PUBLIC NOTICE OF A MEETING

Evanston Environment Board
Thursday, November 13, 2014
7:00 pm – 8:30 pm
Lorraine H. Morton Civic Center, 2100 Ridge Avenue, Room 2200

AGENDA

I. Call to Order/Declaration of Quorum

II. Approval of Meeting Minutes from October (attachments)

III. Citizen Comment/Follow-Up (Please sign-in) (10 mins.)

IV. Staff Updates (S. Robinson, C. Hurley) (10 mins.)

V. Environmental Justice Committee Report (K. Glynn) (10 mins.)

VI. Coal Tar Ban Discussion (T. Schwier) (10 mins.)

VII. Bike Parking for Private Development – For Discussion (H. Bartling) (attachments) (15 mins.)

VIII. Ongoing Topics (10 mins.)
   • Leaf Blower Laws
   • Waste Diversion
   • 2015: Looking Ahead

IX. Roundtable (10 mins.)

X. Adjournment

Next Meeting: December 11, 2014

Order & Agenda Items are subject to change. Information about the BCC Name is available at: www.cityofevanston.org/government/boards-commissions. Questions can be directed to Kenya Evans at 847-866-2950.

The City of Evanston is committed to making all public meetings accessible to persons with disabilities. Any citizen needing mobility or communications access assistance should contact the Facilities Management Office at 847-866-2950 (Voice) or 847-448-8064 (TTY).
MEETING NOTES-DRAFT

Evanston Environment Board
Thursday, October 9, 2014
7:00 p.m.
Lorraine H. Morton Civic Center, 2100 Ridge, Room #2200

Members Present: Todd Schwier, Tom Clark, Samuel Headd, Linda Young, Kevin Glynn, Hugh Bartling

Members Absent: Ellen King, Husayn Allmart

Staff: Kenya Evans, Executive Secretary

Presiding Member/s: Todd Schwier(Chair)

I. CALL TO ORDER – Todd Schwier called meeting to order at 7:01 p.m.

II. APPROVAL of MINUTES from September. Todd Schwier made a MOTION to approve minutes with amendments. All in favor.

III. CITIZEN COMMENT
Resident Nancy Sreenan was concerned about ongoing noise and possible pollution from leaf blowers. She wondered if certain noise ordinances could somehow prevent leaf blowers from being used. She stated that leaf blowers can damage top soil and hurt animals. She told the board that the winds generated are comparable to hurricane winds. She wanted to know how to begin this conversation with residents of Evanston. H. Bartling stated that there are many landscaping companies in and around Evanston and also the country that are “green,” and board could get their perspectives on action plans and citizen involvement. Also H. Bartling stated that many residents who use electric leaf blowers are unaware of all potential risks and how the use of organic material such as leaves and other debris that are blown away can be used for other things such as composting. S. Headd suggested that perhaps in conjunction with this, the City could possibly collect piles of leaves for such activities such as composting to eliminate wasting organic materials. C. Hurley said that this was something board could explore. C. Hurley stated that companies such as Greenwise are interested in talking to many residents about green activities such as limiting certain leaf blower activity. Resident Ms. Sreenan pointed out that there may be social justice issues as some employees of private companies are not wearing muffs for eliminating the loud noise. She also stated that leaves that are blown into alleys and drainage systems can cause clogs which in turn can cost money and resources. C. Hurley stated that the board will look more into this issue.

IV. STAFF UPDATES (ATTACHMENT)
C. Hurley brought attention to the staff updates. C. Hurley informed the board about outreach of “Bring Your Own Bag,” campaign that will be occurring in the city to get residents to use less plastic or paper bags and instead opt for reusable bags. C. Hurley stated that these bags are a better option as they can be used
multiple times for multiple purposes and there is lower risk to environment and
natural resources. She stated that it was recommended that at many events
polypropylene bags would be given to residents at events free of charge to
courage residents to utilize the reusable bag option, especially in light of the
shopping bag ban.

C. Hurley mentioned that board can encourage residents to participate in many
plans to help ease environmental strains and that events such as “Green Living
Festival,” can help to educate and inform public of critical and time saving ways to
help environment.

V. BIKE SHARE PROGRAM
C. Hurley introduced to the board the Bike Share Program with Divvy Bikes. She
explained that Divvy Bikes are an alternative for bicyclists to have a bike available
for short jaunts or rides around the city. She stated that Divvy currently provides
about 300 stations and up to 3,000 bikes in places like Chicago. Evanston will
host 8 stations and these stations’ locations were analyzed by two groups of
Northwestern students as part of the initiative to best serve Evanston residents
with bike sharing. L. Young asked if the stations would be permanent and C.
Hurley stated that these stations, if found to be in areas that are inconvenient can
be moved to other areas. H. Bartling expressed concern that eight stations may
not be enough to serve Evanston’s biking community. C. Hurley stated that there
would be ongoing and intense scrutiny and research into how many stations would
best for Evanston. The board expressed interest in looking into how these stations
could be further funded from corporate entities in Evanston. The board also
expressed interest in further relaying to residents the benefits of bike sharing and
going residents involved in the process.

VI. ENVIRONMENTAL JUSTICE COMMITTEE REPORT
C. Hurley informed the board that the Daily Northwestern as well as a local website
covered the Environmental Justice Committee in a small blurb regarding long term
goals and activities. Individuals have expressed interest in the committee and
would like to be a part of exploring and researching environmental justice issues in
Evanston. S. Headd commented that Evanston Neighbors United was also
interested in working in conjunction with the committee on many issues facing
Evanston that include environmental justice. C. Hurley will continue to look into
outreach and issues affecting many communities.

VII. BIKE PARKING FOR PRIVATE DEVELOPMENT
The board discussed the ways that bike parking could be expanded. H. Bartling
asked about TOD grant (Transit Oriented Development Planning Grant). H.
Bartling asked if this could be linked to bike parking. C. Hurley responded that
CMAP and RTA who head up this particular grant, will probably not do anything
until the first of the year, and whatever technical advice that can be given from
Environment Board would be welcome. Both organizations see bike parking as
reducing some of the car parking issues. H. Bartling wanted to know if this would
be a comprehensive plan with a steering committee. C. Hurley stated that this plan
would be more technical with engineers and experts versus dependence on more informal perspectives. L. Young inquired if the City has a definition of a TOD area like some other states. Board members were unsure and L. Young explained that many areas around the country including California have several different definitions of TOD areas. She stated that this issue may be worth looking into in the future and would be sure to bring in more data about this issue. C. Hurley suggested that board could focus on technical parts of biking and K. Glynn was interested in looking into existing buildings and structures. H. Bartling suggested that in addition, that board also look into new multi-family and commercial properties and K. Glynn stated that looking into how to make developers feel that bike parking for new developments could be something to look into.

VIII. ROUND TABLE
T. Schwier informed the board about an article on coal tar used in street sealants, which could also be damaging to the environment. He noted that Winnetka banned the use of these chemicals, and when he researched uses here in Evanston he found that it is used mostly in private lots; and informing residents of the risks to environment could stem private use. The board agreed that this was an issue to look into further.

IX. ADJOURNMENT
T. Schwier MOTION to adjourn. T. Clark seconded. All in Favor.

NEXT MEETING – December 11, 2014
WHY IS BICYCLE PARKING IMPORTANT?

The City of Cambridge promotes bicycling as a healthy, environmentally friendly way of getting around. Cambridge is well suited for bicycling and more people are using their bikes every day for commuting, shopping, and general transportation. Enhancing and promoting sustainable transportation is a cornerstone of Cambridge’s policies.

Providing bicycle parking encourages people to use their bicycles as transportation. People are more likely to use a bicycle if they are confident that they will find convenient and secure parking at their destination.

Providing a designated area for bicycle parking gives a more orderly appearance to a building and prevents cyclists from locking their bikes to unacceptable fixtures, such as trees, benches, or railings. However, if a bicycle rack appears insecure, does not fit bicycles well, or is in the wrong location, cyclists will not use it. Ensure that your bicycle racks are approved and well used by following these guidelines.

DEVELOPMENT REQUIREMENTS AND ZONING ORDINANCE

Locations and types of bicycle parking must be shown in building site plans at a 1:10 scale and be approved by the Traffic, Parking, and Transportation Department and the Community Development Department. Zoning requirements are found in Article 6.100 of the Zoning Ordinance. This brochure provides an overview of the requirements with some details and graphics for clarification, but it should not be construed as the full set of legal requirements. Please refer to the full text of the zoning ordinance here:

www.cambridgema.gov/CDD/zoninganddevelopment/

WHAT IS A BICYCLE PARKING SPACE?

A bike parking space is an area within which one intact bicycle may be easily and conveniently accessed and securely stored and removed in an upright position with both wheels resting on a stable surface, without requiring the movement of other parked bicycles, vehicles, or their objects to access the space.
HOW MUCH BICYCLE PARKING IS REQUIRED BY ZONING?

The tables below summarize the zoning requirements for some typical land uses. For more detail, review Section 6.100 of the Zoning Ordinance. When calculating the required number of long-term or short-term bicycle parking spaces for a particular use, round up to the nearest whole number.

<table>
<thead>
<tr>
<th>Residential Use Type</th>
<th>Long-Term</th>
<th>Short-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-family dwellings</td>
<td>No minimum</td>
<td>No minimum</td>
</tr>
<tr>
<td>Two-family dwellings</td>
<td>1.00 space per unit for the first 20 units in a building; 1.05 spaces per unit for additional units</td>
<td>0.10 space per unit on a lot (for lots with 4 or more units)</td>
</tr>
<tr>
<td>Rectories, parsonages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Townhouse dwellings</td>
<td>0.50 space per unit</td>
<td>0.05 space per unit</td>
</tr>
<tr>
<td>Multifamily dwellings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elderly oriented congregate housing</td>
<td>0.50 space per unit</td>
<td>0.05 space per unit</td>
</tr>
<tr>
<td>Lodging houses, convents, monasteries, dormitories, fraternities, sororities</td>
<td>0.02 space per sleeping room</td>
<td>0.05 space per sleeping room</td>
</tr>
<tr>
<td>Hotels, motels</td>
<td>0.02 space per sleeping room</td>
<td>0.05 space per sleeping room</td>
</tr>
<tr>
<td>Tourist houses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
Where four or fewer long-term bicycle parking spaces are required, they may be provided in a covered outdoor location rather than an enclosed structure.

photo by Greg Raisman
## HOW MUCH BICYCLE PARKING IS REQUIRED BY ZONING?

<table>
<thead>
<tr>
<th>Non-Residential Use Type</th>
<th>Long-Term</th>
<th>Short-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>General or professional offices</td>
<td>0.30</td>
<td>0.06</td>
</tr>
<tr>
<td>Arts/crafts studios</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical offices, research labs</td>
<td>0.22</td>
<td>0.06</td>
</tr>
<tr>
<td>Banks, financial offices (ground floor)</td>
<td>0.30</td>
<td>0.50</td>
</tr>
<tr>
<td>Retail stores, consumer service</td>
<td>0.10</td>
<td>0.60</td>
</tr>
<tr>
<td>Food and convenience stores</td>
<td>0.10</td>
<td>1.00</td>
</tr>
<tr>
<td>Entertainment, recreation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurants, bars</td>
<td>0.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Theaters, gathering halls</td>
<td>0.08</td>
<td>1.00</td>
</tr>
<tr>
<td>Industrial (manufacturing, storage)</td>
<td>0.08</td>
<td>0.06</td>
</tr>
<tr>
<td>Auto repair, auto sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Churches</td>
<td>0.08</td>
<td>0.50</td>
</tr>
<tr>
<td>Medical offices</td>
<td>0.30</td>
<td>0.50</td>
</tr>
<tr>
<td>Medical clinics</td>
<td>0.20</td>
<td>0.50</td>
</tr>
<tr>
<td>Hospitals</td>
<td>0.20</td>
<td>0.10</td>
</tr>
<tr>
<td>College or university academic or administrative facilities</td>
<td>0.20</td>
<td>0.40</td>
</tr>
<tr>
<td>College or university student activity facilities</td>
<td>0.20</td>
<td>1.00</td>
</tr>
<tr>
<td>Primary, secondary or other schools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other uses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

Up to four required long-term bicycle parking spaces (or up to 20% of the required number, whichever is greater) may be provided as short-term bicycle parking spaces.
WHEN ARE YOUR REQUIRED TO PROVIDE BICYCLE PARKING?

Constructing a new building:
Unless the building is a single-family or two-family detached dwelling, bicycle parking is required. Bicycle parking is still allowed and encouraged for single-family and two-family homes.

Expanding an existing building or converting it to a new use:
The zoning provides a set of rules to determine when bicycle parking is required. Here is a simplified way to figure out if the requirements will apply; for more detail, review Section 6.100 of the Zoning Ordinance.

1. Calculate the sum of total long-term and short-term bicycle parking spaces required (under current zoning) for the EXISTING or PRIOR USE on the site: ______

2. Calculate the sum of long-term and short-term bicycle parking spaces required (under current zoning) for the NEW or PROPOSED USE on the site: ______

3. If the number in Calculation 2 is greater than the number in Calculation 1 by at least 15% and at least two (2) spaces, then short-term and long-term bicycle parking is required for the entire building (not just for the increase).

PUBLIC CONTRIBUTION FOR SHORT-TERM BICYCLE PARKING

Private developers and property owners may not install racks in the public right-of-way without formal permission from the city. If you have a lot on which short-term parking cannot be provided due to site constraints (e.g. an existing building with zero lot lines is being reused), you must get approval from the city to make a contribution towards parking on public property in lieu of on-site bicycle parking. For more information please e-mail bikerack@cambridgema.gov.
**SITING BICYCLE PARKING**

Bicycle parking must be designed for convenient daily use, not simply for storage of bicycles. Location is an extremely important factor in the usefulness of a bicycle rack. The rack must be located in a safe and accessible place with adequate space to maneuver a bicycle in and out.

**Safe locations are:**

- In full view, maximizing visibility and minimizing vandalism, near pedestrian traffic, windows, and/or well-lit areas.
- Under cover, to protect bicycles from inclement weather.
- Far enough away from the street or parking spaces so that bicycles will not be damaged by cars, setback if possible.
- Not obstructing pedestrian traffic.

**Accessible locations have these characteristics:**

- They are between the road/path that cyclists use and the entrance of the building.
- The primary access route is at least 5 feet wide.
- The primary access route does not have a slope greater than 5% (8% if level landing is provided every 30 feet of linear distance).
- Access may be provided by an elevator with interior dimensions of 80” x 54”.
- Close to the main entrance that cyclists use for the building. For short-term parking within 25’ is ideal but no more than 50’ is required.

*Weather-protected bicycle parking is desirable where bikes are parked for long periods.*
SHORT-TERM AND LONG-TERM PARKING

Some aspects of bicycle parking are different depending on whether it will serve people who are storing bicycles all day long or overnight, or people who are making short trips to and from the site.

Long-Term:
Long-term Bicycle Parking must be located in an enclosed, limited-access area designed to protect bicycles from precipitation and from theft. It may be provided in the following types of facilities:

- Enclosed spaces in a building, such as bicycle rooms or garages.
- Bicycle sheds, covered bicycle cages, or other fully covered and enclosed structures within 200 feet of the main building entrance.
- Bicycle lockers, or fixed-in-place containers wherein single bicycles may be securely stored and protected.
- Weather-protected bicycle parking spaces that are monitored at all times by an attendant or other security system.

Short-Term:
Short-term bicycle parking must be located in a publicly accessible space within 50 feet of pedestrian entrances. Short-term bicycle parking is intended primarily to serve visitors, such as retail patrons making trips of up to a few hours; however, it may serve other bicycle users as needed.

PARKING GARAGES

Bicycle parking in parking garages must be either on the same level as the entrance to the garage from the street or accessible via automobile ramps designed to serve bicyclists (with slope of less than 5% or less than 8% with a landing every 30 feet), or near an elevator that is sufficiently large to accommodate bicycles. Bicycle racks inside parking garages must still meet the security standards of short-term racks or lockers. Where long-term bicycle parking is next to automobile parking or loading, a physical barrier, such as bollards, must be provided.
ACCEPTABLE BICYCLE RACKS

There are a variety of designs for bicycle racks produced by many manufacturers. Bike racks can be purchased as single units, with a capacity of locking 2 bikes (one on each side), or as multiple units attached together, with a larger capacity. However, not all manufactured bicycle racks meet Cambridge’s standards.

Features of an acceptable bicycle rack:

- Installed on a permanent foundation (e.g., concrete pad) to ensure stability.
- Securely anchored into or on the foundation with tamper-proof nuts if surface mounted.
- Support for an upright bicycle by its frame horizontally in two (2) or more places.
- Keeps both bike wheels on the ground.
- Design that prevents the bicycle from tipping over.
- Ability to support a variety of bicycle sizes and frame shapes.
- Space to secure the frame and one or both wheels to the rack with a cable, chain, or u-lock.
- Diameter of locking pole is no more than 1.5 inches.
- Galvanized or stainless steel racks are recommended (and required for racks on public property) because they hold up best.

Acceptable racks, like the “Inverted U,” “Swerve,” and “Post and Ring” racks, have two-point support and fit a variety of bicycle types. Custom designs and “artistic” racks can also be used, provided they meet the performance criteria for bicycle racks.
UNACCEPTABLE BICYCLE RACKS

Bicycle racks must NOT:

• Support the bicycle at only one point.
• Allow the bicycle to fall, which can damage the bike and block pedestrian right-of-way.
• Have sharp edges, that can be hazardous to the visually impaired.
• Support the bicycle by one wheel.
• Connect to each other with a bar on top (that can block handlebars and baskets).
• Suspend any part of the bike in the air or require that the bicycle be lifted to get it into position.
LAYOUT DIMENSIONS

Proper layout of bicycle racks is essential to ensure that they will safely and conveniently accommodate the intended number of bicycles. Layout must follow these minimum dimensions:

*Racks aligned side by side*

*Racks aligned end to end*
Enclosed rack area with 20 or more racks, with pedestrian aisle and at least 5% of spaces providing an additional 2 feet of space for tandems and trailers.

**Distance to other Racks:**
- Rack units aligned parallel to each other (side by side) must be at least 3 feet apart. This includes racks that are sold as multiple rack units attached together.
- Rack units aligned end to end must be at least 8 feet apart.

**Distance from Wall:**
- Rack units placed perpendicular to a wall must be at least 4 feet from the wall to the center of the rack.
- Rack units parallel to a wall must be at least 3 feet from the rack to the wall.

**Distance from a Curb:**
- Rack units placed perpendicular to the curb must be at least 4 feet from the curb to the center of the rack.
- Rack units placed parallel to the curb must be at least 2 feet from the curb to the rack.

**Distance from a Pedestrian Aisle:**
- Rack units perpendicular to a pedestrian aisle must be at least 4 feet from the center of the rack to the edge of the aisle, and have at least a 5 feet wide aisle.
- Where 20 or more bicycle parking spaces are required, at least 5% of the spaces must be 10 feet long instead of 8 feet to allow space for tandems and trailers.

**Other Distances:**
- Racks should be at least 14 feet from curbside fire hydrants and 6 feet from wall fire hydrants.
City of Cambridge

Community Development Department
Environmental and Transportation Planning
344 Broadway, Cambridge, MA 02139
Voice: 617 349-4600 • Fax: 617 349-4669 • TTY: 617 349-4621
Web: www.cambridgema.gov/bikeparking
Fall 2013
BICYCLE PARKING ORDINANCES
EXAMPLES FROM THE UNITED STATES

LOS ANGELES COUNTY
BICYCLE COALITION
WWW.LA-BIKE.ORG
CONTRIBUTORS:

Author: Rye Baerg
Contributors: Los Angeles County Bicycle Coalition (LACBC), Los Angeles Department of City Planning
Editors: Alexis Lantz Planning and Policy Director (LACBC), Rogelio Pardo
Photographers: Rye Baerg, Jim Baerg, Colin Bogart, LADOT Bike Blog, Tommy Carrillo

Santa Monica Bike Center

Photo Credit: Rye Baerg
Cover Credit: LADOT Bike Blog
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ABOUT THIS GUIDE:
This guide was developed for the Los Angeles County Bicycle Coalition to assist advocacy efforts and promote bicycling across Los Angeles County. While some of the suggestions in this guide are specific to California, most of the examples from city codes come from other states and should be of use to planners across the country.
INTRODUCTION

Many cities have stated a desire to increase the share of bicycling within their transportation systems in order to capitalize on the benefits of cycling. Many have undertaken new bicycle plans that focus on bike lanes and other right-of-way improvements. In addition, many of these plans provide policy guidance aimed at increasing the supply of bicycle parking. One of the most effective means of doing so is to implement ordinances that require all new developments and buildings undergoing a change of use to provide bicycle parking.

LACK OF BICYCLE PARKING

Photo Credit: Rye Baerg

Each city faces a unique set of challenges when amending its parking requirements to include bicycle parking requirements. However, any ordinance that requires bicycle parking will have to answer the following questions:

- What is the appropriate unit of measurement for setting bicycle parking ratios?
- At what level should the ratios be set?
- What kinds of bicycle parking should be provided?
- What design guidelines should developers follow?
- How should bicycle parking be sited in new developments?
- Are there incentives for developers that may help with the political process and lower the costs of development?
Answering some of these questions is far easier than others. For example, best practices in bicycle parking facility design are generally agreed upon within the bicycling community. On the other hand, the amount of bicycle parking, siting requirements, and developer incentives will all be cause for public debate. In these latter cases, while the examples in this guide will provide a good starting point, solutions will need to be determined through the political process. Advocates, community members, developers, property owners, and planners will need to determine context sensitive solutions that take into consideration existing government regulations, practical constraints on implementation, and community goals.

Other Guides

The Association of Pedestrian and Bicycle Professionals (APBP) publishes a guide titled Bicycle Parking Guidelines, 2nd Edition (2010). This is an excellent resource for planners, architects, and developers who are interested in providing quality bicycle parking. The APBP guide provides examples of preferred bicycle parking facilities and provides guidance for setting ratios for bicycle parking ordinances. This guide differs from the APBP guide in that it provides specific examples taken from the zoning codes of 10 US cities to give planners concrete examples of the types of language and specific facility types often included in such ordinances.

Public Health Law and Policy has developed a model bicycle parking ordinance titled “Model Bicycle Parking Ordinance” which outlines most of the elements found in common bicycle parking ordinances. Their model was designed specifically for the state of Illinois and may not be suitable in all situations. The Public Health Law and Policy model serves as an excellent starting point, which can be modified to include many of the elements discussed in this guide.
BACKGROUND

The findings in this guide grew out of research that informed a new bicycle parking ordinance for City of Los Angeles. No examples from that ordinance have been included, because at the time of this writing the Los Angeles ordinance was still awaiting final approval. Once the Los Angeles ordinance is passed, this document will be revised to include some of the model language from that ordinance.

FINDINGS FROM 10 US CITIES:

Zoning and municipal codes address the need for bicycle parking by stipulating certain minimum requirements and design standards. These requirements vary greatly from city to city in both the amount of bicycle parking required and the specificity of the design standards. While bicycle parking ordinances from some cities read like a page out of the 2010 APBP guide, others include a vast and creative array of design specifications.

Due to political influences as well as the historical contexts of city zoning codes, each city will have to tailor their bicycle parking guidelines to meet the implementation and policy standards set out by the corresponding government agencies. This will greatly affect the level of detail and specific wording that is used in different zoning codes.

Many of the elements of bicycle parking codes were easily compiled into tables based on themes. However, other aspects of the zoning codes studied did not lend themselves to organization in a tabular format. In these cases, specific examples have been pulled from the text and are discussed based upon their individual attributes.

ART RACKS

Photo Credit: Rye Baerg
Overview of the Types of Bicycle Parking

Bicycle parking can consist of a large variety of different facility types including racks, lockers, bike rooms, bike cages, bike corrals, and bicycle transit centers/bike stations. The two most common groupings of bicycle parking found in zoning codes are short-term and long-term bicycle parking.

Short-term Bicycle Parking: Short-term bicycle parking generally consists of free bicycle racks located outside buildings or on public sidewalks. Short-term bicycle parking is necessary for short stays where the key goal is convenience and proximity to the building entrance. Short term parking does not usually allow for the measure of security and weather protection that long-term parking provides (AASHTO 1999).

Racks: Racks come in a variety of shapes and styles and are primarily used for short-term bicycle parking in public places. Many cities are specifically vague about their rack design requirements to allow the usage of custom racks by including phrases such as, “Each bicycle rack shall allow for the bicycle frame and at least one wheel to be locked to the rack” in their zoning codes (New York).

The most common rack type is the inverted U-rack. However, many cities and businesses have begun to install themed racks shaped like bicycles or other location specific icons. According to the APBP Guide (2010) racks should:

- Support the bicycle upright on a horizontal plane by its frame in two places
- Prevent the wheel of the bicycle from tipping or flopping over
- Enable the frame or both wheels to be secured
- Support bicycles without a diamond shaped frame or a horizontal top tube (e.g. women’s frames or step through frames)
- Allow front-in and back-in parking
- Allow the use of a U-lock
- Racks that support only the wheel of the bicycle are not recommended since they often damage wheels if bicycles are knocked over (APBP 2010).

Bicycle Corrals: Bicycle corrals offer on-street parking for bicyclist by replacing a single car parking space with 8 to 12 bicycle parking spaces. Bicycle corrals can be particularly attractive for commercial venders when bicycle parking on the sidewalk begins to interfere with pedestrian traffic and when car parking is in short supply by allowing more customers to use the same parking space. Bicycle corrals can also serve as a means of increasing the visibility of cycling, which in turn can help increase the bicycle mode share (APBP 2010). Bicycle corrals are not appropriate on streets where traffic volumes require parking lanes to be used as travel lanes during peak periods.
**Long-term Bicycle Parking:** Long-term facilities are necessary to provide a high degree of security and protection from theft. These should be installed where cyclists will be leaving their bicycles unattended for long periods at places such as schools, residences, and places of employment. Long-term facilities usually consist of lockers, bicycle cages, or bicycle rooms in buildings.

**Lockers:** Lockers are primarily used for long-term bicycle parking in public places. Lockers can be rented to a single individual who possesses a key, or they can be made available to the public through the installation of code locks or locking mechanisms provided by the bicyclist such as a U-lock. Security concerns with lockers being used as places to hide explosives have led to many lockers being designed with see-through panels and doors. Lockers can be square or triangular. Square lockers are often stacked to provide additional parking while triangular lockers can be installed back to back or in circular formations to save space (APBP 2010).

**Bike Rooms and Bike Cages:** Bike rooms and bike cages offer long-term parking solutions for residents of apartment buildings or employees who work in large buildings. Bike rooms are often accessed by a key or a code and are primarily used for residents in multifamily residential buildings. Bike cages can also be installed in parking lots for employees or on school playgrounds. Security cameras or other methods of surveillance can be employed as additional security measures.

**Bicycle Transit Centers/Bike Stations:** These facilities are indoor facilities that are accessible to members of the general public. These facilities are usually staffed by a team of employees that offers bike repairs, rentals, information, and other commercial activities. The challenge to providing these facilities is locating them in an area where demand for their services will cover their operating costs.

**Short and Long-term Bicycle Parking:**

The definitions for short and long-term bicycle parking presented below can be categorized as facility guidelines and performance guidelines.

**Facility guidelines** for short and long-term parking focus more on the specific types of infrastructure. New York, San Francisco and Santa Monica all provide these types of definitions.

Cities such as Boulder and Portland provide **performance guidelines** which outline the goal of each type of parking instead of specific facility types. For example Boulder and Portland list employees, residents, and commuters as the beneficiaries of long-term bicycle parking.

Performance based guidelines provide more flexibility for implementation within specific developments than facility guidelines. On the other hand developers may install poor quality parking facilities unless they are given clear guidelines on acceptable designs. Clear facility guidelines may also be easier for building inspectors and other city staff to follow, especially when these individuals know relatively little about bicycle parking and must make decisions with the information provided in the bicycle parking code.
<table>
<thead>
<tr>
<th>City</th>
<th>Short Term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulder</td>
<td>“Short-term bicycle parking is intended to offer a convenient and accessible area to park bicycles for customers and other visitors.”</td>
<td>“Long-term bicycle parking offers a secure and weather protected place to park bicycles for employees, residents, commuters and other visitors who generally stay at a site for several hours.”</td>
</tr>
<tr>
<td>New York</td>
<td>“Each bicycle rack shall allow for the bicycle frame and at least one wheel to be locked to the rack. If bicycles can be locked to each side of the rack without conflict, each side may be counted toward a required space. Thirty inches of maneuverable space shall be provided between parallel bicycle racks and a 96 inch wide aisle shall be provided between bicycle rack areas.”</td>
<td>“All enclosed accessory bicycle parking spaces shall be surrounded on all sides by a solid enclosure, except where a parking garage is open at the sides, and covered by a roof for weather protection. Each bicycle space shall adjoin a rack or similar system for securing the bicycle. Bicycle parking spaces shall be located in an area secured by a lock or similar means, or adjoin a securely anchored rack to which the bicycle frame and at least one wheel can be locked. Fifteen square feet of area shall be provided for each bicycle space. However, the area for each bicycle space may be reduced by up to nine square feet per bicycle if the Commissioner of Buildings certifies that a layout has been submitted to adequately accommodate the specified number of bicycles.”</td>
</tr>
<tr>
<td>Portland</td>
<td>“Short-term bicycle parking encourages shoppers, customers, messengers, and other visitors to use bicycles by providing a convenient and readily accessible place to park bicycles. Short-term bicycle parking should serve the main entrance of a building and should be visible to pedestrians and bicyclists.” “Required short-term bicycle parking spaces must be available for shoppers, customers, messengers, and other visitors to the site.”</td>
<td>“Long-term bicycle parking provides employees, students, residents, commuters and others who generally stay at a site for several hours, a secure and weather-protected place to park bicycles. Although long-term parking does not have to be provided on-site, the intent of these standards is to allow bicycle parking to be within a reasonable distance in order to encourage bicycle use.” “Required long-term bicycle parking spaces must be available for employees, students, residents, commuters, and others who stay at the site for several hours”</td>
</tr>
<tr>
<td>San Francisco</td>
<td>“Class 2 Bicycle Parking Space(s). Bicycle racks which permit the locking of the bicycle frame and one wheel to the rack and, which support the bicycle in a stable position without damage to wheels, frame or components.”</td>
<td>“Class 1 Bicycle Parking Space(s). Facilities which protect the entire bicycle, its components and accessories against theft and against inclement weather, including wind-driven rain. Examples of this type of facility include (1) lockers, (2) check-in facilities, (3) monitored parking, (4) restricted access parking, and (5) personal storage.”</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>No definition.</td>
<td>“Long-term bicycle parking shall consist of either a “locker” with a fully enclosed lockable space accessible only to the owner/operator of the bicycle; attendant parking with a check-in system in which bicycles are accessible only to the attendant(s); or a locked room or office inside the building designated for the sole purpose of securing bicycles.”</td>
</tr>
</tbody>
</table>
SPECIFIC FACILITIES ALLOWED:
The chart below lists the types of bicycle parking required by different cities. While most of the short and long-term options discussed above would meet the performance guidelines of the different city codes that were studied, an (x) was placed only in boxes where cities specifically name the type of facility. Therefore while New York requires that all of its “enclosed” bike parking “shall be surrounded on all sides by a solid enclosure, except where a parking garage is open at the sides, and covered by a roof for weather protection,” no (x)s were marked in the table below for long-term parking facilities such as “bike rooms” because these were not specifically mentioned in the codes.

Close examination of the required types of bicycle parking reveals a great deal of creative solutions. For example, Boulder allows for attended bicycle parking and bicycle parking that is observable by employees to count towards bicycle parking requirements. This would allow business to count spaces within offices or employment centers such as the employee’s cubicle to count as a bicycle parking space.

While this flexibility is potentially positive, it does come with several drawbacks that planners should be aware of. In the case of bicycle parking observed by a camera, cyclists are not necessarily guaranteed more secure bicycle parking. Thieves can disguise themselves, and cameras are often monitored irregularly. Footage can be reviewed after an incident takes place, but bicycles are often never seen again by their owners. In the case of bicycle parking that is observable by employees, locating such spaces in offices may be necessary in older buildings undergoing a change of use where there is no other convenient place to locate bicycle parking. However, long-term parking should most often be located where it provides convenient access for bicyclists. Therefore in office buildings with crowded elevators, it may be more prudent to locate long-term bicycle parking out of the direct line of sight of employees using other secure methods such as lockers.

### TABLE 2: SPECIFICALLY MENTIONED BICYCLE PARKING FACILITIES

<table>
<thead>
<tr>
<th>Type</th>
<th>Boulder</th>
<th>Chicago</th>
<th>Columbus</th>
<th>Davis</th>
<th>Milwaukee</th>
<th>New York</th>
<th>Portland</th>
<th>San Diego</th>
<th>San Francisco</th>
<th>Santa Monica</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rack</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Long-term</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike Room</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Bike Cage</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lockers</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Shells</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Long-term Amenities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attended Bike Parking</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Observable by Employee</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Observable by Camera</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
BASIS OF RATIOS

Before determining the amount of bicycle parking desired for a particular land use, planners must determine the ratio that will be used to calculate the number of parking spaces. In general there are three different ratios used to requiring bicycle parking: a) a percentage based on car parking requirements, b) the square footage of each land use, or c) using specific units (e.g. bedrooms or employees). Each of these metrics offers a different set of benefits and drawbacks. Due to this a mixture of metrics is often used for different uses.

Percentage of Automobile Parking: Requiring bicycle parking as a percentage of automobile parking is the simplest way of setting minimum bicycle parking requirements. This method allows the planner to set a percentage based on the desired mode share of cycling for all uses with a single number. For instance, if for every ten car parking spaces, one bicycle parking space is provided, we can think of this as a bicycle parking mode share goal of 10 percent. This method is easy because once the number of automobile parking spaces is determined, the number of bicycle parking spaces required is readily apparent. This method is also easy to understand from a land use stand point because uses that require large amounts of car parking will also provide more bicycle parking.

Unfortunately, this method has several drawbacks. Using a single percentage of automobile parking may gloss over instances where the demand for bicycle parking at a particular location is greater than the demand for car parking. In addition, if cities move to reduce their car parking requirements the amount of bicycle parking would also decrease. This is problematic because many of the destinations where reduced automobile parking would be desired (e.g. Transit Oriented Development) are places where bicycling should be encouraged. Likewise, using a percentage of automobile parking assumes that car parking ratios reflect the trips generated for each use accurately which may not always be the case (Shoup 2004).

Square Footage: Linking the amount of bicycle parking to building square footage is a common practice found in zoning and municipal codes. This method has the benefit that building floor area can be used as a proxy for demand. In this way, specific uses that attract more cyclists can be targeted individually. In addition, since this is the method most commonly used for auto parking, this method also builds upon that practice within many zoning codes.

Basing bicycle parking requirements on square footage means that either a generalized ratio will be used for all uses such as San Francisco or that the planner must determine the appropriate ratio for each use. Donald Shoup has criticized setting ratios for car parking claiming that current data sources regarding trip generation are seldom more reliable than results based on ad hoc guess work (2004). Therefore, setting the bicycle parking ratios based on square footage is also problematic. Unfortunately, there has been little research done to date that correlates the demand for bicycle parking with specific uses and thus planners must use their best judgment when selecting these ratios. Looking to see what other cities have done can help planners understand the range of possibilities available.

Specific Units: Basing minimum parking requirements on specific units allows planners to target uses with high demand much like using square footage. Common units are bedrooms, residential units, and the number of employees. This method can be particularly effective for uses such as city buildings which may have a large footprint but only a few employees. Basing the number of bicycle parking spaces on the number of units suffers from the same drawbacks as using square footage, namely that it requires separate ratios for every use. In addition, it is not always clear how many employees (units) will be working in a given development ahead of time.
Ratios for specific land uses are often delineated along the lines of residential vs. commercial/industrial development. Residential ratios were found to most often be based on dwelling units or bedrooms, and requirements for multifamily development usually excluded smaller developments under a certain size. For example San Francisco requires that, “For buildings of 4 dwelling units or more, bicycle parking shall be provided in the minimum quantities specified in Table 155.5, regardless of whether off-street car parking is available.”

For commercial and industrial developments, bicycle parking is often based on square footage or as a percentage of car parking. The two major differences that were noted between codes were the amount of bicycle parking required for each use and the level of detail with which codes specified particular land uses. For example: San Francisco differentiates only between retail and other commercial uses whereas Portland specifies different requirements for 19 different land uses. An interesting case is Davis, CA which does not have specific bicycle parking requirements for commercial buildings. Instead, Davis relies on the community development director to evaluate each project and specify the number of required bicycle parking spaces.

<table>
<thead>
<tr>
<th>City</th>
<th>Basis of Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulder</td>
<td>Boulder uses a ratio of 10% of automobile parking for most nonresidential uses and a ratio of 1:3000 to 1:4000 square feet for mixed use and high density residential depending on if the use is located in a parking district. Boulder also reduces the ratio to 5% for nonresidential uses after the first 50 bicycle parking spaces are provided.</td>
</tr>
<tr>
<td>Chicago</td>
<td>Requirements for Chicago are lumped into different groups of specific land uses with different ratios for each group based on car parking. Some uses are exempt from providing bicycle parking and others require the Director of Land Use Zoning and Planning to determine appropriate levels. Residential uses in Chicago have a ratio of 1:2 or 1:4 bicycle to auto parking spaces. For educational uses, hospitals, public buildings and many others the ratio is 1:10. The downtown area has different parking ratios and exempts some uses.</td>
</tr>
<tr>
<td>Columbus</td>
<td>Columbus uses a ratio for bicycle parking requirements based on car parking. Residential uses with less than 3 dwelling uses are not required to have bicycle parking requirements. There are no requirements for industrial uses.</td>
</tr>
<tr>
<td>Davis</td>
<td>Davis only requires specific amounts of bicycle parking for multifamily residential uses based on dwelling units. All other bike parking needs are determined by the community development director.</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>Milwaukee requires bicycle parking for commercial units based on square footage.</td>
</tr>
<tr>
<td>New York</td>
<td>New York requires a ratio based on square footage or a ratio of 10% of automobile parking for most short-term bicycle parking. Long-term bicycle parking is based on dwelling units for residential uses and square footage or a ratio of 10% of automobile parking.</td>
</tr>
<tr>
<td>Portland</td>
<td>Portland uses ratios based on square footage.</td>
</tr>
<tr>
<td>San Diego</td>
<td>San Diego uses a ratio based on dwelling units for residential, square footage for most commercial zones, and a percentage of auto parking for institutional and entertainment venues.</td>
</tr>
<tr>
<td>San Francisco</td>
<td>San Francisco bicycle parking requirements are based on square footage for commercial developments and dwelling units/bedrooms for residential developments.</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>Santa Monica bicycle requires bicycle parking for commercial buildings over 15,000 square feet based on automobile parking.</td>
</tr>
</tbody>
</table>
MINIMUMS/MAXIMUMS
Many cities require a minimum number of bicycle parking facilities be provided. From the table below it can be seen that cities that require bicycle parking usually require a minimum of two short and two long-term bicycle parking spaces for most uses. Requiring a minimum number of parking spaces is important for buildings that may fall below a cut-off line in terms of square footage or automobile parking spaces. For example, if a building needed to provide bicycle parking at a ratio of 10 percent of its car parking, but was only required to have four car parking spaces it might not be required to provide any bicycle parking. Therefore, minimums help to ensure that every destination has secure bicycle parking.

Notably, some cities specify a maximum number of required bicycle parking spaces. Maximums range from 20 to 400. Given the limited mode share that bicycling currently has in the United States it might at times seem prudent set a ceiling for required bicycle parking. This is sometimes done for automobile parking as a way to limit automobile usage. However, since bicycling is gaining in popularity, maximums should be set at relatively high levels given the long life span of most projects. For certain uses it may make more sense than others to provide maximum requirements. For example, industrial uses may have very little use for short term bicycle parking since there would be relatively few people arriving to such sites by bicycle other than employees. On the contrary maximum requirements make little sense for residential uses since ideally most people would ride bicycles for short trips and many people will own bicycles even if they only ride them sparingly.

**TABLE 4: BICYCLE PARKING MINIMUMS AND MAXIMUMS**

<table>
<thead>
<tr>
<th>City</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Maximum Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short</td>
<td>Long</td>
<td>Short</td>
<td>Long</td>
</tr>
<tr>
<td>Boulder</td>
<td>3-4 or 10%</td>
<td>2 per DU</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chicago</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Columbus</td>
<td>2</td>
<td>None</td>
<td>2</td>
<td>None</td>
</tr>
<tr>
<td>Davis</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>New York</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Portland</td>
<td>2</td>
<td>2</td>
<td>2-10</td>
<td>varies by land use</td>
</tr>
<tr>
<td>San Diego</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>San Francisco</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>None</td>
<td>4, in buildings over 50,000 square feet 50% shall be long-term parking</td>
<td>4, in buildings over 50,000 square feet 50% shall be long-term parking</td>
<td>None</td>
</tr>
</tbody>
</table>
RANGES
The amount of bicycle parking required by different cities varies by land use. Choosing appropriate ranges for bicycle parking can be more difficult for some land uses than others. In residential uses it is easy to assume that one or two bicycle parking spaces per unit will suffice. Other land uses, such as restaurants, are more problematic. Without a great deal of information on the proposed business it is difficult to judge the potential number of visitors (Shoup 2004). In such cases, it may be necessary for planners to make assumptions about current mode share trends and assume a goal at some point in the future.

As bicycling continues to increase its mode share as a travel mode additional bicycle parking will be necessary. Ample bicycle parking also serves as a visible form of encouragement by signaling to cyclists that they are invited and welcome. At the low end, cities require a flat rate of bicycle parking at around five percent of automobile parking. At the high end, cities like New York require short and long-term bicycle parking at a rate of ten percent of automobile parking or a total of twenty percent. Portland has revised its bicycle parking requirements several times over as the demand for bicycle parking has grown. Therefore planners should set the mode share goal with this expansion in mind.

When determining the range of short vs. long-term bicycle parking, planners should consider the types of activities at a particular land use. Restaurants will likely need more short term bicycle parking, whereas office buildings will need more long-term bicycle parking. One innovative approach to setting these ratios is to set a minimum percentage of each type of bicycle parking. For instance, a city could require that 10 percent of the total bicycle parking required at office buildings be short-term and that at least 50 percent of the bicycle parking be long-term bicycle parking. This method allows the individual developer the option of providing a tailored amount of bicycle parking depending on their expectation for the project while still ensuring that some short and long-term bicycle parking will be provided.

Schools represent a land use that is often forgotten in bicycle parking ordinances. While some school districts are not under the jurisdiction of city zoning codes, private schools and private universities often are. Ranges for schools can be based on a percentage of the expected student and teacher population. Most of the parking for elementary, middle and high schools should be long term parking. Universities on the other hand will most likely need to provide ample short term parking since their class times are shorter.

CALIFORNIA GREEN BUILDING CODE
The California Green Building Code (CBGC) has mandatory bicycle parking requirements for certain types of developments. Developers must comply with these requirements or “meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.” Short and long-term bicycle parking is required at five percent of “vehicle parking capacity, with a minimum of one two bike capacity rack.” Many local planners are unaware of these provisions in the CBGC and therefore the codification of bicycle parking requirements within a city’s zoning code is especially important. In addition, the CBGC does not provide any design standards for bicycle parking and therefore does not insure that developers will install quality facilities.
## TABLE 5: SIMPLIFIED RANGES FOR BICYCLE PARKING REQUIREMENTS

<table>
<thead>
<tr>
<th>City</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short</td>
<td>Long</td>
<td>Short</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boulder</td>
<td>1 per 10 dwelling units</td>
<td>2 per dwelling unit</td>
<td>3 or 10% of automobile parking whichever is larger, after the first 50 spaces are provided additional parking is required at a rate of only 5%</td>
</tr>
<tr>
<td>Chicago</td>
<td>1 per 2 or 1 per 4 auto spaces</td>
<td></td>
<td>1 per 5 auto spaces at health clubs, 1 per 10 auto spaces at office buildings</td>
</tr>
<tr>
<td>Columbus</td>
<td>2 or 2+1 per 20 auto spaces up to 20 bicycle parking spaces</td>
<td>2 or 2+1 per 20 auto parking spaces up to 20 bicycle parking spaces</td>
<td>None</td>
</tr>
<tr>
<td>Davis</td>
<td>2 per dwelling unit.</td>
<td>Determined by the community development director</td>
<td>Determined by the community development director</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>None</td>
<td>1 per 2000 square feet</td>
<td>None</td>
</tr>
<tr>
<td>New York</td>
<td>1 per 10 auto spaces</td>
<td>1 per two dwelling units</td>
<td>None required</td>
</tr>
<tr>
<td>Portland</td>
<td>2 or one per 20 units</td>
<td>2 or 1 per 5,000 sq. ft. for retail vs. 2 or 1 per 40,000 sq. ft. of net building area for offices</td>
<td>None</td>
</tr>
<tr>
<td>San Diego</td>
<td>2 or 0.3-1 per dwelling unit</td>
<td>2, 0.1 per 1,000 square feet or 2% of auto spaces</td>
<td>0.03 per 1,000 square feet + .03 bike lockers with shower</td>
</tr>
<tr>
<td>San Francisco</td>
<td>1 per 2 dwelling units up to 50 or 25 plus 1 per 4 dwelling units if over 50 dwelling units</td>
<td>3 for 10,000-20,000 sq. ft., 6 for 20,000 to 50,000 sq. ft., 12 for more than 50,000 sq. ft.</td>
<td>None</td>
</tr>
<tr>
<td>Santa Monica</td>
<td>None</td>
<td>4 or 5% of automobile parking for buildings over 15,000 square feet</td>
<td>4 or 5% of automobile parking for buildings over 15,000 square feet</td>
</tr>
</tbody>
</table>
INCENTIVES
A few cities offer incentives to developers to help cover the costs of installing bicycle parking. Incentives most often allow developers to replace car parking with bicycle parking or reduce the floor area counted towards a building’s total by the amount required for bicycle parking. The most notable example is Portland, which allows new developments to replace up to twenty five percent of the required automobile parking with bicycle parking.

Gauging the readiness of a city to tackle more extensive incentives such as a percentage reduction in automobile parking for bicycle parking is difficult at best. Developers, cyclists, and environmentalist are often extremely supportive of this option. After the initial word went out that the City of Los Angeles was amending its bicycle parking codes, blog responses were overwhelmingly in favor of such a swap. However, politicians expressed their doubts about such a swap early on. It was helpful that the Los Angeles zoning code already contained such an option on a very limited scale and that in the initial draft proposal it was merely a matter of adjusting this section to appease public opinion.

While limiting automobile parking will further encourage bicycling, reducing automobile parking may need to be a separate battle that is not linked to the inclusion of bicycle parking. In California, SB 1818 provides a density bonus for developers that provide affordable housing. Part of this density bonus is a reduction of automobile parking. Affordable housing advocates have expressed concerns that the reduction of automobile parking for multifamily residential units in the Los Angeles Bicycle Parking Ordinance would compete with the parking reduction incentive for affordable housing.

TABLE 1: INCENTIVES FOR BICYCLE PARKING

<table>
<thead>
<tr>
<th>City</th>
<th>Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago</td>
<td>“A nonresidential use may use up to two vehicle parking spaces required under this Chapter as space for providing bicycle parking.”</td>
</tr>
</tbody>
</table>
| New York   | Space used for enclosed bicycle parking is not counted towards the square footage of buildings. This space cannot exceed an amount equal to “15 square feet multiplied by the number of the required spaces.”  
  “Department of Transportation bicycle racks provided on a fronting sidewalk may be counted toward this requirement, provided such racks meet the standards of this paragraph, (c).”  
  For affordable housing the number of bicycle spaces required may be reduced, if “when permitted automobile parking spaces are provided, the required bicycle spaces cannot be accommodated within an enclosed group parking facility by reconfiguring automobile parking spaces or removing three or fewer permitted automobile spaces.” |
| Portland   | “Bicycle parking may substitute for up to 25 percent of required parking. For every five non-required bicycle parking spaces that meet the short or long-term bicycle parking standards, the motor vehicle parking requirement is reduced by one space. Existing parking may be converted to take advantage of this provision.” |
| San Francisco | “The number of required automobile parking spaces may be lowered in buildings where Class 1 bicycle parking is provided. The number of otherwise required automobile parking spaces may be reduced, commensurate with the space necessary to provide Class 1 or Class 2 bicycle parking spaces, in an amount that meets or exceeds the requirements of this section. This provision only applies to the explicit area used for Class 1 or Class 2 bicycle parking.” |
| Seattle    | “For every four covered bicycle parking spaces provided, the total parking requirement shall be reduced by one space, up to a maximum of 5 percent of the parking.”                                                      |
DESIGN STANDARDS

In addition to specifying the type and quantity of bicycle parking spaces, cities often specify design standards that must be followed when installing bicycle parking. Design standards are extremely important because bicycle parking that is improperly installed will either go unused or increase the likelihood of theft. The following sections detail different design standards found in city codes and provide examples of how different cities have worded specific requirements.

ACCESS

Bicycle parking installed in locations where it is hidden from view or in locations that limit access will not be used. Likewise, bicycle parking that is installed directly next to car parking or other physical obstructions will make it less desirable in the eyes of cyclists. If bicyclists believe that their bicycles will be damaged or if reaching the desired parking is difficult, they will park their bicycles elsewhere. Therefore, it is important to provide convenient access to bicycle parking.

The following examples offer insight into how access requirements can be phrased. In Examples 1-3 from New York, Portland, and San Francisco, we see that the primary goal of the language is to ensure that property owners do not limit egress and ingress of “eligible users” of long-term bicycle parking within a structure or a given lot.

Example 1: “Bicycle spaces may be located in a room secured by a lock or similar means, provided that access is through a commonly accessible area and access is made available to eligible users on an equal basis.” (New York, NY)

Example 2: “At the same grade as the sidewalk or at a location that can be reached by an accessible route.” (Portland, OR)

Example 3: “Safe and convenient means of ingress and egress to bicycle parking facilities shall be provided. Safe and convenient means include, but are not limited to stairways, elevators and escalators.” (San Francisco, CA)

When bicycles are installed too close to walls or other physical barriers it can be difficult for cyclists to secure their locks around bicycle racks. Therefore, it is important to require sufficient space on both sides of a bicycle rack. This can be done through requiring specific dimensions for bicycle parking spaces or through clauses that alert developers to the needs of cyclists. In examples 4-6, the codes are concerned with the maneuverability of bicycles within the facilities themselves. These provisions suggest that planners must not only specify where on a site bicycle parking should be located, but they must also ensure that accessing the immediate area around the bicycle parking is feasible as well.

Example 4: “Thirty inches of maneuverable space shall be provided between parallel bicycle racks and 96 inch wide aisle shall be provided between bicycle rack areas.” (New York, NY).

Example 5: “An aisle or other space to enter and leave the facility shall be provided. The aisle shall provide a width of five feet to the front or rear of a standard six-foot bicycle parked in the facility.” (San Francisco, CA)

Example 6: “The bicycle parking area shall include adequate clearance around racks or lockers to give cyclists room to maneuver, and to prevent conflicts with pedestrians or parked cars.” (Boulder, CO)
DIMENSIONS

Bicycles occupy roughly twelve square feet. Many bicycle codes reflect this by requiring bicycle parking spaces to be 2 ft. wide by 6ft. long.

Example 1: “Required bicycle parking spaces for nonresidential uses must have minimum dimensions of 2 feet in width by 6 feet in length, with a minimum overhead vertical clearance of 7 feet.” (Chicago, IL)

Example 2: “Each required short-term bicycle parking space must be at least 2 feet by 6 feet.” (Portland, OR)

While this does provide adequate space for a bicycle to park, it can exclude other unique designs or more efficient designs that use less space. For example a triangular locker is wider than 2 ft. at its opening but much less than 2ft. at its point. Likewise, many staggered two-tiered bicycle systems only require 36 inches between racks (or 18 inches per space). Overhead clearance is another concern. Typically in a single tiered system enough room should be provided so that cyclists can park their bicycles and stand at the same time. However, two tiered systems would not fit only if 7 ft. of headroom was provided. For such systems a minimum of 8 ft. should be provided although sometimes this may not accommodate all designs. The two provisions below provide examples on how codes have dealt with this issue.

Example 3: “Fifteen square feet of area shall be provided for each bicycle space. However, the area for each bicycle space may be reduced by up to nine square feet per bicycle if the Commissioner of Buildings certifies that a layout has been submitted to adequately accommodate the specified number of bicycles.” (New York, NY)

Example 4: “Parallel bike racks shall be a minimum on-center spacing of 30 inches. Spacing of 48 inches is optimal.” (Columbus, OH)

An alternative to defining the size of the bicycle parking space is to require that all parking can accommodate a certain size of bicycle. The example from Milwaukee, WI below is a good example of this. Allowing for more flexibility in the design of bicycle parking spaces may be desirable but planners should keep in mind that doing so may require more supervision during the design and implementation phases of specific projects.

Example 5: “A fenced, covered, locked or guarded bicycle storage area. Such area shall be large enough that each of the required bicycle parking spaces can accommodate a
bicycle with a 3-foot handlebar width, a height of 3.5 feet from the bottom of the wheel to the top of the handlebar, and a length of 6 feet from the front of the forward wheel to the back of the rear wheel.” (Milwaukee, WI)

EASE OF LOCKING
If bicycle racks are installed too close to walls or other obstructions it can make it difficult for cyclists to lock their bicycles to the racks. Therefore cities often provide language encouraging designs that make it easy for cyclists to access both sides of a rack. Often times these require that bicycle racks be located a specific distance from other obstacles. As mentioned above, ensuring that each bicycle parking space is a certain size is one method of doing so, however, it is by no means fool proof or fail safe. Additional language that specifies the distance from walls may be desired to ensure that bicyclists can actually make use of the facilities. Examples 1-2 provide loose definitions that attempt to mediate this difficulty. Example 3 provides builders with the incentive to space racks away from walls so that both sides of the rack can count towards their minimum requirements.

Example 1: “Facilitate easy locking without interference from or to adjacent bicycles.” (Boulder, CO)

Example 2: “Bicycle parking racks shall enable the bicycle frame and one or both wheels to be secured through use of a "U" type lock.” (Columbus, OH)

Example 3: “If bicycle can be locked to each side of the rack without conflict, each side may be counted toward a required space.” (New York, NY)

LIGHTING
Lighting is very important for cyclists who are accessing their bicycles at night or when their bicycles are parked in parking garages. Dark facilities can provide hiding places for miscreants or criminals and are often shunned by female cyclists due to safety concerns. Often codes already require lighting for automobile parking and this language can be copied or referenced.

Example 1: “Adequate lighting shall be provided for the bicycle parking area and the route to the building entrance.” (Boulder, CO)

Example 2: “Areas used for required bicycle parking must be well lighted.” (Chicago, IL)

PROTECTING BICYCLES FROM DAMAGE AND WEATHER
Trends in bicycle rack design have improved over the years. The design of bicycle racks is extremely important because poor design can actually cause severe damage to bicycles or make it easy for thieves to steal bicycle parts. For example, older style bicycle racks, now called “wheelbenders,” only supported the bicycle’s front or rear wheel. If a bicycle was knocked over, the wheel would remain wedged into the rack and would become damaged in the process. Thus it is important that bicycle racks are designed to prevent damage to the bicycle from the rack. Example 1 provides some language that addresses this point rather bluntly. Other codes specifically require inverted-U shaped racks or prohibit wheelbender racks.

Example 1: “Be designed so as not to cause damage to the bicycle.” (Boulder, CO)

Example 2: “Bicycle parking racks shall be of the inverted "U" type design, unless an alternative design has been approved by the Public Service Department.” (Columbus, OH)

While snow is not a concern in many parts of the United States, rain certainly is. Leaving bicycles in the rain is equivalent to leaving the sunroof open in a car. Likewise, heavy winds can knock bicycles over and damage them. It is important to provide protection from inclement weather for both short and long-term bicycle parking. While most codes do not require that short-term parking be protected from weather, some cities
such as New York and Portland do provide roofs over public bicycle parking when it is provided for by the city.

**INCLEMENT WEATHER**

Photo Credit: Jim Baerg

Providing cover for a single short-term bicycle parking space may not be economical, but bicycle parking can often be incorporated into the design of projects so that existing overhangs or roof structures can be used to protect bicycles from the rain. It may also be necessary to include a phrase that determines a cutoff for when a roof is not required. For example, roofs might be required only where more than 10 short-term bicycle parking spaces are required. The location and weather patterns of the city should also be taken into consideration. In places like Seattle, where it rains regularly, protection from the weather for short-term parking should be considered. Below is an example of a requirement for covered for long-term bicycle parking.

Example 3: “Long-term bicycle parking provides employees, students, residents, commuters and others who generally stay at a site for several hours, a secure and weather-protected place to park bicycles.” (Portland, OR)

**QUALITY CONSTRUCTION**

Bicycle parking should be installed so that it cannot be easily be removed by thieves or vandals. Therefore, it is important that bicycle racks and lockers be securely fastened to a permanent surface. If zoning codes require specific construction materials for other types of street furniture or walkways these can be referenced in the bicycle parking ordinance. If not, more general language can be used, such as in Example 1 below. In addition to requiring that bicycle parking facilities be anchored to secure surfaces, it is important to ensure that the materials used are resistant to tampering and corrosion. For this second reason, coated or stainless steel racks should be used.

Example 1: “Consist of racks or lockers anchored so that they cannot be easily removed and of solid construction, resistant to rust, corrosion, hammers, and saws.” (Boulder, CO)

Example 2: “Such fixtures must be affixed securely to the ground or a building, to which a bicycle may be locked or chained.” (Chicago, IL)

Example 3: Long-term bicycle parking that is provided within a structure shall include the following: “Each bicycle space shall adjoin a rack or similar system for securing the bicycle. Bicycle parking spaces shall be located in an area secured by a lock or similar means, or adjoin securely anchored rack to which the bicycle frame and at least on wheel can be locked” (New York, NY)
SIGNAGE
When bicycle parking is located in areas that are not immediately noticeable upon the approach to a development, signage should be installed to inform bicyclists how to access the facilities. In general this should only apply to long-term bicycle parking since short-term bicycle parking should be located outside and close to the main entrances of buildings where it is immediately visible upon arrival. Furthermore, providing signage can also provide a form of advertisement encouraging cyclists to visit a facility by informing them that they are welcome there. When locating long-term bicycle parking within parking garages, additional signage may be needed. It is not enough to simply mark the entrances to garages since bicycle parking may not be immediately noticeable upon entry to the garage.

Example 1: “If the bicycle parking is provided in an auto parking garage, the bicycle parking spaces shall be clearly marked as such and shall be separated from auto parking.” (Boulder, CO)

Example 2: “If required bicycle parking facilities are not visible from the street, signs must be posted indicating their location.” (Chicago, IL)

Example 3: “Signage indicating the availability and location of bicycle parking shall be installed at the main entrance to the subject building in a location visible and legible to users of the subject building.” (Santa Monica, CA)

SITING REQUIREMENTS
Siting requirements tend to focus on several issues including the distance from the main entrance, location within a building, and allowing bicycle parking located within the public right-of-way to count towards requirements. Generally, most codes that were analyzed required that short term parking be located within 50 feet of a main entrance and be located on the lot where the building is constructed. Example 1: Short-term bicycle parking shall be located, “Within fifty feet of the main building entrances.” Long-term bicycle parking shall be located as follows, “The bicycle parking area shall be located on-site or in an area within three hundred feet of the building it serves.” (Boulder, CO)

Example 2: “For a building with one main entrance, the bicycle parking must be within 50 feet of the main entrance to the building as measured along the most direct pedestrian access route.” (Portland, OR)

Example 3: “In the event that compliance with Section 155.1(b)(91) may not be feasible because of demonstrable hardship, the responsible city official may apply to the Director for approval of an alternative storage location. In acting upon such applications, the Director shall be guided by the following criteria: Such alternative facilities shall be well-lighted and secure. The entrance shall be no more than 50 feet from the entrance of the building, unless there are no feasible locations within a 50 foot zone that can be provided without impeding sidewalk or pedestrian traffic. However, in no event shall an alternative location be approved that is farther from the entrance of the building than the closest automobile parking space.” (San Francisco, CA)
Allowing developers and business owners to count bicycle parking located within the public right-of-way requires careful consideration. The Department of Transportation in Los Angeles installs racks for free upon the request of a business owner. The Department of Transportation was very concerned about language that would allow businesses to count racks located within the public right-of-way because it could have resulted in an inundation of requests that they would have been unable to meet.

Therefore, it was necessary to provide solid steps that business owners could follow to install their own racks. Example 4 below provides an example of allowing business owners to count preexisting racks.

Example 5 allows use of the right-of-way only with the permission of the Department of Transportation. This second option would require additional staff time to process the requests.

Example 4: “Department of Transportation bicycle racks provided on a fronting sidewalk may be counted toward this requirement, provided such racks meet the standards of this paragraph, (c).” (New York, NY)

Example 5: “Such spaces must be located on private property unless the Commissioner of the Department of Transportation approves location within the public right-of-way.” (Chicago, IL)

Some cities such as Boulder, CO and Portland, OR specify that short term bicycle parking must be located outside. Others such as Chicago, IL allow bicycle parking to be located indoors as well. Generally, a specific space must be set aside for bicycle parking, especially in residential uses where developers sometimes attempt to claim balconies as bicycle parking spaces.

Example 6: “Required bicycle parking may be located indoors or outdoors.” (Chicago, IL)

Example 7: “Space within dwelling units or on balconies may not be counted toward satisfying bicycle parking requirements.” (Chicago, IL)

Long-term bicycle parking can be located in parking garages although this is by no means the preferred option. Doing so requires riders to ride up ramps designed for cars, which can prove to be a disincentive for using such spaces. If long-term bicycle parking is located in a parking garage, every effort should be made to ensure that it is located on the ground floor or on the level of the parking garage closest to the ground floor. It should also be located close to the pedestrian entrance within the parking garage to further encourage convenient access.
SUPPORT
Several cities mentioned appropriate ways that bicycle parking should support parked bicycles. In general these required that the frame of the bicycle be supported. As mentioned above, bicycle racks that only support a single wheel of the bicycle can damage wheels if bicycles are knocked over and are therefore usually discouraged.

Example 1: “Bicycle parking racks shall support a bicycle upright in two places.” (Columbus, OH)

Example 2: “For each required bicycle parking space, a stationary object shall be provided to which a user can secure the frame and both wheels of a bicycle with a 6-foot cable and lock.” (Milwaukee, WI)

Example 3: “Provide for storage and locking of bicycles, either in lockers or medium-security racks or equivalent installation in which both the bicycle frame and the wheels may be locked by the user.” (Boulder, CO)

Example 4: “Each bicycle rack shall allow for the bicycle frame and at least one wheel to be locked to the rack.” (New York, NY)

WHEELBENDER RACKS DO NOT SUPPORT THE BICYCLE FRAME

VISIBILITY
Bicycle parking should always be located to maximize visibility. If bicyclists cannot immediately see parking facilities or signs upon arrival, they will generally assume none have been provided for them and will lock their bicycle to trees, benches or sign posts. In addition, increased visibility reduces the risk of theft. The more people that can see such parking, the less likely it is that bicycles will be stolen. Ideally, with smaller sites, bicycle parking should be located so that customers or visitors can see their bicycles from within the building.

Example 1: “Be located in convenient, highly visible, active, well-lighted areas but shall not interfere with pedestrian movements.” (Boulder, CO)

Example 2: “Bicycle parking shall be located in highly visible areas near the intended use.” (Columbus, OH)

Example 3: “Class 2 bicycle racks shall be located in highly visible areas to minimize theft and vandalism.” (San Francisco, CA)
References:


Model Bicycle Parking Ordinance

This model ordinance was developed for communities in the state of Illinois. October 2011.

www.phlpnet.org
[CITY/VILLAGE/TOWNSHIP] OF ______________________________

ORDINANCE NO: ____________

A draft ordinance based on this model may include “findings” of fact (“whereas” clauses) that support the need for the municipality to adopt the ordinance. The findings section is part of the ordinance, but it usually does not become codified in the local government code. The findings contain factual information supporting the need for the law – in this case, documenting the need for bicycle parking. An adopting body should select those findings it views as most significant for its community and add findings related to local conditions or concerns. The footnotes are provided in order to assist those who wish to understand the evidence for a given finding, and are not intended to be included in the adopted Ordinance.

FINDINGS. [The City/Village/Township] hereby finds and declares as follows:

1. WHEREAS, the [Adopting Body] has a goal of improving the health of its residents and the air quality of the community; and

2. WHEREAS, obesity has become a significant health concern for our nation, with overweight and obesity leading to increased risk of heart disease; diabetes; endometrial, breast, and colon cancers; high blood pressure; high cholesterol; stroke; liver and gallbladder disease; sleep apnea and respiratory problems; osteoarthritis (a degeneration of cartilage and its underlying bone within a joint); and gynecological problems;¹ and

3. WHEREAS, obesity is often caused in part by lack of sufficient physical activity;² and

4. WHEREAS, bicycling is a safe, low-impact aerobic activity, enjoyed by millions of Americans, which can provide an ideal opportunity to obtain physical exercise while traveling to work, shops, restaurants, and many other frequent destinations;³ and
5. **WHEREAS**, bicycling is a feasible alternative to driving in many cases since 25 percent of all car trips are to destinations within one mile of home,⁴ 40 percent of all trips taken are two miles or less,⁵ and around 30 percent of the working population travels five miles or less to work;⁶ and

6. **WHEREAS**, replacing car trips with bicycle trips can also reduce pollution and congestion and increase air quality, given that transportation accounts for nearly one-third of all carbon dioxide emissions in the United States and an average motor vehicle emits 8.8 kilograms of carbon dioxide per gallon of gasoline that it burns, while biking emits none;⁷ and

7. **WHEREAS**, providing safe, convenient, and adequate bicycle parking is necessary to encourage increased use of bicycles as a form of transportation;⁸ and

8. **WHEREAS**, cities that have improved bicycle infrastructure, including parking, have seen a measurable increase in bicycle trips;⁹ and

9. **WHEREAS**, it is advisable, for all of the reasons stated above, to add new bicycle parking requirements designed to provide increased safe, convenient, and adequate bicycle parking;

**NOW THEREFORE, BE IT ORDAINED BY [THE CITY/VILLAGE/TOWNSHIP] as follows:**


**Chapter [1-1]: PURPOSE:** The purpose of this [Title/Chapter] is to provide sufficient safe and convenient bicycle parking in new development and major renovations so as to encourage bicycling as a form of transportation, which in turn reduces traffic congestion, pollution, and wear and tear on roads, and fosters healthy physical activity.
Chapter [1-2]: **DEFINITIONS:** Unless the context clearly requires otherwise, the following terms shall have the following meanings:

A. “**Bicycle Parking Space**”: A physical space that is a minimum of [2.5] feet in width by [6] feet in length with a vertical clearance of at least [7] feet that allows for the parking of one bicycle.

B. “**Bike Rack**”: A device consistent with industry standards that (i) is capable of supporting a bicycle in a stable position, (ii) is made of durable materials, (iii) is no less than [36] inches tall (from base to top of rack) and no less than [2] feet in length, (iv) permits the securing of the bicycle frame and one wheel with a U-shaped lock, and (v) is of a character and color that adds aesthetically to the immediate environment.

C. “**Bike Locker**”: A lockable enclosure consistent with industry standards that (i) can hold one bicycle, (ii) is made of durable material, (iii) is designed to fully protect the bicycle against [insert specific local weather concerns, e.g.: rain, snow, ice, high winds], (iv) provides secure protection from theft, (v) opens sufficiently to allow bicyclists easy access, and (vi) is of a character and color that adds aesthetically to the immediate environment.

D. “**Short-Term Bicycle Parking**”: Bicycle parking primarily intended for bicyclists who need bicycle parking for three hours or less.

E. “**Short-Term Bicycle Parking Space**”: A Bicycle Parking Space that provides Short-Term Bicycle Parking.

F. “**Long-Term Bicycle Parking**”: Bicycle parking that is primarily intended for bicyclists who need bicycle parking for more than three hours and is fully protected from the weather.

G. “**Long-Term Bicycle Parking Space**”: A Bicycle Parking Space that provides Long Term Bicycle Parking.

H. “**In-Street Bicycle Parking**”: A portion of a vehicle parking lane or other area on a roadway that is set aside for the parking of bicycles.
Chapter [1-3]: BICYCLE PARKING SPACES REQUIRED: Short-Term and Long-Term Bicycle Parking Spaces shall be required for all new development, with the exception of single-family housing, in the amounts identified in the table below.

A. Required Bicycle Parking Spaces:

<table>
<thead>
<tr>
<th>GENERAL USE CATEGORY</th>
<th>SPECIFIC USE</th>
<th>NUMBER OF MINIMUM SHORT-TERM BICYCLE PARKING SPACES REQUIRED</th>
<th>NUMBER OF MINIMUM LONG-TERM BICYCLE PARKING SPACES REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL</td>
<td>Office Building</td>
<td>[1] per each [20,000] sq. ft. of floor area</td>
<td>[1–1.5] per [10,000] sq. ft. of floor area</td>
</tr>
<tr>
<td></td>
<td>General Retail</td>
<td>[1] per each [5,000] sq. ft. of floor area</td>
<td>[1] per [10,000–12,000] sq. ft. of floor area</td>
</tr>
<tr>
<td></td>
<td>Restaurant/Grocery</td>
<td>[1] per each [2,000] sq. ft. of floor area</td>
<td>[1] per [10,000–12,000] sq. ft. of floor area</td>
</tr>
<tr>
<td></td>
<td>Indoor Parking Garage</td>
<td>None</td>
<td>[1] per [20] motor vehicle spaces (min. 6)</td>
</tr>
<tr>
<td></td>
<td>Outdoor Parking Lot</td>
<td>[1] per [20] motor vehicle spaces (min. 6)</td>
<td>None</td>
</tr>
<tr>
<td>CIVIC</td>
<td>Non-assembly cultural (library, government buildings)</td>
<td>[1] per each [8,000–10,000] sq. ft. of floor area</td>
<td>[1–1.5] per each [10–20] employees</td>
</tr>
<tr>
<td></td>
<td>Assembly (church, theater, stadiums, parks)</td>
<td>Spaces for [2–5] percent of maximum expected daily attendance</td>
<td>[1–1.5] per each [20] employees</td>
</tr>
<tr>
<td>Category</td>
<td>Use Description</td>
<td>Minimum Space Requirements</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>[1] per each [20] students of planned capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleges and universities</td>
<td>[1] space per each [10] students of planned capacity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>Manufacturing and production, agriculture</td>
<td>Minimum [2] (can be increased at discretion of Planning Director/Zoning Administrator)</td>
<td></td>
</tr>
</tbody>
</table>

B. Unless otherwise stated, there shall be a minimum of [2] Short-Term and [2] Long-Term Bicycle Parking Spaces for each specific use category above.

C. Where the calculation of total required spaces results in a fractional number, the nearest whole number shall be used. If the fraction is one-half, the number shall be rounded up to the next whole number.

D. Up to half of the required Short-Term Bicycle Parking Spaces may be substituted with Long-Term Bicycle Parking Spaces.

E. If the new building or facility is for a use not listed in the above table, the number of Bicycle Parking Spaces required shall be calculated on the basis of a similar use, as determined by the [Planning Director/Zoning Administrator].

Chapter [1-4]: MAJOR REMODELS OR RENOVATIONS:

A. Major Remodels or Renovations over [$1,000,000]. The requirements of this section shall apply to any proposed physical improvement of any existing structure that requires a building permit for which the proposed remodel or renovation has an estimated construction cost (excluding seismic or other structural safety retrofit costs) greater than [$1,000,000].
B. Major Remodels or Renovations between [\$250,000 and \$1,000,000]. The requirements of this section shall apply to any proposed physical improvement of any existing structure that requires a building permit for which the proposed remodel or renovation has an estimated construction cost (excluding seismic or other structural safety retrofit costs) greater than [\$250,000] but less than [\$1,000,000], except that the required minimum Bicycle Parking Spaces set forth in the table in [Chapter 1-3 (A)] shall be reduced by 50 percent.

Chapter [1-5]: REQUIREMENTS APPLICABLE TO ALL SHORT-TERM AND LONG-TERM BICYCLE PARKING:

A. All Bicycle Parking Spaces shall be:

1. Well lit if accessible to the public or bicyclists after dark;

2. Sited to ensure significant visibility by the public or by building users, except in the case of Long-Term Bicycle Parking that is located in secure areas only accessible to employees, staff, or residents;

3. Accessible without climbing stairs, going up or down a slope in excess of [12] percent, and via a route on the property that is designed to minimize conflicts with motor vehicles and pedestrians.

B. All In-Street Bicycle Parking and Bicycle Parking Spaces located in a parking facility shall be:

1. Clearly marked; and

2. Separated from motor vehicles by some form of physical barrier (such as bollards, concrete or rubber curbing or pads, reflective wands, a wall, or a combination thereof) designed to adequately protect the safety of bicyclists and bicycles.

C. All Bike Racks shall be located at least [36] inches in all directions from any obstruction, including but not limited to other Bike Racks, walls, doors, posts, columns, or exterior or interior landscaping.

D. Unless clearly visible from the main entrance, a sign indicating the location of all Bicycle Parking Spaces shall be prominently displayed near the main entrance to
the building or facility, and additional signs shall be provided as necessary to ensure easy wayfinding. A “Bicycle Parking” sign shall also be displayed on or adjacent to any indoor room or area designated for bicycle parking.

Chapter [1-6]: ADDITIONAL REQUIREMENTS APPLICABLE TO SHORT-TERM BICYCLE PARKING ONLY: All Short-Term Bicycle Parking Spaces shall contain Bike Racks and shall meet the following requirements, in addition to the requirements in Chapter [1-3] above:

A. Location:

1. Short-Term Bicycle Parking must be located either (a) within [50] feet of the main public entrance of the building or facility or (b) no farther than the nearest motor vehicle parking space to the main public entrance (excluding disabled parking), whichever is closer. If the development contains multiple buildings or facilities, the required Short-Term Bicycle Parking shall be distributed so as to maximize convenience and use.

2. Short-Term Bicycle Parking Spaces may be located either (a) on-site or (b) in the public right-of-way (e.g., sidewalk or In-Street Bicycle Parking), provided that an encroachment permit is obtained for the installation and the installation meets all other requirements of the law. If Bike Racks are located on public sidewalks, they must provide at least [6] feet of pedestrian clearance and be at least [2] feet from the curb.

B. Bike Rack Requirements: Bike Racks used for Short-Term Bicycle Parking must be securely attached to concrete footings, and made to withstand severe weather and permanent exposure to the elements.

Chapter [1-7]: ADDITIONAL REQUIREMENTS APPLICABLE TO LONG-TERM BICYCLE PARKING ONLY: Long-Term Bicycle Parking shall be provided in either (1) Bike Lockers or (2) indoor rooms or indoor areas specifically designated for bicycle parking (including designated areas of an indoor parking facility), and shall satisfy the following requirements, in addition to those set forth in Chapter [1-3] above:

A. Location: Long-Term Bike Parking shall be located no more than [300–500] feet from the main public entrance.

B. Requirements for Indoor Long-Term Bicycle Parking: Long-Term Bike Parking located in indoor rooms or indoor designated areas shall contain Bike
Racks or a comparable device, and shall be designed to maximize visibility of all portions of the room or designated area from the entrance.

Chapter [1-8]: MOTOR VEHICLE PARKING SPACE CREDITS:

A. For every [6] Bicycle Parking Spaces provided, the number of required off-street motor vehicle parking spaces (excluding handicapped parking spaces) on a site may be reduced by [1] space.

B. To encourage installation of showers and clothing lockers, an off-street motor vehicle parking credit of [1] space will be provided for nonresidential uses for the first shower installed, with additional off-street motor vehicle parking credits available at a rate of [1] space per shower per [25] required Bicycle Parking Spaces. This credit shall be in addition to the bicycle parking credits provided for in subsection (A) of [Chapter 1-8].

Chapter [1-9]: EXISTING BICYCLE PARKING AFFECTED BY CONSTRUCTION:
In the event that the [NAME OF MUNICIPALITY] has authorized a permit holder to remove existing bicycle parking in the public way due to construction of a new development, remodel, or renovation, the permit holder shall replace such bicycle parking no later than the date of completion of the construction. If bicycle parking is likely to be removed for more than [120] days, it shall, to the extent possible, be temporarily re-sited, in coordination with [the municipality], to a location as close to the original site as practicable, pending completion of the construction. At least [7] days prior to removal of such bicycle parking, a weather-proof notice shall be posted conspicuously on or in the immediate vicinity of the bicycle parking, specifying the date of removal. In the event that any bicycles remain parked on the date of the removal, such bicycles shall be stored for a reasonable period, not less than [45] days, and a conspicuous, weather-proof notice shall be placed as close as practical to the site of the removed bicycle parking containing information as to how a removed bicycle can be retrieved.

Chapter [1-10] (optional) MODIFICATION OF REQUIREMENTS: In the event that satisfying all of the requirements of this Ordinance would be infeasible due to the unique nature of the site, or cause an unintended consequence that undermines the purpose of this Ordinance, a property owner (or designee) may submit a written request to the [Planning Director/Zoning Administrator/other City Administrator or designee] for a modification of the requirements of this Ordinance. The request shall state the specific reason(s) for the request, provide supporting documentation, and propose an alternative action that will allow the purposes of this Ordinance to be fulfilled as much as possible.
SECTION 2: THAT [TITLE AND/OR CHAPTER OF CODE] IS AMENDED BY
REQUIREMENTS FOR PARKING FACILITIES” TO READ AS FOLLOWS:

Chapter [2-1]: PURPOSE: The purpose of this [Title/Chapter] is to provide sufficient safe
and convenient bicycle parking in parking facilities so as to encourage bicycling as a form of
transportation, which in turn reduces traffic congestion, pollution, and wear and tear on
roads, and fosters healthy physical activity.

Chapter [2-2]: DEFINITIONS: The definitions set forth in [Section 1, Chapter 1-2 of this
Ordinance (insert final code sections)] shall apply to this Section [Section 2], unless the
context clearly requires otherwise.

Chapter [2-3]: LICENSING CONDITIONS: As a condition of the issuance or renewal of
a license required by [the City/Village/Township] for a parking facility, parking facilities
shall provide [1] Bicycle Parking Space per each [20] vehicle parking spaces provided, with
a minimum of [6]. Where the calculation of total required spaces results in a fractional
number, the nearest whole number shall be used. If the fraction is one-half, the number shall
be rounded up to the next whole number.

Chapter [2-4]: LOCATION: All Bicycle Parking Spaces shall be located in an area,
preferably on the ground floor, that can be conveniently and safely accessed, is not isolated,
and maximizes visibility by parking facility patrons and attendants. If the licensed parking
facility has multiple entrances, the required Bicycle Parking Spaces may be spread out
among the multiple entrances. Bicycle Parking Spaces shall be accessible without climbing
stairs or going up or down a slope in excess of [12] percent.

Chapter [2-5]: BIKE RACKS: Bike Racks shall be provided in a sufficient number to
accommodate the number of Bicycle Parking Spaces required in [Chapter 2-3] above, and
shall be well lit if accessible to the public or bicyclists after dark or if in an interior or
darkened location. All Bike Racks shall also provide a clearance of at least [36] inches in all
directions from any obstruction (including but not limited to other bike racks, walls, doors,
posts, columns, or landscaping), and shall be separated from vehicles by some form of
physical barrier (such as bollards, concrete or rubber curbing or pads, reflective wands, a
wall, or a combination thereof) designed to adequately protect the safety of bicyclists and
bicycles. All Bike Racks located outdoors shall also be securely attached to concrete footings
and made to withstand severe weather and permanent exposure to the elements.
Chapter [2-6]: SIGNAGE: Parking facilities that are required to install Bicycle Parking Spaces by this section shall provide prominent signs in or near the entrance that advertise the availability of bicycle parking, and the location, if it is not visible from the entrance.

Chapter [2-7]: CONTRACTUAL LIMITS ON LIABILITY: This section shall not interfere with the rights of a parking facility to enter into agreements with facility users or take other lawful measures to limit the parking facility’s liability to bicycle users with respect to bicycle parking in the parking facility, provided that such agreements or measures are otherwise in accordance with the requirements of this Ordinance and the law.


Chapter [3-1]: PURPOSE: The purpose of this [Title/Chapter] is to provide sufficient safe and convenient bicycle parking at special events involving street closures so as to encourage bicycling as a form of transportation, which in turn reduces traffic congestion, pollution, and wear and tear on roads, and fosters healthy physical activity.

Chapter [3-2]: CONDITIONS ON STREET CLOSURE PERMITS: As a condition of a permit for the temporary closure of a street for an event in which the daily number of participants is projected to be [1,000] or more, monitored bicycle parking shall be provided by the event sponsor (or a designee) for at least [1] percent of expected daily participants beginning [½ hour] before and ending [½ hour] after the time of the event each day of the event.

Chapter [3-3]: REQUIREMENTS FOR MONITORED PARKING: Monitored bicycle parking requires the presence, at all times, of one or more attendants, as needed, to receive bicycles, dispense claim checks, return bicycles, and provide security for all bicycles.

Chapter [3-4]: LOCATION: All monitored bicycle parking shall be located within [500] feet of at least one regular entrance or access point to the event.

Chapter [3-5]: PUBLICITY AND SIGNAGE: All publicity, including signs, for the event shall state the availability of monitored bicycle parking, its location, and its cost. All event maps shall include the location of monitored bicycle parking. If monitored bicycle parking is not within eyeshot of each entrance, signs shall be provided to ensure easy way finding.
Chapter [3-6]: **INSURANCE COVERAGE AND FEES:** The event sponsor or designee must provide insurance coverage for the monitored bicycle parking in case of damaged or stolen bicycles, and may charge a small fee to cover the cost of providing the monitored parking.


**Chapter [4-1]: PURPOSE:** The purpose of this [Title/Chapter] is to ensure the reasonably prompt removal of bicycles abandoned in Bicycle Parking Spaces so as to encourage bicycling as a form of transportation, which in turn reduces traffic congestion, pollution, and wear and tear on roads, and fosters healthy physical activity.

**Chapter [4-2]: DEFINITIONS:** The definitions set forth in [Section 1, Chapter 1-2] of this Ordinance (insert final code sections) shall apply to this Section [Section 4], unless the context clearly requires otherwise.

**Chapter [4-3]: REMOVAL REQUIREMENTS:** On [a quarterly basis], owners of property subject to Sections 1 or 2 of this Ordinance (or a designee) shall remove, from all Bicycle Parking Spaces associated with their property, including those located on the public right-of-way, bicycles that show clear signs of being abandoned. A bicycle shall be deemed to be abandoned if it has not been removed after a notice of removal has been posted on it or in its immediate vicinity for [2] weeks for Short-Term Bicycle Parking Spaces or [4] weeks for Long-Term Parking Spaces. Additional signs of an abandoned bicycle include rusted chains, flat tires, or missing major parts. However, a bicycle shall not be deemed to be abandoned if the bicyclist and owner have a written agreement regarding provision of seasonal storage covering the time period in question. Abandoned bicycles may be donated to nonprofits that reuse bicycles or disposed of in any lawful manner.

**SECTION 5: IMPLEMENTATION OF ORDINANCE:**

A. **Regulations:** The [Planning Director/Zoning Administrator and/or other relevant city administrator(s)] [is/are] authorized to promulgate new and amend existing rules, regulations, procedures, or forms as necessary or appropriate to implement the provisions of this Ordinance.
B. **Training:** [The City/Village/Township] shall periodically make training and/or training materials available to planners and other city employees involved in the implementation and enforcement of this Ordinance.

C. **Reporting:** The [Planning Director/Zoning Administrator] shall provide an annual report to the [Adopting Body, e.g., City Council/Board of Supervisors] regarding the implementation of this Ordinance which shall, at a minimum, include the following information relevant to the preceding year: (1) the number of Short-Term and Long-Term Bicycle Parking Spaces created pursuant to this Ordinance under Sections [1] and [2], and the number of events for which special event bicycle parking was provided under Section [3]; (2) *(if applicable)* a brief summary of each request for modification received and action taken in response thereto; and (3) any other information learned that would improve future implementation of this Ordinance.

**SECTION 6: STATUTORY CONSTRUCTION:**

A. All ordinances or parts thereof that conflict or are inconsistent herewith are repealed to the extent necessary to give this Ordinance full force and effect.

B. If any section or portion of this Ordinance is judicially invalidated for any reason, that portion shall be deemed a separate and independent provision, and such ruling shall not affect the validity of the remaining portions of this Ordinance.

**SECTION 7: EFFECTIVE DATE:** This Ordinance shall be in full force and effect after passage, approval, and publication in the manner provided by law, *except that:*

A. Section [1] [Bicycle Parking Requirements for New Development and Major Renovations] shall only apply to developments and renovations for which a building permit is issued on or after [120] days from the date that this Ordinance is in full force and effect.

B. Section [2] [Bicycle Parking Requirements for Parking Facilities] shall apply to parking facilities that were originally licensed prior to the effective date of this law as follows: [½] of the required number of Bicycle Parking Spaces shall be provided no later than [6] months after the effective date of this Ordinance, with full implementation required no later than [18] months after the date that this Ordinance is in full force and effect.
C. Section [3] [Bicycle Parking Requirements for Special Events Involving Street Closures] shall not apply to events for which the temporary street closure was authorized pursuant to an application submitted prior to the date that this Ordinance is in full force and effect.


3 See Active Living Research. Active Transportation: Making the Link from Transportation to Physical Activity and Obesity. Research Brief. 2009. Available at: www.activelivingresearch.org/files/ALR_Brief_ActiveTransportation.pdf.


6 Research and Innovative Technology Administration, Bureau of Transportation Statistics. “Figure 2 On a typical day, how many miles one-way do you travel from home to work?” Omnistats, 3(4): 2003. Available at: www.bts.gov/publications/omnistats/volume_03_issue_04/html/figure_02.html.


9 See, e.g., Marin County Bicycle Coalition. Economic Benefits of Bicycling in Urban Environments. Available at: http://www.marinbike.org/Resources/EconomicBenefitsOfBicycling.pdf (citing a 118%-125% increase in bicycle use in Marin County over the last 10 years due to improvements in infrastructure, including pathways, shared use lanes, intersection improvements, and bicycle parking; and pointing to increased revenue due to retail purchases by bicyclists with adequate access to infrastructure and parking). See also Dill J and Carr T. “If You Build Them, Commuters Will Use Them — Another Look.” Portland State University, Portland OR. 2003 (finding “higher levels of bicycle infrastructure . . . positively and significantly correlated with higher rates of bicycle commuting”).