Report of the Bicycle Parking Stakeholder Advisory Committee

Recommendations on the Bicycle Parking Code Update 2016-2017

Prepared by Liz Hormann & Sarah Figliozzi

PBOT
PORTLAND BUREAU OF TRANSPORTATION
Commissioner: DAN SALTZMAN | Director: LEAH TREAT

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Executive Summary

The City of Portland envisions a vibrant city, where 25 percent of all trips are made using a bicycle. To reach this goal, the City will need to build a connected and safe network of bicycle infrastructure. However, the journey does not end when someone riding a bicycle leaves the road. End-of-trip facilities, including a place to safely and securely park a bicycle, is a key component of creating an attractive and functional bicycling network.

The Portland Bureau of Transportation (PBOT) worked with a Stakeholder Advisory Committee from February 2016 to October 2017 to update the Bicycle Parking Code requirements in Title 33 Planning and Zoning Code. The code language regulates the required amount, location and design of visitor (short-term) and resident/commuter (long-term) bicycle parking spaces for new and redeveloped buildings in Portland.

This report is a summary of the recommendations from the Stakeholder Advisory Committee to PBOT and the Bureau of Planning and Sustainability (BPS) for inclusion in the update to the bicycle parking section of code. The Stakeholder Advisory Committee developed a package of roughly 30 specific recommendations for the update to the bicycle parking chapter.

A recommendation is the result of at least a 2/3 majority vote in favor by the Stakeholder Advisory Committee members. The discussion details that follow each recommendation are meant to provide the broader context and be inclusive of the various discussion points raised during deliberation.

The Stakeholder Advisory Committee recognizes that their recommendations are meant to be conceptual and that the recommendations will be further refined to create implementable Title 33 zoning code language. The task of writing the final code language will be managed by staff at BPS and PBOT.

City staff will utilize this report as they move forward in the formal code writing and legislative process in winter and spring 2018.

I. Introduction

The City of Portland envisions a vibrant city where the majority of residents can meet all basic daily needs, including commuting to work, by having options to use active forms of transportation like walking, bicycling and transit.

In addition to this overarching active transportation vision, Portland has a goal that 25 percent of all trips are made using a bicycle by 2030.[1] While a connected and safe network of bicycle infrastructure is a major factor in reaching this goal, end-of-trip facilities, including a place to safely and securely park a bicycle, is a necessary component to increase the number of people biking. Employees are significantly less likely to bicycle to work if they don't have a safe place to lock it for the duration of their work shift.[2] Similarly, required short-term bicycle parking, for people going out to eat or running errands, ensures a dedicated bike rack close to the entrance for visitors.

Similar to other cities, the City of Portland Zoning Code requires the inclusion of long- and short-term bicycle parking in new development and some redevelopment permits. The current text of the bicycle parking section of City Code was largely written and adopted in 1996. While there was a significant update in 2004 to address short-term bicycle parking needs, the bicycle parking section of Title 33 has been largely dormant for 20 years.[3] Meanwhile, the bicycle commute mode split in Portland has increased from 1.2 percent in 1996 to just over 7 percent in 2014.

Bicycling is on the rise

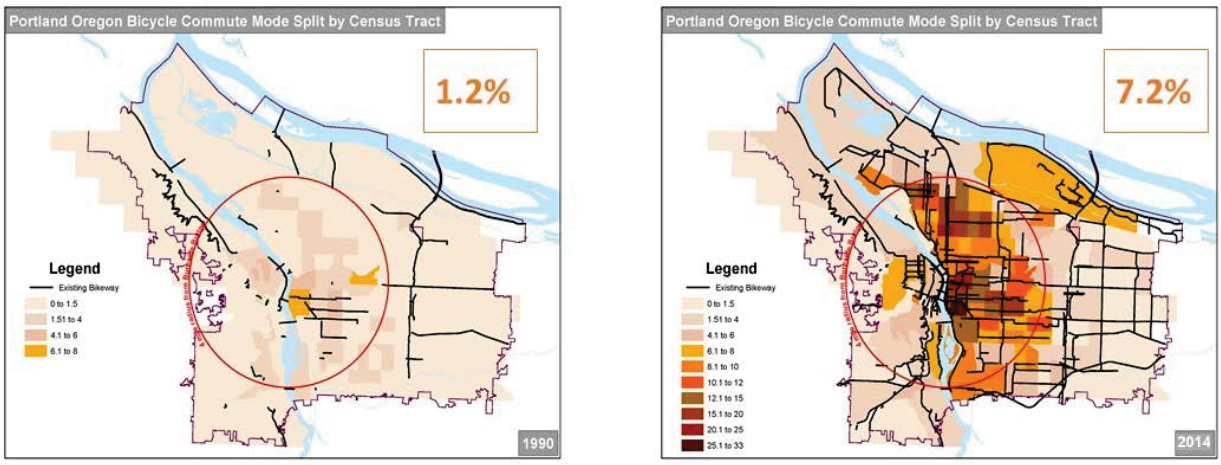

Figure 1 Bicycle Commute Mode Split 1996 vs 2014
*Since the last major update of the bike parking chapter (1996), bike mode split has **quadrupled**. Note: The darker shading indicates higher bicycle commute mode split.*

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[1] *City of Portland Bicycle Plan for 2030,* adopted February 2010.
[2] Transportation Research Part D: Transport and Environment, Ralph Buehler
[3] Since 1996 the only update to the amounts of minimum required bicycle parking, found in Table 266-6, was made to long-term bicycle parking spaces in multi-family dwellings in 2010.

What is this Report?

This report is a summary of the recommendations from the Stakeholder Advisory Committee to the Portland Bureau of Transportation (PBOT) and the Bureau of Planning and Sustainability (BPS) for inclusion in the update to the bicycle parking section of code. The Stakeholder Advisory Committee recognizes that their recommendations are meant to be conceptual and that the recommendations will be further refined to create implementable Title 33 zoning code language. Staff at BPS and PBOT will manage the task of writing the final code language.

Background — Framing the work

Several City policy and planning documents guided the update to the bicycle parking requirements, including:

Comprehensive Plan 2035

The Comprehensive Plan 2035 guides long-range land use and transportation planning. The plan focuses on improving Portland as a place that is walkable, bikeable and transit-friendly. The plan outlines a number of policy objectives to meet this vision of Portland. Policy 9.61 Bicycle Parking focuses on the following key objectives to provide sufficient, usable bicycle parking throughout the city:

- Promote the development of new bicycle parking facilities, including dedicated bike parking in the public right-of-way.
- Provide sufficient bicycle parking at high-capacity transit stations to enhance bicycle connection opportunities.
- Require provision of adequate off-street bicycle parking for new development and redevelopment.
- **Encourage the provision of parking for different types of bicycles.**
- **In establishing the standards for long-term bicycle parking, consider the needs of persons with different levels of ability.**

Climate Action Plan for 2030

In 1993, Portland was the first city in the United States to create a local action plan for cutting carbon emission. The 2015 Climate Action Plan outlines the specific actions the City and Multnomah County will take to reduce greenhouse gas emissions, including:

- Reduce daily per capita vehicle miles traveled by 30 percent from 2008 levels.
- Create vibrant neighborhoods where 80 percent of residents can easily walk or bicycle to meet all basic daily, non-work needs and have safe pedestrian or bicycle access to transit.

City Adopted Mode Split Goals

Finally, the work of the Stakeholder Advisory Committee was guided by Portland's mode split goals. Mode split is the percentage of travelers using a particular type of transportation. For this project, the City of Portland's bicycle mode split goals were used to guide the updated methodology for the required amounts of bicycle parking.

- Portland Bicycle Plan for 2030 — 25% bicycle mode split for all trips by 2030.
- Transportation System Plan (TSP)[4] — 25% bicycle mode split for commute trips by 2035.

Incremental Change: Bicycle Parking Code Changes

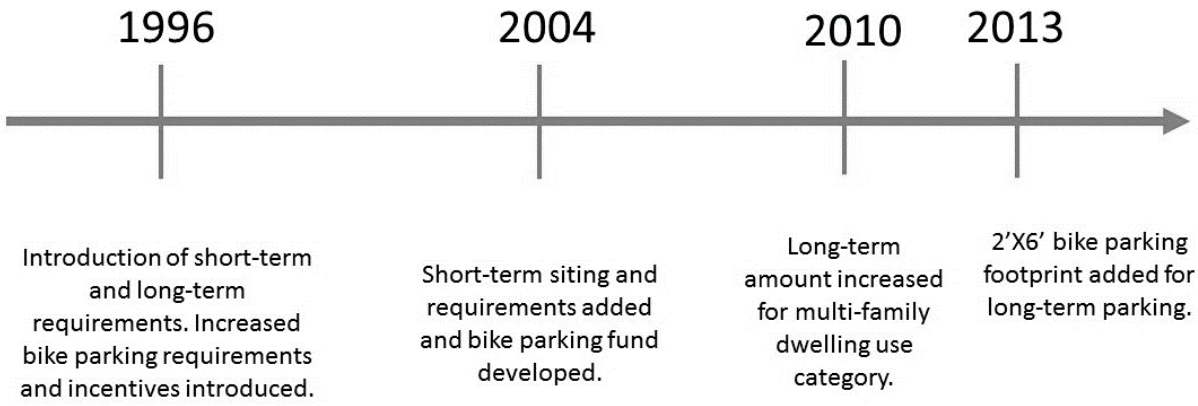


Figure 2 Bicycle Parking Code Changes Since 1996.

[4] City of Portland Transportation System Plan Proposed Draft, Stage Three Update, August 18 2017.

Portland's Bicycle Parking Code Snapshot

Bicycle parking requirements are in Title 33.266.200 within the Parking & Loading chapter of the City of Portland Zoning Code.

- The code requires a minimum amount of spaces based on use.
  - Table 266-6, Minimum Required Bicycle Parking Spaces, is organized by Use Categories and Specific Uses. Use Categories are defined in the City of Portland Zoning Code and are based on common functional or physical characteristics (amount of activity, type of customers or residents, how goods or services are sold or delivered and certain site factors).

Bicycle parking code includes:

❶ **Location requirements** ❷ **Rack design requirements** ❸ **Security requirements**

Two Types of Required Bicycle Parking

1. **Short-term Bicycle Parking:**
   - Visitor parking
   - Typically less than 2 hours
   - Visible and convenient
   - Often uncovered
   - Located near building entrance – less than 50 feet from main entrance

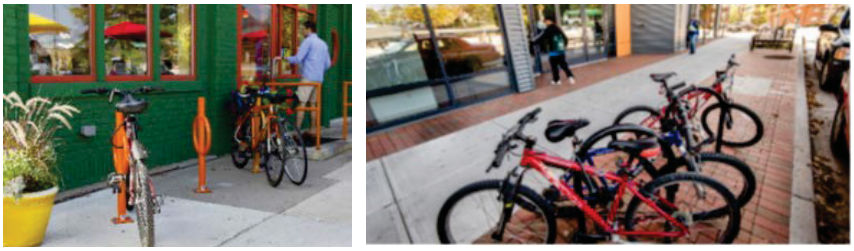


Figure 3 Examples of short-term bike parking.

2. **Long-term Bicycle Parking:**
   - Residential, workplace, transit, student parking
   - 2 or more hours
   - Sheltered and secure (bike rooms, shelters or active surveillance, such as bike valet)

Figure 4 Examples of long-term bike parking.

II. Process Background & Stakeholder Advisory Committee

The process implications of updating the bicycle parking code are significant. It has been nearly 20 years since the last update. During this period, the City's policies have been amended to offer significant support for increasing the number of people who bike. This combination ensures that there will be many stakeholders and interested parties. To help facilitate a conversation amongst the various interested parties, PBOT convened a Stakeholder Advisory Committee (hereafter referred to as Committee) to advise on the update to the bicycle parking section of Title 33.266. The Committee met seven times from February 2016 to October 2017.

The Committee is composed of technical experts from City Bureaus, community members and business representatives. The Committee is an advisory body that provides direction and recommendations to the PBOT Director.

The culmination of the Committee's work is found in this document, which will be presented to the City of Portland Planning and Sustainability Commission in November 2017.

Committee Decision-making Framework

- Discussions will strive for agreement, but consensus is not needed to move forward. For the purposes of the SAC, "consensus" is defined as the point where all members agree on the best option for the group, even if it is not each member's personal favorite.
- If consensus cannot be reached, then 2/3 of SAC members present must agree on a decision to be considered a group recommendation.
- Any members who do not support the recommendation may prepare a separate written statement to be shared with project staff.
- A quorum of nine members must be present to vote on any issue.
- All opinions will be part of the meeting summary.

2016-2017 Committee Membership

Name	Affiliation
Todd Boulanger	The Street Trust
Clint Culpepper	Portland State University
Kathryn Doherty-Chapman	Go Lloyd
Roger Geller	Portland Bureau of Transportation
Jeffrey Mitchem	Portland Bureau of Development Services
Tom Kilbane	Urban Renaissance Group
Keith Liden Shayna Rehberg, *Alternate*	City of Portland Bicycle Advisory Committee
Phil Nameny	Portland Bureau of Planning & Sustainability
Jeff Owen	TriMet
Hannah Silver	GBD Architects
Chris Smith	Portland Planning & Sustainability Commission
Susan Steward	Building Owners and Managers Association
Jean Pierre Veillet	Siteworks Design Build
Felicia Williams	Neighbors West-Northwest District Coalition

III. Guiding Principles

The Committee developed and collectively approved a set of principles to guide their recommendations and frame the purpose of the bicycle parking code update.

Principle A: Adequate Amount of Bicycle Parking

The amount of bicycle parking is adequate to accommodate future increases in demand, specifically the City's 25% bicycle mode split goal for all trips.[5]

Principle B: Prioritizing Bicycle Parking

Bicycle parking is intentionally planned, with consideration for location and within the design of the building. Bike Parking is available via a direct and accessible route.

Principle C: Accessible and Convenient Bicycle Parking

Bicycle parking accommodates users of all ages and abilities as well as a variety of different types of bicycles.

Principle D: Bicycle Parking is Secure and Safe to Use

Design provides sufficient security provisions to prevent bike theft and promotes safe spaces for users (e.g. lighting, visibility, location).

Principle E: Bicycle Parking is Feasible

Requirements allow for innovation and adaptability in design, while being straightforward to implement. Requirements consider project feasibility and cost implications.

[5] The Committee is proposing using a 25% bicycle mode split target to guide the minimum required amount of short-term bicycle parking and a 15% mode split target to guide the minimum required amount of long-term bicycle parking.

IV. Recommendations

Over the course of seven meetings, the Committee developed and systematically worked through a list of bicycle parking code issues to be addressed as part of this project (see Appendix A).

The following table represents the full package of Committee recommendations for the update to the bicycle parking section of Title 33. The recommendations have been developed and approved by the Committee members, with a minimum 2/3 vote of approval. The recommendations have been organized by the Guiding Principles for the purposes of this report, but the final code update will be in the format of City of Portland Zoning Code.

Summary of Final Recommendations for Bicycle Parking Code Update

Issue	Final Recommendation
Principle A: Adequate Amount of Bicycle Parking	
Geographic Tiers	**Recommendation 1** Develop two geographic tiers for minimum bike parking amounts to be applied to all use categories: 1. Tier A: Central City, Inner Neighborhoods and Gateway 2. Tier B: Eastern and Western Neighborhoods and River
Apply Geographic Tiers to Multi-Dwelling Residential Use Category	**Recommendation 2** Apply the new geographic tiers to the existing Multi-Dwelling Residential Use Category, resulting in the following minimum required long-term bicycle parking amounts: - Tier A (Central City, Inner Neighborhoods, and Gateway) 1.5 bike parking spaces per unit - Tier B (Western and Eastern Neighborhoods and River) 1.1 bike parking spaces per unit
Update Table 266-6 Minimum Required Bicycle Parking Spaces	**Recommendation 3** Use the following methodology to update Table 266-6: Long-term bicycle parking amounts: [Square foot per employee] x [15% target commute mode split] Tier A — mode split = 20% Tier B — mode split = 10% Short-term bicycle parking amounts: [TSDC per person trip rates] x [% visitors] x [25% target all trips mode split] Tier A — mode split = 25% Tier B — mode split = 15%

	Recommendation 4 Adopt the recommendations of the Subcommittee on Minimum Amounts to update Table 266-6, see attached.
Nonconforming development	**Recommendation 5** Projects defined as major remodel will be required to meet updated bicycle parking requirements. This recommendation does not modify the current language pertaining to nonconforming development (chapter 33.258.070).
Principle B: Prioritizing Bicycle Parking	
Long-term bicycle parking location	**Recommendation 6** The designated bicycle parking is visible and easy to find.
	Recommendation 7 All building tenants have access to long-term bicycle parking.
	Recommendation 8 Spaces shall be located with direct access for bicycles using an accessible route.
	Recommendation 9 Long-term bicycle parking is located in one of the following locations: 1) On the ground floor 2) On-site, including off-street automobile parking areas as well underground garages 3) On the individual building floors (may include space within residential units — see Line 10)
In-unit allowance of required long-term spaces	**Recommendation 10** Develop a compromise position where some amount of required long-term bicycle parking is allowed to be in-unit. This proposal was shared at Meeting #7: If required long-term bicycle parking is proposed in-unit: - A maximum of 20% of total "required" spaces may be provided in-unit. - The bicycle rack and bicycle footprint must be provided in a dedicated storage room within the unit (specific definitions of "storage room" would be clarified). *Note: This recommendation received 2/3 support but with committee reservations on both sides of the debate, see Section V, Recommendation 10.* *As such, the Committee is not putting forward a specific recommendation on the allowance of required long-term bicycle parking to be placed in a residential unit. However, it was confirmed by the Committee that a compromise position will need to be developed.*

Details of racks in submitted plans	**Recommendation 11** Provide sufficient bicycle rack detail in submitted plans, including: 1. Detailed diagram of all required bicycle parking spaces 2. Details on the types of racks to be used in the project
Principle C: Accessible and Convenient Bicycle Parking	
Non-traditional sized bicycles (e.g. cargo bikes, long-tail bikes, etc.)	**Recommendation 12** Where more than 20 long-term bike parking spaces are required, a minimum of 5% of required spaces must allow for a bicycle footprint of 3' x 10' and be provided in a horizontal rack.
Electric bicycles	**Recommendation 13** Where more than 20 long-term bike parking spaces are required, provide an electrical outlet for 5% of the required racks (Example: If 20 long-term bike parking spaces are required, provide 1 electrical outlet).
Require horizontal racks	**Recommendation 14** Where more than 20 long-term bicycle parking spaces are required, 30% of required long-term bicycle parking spaces must be provided in horizontal racks. Note: the upper level of a double decker rack does not count toward the required horizontal bicycle parking.
Stacked bike parking	**Recommendation 15** Double decker bicycle parking must include a lift assist mechanism for parking bikes on the upper tier.

Principle D: Bicycle Parking is Secure and Safe to Use	
Long-term bicycle parking security standards	**Recommendation 16** Eliminate the following as standalone security provisions: - Within view of an attendant or security guard - Within 100 feet of an attendant or security guard - In an area that is monitored by a security camera - In an area that is visible from employee work areas And replace with the following requirements: Residential security options: • Locked room or enclosure, designated for bicycles with restricted access • Bicycle locker • In a residential unit (meeting the standards of Line 10 above) All non-residential uses: • Locked room or enclosure • Bicycle locker
Lighting	**Recommendation 17** All access routes, along with the bicycle parking spaces themselves, must be lighted to a level so that employees and/or residents can use the system at night.
Weather protection of long-term bicycle parking	**Recommendation 18** Long-term bicycle parking spaces shall protect the entire bicycle (including its components and accessories) against inclement weather, including wind-driven rain. 100% of long-term bicycle parking is weather protected.
Principle E: Bicycle Parking is Feasible	
Long-term bicycle parking distance from site provision	**Recommendation 19** No change. Long-term bicycle parking must be located on-site or in an area where the closest point is within 300 feet of the site.
Code standards only apply to required racks	**Recommendation 20** No change. Code standards only apply to code required racks.
Dimensions for space saving rack designs (vertical racks and double decker racks)	**Recommendation 21** Allow 18-inch spacing on vertical racks with a minimum vertical stagger. Allow 18-inch spacing on double decker racks with a vertical stagger.

Bicycle Locker Dimensions	**Recommendation 22** Adopt the inclusion of triangle locker dimensions of 2'6" (door width) by 6'6" (depth).
	Recommendation 23 Adopt a bicycle locker height requirement of 47 inches.
Depth measurement for vertical wall racks	**Recommendation 24** Adopt a depth measurement of 40 inches for the bicycle footprint on vertical wall racks.
Headroom/ height dimensions for racks	**Recommendation 25** For single-tiered bicycle parking, the minimum headroom of 7 feet (84 inches) shall be provided. For facilities where two tiers of bicycle parking are installed, one above another, a minimum vertical footprint of 4 feet (48 inches) shall be provided for each tier.
Spacing requirements for horizontal racks to the right-of-way standards	**Recommendation 26** Adopt a minimum of 3 feet (36 inches) distance between side-by-side, horizontal racks. Adopt a minimum standard of 30-inch distance between horizontal racks that are placed on a diagonal of 45 to 60 degrees. Adopt a minimum distance of 6 feet between multiple horizontal racks that are placed end-to-end.
Bicycle parking usage fee	**Recommendation 27** No change. Code will continue to not address bicycle parking usage fees.
Additional elements for flexibility in implementing bicycle parking	**Recommendation 28** Exempt bike room space from Floor Area Ratio (FAR).
	Recommendation 29 Allow up to 25% of ground floor active use requirement to be used as bicycle parking.
	Recommendation 30 Allow bike parking in setbacks, specifically in higher density (multi-family zones).

V. Discussion of Recommendations

Principle A: Adequate Amount of Bicycle Parking

The amount of bicycle parking is adequate to accommodate future increases in demand.

One of the larger tasks for the Committee was to update the minimum required amounts of short- and long-term bicycle parking to support the City's target mode splits.

Issue: Geographic Tiers

Current Regulations/ Standards:

With the exception of multi-dwelling buildings, the amount of required bicycle parking is the same citywide.

Committee Recommendation 1:

Develop two geographic tiers for minimum bike parking amounts to be applied to all use Categories (see Figure 3: Map of Recommended Geographic Tiers)

Tier A: Central City, Inner Neighborhoods and Gateway

Tier B: Eastern and Western Neighborhoods and River

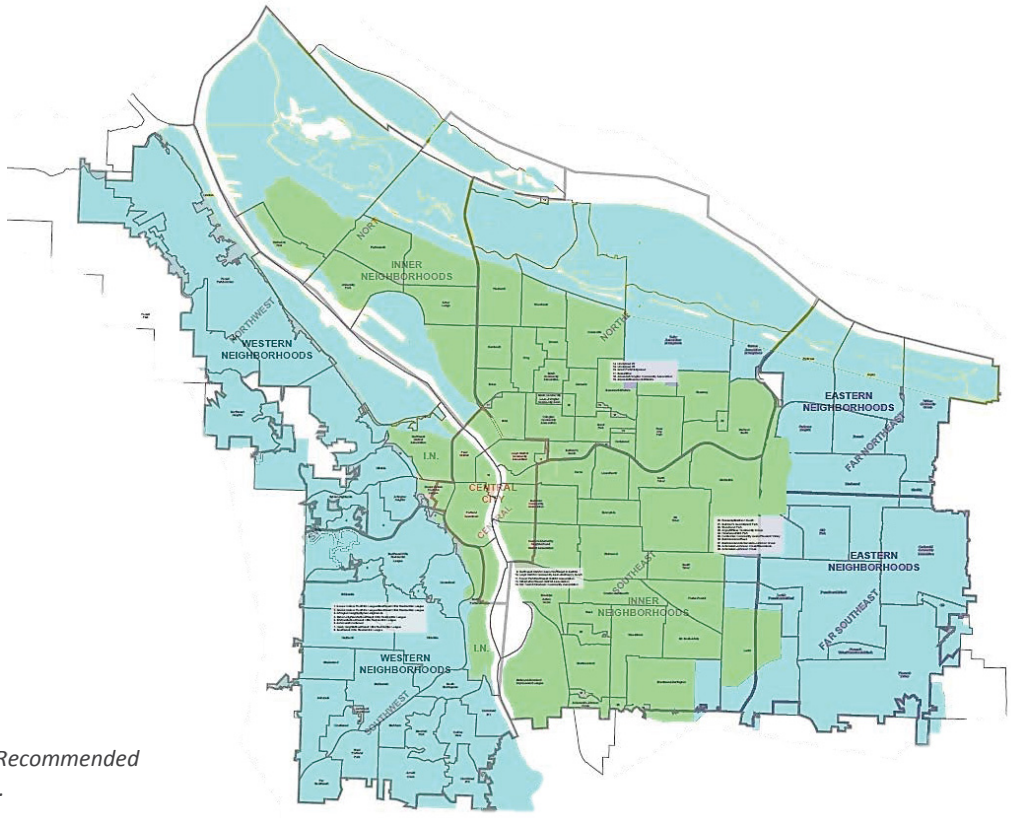


Figure 5 Map of Recommended Geographic Tiers.

Discussion

- The Committee looked to the recently adopted Pattern Areas in the Transportation System Plan:[6]
    1. Rivers
    2. Central City
    3. Inner Neighborhoods
    4. Western Neighborhoods
    5. Eastern Neighborhoods
- The Committee also looked at the four identified Bicycle Districts in the Transportation System Plan. The Gateway Bicycle District was the only one outside of Central City or the Inner Neighborhoods, and thus the Committee decided to incorporate Gateway in the Tier A.
- Bicycle commute mode split data from 2010-2014 (see Appendix B) shows that higher bicycle commute rates are concentrated in the Inner Neighborhoods and the Central City. This also reflects the proximity of those neighborhoods to the City's largest employment districts: Downtown, Central Eastside Industrial District (CEID) and the relatively high proportion of low-stress routes in those areas.
- Adopting a tiered approach is a strategy to account for differences in bike use and thus bike parking demand in Portland. While Portland has a citywide goal of 25% bicycle mode split for all trips, staff and the Committee acknowledge that bicycle use rates will be different in various parts of the City, and that meeting that 25% citywide goal will mean higher and lower rates in various parts of the city. Additionally, a tiered approach for setting target mode share rates for the different pattern areas is also employed in the Transportation System Plan.[7]
- There was some concern expressed from the public through comments in the Bicycle Parking Online Open House (Appendix I), that a lower bicycle parking requirement in the outer neighborhoods (Tier B), is continuing the practice and perception that these neighborhoods are often overlooked for investment in bicycle infrastructure.
- The intent of developing a tiered system was to acknowledge that a one-size fits all approach does not necessarily work for development across Portland.
- Portland, like many other cities planning and building infrastructure for supporting an increase in bicycle mode split, struggles with the balance of designing for buildings with life spans of 25-75 years and that in some areas of town the amount of required bicycle parking may be higher than today's demand. The Committee had many conversations regarding the future bicycle infrastructure projects in East Portland and how those might result in the need for more bicycle parking.
- While the Committee is proposing a higher amount of required bicycle parking in Tier A, the amounts of required bicycle parking for Tier B, which includes the Eastern and Western Neighborhoods, are being increased as well. The Tier B amounts are based on a target of 15% bicycle mode split for all trips and 10% for commute trips. For context, the current bicycle commute mode split in the Eastern Neighborhoods is under 4%.

[6] City of Portland, Transportation System Plan, Section 3 Pattern Area Policies

[7] Transportation System Plan, Policy 9.49 Performance Measures, 9.49.e

- Finally, BPS staff notes that since this map is modified with the inclusion of the Gateway Bicycle District into the Tier A, the map will need to be formally adopted into zoning code.

Issue: Applying new Geographic Tiers to Existing Multi-Dwelling Residential Use Category

Current Regulations/Standards

In current code, within the Household Living Use Category, there is a ratio distinction between the Central City plan district and outside of Central City plan district.

Committee Recommendation 2

Apply the new Geographic Tiers to the existing Multi-Dwelling Residential Use Category.

Resulting minimum required long-term bicycle parking amounts:

- Tier A (Central City, Inner Neighborhoods, and Gateway) — 1.5 bicycle parking spaces per unit
- Tier B (Western and Eastern Neighborhoods and River) — 1.1 bicycle parking spaces per unit

Discussion

- An introduction of new geographic tiers will change the geographic boundary and increase the minimum amounts of required long-term bicycle parking for Multi-Dwelling uses in the areas within the Inner Neighborhoods boundary and Gateway plan district boundary.
- The majority of the Committee members supported this recommendation, citing current higher bicycle use in the inner neighborhoods.
- One Committee member did express some hesitation for full support of this recommendation without knowing the result of allowing required bicycle parking in a residential unit (see discussion under #9 for more information).

Issue: Update Table 266-6 Minimum Required Bicycle Parking Spaces

Current Regulations/ Standards

The majority of Table 266-6 (the minimum required bicycle parking) has not been updated since 1996. Therefore, using a data driven formula, the Committee recommended updates to the minimum required short- and long-term bicycle parking for each Use Category and Specific Use Category (see the current Table 266-6 in Appendix C).

Committee Recommendation 3:

Methodology for Rate Update — the Committee approves following methodology to update Table 266-6:

Long-term Bicycle Parking Amounts:
[square footage per employee] x [15% commute target mode split]
Tier A mode split = 20%
Tier B mode split = 10%

Short-term Bicycle Parking Amounts:
[TSDC[8] person trip rates] x [% visitors] x [25% all trips target mode split]
Tier A mode split = 25%
Tier B mode split = 15%

Discussion

- The Committee supported a clear, data driven formula for updating the minimum required bike parking rates.
- The Committee members supported calculating required bike parking rates based on following data points (see Appendix E for more detail):
  - Square footage per employee (long-term rates)
  - Visitation rates from Transportation System Development Charge (short-term rates)
  - Geographic tiers and target bicycle mode splits
- The resulting proposed rates were then compared to national best practices and current development provision of bicycle parking.
- Note: During much of the time that the Committee was developing and deliberating its recommendations, the TSP Proposed Draft Stage Three included a 15% bicycle commute mode split goal. However, this mode split goal was changed with the most recent version of the TSP Proposed Draft, released August 18, 2017, when the bicycle mode split goal, for commute trips[9], was included at 25%. Unrelated to the issue of the appropriate City target commute mode split, the Committee recommendation is to continue using the 15% as the target citywide commute mode split for the long-term bicycle parking methodology and calculation.
  - What influenced that decision:
    - A 15% commute mode split is still moving the dial forward on increasing the total amount of bicycle parking.
    - The Committee spent considerable time coming to group consensus on the formula and are comfortable with the amounts of bicycle parking produced by a 15% target.

[8] TSDC — Transportation System Development Charge
[9] City of Portland Transportation System Plan Proposed Draft Stage Three Update, Policy 9.49 Performance Measures, released August 18, 2017.

        - The 15% target represents an incremental step, moving toward the 25% commute mode split by 2035. There are still 18 years to implement another update to reach the goal.
        - Zoning code is intended to represent a "minimum" requirement. Some developers will do more, but the focus is on what is needed as a baseline for development that is being developed now.
    - The Committee acknowledged that one drawback of continuing with the 15% commute mode split, is that there is a lack of direct policy support; since nothing in current policy points to a 15% commute mode split goal.
    - Along with the recommendation to use the 15% bike commute mode split, most of the Committee members expressed the need to define a trigger for when the code would be updated to reflect the 25% commute mode split goal. Some of those trigger ideas were:
        - Using American Community Survey (ACS) Census data, for when Portland hits a certain commute mode split.
        - A specific year to undertake updating the amounts.
    - During the code writing process, staff will investigate how to incorporate a trigger for updating the bicycle parking code at a future point in time.

Committee Recommendation 4:

Adopt the recommendations of the Subcommittee on Minimum Amounts to update Table 266-6.

Update to Table 266-6 — Minimum Required Bicycle Parking Amount

		Long-term Spaces		Short-term Spaces	
Uses	**Specific Uses**	**Central City & Inner Neighborhoods**	**Outer Neighborhoods**	**Central City & Inner Neighborhoods**	**Outer neighborhoods**
Residential Categories					
Household Living	Multi-dwelling	2, or 1.5 per unit	2, or 1.1 per unit	2, or 1 per 20 units	2, or 1 per 20 units
Group Living	Micro-apartments	2, or 1.5 per unit	2, or 1.1 per unit	2, or 1 per 20 units	2, or 1 per 20 units
	Social Service-related tenancy	2, or 1 per 5 units	2, or 1 per 10 units	2, or 1 per 20 units	2, or 1 per 20 units
	Elderly, Disabled (33.229)	2, or 1 per 8 units	2, or 1 per 8 units	2, or 1 per 20 units	2, or 1 per 20 units
	Dormitory	2, or 1 per 4 bedrooms	2, or 1 per 4 bedrooms	4 spaces	4 spaces

Commercial Categories					
Retail Sales and Service	Temporary Lodging (Hotel)	2, or 1 per 20 rentable rooms	2, or 1 per 20 rentable rooms	2, or 1 per 40 rentable rooms; and 1 per 5,000 sq. ft. of conference, meeting room	2, or 1 per 40 rentable rooms; and 1 per 10,000 sq. ft. of conference, meeting room
	Restaurant & Bar	2, or 1 per 2,325 sq. ft.	2, or 1 per 4,762 sq. ft.	2, or 1 per 952 sq. ft.	2, or 1 per 1,587 sq. ft.
		2, or 1 per 3,750 sq. ft.	2, or 1 per 7,500 sq. ft.	2, or 1 per 2,700 sq. ft.	2, or 1 per 4,400 sq. ft.
Office		2, or 1 per 1,750 sq. ft.	2, or 1 per 3,500 sq. ft.	2, or 1 per 20,000 sq. ft.	2, or 1 per 33,000 sq. ft.
Commercial Parking		10, or 1 per 10 auto spaces	10, or 1 per 10 auto spaces	none	none
Commercial Outdoor Recreation		2, or 1 per 12,500 sq. ft. (occupied building space)	2, or 1 per 25,000 sq. ft. (occupied building space)	2, or 1 per 2 acres	2, or 1 per 3 acres
Major Event Entertainment		10, or 1 per 10,000 sq. ft. or per CU review	10, or 1 per 20,000 sq. f.t. or per CU review	10, or 1 per 40 seats or per CU review	10, or 1 per 40 seats or per CU review
Industrial Categories					
Manufacturing & Production		2, or 1 per 5,000 sq. ft.	2, or 1 per 9,000 sq. ft.	2, or 1 per 67,000 sq. ft.	2, or 1 per 111,000 sq. ft.
Warehouse & Freight Movement		2, or 1 per 12,500 sq. ft.	2, or 1 per 25,000 sq. ft.	2, or 1 per 200,000 sq. ft.	2, or 1 per 333,000 sq. ft.
Institutional Categories					
Basic Utilities	Transit Centers	30 spaces, or per CU or IMP review	30 spaces, or per CU or IMP review	12 spaces, or per CU or IMP review	12 spaces, or per CU or IMP review
	Light Rail Stations	12 spaces, or per CU or IMP review	12 spaces, or per CU or IMP review	4 spaces, or per CU or IMP review	4 spaces, or per CU or IMP review
Community Service		2, or 1 per 6,700 sq. ft.	2, or 1 per 12,500 sq. ft.	2, or 1 per 6,250 sq. ft.	2, or 1 per 10,000 sq. ft.
	Libraries, community centers & museums	2, or 1 per 3,030 sq. ft.	2, or 1 per 5,882 sq. ft.	2, or 1 per 1,219 sq. ft.	2, or 1 per 2,041 sq. ft.

	Park & Ride	12, or 5 per acre, or per CU or IMP review	12, or 5 per acre, or per CU or IMP review	6 spaces, or per CU or IMP review	6 spaces, or per CU or IMP review
Parks & Open Areas		None	None	2, or 1 per 2 acres OR per CU Review	2, or 1 per 3 acres OR per CU Review
Schools	Grades 2 through 5	4 per classroom or per CU or IMP review	2 per classroom or per CU or IMP review	2, or 1 per 25,000 sq. ft. or per CU or IMP review	2, or 1 per 100,000 sq. ft. or per CU or IMP review
	Grades 6 through 8	5 per classroom or per CU or IMP review	3 per classroom or per CU or IMP review	2, or 1 per 25,000 sq. ft. or per CU or IMP review	2, or 1 per 100,000 sq. ft. or per CU or IMP review
	Grades 9 through 12	5 per classroom or per CU or IMP review	5 per classroom or per CU or IMP review	2, or 1 per 25,000 sq. ft. or per CU or IMP review	2, or 1 per 100,000 sq. ft. or per CU or IMP review
Colleges	Excluding dormitories (see group living, above)	2, or 1 per 10,000 sq. ft. or per CU or IMP review	2, or 1 per 20,000 sq. ft. or per CU or IMP review	2, or 1 per 10,000 sq. ft. or per CU or IMP review	2, or 1 per 16,000 sq. ft. or per CU or IMP review
Medical Centers		2, or 1 per 2,700 sq. ft. or per CU or IMP review	2, or 1 per 5,500 sq. ft. or per CU or IMP review	2, or 1 per 50,000 sq. ft. or per CU or IMP review	2, or 1 per 100,000 sq. ft. or per CU or IMP review
Religious Institutions		2, or 1 per 11,000 sq. ft.	2, or 1 per 25,000 sq. ft.	2, or 1 per 14,000 sq. ft.	2, or 1 per 25,000 sq. ft.
Daycare		2, or 1 per 3,000 sq. ft.	2, or 1 per 6,000 sq. ft.	2, or 1 per 25,000 sq. ft.	2, or 1 per 33,000 sq. ft.
Other Categories					
Aviation & Surface Passenger Terminals		2, or 1 per 4,545 sq. ft. or per CU or IMP review	2, or 1 per 4,545 sq. ft. or per CU or IMP review	none	none
Detention Facilities		2, or 1 per 5,000 sq. ft. or per CU or IMP review	2, or 1 per 5,000 sq. ft. or per CU or IMP review	none	none

Discussion:

Updates to the amounts in Table 266-6

- The majority of the Committee supported the methodology and formula for updating the required minimum amounts.
- A Subcommittee on Minimum Amounts was convened to review the formulas and resulting minimum required amounts of bicycle parking for inclusion in the updated Table 266-6.

- There were some Specific Use Categories for which certain Committee members felt that the required amounts, based on the methodology, resulted in too high of a requirement.
    - For example, the Office Use Category resulted in a requirement that one member of the Committee felt was too high and resulted in a burden on the development community.
    - However, the same member acknowledged that for many of their development projects they were meeting, if not exceeding, the proposed amount for long-term bicycle parking.
- Ultimately, the Committee agreed that the data driven methodology was sound, that that debates over the specific amounts for each Use Category, was not productive at this stage in the process.

Additional Use Categories

- The Committee recommends that additional Specific Use Categories are added to Table 266-6:
    - Group Living — Micro-apartments
    - Group Living — Social service-related tenancy
    - Retail Sales and Service — Bars and restaurants
    - Basic Utilities — Transit centers
    - Basic Utilities — Light rail stations
    - Community Service — Libraries, museums and community centers
    - Schools — Grades K-5; Grades 6-8; Grades 9-12

Group Living — Micro-apartments and social service-related tenancy

- The Group Living Use Category was a complex issue for the Committee. Group Living is not currently well defined for some of the Specific Uses, and to-date the code requirements for bicycle parking are very low. Additionally, there are no car parking requirements for the Group Living Use Category.
- Typical forms of Group Living include dormitories, nursing homes and treatment facilities. However, in Portland, a number of micro-apartment developments are being classified as Group Living and are presenting a zoning code challenge. The overarching question is: How can the City ensure that developments that are serving a more traditional household living function, but are classified as Group Living, provide sufficient amenities, including bicycle parking?
- While the Committee felt the need to break-out micro-apartments and more social service-related tenancies into two Specific Use Categories; it is not yet certain that code will allow these designations. These details will be worked out during the formal code writing process.
- Under current code, several of the Group Living Specific Use Categories do not require the inclusion of short-term bicycle parking. The Committee all agreed, that a minimum amount of short-term bicycle parking should be required for these specific uses.

Retail Sales and Service — Bars and restaurants

- The Committee identified the need to distinguish bars and restaurants as a Specific Use under Retail Sales and Service. Bars and restaurants have a much higher visitor rate than some other retails sales categories, and the incentive to provide bicycle parking for visitors was felt by the Committee. Additionally, bars and restaurants have a higher employee density than other retail

services, and thus a higher number of long-term bicycle parking spaces should be required for these Specific Uses.

Basic Utilities — Transit centers and Basic Utilities — Light rail stations

- Working with the TriMet representative on the Committee, members decided to develop two Specific Use Categories, one for transit centers and one for light rail stations. Given the difference in use and density of users from a transit center, which brings in bus lines and sometimes a light rail line, to a standalone light rail station, it warranted making two specific use categories.
- While the Committee agrees with the intent of developing these two specific use categories, more work needs to be done during the code writing process to define these in zoning code.

Community Service — Libraries, museums and community centers

- The Committee felt strongly that libraries, museums and community centers have a high visitor rate; much higher than more general Community Service uses. Therefore, libraries, museums and community centers should be broken out in their own group.

Schools — Grades K-5; Grades 6-8; and Grades 9-12

- Working with the City of Portland's Safe Routes to School Program (SRTS), staff recommended matching the use descriptions with the most prevalent grade structures at current elementary, middle and high schools.
- The Committee and the SRTS program support the three specific use categories for schools. Staff will continue to work on how this will be implemented in code.

Issue: Nonconforming Development

Current Regulations/Standards

The nonconforming code situations are addressed in Title 33.258, City Zoning Code. Under current code, if a development is considered a nonconforming development and meets the financial trigger, then the development is only required to bring short-term bicycle parking up to code standards. Long-term bicycle parking requirements do not apply to nonconforming development: (a) without accessory surface parking, or (b) within the Central City or Lloyd District.[10]

Committee Recommendation 5

Projects defined as major remodel will be required to bring the development into compliance with short-term and long-term bicycle parking requirements. This recommendation does not modify the current language pertaining to nonconforming development (chapter 33.258.070).

Current Zoning code defines Major Remodeling as: "Projects where the floor area is being increased by 50 percent or more, or where the cost of the remodeling is greater than the assessed value of the

[10] Title 33.258.070.D.2.b.(3).

existing improvements on the site. Assessed value is the value shown on the applicable county assessment and taxation records for the current year."[11]

Discussion

- The Committee all agreed that simply removing the current exemption for long-term bicycle parking in the nonconforming development section 33.258.070 will create a burdensome requirement for smaller projects. In many cases, simple tenant improvement projects will trigger the nonconforming development requirements, and the Committee felt that was too small a threshold for requiring the update of both long- and short-term bicycle parking.
- The Committee discussed a number of potential thresholds that would be appropriate to require the inclusion of long-term and short-term bicycle parking in a redevelopment building.
    - There was general consensus on the proposal that major remodel is the appropriate threshold for updating long- and short-term bicycle parking.
    - There were two members of the Committee that agreed with the intent of identifying a threshold for certain redevelopment to bring long- and short-term; however, these two members still expressed concern and wanted it to be captured that there still could be a significant burden on developers to bring all their bicycle parking up to code, even in these major remodel projects.
    - Specifically, there were questions regarding the impact on smaller developments that hit the major remodel threshold. Staff have committed to further analysis during the impact analysis phase of the code update project.
- Nonconforming development is a very complex topic and an area where the SAC has struggled to determine the most appropriate threshold. With the proposal that major remodel projects should be a defining characteristic for bringing short- and long-term bicycle parking up to code, the Committee acknowledged that more work will need to occur during the code writing process.

[11] Title 33.910.010

Principle B. Prioritizing Bicycle Parking

Bicycle parking is intentionally planned, with consideration for location and design of the building. Provided via a direct and accessible route.

Issue: Long-term bicycle parking location

Current Regulations/ Standards:

Current code includes minimal detail regarding the location of long-term bicycle parking. Code states: *Long-term bicycle parking must be located on the site or in the area where the closest point is within 300 feet of the site.*[12]

The Committee recommends that standards for long-term bicycle parking should include:

Committee Recommendation 6
Long-term bicycle parking is visible and easy to find.

Committee Recommendation 7

All building tenants have access to long-term bicycle parking.

Committee Recommendation 8

Spaces shall be located with direct access for bicycles using an accessible route.

In addition to these standards, the Committee recommends inserting language about the location of long-term bicycle parking within a building.

Committee Recommendation 9

1. Long-term bicycle parking is located in one of the following locations: On the ground floor
2. On site, including in off-street automobile parking areas and underground garages
3. On the individual building floors (spaces proposed within a residential unit must comply with additional requirements, see Recommendation #10 for details)

Note: The SAC recommends maintaining the provision that long-term bicycle parking can be on site or within 300 feet. (See SAC Recommendations #19)

[12] Title 33.266.220.B.2.b.

Discussion:

- In Meeting #5 the Committee discussed the key elements for long-term bicycle parking. The priority issues for the Committee regarding long-term bicycle parking location were:
    - Easy to find
    - Access without stairs
    - Direct access (preferably direct entry from the street if possible)
    - Prominent location
- The Committee wanted to maintain flexibility in where long-term bicycle parking could be located, while still providing some specificity and direction to possible locations.
- There were a number of discussions during the Committee meetings on other potential options for long-term bicycle parking, especially as the ratios start to increase in future code updates. These ideas are included here to capture the conversation and recognize that the Committee and staff are committed to implementing innovative solutions. These ideas included:
    - A long-term bicycle parking fund in which developers pay into a fund in lieu of including long-term bicycle parking in the project. This idea was discussed several times as a way to address future growth in long-term bicycle parking needs.
        - While PBOT currently manages a short-term bicycle parking fund, the scale of cost between long-term and short-term bicycle parking is significant and therefore the in-lieu fee would likely be very large. Additionally, PBOT would likely need to purchase private land to accommodate the long-term, covered and secure spaces. This method would also inevitably result long-term bicycle parking that could be located too far away from the contributing property.
    - A second idea, and an extension of the long-term bicycle parking fund idea, is for City-run parking garages to provide additional needed long-term bicycle parking throughout the City.

Issue: In-unit allowance of required long-term spaces

Current Regulations/Standards

Currently, the bicycle parking code allows long-term bicycle parking spaces within residential units to count toward the required bicycle parking minimum, as long as a 2' X 6' footprint is provided for each bike and a rack is provided that meets the current code standards.

Committee Recommendation 10

The Committee discussed the following proposal on October 6, 2017:

If required long-term bicycle parking is proposed in-unit:

- A maximum of 20% of total required spaces may be provided in-unit.
- The bicycle rack and bicycle footprint must be provided in a dedicated storage room within the unit (specific definitions of "storage room" would be clarified.)

The Committee is not putting forward a specific recommendation on the allowance of required long-term bicycle parking to be placed in a residential unit. However, there was confirmation from the Committee that a compromise position will need to be developed.

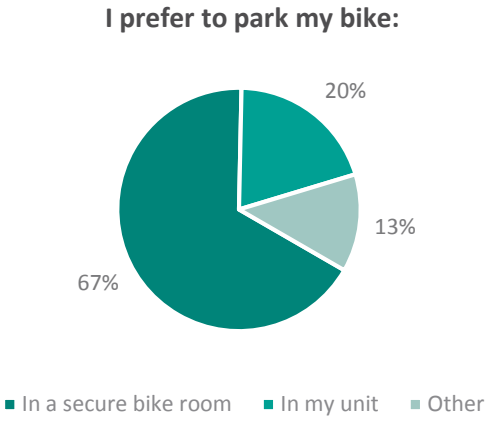
Discussion

General Discussion Regarding In-unit Allowance

- This issue generated the most conversation and divergent views amongst Committee members.
- Staff and Committee members have reported a number of issues identified with satisfying the required long-term bicycle parking in a residential unit. Including, but not limited to:
    - Bicycle racks being placed in un-usable locations in the unit
    - Bicycle racks are removed and not returned when new tenants move in
    - Damage deposits being lost when wet, muddy bikes are parked in residential units
- There was a strong, widely held concern that by placing bike parking in the residential unit, zoning code allows a common good to be controlled by an individual. For example, the multi-dwelling rate of 1.5 per unit is not based on the belief that there are exactly 1.5 bicycles in each unit, but that, on average, this rate can accommodate the total building's demand for bicycle parking.
- On the other side, some Committee members and partner City Bureaus expressed the concern that a change in the current code would have an impact on housing availability and affordability in the city.
    - Likewise, the Committee members representing the development community expressed concern about the impact on project costs and number of units if they were required to place all the bicycle parking outside the unit.

Community Survey Results

- PBOT staff conducted a community survey to gather input from people who live in apartment buildings and own bicycles. This user survey asked a range of questions including: the name of the apartment building, the number of bikes owned by household, the top challenges of parking a bicycle at the building, and the user's preference for where to park their bicycle (details of the community survey results can be found in Appendix D).
    - There were 323 responses to the survey; 260 of those people live in apartment buildings.
    - The majority response was that people who lived in apartments and owned a bicycle, preferred to park their bicycle in a secure, bike parking room. Of the people who live in apartments, 67% of people said they preferred to park their bicycle in a secure bike room.



- PBOT staff conducted site visits to apartments around the city. The intent was to talk to property managers regarding their experience with the bicycle parking at their buildings and to be able to tour the in-unit bicycle parking available. While there were examples of well-planned bicycle parking that appeared usable, there were just as many examples where a hook was placed in a residential unit without the appearance of much forethought, including racks placed right next to the bed and on walls far from the entrance into the unit. Overwhelmingly, secure bike parking rooms were at, or over, capacity with parked bicycles. This was even the case in buildings permitted after 2010, when the 1.5 and 1.1 spaces per unit requirement went into effect. Information regarding some of the specific case studies are in Appendix F.

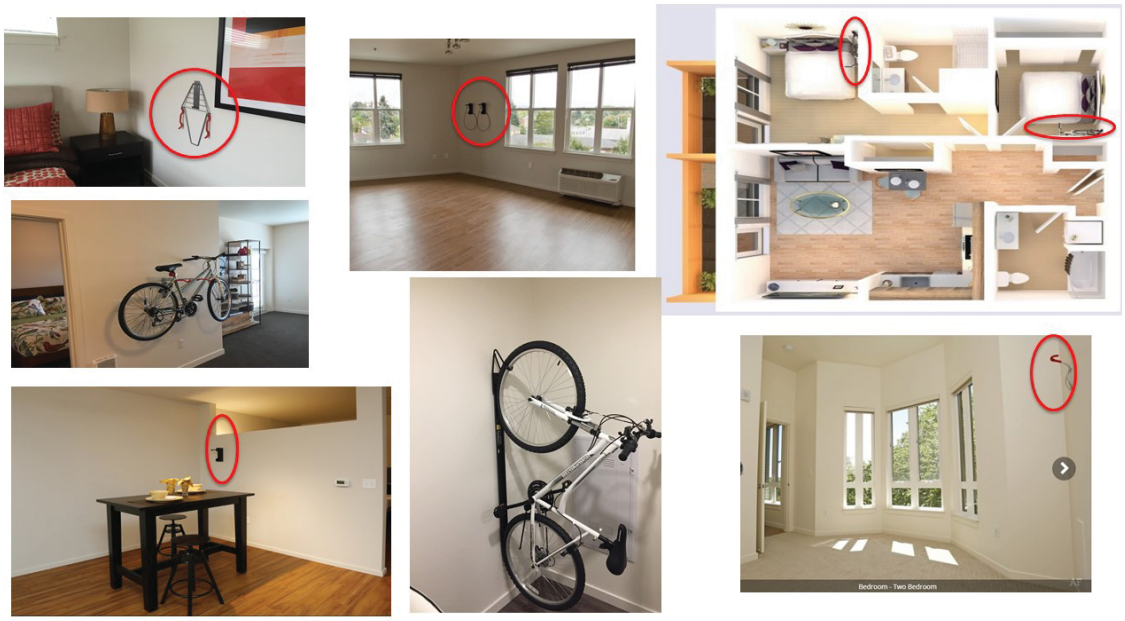


Figure 6 Examples of long-term in-unit bicycle parking.

- In reviewing the bicycle parking code regulations of other cities across the United States, **most cities do not allow bicycle parking spaces in an apartment unit or on a balcony to count toward the required long-term bicycle parking.** (see Appendix G)
- City Zoning Code does not address building management practices. Therefore, the allowance of in-unit racks to count toward required amount of bicycle parking, does not speak to whether tenants can bring their bicycles into their units.

Discussion regarding compromise proposal:

- In a conference call with the Committee in July 2017, PBOT staff proposed the need for a compromise position.
    - Staff were evaluating an appropriate threshold to allow locating a proportion of required long-term spaces in unit under specific circumstances, such as:
        - Minimum average apartment size, number of bedrooms, a maximum percentage of total required spaces.
        - Staff and Committee members were also interested in looking at how to codify good design practice for in-unit bike racks.

        - The Committee and staff all agree on the concept of a compromise proposal, however more work needs to be done to determine the exact requirements to be incorporated in this compromise proposal.
    - The Committee seemed to coalesce around the idea to allow up to a certain percentage of required bicycle parking in-unit.
        - There were still a minority number of Committee members that felt strongly that a higher percentage of required bicycle parking should be allowed to be accommodated in unit.
        - Additionally, there were several Committee members that expressed the opposing opinion and felt strongly that no required bicycle parking should be located in-unit.
    - An alternative compromise proposal was floated by a Committee member at Meeting #7, that based the allowance of in-unit bicycle parking on the average unit size:
        - Average unit size under 300 sq. ft. = zero in-unit bike parking
        - Average unit size of 300 — 500 sq. ft. = 20% in-unit bike parking
        - Average unit size over 500 sq. ft. = 50% in-unit bike parking
    - Many Committee members expressed concern regarding the complexity of codifying a definition of a dedicated storage room.
    - There was recognition by the Committee members and Staff on the need for a future impact analysis. This impact analysis will assess the economic and spatial effect of eliminating this in-unit allowance on housing affordability, and more generally, the impacts on the tight housing market in Portland.

Issue: Include details of required racks in submitted plans

Current Regulations/Standards

There is no current standard in code that requires the inclusion of details of the bicycle parking racks in submitted plans, although BDS planners and plan examiners do check to ensure there is at least some detail in submitted plans.

Committee Recommendation 11

The Committee recommends that permit applicants must provide sufficient bicycle rack detail in submitted plans, including:

1. Detailed diagram of all required bicycle parking spaces; and
2. Manufacturer details on the types of racks to be used in the project.

Discussion

Although BDS staff acknowledged that they typically already require this from development applicants, it is still useful to codifying the requirement so it can be consistently applied for all applications.

Principle C: Accessible & Convenient Bicycle Parking

Bicycle parking accommodates users of all abilities and ages, as well as accommodates a variety of different types of bicycles.

Issue: Non-traditional sized bicycles; e.g. cargo bikes, long-tail bikes, etc. and electric bicycles

Current Regulations/Standards:

The current language does not include standards to accommodate different types of bikes that have become much more common over the past few years, including cargo bikes, long-tail bikes and electric bikes.

Committee Recommendation 12

Where more than 20 long-term bicycle parking spaces are required, a minimum of 5% of required spaces must allow for a bicycle footprint of 3 feet by 10 feet and be provided in a horizontal rack.

Committee Recommendation 13

Where more than 20 long-term bicycle parking spaces are required, an electrical outlet should be provided for 5% of the required racks.

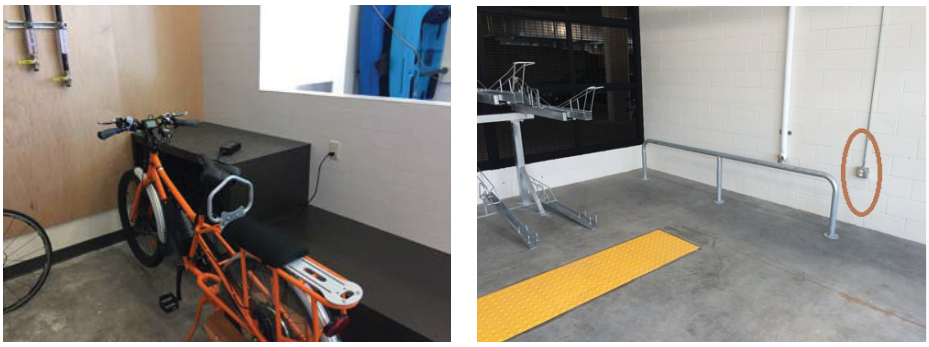


Figure 7 Examples of long-term parking with electrical outlet access.

Discussion

- The Committee felt strongly that it was important to include rack standards to accommodate non-traditional bikes. As Portland continues to work towards its bicycle commute mode split goals, it will be important to support all types of commuters, which means bicycle parking for a variety of bicycle types.
- The Committee included the 20 long-term spaces threshold to allow greater flexibility for small buildings. The best practices handbook will include bicycle parking layout suggestions that include racks for all types of bikes in all sizes of buildings.
- The requirement of 5% comes from a review of best practices from other cities.

Issue: Long-term Bicycle Parking Rack Usability

Current Regulations/Standards

Since the current language was developed over 20 years ago, the assumption was that all bicycle parking was provided in ground-mounted, horizontal racks; however, advances in rack design allows for the use of wall-mounted, vertical racks and double-decker racks. Further, new rack designs are emerging with great frequency. While these vertical, wall-mounted racks provide space efficient bicycle parking, they create usability issues for people who are not able to lift their bikes onto a wall-mounted rack or for people with bikes that do not fit vertically, due to length, fender placement, etc.

Committee Recommendation 14

Where more than 20 long-term bicycle parking spaces are required, 30% of required long-term bicycle parking spaces must be provided in horizontal racks. (Note: The upper level of a double decker rack does not count toward the required horizontal bicycle parking).

Committee Recommendation 15

Double-decker bicycle parking must include a lift assist mechanism for parking bikes on the upper tier.

Discussion

- Since the current code does not distinguish between ground-mounted, horizontal racks and wall-mounted, vertical racks, this has led to the use of exclusively vertical racks in some developments. While vertical racks can be space efficient, they present usability issues for some people and for some bicycles.
- The Committee's intention was to develop recommendations that are aimed at providing racks that can be used by people of all abilities, while still maintaining the flexibility for developers to use a variety of rack types that offer space-efficient options in constrained building space.
- PBOT staff conducted an analysis of the space needed for this horizontal bicycle parking requirement. Details of this analysis can be found in Appendix H. A more detailed impact analysis will be conducted in consultation with staff from BPS and BDS later in fall 2017.

Principle D: Bicycle Parking is Secure and Safe to Use

Design provides sufficient security provisions to prevent bike theft and promotes safe spaces for users (e.g. lighting, visibility and location).

Issue: Long-term Bicycle Parking Security Standards

Current Regulations/Standards

For long-term bicycle parking, the following are the current security standards:
Security. To provide security, long-term bicycle parking must be in at least one of the following locations:

1. *In a locked room;*
2. *In an area that is enclosed by a fence with a locked gate. The fence must be either 8 feet high, or be floor-to-ceiling;*
3. *Within view of an attendant or security guard;*
4. *Within 100 feet of an attendant or security guard;*
5. *In an area that is monitored by a security camera; or*
6. *In an area that is visible from employee work areas.*

Committee Recommendation 16

The Committee's recommendation is to eliminate the following as standalone[13] security provisions:

1. Within view of an attendant or security guard;
2. Within 100 feet of an attendant or security guard;
3. In an area that is monitored by a security camera; or
4. In an area that is visible from employee work areas.

And to replace with the following requirements:
Long-term bicycle parking must be provided in one of the following:

For residential uses

1. In a locked room or enclosure, designated for bicycles with restricted access
2. Bicycle locker
3. In a residential unit, meeting the standards of Recommendation #9

For all non-residential uses:

1. In a locked room or enclosure
2. Bicycle locker

Figure 8 Examples of long-term bike parking.

[13] Some of these elements, like security cameras can be used, but not as the only security provision.

Discussion

- BDS provided feedback that most projects satisfy the security requirement for long-term bicycle parking by placing racks in a locked room or enclosure (secure bike room or in-unit placement). However, there are a few projects that have satisfied the security requirement by less secure options, including solely relying on video surveillance. Additionally, BDS expressed a desire to streamline and simplify this section by providing fewer options to meet the code.
- Security has been a number one issue for the Committee and for the community, tightening the requirements for secure, long-term bicycle parking was high on the Committee's list in this update process.
- The Online Open House included strong feedback from the community that a camera should be required as an additional element for bicycle parking security. The Committee is not including this recommendation; however, Staff will investigate best practices for inclusion in the PBOT issued Bike Parking Handbook.

Long-term Bicycle Parking — Lighting

Current Regulations/Standards

Current code does not include lighting standards for bicycle parking.

Committee Recommendation 17

All access routes, along with the bicycle parking spaces themselves, must be lighted to a level so that employees and/or residents can use the system at night.

Discussion

- This recommendation would only apply to long-term bicycle parking.
- BPS staff recommended that the requirement be tied to existing code language; lighting for routes is addressed in pedestrian standards for commercial and multi-dwelling[14] zones. While these standards don't specifically address the bike parking area, it is a code standard that already exists and staff feel like it can be modified to include bicycle parking areas. "Lighting. The on-site pedestrian circulation system must be lighted to a level where the system can be used at night by the employees, residents and customers."
- Examples and specifics around types and amount of lighting can be included in the Bicycle Parking Handbook.

Issue: Long-term Bicycle Parking Weather Protection

Current Regulations/Standards

For long-term bicycle parking the following is the current standard for covered spaces:

[14] Title 33.130.240 and 33.120.255 — "Lighting. The on-site pedestrian circulation system must be lighted to a level where the system can be used at night by the employees, residents, and customers."

Covered Spaces. At least 50 percent of required long-term bicycle parking must be covered and meet the standards of Paragraph 33.266.220.C.5, Covered Bicycle Parking.

For all bicycle parking, the following is the current standard for covered spaces (33.266.220.C.5):
Covered bicycle parking. Covered bicycle parking, as required by this section, can be provided inside buildings, under roof overhangs or awnings, in bicycle lockers, or within or under other structures. Where required covered bicycle parking is not within a building or locker, the cover must be:

a. *Permanent;*
b. *Designed to protect the bicycle from rainfall; and*
c. *At least 7 feet above the floor or ground.*

Committee Recommendation 18

Long-term bicycle parking spaces shall protect the entire bicycle (including its components and accessories) against inclement weather, including wind-driven rain. One hundred percent of long-term bicycle parking is weather protected.

Discussion

- There was consensus that all long-term bicycle parking should be weather protected because people that are locking their bikes for long-periods of time should have a covered and weather protected space for their bicycle.
- The logistics of how to define covered and weather-protected bicycle parking in code still needs to be addressed in the next phase of the project.

Principle E: Bicycle Parking is Feasible

Requirements allow for innovation and adaptability in design, while being straightforward and specific to implement. Consider project feasibility and cost implications.

Issue: Maintain the long-term bicycle parking distance from site provision

Committee Recommendation 19

No change. Keep the code as is, where long-term bicycle parking must be located on site or in an area where the closest point is within 300 feet of the site.

Discussion

- The Committee wanted to maintain the current code standard as stated above because it provides flexibility for developers and flexibility in multi-building developments.
    - It should be noted BDS staff say that developers rarely use the ability to locate their long-term bicycle parking in an area 300 feet from the site.

Issue: Maintain the provision that code standards only apply to required racks

Committee Recommendation 20

No change. Keep the code as is, where code standards only apply to code required racks. In other words, additional racks above the minimum quantity required in code do not have to meet the design standards of code.

Issue: Acceptable dimensions for space saving rack designs for long-term bicycle parking (vertical and double decker racks)

Current Regulations/Standards

Current code only addresses standards for horizontal (floor-mounted) rack placement and spacing, and requires a 2' X 6' footprint for each bicycle parking space.

Committee Recommendation 21

- Adopt 18-inch spacing on vertical racks with a minimum vertical stagger.
- Adopt 18-inch spacing on double-decker racks with a stagger.

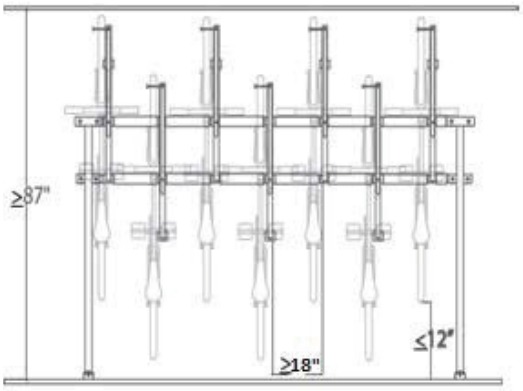


Figure 9 Vertical rack spacing recommendations.

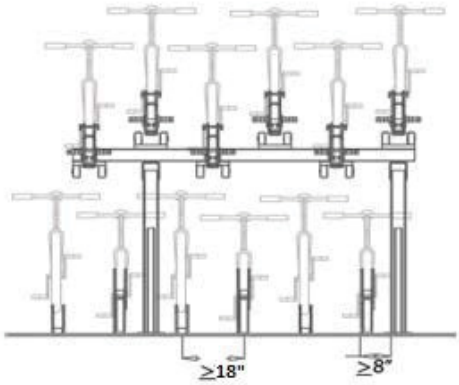


Figure 10 Double-decker rack spacing recommendations.

Discussion

- There are many rack designs available that allow for closer spacing between bikes, and due to the inclusion of vertical staggered spaces, can still provide enough space to avoid handlebar and pedal conflicts.
- Narrower spacing will allow for greater flexibility in accommodating more bicycle parking spaces.
- However, the Committee is also including the recommendation of requiring a minimum 30% horizontal (floor-mounted) racks to accommodate a variety of types of bicycles and user abilities. See Recommendation #14.

Issue: Bicycle Locker Dimensions

Current Regulations/Standards:

For bicycle lockers, the current standards in code are:
Bicycle lockers. Where required bicycle parking is provided in lockers, the lockers must be securely anchored.

Committee Recommendation 22

Approve triangular locker layout — adopt the inclusion of triangle locker dimensions of 2'6" (door width) by 6'6" (depth).

Committee Recommendation 23

Approve missing height dimension on locker layout — adopt a bicycle locker height requirement of 47 inches.

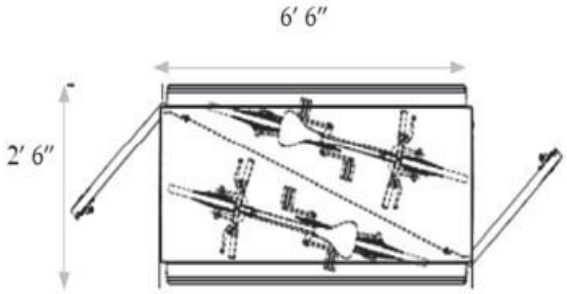


Figure 11 Committee recommends adopting a bicycle locker height requirement of 47 inches.

Discussion

- The commonly used triangular locker layout does not meet the current code standards, including the 2' x 6' footprint. However, in the spirit of adopting reduced spacing where it still meets usability standards for the user, the Committee recommendation is to adopt this triangular layout.
- A triangular locker layout allows for two bikes to utilize a locker space, thus providing more bike parking space.
- The additional detail on locker layout and dimensions will provide clear guidance to using lockers for required bicycle parking.

Issue: Depth Dimension on Vertical, Wall-Mounted Racks

Current Regulations/Standards

Since the current code does not provide spacing standards or dimensions for vertical racks, it does not address the necessary depth measurement for this type of rack design.

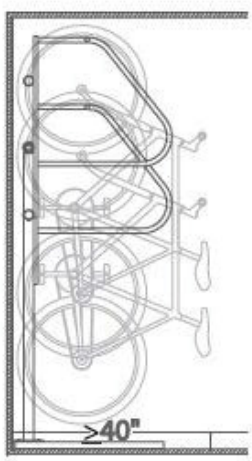


Figure 12 Recommended depth measurement for vertical wall racks.

Committee Recommendation 24

Adopt a depth measurement of 40 inches for the bicycle footprint on vertical wall racks.

Discussion

- Code is missing this depth measurement because racks were predominantly placed horizontally when the majority of the bicycle parking code was written.
- Without a depth measurement for the footprint of the bicycle, it was possible to begin measuring the required 5-foot aisle too close to the wall, resulting in a restricted and sometimes, unusable aisle space.
- The 40-inch requirement is in line with current best practice cities and bike rack manufacturer recommendations.

Headroom dimensions for bicycle parking

Current Regulations/Standards

Current code does not include standard dimensions for headroom spacing.

Committee Recommendations 25

Adopt the following headroom dimensions:

- For single-tiered bicycle parking, the minimum headroom is 7 feet (84 inches).
- For facilities where two tiers of bicycle parking are installed, one above another, minimum vertical footprint of 4 feet (48 inches) shall be provided for each tier.

Discussion

- The headroom spacing requirement was a missing standard in current code that the Committee wanted to add for clarification, to ensure that racks are still usable.
- The inclusion of headroom for double decker, two-tier bike parking, is to help ensure that bikes on the lower tier can still be accessed and appropriately locked.

Issue: Horizontal rack spacing requirements for all bicycle parking (short- and long-term)

Current Regulations/Standards

The most recent guidance for horizontal bicycle rack placement in the right-of-way reduces some of the necessary spacing between racks.

Committee Recommendations 26

Match the spacing requirements for horizontal racks to the current PBOT right-of-way standards found in TRN 10.09. This means:

1. Adopt a minimum of 3 feet (36 inches) distance between side-by-side, horizontal racks.
2. Adopt a minimum standard of 30 inches between horizontal racks that are placed on a diagonal of 45 to 60 degrees.
3. Adopt a minimum distance of 6 feet between multiple horizontal racks that are placed end-to-end.

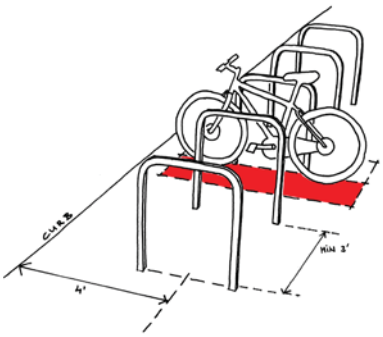


Figure 13 Side-by-side horizontal racks.

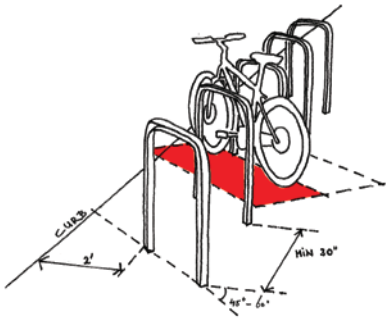


Figure 14 Side-by-side diagonal racks.

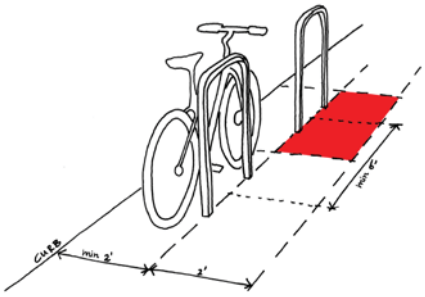


Figure 15 Racks placed end-to-end.

Discussion

- In the spirit of streamlining standards for bicycle parking, the Committee recommended that the spacing requirements for horizontal racks subject to Title 33 should match the requirements in PBOT's bike parking in the right-of-way guidelines.
- The adoption of these horizontal rack spacing standards allows for additional flexibility in rack configuration, while still maintaining usability of the racks.

Issue: Bicycle Parking Usage Fee

Committee Recommendation 27

No change. Keep the code as is. Current code does not allow or disallow bicycle parking usage fees.

Discussion:

- Committee members felt that pricing can sometimes be a useful tool for property managers and therefore did not want to take that away.

Issue: Additional Elements to Enhance Flexibility

These elements were floated by Committee members and other stakeholders throughout the process to enhance the flexibility in implementing bicycle parking. While all three of these are included as formal recommendations, the Committee acknowledged the caveat that there is additional work to be done on how these elements will be implemented in the zoning code.

Committee Recommendation 28

Exempt bike room space from the Floor Area Ratio (FAR).

Committee Recommendation 29

Allow up to 25% of ground floor active use area requirement to be used as bicycle parking.

Committee Recommendation 30

Allow bicycle parking in setbacks, specifically in higher density (multi-family zones).

Discussion

- One Committee member suggested that developing a FAR exemption could be an incentive to not allow the location of required long-term bicycle parking in-unit (Recommendation #28).
- There were two members of the Committee that did not support the allowance of up to 25% of ground floor active use area to be bicycle parking (Recommendation #29) because they felt that just bicycle parking by itself does not constitute sufficiently active use and that ground floor retail should have a higher priority than bicycle parking.
- It should also be acknowledged here that the Planning and Sustainability Commission is already in the process of advising the City on the allowance of bicycle parking as ground floor active use (Recommendation #29). The project team will follow this ongoing discussion closely.

VI. Next Steps

While the Committee accomplished a considerable amount of work over the last 18 months, there are a few next steps for continued work as the bicycle parking code update moves into the formal code writing process. The following are some of the identified next steps:

Impact analysis

The Committee and City staff recognize that a deeper impact analysis of the recommendations is needed. This idea was conceived initially during the Committee's conversation on allowing racks in residential units to count toward required bicycle parking, due to the many questions related to total space requirement and the impact on total dwelling units. This analysis will be important as the City moves forward in making the written changes to the bicycle parking chapter.

The scope of the impact analysis has not been finalized, but it may include:

- The economic impact of the various Committee recommendations on development.
- A spatial analysis that considers the in-unit proposal, the 30% requirement for horizontal racks, and the updated minimum amounts of bicycle parking.
- A more detailed look at Portland Housing Bureau project and bicycle parking requirements.

Bicycle Parking Handbook

Some issues discussed by the Committee were either too detailed for purposes of Zoning Code or felt too restrictive, and thus can be best conveyed as best practice recommendations in a PBOT-issued Bicycle Parking Handbook. Further, developers and architects have expressed the need for additional implementation tools for their projects, including examples of innovative designs for meeting bicycle parking code standards.

To address the request for more guidance and tools for implementation, City staff will develop a Bicycle Parking Handbook to:

1) Provide additional information about how to meet the bicycle parking code requirements; and
2) Give examples of best practices for projects that want to go beyond the minimum required by code.

VII. Appendices

A. Committee's Scope of Work

B. Map: Bicycle commute mode split data from 2010 — 2014

C. Current Table 266-6

D. Community survey

E. Amount methodology

F. Case Studies

G. Other City Bicycle Parking Code: Allowance of In-unit

H. Horizontal Bicycle Parking – space analysis

Appendix A. Stakeholder Advisory Committee's Scope of Work

PORTLAND BUREAU OF TRANSPORTATION

Bicycle Parking Code Update — Project Scope

revised September 2016

1. Missing dimensions & update diagrams
    - ❑ Update spacing diagrams (fig 266-11)
    - ❑ Depth measurement, ceiling height minimums
    - ❑ Two points of contacts
    - ❑ Spacing of rack intended for 1 bike in building frontage zone
    - ❑ Triangular locker layout
    - ❑ _____

2. Spatial and design requirements for various rack types
    - ❑ Reduced footprint for space saving designs (with vertical/horizontal stagger)
    - ❑ Double-decker racks requirements
    - ❑ Cargo bike, trailers, e-bike requirements
    - ❑ Youth bikes (SAC comment)
    - ❑ _____

3. Usability issues
    - ❑ Ensure no excessive lifting of bikes
    - ❑ Limit the percentage of required bicycle parking that can be satisfied using vertical racks
    - ❑ _____

4. Update location and access requirements
    - ❑ Short term requirements (avoid trash zones)
    - ❑ Long term requirements (weather protection, stairs, elevators, distance from site)
    - ❑ Signage
    - ❑ Barriers to installing bike sheds in setbacks
    - ❑ _____

5. Update security requirements
    - ❑ Review allowance to place long-term requirement in dwelling unit
    - ❑ Bike room materials /lock requirements
    - ❑ Lighting

- ❑ Rack material and installation
- ❑ Attended facility (valet) option
- ❑ Security requirements for short term (SAC comment)
- ❑ _____

6. Review minimum bike parking requirement table
   - ❑ Investigate geographic tiers
   - ❑ Develop minimum requirement calculations
   - ❑ Review required use categories and specific uses (micro housing)
   - ❑ _____

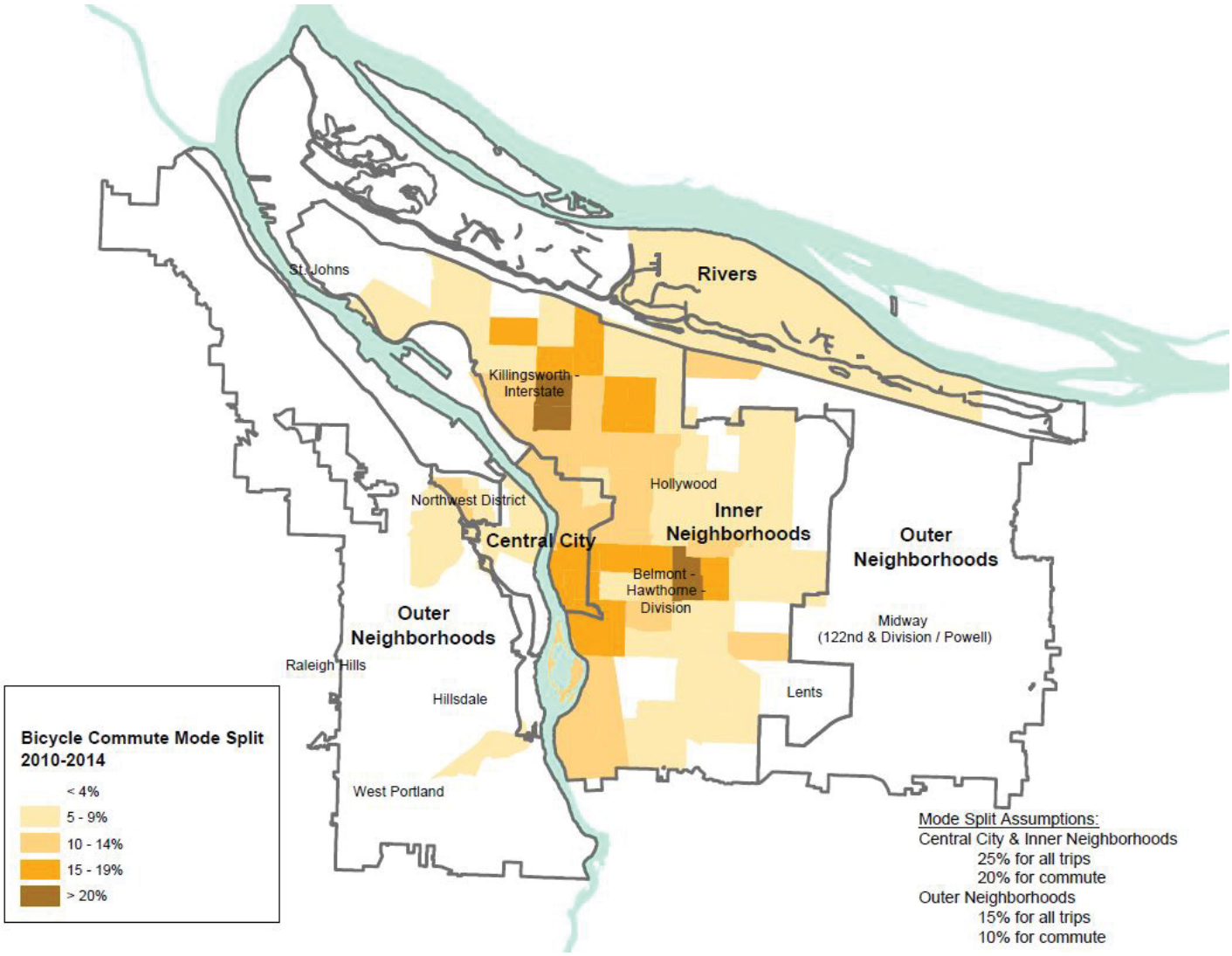
7. Adequate parking for different transit systems/station types
   - ❑ Update minimum bicycle parking amount for transit
   - ❑ Discuss implications of bike share system on bike parking requirements
   - ❑ _____

8. Nonconforming development requirements
   - ❑ Long-term requirements not required for sites with surface parking or inside Central City
   - ❑ Conversion of existing required auto parking
   - ❑ _____

9. Code cleanup and consistency issues
   - ❑ Review Purpose Statements
   - ❑ Elderly and Disabled High Density Housing (33.229)
   - ❑ Preservation Parking Central City
   - ❑ Permit requirements to include rack model design, location, dimensions
   - ❑ _____

10. Develop accompanying User Guide and Best Practices
    - ❑ _____

Appendix B. Map of Commute Mode Split (2010 – 2014)



Appendix C. Current Code – Table 266-6

Chapter 33.266 – Parking And Loading:

Table 266-6 Minimum Required Bicycle Parking Spaces			
Use Categories	**Specific Uses**	**Long-term Spaces**	**Short-term Spaces**
Residential Categories			
Household Living	Multi-dwelling	1.5 per 1 unit in Central City plan district; 1.1 per 1 unit outside Central City plan district	2, or 1 per 20 units
Group Living		2, or 1 per 20 residents	None
	Dormitory	1 per 8 residents	None
Commercial Categories			
Retail Sales And Service		2, or 1 per 12,000 sq. ft. of net building area	2, or 1 per 5,000 sq. ft. of net building area
	Temporary Lodging	2, or 1 per 20 rentable rooms	2, or 1 per 20 rentable rooms
Office		2, or 1 per 10,000 sq. ft. of net building area	2, or 1 per 40,000 sq. ft. of net building area
Commercial Parking		10, or 1 per 20 auto spaces	None
Commercial Outdoor Recreation		10, or 1 per 20 auto spaces	None
Major Event Entertainment		10, or 1 per 40 seats or per CU review	None
Industrial Categories			
Manufacturing And Production		2, or 1 per 15,000 sq. ft. of net building area	None
Warehouse And Freight Movement		2, or 1 per 40,000 sq. ft. of net building area	None

Table 266-6 Minimum Required Bicycle Parking Spaces			
Use Categories	**Specific Uses**	**Long-term Spaces**	**Short-term Spaces**
Institutional Categories			
Basic Utilities	Light rail stations, transit centers	8	None
Community Service		2, or 1 per 10,000 sq. ft. of net building area	2, or 1 per10,000 sq. ft. of net building area
	Park and ride	10, or 5 per acre	None
Parks And Open Areas		Per CU review	Per CU review
Schools	Grades 2 through 5	2 per classroom, or per CU or IMP review	None
	Grades 6 through 12	4 per classroom, or per CU or IMP review	None
Colleges	Excluding dormitories (see Group Living, above)	2, or 1 per 20,000 sq. ft. of net building area, or per CU or IMP review	2, or 1 per 10,000 sq. ft. of net building area, or per CU or IMP review
Medical Centers		2, or 1 per 70,000 sq. ft. of net building area, or per CU or IMP review	2, or 1 per 40,000 sq. ft. of net building area, or per CU or IMP review
Religious Institutions		2, or 1 per 4,000 sq. ft. of net building area	2, or 1 per 2,000 sq. ft. of net building area
Daycare		2, or 1 per 10,000 sq. ft. of net building area	None
Other Categories			
Aviation And Surface Passenger Terminals, Detention Facilities		Per CU Review	Per CU Review

Note: Wherever this table indicates two numerical standards, such as "2, or 1 per 3,000 sq. ft. of net building area," the larger number applies.

Appendix D. Bicycle Parking in Apartments: Community Survey

Community Survey: Bicycle Parking in Apartments

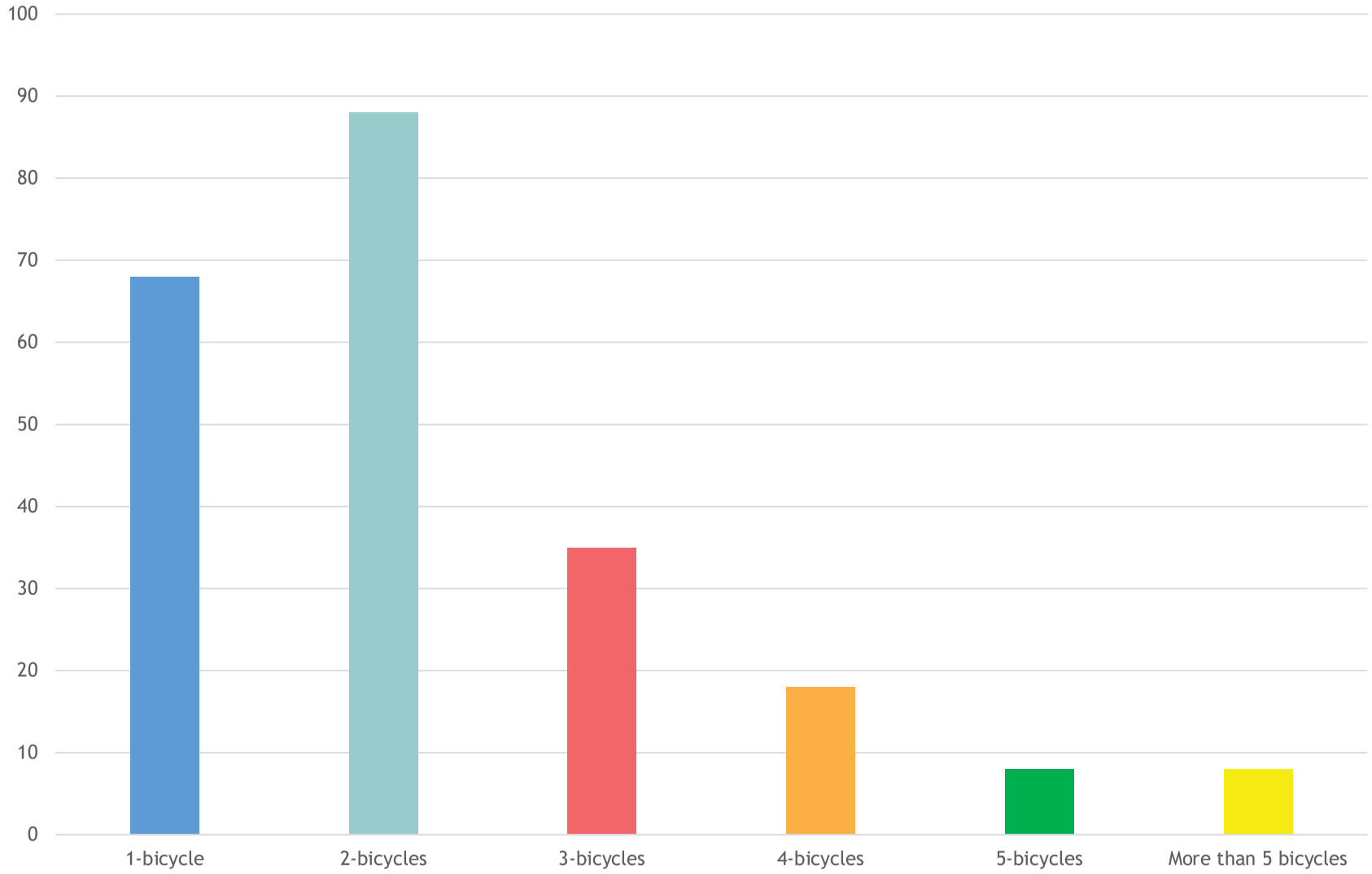
Online Survey – information for the Bicycle Parking Advisory Committee

In March 2017, the Bicycle Parking Stakeholder Advisory Committee launched an online survey to learn more from people who live in apartments and their experience with bicycle parking.

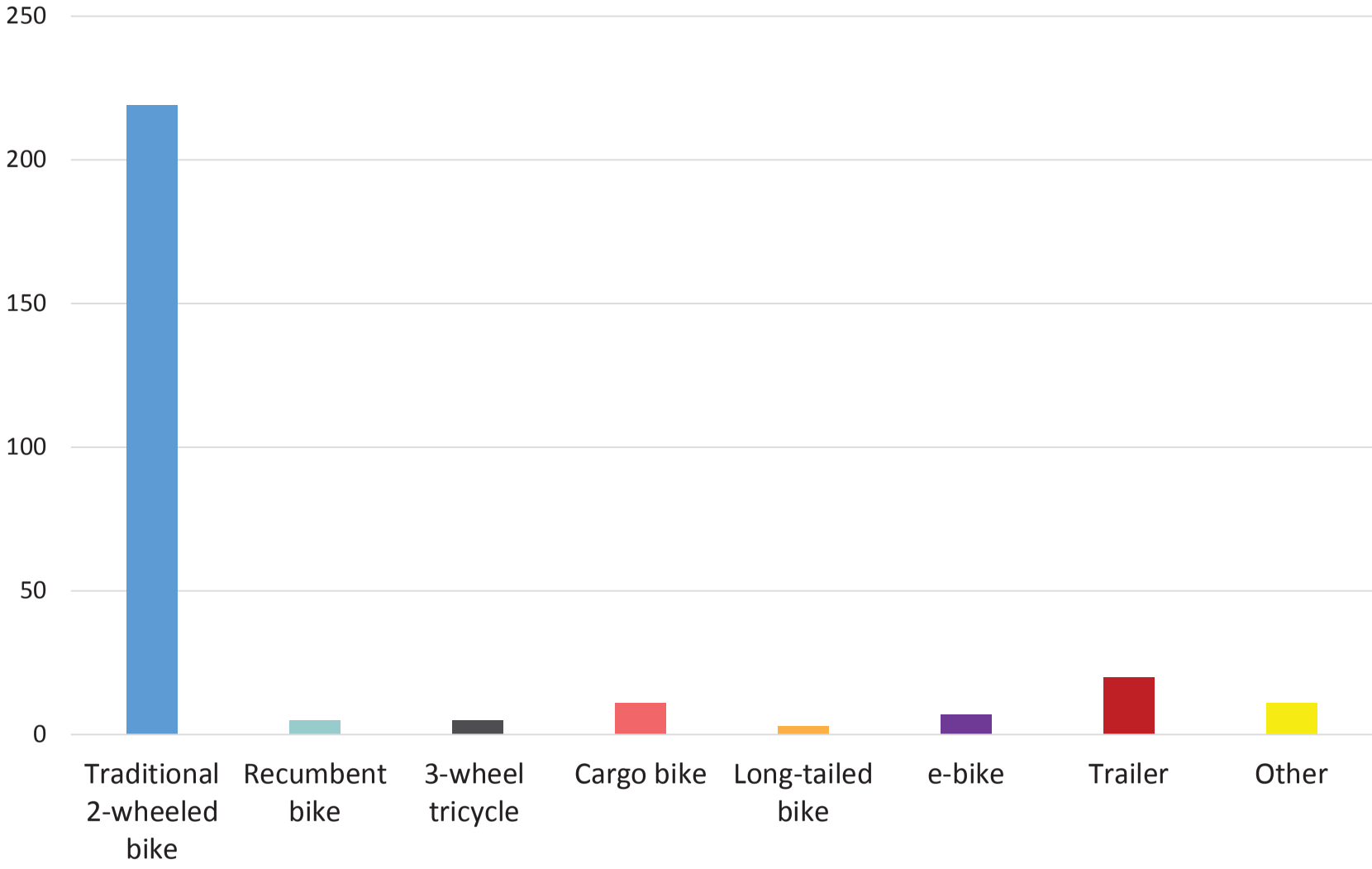
We received 323 total responses; 260 of those people live in apartment buildings.

The following pages outline some of what we heard.

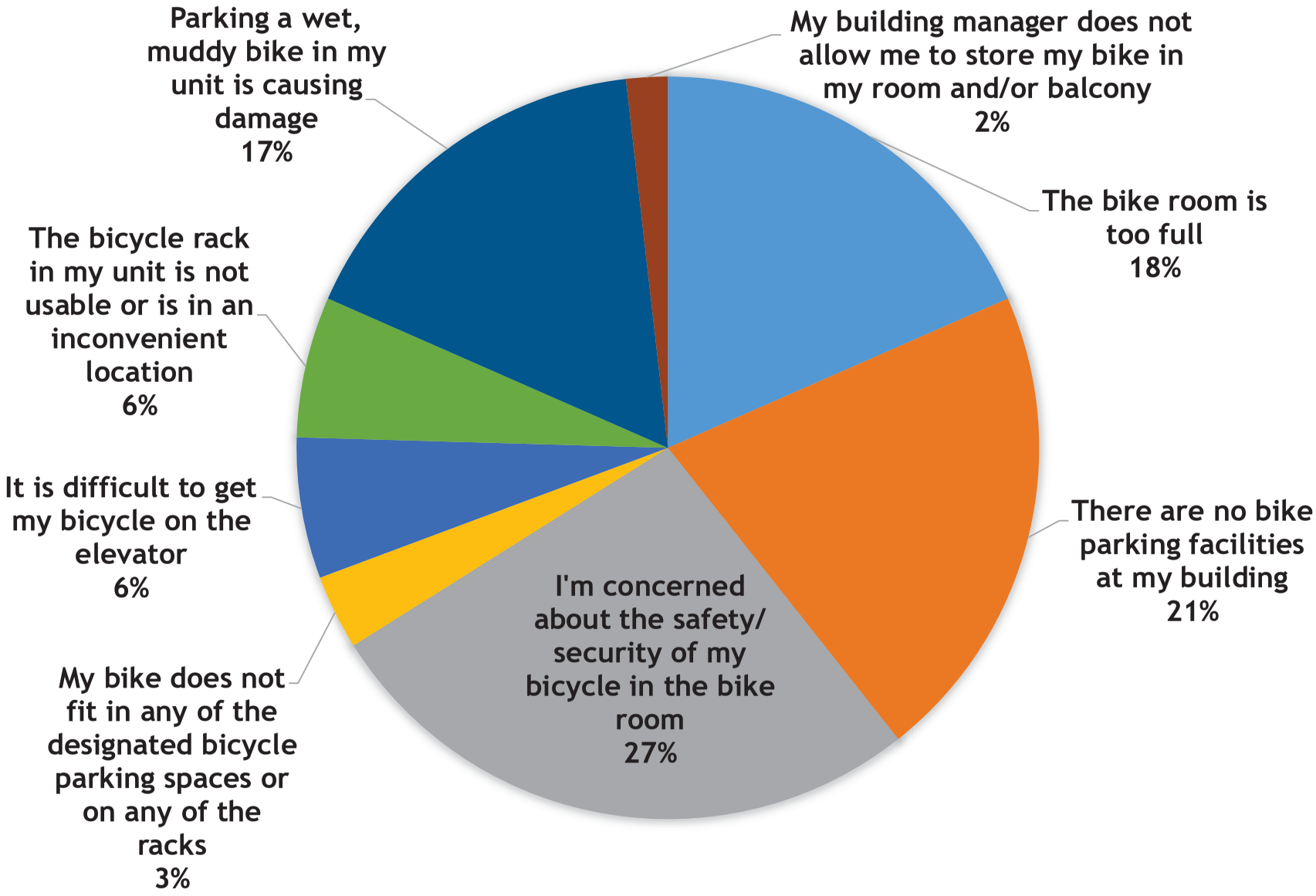
How many bicycles does your household own?



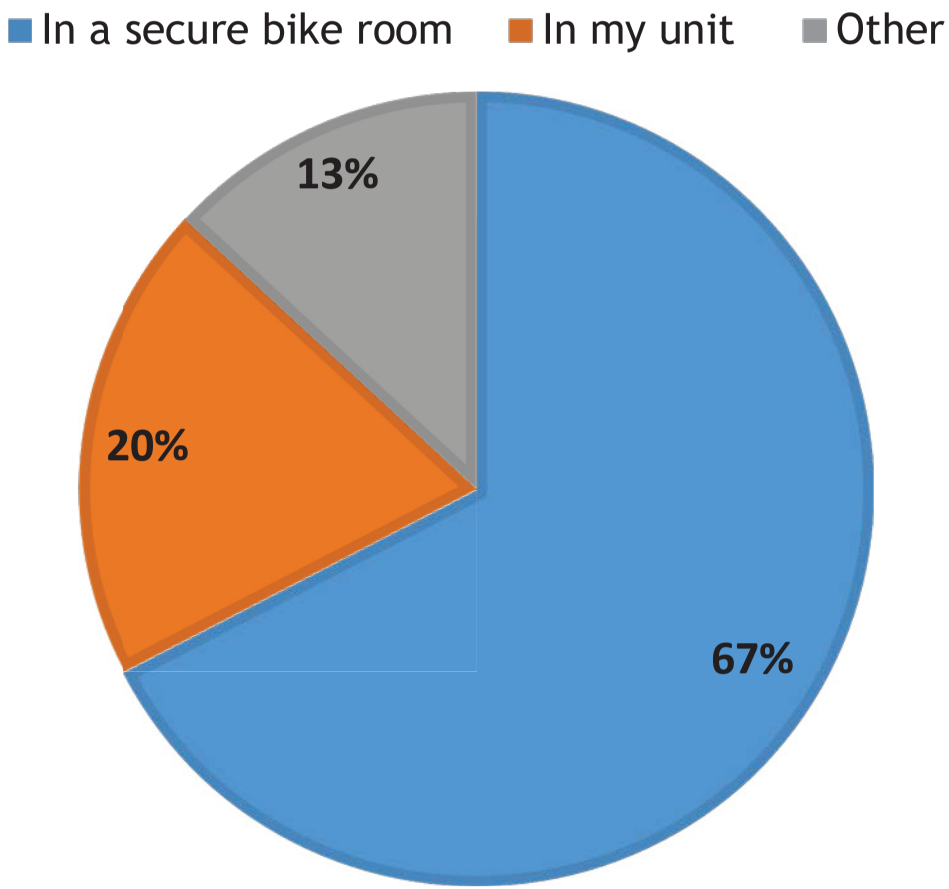
What types of bicycle(s) to you own?



What is the most challenging part of parking your bicycle at your apartment building?

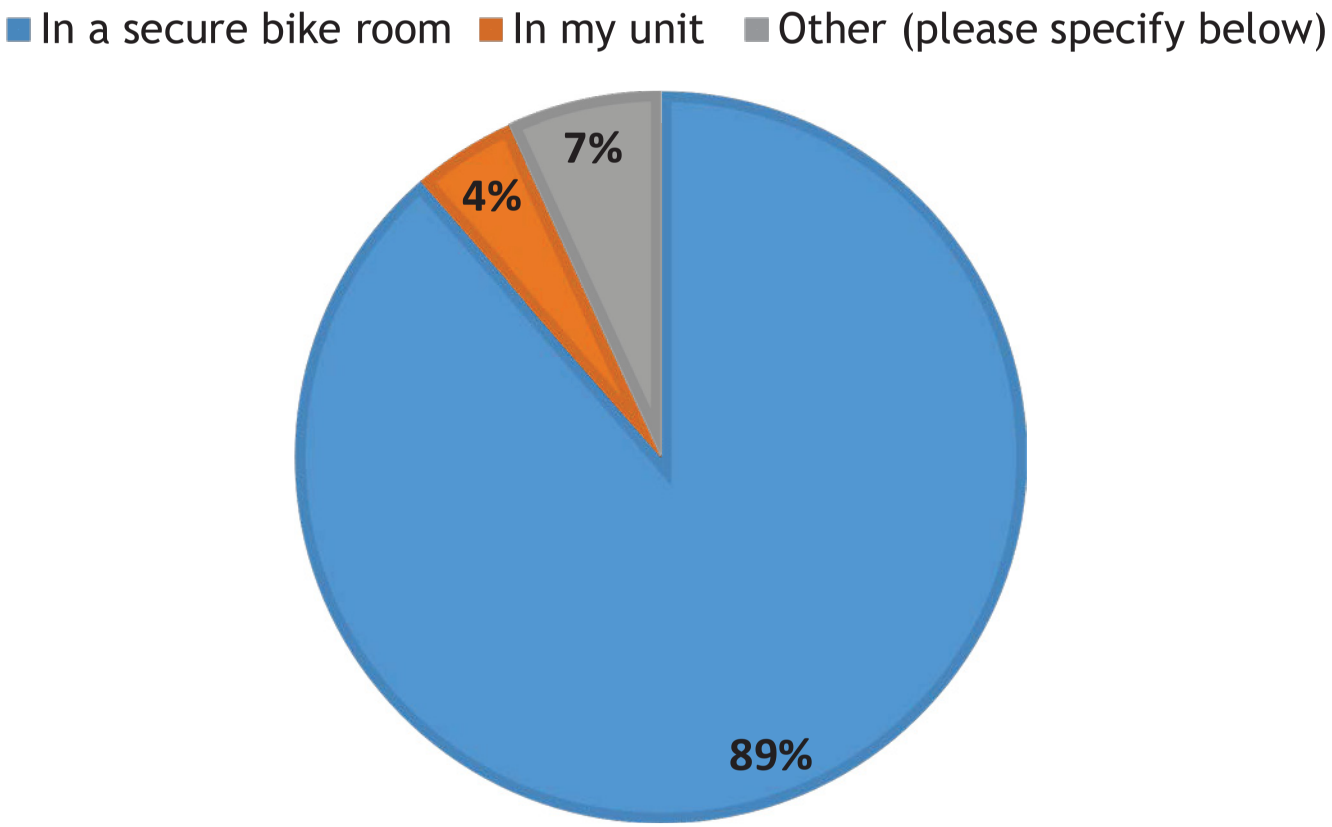


If you had the choice, where would you prefer to park your bicycle?



User Survey - only those in new apartment buildings

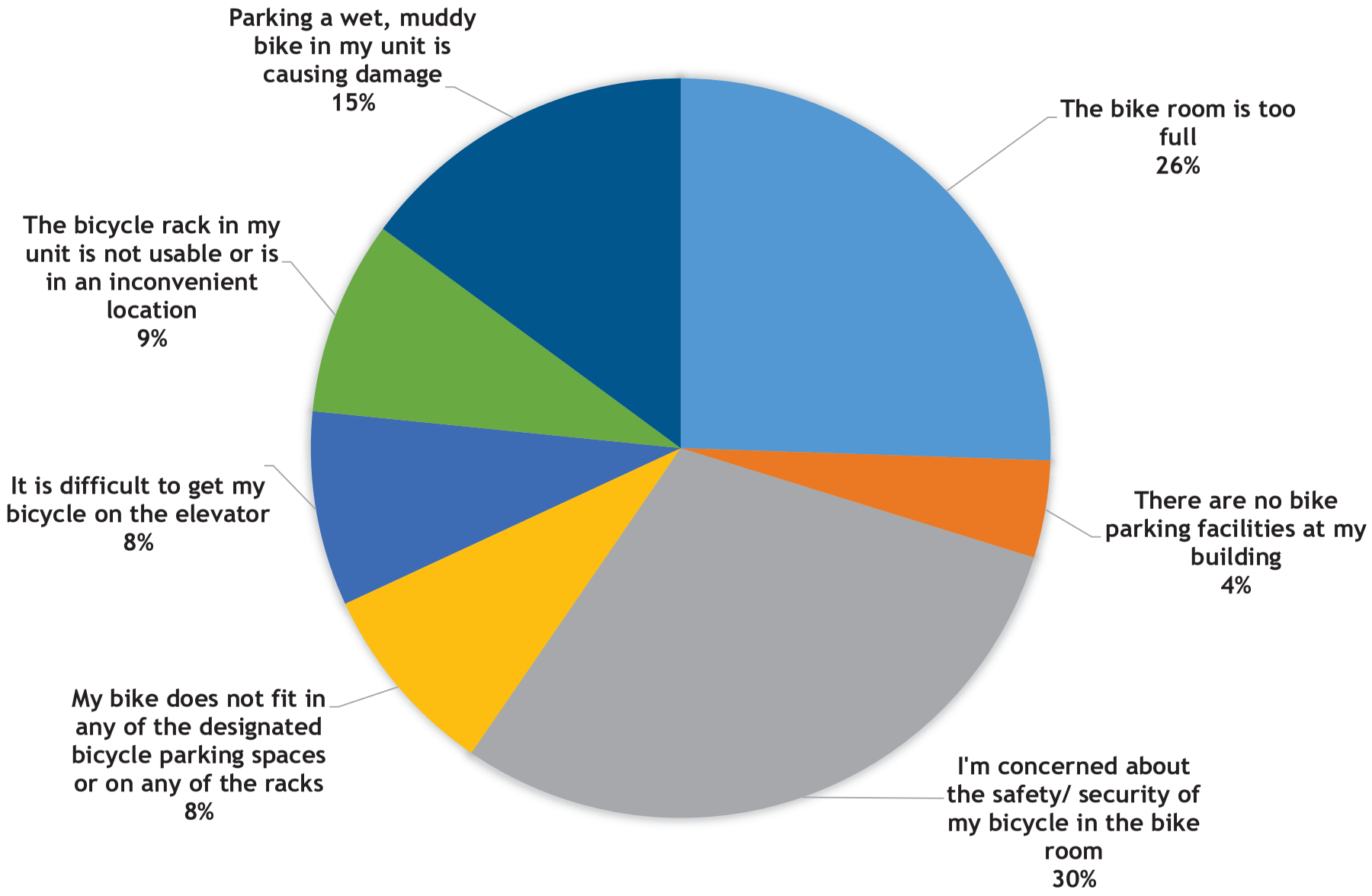
We pulled out those respondents that currently live in apartments built after 2012 and own a bicycle. (N=44)



What did we hear?

- A secure bike room on the ground floor would be easy to access, and would not take up space in an overpriced 350 sf studio.
- My apartment is tiny, so I'd rather not sacrifice the space I do have. Additionally, I'd prefer to not track in dirt/mud.
- I would prefer it not to be IN my apartment, but in a secured location with a bike lock attached.
- I like having my bike at ground level but in a dry and secure space.
- Convenient and doesn't take up limited storage space in my apt.

What is the most challenging part of parking your bicycle at your apartment building? (new apartment buildings)



Appendix E. Bicycle Parking Amount Methodology

LONG-TERM BIKE PARKING DISCUSSION - Equation & Data Assumptions

Use Category	Equation & Data Assumptions	Minimum Requirements
RESIDENTIAL CATEGORIES		
Group Living - Micro- Apartments Examples: dormitories; communes; fraternities and sororities; monasteries and convents; nursing and convalescent homes; some group homes for the physically disabled, mentally retarded, or emotionally disturbed; some residential programs for drug and alcohol treatment; Current Code has two specific use categories under Group Living: - The general group living - Dormitories - Minimum rate for Elderly and Disabled facilities is listed in title 33.229 (1 per 8 units) This use category includes the micro-apartments and SROs that are designated as Group Living.	The Amount Subcommittee and the Stakeholder Advisory Committee proposed, that since these micro-apartments are really acting like multi-dwelling/ household living, the minimum requirements should match.	Central City/Inner Neighborhoods: 1.5 per unit Outer Neighborhoods: 1.1 per unit Minimum LONG-TERM requirements for GROUP LIVING uses in other cities: ● Cambridge, MA, 2013: .50 spaces per bed ● San Francisco, CA: 1 space for every four beds. For buildings containing over 100 beds, 25 Class 1 spaces plus one Class 1 space for every five beds over 100. ● Eugene, OR, 2016: 1.1 per dwelling (4 single rooms are equal to 1 dwelling) (Single Room Occupancy) (90% long-term and 10% short-term) *Current requirement Portland: 1 per 20 residents, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 10 residents*
Group Living - Social Service-related tenancy	[# of units] x [commute mode split] Draft calculation based on: ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10%	Central City/Inner Neighborhoods: 1 per 5 units Outer Neighborhoods: 1 per 10 units

Group Living - Elderly and Disabled facilities Minimum rate for Elderly and Disabled facilities is listed in title 33.229 (1 per 8 units)	The Amount Subcommittee and the SAC propose to maintain the current minimum long-term bicycle parking required for Elderly and Disabled facilities.	Central City/Inner Neighborhoods: 1 per 8 units Outer Neighborhoods: 1 per 8 units Minimum LONG-TERM requirements for GROUP LIVING (Elderly and Disabled facilities) uses in other cities: ● Eugene, OR, 2016: 1 per 15 beds (nursing home) (75% long-term and 25% short-term) ● Cambridge, MA, 2013: .50 spaces per bed ● San Francisco, CA: 1 space for every 10 units or beds, whichever is applicable. *Current requirement Portland: 1 per 8 units., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 4 dwelling units (retirement center apartments)*
Dormitory	[# residents] x [city mode split goal (25%)] Draft calculation based on: 25% average City target bicycle mode split for all trips for 2030. Long-term Rate based on number of residents and mode split.	Central City/Inner Neighborhoods: 1 per 4 bedrooms Outer Neighborhoods: 1 per 4 bedrooms Minimum LONG-TERM requirements for DORMITORY uses in other cities: ● Eugene, OR, 2016: 1.1 for each 2 occupants for which sleeping facilities are provided (~.5 per occupant) (90% long-term and 10% short-term) ● Cambridge, MA, 2013: .50 spaces per bed ● San Francisco, CA: 1 space for every 4 beds. For buildings containing over 100 beds, 25 spaces plus 1 space for every 5 beds over 100. Group housing that are also considered Student Housing, shall provide 50 percent more spaces than would otherwise be required. *Current requirement Portland: 1 per 8 residents., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per dormitory unit*

COMMERCIAL CATEGORIES		
Retail Sales and Services	[sq. f.t per employee] x [target mode split, commute trips]	Central City/Inner Neighborhoods: 1 per 3,750 sq. ft. Outer Neighborhoods: 1 per 7,500 sq. ft.
Current bike code only has one value for this category however it could include several subgroups, such as: ● Sales-oriented: supermarkets, garden supplies, hardware stores. ● Personal service-oriented: banks, hair salons, laundromats, veterinarians. ● Entertainment-oriented: restaurants, cafes, theaters, health clubs. ● Repair oriented: photo or laundry drop off, quick printing, bicycle repair.	Draft calculation based on: ● Employee density of average density across subcategory 750 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Retail category is vast and thus are the range of values used for employee density: ● 470 sq. ft.: CoP Economic Opportunities Analysis, 2016 ● 92 - 1042 sq. ft. – ITE ● 381-1086: Dept. of Energy	Minimum LONG-TERM requirements for RETAIL uses in other cities: ● San Francisco, 2013: 1 space per 7,500 sq. feet ● Los Angeles, 2017: restaurants/bars 1 per 2,000 sq. ft.; retail general 1 per 2,000; retail furniture stores 1 per 10,000 ● Eugene, OR, 2016: eating/drinking establishments 1/2,400 sq. ft.; supermarkets 1/4,000; general retail 1/12,000 sq. ft. ● Cambridge, MA, 2013: 1/10,000 sq. ft. *Current requirement Portland: 2 or 1 per 12,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 8,000 sq. ft.*
Retail - Restaurants and Bars	[sq. ft. per employee] x [target mode split, commute trips]	Central City/Inner Neighborhoods: 1 per 2,325 sq. ft. Outer Neighborhoods: 1 per 4,762 sq. ft.
	Draft calculation based on: ● Employee density of average density across subcategory 470 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10%	Minimum LONG-TERM requirements for RESTAURANTS AND BARS uses in other cities: ● Eugene, OR, 2016: eating/drinking establishments 1 per 2,400 sq. ft.; ● Los Angeles, 2017: restaurants/bars 1 per 2,000 sq. ft.;

Temporary Lodging Hotel	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 1500 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Broad range of values used for employee density for temporary lodging uses: ● 2,463: Dept. of Energy ● 1,500: USGBC	Central City/Inner Neighborhoods: 1 per 20 rentable rooms Outer Neighborhoods: 1 per 20 rentable rooms Minimum LONG-TERM requirements for TEMPORARY LODGING uses in other cities: ● San Francisco, 2013: 1 space per 30 rooms ● Eugene, OR, 2016: 1 space per 10 guestrooms *Current requirement Portland: 1 per 20 rentable rooms, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*
Office Examples: professional services such as lawyers or accountants; sales offices; government offices and public utility offices; medical and dental clinics)	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of 350 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Broad range of values used for employee density for office uses: ● 350 sq. ft.: CoP Economic Opportunities Analysis, 2016 ● 90-309 sq. ft. - BOMA research, with 289 sq. ft. being average for Portland	Central City/Inner Neighborhoods: 1 per 1,750 sq. ft. Outer Neighborhoods: 1 per 3,500 sq. ft. Minimum LONG-TERM requirements for OFFICE uses in other cities: ● San Francisco, 2013: 1 space per 5,000 sq. ft. ● Los Angeles, 2017: 1 per 5,000 sq. ft. ● Eugene, OR, 2016: 1 per 8,000 sq. ft. ● Cambridge, MA, 2013: 1 per 3,300 sq. ft. *Current requirement Portland: 1 per 10,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 3,000 sq. ft.*

Commercial Parking Commercial Parking facilities provide parking that is not accessory to a specific use. A fee may or may not be charged. Examples: short- and long-term fee parking facilities, commercial district shared parking lots, commercial shuttle parking, and mixed parking lots (partially for a specific use, partly for rent to others).	[# of auto parking spaces] x [target mode split] Subcommittee Proposal: 1 per 10 auto spaces	Central City/Inner Neighborhoods: 1 per 10 auto spaces Outer Neighborhoods: 1 per 10 auto spaces Minimum LONG-TERM requirements for COMMERCIAL PARKING uses in other cities: ● Santa Monica, CA: 1 space per 20 auto spaces ● Eugene, OR, 2016: (Parking Area not directly related to a primary use on the same development site) none; (structured parking not directly related to a primary use on the same development site) 10% of auto spaces provided - 90% long-term ● San Francisco, 2013: none *Current requirement Portland: 10, or 1 per 20 auto spaces, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 10, or 1 per 20 auto spaces*
Commercial Outdoor Recreation Examples: amusement parks, theme parks, golf driving ranges, miniature golf facilities, zoos, and marinas.	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 2,638 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for commercial outdoor recreation uses: • 2,638: USDOE	Central City/Inner Neighborhoods: 1 per 12,500 sq. ft. Outer Neighborhoods: 1 per 25,000 sq. ft. Minimum LONG-TERM requirements for COMMERCIAL OUTDOOR RECREATION uses in other cities: *Current requirement Portland: 10, or 1 per 20 auto spaces, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 10, or 1 per 20 auto spaces*

Major Event Entertainment Examples include stadiums, sports arenas, coliseums, race tracks (auto, horse, dog, etc.), auditoriums, exhibition and meeting areas, and fairgrounds.	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 2,062 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for major event entertainment uses: ● 2062: USDOE	Central City/Inner Neighborhoods: 1 per 10,000 sq. ft. Outer Neighborhoods: 1 per 20,000 sq. ft. Minimum LONG-TERM requirements for MAJOR EVENT ENTERTAINMENT uses in other cities: ● San Francisco, 2013: 1 per every 20 employees during the event ● Los Angeles, 2017: 1 per 700 sq. ft. or 1 per 100 fixed seats (Auditorium) ● Eugene, OR, 2016: 1 per 20 seats (25% long-term) (Arena) *Current requirement Portland: 10, or 1 per 40 seats or per CU review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 10, or 1 per 40 seats or per CU review*
INDUSTRIAL CATEGORIES		
Manufacturing And Production	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 926 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20%. ○ Outer Neighborhoods: 10% Broad range of values used for employee density for manufacturing and production uses: ● 926: CoP Economic Opportunities Analysis, 2016	Central City/Inner Neighborhoods: 1 per 5,000 sq. ft. Outer Neighborhoods: 1 per 9,000 sq. ft. Minimum LONG-TERM requirements for MANUFACTURING and PRODUCTION uses in other cities: ● San Francisco, 2013: 1 space per 12,000 sq. ft. ● Los Angeles, 2017: 1 space per 10,000 sq. ft. ● Eugene, OR, 2016: 1 space per 6,600 sq. ft. ● Cambridge, MA, 2013: 1 space per 12,500 sq. ft. *Current requirement Portland: 1 per 15,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 7,500 sq. ft.*

Warehouse And Freight Movement	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 2,500 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Broad range of values used for employee density for warehouse and freight movement uses: ● 780 - 1,263: CoP Economic Opportunities Analysis, 2016 ● 1,843: Dept. of Energy ● 2,500: USGBC	Central City/Inner Neighborhoods: 1 per 12,500 sq. ft. Outer Neighborhoods: 1 per 25,000 sq. ft. Minimum LONG-TERM requirements for WAREHOUSE and FREIGHT MOVEMENT uses in other cities: ● San Francisco, 2013: 1 space per 40,000 sq. ft. ● Los Angeles, 2017: 1 space per 10,000 sq. ft. *Current requirement Portland: 1 per 40,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 20,000 sq. ft.*
INSTITUTIONAL CATEGORIES		
Basic Utilities - Transit Centers	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC. Based on typical bicycle parking projects TriMet is working on and the need to codify a requirement for transit uses.	Central City/Inner Neighborhoods: 30 spaces Outer Neighborhoods: 30 spaces *Current requirement Portland: 8., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 8*
Basic Utilities - Light Rail Stations	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC. Based on typical bicycle parking projects TriMet is working on and the need to codify a requirement for transit uses.	Central City/Inner Neighborhoods: 12 spaces Outer Neighborhoods: 12 spaces *Current requirement Portland: 8., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 8*

Community Service Examples: libraries, museums, senior centers, community centers, publicly owned swimming pools, youth club facilities, hospices, ambulance stations, drug and alcohol centers, social service facilities, mass shelters or short-term housing when operated by a public or non-profit agency, vocational training for the physically or mentally disabled, crematoriums, columbariums, mausoleums, soup kitchens, park-and-ride facilities for mass transit, and surplus food distribution centers. Current Code has two specific use categories under Community Service: - The general community services - Park and Ride	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 1,305 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for community service uses: 1,017-1,592: USDOE	Central City/Inner Neighborhoods: 1 per 6,700 sq. ft. Outer Neighborhoods: 1 per 12,500 sq. ft. Minimum LONG-TERM requirements for COMMUNITY SERVICE uses in other cities: ● San Francisco, 2013: 1 per 5,000 sq. ft. ● Eugene, 2016: 1 per 500 sq. ft. (museum or library) (25% long-term and 75% short-term) *Current requirement Portland: 1 per 10,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 6,000 sq. ft.*
Community Service - libraries, museum, community centers	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 600 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for community service uses: • 600 CoP Economic Opportunities Analysis	Central City/Inner Neighborhoods: 1 per 3,030 sq. ft. Outer Neighborhoods: 1 per 5,882 sq. ft. Minimum LONG-TERM requirements for COMMUNITY SERVICE (libraries, museums and community centers) uses in other cities: ● Eugene, 2016: 1 per 500 sq. ft. (museum or library) (25% long-term and 75% short-term)
Community Service - Park and Ride	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC.	Central City/Inner Neighborhoods: 12 spaces Outer Neighborhoods: 12 spaces *Current requirement Portland: 10, or 5 per acre, adopted 1998 and 1994 Bicycle Regulation Task Force recommendation: 10, or 5 per acre*

Parks and Open Areas	100% Visitor Rate	No long-term required
Schools Current code has two subcategories of schools: ● Grades 2 through 5 ● Grades 6 through 12 The CoP SRTS proposes three tier subcategories of: ● Grades K through 5 ● Grades 6 through 8 ● Grades 9 through 12	[average class size] x [target mode split, trip to school] Draft calculation based on: ● Average class size for elementary (k - 5), middle (6-8), and high (9 -12) schools ● Using current bike mode splits for the school types and the goal to increase student ridership, below are the mode split goals: ○ K through 5 (Elementary) ● Central City/Inner Neighborhoods: 15% ● Outer Neighborhoods: 10% ○ 6 through 8 (Middle) ● Central City/Inner Neighborhoods: 20% ● Outer Neighborhoods: 15% ○ 9 through 12 (High School) ● Central City/Inner Neighborhoods: 25% ● Outer Neighborhoods: 25%	**K through 5** Central City/Inner Neighborhoods: 4 per classroom Outer Neighborhoods: 2 per classroom **6 through 8** Central City/Inner Neighborhoods: 5 per classroom Outer Neighborhoods: 3 per classroom **9 through 12** Central City/Inner Neighborhoods: 5 per classroom Outer Neighborhoods: 5 per classroom Minimum LONG-TERM requirements for SCHOOLS uses in other cities: ● San Francisco, 2013: 2 per classroom (elementary); 4 per classroom (middle school and high school) ● Los Angeles, 2017: 1 per 10 classrooms (private elementary and high schools) ● Eugene, OR, 2016: 1 per 8 students (10% long-term and 90% short-term) *Current requirement Portland: Grades 2 through 5: 2 per classroom and Grades 6 through 12: 4 per classroom adopted 1998* *1994 Bicycle Regulation Task Force recommendation: Elementary School 2 per 4th & 5th grade classroom; Middle School 2 per classroom; High School 4 per classroom*

Colleges Excludes dormitories (see Group Living above)	[average class size] x [target mode split, trip to school] Draft calculation based on: ● Employee density of density 2,100 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for college uses: ● 2,100: USGBC ● 1,254: USDOE	Central City/Inner Neighborhoods: 1 per 10,000 sq. ft. Outer Neighborhoods: 1 per 20,000 sq. ft. Minimum LONG-TERM requirements for COLLEGE uses in other cities: ● Cambridge, MA, 2013: 1 per 5,000 sq. ft. ● Eugene, OR, 2016: 1 per 5 full-time students (25% long-term and 75% short-term) ● Los Angeles, 2016: 1 space per 1,000 sq. ft. or 1 per 100 fixed seats, whichever is greater (Trade Schools, Private Universities or Private Colleges) *Current requirement Portland: 1 per 20,000 sq. ft. of net building area or per CU or IMP review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 20,000 sq. ft. of net building area or per CU or IMP review*
Medical Centers	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 546 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for medical center uses: ● 546: USDOE	Central City/Inner Neighborhoods: 1 per 2,700 sq. ft. Outer Neighborhoods: 1 per 5,500 sq. ft. Minimum LONG-TERM requirements for MEDICAL CENTERS uses in other cities: ● Cambridge, MA, 2013: 1 per 5,000 sq. ft. ● Eugene, OR, 2016: 1 per 3,000 sq. ft. (75% long-term and 25% short-term) ● San Francisco, 2013: 1 space per 15,000 sq. ft. of occupied floor area *Current requirement Portland: 1 per 70,000 sq. ft. of net building area or per CU or IMP review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 7,000 sq. ft. of net building area or per CU or IMP review*

Religious Institutions Examples: churches, temples, synagogues, and mosques.	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 2,295 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for religious institution uses: ● 1,317 - 2,295: USDOE	Central City/Inner Neighborhoods: 1 per 11,000 sq. ft. Outer Neighborhoods: 1 per 25,000 sq. ft. Minimum LONG-TERM requirements for RELIGIOUS INSTITUTIONS uses in other cities: ● Eugene, OR, 2016: 1 per 20 fixed seats or 40 feet of bench length or every 200 square feet in main auditorium where no permanent seats or benches are maintained (sanctuary or place of worship). (10% long-term and 90% short term) ● San Francisco, 2013: 5 spaces for facilities with a capacity less than 500 guests; 10 spaces for facilities with capacity of greater than 500 guests. *Current requirement Portland: 1 per 4,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 2,000 sq. ft.*
Daycare	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 575 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Broad range of values used for employee density for daycare uses: ● 575: Dept. of Energy ● 630: USGBC	Central City/Inner Neighborhoods: 1 per 3,000 sq. ft. Outer Neighborhoods: 1 space per 6,000 sq. ft. Minimum LONG-TERM requirements for DAYCARE uses in other cities: ● San Francisco, 2013: 1 space per 20 children ● Eugene, OR, 2016: 1 space per 10 employees (75% long-term and 25% short-term) *Current requirement Portland: 1/10,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1/10,000 sq. ft.*

OTHER CATEGORIES		
Aviation and Surface Passenger Terminals Examples: airports, bus passenger terminals for regional bus service, railroad passenger stations for regional rail service, passenger docks for regional marine travel such as ocean-going cruise ships, air strips, seaplane facilities, and helicopter landing facilities.	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 450 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for Aviation and Surface Passenger Terminal uses: ● 224 - 392: ITE ● 450: MWCOG	Central City/Inner Neighborhoods: 1 per 2,272 sq. ft. Outer Neighborhoods: 1 per 4,545 sq. ft. Minimum LONG-TERM requirements for AVIATION AND SURFACE PASSENGER TERMINALS uses in other cities: ● Eugene, OR, 2016: 1 per 3,000 sq. ft. (Train Station) *Current requirement Portland: per CU Review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: per CU Review*
Detention Facilities Examples: prisons, jails, probation centers, and juvenile detention homes.	[sq. ft. per employee] x [target mode split, commute trips] Draft calculation based on: ● Employee density of density 500 sq. ft. per employee. ● 15% average City target bicycle mode split for commute trips for 2035 ○ Central City/Inner Neighborhoods: 20% ○ Outer Neighborhoods: 10% Values used for employee density for Detention Facilities uses: ● 500: MWCOG	Central City/Inner Neighborhoods: 1 per 5,000 sq. ft. Outer Neighborhoods: 1 per 5,000 sq. ft. Minimum LONG-TERM requirements for DETENTION FACILITIES uses in other cities: ● Eugene, OR, 2016: 1 per 20 beds (75% long-term) (Correctional Facility, excluding Residential Treatment Center) *Current requirement Portland: per CU Review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: per CU Review*

SHORT TERM BIKE PARKING DISCUSSION - Equation & Data Assumptions

Use Category	Equation & Data Assumptions	Minimum Requirements
RESIDENTIAL CATEGORIES		
Group Living – Micro-Apartments Examples: dormitories; communes; fraternities and sororities; monasteries and convents; nursing and convalescent homes; some group homes for the physically disabled, mentally retarded, or emotionally disturbed; some residential programs for drug and alcohol treatment; and alternative or post incarceration facilities. Current Code has two specific use categories under Group Living: - The general group living - Dormitories	The Amount Subcommittee and the Stakeholder Advisory Committee proposed, that since these micro-apartments are really acting like multi-dwelling/ household living, the minimum requirements should match.	Central City/Inner Neighborhoods: 1 per 20 bedrooms Outer Neighborhoods: 1 per 20 bedrooms Minimum SHORT-TERM requirements for GROUP LIVING uses in other cities: ● Cambridge, MA, 2013: .050 spaces per bed ● San Francisco, CA: 2 spaces for every 100 beds. ● Eugene, OR, 2016: 1.1 per dwelling (4 single rooms are equal to 1 dwelling) (Single Room Occupancy) (90% long-term and 10% short-term) *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*

Group Living - Elderly and Disabled Facilities	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of .16 person trips per acre. per PM peak
	● 25% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	● Eugene - visitor rate of 25%
		Central City/Inner Neighborhoods: 1 per 100,000 sq. ft.
		Outer Neighborhoods: 1 per 166,000 sq. ft.
		
		Minimum SHORT-TERM requirements for GROUP LIVING (Elderly and Disabled Facilities) uses in other cities:
		● Eugene, OR, 2016: 1 per 15 beds (nursing home) (75% long-term and 25% short-term)
		● Cambridge, MA, 2013: .050 spaces per bed
		● San Francisco, CA: 2 spaces for every 50 units or beds, whichever is applicable.
		
		Current requirement Portland: none., adopted 1998
		1994 Bicycle Regulation Task Force recommendation: none

Group Living - Dormitory	The Amount Subcommittee and the SAC propose that Dormitories should have a short-term bicycle parking. Although universities are required to have short-term for other buildings, the thought that was there should be a fixed, minimum amount of short-term bicycle parking.	Central City/Inner Neighborhoods: 4 spaces Outer Neighborhoods: 4 spaces Minimum SHORT-TERM requirements for DORMITORY uses in other cities: ● Eugene, OR, 2016: 1.1 for each 2 occupants for which sleeping facilities are provided (~.5 per occupant) (90% long-term and 10% short-term) ● Cambridge, MA, 2013: .050 spaces per bed ● San Francisco, CA: 2 spaces for every 100 beds, for student housing provide 50 percent more spaces than would otherwise be required. *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*

COMMERCIAL CATEGORIES		
Retail Sales and Services	[per person trip rate] x [% visitors] x [target mode split, all trips]	Central City/Inner Neighborhoods: 1 per 2,700 sq. ft. Outer Neighborhoods: 1 per 4,400 sq. ft.

• Sales-oriented: supermarkets, garden supplies, hardware stores.
• Personal service-oriented: banks, hair salons, laundromats, veterinarians.
• Entertainment-oriented: restaurants, cafes, theaters, health clubs.
• Repair oriented: photo or laundry drop off, quick printing, bicycle repair.
	• Rate of 2 person trips per 1,000 sq. ft. per PM peak
	• 75% visitor rate
	• 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Retail category is broad and thus so are the trip rates:
	• Shopping retail: 2 person trips per 1,000 sq. ft.;
	• Standalone restaurants: 5.6 person trips per 1,000 sq. f.t
	• Supermarkets: 3.5 person trips per 1,000 sq. ft.
	• Range from 75-90% visitor rate.
		Minimum SHORT-TERM requirements for RETAIL uses in other cities:
		• San Francisco, 2013: 1 space/5,000 sq. ft.
		• Los Angeles, 2017: restaurants/bars 1 per 2,000 sq. ft.; retail stores general 1 per 2,000 sq. ft.; retail furniture stores 1 per 10,000 sq. ft.
		• Eugene, OR, 2016: eating/drinking establishments 1/600 sq. ft.; supermarkets 1/3,333 sq. ft.; general retail 1/4,000 sq. ft (all assume 75% visitor rate)
		• Cambridge, MA, 2013: food establishments/theaters: 1/1,000 sq. ft.; retail stores and services: 1/1,700 sq. ft.
		
		Current requirement Portland: 1/10,000 sq. ft., adopted 1998
		1994 Bicycle Regulation Task Force recommendation: 1/5,000 sq. ft.

Retail - Restaurant and Bars	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of 5.6 person trips per 1,000 sq. ft. per PM peak
	● 75% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
		Central City/Inner Neighborhoods: 1 per 952 sq. ft.
		Outer Neighborhoods: 1 per 1,587 sq. ft.
		
		● Los Angeles, 2017: restaurants/bars 1 per 2,000 sq. ft.;
		● Eugene, OR, 2016: eating/drinking establishments 1/600 sq. ft. (all assume 75% visitor rate)

Temporary Lodging
 	
Hotel
	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of .4 person trips per 1,000 sq. ft. per PM peak
	● 10% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
		Central City/Inner Neighborhoods: 1 per 40 rentable rooms; and 1 per 5,000 sq. ft. of conference, meeting room area
		Outer Neighborhoods: 1 per 40 rentable rooms; and 1 per 5,000 sq. ft. of conference, meeting room area
		
		Minimum SHORT-TERM requirements for TEMPORARY LODGING uses in other cities:
		● San Francisco, 2013: min. 2, 1 per 30 rooms - plus 1 space for every 5,000-sq. ft. of occupied floor area of conference, meeting or function rooms.
		● Eugene, OR, 2016: 1 space per 10 guestrooms
		
		Current requirement Portland: 1 per 20 rentable rooms, adopted 1998
		1994 Bicycle Regulation Task Force recommendation: none

Office
 	
Examples: professional services such as lawyers or accountants; sales offices; government offices and public utility offices; medical and dental clinics)
	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	• Rate of 1 person trip per 1,000 sq. ft. per PM peak
	• 20% visitor rate
	• 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Office category currently includes office types that are more service oriented which creates a conflict when developing short term amounts.
	• Administrative: .7 person trips per 1,000 sq. ft.; 10-20% visitor rate
	• Medical offices/clinics: 2.6 person trips per 1,000 sq. ft.; 75-85% visitor rate
		Central City/Inner Neighborhoods: 1 per 20,000 sq. ft.
		Outer Neighborhoods: 1 per 33,000 sq. ft.
		
		Minimum SHORT-TERM requirements for OFFICE uses in other cities:
		• San Francisco, 2013: min 2 spaces for 5,000, plus 1 per each 50,000 additional
		• Los Angeles, 2017: 1 per 10,000 sq. ft.
		• Eugene, OR, 2016: 1/24,000 sq. ft. (assumes 25% visitor rate)
		• Cambridge, MA, 2013: general/professional offices: 1/16,600 sq. ft.; government/medical offices 1/2,000 sq. ft.
		
		Current requirement Portland: 1/40,000 sq. ft., adopted 1998
		1994 Bicycle Regulation Task Force recommendation: 1/10,000 sq. ft.

Commercial Parking	None	None

Commercial Outdoor Recreation
Examples: amusement parks, theme parks, golf driving ranges, miniature golf facilities, zoos, and marinas.
	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	• Rate of 2 person trips per acre. per PM peak
	• 90% visitor rate
	• 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Using ITE trip generation data for amusement parks.
		Central City/Inner Neighborhoods: 1 per 2 acres
		Outer Neighborhoods: 1 per 3 acres
		
		Minimum SHORT-TERM requirements for COMMERCIAL OUTDOOR RECREATION uses in other cities:
		
		Current requirement Portland: 10, or 1 per 20 auto spaces, adopted 1998
		1994 Bicycle Regulation Task Force recommendation: 10, or 1 per 20 auto spaces

Major Event Entertainment	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	• Rate of 1.81 person trips per sq. ft. per PM peak
	• 75% visitor rate
	• 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Using TSDC rate for Event Hall
		Central City/Inner Neighborhoods: 1 per 40 seats
		Outer Neighborhoods: 1 per 40 seats
		
		Minimum SHORT-TERM requirements for MAJOR EVENT ENTERTAINMENT uses in other cities:
		• San Francisco, 2013: 5% of venue capacity, excluding employees. A portion must be provided in Attended Facilities.
		• Eugene, OR, 2016: 1 per 20 seats (75% short term) (Arena)
		• Los Angeles, 2017: 1 per 350 sq. ft. or 1 per 50 fixed seats (auditorium)
		
		Current requirement Portland: none, adopted 1998
		1994 Bicycle Regulation Task Force recommendation: none

INDUSTRIAL CATEGORIES		

Manufacturing And Production	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	• Rate of .6 person trips per 1,000 sq. ft. per PM peak
	• 10% visitor rate
	• 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Range from 10 - 25% visitor rate.
		Central City/Inner Neighborhoods: 1 per 67,000 sq. ft.
		Outer Neighborhoods: 1 per 111,000 sq. ft.
		
		Minimum SHORT-TERM requirements for MANUFACTURING AND PRODUCTION uses in other cities:
		• San Francisco, 2013: 4 spaces for any use larger than 50,000 gross square feet
		• Los Angeles, 2017: 1 per 10,000 sq. ft.
		
		Current requirement Portland: none., adopted 1998
		1994 Bicycle Regulation Task Force recommendation: none

Warehouse And Freight Movement	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of .2 person trips per 1,000 sq. ft. per PM peak ● 10% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15%	Central City/Inner Neighborhoods: 1 per 200,000 sq. ft. Outer Neighborhoods: 1 per 333,000 sq. ft. Minimum SHORT-TERM requirements for WAREHOUSE AND FREIGHT MOVEMENT uses in other cities: ● San Francisco, 2013: none ● Los Angeles, 2017: 1 per 10,000 sq. ft. *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*
INSTITUTIONAL CATEGORIES		
Basic Utilities – Transit Centers Current code lists the specific uses under this Category as **Light rail stations and transit centers**	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC. Based on typical bicycle parking projects TriMet is working on and the need to codify a requirement for transit uses.	Central City/Inner Neighborhoods: 12 spaces Outer Neighborhoods: 12 spaces *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*
Basic Utilities – Light Rail Stations	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC. Based on typical bicycle parking projects TriMet is working on and the need to codify a requirement for transit uses.	Central City/Inner Neighborhoods: 4 spaces Outer Neighborhoods: 4 spaces *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*

Community Service Examples: libraries, museums, senior centers, community centers, publicly owned swimming pools, youth club facilities, hospices, ambulance stations, drug and alcohol centers, social service facilities, mass shelters or short-term housing when operated by a public or non-profit agency, vocational training for the physically or mentally disabled, crematoriums, columbariums, mausoleums, soup kitchens, park-and-ride facilities for mass transit, and surplus food distribution centers. Current Code has two specific use categories under Community Service: - The general community services - Park and Ride	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of .73 person trips per 1,000 sq. ft. per PM peak ● 90% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15% Range from 75 - 90% visitor rate.	Central City/Inner Neighborhoods: 1 per 6,250 sq. ft. Outer Neighborhoods: 1 per 10,000 sq. ft. Minimum SHORT-TERM requirements for COMMUNITY SERVICE uses in other cities: ● San Francisco, 2013: ● Eugene, 2016: 1 per 500 sq. ft. (museum or library) (25% long-term and 75% short-term) *Current requirement Portland: 1 per 10,000 sq. ft., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: 1 per 5,000 sq. ft.*
Community Service - Libraries, Community Centers, Museums	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of 3.65 person trips per 1,000 sq. ft. per PM peak ● 90% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15%	Central City/Inner Neighborhoods: 1 per 1,219 sq. ft. Outer Neighborhoods: 1 per 2,041 sq. ft. Minimum SHORT-TERM requirements for COMMUNITY SERVICE uses in other cities: ● Eugene, 2016: 1 per 500 sq. ft. (museum or library) (25% long-term and 75% short-term)
Community Service - Park and Ride	This proposal was based on a discussion with TriMet, and approved by the Amount Subcommittee and SAC. Based on typical bicycle parking projects TriMet is working on and the need to codify a requirement for transit uses.	Central City/Inner Neighborhoods: 4 spaces Outer Neighborhoods: 4 spaces *Current requirement Portland: none., adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*

Parks and Open Areas	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of 2.08 person trips per acre. per PM peak
	● 100% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
		Central City/Inner Neighborhoods: 1 per 2 acres
		Outer Neighborhoods: 1 per 3 acres
		
		Minimum SHORT-TERM requirements for PARKS AND OPEN AREAS uses in other cities:
		● Eugene, OR, 2016:
		  ○ Park, Neighborhood 4 per park
		  ○ Park, Community or Metropolitan 8 per park
		● Los Angeles:
		  ○ Neighborhood Recreation Sites, etc. 10% of the required auto parking spaces, with a minimum of 5 short-term spaces
		  ○ Where no auto parking is provided, at least 5 short-term bicycle parking spaces, except in a park of less than 2 acres in which there are no recreational facilities requiring building permits, no short-term bike parking is required.
		
		Current requirement Portland: per CU Review, adopted 1998
		1994 Bicycle Regulation Task Force recommendation: Per CU Review

Schools Current code has two subcategories of schools: ● Grades 2 through 5 ● Grades 6 through 12 The CoP SRTS proposes three tier subcategories of: ● Grades K through 5 ● Grades 6 through 8 ● Grades 9 through 12	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of .7 person trips per 1,000 sq. ft. per PM peak ● 20% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15% Cambridge and Eugene assume a 10% long-term and 90% visitor rate - however, under Portland definition, long-term bicycle parking spaces would apply to employees and students at schools. Therefore, our assumption would be the reverse: ● 10% - 20% visitor rate	Central City/Inner Neighborhoods: 1 per 25,000 sq. ft. Outer Neighborhoods: 1 per 100,000 sq. ft. Minimum SHORT-TERM requirements for SCHOOLS uses in other cities: ● San Francisco, 2013: 1 per classroom (elementary); 1 per classroom (middle school and high school) ● Los Angeles, 2017: 4 per classroom (private elementary and high schools) ● Eugene, OR, 2016: 1 per 8 students (10% long-term and 90% short-term) *Current requirement Portland: none, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*
Colleges Excludes dormitories (see Group Living above)	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of .8 person trips per acre. per PM peak ● 50% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15% Range from 10 - 75% visitor rate.	Central City/Inner Neighborhoods: 1 per 10,000 sq. ft. Outer Neighborhoods: 1 per 16,000 sq. ft. Minimum SHORT-TERM requirements for COLLEGE uses in other cities: ● Cambridge: 1 per 2,500 sq. ft. ● Los Angeles, 2017: 1 per 500 sq. ft. or 1 per 50 fixed seats whichever is greater (Trade Schools, Private Universities, and Private Colleges) ● Eugene, OR, 2016: 1 per 5 full-time students (25% long-term and 75% short-term) *Current requirement Portland: 1 per 10,000 sq. ft. of net building area or per IMP review, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*

Medical Centers	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of .6 person trips per acre. per PM peak
	● 15% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
	
	Range from 10 - 25% visitor rate.
		Central City/Inner Neighborhoods: 1 per 50,000 sq. ft.
		Outer Neighborhoods: 1 per 100,000 sq. ft.
		
		Minimum SHORT-TERM requirements for MEDICAL CENTERS uses in other cities:
		● Eugene, OR, 2016: 1 per 3,000 sq. ft. (75% long-term and 25% short-term)
		● San Francisco, 2013: 1 per 30,000 sq. ft., but no less than 4 located near each public pedestrian entrance
		● Cambridge, MA: 1 per 10,000 sq. ft.
		
		Current requirement Portland: 1 per 40,000 sq. ft., adopted 1998
		1994 Bicycle Regulation Task Force recommendation: 1 per 20,000 sq. ft.

Religious Institutions	[per person trip rate] x [% visitors] x [target mode split, all trips]
	
	● Rate of .3 person trips per acre. per PM peak
	● 90% visitor rate
	● 25% average City target bicycle mode split for all trips for 2030
	  ○ Central City/Inner Neighborhoods: 25%
	  ○ Outer Neighborhoods: 15%
		Central City/Inner Neighborhoods: 1 per 14,000 sq. ft.
		Outer Neighborhoods: 1 per 25,000 sq. ft.
		
		Minimum SHORT-TERM requirements for RELIGIOUS INSTITUTIONS uses in other cities:
		● Eugene, OR, 2016: 1 per 20 fixed seats or 40 feet of bench length or every 200 square feet in main auditorium where no permanent seats or benches are maintained (sanctuary or place of worship). (90% short-term)
		● San Francisco, 2013: 1 per every 50 seats or for every portion of each 50-person capacity.
		● Cambridge, MA: 1 per 10 seats or 1 per 200 sq. ft.
		
		Current requirement Portland: 1 per 2,000 sq. ft. adopted 1998
		1994 Bicycle Regulation Task Force recommendation: 1 per 2,000 sq. ft.

Daycare	[per person trip rate] x [% visitors] x [target mode split, all trips] ● Rate of .7 person trips per 1,000 sq. ft. per PM peak ● 25% visitor rate ● 25% average City target bicycle mode split for all trips for 2030 ○ Central City/Inner Neighborhoods: 25% ○ Outer Neighborhoods: 15%	Central City/Inner Neighborhoods: 1 per 25,000 sq. ft. Outer Neighborhoods: 1 per 33,000 sq. ft. Minimum SHORT-TERM requirements for DAYCARE uses in other cities: ● San Francisco, 2013: 1 space per 20 children ● Eugene, OR, 2016: 1 space per 10 employees (75% long term and 25% short term) *Current requirement Portland: none, adopted 1998* *1994 Bicycle Regulation Task Force recommendation: none*
OTHER CATEGORIES		
Aviation and Surface Passenger Terminals Examples: airports, bus passenger terminals for regional bus service, railroad passenger stations for regional rail service, passenger docks for regional marine travel such as ocean-going cruise ships, air strips, seaplane facilities, and helicopter landing facilities.		
Detention Facilities Examples: prisons, jails, probation centers, and juvenile detention homes.		

Appendix F. Portland Bicycle Parking Case Studies

Block 17

1161 NW Overton St

Building Details:

- Year Built – 2014
- Number of units – 281
- Building area – 265,300 sq. ft.
- Parking – 210 spaces, below grade

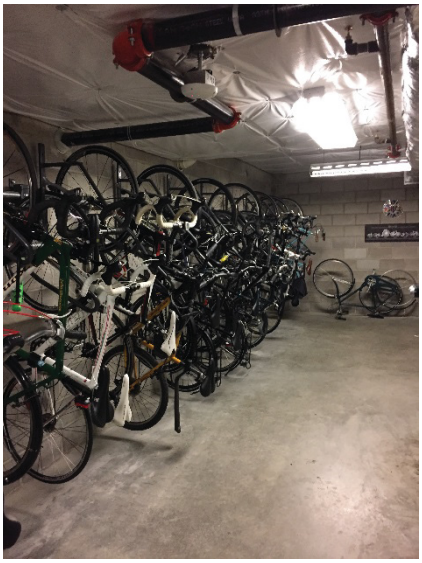
What was required:

- Long Term = 1.5 x 281 = 422 bicycle parking spaces
- Short Term = 1 per 20 units = 281/20 = 14 bicycle parking spaces

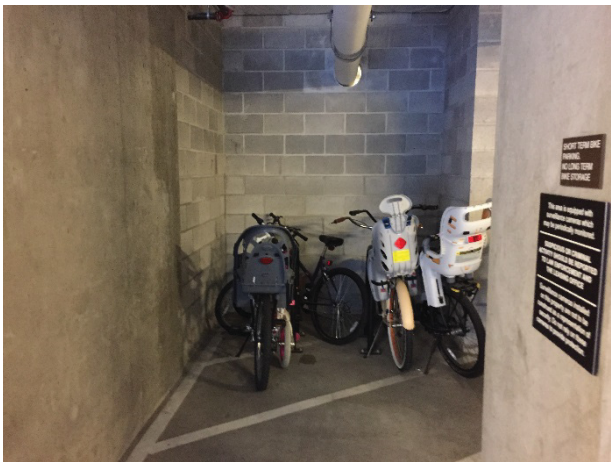
What was installed:

Long Term: Total = 434. Combination of in-unit and bike room.

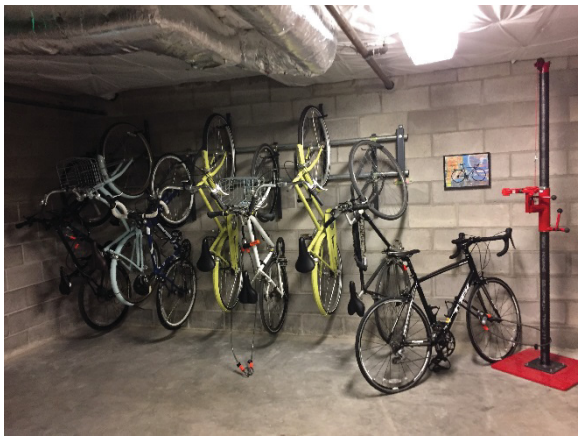
Garage bike room, all vertical parking.



Garage bike room, all vertical parking.



Bike parking in garage, limited number of horizontal spaces.



Garage bike room, all vertical parking.

Additional Information:

- The building managers have been asked to remove a number of the in-unit racks.
- Security – There is one secure, restricted-access bike room in the parking garage. There are three bike parking alcoves in the garage, that do not have any additional security measures beyond the restricted-access, vehicle access to the garage.
- Usage – the secure bicycle parking room was completely full, and the other bike parking alcoves were almost at complete capacity.
- Building management said they would prefer if there was more bike room space, it is the most popular.
- There were a very limited number of horizontal bike parking spaces, placed in an alcove in the parking garage.

Glendoveer Woods Apartment

333 NE 146th Ave. Portland, OR 97230

Building Details:

- Year Built – 2014
- Number of units – 112 (4-stories)
- Building area – 106,660 sq. ft.
- Surface parking around building (approximately 115 parking spots)

What was required:

- Long Term = 1.1 x 112 = 123 bicycle parking spaces
- Short Term = 1 per 20 units = 112/20 = 6 bicycle parking spaces

What was installed:

Long Term: Total = 112. Possible discrepancy between the total and the required 123 long-term spaces under code. Each apartment has an in-unit rack and there are 7 storage units on each floor available to rent, which can be used for additional bicycle storage.

In-unit bike rack, can hold 2 bikes. 2-points of contact for each bike, but does not meet code requirements for spacing for 2 bikes.

The racks fold up when not in use. This one is placed in the bedroom of a 2-bedroom unit.

Short Term: 12 spaces near front entrance on 146th Ave. and 24 spaces near back entrance of building. None of the spaces are covered. Total = 36 short-term spaces, which is 6 times more than required.

Additional Information:

- Allowed to store bicycles on the balcony, viewed a number of balconies with bicycles.
- In the process of building a bike repair room on the ground floor near the back entrance.
- Access – since all the current bike parking is in-unit the residents can utilize the building elevators (2 elevators) to access their rooms.
- Usage – All of the short-term racks were empty. Since the long-term bike parking is in-unit, there was no way to tell how many bikes are being stored in those racks or in other ways in the apartment.

Issues:

- Discrepancy between the code requirement of 123 long-term spaces and the existing one in-unit rack which means only 112 long-term spaces on-site. Of note, there are 7 storage units on each floor that can be rented and used for bicycle storage. Additionally, they are working on a bike repair room on the 1st floor, and this may have additional racks.
- Some of the in-unit racks were placed in the bedroom, on the wall next to the bed - not in common space.
- While in-unit rack can hold up to 2 bicycles, the rack does not meet code (i.e. spacing for bicycle footprint).
- In-unit racks do not meet code for being able to lock through wheel with u-lock ("The bicycle frame and one wheel can be locked to the rack with a high security, U-shaped shackle lock if both wheels are left on the bicycle").
- Spacing between on short-term racks does not meet code, less than 4 feet between racks.
- The short-term bicycle racks in the front of the building and by the back door were all uncovered.

Northwood Apartments

8338 N Interstate Ave, Portland, OR 97217

Building Details:

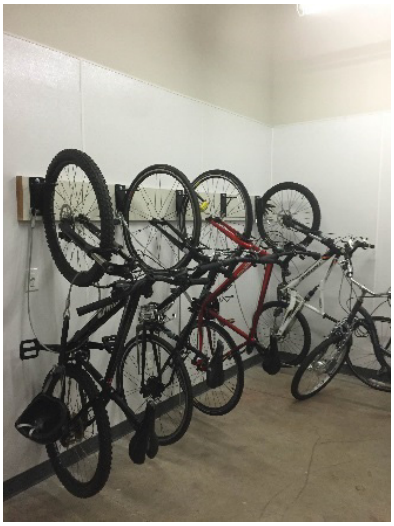
- Year Built – 2014
- Number of units – 57 (4-stories)
- Building area – 55,506 sq. ft.
- Ground floor retail – ~2,000 sq. ft.
- 16 parking spaces – partially covered, but not underground

What was required:

- Long Term = 1.1 x 57 = 63 bicycle parking spaces
- Short Term = 1 per 20 units = 56/20 = 3 bicycle parking spaces

What was installed:

Long Term: Total = 87 spaces. 30 spaces in ground floor bike room and 1 to 2 racks in each unit (at least 57 in-unit). Ratio =1.5 (could be a little higher, but couldn't confirm how many units had two racks). Important note that none of the long-term bicycle parking meets current code – double decker rack with no lift assist and the vertical racks do not support the frame, just hanging wheel.



Vertical racks in bike room – these were on two walls of the room.

Double Decker rack – no lift assist. Room for 12 bicycles.

In-unit vertical racks. 1-2 racks per unit (studios and 1-bedrooms have 1 rack – 2-bedrooms have 2 racks)

Short Term: 8 spaces near front entrance/ lobby door on Interstate Ave.

Short-term spaces on Interstate Ave. Not covered.

Additional Information:

- No spaces for specialty bikes, trailer or long-tail bikes.
- Access – Entrance to bike room is through back gate/ parking gate and key card entry to room door. Otherwise, residents can use the elevator or stairs when utilizing the in-unit racks.
- Usage – over capacity. At 11:00 AM on a Tuesday the bike room was almost entirely full of bikes.

Issues:

- The long-term racks used do not meet current code:
    - Vertical wall racks with cables – frame is not supported.
    - Double decker rack does not have lift assist for the second level of bicycles. Also potential issues with locking wheel and frame with u-lock.
- Potential property management issue – the in-unit vertical racks present an issue where wheels will be on apartment walls – are there any long-term maintenance issues with wheel marks, or other similar issues?
- For units with two in-unit racks, photos show there might be spacing issues, not enough space between racks for bicycle footprint per code requirement. This could not be confirmed.

Osprey Apartments

3750 SW River Pkwy

Building Details:

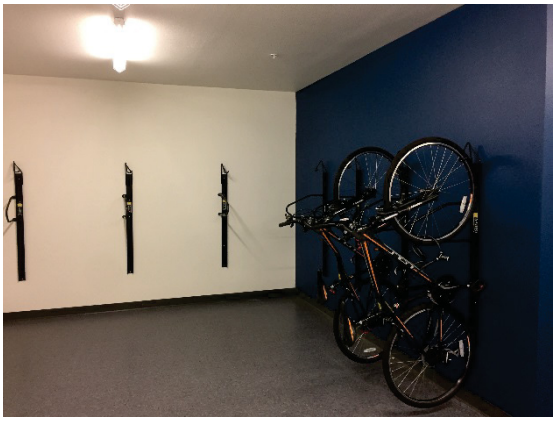
- Year Built – 2015
- Number of units – 270
- Building area – 279,607 sq. ft.
- Parking – 225 spaces

What was required:

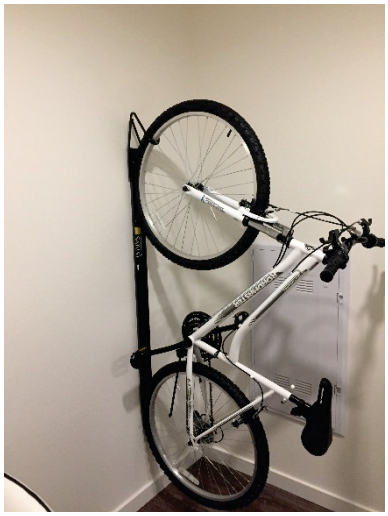
- Long Term = 1.5 x 270 = 405 bicycle parking spaces
- Short Term = 1 per 20 units = 270/20 = 14 bicycle parking spaces

What was installed:

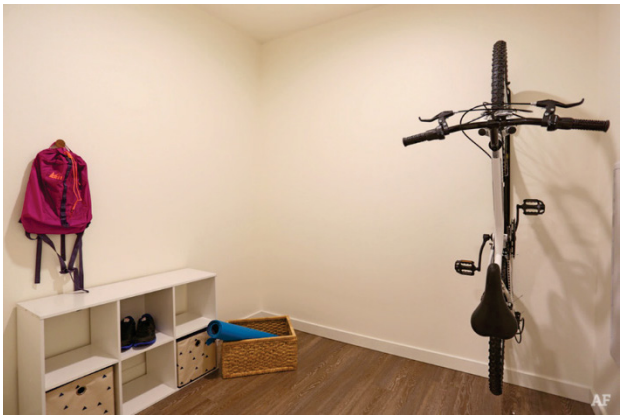
Long Term: Total = 425. Combination of in-unit and bike room.



A bike room on every floor.



In-unit bicycle rack, in a dedicated storage room.



In-unit bicycle rack, in a dedicated storage room.

Horizontal bicycle parking space in bike room.

Additional Information:

- The building managers have been asked to remove a number of the in-unit racks.
- Security – There is a secure, restricted access bike room on each floor.
- A number of the in-unit bike racks are placed in a dedicated storage room, within the unit. Those racks that are not in a dedicated room, are placed near the entrance to the unit.
- About 50% of racks are placed in-unit and 50% of racks are in dedicated bike rooms.
- There is one, ground floor bike room with roll-up access. It was full.
- There were a very limited number of horizontal bike parking spaces, one (maybe two racks in the bike rooms).

The Union Apartments

304 NE Multnomah St. Portland, OR 97232

Building Details:

- Year Built – 2014
- Number of units – 185 (7-stories)
- Building area – 165,261 sq. ft.
- Ground floor retail – ~3,600 sq. ft.
- Underground parking – with garage door access

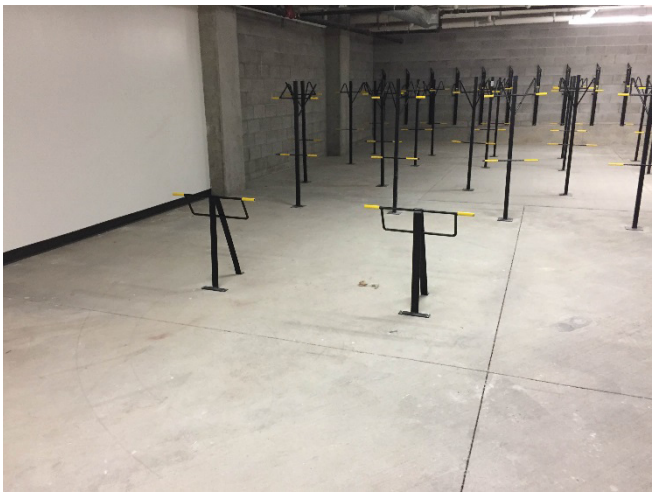
What was required:

- Long Term = 1.5 x 185 = 278 bicycle parking spaces
- Short Term = 1 per 20 units = 185/20 = 9 bicycle parking spaces

What was installed:

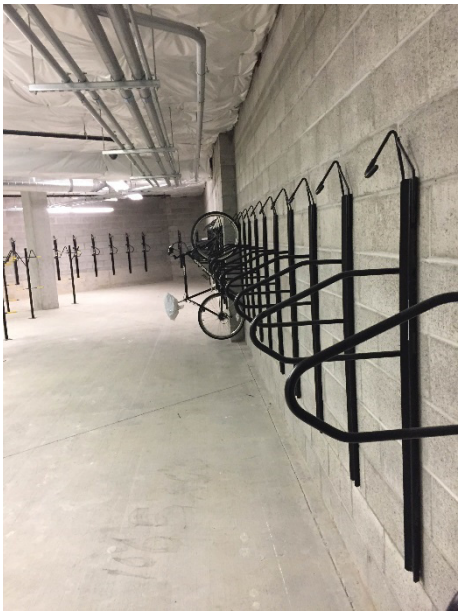
Long Term: Total = ~ 308 spaces. The parking garage has two bike cages and a large bike room. The first floor has two bike rooms. Each additional floor has a single bike room. There are no in-unit bike racks, but tenants are allowed to bring racks in-unit. All vertical racks, (two horizontal racks in garage bike room) with a lot of additional floor space in the cages and rooms.

Bike cage in parking garage. Access through pin-code on door handle. All vertical parking.



Bike room in garage. Two horizontal racks and the rest are vertical.

Bike washing station in garage bike room.



Another view of the garage bike room, with vertical racks along the wall.

First Floor bike room, vertical cable racks.

Short Term: Total = 14 spaces (7 racks). Circle racks along the private driveway – between Multnomah and MLK.

Short-term circle racks, along private driveway between Multnomah and MLK.

Additional Information:

- Even though the apartment is only at 85% capacity, all car parking spots have been sold and there is a waiting list.
- Security – bike rooms and cages are accessed via a pin-code on the door handle.

- Access – the bike cages and bike room in the garage can be accessed through garage door (pin-code access) and the tenant can ride down the ramp to various locations. The first floor bike rooms are accessible through doorway and set of ramps. For other floors, tenants can use elevators.
- Usage – All the bike rooms and cages (garage and first floor) looked pretty empty at the 10:00am visit time – the apartment is only at 85% capacity right now.
    - Property Manager hasn't heard of issues of not enough bike parking space, but thinks when building is at full capacity the rooms will be more utilized.
- There are two horizontal racks in the large garage bike parking room, with space for larger, cargo bikes.
- There is an electrical outlet in the garage bike parking room.
- Most of the bike parking rooms have additional floor space, in addition to vertical racks along the walls.

Issues:

- More of a developer issue – but property manager mentioned that there was lost storage space due to accommodating bike parking. Perhaps the developer didn't plan for amount of bike parking early enough.
    - Property manager is looking to add some storage units into the bike parking rooms.
- Some of the vertical racks do not meet code – the vertical wall racks with cables, frame is not supported.

Appendix G. Other City Bicycle Parking Code: Allowance of In-unit

In reviewing the Bicycle Parking Code regulations of other cities, the majority **do not allow** bicycle parking spaces in an apartment unit or on a balcony to count toward the required long-term bicycle parking.

Eugene, OR

- Long-term bicycle parking not allowed to be in residential unit.
- Long-term requirement: 1 per unit (studio, 1 bedroom, 2 bedroom units) and 2 per unit for 3+ bedroom units.

San Francisco, CA

- Residential buildings shall not use space in dwelling units for required bike parking.
- Long-term requirement: 1 space for every dwelling unit. For buildings containing more than 100 units, 100 spaces plus 1 space for every 4 units over 100.

Vancouver, BC

- All required Class A bicycle spaces shall be provided in a separate bicycle room located within a building.
- Long-term requirement: 1.25 space for every dwelling unit.

Cambridge, MA

- City staff say they do not permit long-term bike parking in unit and justify that with their existing access/location requirements (admit they could make prohibition more specific).
- Long-term requirement: 1 space per unit for first 20 units, 1.05 per unit for all buildings over 20 units.

Los Angeles, CA

- From LA Staff: we currently don't have language specifically prohibiting long-term bike parking inside dwelling units, but the amendment that passed the Planning Commission last month essentially puts a prohibition in place. It gives a list of options for locating the bike parking, and says that only the listed locations are acceptable – inside dwelling units is not one of them.
- Long-term requirement: 1 space per unit.

Seattle, WA

- Spaces within dwelling units or on balconies do not count toward the bicycle parking requirement.
- Long-term requirement: 1 space for every 2 dwelling units. After the first 50 spaces for bicycles are provided, additional spaces are required at one half the ratio.

Chicago, IL

- Space within dwelling units or on balconies may not be counted toward satisfying bicycle parking requirements.

Madison, WI

- Required long-term bicycle parking for residential uses shall not be located within dwelling units or within deck, patio areas, or private storage areas accessory to dwelling units.
- Long-term requirement: 1 per unit up to 2-bedrooms, ½ space per additional bedroom.

		The Union	Northwood Apartments	Glendoveer Woods	11 Marche Apartments	The Wilmore	Osprey Apartments
		304 NE Multnomah St.	8338 N. Interstate Ave.	33 NE 146th Ave.	1115 SW Market St.	4357 N. Williams Ave.	3750 SW River Pkwy.
Existing Conditions	Dwelling Units	185	57	112	67	75	270
	Required LT Bike Spaces	278	63	123	101	83	405
	Ratio (spaces per unit)	1.5	1.1	1.1	1.5	1.1	1.5
	Auto Parking	97	16	115	19	35	225
	All Horizontal Spaces (sq. ft.)	4,726	1,071	2,091	1,711	1,411	6,885
	All Vertical Spaces (sq. ft.)	2,432.50	551.25	1,076.25	883.75	726.25	3,543.75
10% Horizontal Requirement	Horizontal Space (sq. ft.)	472.6	107.1	209.1	171.7	141.1	688.5
	Vertical Space (sq. ft.)	2,189.25	496.13	968.63	795.38	653.63	3,189.38
	Total Bike Room Space (sq. ft.)	2,661.85	603.23	1,177.73	967.08	794.73	3,877.88
30% Horizontal Requirement	Horizontal Space (sq. ft.)	1,417.80	321.3	627.3	515.1	423.3	2,065.50
	Vertical Space (sq. ft.)	1,702.75	385.88	753.38	618.63	508.38	2,480.63
	Total Bike Room Space (sq. ft.)	3,120.55	707.18	1,380.68	1,133.73	931.68	4,546.13
	Comparisons with a 30% Horizontal Requirement						
Existing Conditions	Median Unit Size (sq. ft.)	884.00	796	718	686.5	767.5	1,006.50
	Retail Space (sq. ft.)	3,600	2,000	n/a	n/a	6,500	6,000
	Overall Building (sq. ft.)	165,261	55,506	106,660	54,435	80,697	279,607
Space Comparisons	Number of units per bike room	3.53	0.89	1.92	1.65	1.21	4.52
	Percentage of Space of Bike Room vs. Retail Space	86.7	35.4	n/a	n/a	14.3	75.8
	Percentage of Bike Room vs. Overall Building	1.89	1.27	1.29	2.08	1.15	1.63

Key Assumptions:

Horizontal Bicycle Parking: 16 bikes w/ aisle = 272 sq. ft.

Vertical Bicycle Parking (including double decker): 16 bikes w/ aisle = 140 sq. ft.

Vehicle parking 16 spaces (90 degrees w/ 1-way aisle) = 52' X 68.8' = 3,577.6 sq. ft.

Appendix I – Bicycle Parking Online Open House

PBOT staff put together an Online Open House, which included detailed information about most of the Committee's recommendations for the bicycle parking code update. The open house was available for comment from September 11 to September 25 and received between 38 and 55 responses on each of the seven sections.

The purpose of the Online Open House was twofold:

1) To share the Committee's work to-date; and
2) To provide an early opportunity for public feedback on the package of recommendations.

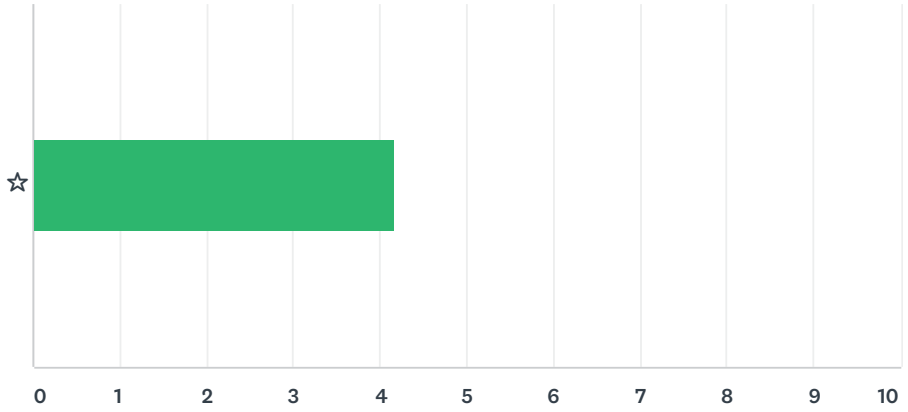
This will by no means be the only opportunity for public feedback, but as the committee's work was wrapping up it was a good time to share their work.

General themes in the feedback:

- There was general agreement on all the recommendations (every element was a 3 level of agreement or above).
- Much like the Committee's discussions throughout the process, comments from the public represented strong opinions on all sides; showing how strongly people feel about bike parking, but also that there isn't just one way to do bike parking.
- The one thing that did seem to shine through from the comments was that there was a lot of support for requirements to accommodate different types of bikes (i.e. cargo bikes and electric bikes) as well as racks that are usable for people of all abilities.

Q1 What is your level of agreement with these proposed standards for long-term bicycle parking location?

Answered: 48 Skipped: 4



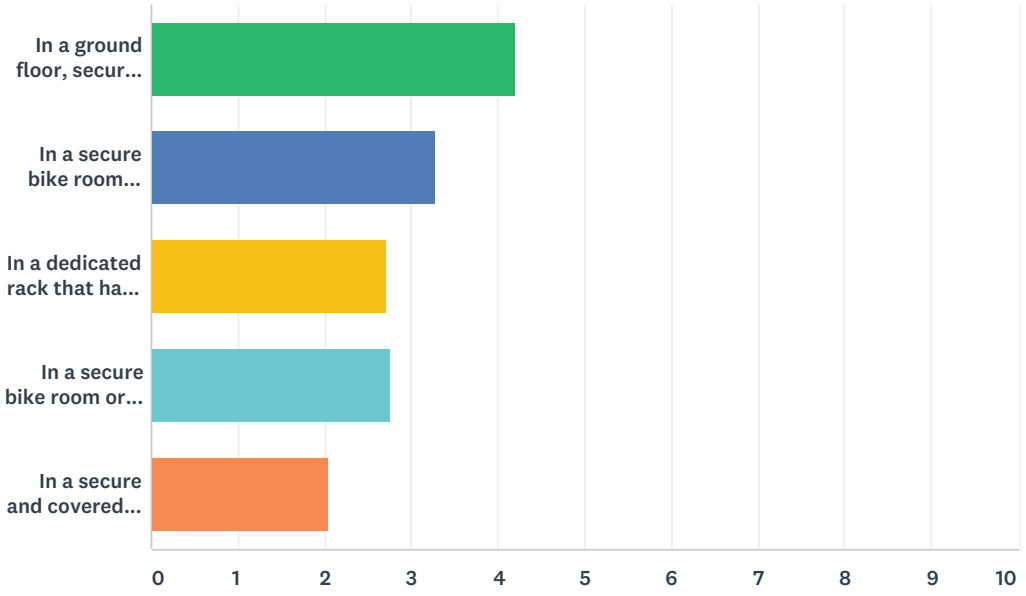
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	2.08% 1	6.25% 3	6.25% 3	43.75% 21	41.67% 20	48	4.17

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	If you’re going to allow credit for bike space in individual units, how will you enforce that?	9/25/2017 1:00 PM
2	There's not many other places it could go! Might want signage to direct long term visitors to secure racks in off-street parking areas, garages, for example. Maybe: If you have off-street parking/ or garage, there must be bike parking in it.	9/25/2017 10:37 AM
3	I don't like bike parking in auto parking areas. It places riders in mixed traffic, exposes riders to concentrated exhaust, is often rather far from the office or home, and often is of poor quality. There are some really awful examples of bike parking retrofitted into auto parking areas. The cage pictured has a door that's way too narrow; last week in order to access bike parking I had to duck (crawl?) under a ventilation duct that was about 4.5 feet from the floor; last year I parked my bike in long-term parking that was situated on sloping floor with a ceiling lower than my height (6' 2"). Maybe we should continue allowing bike parking in car parking areas, but the facilities need to be of acceptable quality, close to the entrace, well lit, and well-signed.	9/21/2017 5:11 PM
4	Sounds good, except for the in-unit portion which does not work out for multi-family housing. (Developers and managers just remove hooks, tenants like to lay out their furniture in different ways.	9/20/2017 11:04 AM
5	Bike parking on floor should be available to accommodate heavier bicycles, shorter people, and those who cannot physically lift a bike and place it in a wall rack.	9/19/2017 10:56 AM
6	Prefer secure room w/ secure room rather than a bike cage unless the cage is very clearly secure.	9/19/2017 9:02 AM
7	Need to make room for cargo bikes, perhaps in proportion to how many units are multi-bedroom / family.	9/19/2017 6:03 AM
8	I like designated bike rooms on the ground floor. I find it best for quick access. The area ideally would be screened/fenced or locked with a secure entry. taking bikes up elevators and down corridors would present challenges to the bike rider and the property manager.	9/18/2017 10:47 AM
9	I would hate to see ground floor retail replaced with bike parking as that de-activates the street. I also think many people like to have their bikes in their apartments or workplaces so this should be allowed to put a rack in a unit or office to fulfill this requirement.	9/18/2017 10:26 AM
10	No brainer	9/18/2017 9:16 AM

11	We have 3 garage bike parking cages and they are far and away the hardest to keep clean. The air quality is terrible and it causes bikes to travel through garages, often unnecessarily. Garage ramps are also often not designed for bikes and can cause injuries. The ground floor, separate bike rooms are far more ideal. Bike rooms on individual floors can also create issues if elevator access is not adequate. Any solution is better than none but ground floor, separated space is far better than the other proposed alternatives. I don't think visibility is a useful requirement for long term bike parking. If they use it long term, they know where it is.	9/18/2017 9:00 AM
12	The bike room photo seems to indicate a poor use of space, and every additional square foot not for housing will make the rest of the units less affordable. I hope there are more efficient methods of storing bicycles. And I hope the housing affordability issue is being adequately considered.	9/15/2017 10:13 PM
13	Some of these options don't look they could accommodate the length of cargo bikes, and cargo bikes are very difficult to park anywhere but ground level.	9/15/2017 4:33 PM
14	Once code is written, interpretation of code can be difficult. I would modify the term 'Ground Floor' to something like 'Primary level or levels of discharge'. Depending upon site dynamics the primary level of discharge may occur at multiple floors.	9/14/2017 5:21 PM
15	Allow as much flexibility as possible for the location of bike parking so it can be appropriately located per the specific conditions of each project, including access to the site, security, unit size, etc.	9/14/2017 1:36 PM
16	I don't think requiring bike rooms on every floor of apartments is a benefit to users. Well designed ground floor rooms for the entire building is a great solution that should be put forth.	9/14/2017 10:32 AM
17	Bike room on every floor is great if the building allows bikes in elevators. It is of limited use if it's a low, multi-story building without elevators, or if the building management decides they're too dirty and relegates bikes to the stairs. Picture #3 is problematic. Ground floor windows should not be showing parking, neither cars nor bikes. Bikes are less stinky than cars, but it's not an active use, and is not a good use of street frontage.	9/13/2017 11:03 PM
18	It is NOT the city's job to make ANY bicycle parking a regulation when only 7% of people commute by bike.	9/13/2017 3:13 PM
19	very efficient	9/13/2017 1:27 PM
20	Is it wise to limit how and where building owners can put bicycle storage? Will it discourage owners from providing bike storage if we limit how and where the storage can be? What if a building owner offers accessible storage on the ground floor, with overflow on, say, a rooftop unit? Isn't more bike storage better?	9/13/2017 11:01 AM
21	Bike parking needs to have room for nonstandard bikes. Trikes, recumbents for people with disabilities, longtails and cargo bikes for people with children.	9/13/2017 10:19 AM
22	This all makes sense, the only change I would make is that in the third picture (to the far right) there needs to be an automatic door available. Few things are more challenging than opening a door while trying to wheel a bike through the opening.	9/12/2017 8:26 PM
23	visible and easy to find should be preferred, but well-signed access should be acceptable. especially if the same is true for car parking	9/12/2017 5:50 PM
24	It would be nice if bike parking could be located in a well traveled area like a lobby or main corridor, so they are highly visible. Putting them in a locked room away from the main areas doesn't feel safe. Also please allow in-unit bicycle parking to count toward the requirement. Requiring extremely large bike rooms in all apartments is an extremely expensive use of limited square footage.	9/8/2017 4:47 PM
25	Yes to all of the above, but allow for some required parking to be in unit as many people prefer that.	9/8/2017 4:41 PM
26	Ground floor is the key. I wouldn't want to use an elevator or carry bike up the stairs.	9/8/2017 9:21 AM
27	Not a huge fan of parking on the actual floors, I hate taking my bike up and down in an elevator	9/7/2017 4:56 PM

Q2 Where would you prefer to park your bicycle at your workplace? (please rank the following options from 1 (your top choice) to 5)

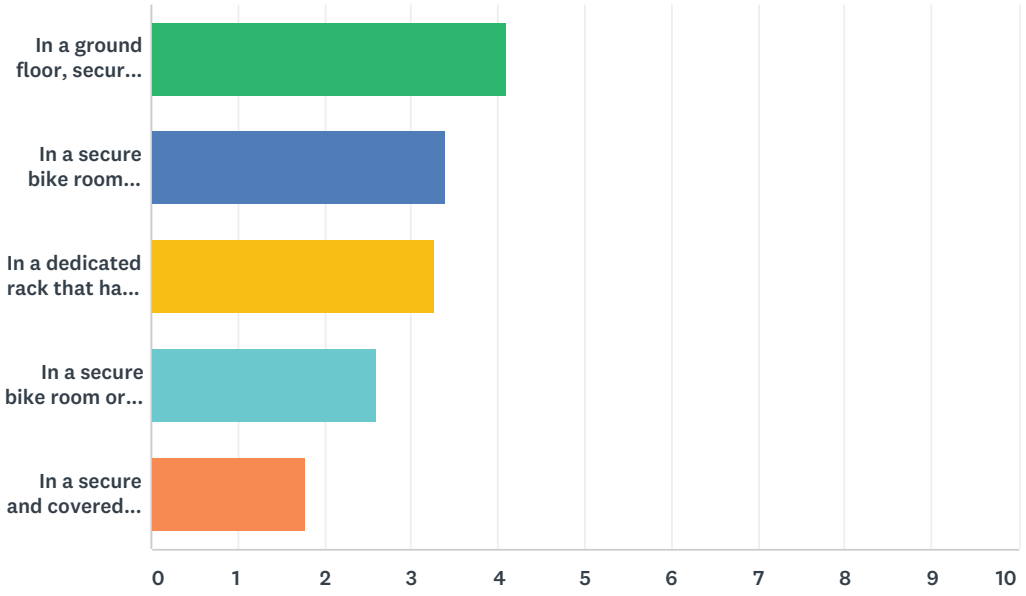
Answered: 49 Skipped: 3



	1	2	3	4	5	TOTAL	SCORE
In a ground floor, secure bike room* accessible by a door from the sidewalk or street	53.06% 26	24.49% 12	14.29% 7	6.12% 3	2.04% 1	49	4.20
In a secure bike room located on my individual floor	19.15% 9	27.66% 13	21.28% 10	25.53% 12	6.38% 3	47	3.28
In a dedicated rack that has been placed in my office space	19.15% 9	12.77% 6	23.40% 11	10.64% 5	34.04% 16	47	2.72
In a secure bike room or cage in the automobile parking area (including garage)	6.25% 3	25.00% 12	18.75% 9	39.58% 19	10.42% 5	48	2.77
In a secure and covered bike cage located outside my building	2.13% 1	10.64% 5	23.40% 11	17.02% 8	46.81% 22	47	2.04

Q3 Where would you prefer to park your bicycle at your residence? (please rank the following options from 1 (your top choice) to 5)

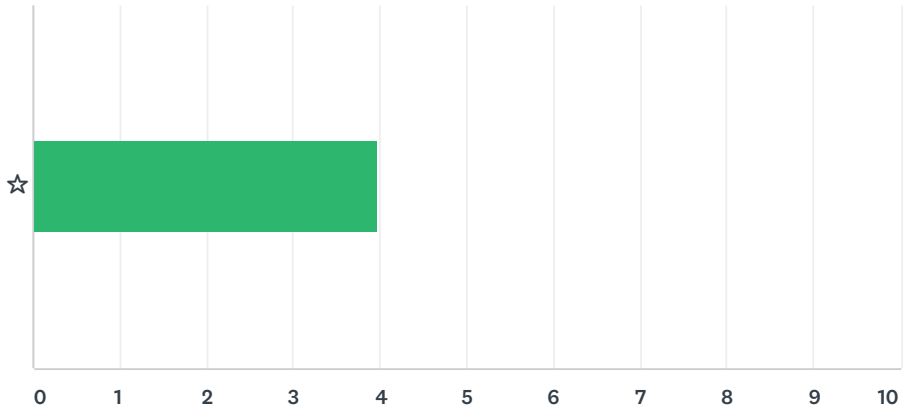
Answered: 47 Skipped: 5



	1	2	3	4	5	TOTAL	SCORE
In a ground floor, secure bike room accessible by a door from the sidewalk or street	47.83% 22	21.74% 10	26.09% 12	2.17% 1	2.17% 1	46	4.11
In a secure bike room located on my individual floor	15.56% 7	40.00% 18	15.56% 7	24.44% 11	4.44% 2	45	3.38
In a dedicated rack that has been placed in my residential (apartment, condo) unit	33.33% 15	13.33% 6	22.22% 10	8.89% 4	22.22% 10	45	3.27
In a secure bike room or cage in the automobile parking area (including garage)	6.52% 3	13.04% 6	19.57% 9	54.35% 25	6.52% 3	46	2.59
In a secure and covered bike cage located outside my building	0.00% 0	13.04% 6	15.22% 7	8.70% 4	63.04% 29	46	1.78

Q1 What is your level of agreement with the proposal to designated spaces for non-traditional sized bikes?

Answered: 50 Skipped: 0



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	6.00% 3	6.00% 3	12.00% 6	36.00% 18	40.00% 20	50	3.98

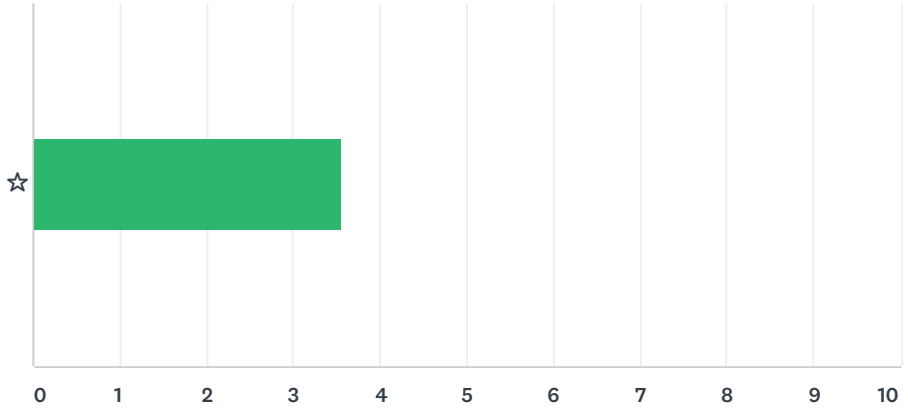
#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	If we want higher rates of bike usage we need to encourage larger bikes or more wheels for people with kids, groceries, less comfort with bikes, older riders, people with disabilities.	9/25/2017 10:42 AM
2	In my office, we have at least 3 cargo bikes arriving daily out of perhaps 50 bikes. (that's already over 5%) Most of these bikes are used by parents for child dropoff and pickup before and after work. If we're going to meet our mode-share goals, we need to allow this cargo bike fraction to grow significantly. I suggest 20%.	9/21/2017 5:19 PM
3	Is 5% enough?	9/21/2017 9:19 AM
4	This is great, especially if the standard spaces will be reduced in size.	9/20/2017 11:48 AM
5	It's sort of a chicken-and-egg problem as to how many of these bikes there actually are. I of course wouldn't want to hinder folks from riding these bikes - I'd want to encourage it, but I wouldn't want to take needed space from other bikes if the long bikes aren't even there.	9/19/2017 12:35 PM
6	Please add language that these spaces should be used by people who are unable to lift a bike into a rack due to shortness or disability.	9/19/2017 10:59 AM
7	Providing these kinds of spaces is critical for expanding Portland's biker population to include more young families and encourage people to bike for more trips, like grocery shopping. I bike with a small child in a trailer almost every day, and also use my trailer for errands. Finding adequate parking (short and long term) is definitely a challenge that is sometime difficult to overcome.	9/19/2017 7:59 AM
8	Need to have extra consideration / encouragement at elementary schools for e cargo bike drop-off / pickup routines.	9/19/2017 6:08 AM
9	Are there bike parking options that work for both traditional and non-traditional bikes? That would be preferable	9/18/2017 8:14 PM
10	I think 5% is too high for this type of bike.	9/18/2017 10:28 AM
11	Make sure it's clear when to round up or down the non-traditional bike rack numbers. Further information regarding compliant non-traditional racks would be helpful. Is there a PBOT staff review involved to non-traditional racks?	9/18/2017 9:34 AM
12	More bike-oriented lifestyle will need diverse bikes	9/18/2017 9:18 AM
13	We need versatility in rack shape and design for different sized bicycles and different sized humans	9/15/2017 10:17 PM

14	A larger percentage would be more effective in the long run. If there is a way to incentivize that.	9/15/2017 10:00 PM
15	Accommodating cargo bikes will really help families	9/15/2017 4:36 PM
16	5% doesn't seem like nearly enough, particularly in multifamily housing parking garages. Anyone who bikes and has a family is likely to own (or want to own) a cargo bike. Cargo bikes will continue to become more practical and popular, particularly as electric assist models come down in price. I think the 20+ clause is also arbitrary.	9/15/2017 1:15 PM
17	5% seems like a lot	9/15/2017 12:20 PM
18	Poor photo to use as an example. I despise those shortchanged racks for ANY size bike!	9/15/2017 11:04 AM
19	I believe that this needs to be more regulated by the type of development that the parking spaces are serving. The need for this can vary widely based on tenant use/population and can adversely impact certain developments.	9/14/2017 5:24 PM
20	maybe threshold should be higher than 20.	9/14/2017 1:38 PM
21	5% is the correct ratio. In our facility with 150 stalls we consistently see 5-6 non conventional bikes.	9/14/2017 10:36 AM
22	Seems to be a reasonable ratio	9/14/2017 9:06 AM
23	My bikes are pretty standard, but the more people rely on bikes, the more varieties of bikes there will be, and will need to be stored. If I could ride a recumbent, I would. Fortunately for you, I can't. We need to make it possible to park and store cargo bikes, kid-hauling bikes, tandems, and the occasional bike with trailer.	9/13/2017 11:13 PM
24	inclusive--I like it!	9/13/2017 1:18 PM
25	My comments: * Mom or dad takes the kids to school on the long-tail, then heads to work, and needs a place to park at work * When the committee at my work (which I participated in) asked for input on bicycle parking, we were told that some bicycle riders lack upper body strength to pick up a bike and put it into a rack or a hook like what New Relic has. So we asked for, and got, some staple racks in our bike cage in the parking garage, similar to what's pictured. So, yes, you also need to provide parking for regular bicycles which does not require lifting.	9/13/2017 12:48 PM
26	The proposal might need to specifically look at the needs of people using accessible bicycles and similar self-transport, related to a disability. Will there be enough room for handcycles, trikes, and other accessible devices? Will there be enough room adjacent to the larger spots to allow a person with a disability to get off a handcycle or trike and transfer to a wheelchair, crutches, walker, etc.? Merely having larger spots for larger bikes won't be as helpful if people with disabilities can't get off the handcycle/trike/accessible device without navigating dozens of other bikes parked close by. Will bikers with disabilites need grab bars, etc., to make it easier to exit? Should larger spaces be located at the end of a row to increase access? Please make special efforts to consult with people with disabilities to decide how they can best use these bike parking spots.	9/13/2017 10:57 AM
27	YES! I have a cargo bike with a box in front (infant in carseat) and back rack seat (toddler) and it is hard to get up close to the traditional staples. I am not the only cargo bike with this issue. I think it should be 10% however. 5% is only 1 for 20.	9/13/2017 10:22 AM
28	I think this is a lot of bicycles---Might be better to show fewer spaces to make it more reasonable for Portland, but the shorter, more cargo-friendly cycle spaces are a big step in the right direction.	9/13/2017 9:15 AM
29	The suggestion that there must be a "trigger" of 20 spots before a large space must be provided is woefully inadequate. These larger bikes are generally more expensive and provide greater utility meaning that a safe, secure place to store them is more important.	9/12/2017 8:30 PM
30	20 spaces seems like a low threshold. Given the number of apts. being built now with much higher bike parking space numbers, I think a greater range should be used	9/12/2017 5:53 PM
31	5% seems excessive. It might be good to make it an incentive -- fewer overall bike racks required if a few more are floor racks.	9/8/2017 4:49 PM

32	Mandating spaces and horizontal racking for non-traditional sized bikes requires a significantly greater amount of space without regard to how/whether these types of spaces are needed or will be used. 5% seems like an arbitrary number that may not correlate to actual needs. Further, the criteria for type of rack may also not respond to actual needs and as such could be an incredibly inefficient use of space (kids bikes and trailers would also be non-traditional but have very different needs, for example). Where bike racks are provided, it should be up to the provider what quantity and types of non-traditional racks are needed.	9/8/2017 11:36 AM
33	YES! As a user of a cargo bike, dedicated space is important to me.	9/8/2017 9:23 AM
34	It is a good idea to require some amount of non-traditional bike parking in a large garage. I don't know if 20 is the right number.	9/7/2017 5:50 PM
35	5% seems like a lot, although I recognize the need. These are very popular/important for families. Is there a way to include racks for extracycles that might not be as hard to accommodate as the bucket bikes, could be vertical, etc	9/7/2017 5:02 PM

Q2 What is your level of agreement with the proposal to include requirement of electrical outlets for e-bikes?

Answered: 50 Skipped: 0



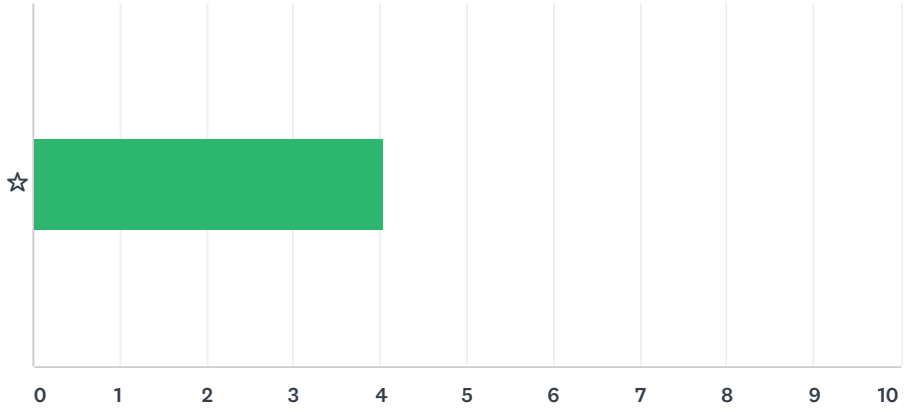
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	12.00% 6	10.00% 5	24.00% 12	18.00% 9	36.00% 18	50	3.56

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Why not incentivize coloration of electrical infrastructure that could be used for both E-bikes and electric cars?	9/25/2017 1:02 PM
2	Much cheaper than electric car charging! the market may not be there right now, but it's heading there, especially for the non-traditional bike users (people with kids, groceries, less comfort with bikes, older riders, people with disabilities).	9/25/2017 10:42 AM
3	The percentage should be much higher! Worldwide e-bike sales are accelerating at an incredible pace and this code is designed for structures that will stand for a long time. I suggest 50% outlet coverage! Electrical outlets may be cheaper to install during a new build and more expensive to retrofit. Perhaps require a higher level of coverage for new construction? Require current ratings sufficient to allow all e-bikes to charge at once.	9/21/2017 5:19 PM
4	could be higher, say 10-20%, in anticipation of broad adoption of ebikes	9/21/2017 12:32 PM
5	This seems unnecessary and could cause conflicts as to how you pay for that electricity and who gets to use it if there are multiple e-bikes parked near one outlet.	9/20/2017 11:48 AM
6	I don't know enough about e-bikes, but can't people remove the battery and charge it separately from the bike?	9/19/2017 12:35 PM
7	Assuming this requirement would be matched for electric car charging.	9/19/2017 9:04 AM
8	Again, this goes back to infrastructure required to expand Portland's biker population to include more young families and encourage people to bike for more trips. E-bikes expand the range that many people are willing to bike.	9/19/2017 7:59 AM
9	Are there really that many e-bikes in use?	9/18/2017 8:14 PM
10	I think 5% is too high for this type of bike.	9/18/2017 10:28 AM
11	Some kind of bonus to integrating a PV panel to charge the e-bike?	9/18/2017 9:34 AM
12	MORE outlets. Why only 5%? Outlets are not very much money. If one is required, 4 wouldn't be a stretch.	9/15/2017 10:17 PM
13	Again a larger percentage would better be in line with future growth of electric bikes.	9/15/2017 10:00 PM
14	E bikes make cycling more accessible for families.	9/15/2017 4:36 PM

15	5% is an absurdly low number for electric bikes. Ebikes sales in the US are currently growing at a rate of over 50% year-over-year. In Europe and China they are already hugely popular. At least 50% of spaces should be required to be within a few feet of an outlet to support future battery charging.	9/15/2017 1:15 PM
16	If I had an e-bike, I would bike to work. I live in hilly SW Portland.	9/15/2017 12:20 PM
17	There are no electrical outlets in my building's basement garage, yet I am liable for a lease violation for taking my e-bike up to my apartment.	9/15/2017 11:04 AM
18	Can't people bring their batteries in their office or home?	9/15/2017 10:49 AM
19	I believe that this needs to be more regulated by the type of development that the parking spaces are serving. The need for this can vary widely based on tenant use/population and can adversely impact certain developments.	9/14/2017 5:24 PM
20	Again, maybe threshold should be higher than 20.	9/14/2017 1:38 PM
21	For residential facilities yes but I don't think commercial or institutional facilities should be required to supply power for free.	9/14/2017 10:36 AM
22	Probably better to address this through the building/electrical code rather than zoning	9/14/2017 9:06 AM
23	I've got issues with e-bikes, but as long as they're regulator-limited to a reasonable speed, I'll get over it. We may need e-bikes if we're going to get a certain kind of commuter out of their car, but I don't know if there are studies showing how much of an inroad they can make into the "no way, no how" class.	9/13/2017 11:13 PM
24	This will take some careful trial and experiment--as 1) bike are varied in size and 2) bikes and infrastructure will need some protection of being stolen.	9/13/2017 1:18 PM
25	Maybe more than 5%. I need to recharge my lights on my non-motorized bicycle too. Depending on the workplace, I may not have a desk area at which to plug in a battery. Also, a lot of lights these days, and a lot of portable electronics, recharge with a USB cable. Maybe also require a couple of USB cables?	9/13/2017 12:48 PM
26	Again I would say 10% not 5%. I think ebikes are growing in popularity, ESP as we increase mode share and more "interested but concerned" riders take up riding.	9/13/2017 10:22 AM
27	Would love to see this happen as I have an e-bicycle on order!	9/13/2017 9:15 AM
28	As the owner of an e-bike this seems somewhat reasonable, though I've resorted to removing the battery and charging inside as it's more secure and allows me to unplug the charger when charging is complete.	9/12/2017 8:30 PM
29	see comment above	9/12/2017 5:53 PM
30	5% seems excessive. It might be good to make it an incentive -- fewer overall bike racks required if a few more outlets are included.	9/8/2017 4:49 PM
31	As with racks for non-traditional sized bikes, mandating outlets on 5% of racks seems like an arbitrary number that may not correlate to actual needs. Further, unless a provider reserves the rack space near the plug for e-bikes (which would reduce parking for other bikes if it weren't all but impossible to enforce), there's little guarantee that the outlet would be located where an e-bike might be parked. As many e-bikes have removable batteries, this also seems unnecessary. Again, it should be up to the provider where and how many outlets are needed/provided for e-bikes.	9/8/2017 11:36 AM
32	Neutral on this one. It would depend on if there is a requirement that people get charged for electrical use. I would hope they wouldn't.	9/8/2017 9:23 AM
33	Electrical wiring could add significant costs to bicycle parking areas. This might make sense for some large sites but I don't know if it should be a requirement.	9/7/2017 5:50 PM
34	How would power usually be calculated for this?	9/7/2017 5:02 PM

Q3 What is your level of agreement with the proposal to require 30% horizontal racks?

Answered: 47 Skipped: 3



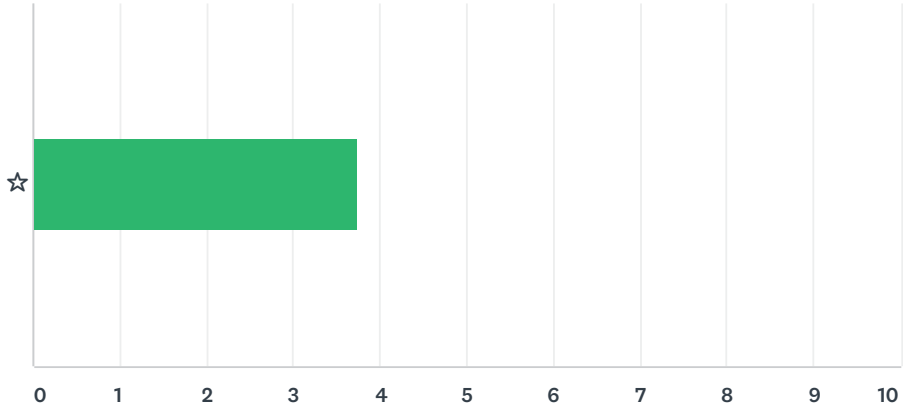
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	2.13% 1	6.38% 3	12.77% 6	42.55% 20	36.17% 17	47	4.04

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Agree as long as the horizontal racks are staples and not waves	9/25/2017 1:05 PM
2	We'll have to discourage more-able people with standard sized bikes from "hogging" the easier to use horizontal racks...	9/25/2017 10:49 AM
3	Some vertical racks have an additional fault: they don't support the rear wheel, resulting in unwanted contact between the rack frame & the bike's chainrings. This can damage chainring teeth. Please ensure sufficient layout dimensions for both types of rack to allow comfortable passage between rows of bikes while walking a bike. My office's bike room (built recently, probably to code) is rather tight when the vertical racks are loaded.	9/21/2017 5:25 PM
4	Both top & bottom of a double-stacker should count as long as the stacker has a system for getting bikes up to the second level without having to lift the bike (Some provide tilt-down channels that make it easier to get a bike up) Also, 30% seems like a very high number. Typical accessibility requirements are in the 3-5% range. Does the 30% match up with the number of unorthodox bikes on the streets and people with difficulty lifting their bikes?	9/20/2017 11:59 AM
5	How can we assure that the people who need the horizontal racks will get to use them?	9/19/2017 12:37 PM
6	Designs should allow for flexibility depending on the intended use. Horizontal double decker racks are not hard to use. If a hardship is caused by space limitation, the double decker should be allowed.	9/19/2017 9:12 AM
7	30% seems a bit high, but I agree that this kind of requirement is needed.	9/19/2017 8:01 AM
8	Should mark at least 1-2 of the horizontal ones then, as more accessible - otherwise they might not be reserve for people who can't lift their bikes/their bikes won't fit.	9/18/2017 8:17 PM
9	Sounds good, many not tall enough or physically able to lift their bikes (surprisingly)	9/18/2017 9:19 AM
10	30% might not be enough	9/15/2017 4:38 PM
11	30% seems high.	9/15/2017 12:21 PM
12	Is this too prescriptive? Maybe there are vertical designs that are easier to use such as angled vertical: https://www.cycleracks.co/wp-content/uploads/Vertical-bike-racks-Cycleracks-bike-bike-stands.jpg	9/15/2017 10:56 AM
13	Consider smaller %, eg. 10 or 20% instead of 30%	9/14/2017 1:42 PM

14	Many commuter bikes are heavier in weight, or have baskets or other items that make it harder to lift or wall mount. So, there should be some percentage that are horizontal.	9/14/2017 9:10 AM
15	Depends. My preferred rack at work is a "lollipop" rack on the ground, which works beautifully for every bike I've ever had. We have staggered heights of wall racks, and if possible I will take a lower one - i'm short, and all my bikes are steel. If I have to put my even heavier mountain bike on a wall rack, I'm going to have its front wheel up. That means I'm locking the lower-value front wheel and frame, and hoping my rear wheel an cassette are still there when I get back. I'll get security skewers for the bike soon and be less concerned, but wall racks always provide fewer choices in how to lock. I'm glad the ones I use are in a relatively secure garage.	9/13/2017 11:31 PM
16	This looks good--space saving and plenty of elbow room.	9/13/2017 1:22 PM
17	30% seems high at first glance. But, the lower racks on a double decker horizontal rack count toward the 30%, right? The 2 staple racks in our bike cage are always in use. Our bike committee recommended those based on the situation you mentioned: some users can't lift a bike into a vertical rack Have you done surveys, or obtained surveys, of users who can't hang a bike like that? Have you done or obtained surveys from, say, PSU, which show what percentage of bikes won't fit onto a vertical rack? Where the criteria for "fit" includes the bicycle is over, say, 50 lbs or is an electric with a heavy battery and motors? I suggest including those surveys in the packets you give to stakeholders and decision makers on this to illustrate that this is something which is important and necessary.	9/13/2017 12:59 PM
18	I think it should be 50%. People will gravitate towards the horizontal and use them up.	9/13/2017 10:23 AM
19	It is impossible for some to lift their bicycles; so this is a good compromise.	9/13/2017 9:17 AM
20	My workplace has wall-mounted racks and there are two problems with them: it's a pain to lift a bike (especially an e-bike at 50 lbs) onto the rack, and if they aren't spaced far enough apart it can be a challenge to get your bike on all the way. There should be a greater preference toward horizontal racks. Plus the use of horizontal racks makes the space more flexible when there are larger bikes wanting to utilize the space.	9/12/2017 8:36 PM
21	Wall-mounted racks must allow for the easy locking of a bicycle frame/front wheel using a traditional U-lock.	9/12/2017 8:26 PM
22	It seems able people may just use the horizontal racks, precluding folks with lesser ability from using them.	9/12/2017 5:12 PM
23	30% seems excessive. The incentive approach would be better -- 15% horizontal, and if more horizontal are included, the total number of racks could be less.	9/8/2017 4:53 PM
24	I personally much prefer horizontal racks as do most of the people I know, so I think this percentage could even go higher than the proposed 30%.	9/8/2017 3:02 PM
25	Mandating 30% of long-term spaces in horizontal racks would require an enormous amount of additional space for bicycle parking, particularly for larger buildings. Again, the 30% requirement seems arbitrary (percentages for ADA apartments, for example, are much lower) and also doesn't consider how/whether these types of spaces are needed or if they would even be used (riders not able to lift their bikes might store it in their apartment, for instance). In addition, it's not clear if this requirement would be in addition to requirements for non-traditional sized bikes, or if the two requirements overlap.	9/8/2017 11:46 AM
26	I'd like to see more horizontal racks. It is difficult to lift my bike and will be more so as I age.	9/8/2017 9:24 AM
27	I fully agree that there is a need, 30% sounds really high though	9/7/2017 5:04 PM

Q4 What is your level of agreement with the proposal that double-decker racks must include a lift assist mechanism for the upper tier?

Answered: 47 Skipped: 3



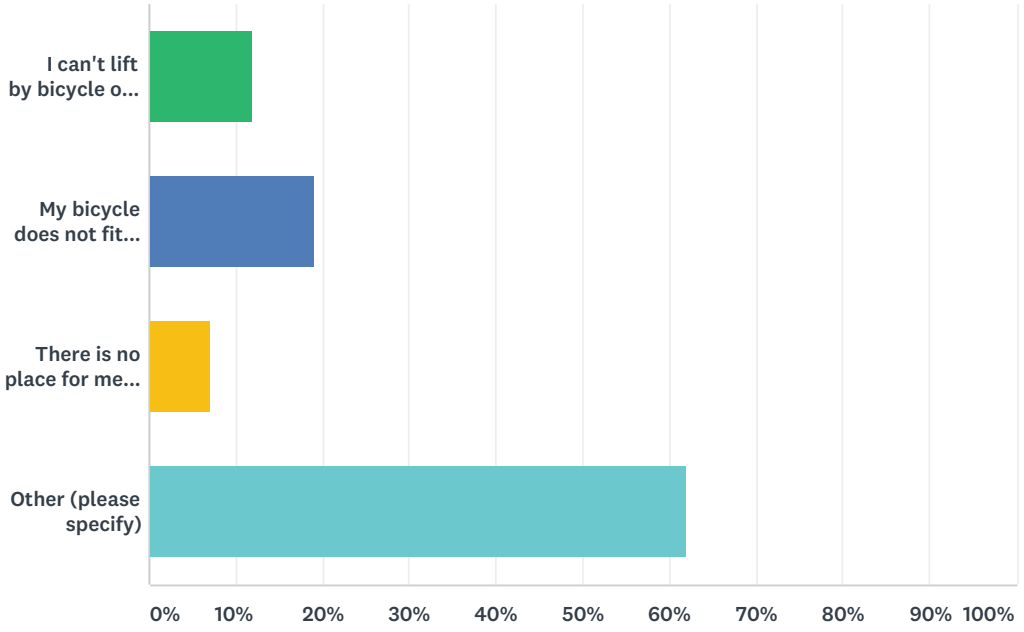
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	12.77% 6	8.51% 4	14.89% 7	19.15% 9	44.68% 21	47	3.74

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	This is too much. Would prefer raising the requirement on ground level staples instead of this. Cost of a lift assist could be unreasonable.	9/25/2017 1:05 PM
2	I think making 1/2 of the racks a higher reach is not too onerous. We just need to discourage more-able people with standard sized bikes from "hogging" the easier to use lower racks...	9/25/2017 10:49 AM
3	I can't imagine lifting a bike onto double-decker parking without assistance.	9/21/2017 5:25 PM
4	every requirement should accommodate people who have limited ability to lift heavy object, such as bicycles	9/21/2017 12:35 PM
5	This seems like a great requirement. The strength required to lift a bike up 42" in the horizontal position is rather significant. This could also affect change in the industry, making easier to use bike racks more available and affordable.	9/20/2017 11:59 AM
6	Not if the system works w/in the required limits. Push the bike rack industry for a simple operating system rather than limiting affordable development.	9/19/2017 9:12 AM
7	I don't think this is necessary. If people aren't able to physically lift their bike, using the lower tier is sufficient.	9/19/2017 8:01 AM
8	And, preferably, instructions for how to use the upper level bike parking.	9/18/2017 8:17 PM
9	As long as there are enough low, accessible rack spots available, the lift mechanism may just add to maintenance costs.	9/15/2017 10:22 PM
10	it still seems unnecessarily complicated. Even regular horizontal bike racks don't take up very much space compared to cars and they reduce the psychological barrier to starting a bike trip.	9/15/2017 4:38 PM
11	Provide an exception for affordable housing as this sounds expensive	9/15/2017 12:21 PM
12	I would limit this to a percentage of upper tier racks.	9/14/2017 5:25 PM
13	I have used the staggered height vertical racks but not familiar with a double decker rack. This may not be necessary as you would think that 50% of bikers are strong enough to lift the bike.	9/14/2017 1:42 PM
14	Its is a nice addition but could make double deck cost prohibitive to some developments and cause them to put in less parking in staple rack and not add in double deck. the lift assist requirement should be removed	9/14/2017 10:38 AM

15	It may work for larger rooms or office commuting rooms, but it is not always clear how to use the upper racks, which can discourage their use.	9/14/2017 9:10 AM
16	And the $#@! thing needs to work. I went on a tour of some very impressive bike locking installations, and found that some of the more complicated racks were failing - bad welds, etc.	9/13/2017 11:31 PM
17	This could make for crowding or gridlock.	9/13/2017 1:22 PM
18	Yes, of course. This is even a question?	9/13/2017 12:59 PM
19	If the lift mechanism makes it cost-prohibitive, I'd rather the resources be used for multiple types of racks.	9/13/2017 9:17 AM
20	Of course there should be a lift mechanism.	9/12/2017 8:36 PM
21	Double-decker racks must allow for the easy locking of a bicycle frame/front wheel using a traditional U-lock.	9/12/2017 8:26 PM
22	An alternative would require a system of reservation for the lower level rack spaces for those who need them.	9/12/2017 5:57 PM
23	Seems like overkill.	9/8/2017 4:43 PM
24	Requiring lift assist mechanisms for double-decker bike parking would add significant cost to bike storage. In theory, providers could simply opt not to use a double-decker system, so this may not be a significant consideration.	9/8/2017 11:46 AM
25	Without a doubt. Remember those of us that are aging or don't have great physical strength.	9/8/2017 9:24 AM

Q5 When it comes to the usability of a bicycle rack, what is your biggest challenge?

Answered: 42 Skipped: 8



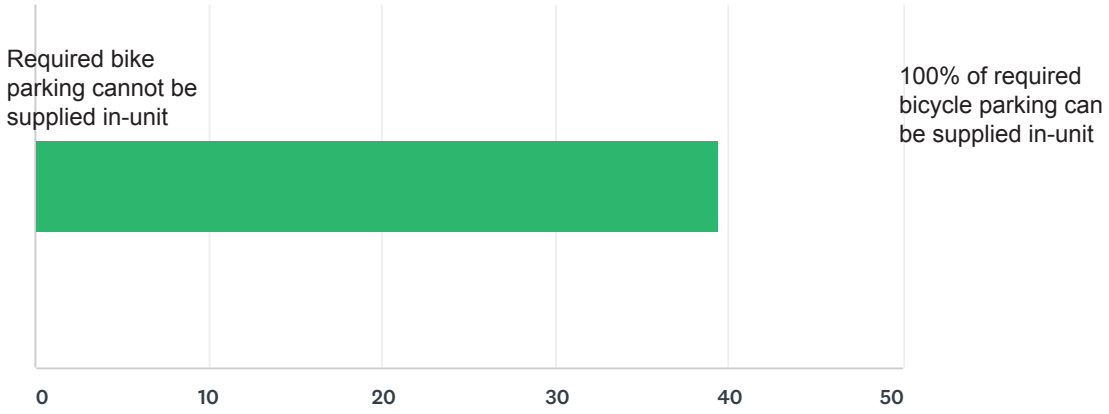
ANSWER CHOICES	RESPONSES	
I can't lift by bicycle onto the rack	11.90%	5
My bicycle does not fit the bike rack/ bike parking space	19.05%	8
There is no place for me to charge my e-bike	7.14%	3
Other (please specify)	61.90%	26
TOTAL		42

#	OTHER (PLEASE SPECIFY)	DATE
1	The rack is a nonstandard design that doesn't work well with my bike or lock.	9/25/2017 1:05 PM
2	Locking with smaller, lighter locks. Would LOVE to be able to ride with just a padlock (or less!) and be able to lock/ secure my bike ANYWHERE. Not because I have a super-light racing bike, but because I have a folding bike and want to reduce weight for riding AND for getting on off Max, buses, multi-modal trips.	9/25/2017 10:49 AM
3	My bike is slightly too long to fit on the bottom row of our staggered vertical racks, reducing the available racks for my bike. The staggered racks are also quite close together; it's 3-d tetris to fit a bike in on a nearly-full rack.	9/21/2017 5:25 PM
4	Because I am strong enough to lift a bicycle, and I have just a regular bike, the main issue I have with racks is when they don't easily accommodate small U-locks, which are often the most secure design.	9/21/2017 12:35 PM
5	Fear of theft and proximity to residential unit.	9/20/2017 11:59 AM
6	I ride unicycles. Traditional racks do not fit unicycles.	9/20/2017 7:59 AM
7	No physical challenge, rather just need a secure space. Lower spaces could be designated reserved use, required able bodied to use upper level spaces	9/19/2017 9:12 AM

8	Bike racks that are placed in ways that make it difficult to lock my front wheel, frame, and the rack (or racks that are too thick).	9/18/2017 8:17 PM
9	I do not feel like it is secure enough.	9/15/2017 10:22 PM
10	Usually it's too crowded to fit my bike	9/15/2017 12:21 PM
11	Not easy to lock bike and wheel to rack (e.g. frame too wide)	9/15/2017 10:56 AM
12	None	9/14/2017 5:25 PM
13	I don't have any challenges	9/14/2017 1:42 PM
14	Vertical racks don't work well for many users	9/14/2017 10:38 AM
15	Rack spacing varies, and my handlebars (with extensions) often conflict with other bikes.	9/14/2017 9:10 AM
16	Often, the challenge is spacing, and conflicts with other bikes when racks are too close together and people try to park there anyway. In my employer's garage, we cut off half the hanging pegs from our Dobra Design wall racks because some user hung a bike badly, and damaged the bike on the other side of the rack unnoticeably until the damaged bike's rider crashed because of the bent part. You cannot trust everyone to use these things wisely if there is any way to use them stupidly.	9/13/2017 11:31 PM
17	Too little space overall and a way to secure/lock the back tire and bike frame.	9/13/2017 1:22 PM
18	Horizontal width. I want to lock my bike without bumping into the bikes on the right and left. I don't mind bumping into those other bikes. But I don't want to annoy the owners of those other bikes by bumping them.	9/13/2017 12:59 PM
19	Generally bike parking is more challenging that car parking. When parking a car you don't have to think about what type of space you are going to need or parking in a certain way. Given that bikes, even large ones, have a much smaller footprint there should be no problem finding space for parking them. Also there needs to be a provision around the size of doorways for bike cages and space for wheeling bikes around those cages so you're not having to carry your bike to avoid hitting other bikes.	9/12/2017 8:36 PM
20	Racks using overly large diameter pipe, such as many inverted U racks, are harder to lock compact U-locks. Compact U locks are more secure than larger U-locks as compact locks are harder to get a prying device between it and the rack. A maximum pipe or rack material size should be required, too.	9/12/2017 8:26 PM
21	I don't like bike rooms in general -- I prefer to park my bike inside my apartment on a hanging rack. The bike rooms are often closed off spaces in back areas and do not feel safe ether in accessing them or in leaving my bike there. If common area racks are required, it would be better for them to be in lobbies or corridor areas that are highly visible, and where more people are.	9/8/2017 4:53 PM
22	Just when there aren't enough or they're old designs that are hard to lock to securely.	9/8/2017 4:43 PM
23	It is hard to lift and many vertical racks can cause damage to fenders - at the very least the fenders make it very difficult to position a bike on a vertical rack. Also, many people use trailers at least some of the time; is this getting addressed as well?	9/8/2017 3:02 PM
24	Locking my bike when it is on a rack	9/8/2017 11:46 AM
25	Odd (usually artistic) design makes it difficult to lock my bicycle securely through the frame.	9/7/2017 5:51 PM
26	Poor design that does not support the bike or damages the bike	9/7/2017 5:04 PM

Q1 When it comes to the topic of whether in-unit bicycle parking can count toward the required bicycle parking for a building, where do you fall on the continuum?

Answered: 39 Skipped: 4



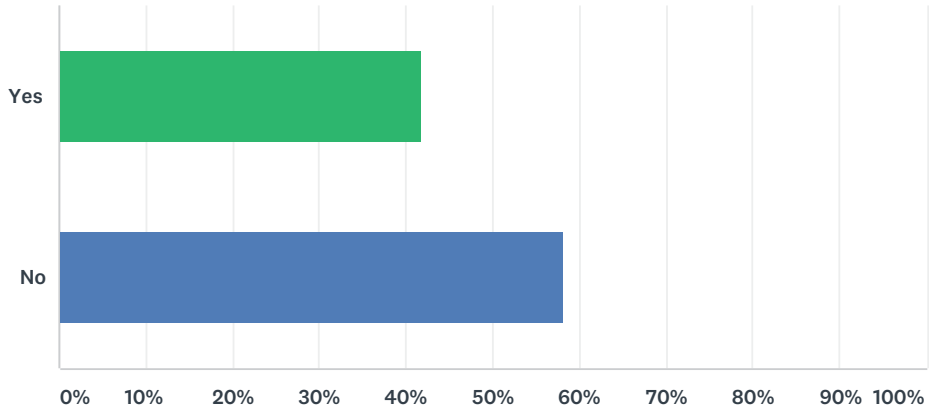
ANSWER CHOICES	AVERAGE NUMBER	TOTAL NUMBER	RESPONSES
	39	1,538	39
Total Respondents: 39			

#		DATE
1	59	9/25/2017 4:23 PM
2	48	9/25/2017 2:12 PM
3	30	9/25/2017 10:53 AM
4	50	9/21/2017 5:34 PM
5	0	9/20/2017 12:13 PM
6	51	9/19/2017 12:31 PM
7	36	9/19/2017 11:02 AM
8	31	9/19/2017 9:15 AM
9	49	9/19/2017 7:52 AM
10	30	9/18/2017 8:20 PM
11	52	9/18/2017 11:47 AM
12	56	9/18/2017 10:46 AM
13	50	9/18/2017 9:23 AM
14	44	9/15/2017 10:26 PM
15	6	9/15/2017 8:39 PM
16	16	9/15/2017 4:42 PM
17	67	9/15/2017 1:18 PM
18	0	9/15/2017 1:03 PM
19	48	9/15/2017 12:17 PM
20	50	9/15/2017 11:36 AM

21	17	9/15/2017 11:02 AM
22	0	9/14/2017 4:28 PM
23	93	9/14/2017 1:46 PM
24	52	9/14/2017 9:12 AM
25	28	9/14/2017 8:28 AM
26	51	9/13/2017 11:42 PM
27	28	9/13/2017 2:45 PM
28	0	9/13/2017 11:02 AM
29	21	9/13/2017 8:51 AM
30	47	9/12/2017 8:39 PM
31	50	9/12/2017 6:02 PM
32	1	9/12/2017 5:13 PM
33	50	9/8/2017 4:44 PM
34	99	9/8/2017 4:24 PM
35	59	9/8/2017 4:04 PM
36	71	9/8/2017 11:52 AM
37	0	9/8/2017 9:26 AM
38	48	9/7/2017 6:15 PM
39	50	9/7/2017 5:18 PM

Q2 Do you live in an apartment?

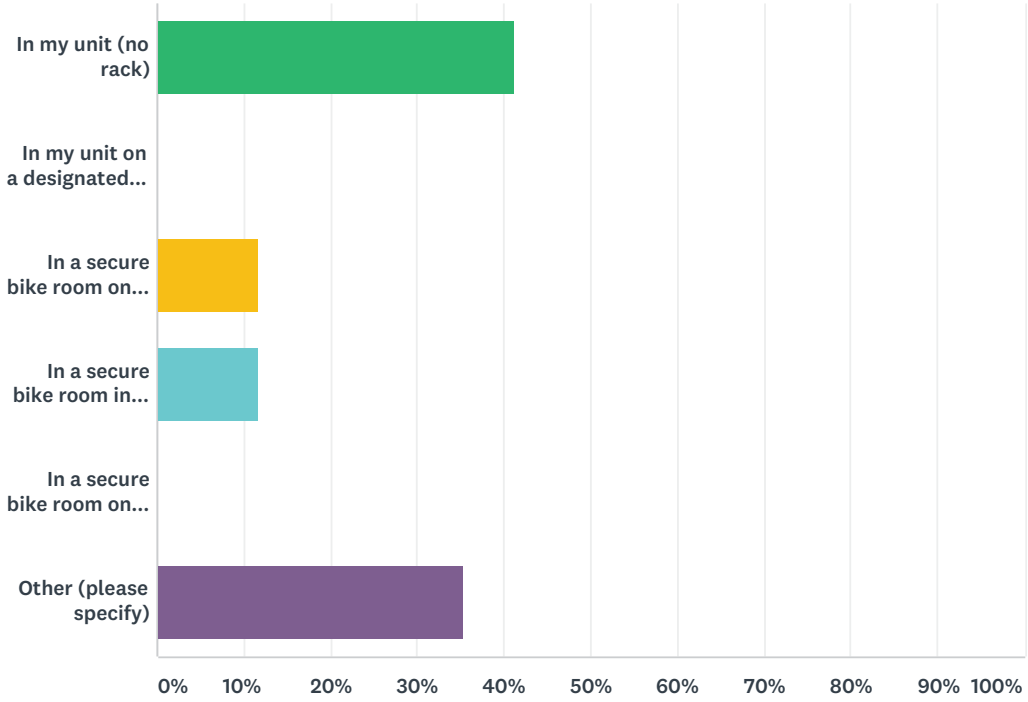
Answered: 43 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	41.86%	18
No	58.14%	25
TOTAL		43

Q3 Where do you currently park your bicycle at your apartment building?

Answered: 17 Skipped: 26

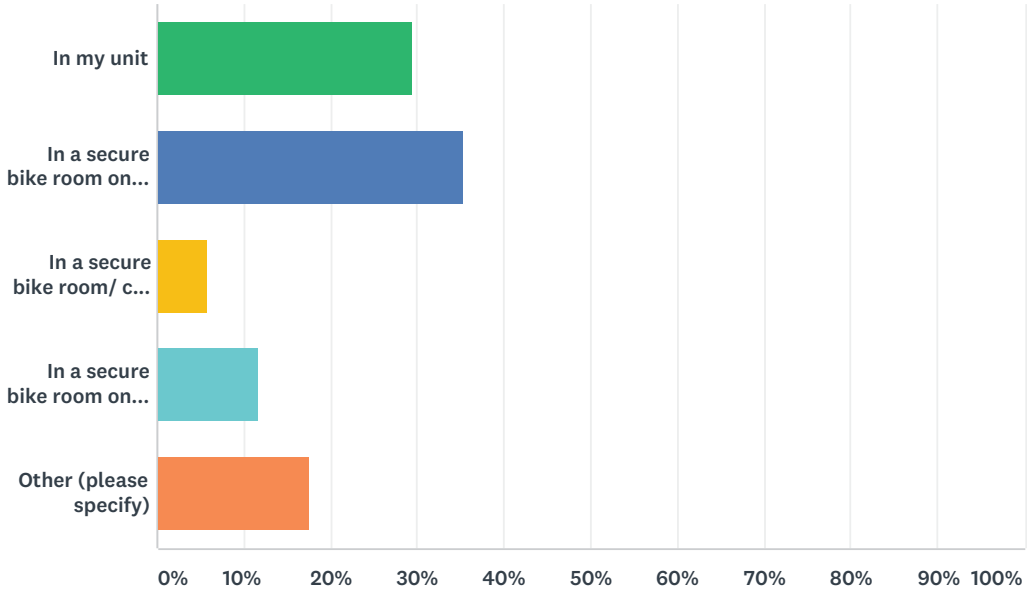


ANSWER CHOICES	RESPONSES	
In my unit (no rack)	41.18%	7
In my unit on a designated rack	0.00%	0
In a secure bike room on the ground floor	11.76%	2
In a secure bike room in the parking garage	11.76%	2
In a secure bike room on the same floor as my apartment unit	0.00%	0
Other (please specify)	35.29%	6
TOTAL		17

#	OTHER (PLEASE SPECIFY)	DATE
1	3 bikes in my unit and 2 in a secure bike room on the ground floor of my building.	9/25/2017 4:24 PM
2	In my storage locker in the basement	9/25/2017 1:09 PM
3	Me and my wife have 4 bikes. Two bikes are in our unit on our own rack I installed and two are attached to staple racks provided on my floor of the apartment building (These racks are installed in a nook that is accessible to anyone in the apartment but feel secure because everyone walking past can see what is going on). I have no bikes in the provided bike cage that is at street level.	9/20/2017 12:18 PM
4	Unsecure bike room in underground garage. Many burglaries.	9/15/2017 8:40 PM
5	In a shared basement of a duplex	9/13/2017 8:53 AM
6	Alternate between parking in my unit and in secure bike room	9/8/2017 11:54 AM

Q4 If you had the choice, where would you most prefer to park your bike at your apartment?

Answered: 17 Skipped: 26



ANSWER CHOICES	RESPONSES	
In my unit	29.41%	5
In a secure bike room on the ground floor	35.29%	6
In a secure bike room/ cage in the parking garage	5.88%	1
In a secure bike room on the same floor as my apartment unit	11.76%	2
Other (please specify)	17.65%	3
TOTAL		17

#	OTHER (PLEASE SPECIFY)	DATE
1	Ideally in my unit if there were an elevator for anything above 2 floors. Right now I have 2 bikes in a very small, very old studio and I'm on the top floor -- luckily, there are only 2. Getting in and out of the building with all of the doors is very awkward, though.	9/19/2017 12:33 PM
2	currently the "racks" in the bike storage room are very inconvenient; insufficient bike "parking spaces" for the bikes in the building; and insufficient "holders" for the number of bikes stuffed into the storage room. All of the above mean we don't use our bikes as much as we would like to.	9/15/2017 1:07 PM
3	given options in my current space, basement is best option though it limit accessibility (have to carry bike up several steps and around a tight corner).	9/13/2017 8:53 AM

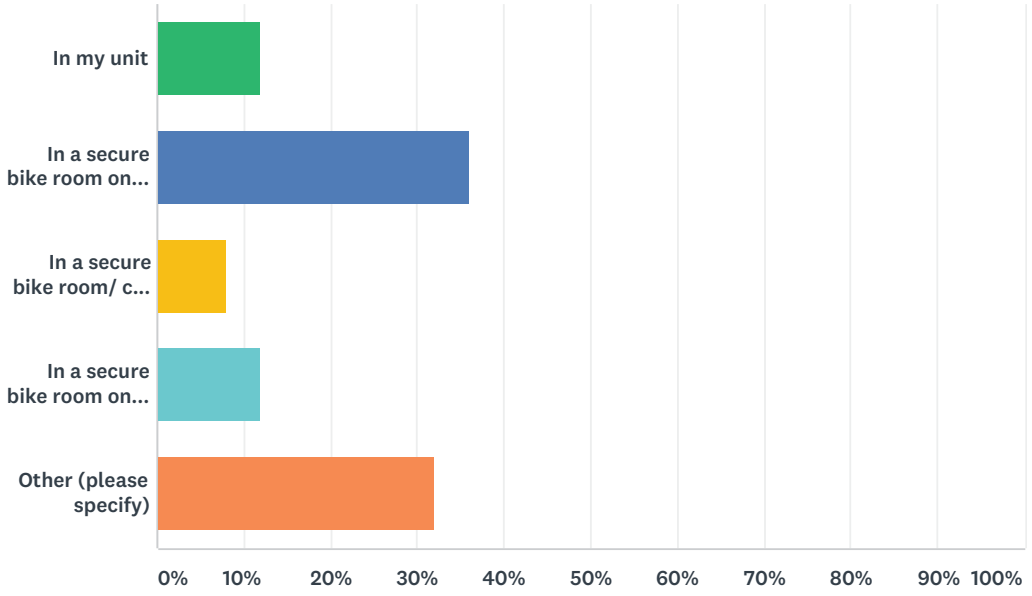
Q5 Why is that location your preference for parking your bicycle?

Answered: 16 Skipped: 27

#	RESPONSES	DATE
1	It would give me more space in my unit.	9/25/2017 4:24 PM
2	I don’t want to have to deal with getting my bike upstairs. Seems silly to promote the use of living space for vehicle storage.	9/25/2017 1:09 PM
3	Feels the safest, and does not require my apartment layout to be dictated by a pre-installed rack and the fairly-large clearance area required.	9/20/2017 12:18 PM
4	We've had theft issues in our "bike room" (read: basement with an old, awfully-shaped metal bike "rack" that is falling apart).	9/19/2017 12:33 PM
5	My apartment isn't big enough for our bikes - they get in the way. I would like to park it in my unit if I had an entry way that I could hang my bike in, but right now it's just leaning against a wall in the living room.	9/18/2017 8:22 PM
6	Nice to not have to carry up stairs, plus bikes are quite awkward in most normal size rooms	9/18/2017 9:25 AM
7	Ease and security	9/15/2017 8:40 PM
8	Don't want wet, dirty bikes in the building lobby, corridors or elevators. Parking garage is also convenient for placing the bikes on the bike rack on our car.	9/15/2017 1:07 PM
9	I would like to ride the bike from the street, straight into the parking area. A ground floor room or parking garage doesn't make much of a difference, but I wouldn't want to carry a bike upstairs every day, especially if it's tracking in dirt. Having a secured area makes me feel comfortable leaving bike accessories there as well.	9/15/2017 11:05 AM
10	Only other option would be outside or in unit. Outside is too exposed to elements/theft, in unit is no space plus too much dirt off wet bikes.	9/13/2017 8:53 AM
11	Closer to apartment, easier to access	9/12/2017 5:13 PM
12	Secure. Do maintenance in apt anyway.	9/8/2017 4:44 PM
13	I don't want other people damaging/stealing my bike or components off of it, so storing it in my apartment is really the only safe option.	9/8/2017 4:26 PM
14	Provides greater security and assurance that accessories (lights, bags, seat, etc.) will not be taken if I don't remove them.	9/8/2017 11:54 AM
15	I have multiple bicycles and a small unit. To be courteous to other residents I don't park all of my bicycles in the long-term area, the bicycle I use most often at the time is parked in my unit.	9/7/2017 6:16 PM
16	Expensive bikes get stolen regardless of where you park them. Having a space in a unit for a nice bike and a space in a ground floor bike room for a commuter bike would be number one choice.	9/7/2017 5:19 PM

Q6 Imagine that you lived in an apartment, where would you prefer to park your bicycle?

Answered: 25 Skipped: 18



ANSWER CHOICES	RESPONSES	
In my unit	12.00%	3
In a secure bike room on the ground floor	36.00%	9
In a secure bike room/ cage in the parking garage	8.00%	2
In a secure bike room on the same floor as my apartment unit	12.00%	3
Other (please specify)	32.00%	8
TOTAL		25

#	OTHER (PLEASE SPECIFY)	DATE
1	Commuter bike on ground floor or in garage, expensive bike in secure bike room on same floor as unit.	9/25/2017 10:58 AM
2	I'd most prefer a good parking space in my unit, but if all I had was one of those lousy hooks from the photo, I'd either make my own parking in the unit or go to the bike room.	9/21/2017 5:40 PM
3	Bike parking should be provided in a separate room especially considering Portland's current allowance for multi family buildings w/out vehicle parking. However, to accommodate people that have more than one bike, additional storage space would be ideal whether that is within the unit or in building storage. Portland can be so much better than the other City policies cited.	9/19/2017 9:17 AM
4	It would depend on where my units is, if there was an elevator, if there was a parking garage, how big my unit is, etc. I don't think there is one answer for all buildings so flexibility seems key.	9/14/2017 1:47 PM
5	Generally I would be ok with parking in a secure bike room, but if my unit was larger and had a usable bike parking space in the unit, I would probably prefer it be placed there.	9/14/2017 9:15 AM

6	I lived in a condo with a storage unit, in which my (at the time single) bike lived. I'm surprised the bike didn't rust - it was in a very damp environment. I had an apartment in NW with basement storage units, which worked well. I am fortunate I was not robbed, however, because it wasn't that secure. My husband and I now have a house for which we have not yet built a garage. I am up to three bikes, he has two. There is no room in the basement (although I do have some extra wheels and tires down there), so these five are in the living room and entry hall. We don't invite guests or have many visitors, for obvious reasons. A dry, secure storage area is critical. One with repair stand or at least space to flip a bike upside down would be very useful.	9/13/2017 11:58 PM
7	In my unit, if the unit includes a large entry area for coats.storage ,etc. A number of newer apartments that I have seen do have such a space and I think that should be allowable.	9/12/2017 6:05 PM
8	I believe I'd like to lock my bike in a secure (key access) outdoor structure with bike racks (for use with bike lock) inside. Doing anything but driving in an auto garage seems leas than ideal based on motorist behavior in parking lots.	9/12/2017 5:20 PM

Q7 Why is that location your preference for parking your bicycle?

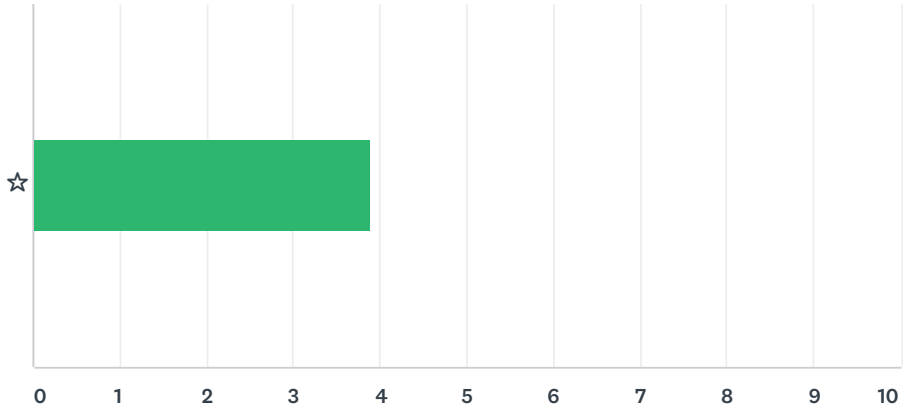
Answered: 24 Skipped: 19

#	RESPONSES	DATE
1	The more people who share the secure bike room, the less secure it is likely to be. While my bike would be most secure in my unit, I tend to ride in all weather, so bringing the bike into my unit could be a very messy proposition.	9/25/2017 2:14 PM
2	A VERY large number of people who will frequently commute by bike will have a second nicer/ more expensive bike for recreation. They would rather park commuter bike where most accessible for exiting/ entry and the more expensive bike on their unit floor or MAYBE in their unit if it's a bigger unit with utility room.	9/25/2017 10:58 AM
3	I prefer to keep my bike horizontal & nearby so I can load it, charge my lights, and inflate the tires before I leave my home. However, this assumes that the in-unit bike parking is sufficiently large, can be reached from the door without carpet (for water & road grime), and allows the bike to be stored horizontally. Ideally I'd be able to store 2 bikes in this way, for myself and my wife. Or maybe store the cargo (kid) bike in the apartment and keep the personal bikes in the bike room. If I couldn't create this kind of space in my apartment (not enough floor area) I would park both bikes in a secure bike room.	9/21/2017 5:40 PM
4	If the room is on the ground floor, cyclists don't have to take their bikes up stairs or in elevators, which is easier both on the cyclist as well as the building.	9/19/2017 11:03 AM
5	Secure bike storage in a parking garage.	9/19/2017 9:17 AM
6	Easy access to the street is very important...bike parking in a garage that could be multiple levels below the street isn't convenient access that encourages biking.	9/19/2017 7:54 AM
7	Elevators are awkward to carry bicycles in. Non-traditional bicycles (long-tail, cargo, etc) are very difficult to get above ground floor by any means. Secure room on the ground floor is very convenient. Parking garages may be OK but not preferable due to lack of conditioning and visibility. If there was a freight elevator which I could use to bring a bike up I would be very happy with a bike room on the same floor as my apartment.	9/18/2017 11:50 AM
8	it doesn't take up valuable ground floor retail storefront.	9/18/2017 10:47 AM
9	Ease of getting on and off the street. More likely to use it.	9/15/2017 10:27 PM
10	Bikes are too dirty & take up too much space inside an apartment. They are easier to access and store more efficiently in a designated ground floor space.	9/15/2017 4:43 PM
11	It's easier and more secure. I don't have to make a separate trip to my apartment, and I don't have to take off all accessories/bags/etc that might be stolen from a bike room. To me the biggest problem with parking a bike in the unit is lugging it up the stairs. The code could take this into account – certainly in-unit parking on ground floor units should be allowed to count, and perhaps non-ground floor unit parking should also be allowed when an elevator is present.	9/15/2017 1:20 PM
12	Easier to get to, can keep mud out of my apartment, and spreads out the location of bikes making it less attractive to steal. If my bike was more expensive (it's worth $1,000) I would park it only in my apartment. If I owned an e-bike, I would only park it in my apartment.	9/15/2017 12:19 PM
13	I would know that it is in a location as secure as possible.	9/15/2017 11:37 AM
14	Secure, no car issues (exhaust, noise, traffic) to deal with, no mess in apt., not having to squeeze it into a small apt.	9/14/2017 4:30 PM
15	see above	9/14/2017 1:47 PM
16	As a more infrequent rider (1-2 times/wk), having it in the apartment would allow me to be aware of its location	9/14/2017 9:15 AM
17	Easy access when entering the site/building and security.	9/14/2017 8:28 AM

18	I've never lived in an apartment with a garage, or I might choose that. I don't want to hump my bike up more than a half flight of stairs, and I'd rather just be able to roll it in somewhere. I don't trust building managers to allow me to take my bike in an elevator. Perhaps bikes should go into the ground floor building core, where they don't have to pretend to be active and attractive from the street. It's going to cost to provide that space, but nowhere near as much as a car parking space. Neither should be required, and neither should be free.	9/13/2017 11:58 PM
19	This is the most convenient location for access/egress, does not require carrying a bike up/down stairways or crammed into undersized elevators, and doesn't use up valuable space in the dwelling.	9/13/2017 2:48 PM
20	easiest to access	9/13/2017 11:03 AM
21	No one else would have access to my bike or anything on it.	9/12/2017 8:43 PM
22	see explanation above. In addition, when I parked in a bike room, I still occasionally had missing parts when I came back to the bike (this was in city offices)	9/12/2017 6:05 PM
23	Wouldn't want to go in elevator or carry up stairs. Also, it would be hard to keep apartment clean when I ride my bike in the 8 months of Portland rain.	9/8/2017 9:27 AM
24	Easy access is my number 1 concern. If a car can get there, so can a bike. Other options often include doors and elevators that are really inconvenient with a bike	9/7/2017 5:14 PM

Q1 What is your level of agreement with this bicycle parking security proposal?

Answered: 38 Skipped: 1



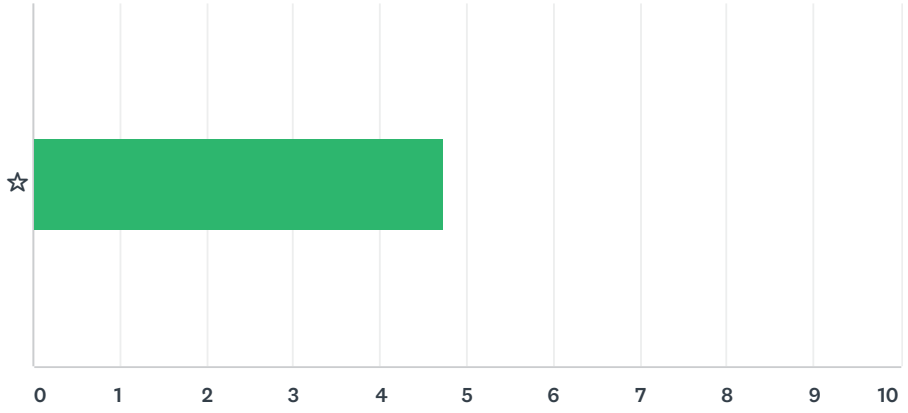
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	10.53% 4	28.95% 11	21.05% 8	39.47% 15	38	3.89

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Do not allow in unit spaces to count. It’s absuurd to promote the use of living space for vehicle storage. We wouldn’t allow it for cars, so why are we considering it for bikes? Ridiculous.	9/25/2017 1:11 PM
2	Yes, I prefer the more restrictive requirements, but I think some of the existing measures would be adequate if TWO were required. Such as racks within view of attendant or guard AND security cameras.	9/25/2017 11:04 AM
3	Racks in bike rooms MUST support locking with a u-lock to the frame. Some racks do not support this (see: basement of Big Pink, turn right after entering garage)	9/21/2017 5:43 PM
4	Would key card access be restricted to only bike owners in a building, or could everyone get in? If only bike owners, would there be a cost to getting a key card and/or a space? (Can the City even limit charging for bike parking? I'm thinking not...)	9/21/2017 12:27 PM
5	OHSU's South Waterfront bike valet is a good example of an attendant monitored bike parking situation that is secure and safe (0% bike theft rate). More bike valets throughout the city should be encouraged.	9/21/2017 9:31 AM
6	Caged enclosures are easy to break into, especially when they are in out-of-the way garage spaces or outside the building. Visibility from active spaces is an important consideration of security that should not be overlooked. Requiring a room to be part of a corridor or lobby rather than a back-room next to the electrical room in the basement may help.	9/20/2017 12:25 PM
7	I question the security of a nice bike locked in a cage. (If a nice bike is visible then it seems to be at risk.) If the space is secured w/ key card access, I suppose that is fine.	9/19/2017 9:21 AM
8	I think it depends on the location of the bike parking. If its within a secured building, key card access without cameras or security might be sufficient. If it's exterior to the building in a potentially dangerous location, I'd want security especially at night.	9/19/2017 8:04 AM
9	Still have concerns that the locked rooms, at a very large apartment complex, might not be that secure - especially if they are in a parking garage where no one is in the middle of the night	9/18/2017 8:23 PM

10	Additional provision for XX% of long-term, non-residential to be in a non-secured room with unhindered visibility and access by employees (ie bike parking in a large shared space with workers) would be a nice alternative. Additionally it would be beneficial to have a clause regarding visibility into the locked room. Either windows or a vision panel in the door should be required - for the safety of occupants.	9/18/2017 3:12 PM
11	Needs to be more stringent. If multiple people have access to a storage room, that room must have good racks to lock to, such as those that will be required by the earlier section in this survey that addressed that.	9/16/2017 7:50 PM
12	I would also appreciate a rule mandating that racks enable the owner to U-lock the bike to the frame.	9/15/2017 10:30 PM
13	Cameras might help ensure that bike light and such are less likely to be stolen from within a locked room. I have had a bag stolen off a bike in a bike cage that was only accessible to other people working in the same office building as me.	9/15/2017 1:23 PM
14	Don't want bike storage in residential units. There should also be exemptions to the bike storage requirement (one per dwelling unit) for units intended for the elderly - who may need larger racks for storage (e.g. for e-bikes), but not nearly every unit would have a bicycle of any kind.	9/15/2017 1:11 PM
15	So the idea is to eliminate the either visibility or security camera versus locked enclosure, and just say that you must provide a locked enclosure, right? If so, I agree. I would argue that the City should be requiring BOTH a locked enclosure AND some sort of camera or security guard visibility.	9/15/2017 12:02 PM
16	There must be some provision given for existing buildings where it is not possible to create a situation as described above.	9/15/2017 11:41 AM
17	Security is a big issue but maintain flexibility as much as possible.	9/14/2017 1:49 PM
18	For smaller offices on upper floors, it may be more difficult to separate out a bike parking area in a secured room or cage. Are there other options for security in a situation where the access to the office area is limited, but the bike parking can be more open in that area?	9/14/2017 9:18 AM
19	Bike rooms must include a camera.	9/13/2017 2:53 PM
20	Security cameras matter, I've seen bike cages broken into and a camera is both a deterrent and collects evidence that can be used to identify the perpetrator in the event that a bike is stolen.	9/12/2017 8:52 PM
21	I think having bikes in a closed off room where no one can see them isn't the best option, even if that room is "secured". I like the idea of security cameras, and if the racks can be in a well used area like the lobby or similar, this would put more eyes on them. Also bike racks in units should absolutely be allowed in the parking count. Many people prefer this option.	9/8/2017 4:31 PM
22	This provides additional flexibility for providers of bike parking space to adapt to the needs of their particular situation, especially where it is not practical to locate bike storage where it is near/in view of security or an employee.	9/8/2017 12:14 PM
23	I'm not a big fan of limited access rooms or cages	9/7/2017 5:16 PM

Q2 What is your level of agreement with this user safety - lighting proposal?

Answered: 39 Skipped: 0

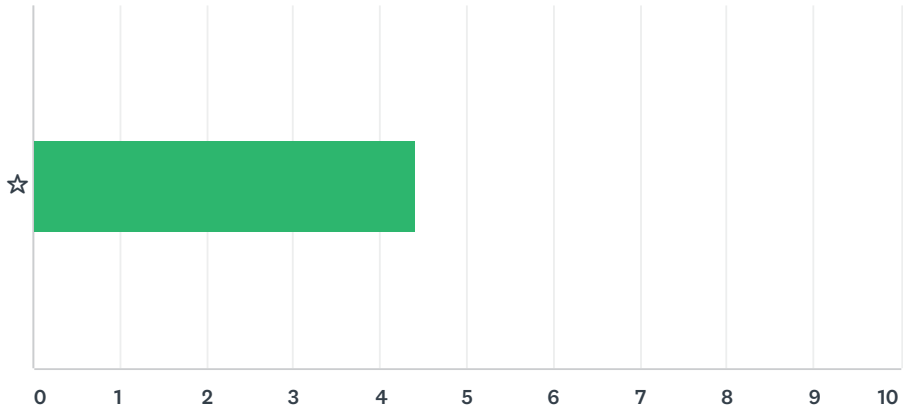


	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	0.00% 0	5.13% 2	17.95% 7	76.92% 30	39	4.72

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	I'd add "safely" used.	9/25/2017 1:11 PM
2	Agree if the lighting can be dimmed or turned off by motion detectors/ occupancy sensors.	9/25/2017 11:04 AM
3	specifying a specific footcandle level would be preferable.	9/18/2017 3:12 PM
4	Why should be obvious. I don't ride only in daylight, and I'm usually hauling stuff that makes it difficult to find a light switch in the dark, or even to reach it.	9/16/2017 7:50 PM
5	Of Course.	9/15/2017 10:30 PM
6	It's very important that bike parking areas feel welcoming and safe. This is compromised when they are poorly lit or located in trafficked areas.	9/15/2017 1:23 PM
7	Lighting should be motion-activated to save energy.	9/15/2017 1:11 PM
8	Motion-activated sensors would be great, and you might consider adding some incentive to choose those over always-on lighting.	9/14/2017 4:35 PM
9	This would probably only be an issue for outside bike parking.	9/14/2017 9:18 AM
10	Yes!	9/12/2017 8:52 PM
11	This requirement may be reasonable, but is vague. I would be comfortable using an access route/parking space that is very dimly lit (particularly since I would have a bike light available), but this likely doesn't meet the intent of this requirement. Conversely, brighter or more abundant lighting might conflict with other requirements/desires, flooding into adjacent areas or windows, or increasing energy use. Would lighting using an occupancy sensor be acceptable? If so, when unoccupied, could the lighting on an access route or in the parking area turn off completely, or would it be required to remain on at a reduced level?	9/8/2017 12:14 PM

Q3 What is your level of agreement with this weather protection requirement proposal?

Answered: 39 Skipped: 0



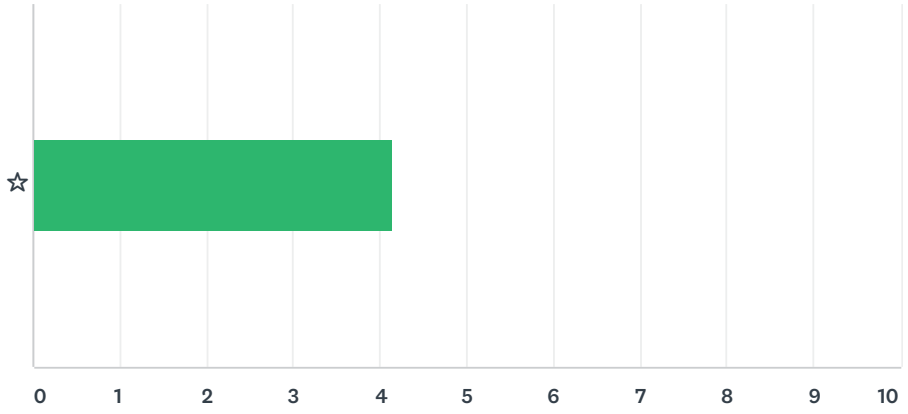
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	10.26% 4	7.69% 3	12.82% 5	69.23% 27	39	4.41

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Yes please!!! This would obviously cut down on bike wear and tear but also the anxiety that can arise from worrying about whether or not the indoor/protected spaces are all taken up. Thank you!	9/21/2017 12:27 PM
2	This is another example where the OHSU bike valet would not comply despite the program being very successful and popular. Maybe this should be a lower percentage requirement to allow designers to be creative in their bike parking solutions.	9/21/2017 9:31 AM
3	In-door semi-conditioned storage should be a requirement.	9/20/2017 12:25 PM
4	A bike is not secure or protected when stored in the elements.	9/19/2017 9:21 AM
5	100% this is needed. Rain is detrimental to bike components, long term storage needs to be protected.	9/19/2017 8:04 AM
6	Another obvious. As we improve our mode share, we're going to get more all-weather riders. Year round riders need their bikes in good shape and not rusting away.	9/16/2017 7:50 PM
7	duh.	9/15/2017 10:30 PM
8	Yes, yes, and yes. My building is re-doing its bike storage. The old cage would protect against wind driven rain. The new one, I'm not so sure. I don't have a city requirement on which to base an objection, so I'm going to have to live with it.	9/15/2017 12:02 PM
9	This is more of a convenience than a necessity.	9/15/2017 11:41 AM
10	The question is how wide must the roof be to protect the entire bicycle, since rain often comes in at an angle.	9/14/2017 9:18 AM
11	Because cycling rates vary by season, it would be reasonable to allow a smaller percentage (e.g. 75%) be fully weather protected in workplaces.	9/13/2017 2:53 PM
12	This is so important.	9/12/2017 8:52 PM
13	I usually parked in a location without much weather protection and found it ok. If Car parking is exposed in a surface lot, should the requirement for bikes be that different?	9/12/2017 6:09 PM
14	This seems overly restrictive, especially for apartment projects that are affordable housing and income-restricted. If a certain percentage is 100% weather protected, that seems like a good compromise. Some percentage should be able to just have a roof over it.	9/8/2017 4:31 PM

15	While I agree with what I believe is the intent of this requirement, it essentially prohibits any sort of outdoor long-term parking areas, even if they are mostly protected from weather. For example, employee bike parking at New Seasons Market on N. Williams or the affordable Vista de Rosas apartments on NE Killingsworth would not meet this requirement because wind could blow rain into the bike enclosure. In either of these situations, the weather protection requirement would likely result in reduced automobile parking or landscaped areas, increased cost, or a combination of the three. Again, the needs of the users is best evaluated by the provider of the parking.	9/8/2017 12:14 PM

Q1 What is your level of agreement with allowing space saving racks for required bicycle parking?

Answered: 42 Skipped: 4



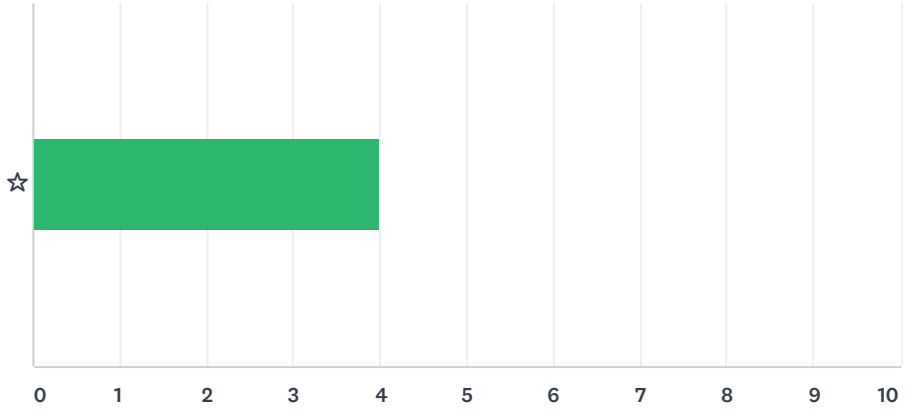
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	4.76% 2	0.00% 0	19.05% 8	28.57% 12	47.62% 20	42	4.14

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Double decker racks seem like a bad idea.	9/25/2017 1:12 PM
2	Seems to work.	9/25/2017 12:19 PM
3	Existing staggered vertical racks in my building are very tight. It's nearly impossible to load a bike adjacent to another without hitting the neighboring bike. When considering minimum spacing, think about how you must maneuver the bike (e.g. shift and thread the wheel onto the hook) and think about different sized bikes where handlebars may line up even if the hooks are staggered. I have no experience with staggered horizontal racks, except perhaps for the angled right-of-way parking, which works well.	9/21/2017 5:50 PM
4	I suggest leaving it up to a building owner to determine how efficient their racks are. As long as the racks provide adequate ease of use and security, the building owner should meet quantity minimums but be left to their own devices to figure out the efficiency of their solution.	9/21/2017 9:37 AM
5	Requiring a height for mounting vertical racks may also be helpful.	9/20/2017 12:28 PM
6	Provide clear direction so that racks work well for bikes.	9/19/2017 9:23 AM
7	As long as it's still easy to get your bike in/out	9/18/2017 8:25 PM
8	Great! 18" is easy to use.	9/18/2017 10:48 AM
9	OK, with some constraints. Close-set wall racks work if everyone parks their bike the same way. Some people hang their bike by the rear wheel so they can properly lock frame and rear wheel. Most of us hang by the front, and having both in close proximity can be messy. If there is any way to park a bike on the wrong side of a rack, someone will do it, and then the spacing is too tight. I've looked at parking at one of the newer buildings on SE Division, and seen the kind of usage you get with not quite enough spacing - every other rack is filled. Also, these minimums really do need to be minimums, and developers must not be able to wheedle BDS into doing less or spacing racks closer.	9/17/2017 3:33 PM
10	I'm concerned about accessibility and cargo bikes	9/15/2017 4:47 PM
11	These look impossible to use if your bicycle has a basket.	9/15/2017 1:15 PM

12	I'm unsure of this proposal. I need to be able to lock my back to the rack without bumping into, and annoying the owners of, adjacent bicycles. Does this allow that to happen? And this design assumes the bicycle owner removes panniers. What if they don't, or they can't because the office manager where they work thinks panniers are unsightly and dirty? Also require that the racks, and floor mounted racks, have sufficient clearance to adjacent walls. My work put staple racks right next to the cage wall. So there's not enough space to park a bike between the staple and the wall.	9/15/2017 12:10 PM
13	Technology and design has changed to allow a tighter spacing since the code was originally adopted. This is a good change to help assist in providing higher levels of bike parking.	9/15/2017 11:43 AM
14	Flexibility is key.	9/14/2017 1:51 PM
15	Having had problems with vertical parking with more limited spacing due to handle bars getting in the way, etc, I would be cautious in moving forward. There are many racks that don't do this adequately.	9/14/2017 9:20 AM
16	Provided the space saving racks are paired with accessible racks for people with disabilities and people not strong enough to use wall racks.	9/13/2017 11:20 AM
17	Not all bikes are the same width and this likely doesn't account for "normal" bikes that might have a wider footprint due to slight design differences (my bike is over 24" wide and this is a constant pain point). I have no problem with this concept but there needs to be enough room that all of the spaces being created are actually usable.	9/12/2017 8:55 PM
18	I did the vertical rack overset in my garage. Do it.	9/12/2017 8:31 PM
19	I have a recumbent trike and none of these discussions on saving space address my type of bicycle.	9/12/2017 8:20 PM
20	As a cyclist, the reality is 18" is plenty.	9/8/2017 4:06 PM
21	The reduced-footprint proposal allows flexibility in design and ensures the opportunity to use real estate efficiently. This will be particularly important if other requirements for horizontal storage (5% or 30% depending on which proposal is being referred to) are adopted.	9/8/2017 12:18 PM

Q2 What is your level of agreement with adopting the horizontal rack spacing requirements that match the PBOT right-of-way standards?

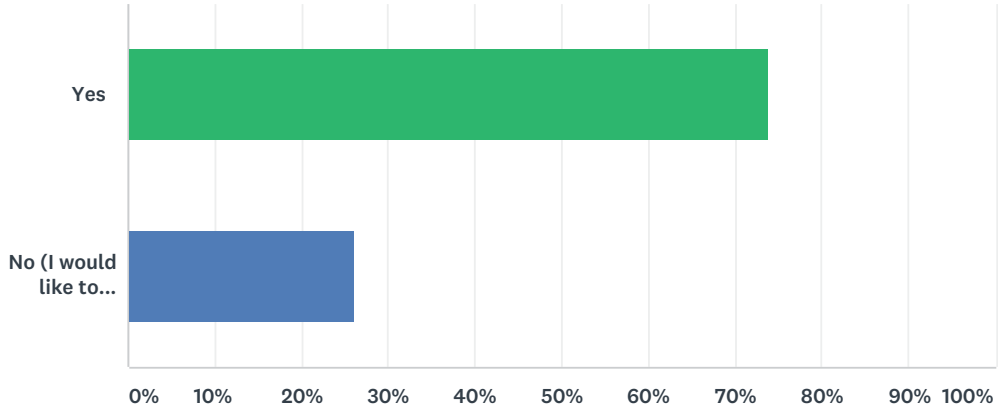
Answered: 41 Skipped: 5



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	4.88% 2	2.44% 1	19.51% 8	34.15% 14	39.02% 16	41	4.00

Q3 Would you like to see the details of these horizontal rack spacing requirements?

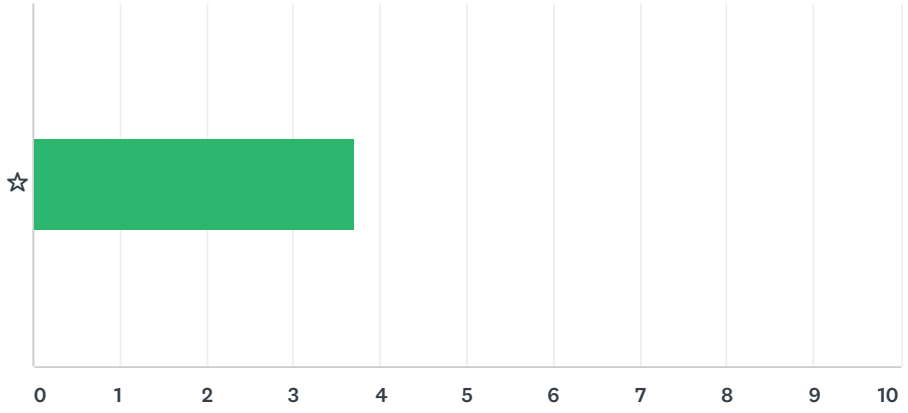
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	73.91%	34
No (I would like to continue to the next section)	26.09%	12
TOTAL		46

Q4 What is your level of agreement with a minimum of 3 feet distance between side-by-side, horizontal racks?

Answered: 31 Skipped: 15



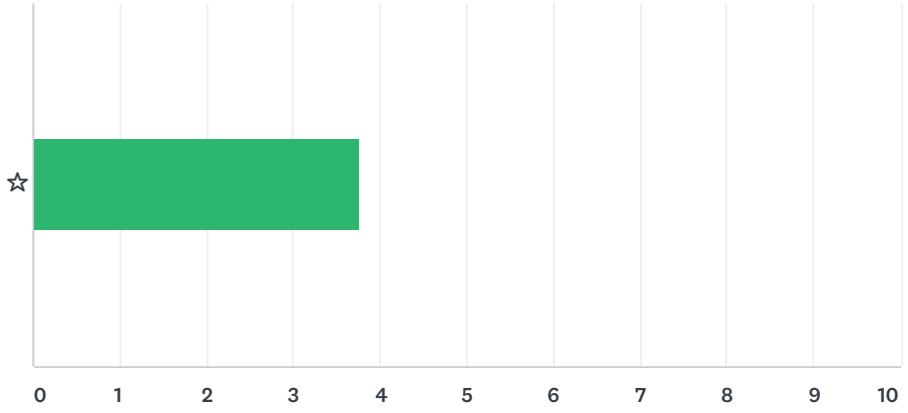
	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	9.68% 3	9.68% 3	19.35% 6	22.58% 7	38.71% 12	31	3.71

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	Reducing the space between the racks this way will make it virtually impossible to move between bikes, so locking bikes up, removing bike bags, etc. could be very difficult. Please account for the needs of people to pass between bikes when the racks are full.	9/25/2017 1:54 PM
2	You can't rely on bike users to park their bikes in a predictable way. You also need room for a person to walk between the bikes, bend over enough to access panniers or a lock, and walk out again with a bike. If the staples are too close together, you've halved your bike parking in reality but not on paper.	9/21/2017 5:56 PM
3	3 feet seems really tight for short term parking in the right of way. Many times these bikes get knocked around and fall into each other due to users not properly locking them to the rack.	9/19/2017 8:09 AM
4	2' is plenty between racks.	9/18/2017 10:49 AM
5	Bikes may "typically" be parked in opposite directions, but are frequently not. In addition, racks and baskets large enough to carry groceries are installed on many bikes, and we want to encourage that. You don't just have to be able to get a bike into that space - you have to get your body in there with enough room to thread in a "U" lock. There also has to be (and I think there already is) a minimum distance between the rack and any adjacent wall. The whole length of my bike, including wheels, needs to be able to stand straight. Cranking the front wheel over because it runs into the wall otherwise is not good.	9/17/2017 3:54 PM
6	Even 3-foot spacing seems somewhat excessive. 4' is definitely excessive.	9/15/2017 1:19 PM
7	Ummm, maybe. What about bikes with panniers? And does the 4 foot to the curb clearance also cover 4 feet to an adjacent wall, planters, or other obstacles?	9/15/2017 12:13 PM
8	This is fine if you have a standard bicycle dimension and don't have a cargo bicycle or other larger cycle.	9/13/2017 9:27 AM
9	This is good though in general I would like to see more racks available to allow for appropriate usage rather than situations where more than two bikes are attached to a single rack.	9/12/2017 8:57 PM
10	If one is carrying panniers, will this spacing will require users to take their pannier off before parking and locking their bike? If so, it will increase the likelihood of a snatch & run theft while the user is distracted locking their bike. This is more likely to occur when the racks are nearly full, which we are hoping they will be. Hey, it happens. Ever try chasing someone down on foot wearing cycling shoes? You won't catch them.	9/12/2017 8:42 PM

11	Efficient use of space seems common-sense and preserves sidewalk or floor areas for other, more active uses.	9/8/2017 12:24 PM
12	I like space saving, I also struggle to park my bike when the racks are crowded. My bike always had gear on it so reversing the direction doesn't help much	9/7/2017 5:21 PM

Q5 What is your level of agreement with a minimum of 30 inch distance between horizontal racks that are placed on a diagonal of 45 to 60 degrees?

Answered: 31 Skipped: 15

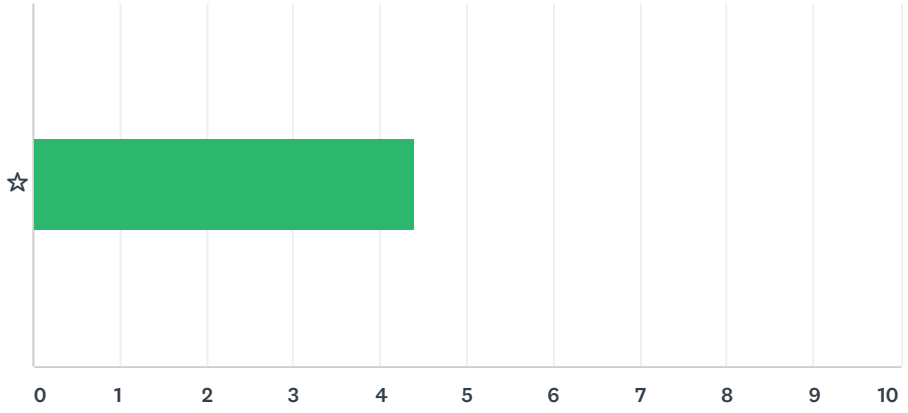


	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	9.68% 3	9.68% 3	16.13% 5	22.58% 7	41.94% 13	31	3.77

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	I enjoy using the angled racks. The angles provide a lot of room for getting in & out and reduce conflict a lot. If this matches racks on the ground today, then it's totally fine by me.	9/21/2017 5:56 PM
2	I like 24" between racks placed at 90 degrees	9/18/2017 10:49 AM
3	Minimum should be whatever the spacing for the right angle racks will be. If you've got 2 bikes on a singe rack, regardless of the angle to the wall, both bikes are locked to the same thing and there is no additional offset to the handlebars. The sole advantage I can see of the angled racks is that the bikes protrude less onto the sidewalk. That has value to the street function, but there is no additional value to the bicyclist.	9/17/2017 3:54 PM
4	Better. Portland sidewalks are already crowded (think sidewalk cafes, planters, etc.) - and the least (reasonable) amount of space devoted to bike parking, the better.	9/15/2017 1:19 PM
5	Again, put in a requirement for clearance not just from a curb but from adjacent walls, planters, and other obstacles.	9/15/2017 12:13 PM
6	30" is too close, 36" should be the minimum.	9/13/2017 3:00 PM
7	This is fine if you have a standard bicycle dimension and don't have a cargo bicycle or other larger cycle.	9/13/2017 9:27 AM
8	Seems ok, tough to know how this will work in practice.	9/12/2017 8:57 PM
9	Same concern for panniers expressed in #4 above, although may only be an issue for left rear and front right panniers.	9/12/2017 8:42 PM
10	As with the parallel rack proposal, efficient use of space seems common-sense and preserves sidewalk or floor areas for other, more active uses.	9/8/2017 12:24 PM
11	See above	9/7/2017 5:21 PM

Q6 What is your level of agreement with adopting a minimum distance of 6 feet between multiple horizontal racks that are placed end-to-end?

Answered: 30 Skipped: 16

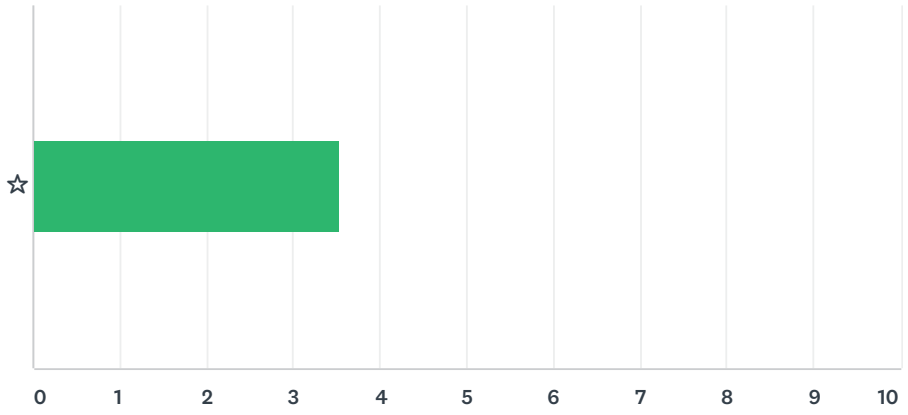


	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	3.33% 1	10.00% 3	30.00% 9	56.67% 17	30	4.40

#	WHY AND ANY ADDITIONAL COMMENTS:	DATE
1	I don't know what the previous spacing was. This sounds fine.	9/21/2017 5:56 PM
2	No opinion	9/15/2017 1:19 PM
3	What about long tail bikes in this configuration?	9/15/2017 12:13 PM
4	Not including the required percentage of spaces for longer bikes, correct?	9/13/2017 3:00 PM
5	This is fine if you have a standard bicycle dimension and don't have a cargo bicycle or other larger cycle.	9/13/2017 9:27 AM
6	Should probably be more to account for larger bikes but likely sufficient regardless.	9/12/2017 8:57 PM
7	Provision for long-framed bikes is needed so they can be parked without interfering with other rack users.	9/12/2017 8:42 PM
8	This spacing seems reasonable, but what is the current standard (or is there one)? How does this update any current standards?	9/8/2017 12:24 PM

Q1 What is your level of agreement with the Geographic Tier proposal?

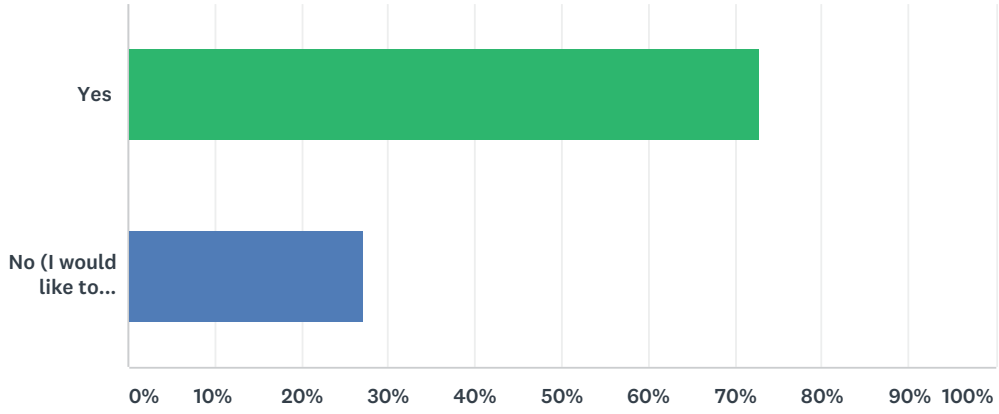
Answered: 50 Skipped: 5



	W	H	Y		A	NDNI T	OLQMENLS# : L1 I ML	
☆	12.00% 6	2.00% 1	28.00% 14	36.00% 18	22.00% 11	50		3.54

Q2 Do you want to explore more of the background information for the development of the geographic tiers?

Answered: 55 Skipped: 0



I 23OL1#4ED@4L3	1L35D23L3	
Yes	72.73%	40
No (I would like to continue to the next section about the updated amounts)	27.27%	15
TOTAL		55

Q3 Do you have any additional comments or feedback on the proposed Geographic Tiers?

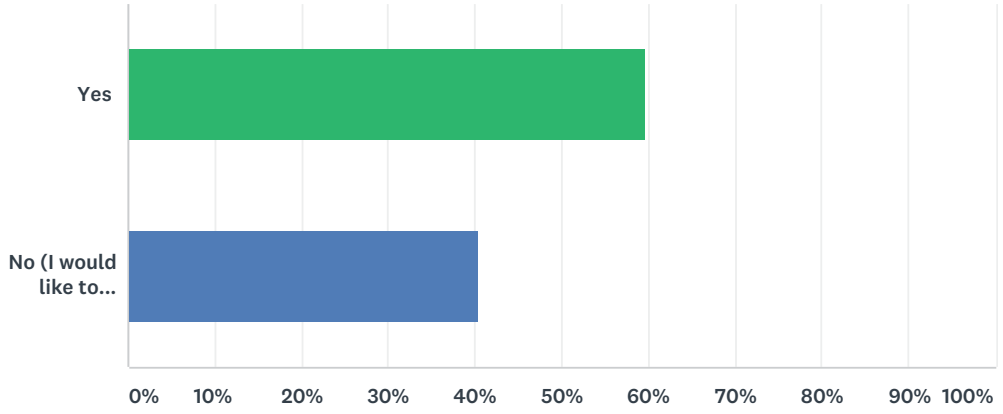
Answered: 21 Skipped: 34

G	1L35D23L3	SI NL
1	I think this puts the lower tier neighborhoods at an unnecessary disadvantage for bicycling access. Farther out, people may not be as likely to travel by bike to the central part of the city, but they may well still want to be able to access resources that *are* within biking distance. As traffic worsens (and it only *ever* gets worse), these farther out neighborhoods will be at an even greater disadvantage if they are not given good access to biking facilities.	9/25/2017 1:59 PM
2	Central City should have a third tier with higher requirements. Large buildings should be required to offer secured bike storage or pay a fee in lieu so that public secured bike garages can be built.	9/25/2017 1:15 PM
3	I think the tiers may reflex current trends and not encourage the kinds of changes necessary to make major increase mode splits. I think we need more demographic info on where people in each neighborhood are traveling to work or for errands, or would use multi-modal trips such as bike and Max from the west side.	9/25/2017 11:24 AM
4	East Portland needs more bike parking! The density is too low to support high-coverage transit or bike-share, but it CAN support bike-to-transit options IF people can store their bikes at home and at transit stations. The inner neighborhoods can be served by good transit more easily; arguably they could have less required bike parking than outer neighborhoods where the bike is *more* necessary to a car-free lifestyle. This tiered approach also seems incompatible with the 80% walk-and-bike neighborhoods goal. More land area is relegated to low bike parking requirements than has high requirements.	9/21/2017 6:08 PM
5	I am concerned that having lower minimums in areas with less current use will make it harder to increase use in those areas. While we shouldn't require lots of racks that sit empty, there needs to be a mechanism for monitoring and adjusting requirements to respond to signs of increased demand... or other indications that scarcity of racks is impeding bicycle use.	9/21/2017 12:39 PM
6	This proposal would work for the current usage map, but not ofr the ideal map usage map: As the outer neighborhoods develop more density and become walkable/bikeable communities, they should be developed with the same requirements as inner neighborhoods. If biking is not as strongly pushed in those neighborhoods, they will stay more dependent on the vehicle as a form of transportation. Ultimately, having different requirements will create different neighborhoods and reinforce the idea that the outer neighborhoods should never be walkable.	9/20/2017 12:37 PM
7	Encourage more bike commute and recreation everywhere	9/19/2017 9:25 AM
8	As demographics shift and the affordability of outer neighborhoods brings more young people, we really need bike infrastructure to keep up. Gateway, Lents, Mt Tabor areas could be very bikable with more attention to street and bike parking infrastructure and maintenance.	9/19/2017 8:14 AM
9	I strongly disagree with using different tiers for bicycle parking amounts by geography. My fear is that this will not be used to add extra bike parking to inner-city areas, but rather allow developers to get away with providing less than adequate bicycle parking to outer Portland developments. Futhermore, a large reason why outer Portland neighborhoods (particularly outer east portland) are not as favorable to biking is due to lack of sufficient and equivilent infrastructure. Reducing bicycle parking in outer neighborhoods only serves to discourage residents there from bicycling, even though lower income groups are proportionately more frequent bicycle users.	9/18/2017 3:22 PM
10	In practice I think this makes sense, so long as the outer neighborhoods still have easy access to sufficient parking	9/18/2017 9:33 AM
11	25% mode split is going to require a commitment to actually building bike commute highways that function like the springwater trail.	9/18/2017 9:02 AM
12	My feedback would be that neighborhoods change. Cully has some bicycle infrastructure improvements coming, it already has decent improvements made in the last few years and may not be an "outer" neighborhood for very long.	9/15/2017 10:40 PM

13	Is there an opportunity to revisit the boundaries of the geographies, or increase parking ratios later?	9/15/2017 12:16 PM
14	I hope that terrain is accounted for in the tiers.	9/15/2017 12:10 PM
15	Doesn't having a lower requirement for outer areas harm potential increases in short trips in outlying areas? (For errands, etc). Also, growth in ebikes could significantly expand comfortable biking range.	9/13/2017 8:59 AM
16	It makes sense, though as a resident of a Tier B neighborhood it's disappointing to see that there is a low likelihood of meaningful investment to improve the mode split. The high mode splits in the Tier A neighborhoods are the result of years of investments in infrastructure so that people can actually get from A to B without feeling like they're going to get hit by a car. People in Tier B do not have that luxury.	9/12/2017 9:04 PM
17	While I understand that the Eastern areas currently have lower mode split, improved public bike facilities could improve that, as there are few topographical reasons for the difference. I also question leaving Swan Island out, given the small number of very large employers.	9/12/2017 6:19 PM
18	This doesn't really account for encouraging general bike usage in all areas. Also, the Springwater Corridor isn't shown as a priority, and it should be.	9/8/2017 4:37 PM
19	The mode split targets don't acknowledge that bicycle ownership may be VERY different than bicycle commuting. For housing in particular, ownership would be a more important criteria for parking requirements.	9/8/2017 12:28 PM
20	There is really limited on-street bike parking in East Portland. If anything, we should be encouraging more bike parking in that part of the city. The bike ridership numbers and performance targets are low, but that is in part because people don't have secure places to park. As the infrastructure improves (The Big Jump, etc) it would be shortsighted to not require more bike parking.	9/8/2017 9:32 AM
21	I think an additional tier for Central City may be appropriate, particularly for employment uses.	9/7/2017 6:20 PM

Q4 Do you want to explore the formula and methodology behind the updates to the amount of required long- and short-term bicycle parking?

Answered: 52 Skipped: 3



I 23OL1#4EDQ4L3	1L35D23L3	
Yes	59.62%	31
No (I would like to continue to the next section)	40.38%	21
TOTAL		52

Q5 Do you have any feedback on the proposed short- and long-term amounts for the Residential Use Category?

Answered: 9 Skipped: 46

G	1L35D23L3	SI NL
1	The proposed long-term spots seem good if you go with the 2 option. 1.5 or 1.1 are too low. I would be interested in survey results that show how many bicycles a typical bike commuter in Portland owns. Using myself as an example, between my wife and myself we have 4 bikes in a one bedroom apartment unit.	9/20/2017 2:10 PM
2	It seems the rates for short-term and long-term for Elderly, Disabled are backwards -- visitors to those uses are more likely than residents to be biking. It also seems that Dormitory uses would need as much or more parking than other residential uses, as (relatively poor) college students are probably more likely to travel by bike, no?	9/19/2017 12:46 PM
3	in multi-dwelling, the parking per unit should depend on the number of bedrooms - 1 per bedroom. 2 parking spaces per 1-bdrm apartment seems like too much. Or at least no more than 1.25 per 1 bdrm.	9/15/2017 1:25 PM
4	Seems about right if space requirements are rewritten to allow more flexibility in high density rack use	9/15/2017 12:14 PM
5	There should be a consideration for unit size and long term parking. I propensity of studio apartments are being built with single tenant occupancy and 1.5 or 1.1 spaces for these units is overbuilt. There are also multifamily properties that lease allow only one tenant in the unit which provides excess in parking. Why is no short term parking required at Elderly/Disabled or Dormitory? People on bikes visit these locations.	9/15/2017 11:53 AM
6	Why are no short-term spaces provided in "Elderly, Disabled" and "Dormitory"? Presumably staff and visitors should be provided for?	9/15/2017 10:53 AM
7	Consider separate provisions for affordable housing including senior housing, VET housing and other special needs housing based on actual use and need. Should be data driven. Many low income residents report that they don't want bike rooms or bike lanes.	9/14/2017 1:56 PM
8	Please do not over-require standards for new elderly or disabled bicycle parking. I would think that short term spaces (for visitors) would be used over long term spaces for residents. Also, elderly housing often has staff that would benefit from bicycle spaces.	9/13/2017 9:31 AM
9	The bike room parking in my building and my friend's buildings is under utilized. This is especially true in affordable (income restricted) housing. Please don't make housing more expensive by requiring more bike parking and not allowing racks inside apartment units to count.	9/8/2017 4:40 PM

Q6 Do you have any feedback on the proposed short- and long-term amounts for the Commercial Use Category?

Answered: 6 Skipped: 49

G	1L35D23L3	SI NL
1	For office my personal feeling for long-term parking would be closer to 1 spot per 600sqft, just based on personal experience.	9/20/2017 2:09 PM
2	no - no experience with this	9/15/2017 1:25 PM
3	The hotel requirements for long term parking seems high.	9/15/2017 11:55 AM
4	should be data driven	9/14/2017 1:56 PM
5	Not enough for short term.	9/13/2017 6:26 PM
6	It would be helpful if this table included red lines on the changes from the current code OR information as to the number of adjustments requested to make reductions to the current standard.	9/13/2017 9:32 AM

Q7 Do you have any feedback on the proposed short- and long-term amounts for the Industrial Use Category?

Answered: 2 Skipped: 53

G	1L35D23L3	SI NL
1	no	9/15/2017 1:25 PM
2	In places like Swan Island, where, they are trying to incorporate bicycles for the last mile, would these requirements be more substantial than what is currently available or not?	9/13/2017 9:33 AM

Q8 Do you have any feedback on the proposed short- and long-term amounts for the Institutional Use Category?

Answered: 6 Skipped: 49

G	1L35D23L3	SI NL
1	People gotta bike to church! More library spaces, please! And more park spaces!	9/19/2017 12:47 PM
2	no	9/15/2017 1:25 PM
3	Shouldn't Park and Ride be related to the number of auto parking spaces, rather than a fixed number? L/T spaces for schools seems to be potentially short-sighted. Perhaps include requirement for space designated to remain open for additional future L/T spaces?	9/15/2017 10:57 AM
4	Not enough for transit centers.	9/13/2017 6:27 PM
5	As previously stated, it would be helpful to see what the current code standard is and how often adjustments have been applied for in each of the categories to get the minimum's reduced. For example, at OHSU CHH, the short term racks are nearly always completely full, even with the valet service.	9/13/2017 9:36 AM
6	seems like most of the medical centers I go by or use are way short of bike parking. Is this a significant enough change?	9/12/2017 6:26 PM

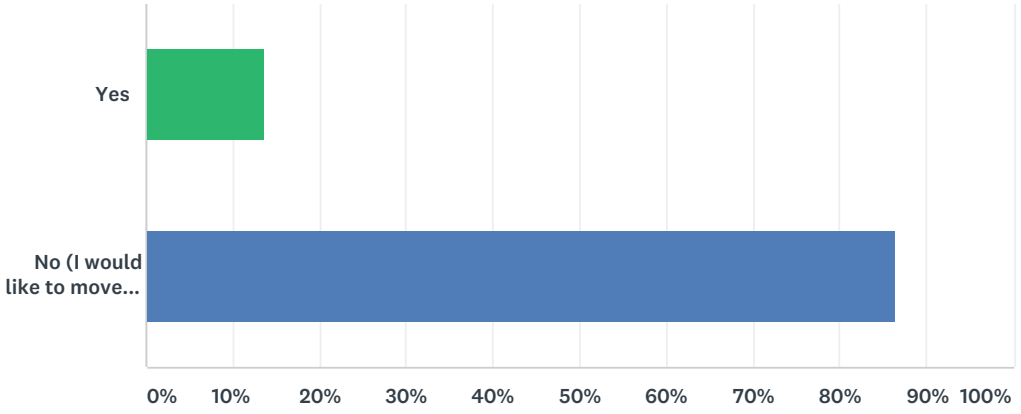
Q9 Do you have any feedback on the proposed short- and long-term amounts for the Other Use Category?

Answered: 1 Skipped: 54

G	1L35D23L3	SI NL
1	no	9/15/2017 1:25 PM

Q10 Would you like to review the more detailed methodology for updating the amount of required long- and short-term bicycle parking?

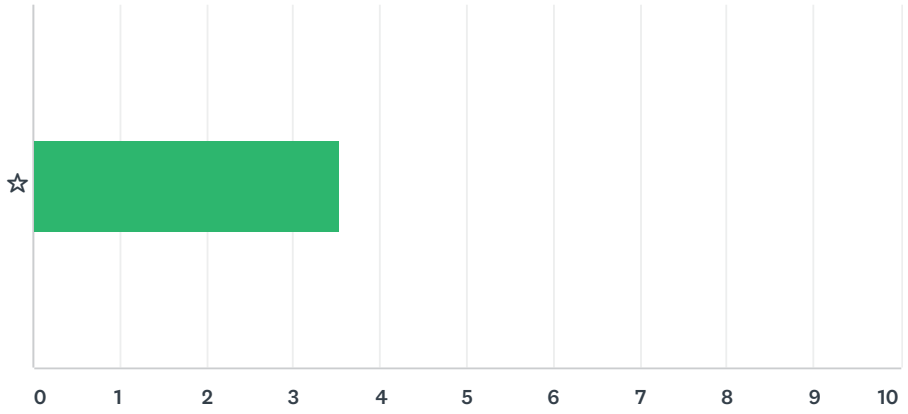
Answered: 22 Skipped: 33



I 23OL1#4ED@4L3	1L35D23L3	
Yes	13.64%	3
No (I would like to move to the next section)	86.36%	19
TOTAL		22

Q11 What is your level of agreement with the general methodology for updating the minimum required amount of long-term and short-term bicycle parking?

Answered: 19 Skipped: 36



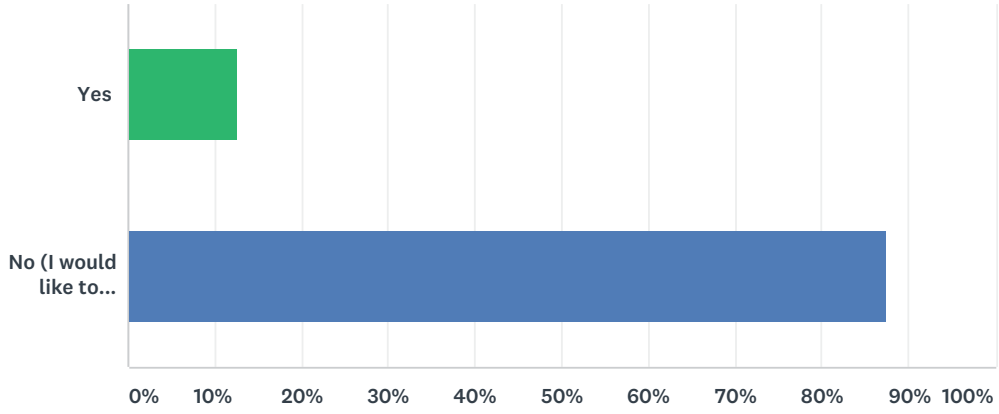
	W	H	Y		A	NDNI T	OLOMENLS# : L1I ML
☆	5.26% 1	5.26% 1	42.11% 8	26.32% 5	21.05% 4	19	3.53

G	OEV# 2S# 2V# SSOWCD2I T#DRRL2N3F#	SI NL
1	The examples show an increase of long-term spaces for inner-tier buildings by a factor of about 5.6x, which seems unrealistically high, whereas the increase in short-term spaces is 2x or less for inner tier and almost no increase for outer tier. For Short-term spaces, I question whether the trip rate and % visitors is a good planning assumption, as the result appears low. For long-term, I think you might need to adjust the 350 sf/ occupant assumption. As an architect, we use this as an early planning assumption, but in the end it can be much lower density, especially considering the number of buildings categorized as "office" that often include lower occupant density uses such as retail, meeting, storage, service spaces, etc. The current code table uses 1 space per 10,000 sf of *Net* building area, but your last slide with example buildings appears to be calculated based on *Gross* building area (including circulation, restrooms, mechanical & electrical rooms, closets, etc. This might end up over-building the number of bike racks per actual # of occupants.	9/25/2017 12:16 PM
2	The steps make sense, but the final outcome seems off. Maybe the sqft/employee ratio is off. My current office has an area of about 20,000sf and that supports roughly 100 employees. We have a bike room that we maintain that includes 33 racks. Based on the calculation, we are over by about 21 spots, however we run out of spots during the summer months. and are at about half capacity during winter. The office is in the inner areas.	9/20/2017 2:11 PM
3	The methodology seems appropriate and rational given the commute mode-split goals of the city. However splitting the amount between outer neighborhoods and inner neighborhoods is not recommended.	9/18/2017 3:30 PM
4	since the goal of the mode split is to match the SOV mode split seem like it would have been simpler to match bike parking to the SOV parking code and match it across the city. It would give a similar range of 1-2 LT spaces / 1,000 sqft and made it constant with SOV parking.	9/18/2017 9:07 AM
5	I think your SF per employee is too high. Office spaces are trending to less SF per employee.	9/15/2017 12:13 PM
6	It seems like too much long-term, and not enough short-term	9/14/2017 5:11 PM
7	Methodology provides good background. However, the increases are sizable, and may not align with what property managers may or may not see with their property.	9/14/2017 9:25 AM

8	The bigger concern is how the city intends to increase parking on buildings that are already built. If inadequate parking is not resolved then mode split goals aren't going to be met.	9/12/2017 9:08 PM
9	The methodology is mostly sound, but I don't agree with the recommendations made based on the methods. The required minimums seem to be an over-reach based on goals for bicycle mode split/commuting which more than quadruple in a relatively short time. Yes, Portland is a very bike-friendly city and more people are likely to continue to commute via bicycle in the future, but a 400%+ increase seems unrealistic. Further, the methodology doesn't reference any research conducted to verify if bicycle parking currently used actually correlates to bicycle parking required/provided.	9/8/2017 12:40 PM
10	I appreciate the methodology, but am again concerned with the geographic framework.	9/8/2017 9:34 AM

Q12 Would you like to go back and review the proposed amount updates to the remaining use categories?

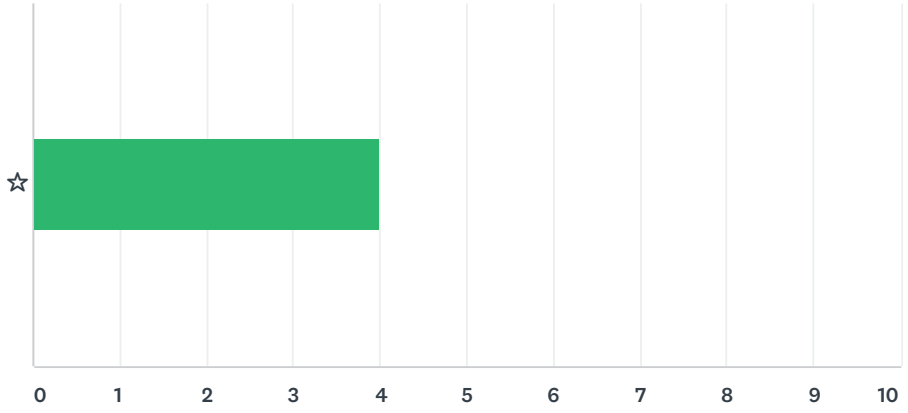
Answered: 24 Skipped: 31



I 23OL1#4EDQ4L3	1L35D23L3	
Yes	12.50%	3
No (I would like to continue to the next section)	87.50%	21
TOTAL		24

Q1 What is your level of agreement with the proposal to not make any changes to current code language under the short-term standards?

Answered: 37 Skipped: 1



	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	2.70% 1	0.00% 0	35.14% 13	18.92% 7	43.24% 16	37	4.00

Q2 Do you have any additional feedback on your experience with short-term bicycle parking?

Answered: 19 Skipped: 19

#	RESPONSES	DATE
1	Ideally, there would be some requirement or inducement to have covered parking.	9/25/2017 2:07 PM
2	Many building use types in Table 266-6 have "none" for required short-term spaces - this doesn't help increase mode-split. I've observed a need for short term spaces at 80-90% of these uses.	9/25/2017 12:33 PM
3	There needs to be, repeatedly, language in this section forbidding the kinds of blockage that I frequently experience at my local Fred Meyer. They set up their holiday barbeque grills blocking what I consider the best bike parking space. They often display merchandise so close to the parking that the best of it can't be used. They allow it to be used for dog parking, homeless cart parking, and anything else anyone wants to use it for. Their security guards do not believe that it is their responsibility to monitor it for appropriate use.	9/24/2017 7:06 PM
4	I am a year-round bicycle commuter in Portland. What I have found problematic with bike racks here is that they are installed improperly. A cyclist should really have input on bike rack placement. 1. Installed too close to a wall or building so that one cannot lock up their bike properly because the front tire hits the wall or building. I have seen this at a local hospital and at many local businesses. Experienced cyclists, or cyclists who know how to properly lock their transportation, lock the rear-wheel AND frame to the rack. When the rack is installed too close to a building, one cannot get her bike sufficiently forward onto the rack. 2. Installed on the sidewalk and too close to the street. I understand that there has to be enough room on the sidewalk for pedestrians and wheelchairs, however, when you install a rack too close to the street so that the bike wheel is near the edge of the curb, people who are parking their cars sometimes hit the wheel of the bike. You might think, "so what?" When a car bumps a wheel that has been secured to a bike rack, the wheel can be damaged because there is a U-Lock in that wheel (and frame). This damages spokes and wheels. No one wants their car bumped and cyclists don't want their bikes bumped either. 3. Number two is why bicycle street parking is necessary outside of businesses such as Costello's travel cafe on NE Broadway. The rack is too close to the street for one to safely lock one's bike. The same goes for Taco Pedaler's location across from Costello's. 4. Yesterday, I was getting my hair cut at Complete Designs on NE Sandy Blvd. near NE 47th. We wanted to park our bikes on the sidewalk in front of Hot Lips Pizza but the bike rack was full. We had to leave our bikes inside Complete Designs while getting my haircut AND while having pizza at Hot Lips afterwards. Street parking there and elsewhere across the city is sorely needed. 5. If there was some type of bike-rack system that included a good locking system for the public, that might encourage more cycling. Personally, if I want to spend time out on my bike, the lock situation is always a hassle. U-Locks are heavy, cables are inadequate. You have to be a really dedicated cyclist to cycle in Portland. It's not easy and it is getting more dangerous all the time. 6. The city SERIOUSLY needs to do something about drivers who don't make true complete stops at ALL stop signs. New arrivals seem to be looking out only for other cars, not cyclists or pedestrians and they are driving too fast through intersections. It is a daily danger having drivers turning into our paths because they didn't bother to stop and look carefully. It is very dangerous for us. Once they are entering the intersection without seeing us, we are vulnerable to being seriously injured or killed. Just over a week ago, a driver turned left into me as I was crossing Glisan. I had a very bright headlamp on at the time and it was daylight. She dented my back rack.	9/24/2017 2:09 PM
5	I often have trouble finding convenient short term parking racks, which makes me think that perhaps the current code is not doing enough.	9/21/2017 12:43 PM
6	The more, the better -- though I realize more bike parking could come at the expense of other amenities. Perhaps there's an opportunity to address lack of parking around older buildings through non-conforming upgrades standards...	9/21/2017 12:30 PM
7	I suggest defining how many hours constitute short term vs. long term.	9/19/2017 11:10 AM
8	Short term standards should be revised to include a sufficient number of spaces for cargo bikes or trailers. Sometimes this is a major challenge, and providing more reliable parking spaces for these types of bikes will expand bike trips to include more young families and trips for errands.	9/19/2017 8:17 AM

9	I would revise the code language to allow for all short term bicycle parking to be near one main entry where there are multiple entries (ie buildings on a corner lot where one side is the true main entry the and the other is really more of an accessory or employee-only entry. The code isn't clear about what the main entry is and how to control if/which entry this is).	9/18/2017 3:34 PM
10	In plain view of people in the street and within the store	9/15/2017 2:56 PM
11	Short term bike parking should be placed in the most visible and highly trafficked areas possible. For example, in front of windows and entrances, near outdoor seating, etc. Similarly, on corner lots, bike parking should typically be placed on the main street rather than the side street. This is particularly important with the placement of bicycle corrals and other short-term bike parking facilities with large numbers of spaces.	9/15/2017 1:34 PM
12	So no changes for people making deliveries, running errands?	9/14/2017 3:45 PM
13	There frequently isn't enough short term bike parking near places that have large amounts of visitors. Sometimes the staples are too close to the building and your front wheel won't go all the way to the front.	9/13/2017 6:20 PM
14	Short-term bicycle parking should reflect a variety of bicycle types: cargo bicycles and longer bicycles often do not fit in the spaces allotted for standard bicycles and the bicycle has to be parked so that it extends into the right of way of the sidewalk or attached to something non-standard. A diverse type of rack which allows for larger cycles would be appreciated.	9/13/2017 9:25 AM
15	There should be a way to encourage parking to be covered. Given how much it rains and the nature of bikes being exposed to the elements, a small bit of shelter goes a long way. The mode split has to have a chance of being maintained in the non-summer months and having the majority of parking in the elements isn't going to cut it. Also the parking needs to be free from obstructions and sufficiently far away from the curb so that cars aren't able to open their door into the bike.	9/12/2017 9:11 PM
16	Bike parking must also be in a readily visible location from the front door (not hidden or hard to find) of clear signage as to where the parking maybe (ie, Orchard Hardware on Halsey in Hollywood's bike parking is in their under-building parking garage, but you'd never know from the main entrance that they have any at all. People routinely use the wheelchair ramp railing to lock their bikes, which should be prohibited, if not).	9/12/2017 8:55 PM
17	My experience with short term bike parking is that the horizontal clearance is adequate but that the location of the racks often makes the space unusable even for a standard bike because the front wheel hits a wall or other obstruction. Either the code should require better standards or a plan review should check on this issue with all the various obstructions located.	9/12/2017 6:33 PM
18	This is where you should apply the geographic lens. We need more on-street bike parking in East Portland. Requirements should be greater there until equity is achieved.	9/8/2017 9:35 AM
19	I prefer parking on Street grade taking away parking space. As it is, I need to lift my bike onto the sidewalk or find a curb cut and navigate pedestrian traffic, and then take up sidewalk space. If bikes are expected to travel on the road and not the sidewalk we should also park there	9/7/2017 5:27 PM