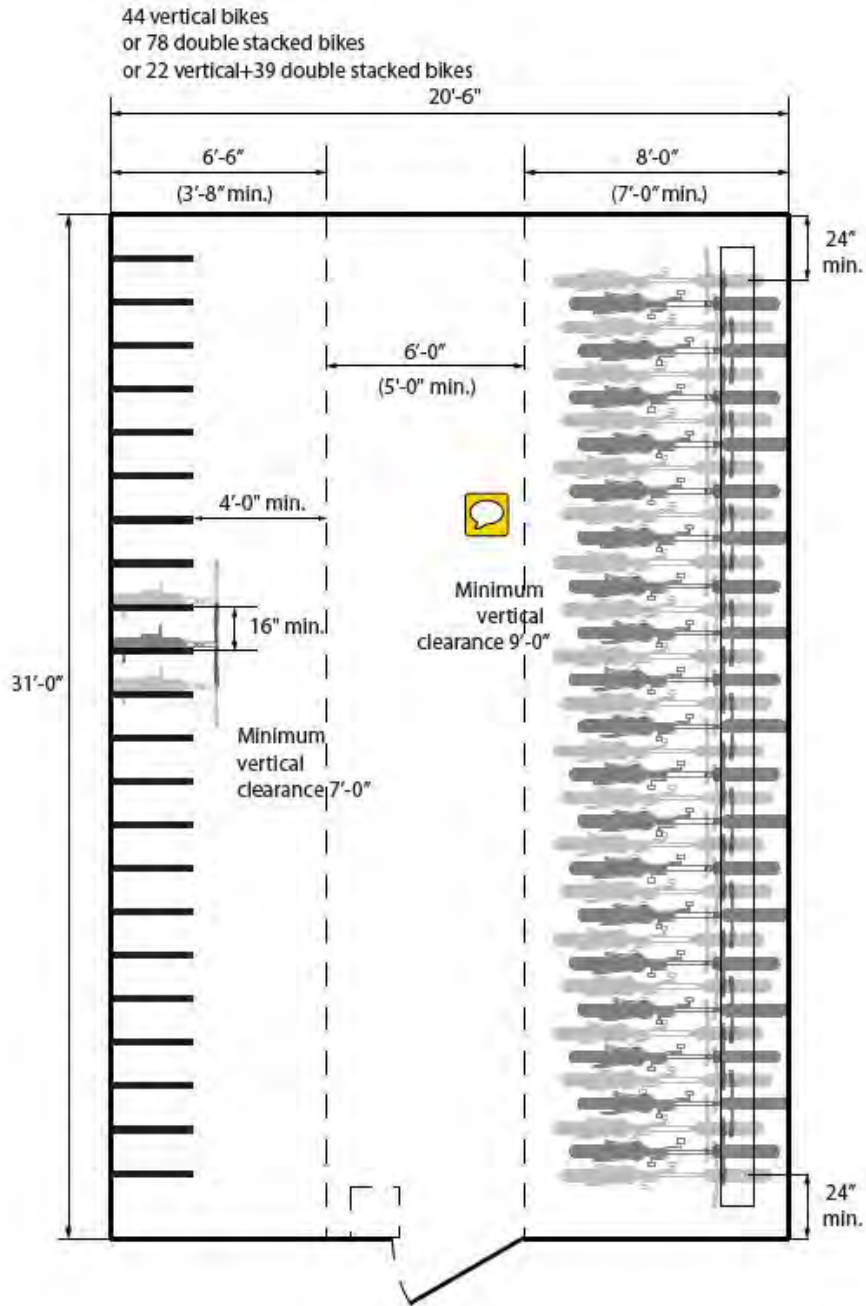
Because space constraints is such a commonplace problem across the city, and because SDOT’s bike parking spot improvement program is obligated to install 250 racks per year, we highly encourage SDOT to establish an acceptable clearance range that does not require individual, site-specific approval by SDOT, SPU, SCL and other departments for nearly all of the 250 racks. We’d recommend the following minimum clearances, while still also stating the optimal clearance.

Curb when adjacent to parking	1.5’ parallel, 2’ perpendicular
Curb when adjacent to vehicle travel lane	1.5’ parallel, 2’ perpendicular
Street tree pits and street furniture	1’ parallel, 2’ perpendicular
Fire Hydrant	5’

APPENDIX E - LONG-TERM BICYCLE PARKING LAYOUT EXAMPLES



(Image: Alta Planning + Design)



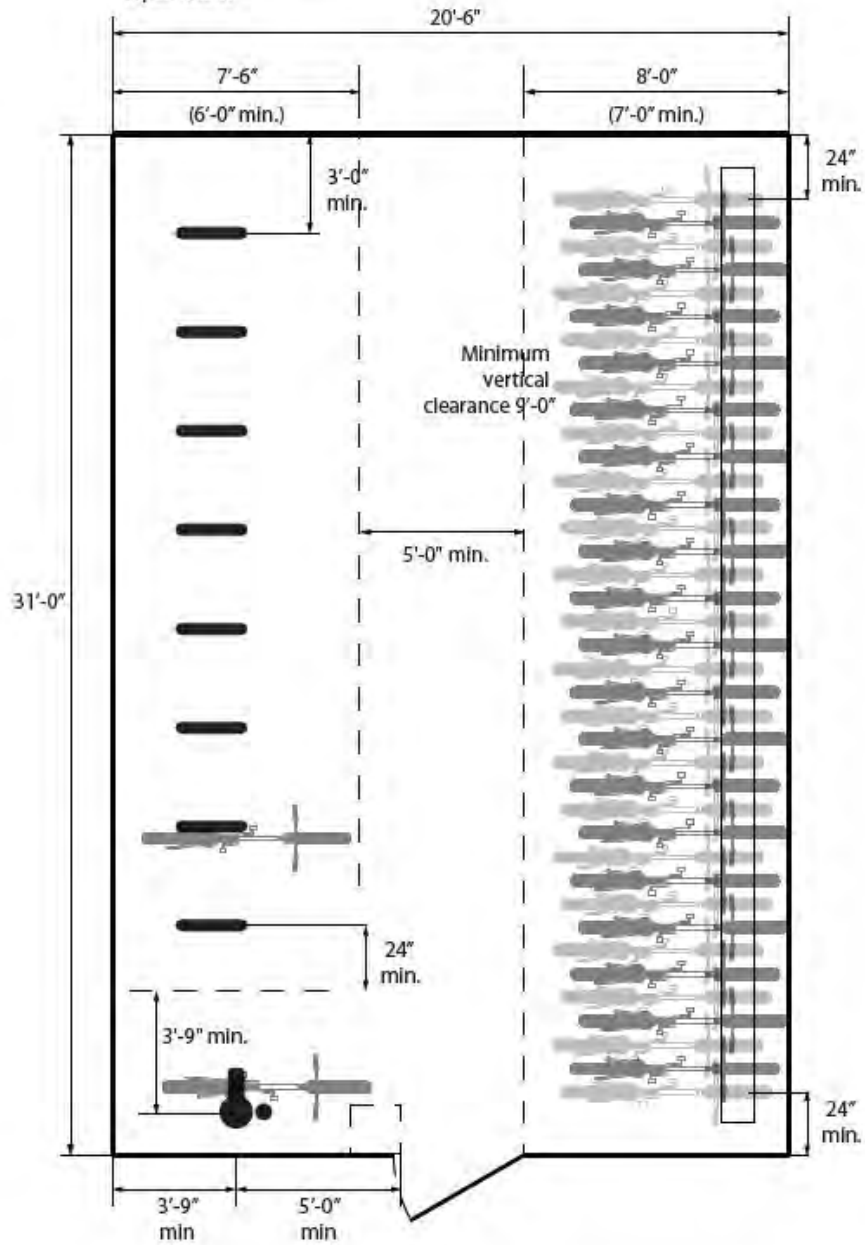
(Image: Alta Planning + Design)

70. Two of the three possible arrangements of bikes illustrated in this diagram do not meet this guide's requirements for 50% of the bike racks to be on-ground horizontal and for no more than 30% of the bikes to be vertical. Here are the percentages of the three possible arrangements illustrated here:

- a. 100% vertical
- b. 50% on-ground horizontal, 50% upper-deck horizontal.
- c. 36% vertical, 33% on-ground horizontal, 31% upper-deck horizontal.

Only (b) meets the standard for 50% of the bike racks to be on-ground horizontal. Update the diagram to match the requirements in this guideline (and our recommended change from requiring 50% of the racks be on-ground horizontal to 50% of the spaces).

16 bikes on staple racks
 39 double stacked bikes
 repair stand



(Image: Alta Planning + Design)

71. This diagram meets the requirement for 50% of the racks to be on-ground horizontal, with 8 staple racks, 20 lower-deck racks, and 19 upper-deck racks.

APPENDIX F - BIKE RACK MATERIAL AND COATINGS FROM APBP

RACK MATERIAL - COATING	RELATIVE PURCHASE COST	DURABILITY	CAUTIONS
Carbon steel - galvanized	Usually lowest	Highly durable and low-maintenance; touch-up, if required, is easy and blends seamlessly	Utilitarian appearance; can be slightly rough to the touch
Carbon steel - powder coat* (TGIC or similar)	Generally marginally higher than galvanized	Poor durability	Requires ongoing maintenance; generally not durable enough for long service exposed to weather; not durable enough for large-scale public installations
Carbon steel - thermoplastic	Intermediate	Good durability	Appearance degrades over time with scratches and wear; not as durable as galvanized or stainless
Stainless steel - no coating needed, but may be machined for appearance	Highest	Low-maintenance and highest durability; most resistant to cutting	Can be a target for theft because of salvage value; maintaining appearance can be difficult in some locations



* When applied to carbon steel, TGIC powder coat should be applied over a zinc-rich primer or galvanization to prevent the spread of rust beneath the surface or at nicks in the finish.

[Graphic courtesy Association of Pedestrians and Bicycle Professionals Essentials of Bike Parking report (2015)]

72. Add photo of each type of rack finish to the chart.
73. The cost of thermoplastic is the same as stainless steel, at least by Sportworks' pricing, so the "relative purchase cost" should be Lowest for Galvanized, Intermediate for TGIC powdercoat, and Highest for Thermoplastic and Stainless Steel.
74. In the "Cautions" for thermoplastic, should remove the words "not as durable as galvanized or stainless" as there is already a "Durability" column that explains this issue.
75. In the "Cautions" for stainless steel, should remove the words "maintaining appearance can be difficult in some locations." This is a problem that all racks face equally.

APPENDIX G – BIKE RACK INSTALLATION FROM APBP

INSTALLATION SURFACE

A sturdy concrete pad is an ideal surface for installing bicycle parking. Other surfaces often encountered include asphalt, pavers, and soft surfaces such as earth or mulch. These surfaces can accommodate in-ground mounting or freestanding bike racks such as inverted-U racks mounted to rails. See APBP's *Bicycle Parking Guidelines* for details. apbp.org

INSTALLATION FASTENERS

When installing racks on existing concrete, consider the location and select appropriate fasteners. Drill any holes at least three inches from concrete edges or joints. Some locations benefit from security fasteners such as concrete spikes or tamper-resistant nuts on wedge anchors. Asphalt is too soft to hold wedge and spike anchors designed for use in concrete. Installing bike parking on asphalt typically requires freestanding racks and anchor techniques specific to asphalt.

FASTENERS

CONCRETE SPIKE



Installs quickly in concrete with a hammer. Tamper-resistant. Removal may damage concrete and/or rack.

CONCRETE WEDGE ANCHOR



Allows for rack removal as needed. Not tamper-resistant, but can accommodate security nuts (below).

SECURITY NUTS



Use with concrete wedge anchors. Security nuts prevent removal with common hand tools.

INSTALLATION TECHNIQUES

When installing racks on existing concrete, choose those with a surface-mount flange and install with a hammer drill according to the specifications of the mounting hardware selected. When pouring a new concrete pad, consider bike parking fixtures designed to be embedded in the concrete. Because replacing or modifying an embedded rack is complicated and costly, this installation technique requires particular attention to location, spacing, rack quantity, and material.

[Graphic courtesy Association of Pedestrians and Bicycle Professionals Essentials of Bike Parking report (2015)]

76. Make sure the hyperlink to the APBP guidelines works. Also, make sure it's not behind a paywall.
77. Would Seattle permit the use of a concrete spike to install a rack?

APPENDIX H - SDOT'S FIVE CORE VALUES

A Safe City

We will not accept traffic deaths as an inevitable part of traveling together in a safe city. Our goal is to eliminate serious and fatal crashes in Seattle. Safety also means being prepared for a natural disaster by seismically reinforcing our bridges to withstand earthquakes.

An Interconnected City

More travel options don't always equate to an easy-to-use, interconnected system. Our goal is to provide an easy-to-use, reliable transportation system that gives you the options you want when you need them.

A Vibrant City

A vibrant city is one where the streets and sidewalks hum with economic and social activity, where people meet and shop and enjoy the beautiful city we live in side by side with goods delivery and freight shipping. Our goal is to use Seattle's streets and sidewalks to improve the city's health, prosperity and happiness.

An Affordable City

Our goal is to give all people high-quality and low-cost transportation options that allow them to spend their money on things other than transportation. The transportation system in an affordable city improves the lives of all travelers: those with the latest model smart phones in their pockets and those without.

An Innovative City

Demographic changes and technological innovation are radically reshaping transportation. Our goal is to understand and plan for the changes of tomorrow, while delivering great service today. This includes newer, more nimble approaches to delivering projects and programs to our customers.

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Seattle
Department of
Transportation

06.2017