

# Bike Parking Guide

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Foundational knowledge to create effective bike parking solutions.



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# The Objective of Bike Parking



☑ Objective: *Easily allow cyclists to park their bikes with a reasonable expectation of security and protection from damage.*

When you set out to design, plan or implement spaces for bike parking, it's important to achieve the intended solution.

This should be to easily allow cyclists to park their bikes with a reasonable expectation of security and protection from damage – for the short term. Typically, less than two hours on average.

If your objective is to provide more secure parking for longer periods of time, that would be considered bike storage and has some distinct factors and decisions that should be considered. If this is your goal, make sure to read the [Madrax Bike Storage Guide](#).

To be successful in developing an effective bike parking solution, it requires a proper infrastructure as well as equipment that will create secure and convenient short-term storage of bikes.



# The Need for Bike Parking

Without designated and organized bike parking, it is easy for problems to arise in areas where even a few cyclists are present. These problems become much more exasperated as the population becomes denser.



## Good Bike Parking Should be Found at these Facilities

- Multifamily residential buildings
- Schools/University Campuses
- Commercial Businesses
- Business Offices
- Parks, Sidewalks and Other Municipal Amenities
- Public Transit Stations, Pick-ups/Drop-offs
- Hospitals
- Car Parking Lots and Garages
- Other Public Spaces Intended for Use by the Community

The lack of quality bike parking options will lead to problems of clutter, and damage to trees, street signs, site furnishings and other streetscapes.

This is because a cyclist will choose the “best option” available to secure their bike. Which usually ends up being one of these items.

Ultimately, the presence of secure and accessible bike parking will be the driving placemaking factor that influences the destination of a cyclist as it offers the best solution to store their bike for the short term.

To become a magnet that attracts customers and fosters a bike- and pedestrian-friendly community, make sure you are providing bike parking.



# Bike Parking Site Planning

When determining location, planning and designing bike parking, your focus should remain on convenience and utility of providing the greatest security for the bike.

## Convenience

Convenience can be achieved by placing bike rack(s) in a location that makes the bike parking area easily accessible. To do this, the closest rack should be installed no more than 50 feet from the primary entrance of the building or intended destination.

If bike parking is placed a greater distance away or in out-of-the-way locations, cyclists may opt to use closer alternatives like street furniture, trees or fencing instead of your area intended for bike parking.

The bike parking area should also be at least as close as the nearest car parking stall. The option of bike parking should be more desirable than car parking through convenience.

You'll also want to consider paths that cyclists are most likely to travel in approaching your bike parking space. The bike parking should be easily accessible and near these paths of travel.

If it is too far off their travel path, the usage will be significantly reduced.



**Place bike parking within 50 feet of the primary entrance.**



# Make Bike Parking Visible

Increasing the visibility of the bike parking space helps the cyclist easily locate bike parking as they approach the destination. This can be done with signage or by making the rack itself as visible as possible with bright colors.

Adding paint on the ground to indicate and mark the designated area for bike parking can also increase the convenience factor of bike parking.



Signs, delineators and markings on the ground are ways to help cyclists easily locate and access bike parking areas.

# Bike Security

The bike rack that will be installed as part of your bike parking is the key component of providing the most secure environment. Selecting a commercial bike rack is discussed in more detail later in this guide.

Placing bike parking in an area with pedestrian traffic adds an additional element of security. This provides the area with passive surveillance and is a further deterrent of potential theft.

When bike parking is set behind buildings, in alleyways or other out-of-sight locations, it gives thieves more opportunity to beat the security of the lock, rack or installation and steal the bike.

The bike parking should also be visible from the destination. This lets cyclists keep an eye on the bike and be more confident about the security. It also provides another level of passive surveillance from other people at the destination.



# Determining Number of Bike Parking Spots

Many cities, towns or other governmental organizations have set minimum ordinances or other mandates. These are the best places to determine the number of bike parking spaces needed.

[Library.municode.com](http://Library.municode.com) is a great resource to begin your search.

You can usually find bike parking guidelines and other ordinances regarding required bike parking capacity, placement and right-of-way in a city's public works or parks and recreation department.

Another great resource for guidelines and ordinances is bicycle advocacy organizations. These are communities of cyclists who live the bike lifestyle and have years resourceful insights when it comes to bike parking. They usually have at the ready or can easily direct you to local bike parking resources as well.

## Association of Pedestrian and Bicycle Professionals (APBP) Recommended Bike Parking Minimums

Hospitals/Health Care	1 space / 20,000 s.f. of floor area   Min. 2 spaces
Schools	1 space / 20 students of planned capacity   Min. 2 spaces
Colleges and Universities	1 space / 10 students of planned capacity   Min. 2 spaces
Business Offices	1 space / 20,000 s.f. of floor area   Min. 2 spaces
Off-street Parking Lots/Garages	1 space / 20 auto spaces   Min. 6 spaces

For more urbanized or bike-active communities, plan for another .5 – 1 spaces per volume.



# Installation Mounting Options



## In-ground Mount

An in-ground mount is the most secure. With this mount, the rack is placed with the feet a designated distance below the surface level. Concrete is then poured embedding and securing the legs.



## Surface Mount

A surface mount involves securing the rack to the surface with wedge anchors and metal flanges on the rack. When surface mounting, it is recommended that tamper-proof hardware be used. This will help restrict a thief's ability to unsecure the rack from the ground.



## Rail Mount

A rail mount has multiple racks bolted to rails. The rails can then be anchored to the surface or left freestanding.

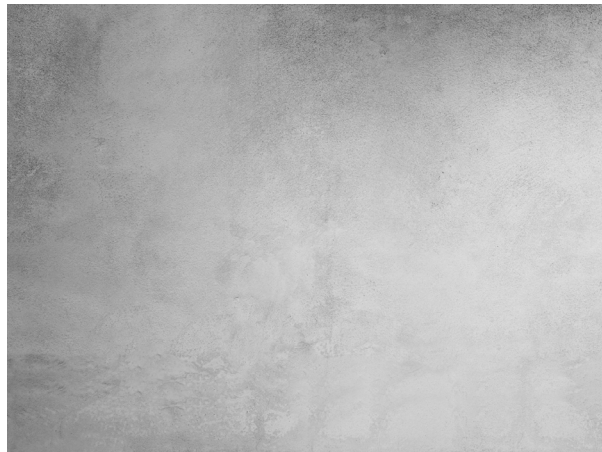


## Freestanding

Freestanding bike racks are not anchored and rest on the surface. Bike racks that have a freestanding mount should have an enclosed locking element.



# Installation Mounting Surfaces



## Concrete

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By far the best surface material for installing bike racks is going to be concrete.

This is the most secure option for installing a bike rack. It is also the least expensive. In-ground and surface mounts are options with concrete.



## Asphalt

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When placing racks on an asphalt surface, there are two main options. The first is to do an in-ground mount by cutting holes in the asphalt for the legs. Then place the rack and pour concrete footings to secure the rack.

The second option would be to use racks on rails. The entire unit can be left freestanding or the rails can be anchored to the asphalt.



## Pavers

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For pavers, they should be removed, concrete footings poured, and the rack installed in-ground. Racks on rails are also an option for this surface material.

Surface mounts should be avoided with pavers. The pavers can be easily loosened, making it possible to remove the rack from the ground. A thief can then slide the lock off the rack and steal the bicycle.



## Natural Surfaces

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For more natural surfaces like dirt and grass, pouring concrete footings for an in-ground installation is the best decision.

Freestanding racks on rails would be the next best option.



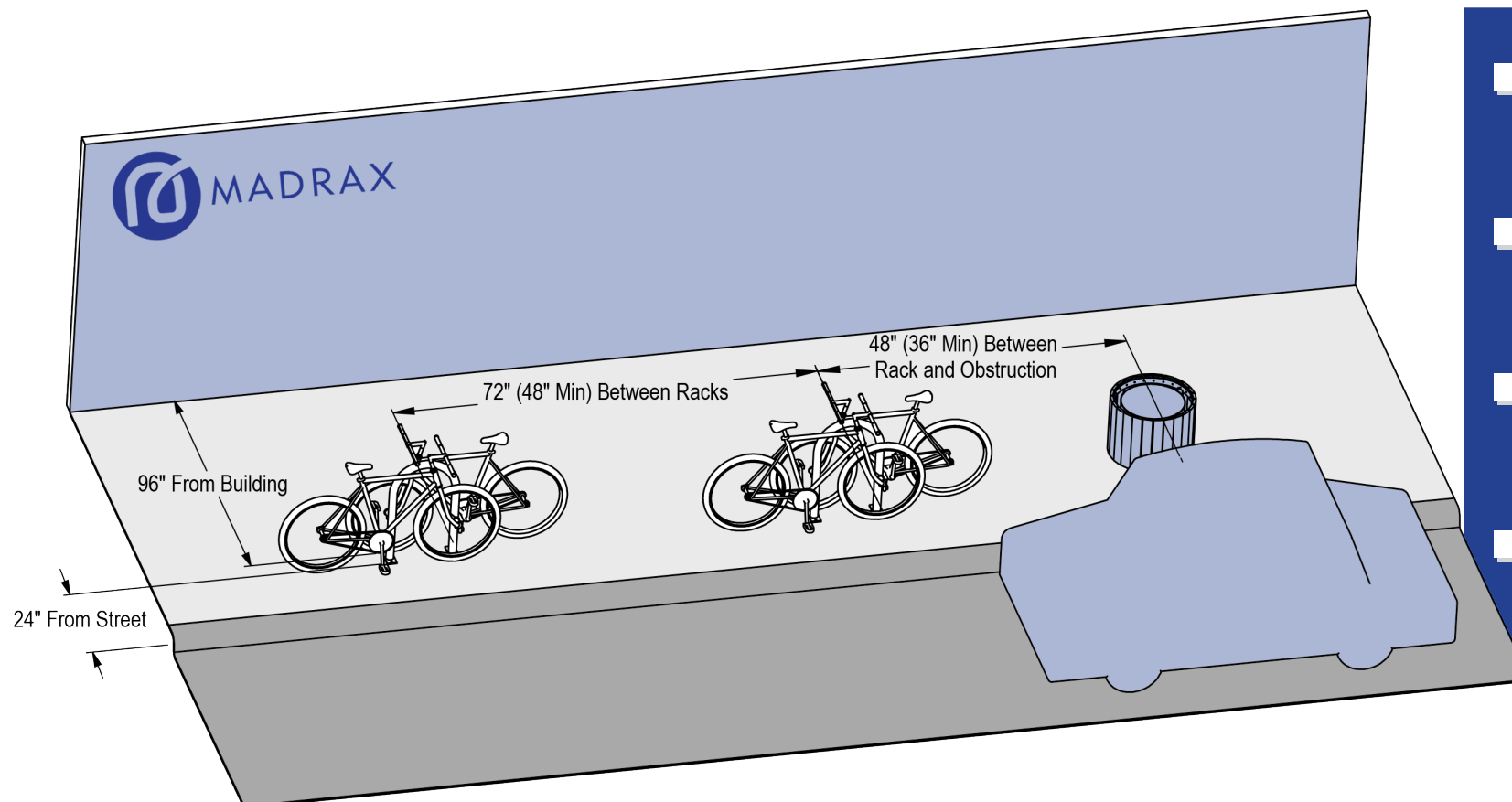
# Bike Parking Site Layout

The primary scheme of your bike parking design should incorporate adequate clearance between the bike rack and walls, other fixed objects and driving or parked cars. In general, bike parking should allow for:

- Enough end and side clearance to operate bicycles into and out of the parking area
- Adequate clearance around the rack for cyclists to access and securely lock the bicycle to the rack from the side
- Accessing the rack from all sides so all available parking spaces may be used

The orientation of your bike racks in relation to these elements will also necessitate different placements.

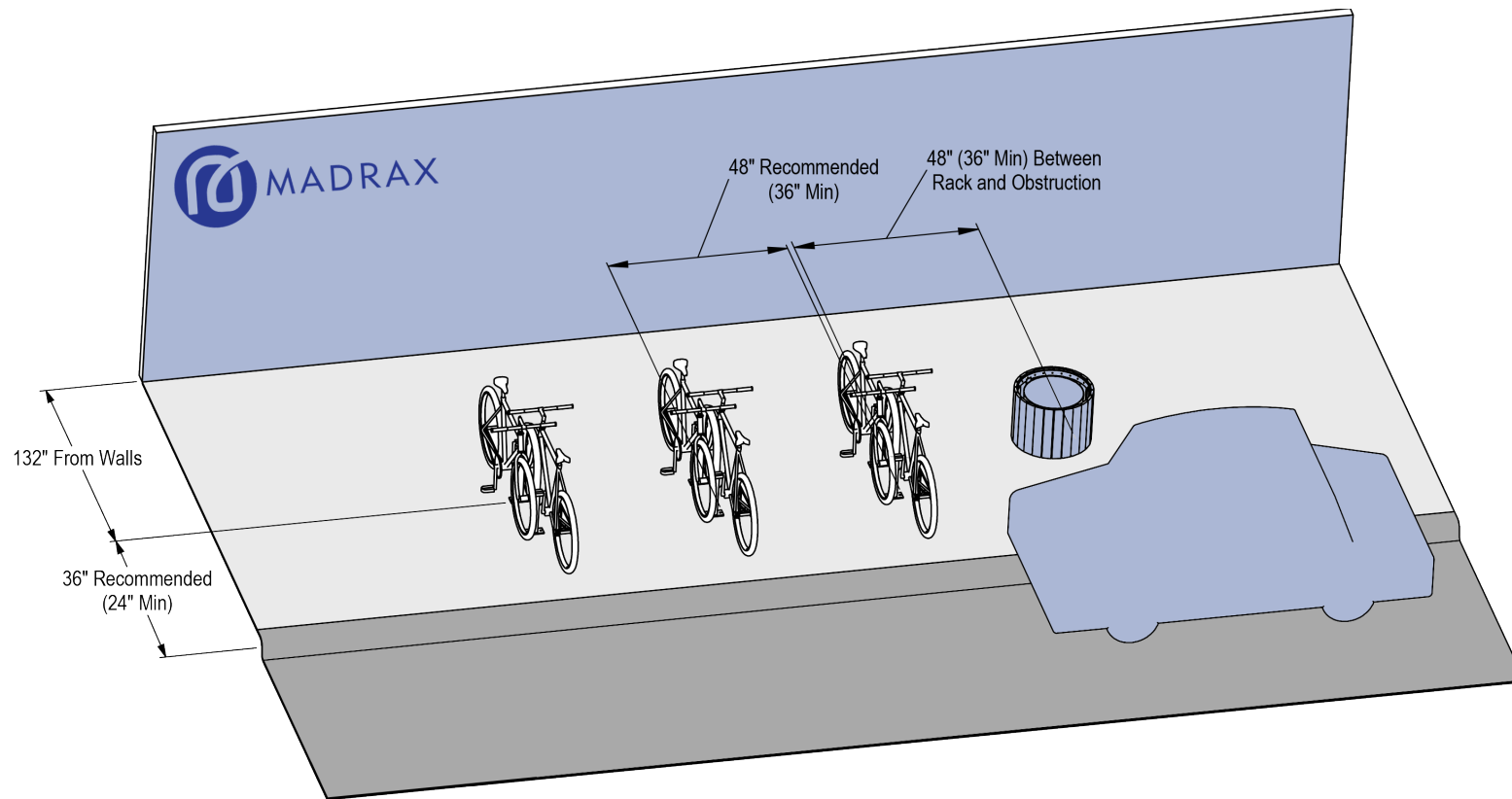
## Parallel Bike Rack Layout Recommendation



- Setback from walls and other fixed objects  
48" recommended | 36" minimum
- Setback from roads/parked cars  
24" minimum
- Setback from walls to create aisles/pedestrian walkways  
96" minimum
- Spacing between bike racks  
72" recommended | 48" minimum



# Perpendicular Bike Rack Layout Recommendation



- Setback from walls and other fixed objects  
48" recommended | 36" minimum
- Setback from roads/parked cars  
36" recommended | 24" minimum
- Setback from walls to create aisles/pedestrian walkways  
132" minimum
- Spacing between bike racks  
48" recommended | 36" minimum

## Multi-rack Spacing

If selecting a bike rack that incorporates multiple racks, the spaces between racks should be at a distance that allows access to the bicycle from the side and avoids handlebar conflicts.

With multi-rack solutions, vertically-staggered racks can accomplish the task with less space needed between racks, reducing the overall footprint.

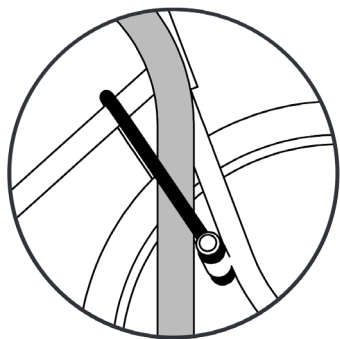


# Bike Rack Selection

The bike rack you select to use will have the greatest affect as to how secure your bike parking space will be and its ease of use. There are many racks to choose from and they differ in their security, dimensions, spacing options and capacity for parking bikes.

We cover the topic of [selecting commercial bike racks](#) comprehensively in another guide and is worth reviewing to ensure you are not installing bad bike racks that will go unused and draw the dissatisfaction of users.

As it relates to bike parking, the essential elements of bike racks are worth discussing here. The bike rack solution used in your bike parking must be capable of the following.



## Lock the Frame and Wheel to Bike Rack

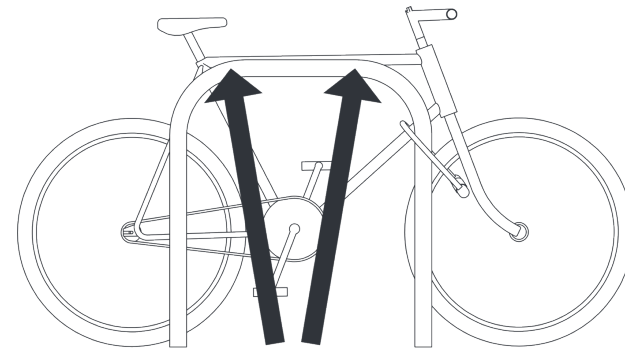
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The primary feature of a rack for bike parking is that it should allow both the frame and at least one wheel to be secured to the rack using a u-style lock. U-racks and Post and Ring style bike racks are common examples of these racks.

## Resists Cutting, Bending or Deformation

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The bike rack should also resist cutting, bending or deformation. Many thieves will attack the rack to gain access to and steal a bike. Make sure the racks used as part of your bike parking are thick enough and resist cutting with common hand tools that can be carried/concealed in backpacks or coats.



## Supports the Bicycle in Two Places

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A bike rack should generate two points of contact on the frame of the bicycle. This will provide proper support for the bicycle. Racks that support the frame, but with only one point of contact, make it more likely the wheel of the bike will turn and cause the bike to fall.

## Securely Mounts to the Ground

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The rack also needs elements that allow it to be securely installed or mounted to the ground. When a rack can be dislodged from the ground it becomes useless. As discussed earlier, in-ground installation is the most secure, followed by surface mounting, then racks on rails.



# Best Bike Racks for Bike Parking



## U Bike Racks

Known as U Bike Racks, Inverted U Racks and Staple Racks, this style of bike rack may be the most simple, but offers the key features desired for bike parking. It supports the bicycle frame in two places, helping to keep it upright. It allows for locking of the frame and a wheel to the rack. The rack is durable and one of the most secure. This type of rack also comes in many design styles that go beyond just a "U" shape.



## Post & Ring

Post & Ring have been a favorite bike parking rack for years. They provide good security and support for bicycles. The height of the ring needs to be kept in mind. It may be difficult to lock a frame and wheel to the ring if it is too high.

## Wheel-well Secured

Racks with a wheel well element add an additional level of support that keeps the bicycle from falling over. The well also ensures bicycles are parked in the proper position on the rack. Racks with staggered vertical heights allow for more bikes to be parked in the footprint.



# Bike Parking, In Conclusion

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The number of people choosing bikes as a mode of transportation continues to grow in the United States. This not only makes bike parking a desirable feature, many communities have established or are writing requirements for bike parking making it a necessity.

Make sure you nail the details of bike parking for your project or facility by tapping into the experience and resources of Madrax. Contact us today and let us know what you need to accomplish. We'll partner with you to work towards a successful solution.



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