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Chloe Eudaly Commissioner **Chris Warner** Interim Director

Memorandum

To: Portland Planning and Sustainability Commission
From: Liz Hormann and Sarah Figliozzi, PBOT Active Transportation and Safety
RE: Bicycle Parking Code Update Project – questions from PSC Commissioners
Date: January 17, 2019

At the January 8, 2019 Planning and Sustainability Commission (PSC) meeting, Bureau of Transportation (PBOT) staff provided a briefing on the Bicycle Parking Code Update Project. Due to time constraints, the PSC members asked a number of questions for staff follow-up. The memo below addresses these questions. While each question is not listed out verbatim, the intent was to capture the main themes of the questions and provide staff response.

1. What is the cost of not doing the bicycle parking code project?

The City of Portland has adopted a number of ambitious climate change and transportation goals, that if met will ensure the growth and development of the city is livable and sustainable for all Portlanders. In order to meet the goals outlined in the Climate Action Plan, the Comprehensive Plan for 2035 and the Transportation System Plan, the City is implementing capital projects to enhance the network of multi-modal infrastructure, adopting policies to support concentrated and smart growth, and investing in new technologies that will reduce greenhouse gas emissions.

It will take a multifaceted and comprehensive approach to meet the following goals:

- Climate Action Plan - 80% reduction in local carbon emissions
- Comprehensive Plan - 70% of daily trips should be made by non-drive along modes
- Transportation System Plan - 25% bicycle mode split

Ensuring there is adequate, convenient and secure bicycle parking at all destinations is a fundamental element in moving Portland forward in reaching its target mode split goals. PBOT is committed to building infrastructure to support people traveling by bicycle. However, at the end of those trips, they need to park their bicycles somewhere safe. Building the safest and most comfortable bike infrastructure on its own will not convince 25% of Portlanders to ride if they don't have a convenient place to store their bike.

If we do not make sure that enough safe, convenient, accessible bike parking is being provided in private development, the cost of not updating the bicycle parking code could be borne out in impacts on the environment, rising congestion around the city, and in rising tenant household costs.

Rising Transportation Emissions

Although the City has been at the forefront of many sustainability and climate action initiatives, the percentage reduction in per person carbon emissions from 1990 levels has remained steady at 41% since FY 2015-16. The goal is an 80% reduction by 2050, in line with the Climate Action Plan. Also, for the first time since 2007, total transportation sector emissions have climbed above 1990 levels and Portland has seen a 2.9% rise in the number of commuters on the road.

Rising Congestion

Portland cannot build its way out of congestion. If today's current rate of driving continues, population growth would require 23 new Powell Boulevards to accommodate the total projected auto trips. Rather than build new ROW at prohibitive financial, social and environmental costs, Portland's decision makers are focused on strategies that use our existing streets more efficiently.

Increasing Household Costs

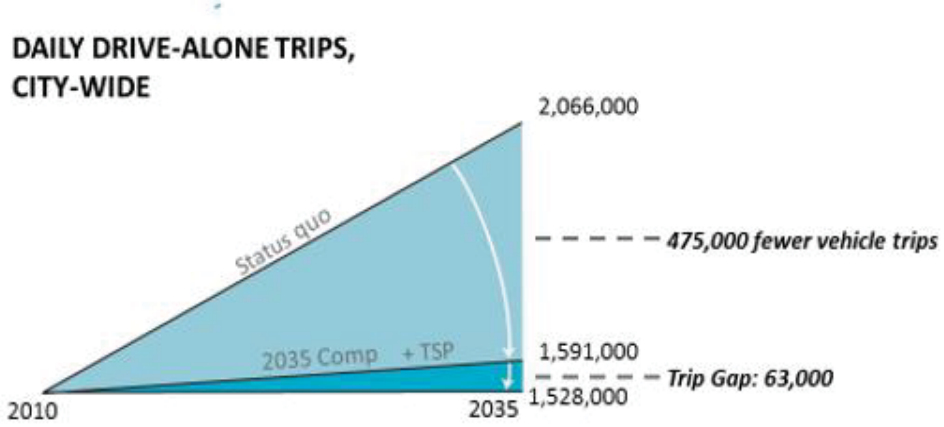
Transportation is the second largest household expense for Portland residents. Bicycling is one of the cheapest transportation options. Whatever we can do to support people's ability to use bicycles for transportation will give them an opportunity to save money. The Metro[1] graphic below outlines the general annual transportation costs by mode, which shows how modes like biking can provide huge cost savings if it can be made convenient.

Significance of Closing the Trip Gap

Within the Comprehensive Plan and the Transportation System Plan, the City has outlined a suite of policies and projects that will help reduce daily drive-alone trips. However, even with the full implementation of these projects, there remains a trip gap of nearly 63,000 trips a day to meet the City's 2035 mode split goals. This gap will have to be closed by changes in how private development and

[1] "You are here: A snapshot of how the Portland region gets around", Rebecca Hamilton, https://www.oregonmetro.gov/news/you-are-here-snapshot-how-portland-region-gets-around

private businesses support non-SOV travel, through Transportation Demand Management (TDM) and provision of on-site physical accommodations, including bicycle parking.



Role of Bike Parking in Multi-Dwelling Projects

By 2035, Portland is anticipated to grow by 500,000 residents, 80% of which are anticipated to be living in new multi-dwelling units in the City's centers and corridors. Bike ownership necessitates bike storage, therefore the construction and design of these new mixed-use projects, approximately 100,000 new units by 2035 to be built in the City's centers and corridors, will have the potential to dramatically influence the mode choice of new tenants. The provision of bicycle parking in private development will play a significant role in supporting Portland's climate policies and encouraging alternatives to driving alone.

Bicycle Parking Influences Mode Choice

We know that people riding a bicycle will need to end their trip and will need to have a place to park their bicycle. We also know, that given the security concerns expressed from users, that bicycle parking, especially at work or at home, needs to provide a level of security that an on-street staple rack cannot provide.

Several research papers have found that secure bicycle parking plays a significant role in mode choice, for example bicycle parking and cyclist showers are related to higher levels of bicycle commuting[2] and bicycle parking is identified as a significant factor in whether infrequent, potential and non-cyclists choose to commute by bicycle or not.[3]

Additionally, a number of City of Portland studies and surveys have provided strong evidence that people will not ride a bicycle if they don't have a designated and secure place to park their bicycle:

- SmartTrips Downtown Participant Survey - 37% of respondents said providing secure bike parking or lockers would help them bike more – this was second to only offering monetary incentives.[4]

[2] Buehler, Ralph, "Trends and Determinants of Cycling in the Washington, DC. Transportation Research Part D, Vol 17, No. 7, 2012, pp. 525-531.

[3] Wang, JYT, Mirza, L, Cheung, AKL et al., 2014, Understanding factors influencing choices of cyclists and potential cyclists: A case study at the University of Auckland. Road and Transport Research: a journal of Australian and New Zealand research and practice, 23 (4). 37 - 51.

[4] SmartTrips Downtown Program Participant Survey, 2007 and 2008.

- Central Eastside Survey - 52% of residents reported that more bike parking would help them drive less.[5]

More recent community surveys that were conducted as part of the Bicycle Parking Code Update Project captured the qualitative data around the difficulties people experienced when they did not have dedicated, secure places to store their bicycle. The following are a couple of quotes:

- "We are unable to store bicycles outside. Threatened with eviction if I continue to. Not able to hang inside and it took up too much space. Had to get rid of my bike."
- "I'd like to see more spaces where we can put our bicycles, so that we can all have bicycles in good condition and in a safe place."
- "We could not leave our bikes out on the patio where there is room because they would get stolen."

For all of these reasons, the City strongly believes that the Bicycle Parking Code Project, which includes standards to ensure accessible, convenient and secure bicycle parking is a fundamental component in ensuring Portland meets it bicycle mode split goals and contributes to a more livable and sustainable city.

2. Geographic Tiers

Why were two standards developed?

The Comprehensive Plan for 2035 developed the five distinct Pattern Areas, based on the unique characteristics of the natural landscape and how and when the parts of the city were developed.

As the Comprehensive Plan states: *each Pattern Area has unique physical, social, cultural and environmental qualities that differentiate them and create their sense of place. To maintain and enhance the positive qualities and sense of place in each pattern area, it is desirable to have policies and regulation that respond to each area's unique natural and built assets.*

Policy 9.10 states that the City should adopt geographically-specific policies in the Transportation System Plan (TSP) that account for the unique land use, demographics, and economic needs in transportation policies and infrastructure.

Therefore, the TSP developed the following mode share goals for the five pattern areas:

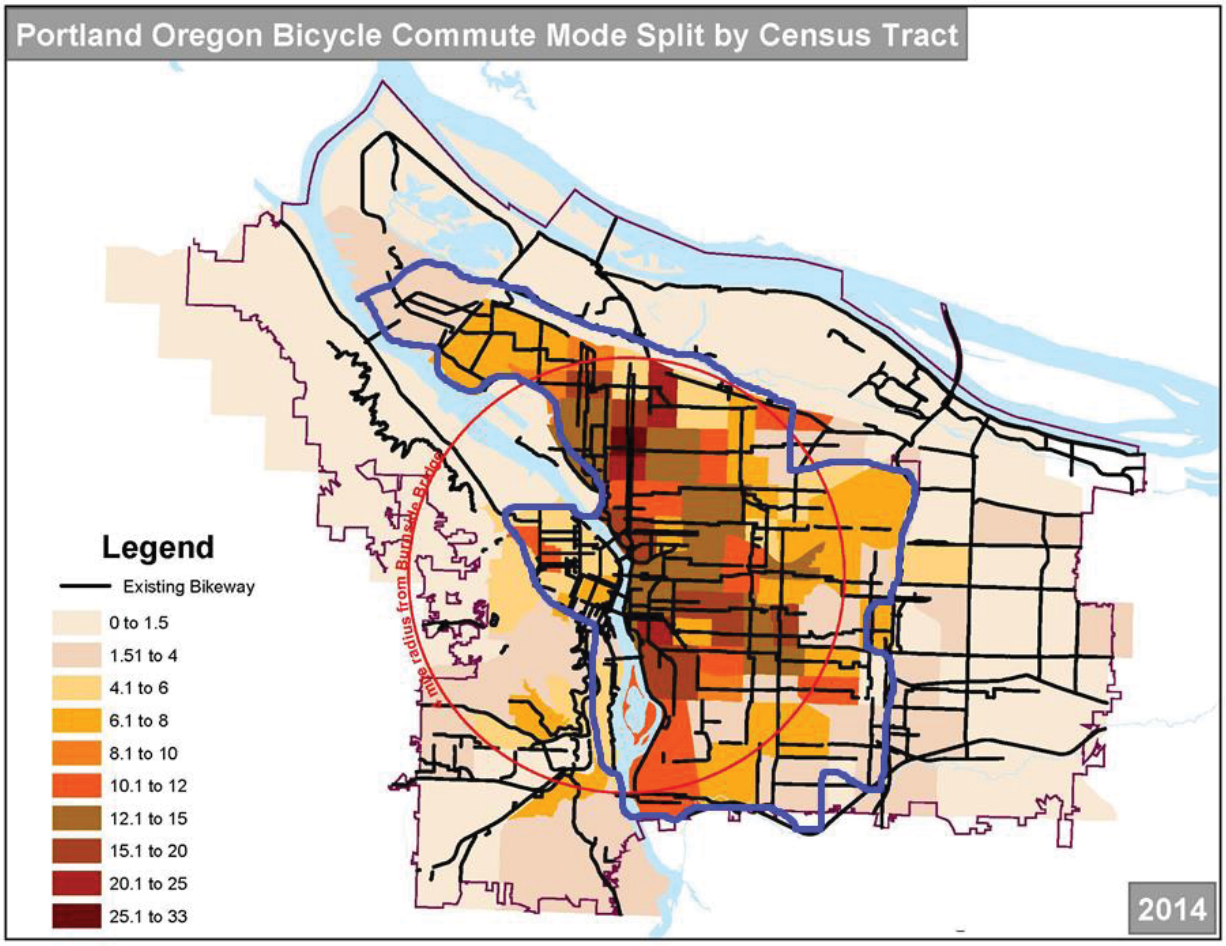
Pattern Area	**2035 daily non-drive alone target mode share**
Central City	85%
Inner Neighborhoods	70%
Western Neighborhoods	65%
Eastern Neighborhoods	65%
Industrial and River	55%

[5] CCTMP Central Eastside Resident and Employee Survey, 2008.

Based on these TSP mode split goals, the Bicycle Parking Code Update Project assigns different standards to different parts of the city, with higher bicycle mode shares expected in the Central City and Inner Neighborhoods.

The amount of parking required in Standard B ranges from 1.6 to 3 times more than what is required under current code for long-term bicycle parking and 1.1 to 3.1 times more for short-term parking for the major categories of Retail Sales and Service and Office. For Standard B, the proposal increases the minimum required long-term amounts for all of the Use Categories, to ensure bike parking provision for 10% of employees. This is a significant jump from current code where, for example, Office Uses require only enough bicycle parking for 3.5% of the employees.

Finally, this map shows current bicycle commute mode split in the city. The blue line delineates Standard A (inside the blue line) and Standard B (outside the blue line).



Is there a plan to transition Standard B rates to Standard A rates?

There are no plans to codify a trigger for when Standard B is transitioned to a higher bicycle parking amount. Timeline triggers are difficult to put into Zoning Code because of the need for constant updating. However, PBOT and BPS intend to be responsive to need for changes to this code before another twenty years pass.

Additionally, in a White Paper drafted in 2013[6], regarding the path ahead for active transportation in Portland, Roger Geller outlines some of the facts around historic growth in bicycle transportation throughout the city and what is realistic to expect in the future and to meet future goals. The key issue is simply that outer neighborhoods have longer trip distances to destinations that are typically found in central areas. While there is opportunity and potential to increase bicycle mode splits throughout Portland, modelling incorporating land use, population density and trip length strongly indicates that bicycle mode splits in East Portland will not reach the mode split number of inner SE and NE.

What are the amounts of required bicycle parking for Transit Uses?

In the proposed Table 266-6 of the Amounts of Required Bicycle Parking, the amounts for both short- and long-term bicycle parking at Transit Centers and Light Rail Stations are the same for Standard A and Standard B.

		Long-term Spaces		Short-term Spaces	
Uses	**Specific Uses**	**Standard A**	**Standard B**	**Standard A**	**Standard B**
Basic Utilities	Transit Centers	30 spaces	30 spaces	12 spaces	12 spaces
	Light Rail Stations	12 spaces	12 spaces	4 spaces	4 spaces

[6] Roger Geller, March 2013, "What Does the Oregon Household Activity Survey Tell Us About the Path Ahead for Active Transportation in the City of Portland?"

3. What does the bicycle mode split growth look like over the past twenty years?

The below table outlines the commute mode splits in Portland, by mode, since 1990. This information is from the US Census Bureau.

Commute Mode Split; Percentage

	Drove Alone	Carpooled	Transit	Walked	Bicycled	Worked at Home
1990	65.0%	12.9%	11.0%	5.6%	1.1%	3.4%
1996	65.2%	12.2%	11.7%	4.3%	1.7%	4.2%
1997	64.0%	11.7%	14.0%	3.8%	2.2%	3.7%
1998	65.4%	10.7%	12.1%	4.4%	2.0%	4.6%
1999	63.8%	11.0%	12.3%	5.5%	1.9%	4.8%
2000	63.6%	11.9%	12.3%	5.2%	1.8%	4.3%
2001	62.8%	11.0%	13.0%	5.0%	2.8%	4.6%
2002	64.4%	10.2%	12.2%	4.8%	2.6%	5.0%
2003	62.4%	12.0%	12.9%	3.8%	3.0%	4.9%
2004	62.2%	11.0%	13.3%	3.7%	2.8%	5.8%
2005	62.3%	10.4%	13.3%	4.3%	3.5%	5.3%
2006	60.6%	10.5%	12.6%	5.2%	4.2%	6.1%
2007	63.6%	9.8%	11.2%	4.4%	3.9%	6.4%
2008	60.4%	8.4%	12.6%	5.3%	6.0%	6.5%
2009	61.6%	8.5%	11.5%	5.6%	5.8%	5.9%
2010	58.8%	9.6%	12.1%	5.3%	6.0%	7.4%
2011	57.8%	9.2%	13.0%	4.9%	6.3%	7.9%
2012	58.5%	8.4%	11.1%	6.9%	6.1%	7.9%
2013	57.4%	9.9%	11.9%	6.1%	5.9%	7.1%
2014	57.6%	9.1%	11.8%	5.4%	7.2%	7.6%
2015	57.2%	8.2%	13.4%	6.0%	7.0%	7.2%
2016	58.2%	8.1%	12.9%	5.8%	6.3%	7.8%
2017	56.7%	8.6%	12.6%	5.7%	6.3%	8.6%

4. Recognizing that the proposals for long-term bicycle parking are using the 15% commute mode split rather than the 25%. How confident are staff that bike parking rates based on the 15% rate will meet our mode split goals?

The short answer is that this is unknown. However, 15% is a moderate target that allows us to raise the baseline, looking toward 2035 without placing an undue burden on development in the present. The current citywide commute mode split is hovering around 7% and therefore the bicycle parking requirements using a target of a 15% commute mode split citywide is providing capacity for future growth.

Additionally, the following are the reasons that staff continued to use the 15% commute mode split goal in the calculations for most long-term bicycle parking amounts:

- In 2019, there are still 16 years to meet the 2035 goal of 25%, and the 15% represents an incremental step.
- 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.

However, all that said, 15% is not a specified target in any City of Portland planning documents.

5. Are there any provisions to require outlets for e-bike plug in?

Earlier draft code proposals included a requirement for a small percentage of electrical outlets in bike parking areas for charging e-bikes. Upon additional review of the proposals, the Bureau of Development Services (BDS) raised a number of questions around the requirement and expressed concern that electrical outlets, specifically the review of outlets in plan documents, are a Building Code issue, and that there are a number of implementation hurdles to electrical requirements in Planning and Zoning.

The Bureau of Planning and Sustainability (BPS) is scoping an electrical vehicle project, which will address some of the key implementation questions of electrical requirements in both Zoning and Building Code. At the request of BDS staff, consideration of outlets in bike parking areas was shifted to this project and be included in the scoping.

6. What are the utilization rates for the bike rooms?

There are no useful numbers about utilization rates, because bike room usage is very dependent on the bike room being well designed and in a convenient location. Bike rooms are predictably poorly-used when they are located down a steep flight of stairs or placed in a distant corner of a site or building. When properly designed and located, s bike rooms are either visibly well-used or described as well-used by property managers (reliance on property managers was necessary as notes on residential bike room occupancy from site visits in the middle of the day are typically not accurate). This project is intended to create a baseline of requirements to ensure that bike rooms are built so that they will be used.

7. Is there a way to codify standards to ensure in-unit bicycle parking is done well?

There were earlier proposals to include additional standards around in-unit bicycle parking, like that the bicycle rack needed to be within 15 feet of the door and standards around providing an area dedicated for bicycle parking in the unit.

However, staff heard from BDS that that level of detail adds complexity to the permit review process, which could delay projects. Additionally, staff heard from developers and architects that standards that programmed the interior of a dwelling unit were too prescriptive and will be hard to meet because each project is so unique in how it uses unit space.

8. What can be done to address bicycle parking in existing buildings, and especially for low-income Portlanders who are living in older, cheaper housing?

Existing buildings are outside of the scope of this Zoning Code project; however, this project has spurred thoughts on how PBOT can support bicycle parking in existing buildings and especially existing, older, affordable housing projects.

The Portland Bicycle Plan for 2030 does call for a number of actions to encourage owners of existing buildings to upgrade bicycle parking, including:

- Identify funding opportunities and develop programs to provide financial incentives that promote private party retrofitting of bicycle parking facilities and existing residential and commercial buildings; and
- Develop a program to work with retail and business interests to increase short-term on-site bicycle parking in areas of Portland where on-street bike parking would be more than 50 feet from the entrances to major retail venues.

9. Clarify the triggers for nonconforming development?

The following are the triggers for bringing bicycle parking up to code for nonconforming development:

1. If a project hits the threshold of a major remodel project, then the project must meet the standards for the short- and long-term bicycle parking.
2. If a project hits the $163,650 threshold in the nonconforming chapter (33.258) **and** has a surface parking lot, then the project must meet the standards for short- and long-term bicycle parking.
3. In all other situations, a project would only need to meet the standards for short-term bicycle parking.

Important notes:

- Bicycle parking is one item on a list of elements that would need to be brought into conformance.
- In all cases, the cost of required improvements is limited to 10% of the value of the proposed alterations.

- Definition of major remodel project: *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 existing improvements on the site. Assessed value is the value shown on the applicable county assessment and taxation records for the current year.*

10. How is the bicycle parking project related to Better Housing by Design and Residential Infill Project, especially when it comes to the amounts of required bicycle parking?

The bicycle parking code was intended to apply to both multi-dwelling structures/ development and has been interpreted as three or more units on a site/lot. (the zone isn't considered, but single dwelling zones previously haven't allowed multi-dwelling development or structure unless approved through a Planned Development.) The definitions of multi-dwelling development and structures are on the table in the RIP/ BHD conversations.

11. Can you provide some additional information about requirements related to detached bicycle parking structures for small development?

The Bicycle Parking Code Update Project proposes amendments to 33.120 and 33.130 to clarify that detached covered accessory structures can include bicycle parking. Additionally, the Better Housing by Design project currently proposes to allow these detached covered accessory structures within required side and rear setback of small sites. The intent with the proposed amendments, is to include covered bicycle parking structures as allowable in setbacks.

Currently, in Title 33.120.280.C., detached covered accessory structures are allowed if they meet certain dimensional structures, including, but not limited to: the structure does not exceed 24 feet by 24 feet (576 square feet), excluding eaves and that the structure is no more than 15 feet high and the wall no more than 10 feet high.

For general scale purposes, the below are a couple of development scenarios and the size of the covered bicycle parking structure:

# of Units	Standard A # of bike spaces	Square Footage for bike parking*	Standard B # of bike spaces	Square Footage for bike parking*
4 units	6 spaces	79.2 sq. ft.	5 spaces	66 sq. ft.
6 units	9 spaces	118.8 sq. ft.	7 spaces	92.4 sq. ft.
10 units	15 spaces	198 sq. ft.	11 spaces	145.2 sq. ft.

* The square footage need for a vertical space, with the five-foot aisle = 13.2

12. Map of existing affordable housing sites and bicycle network:

Affordable Housing and Bicycle Network

January 2019