Opportunities to Improve Long-term Bicycle Parking in Seattle’s Center City
Increasing Quantity, Quality, and Accessibility

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Evans School of Public Affairs Capstone Project
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1 Marc Wagenbuur, Utrecht Indoor Bike Parking Facility, the Netherlands.
Seattle today is facing the challenges that come with being one of the fastest-growing major cities in the country. At the end of the day, the way in which people and goods move about Seattle serves as a key indicator of our quality of life.

-- Move Seattle: Mayor Edward B. Murray’s 10-Year Strategic Vision for Transportation

Key to accommodating growth will be bicycle investments...[These will] help the city achieve its goals relating to mobility, climate change, economic vitality, and community livability.

-- 2014 Seattle Bicycle Master Plan

Cyclists consider safe bicycle parking to be important...Having no facilities at work has been cited as a reason not to cycle.

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2 “Move Seattle.”
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This research could not have been completed without your support. Thank you!
Executive Summary

Bicycle parking is a critical end-of-trip facility; knowing there will be a secure, covered place to store a bicycle plays a significant role in whether an individual decides to travel by bicycle. This report identifies opportunities to increase bicycle ridership by leveraging private development and improving the quality, quantity, and accessibility of long-term bicycle parking in new commercial buildings in Center City.

Problem Definition
Seattle’s Center City does not have enough long-term bicycle parking to meet the needs of current or future bicyclists. The bicycle parking that does exist varies in terms of quality and accessibility.

Research Methods
Our research methods included a review of relevant academic literature and policy documents as well as interviews with developers, public officials, architects, and others. In this report, we:

- Outline the current state of long-term bicycle parking in Center City;
- Describe Seattle’s regulatory environment regarding bicycle parking;
- Compare Seattle’s regulatory environment to that of other cities;
- Describe the trends and unique considerations that affect commercial developers’ interest in and perspective on bicycle parking;
- Identify and analyze options likely to create more high-quality, accessible bicycle parking.

Definition of Long-term Bicycle Parking
We defined long-term bicycle parking as parking located in a secure facility that protects against theft and inclement weather, including wind-driven rain, and is intended for use as workday, overnight, and longer-term bicycle storage for building occupants.\(^5\)

Extent of the Problem
The majority of residents who commute to Center City do not have access to a secure, weather-protected parking space to store their bicycle at work. In 2010, just 22% of commercial buildings in Center City had long-term bicycle parking.\(^6\) Nearly one third of these buildings provided parking that did not adequately protect bicycles from theft or inclement weather. Less than half of these buildings allowed non-tenants to access the bicycle parking facilities. This lack of high-quality long-term bicycle parking creates a barrier to many residents choosing to commute by bicycle, thereby contributing to Seattle’s notorious traffic congestion, a problem exacerbated by the city’s rapid growth.

Bicycle parking quantity requirements in Center City will not create enough parking to meet the needs of future cyclists. While new commercial buildings have been required to include long-term bicycle parking since 2006, the minimum quantities required in Center City will not create enough parking to accommodate the projected growth in the number of residents cycling; the City has outlined a goal of quadrupling the number of cyclists in Seattle by 2030.\(^7\) Though Center City is home to the commercial heart of the city, Seattle’s Municipal Code (SMC) mandates a minimum quantity of long-term bicycle parking equal to 3% of the tenants in each office building. As of 2014, 3.1% of employees commute by bicycle to Center City.\(^8\) The quantity of long-term bicycle parking required is equal to current demand.

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\(^5\) This definition was adapted from the definition of “Class A” bicycle parking outlined in San Francisco’s land use code.

\(^6\) Commute Seattle, “2010 Center City Bicycle Amenity Inventory Final Report.”

\(^7\) “Seattle Bicycle Master Plan,” April 2014.

\(^8\) Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
In Seattle, long-term bicycle parking in commercial buildings tends to be located below ground in parking garages, often resulting in less convenient and accessible bicycle parking. The co-location of bicycles and cars, sometimes without physical separation and often designed primarily with the car in mind, can lead to unsafe situations for bicyclists - either at the entrance or within the parking garage itself. For example, ramp grades at garage entrances that are appropriate for cars may be too steep for easy use by many bicyclists, who must dismount and walk through a low-visibility vehicle lane to exit.

**Causes of the Problem**

The lack of high-quality, accessible bicycle parking is primarily caused by a dearth of information among stakeholders about what makes long-term bicycle parking functional and attractive to cyclists. A secondary issue is the lack of incentives to locate long-term bicycle parking at ground level rather than in the parking garage.

The shortage of long-term bicycle parking is primarily caused by the fact that Center City’s buildings are of varying ages and were built to different land use codes requirements; almost all were built before bicycle parking was required. In addition, the minimum quantities of bicycle parking required in most of Center City are too low to meet the projected growth in demand for such end-of-trip facilities.

**Recommendations and Conclusion**

There is no single solution that can simultaneously improve the quantity, quality, and accessibility of long-term bicycle parking in Center City. We recommend concurrent implementation of several options (tiers 1 & 2) and the use of additional data to assess the need for future regulatory changes (tiers 3 & 4).

<table>
<thead>
<tr>
<th>Ten Policy Options Evaluated, All Aimed At Improving:</th>
<th>Quantity</th>
<th>Quality</th>
<th>Accessibility</th>
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</thead>
<tbody>
<tr>
<td><strong>Tier 1: Highly Effective, Highly Feasible, Implement Now</strong></td>
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<td>✔✔ ✔✔</td>
<td>✔✔ ✔✔</td>
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<tr>
<td>Increase bicycle parking design specificity in the SMC</td>
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<td>Extend Urban Center quantity requirements to Center City</td>
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<td>Exempt above ground bicycle parking (floor area exemption)</td>
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<td>Provide information about bicycle parking best practices</td>
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<td>Collect more information</td>
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<td><strong>Tier 2: Highly Effective, Moderately Feasible, Build Support, Then Implement</strong></td>
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<td>Increase parking accessibility advice in Seattle Design Guidelines</td>
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<td>Adopt bicycle mode split goals &amp; use to set quantity requirements</td>
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<tr>
<td><strong>Tier 3: Moderately Effective &amp; Feasible, Evaluate Need for Implementation</strong></td>
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<td>Extend parking as optional street-level use outside downtown</td>
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<tr>
<td>Provide technical assistance about bicycle parking</td>
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<td><strong>Tier 4: Uncertain Effectiveness &amp; Feasibility, Evaluate Need for Implementation</strong></td>
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<tr>
<td>Density bonus in exchange for bicycle end-of-trip facilities</td>
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**Next Steps**

In addition to focusing immediate-term efforts on implementing the options outlined above, we also recommend that further research be conducted to address the shortage of long-term bicycle parking in existing buildings. We identified several policy options that showed promise and we suggest further analysis on how high-quality long-term bicycle parking can be added to existing commercial buildings in Seattle’s Center City.
**Glossary**

**APBP:** Association of Pedestrian and Bicycle Professionals

**Center City:** Is the geographic area encompassing 10 central Seattle neighborhoods: Uptown; South Lake Union; Capitol Hill; Belltown; Denny Triangle; Pike/Pine; Commercial Core; First Hill; Pioneer Square; and Chinatown/International District. See map in Chapter 1.

**Density bonus:** Common term referring to an agreement entered into by a developer and the city.

**Downtown:** As described in the land use code, the downtown much of the geographic extent of Center City, as far north as the southern tip of Lake Union and as far east as the I-5 corridor. See map in chapter 5 for the exact geographic bounds of the downtown zones. Some people use downtown and Center City interchangeably; others use downtown to refer to the Commercial Core of Center City.

**Downtown zones:** This term is used in the Seattle land use code to describe different types of zoning rules applicable to the downtown area.

**DRB:** Seattle Design Review Board. See Chapter 4 for further details.

**FAR:** Floor Area Ratio. This is the ratio of the building bulk (height of the building, and width of the footprint) in relation to the piece of land (“parcel”) that it is built on. Chapter 4 contains a more detailed explanation of different ways that a building’s FAR can be accommodated on a piece of land.

**Public officials:** Employees of public agencies.

**SMC:** Seattle Municipal Code (contains the City of Seattle’s land use code).

**SDOT:** Seattle Department of Transportation.

**DPD:** Seattle Department of Planning and Development.

**Mode split:** The percentage of travelers using a particular type of transportation.

**Stakeholders:** People who may be affected by decision-makers' choices relating to a given issue.

**TMA:** Transportation Management Associations are non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district. They are generally public-private partnerships, consisting primarily of area businesses with local government support. Commute Seattle is downtown Seattle’s TMA.

**TMP:** Transportation Management Program (see chapter 5 for further information)

**Urban Center:** Cities, through their Comprehensive Plans designate growth centers, geographic areas where population and employment growth is planned for, alongside public investment to support that growth. Seattle’s designated urban centers are known as “Urban Villages.”

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9 Todd Litman, “TDM Encyclopedia.”
Section A: Background

Section A Chapters
1: Introduction & Report Focus
2: Research Methods & Structure
3: Why Does Bike Parking Matter?
4: Real Estate & Land Use Regulation

10 PFL Spaces: Secure & Sustainable Fencing.
Chapter 1. Background

In May 2011, Commute Seattle – downtown Seattle’s Transportation Management Association (TMA) – released its 2010 Center City Bicycle Amenity Inventory Final Report, indicating that Seattle’s Center City does not have enough long-term bicycle parking to meet the current or future demand of bicycle commuters and that the long-term bicycle parking that does exist is poorly distributed and of varying quality.\(^{11}\) Just 22% of all commercial buildings surveyed in the report had any long-term bicycle parking and only 40% of these buildings provided non-building tenants with access to these facilities (see below for more information).\(^{12}\) This inventory was the first complete assessment of the supply of bicycle parking in Seattle’s Center City and mirrored anecdotal evidence indicating that many bicycle commuters did not have an adequate place to park their bicycle at work.

Three years later, in July of 2014, Cascade Bicycle Club and Madison Neighborhood Greenways, two Seattle bicycle advocacy groups, hosted Rackathon: A Regional Summit to Hack the Bike Parking Code. The goal of the event was to begin a conversation about how to increase the amount of bicycle parking available through improvements to Seattle’s Municipal Code (SMC), design review process, and transit station design, as well as to assess the current quality of the city’s on-street bicycle racks.\(^{13}\) Rackathon was a huge success – over 90 bicycle advocates, policymakers, real estate developers, engaged bicycling citizens, design professionals from Seattle’s American Institute of Architects (AIA) chapter, and members of the Seattle Planning Commission, as well as staff from the Seattle Department of Transportation (SDOT) and Sound Transit, came together to discuss how to improve all types of bicycle parking in Seattle.\(^{14}\)

Staff from Commute Seattle and the local office of Zimmer Gunsul Frasca (ZGF) Architects LLP also participated in the Rackathon conversation. Both organizations work closely with developers, property managers, and private businesses in Seattle’s Center City – an area composed of the downtown core and surrounding neighborhoods (see Figure 1\(^{15}\)). Each has a vested interested in improving the state of long-term bicycle parking in Center City. For Commute Seattle and its board – made up of leaders from SDOT, King County Metro, and the Downtown Seattle Association – adequate, commuter-appropriate bicycle

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\(^{11}\) Commute Seattle, “2010 Center City Bicycle Amenity Inventory Final Report.”

\(^{12}\) Ibid.

\(^{13}\) Cascade Bicycle Club, “Rackathon: A Regional Summit to Hack the Bike Parking Code.”

\(^{14}\) “Rackathon: Bringing the Best of Bike Parking to Seattle.”

\(^{15}\) Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
Parking is an important element of ensuring the efficient flow of people and goods through downtown. They believe “a healthy city is a mobile city” and work to ensure Seattle residents have access to the infrastructure and support necessary to choose to commute to Center City by bicycle, transit, or on foot.

For ZGF Architects LLP, well-designed, functional long-term bicycle parking is a natural extension of the firm’s interest in innovative green building design. With offices in Seattle, New York, and Portland, Oregon among others, the firm had firsthand experience designing long-term bicycle parking in commercial buildings in a variety of cities with different land use code regulations and incentives. The firm was particularly familiar with Portland’s unique bicycle end-of-trip facilities code incentive and had anecdotal evidence that some projects in this bicycle-friendly city were choosing to incorporate more long-term bicycle in order to take advantage of the incentive (see Chapter 6 for more information).

Together, these two organizations commissioned two graduate students from the University of Washington’s Evans School of Public Affairs to craft a report building on Commute Seattle’s assessment of the current state of long-term bicycle parking in Seattle’s Center City, ZGF Architects LLP’s knowledge about other cities’ land use codes, and the momentum of Rackathon. These organizations wanted a set of recommendations that could address the lack of long-term bicycle parking in Center City commercial buildings.

Bicycle Parking Definitions

What Is Bicycle Parking?
Bicycle parking is often categorized as either short, or long-term. **Long-term bicycle parking** is protected from the elements and offers some level of security. There are many working definitions of long-term bicycle parking used by municipalities and bicycle professionals:

- Transport Canada, the Canadian Federal Department of Transportation, defines long-term bicycle parking as “partially- or fully-enclosed or indoor bicycle parking offering weather protection and increased protection against vandalism and theft,”
- In Seattle, it is defined as “parking...for bicycles parked four (4) hours or more;”
- In San Francisco, California, long-term bicycle parking is called “Class 1” defined as “spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, non-residential occupants, and employees.”

In contrast, **short-term bicycle parking** is defined by Transport Canada as “simple outdoor stands or racks with no weather protection and minimal security measures.” This report does not focus on short-term bicycle parking. SDOT already has a well-functioning program to increase the number of short-term bicycle racks in front of Seattle businesses and we know they are considering an expansion of this program to include the conversion of on-street automobile parking into bicycle corrals, which would greatly increase the amount of short-term bicycle parking available. **We focus solely on long-term bicycle parking in this report and use San Francisco’s definition.** Going forward, when we use the term “bicycle parking,” we are referring to “long-term bicycle parking.”

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16 Commute Seattle, “Who We Are.”
17 Ibid.
22 “Bike Parking.”
Who Uses Bicycle Parking?
This report aims to impact Seattle residents who own their own bicycles, or would consider purchasing one, and who are currently using, or would consider using, a bicycle to travel to the Center City. While our primary audience is residents who commute to Center City because most of the trips made into that area are commute trips, our secondary market is anyone traveling into the Center City to shop or play.

Where Can Bicycle Parking Be Located?
Bicycle parking can either be located on private property or on public property (see Figure 2). If sited on private property, it can either be located inside the building or outside the building envelope. If sited on public property, it can either be located in the public right-of-way on the sidewalk, or at or near a public transit station (see Figure 3). Our report focuses on bicycle parking solely located on private, commercial property, where the City’s primary places of employment are located.

Qualities of Bicycle Parking
Not all bicycle parking is created equal. We identified three hallmarks that define high-quality, usable, and attractive long-term bicycle parking:

- **Security and Safety**
- **Protection from the Elements**
- **Accessibility and Convenience**

**Security and Safety**
Bicycle theft is a concern for many cyclists and a very real threat in Seattle. In 2013, over 1,100 bicycles were reported stolen in the City; likely an under-reported number. Nationwide, over $350 million in bicycles are stolen every year. Bicycle theft prevention toolkits suggest that the likelihood of a bicycle being stolen increases the longer it remains parked in one place, especially if that location is in a public space that is not well-frequented. Providing cyclists with a place to leave their bicycle parked where they can be confident their bicycle will not be stolen is critical to encouraging more people to choose to commute by bicycle.

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23 Aaron Bialick, “Can BART’s Bike Plan Double Bike-to-Train Ridership in Ten Years?”
24 Casey Jaywork, “This Is What Happens to Your Bike After It’s Stolen.”
26 Danielle Booth, “Bike Theft and How to Prevent It.”
In addition, regardless of where long-term bicycle parking is located, it must also feel safe to the user. This feeling can be achieved by placing bicycle parking in a well-lit location that does not feel isolated and may have more than one point of entry. Secure bicycle parking can be achieved by locating it:

- In an area that is only accessible to a select group of people, is constantly monitored by a security guard, or is under video surveillance;
- Within a locked room or behind a locked fence;
- In lockers made for bicycles.

**Protection from the Elements**

Unlike automobiles, bicycles do not have a protective shell to shield their rider from inclement weather. Precipitation has a negative impact on bicycles, causing parts to rust and need maintenance more frequently. In addition, the idea of riding in inclement weather is a large barrier for many people in choosing to bicycle. Not providing cyclists with a place to park out of the rain once they arrive at their end destination just adds insult to injury. For example, when a cyclist parks her bicycle at an uncovered parking area and it rains during the day, her bicycle, including here seat, will likely be wet when she leaves for the day. Biking home on a wet bicycle seat is incredibly unpleasant and could deter some individuals from choosing to travel by bicycle.

Since riding in the rain is less pleasant on a bicycle than in a car, and operating a bicycle takes more physical effort than the effort required to drive a car, any element that can increase the comfort of bicycling will likely increase an individual’s willingness to commute by bicycle. For this reason, having access to parking that provides protection from the elements is a defining characteristic of high-quality, long-term bicycle parking. Appropriately protected parking can be achieved in several ways, including by locating it inside buildings or other structures or in lockers made for bicycles.

**Accessibility and Convenience**

When considered as a travel option, bicycles are most efficient when they can be used as a means of door-to-door transport. The more conveniently bicycle parking is located to a cyclist’s end destination, such as a place of employment, the more likely that parking area is to be used. If long-term bicycle parking is of particularly high-quality, cyclists are willing to park their bicycles and walk up to 300 feet from their destination. Efforts to increase the convenience of bicycle commuting, especially by improving accessibility to long-term bicycle parking, is likely to result in

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28 “Bicycle Parking Manual.”
29 Ibid.
30 Ibid.
31 San Francisco, California does not consider video surveillance to be secure enough for long-term storage of a bicycle. Though Portland, Oregon’s land use code currently considers video surveillance as suitable protection from theft, this aspect of the land use code will likely be removed the next time the code is updated.
32 “Bicycle Parking Manual.”
33 Ibid.
34 Ibid.
35 Ibid.
36 Ibid.
more Seattle residents choosing bicycling as a mode of travel. The accessibility of long-term bicycle parking can be thought about in terms of:

- **Access**: Who is allowed to use the long-term bicycle parking facilities?
- **Wayfinding**: How easy is it to find the facilities? Is there a sign directing cyclists to bicycle parking?
- **Ease of Approach**: How easy and safe is it to approach and enter the facilities?
- **Design**: How easy is it to use the bicycle rack itself?

**Access**

Regardless of where bicycle parking is located, the question of who has access to the parking arises. Bicycle parking in or around a commercial building can be open to the public, available only to tenants of that building and their guests, or it can be available to tenants and some other defined group such as the tenants of a neighboring building or individuals defined as members (see Figure 4).

We found evidence that bicycle parking is currently being offered for free or for a fee. For example, Seattle’s new mixed-use building, Via6, offers bicycle commuters access to high-quality end-of-trip facilities for a fee. Similarly, in New York, we learned that many of the city’s new secure and covered bicycle parking “stations” located on private property are available for a monthly fee. The existence of fee-based long-term bicycle parking raises an equity concern. Will fees for the use of high-quality bicycle parking deter lower-income individuals from choosing to bicycle? Should all long-term bicycle parking be provided as a free tenant amenity in order to encourage more residents to not use their personal automobiles? Such questions are important for public officials to consider when thinking about improving long-term bicycle parking in Center City.

**Wayfinding**

As mentioned above, not knowing whether bicycle parking will be available at an end destination can be a deterrent to choosing to travel by bicycle. The easier it is for cyclists to locate available bicycle parking upon arrival at a building or other end destination, the more likely that parking is to be used. Signage that can be seen from a distance can help steer bicyclists to where high-quality bicycle parking is available (see Figure 5). If bicycle parking is provided underground, clearly marked entrances and distinctive signs are necessary.

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37 “Bicycle Parking in the City Centre: Implementation Fact Sheet.”
38 “Bicycle Parking Manual.”
39 Ibid.
40 Ryann Child, “A Look inside Via6’s Bicycle-Friendly Living and Cycle Club in Downtown Seattle.”
41 “Bicycle Parking Manual.”
42 “Bicycle Parking in the City Centre: Implementation Fact Sheet.”
43 “Bicycle Parking Manual.”
44 Ibid.
Ease of Approach
Once bicycle parking is located, the ease and safety by which one can navigate to the parking area from the road or trail can vary. Bicycle parking should be located as close to the end destination as possible.\(^\text{45}\) Cyclists prefer not to have to bicycle past their destination in order to find parking. The more fluid the cyclist’s approach to the parking area, the more likely that parking area is to be used (see Figure 6\(^\text{46}\)).

In general, the closer the bicycle parking is from the road or trail, the easier the approach. According to professional bicycle parking guides we reviewed, long-term bicycle parking should be provided at street-level whenever possible.\(^\text{47, 48}\) In cases where bicycle parking is located below ground, accessibility and usability are compromised to some extent.\(^\text{49}\) Navigating steep grades into parking garages, or narrow shared vehicle lanes both in the entryway and in the aisles of the garage can feel, and be, unsafe. However, given that below-grade bicycle parking is common in urban centers, the manual provides guidance on how to minimize the reduction in accessibility and convenience of this location. Entryways to underground parking facilities should feel safe, be well lit, and preferably separate car travel from bicycle travel, with ramp grades not exceeding 5%.\(^\text{50}\)

Design
The functionality of the bicycle parking itself also determines how a cyclist experiences the bicycle parking in terms of accessibility and convenience. Some racks appear cleverly and artfully designed but perform poorly in their intended function. Other racks may appear to offer compact designs to provide more parking spaces in the same sized area, but come at a cost. For example, some racks may require bicycles to be parked so close together as to damage one another. Others racks may only be usable by some people or may poorly accommodate some types of bicycles. For example, vertical (wall) racks are space-efficient but require a cyclist to have enough strength to be able to lift their bicycle in order to make use of it. These vertical racks are designed to accommodate only standard-sized bicycles, not cargo bikes or those with trailers. Incorrect installation of rack infrastructure can also reduce the intended capacity of the bike rack and the overall usability of the bicycle parking facility.\(^\text{51}\)

The Problem in Center City
Using the information outlined above, we gathered evidence to understand the current state of bicycle parking in Seattle’s Center City and found that Center City does not have enough long-term bicycle parking to meet the needs of current or future bicyclists. The bicycle parking that does exist varies in terms of...

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\(^{45}\) Ibid.
\(^{46}\) Ibid.
\(^{47}\) Ibid.
\(^{48}\) “Bicycle Parking in the City Centre: Implementation Fact Sheet.”
\(^{49}\) “Bicycle Parking Manual.”
\(^{50}\) Ibid.
quality and accessibility. Using this problem definition, we identify opportunities to improve the quantity, quality, and accessibility of long-term bicycle parking in and around commercial buildings in Center City.

Evidence of the Problem: Commute Seattle's 2010 Bicycle Amenity Inventory

In 2010, Commute Seattle conducted an inventory of bicycle amenities in commercial buildings in Center City. In this report, long-term bicycle parking was defined as protected from the weather, secure (in view of a camera or security guard, or in a locked room), and with high-quality rack infrastructure. At the time of the inventory, only 22% of commercial buildings provided long-term bicycle parking. In terms of quality, 30% of the bicycle parking provided in these buildings did not adequately protect bicycles from theft or inclement weather. In addition, some of the bicycle parking infrastructure could not be used at the intended capacity because of poor installation.

While the total number of bicycle parking spaces identified was roughly equal to the number of residents commuting to Center City at the time, Commute Seattle found that commercial buildings with long-term bicycle parking were unevenly distributed throughout Center City. Among the 10 Center City neighborhoods, the percentage of commercial buildings with long-term bicycle parking varied widely, from just 3.8% in Capitol Hill to 43.2% in the Central Business District. In addition, much of the bicycle parking provided at that time was only accessible to building tenants, meaning that, while aggregate supply met existing Center City-wide demand, building-level supply was not adequate. The majority of Center City bicycle commuters in 2010 did not have access to a secure, weather-protected parking space to store their bicycle at work. In addition, as stated in the report, the inventory findings demonstrate that the supply and distribution of bicycle amenities did not support the city's long-term goals for increasing the number of residents choosing to travel by bicycle at that time.

Quantity in 2015 and Beyond

The 2014 Bicycle Master Plan outlines a goal to quadruple the number of trips made by bicycle by 2030 from the number of cyclists counted in 2014. In February of 2015, Commute Seattle released the results of its 2014 Center City Commuter Mode Split Survey that indicated that 3.1% of all commute trips into Center City were made by bicycle. The current bicycle parking quantity requirements in Center City will not create enough parking to meet the needs of future cyclists.

The SMC currently requires that new commercial developments include a specific amount of long-term bicycle parking based on a building's use, location, and size. However, bicycle parking requirements are not uniformly applied throughout the city. Downtown zones, which consist of most of Center City, have the lowest requirements of anywhere in Seattle: one bicycle parking spot per 5,000 ft² of office space. Using an average ratio of one worker per 151 ft² of office space (the projected average square feet provided per worker projected for office buildings by 2017), we calculate that the long-term bicycle parking minimums currently required for downtown are such that, if built precisely to code, they would

Further findings from the 2010 Commute Seattle Bicycle Amenity Inventory are outlined in Appendix A.

Commute Seattle, “2010 Center City Bicycle Amenity Inventory Final Report.”

Ibid.

Ibid.

It is important to note that Commute Seattle's analysis understates the match between supply and demand because much of the parking is behind locked doors and only accessible to building tenants, rather than tenants and workers in neighboring buildings.


Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”


NAIOP, “Changes in Average Square Feet per Worker.”
provide enough bicycle parking for roughly 3% of employees who work in any individual office building. Buildings in other Urban Centers (outside of downtown) in Seattle are required to provide one bicycle parking spot per 2,000 ft\(^2\) of office space, resulting in enough bicycle parking for roughly 7.5% of employees in a given office building.

Because access to bicycle parking is a critical element in encouraging individuals to choose to bike to work, Seattle Municipal Code (SMC) requirements for long-term bicycle parking quantities must be sufficient to accommodate the number of bike commuters expected to arrive at each commercial building on a given work day, as well as providing room for growth. Professional bicycle parking design guides suggest that if a rack is 80% full during peak use, more bicycle parking is needed.\(^61\) In addition, these guides note that high-quality bicycle parking in an individual building boosts demand for more high-quality parking in that building. Space allocated for long-term bicycle parking is recommended to be sized so that it can accommodate future demand: specifically 25% more bicycle racks over the building’s lifetime.\(^62\)

**Quality and Accessibility in 2015 and Beyond**

As mentioned above, accessibility and convenience are two of the elements that matter most in determining whether bicycle parking will be used by cyclists. While the SMC’s current quality requirements emphasize quality in general terms, the parameters noted leave room for interpretation and are not specific enough to ensure that parking quality will be carefully considered when designing long-term parking areas. Accessibility issues, which consider the ease of access to parking from the road, are not currently addressed in the SMC.

Anecdotally, we learned that most of Center City’s long-term bicycle parking is located alongside vehicle parking, in garages below ground. When not located below ground, the bicycle parking is generally not located in a highly accessible, or convenient location.

**Report Focus**

At the request of our clients, Commute Seattle and ZGF Architects LLP, this report assesses Seattle’s current regulatory environment as it pertains to long-term bicycle parking and how it compares to that of other cities. We highlight areas of opportunity where changes could be made to effectively leverage private development and increase bicycle ridership by improving access to high-quality long-term bicycle parking in Center City. Along with the creation of separated bike lanes and other on-street bicycle infrastructure, long-term bicycle parking is a crucial component of creating a more bikeable, livable community.\(^63\)

Our research focuses on opportunities to improve long-term bicycle parking in new commercial buildings. The need to improve bicycle parking in new commercial buildings is time-sensitive: Seattle is undergoing and will continue to experience unprecedented population and employment growth, especially in Center City. In 2014 alone, 4.4 million ft\(^2\) of commercial space was under construction, permitted, or recently completed.\(^64\) Commercial buildings that are being designed and built to the current land use code will be a part of the city’s built environment for the next 50 – 100 years. It is important that these buildings effectively accommodate the needs of commuters who travel by bicycle, both now and in the future.

\(^61\) “Bicycle Parking in the City Centre: Implementation Fact Sheet.”
\(^62\) “Bicycle Parking Manual.”
\(^63\) Scheepers et al., “Shifting from Car to Active Transport.”
\(^64\) Downtown Seattle Association and Metropolitan Improvement District, “Development Guide.”
We recognize that new buildings are not the sole source of the lack of facilities: there is a clear need to address the shortage of bicycle parking in existing buildings. However, the initial phase of our research revealed an overall lack of information about long-term bicycle parking in the land use code as well as among all parties responsible for creating and regulating long-term bicycle parking in Seattle. Clarifying and expanding bicycle parking standards in the code, and creating a shared understanding about what elements are important in creating high-quality bicycle parking among stakeholders in the development process, is an essential first step before addressing existing buildings. At the end of our report, we outline a list of areas for further research, including a list of potential strategies for improving the quality, quantity, and accessibility of long-term bicycle parking in existing buildings.
Chapter 2. Research Questions & Methodology

This chapter:
• Outlines our research questions;
• Details our research approach and methods;
• Explores the limitations of this report.

Research Questions
• How does the Seattle Municipal Code (SMC) currently incentivize and regulate developers to install long-term bicycle parking in new commercial buildings in Seattle’s Center City?
• How do Seattle’s regulations and incentives compare to those of other cities?
• What changes could be made to the SMC to make it more attractive for developers and property owners to install more long-term bicycle parking?
• What other ways could developers and property owners be encouraged to install more long-term bicycle parking in new commercial buildings?
• What legislative and political opportunities exist to make these changes?

Research Approach
To answer these questions, we conducted our research in three phases: Discovery, Solution Refinement, and Synthesis & Evaluation. Each phase was informed by our research methods; we reviewed existing academic literature and government reports from the cities of Seattle, WA, Portland, OR, and San Francisco, CA, and interviewed public and private stakeholders involved in the creation of long-term bicycle parking.

Discovery Phase
The initial phase of our research encompassed the first half of our literature review. This included a survey of government reports and a review of existing academic literature about the importance of bicycle parking to increase the number of people bicycling, as well as how the municipal regulatory environment functions (see below for more information). We met with officials from the Seattle Department of Planning and Development (DPD) and the Department of Transportation (SDOT) as well as two local architects. These meetings helped us understand the scope of the problem and learn about existing local efforts that could impact our research. In addition, we learned about many promising policy options that could be used to solve aspects of the problem. The Discovery Phase culminated in clearly defining the type of bicycle parking we would focus on (long-term bicycle parking made for the storage of privately-owned bicycles and located on private property in or around new commercial buildings in Center City); the components of the problem we would address through our analysis (the lack of quantity, quality, and accessibility); and the types of policy options on which we would focus the majority of our research efforts (changes to the Seattle municipal land use code [SMC]). The information gathered during this stage is captured in Chapters 1, 3, and 4 of this report.

Solution Refinement Phase
In the second phase of our research we identified and vetted possible policy interventions to increase the quality, quantity, and accessibility of long-term bicycle parking. Potential options came from a variety of sources, including meetings with our clients, interviews with public officials and developers, our analysis of the actions of other cities, and our review of existing academic literature and municipal documents. We explored the validity of the options in interviews with developers, architects, public officials, and bicycle parking professionals. During structured interviews conducted during this phase, we solicited reactions to
the list of options we were considering. Stakeholder interviews helped us collect a body of knowledge about each option including how it might function if implemented, as well as identifying new options and determine which options were not worth pursuing. Ultimately, the information we collected during this phase informed our analysis during the third and final stage of our research.

**Synthesis & Evaluation Phase**

In the final phase of our project we synthesized the body of information collected during the course of our interviews, literature review, and case study city research. This analysis forms the findings outlined in Chapters 5, 6, and 7 of this report. We used our findings to develop a set of relevant criteria through which we analyzed a final range of policy options. The criteria we identified, the policy option evaluation, and final recommendations are contained in Chapters 8, 9, and 10 of this report.

During the course of our research, we uncovered a number of options that have the potential to improve the quality of long-term bicycle parking and other end-of-trip facilities in Seattle, but which fell outside the boundaries of our research. For example, some opportunities pertain to existing buildings, and others are relevant to commercial buildings outside of Center City. We list and briefly describe these options in Chapter 11. We recommend that these options be analyzed as part of future research projects.

**Research Methods**

**Literature Review**

Our literature review had several dimensions. First, to develop a conceptual framework to understand the regulatory environment of municipalities and the real estate development process, we reviewed industry literature aimed at students of development, architecture, and land use planning. That background information informed our understanding of Seattle’s and other cities’ regulatory environments, which we learned about by surveying adopted land use code and other supporting documents on city websites.

A second aspect of our literature review was to look beyond the land use code in order to establish whether other types of optional, market-based incentives – such as the green building incentives with which our clients were familiar or a rebate for bicycle parking-related expenses – could be used to encourage developers to install higher-quality or a larger quantity of bicycle parking in new commercial buildings. In particular, we cursorily examined how effectively bicycle parking could be emphasized as part of the Leadership in Energy & Environmental Design (LEED) certification process and briefly researched the types of infrastructure that receives permit fee and/or tax exemptions. We did not pursue this area beyond the *Discovery Phase* because our research revealed that these types of incentives were either more suitable in exchange for a suite of amenities with a higher dollar value than bicycle parking, or not relevant to the regulatory environment affecting Seattle’s Center City.

Another aspect of our literature review involved an examination of design manuals and peer-reviewed studies about bicycling and other end-of-trip facilities, both in the U.S. and in other countries. This information helped us understand the value of bicycling in terms of its positive environmental impacts and its ability to reduce traffic congestion. It also introduced us to industry-specific terminology, best practices in creating high-quality bicycle parking, and the needs of bicycle commuters. In addition, this information shed light on the importance of high-quality, accessible, long-term bicycle parking in increasing the number of residents willing to use a bicycle as a mode of transportation and pointed to potential example cities whose policies and regulatory environment we researched further. We focused our research efforts on the cities of Portland, OR, San Francisco, CA, Vancouver, BC, and Toronto, ON,
and New York City, NY, with a particular focus on Portland and San Francisco because of their high bicycling mode splits, their reputations as bicycle-friendly cities and bicycle infrastructure innovators, and because these cities are relatively similar in size to Seattle.

Two documents that we relied on heavily to understand both the extent of the problem and how to frame opportunities for improvement were Commute Seattle’s 2010 Bicycle Amenity Inventory Final Report and the Danish Cycling Federation’s 2008 Bicycle Parking Manual.

**Stakeholder Interviews**

We conducted 31 interviews with 36 individuals. We used a semi-structured interview approach. For every interview we developed a list of questions tailored to the information we hoped to gain from the individual based on their professional knowledge and perspectives. In the majority of the interviews, we asked interviewees to react to the set of policy solutions we were considering. We also used interviews to help validate or further explore information we had gathered prior to that meeting. As our project progressed, the nature of our interview questions evolved. Preliminary interviews were focused on information-gathering, but as we identified a set of proposed options, we moved to using interviews to test assumptions and seek direct feedback on our proposed solutions. Interviews ranged in length between 15 minutes and one hour.

We conducted initial stakeholder interviews with staff from DPD and SDOT. These are the two city agencies charged with setting for and ensuring compliance with bicycle parking in new commercial developments. Over the course of several different interviews, we spoke with four staff members from DPD and four members of SDOT. We also interviewed three public officials in the city of Portland and one in San Francisco.

We interviewed a range of private development stakeholders in Seattle, including three architects, nine developers, one tenant broker, four bicycle parking experts and/or consultants, and three property managers. We also spoke with one architect, one developer, and two bicycle parking experts and/or consultants who primarily work in Portland. The majority of the developers we interviewed created large commercial buildings. We used a snowball, or chain-referral, sampling strategy to identify interviewees. Our first set of interviewees were individuals with whom Commute Seattle was connected and who they believed could provide good insight into our research topic. At the end of each of these initial interviews, we asked if the interviewee could connect us with anyone else with whom they thought we would benefit from talking. Through this process, we were connected with a broad network of individuals who provided additional information and unique perspectives on one or more elements of our project.

We attempted to interview as broad of a range of developers as possible in respect to the location and size of the buildings they create and whether their focus is on new construction projects or on renovating existing buildings. We made a point to interview individuals with a range of perspectives on cycling; only some of the developers and other stakeholders self-identified as having a personal interest in cycling.

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65 Commute Seattle, “2010 Center City Bicycle Amenity Inventory Final Report.”
66 “Bicycle Parking Manual.”
67 Some DPD and SDOT individuals were interviewed more than one time and some interviews were with more than one person at a time.
68 We conducted all of our interviews in confidentiality. Therefore, the names of each of our interviewees are withheld from this report by mutual agreement.
69 Some of the individuals we interviewed from the private sector identified as both developers and property managers. Each individual is counted here twice if they self-identified as both a developer and property manager.
Limitations of the Methodology Used and Conclusions Reached in this Report

One limitation of our research methodology is the fact that we relied on a snowball sampling technique in order to identify the individuals working in the private commercial real estate field. With this method, the first people who are interviewed can have a large influence on the demographics of the entire interview sample because none of the individuals are randomly selected. In addition, since we only spoke with ten developers, it is possible that the individuals we interviewed are not representative of the general population of commercial developers in Seattle. This limitation is likely more pronounced given that we primarily spoke with developers of large commercial buildings. Even if they are representative, not all commercial developers will share the same opinions as the individuals we interviewed. Furthermore, while we do not know the total number of commercial developers that work in Seattle, ten people is likely a small fraction of the total possible sample and not a statistically significant sample.

Our research scope was limited by the fact that we focused on opportunities to improve long-term bicycle parking on private property in and around new commercial buildings in Seattle’s Center City. Existing commercial buildings, new and existing residential and industrial buildings, long-term bicycle parking in the public right-of-way, and short-term bicycle parking are not addressed. We recommend that this information be gathered in future research because understanding how to improve bicycle parking in these other building types or locations is critical to ensuring that the increasing number of cyclists in Seattle have the infrastructure support they need at their end-destination in Center City. For example, our research reveals that there are currently more new residential properties being built in Center City than commercial properties.\(^{70}\)

Another limitation to our research is that we limited the comparison of Seattle’s regulatory environment to that of San Francisco and Portland. While these two cities have many similarities in their population demographics it is possible that solutions that work in each of the comparison cities would not work in Seattle, since each community is unique.

Finally, we found a lack of available data about the extent of the problem itself. Outside of Commute Seattle’s 2010 Bicycle Amenity Inventory, we could not find evidence of how the current SMC requirements are impacting long-term bicycle parking in new commercial developments. In large part, this is due to the lengthy real estate development process and the Great Recession, which significantly curbed new development between 2008 and 2012. Few new commercial buildings have been completed in Center City that were vested after the 2006 bicycle parking changes to the land use code. Because the data that does exist about bicycle parking in Center City was collected and analyzed for a different purpose than our research, it is difficult to use the data to fully understand how quantity, quality, and accessibility of bicycle end-of-trip facilities differ between Class A commercial buildings and other, more lowly-graded commercial buildings. While some data does exist about quality and quantity, we only found anecdotal evidence about the lack of accessible long-term bicycle parking. Access to additional data would have provided even stronger evidence for the problems we addressed, and helped identify effective policy solutions.

\(^{70}\) Downtown Seattle Association and Metropolitan Improvement District, “Development Guide.”
Chapter 3. Why is Long-term Bicycle Parking Important?

This chapter:

- Outlines how bicycle parking relates to transportation mode-choice;
- Discusses how cycling addresses Seattle’s congestion issues, and is part of the City of Seattle’s adopted land-use and transportation policies.

On an individual level, not having a safe, covered place to store your bicycle at your end destination is a barrier for many would-be cyclists in choosing to use a bicycle over using another mode of transportation.\(^{71}\)\(^{72}\) Therefore, ensuring that Seattle residents have access to bicycle parking that is protected from the elements (covered) and reduces the threat of theft (secure) at their end destination is likely to increase the number of people willing to use a bicycle to travel around the city.\(^{73}\)\(^{74}\)\(^{75}\) Many American cities have actively improved access to secure bicycle parking at end destinations, specifically at places of employment, as part of a larger strategy to increase bicycle ridership.\(^{76}\) European cities with much higher rates of bicycle ridership have also emphasized this strategy.\(^{77}\)\(^{78}\)\(^{79}\)

From the City’s perspective, having adequate long-term bicycle parking is important for several reasons. First, research shows that having access to a safe and secure place to park your bicycle is a critical ingredient for increasing the number of citizens willing to commute by bicycle.\(^{80}\)\(^{81}\) Increasing ridership is one of the key pathways outlined in Seattle’s 2014 Bicycle Master Plan (BMP) for reaching the City’s ultimate goal of being one of the most bicycle-friendly cities in the nation; a city that is taking steps to reduce its greenhouse gas emissions by lessening the number of citizens driving alone to work.\(^{82}\) The BMP itself highlights a lack of access to safe and secure places to park a bicycle as one of the barriers to increasing ridership in the city and recommends further work to reduce this barrier.\(^{83}\)

In addition, research shows that having access to high-quality long-term bicycle parking is especially important to female cyclists.\(^{84}\)\(^{85}\)\(^{86}\) Nationally, women take just 24% of all bike trips.\(^{87}\) In Seattle, 30% of bike commuters are women, but that percentage is still much lower than the percentages reached in well-known bicycle-friendly cities such as Copenhagen, which boasts that 55% of all trips made by

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\(^{71}\) Pucher, Dill, and Handy, “Infrastructure, Programs, and Policies to Increase Bicycling,” January 2010.
\(^{72}\) Hunt and Abraham, “Influences on Bicycle Use.”
\(^{73}\) Habib et al., “Synopsis of Bicycle Demand in the City of Toronto.”
\(^{74}\) Scheepers et al., “Shifting from Car to Active Transport.”
\(^{75}\) Noland and Kunreuther, “Short-Run and Long-Run Policies for Increasing Bicycle Transportation for Daily Commuter Trips.”
\(^{77}\) Pucher and Buehler, “Making Cycling Irresistible.”
\(^{78}\) Pucher, Dill, and Handy, “Infrastructure, Programs, and Policies to Increase Bicycling,” January 2010.
\(^{79}\) Buehler and Pucher, “Sustainable Transport in Freiburg.”
\(^{80}\) Pucher and Buehler, “Making Cycling Irresistible.”
\(^{82}\) “Seattle Bicycle Master Plan,” April 2014.
\(^{83}\) Ibid.
\(^{84}\) Anne Broache and Qing Shen, “Perspectives on Seattle Women’s Decisions to Bike for Transportation.”
\(^{85}\) Liz Cornish Jones, “Engaging More Women in Bicycling: Key Steps and Best Practices to Improve and Advance Women’s Specific Bicycle Advocacy.”
\(^{86}\) Pucher and Buehler, “Making Cycling Irresistible.”
\(^{87}\) Moudon et al., “Cycling and the Built Environment, a US Perspective.”
bicycle are made by women. Considering that Seattle wants to encourage and empower people of all ages and abilities to cycle, increasing the safety and security of bicycle parking should be a priority.

**Seattle is Growing**

The fact that the supply of long-term bicycle parking does not meet the current or future demand of bicycle commuters and that the long-term bicycle parking that does exist is poorly distributed and of varying quality is an especially worrisome problem given the level of growth Seattle is experiencing. An international hub for trade, tourism, and technology, Seattle is currently one of the fastest growing large cities in the country. Over the last 20 years, the city absorbed 100,000 new residents, benefited from the creation of 50,000 new jobs, and experienced one of the largest construction booms in its history. This tremendous population and employment growth is set to continue; Seattle is projected to gain an additional 100,000 jobs and 120,000 new residents by 2035. In order to remain a vibrant, affordable, healthy, interconnected, and innovative city in the face of this growth, Seattle must plan to sustainably absorb new residents and jobs while benefitting from the opportunities this growth presents.

Working together, the private sector, non-profits, advocacy groups, public officials, and elected have made incredible progress in laying the groundwork to absorb Seattle’s projected growth in a way that improves citizens’ quality of life and has a positive impact on the environment. A February 2015 report released by Commute Seattle showed that despite Seattle’s rapid growth, fewer citizens are commuting alone by car into the Center City than ever before. In fact, the percent of single-occupant drivers arriving into downtown during peak congestion has decreased nearly 20 percentage points since 2000; in 2014, just 31% of Center City commuters drove alone. This trend indicates that Center City commuters have not added more cars to the road as population growth has increased. Yet, at the same time, the growth rate of cycling in Seattle has not kept pace with other bike-friendly cities. At least five large cities that are similar to Seattle in topography, density, population, and weather have seen greater growth in bicycle commuters over the last twenty years.

**Growth Impacts on Seattle’s Transportation System**

One of the great challenges cities face when attempting to absorb the amount of growth Seattle is experiencing is addressing the simultaneous increase in traffic congestion while remaining economically viable. The movement of people and goods throughout the transportation network is a key component of a city’s economic vitality. Traffic congestion slows and can completely stall this movement, resulting in negative financial impacts on businesses.

Seattle’s congestion has posed many transportation challenges for the city’s 640,000 citizens. In 2014, Seattle was ranked fifth among the most traffic-congested cities in the U.S. Traffic on I-5 alone has

88 Pucher and Buehler, “Making Cycling Irresistible.”
89 “Seattle Bicycle Master Plan,” April 2014.
90 Gene Balk, “Census: Seattle Is the Fastest-Growing Big City in the U.S.”
91 Peter Steinbrueck et al., “SSNAP Report 2014.”
92 “Move Seattle.”
93 Seattle Mayor Edward B. Murray, “My Vision for Seattle.”
94 Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
95 Mike Lindblom, “Downtown Seattle Workers Steer Away from Solo Driving.”
96 Ibid.
97 John Pucher, “Cycling to the Future: Lessons from Cities across the Globe.”
99 Margaret O’Mahony and Hugh Finlay, “Impact of Traffic Congestion on Trade and Strategies for Mitigation.”
100 “Seattle’s Population & Demographics.”
101 “TomTom Traffic Index: Measuring Congestion Worldwide.”
doubled in just the last five years. Seattle has a particularly fragile interconnected road network – a fact which becomes all too apparent when a single salmon truck overturned on the Alaskan Way Viaduct results in hours of traffic gridlock. Seattle’s Center City suffers much of the city’s congestion because, as the commercial heart of the region, it is comprised of the majority of the important end destinations for commuters (see Figure 7). According to the Downtown Seattle Association, area businesses and residents lose $1.5 – $2 billion annually due to congestion, primarily in the form of lost time.

Managing Demand, Encouraging Cycling

Building more roads cannot solve Seattle’s traffic problems. Studies show that increasing road capacity can lead to more congestion. In addition, Seattle has geographic constraints and a mature road network; the physical space to accommodate more traffic lanes simply does not exist. Furthermore, research shows that effective solutions for mitigating traffic congestion must manage both the supply of infrastructure and the demand for the use of that infrastructure. Demand-focused strategies, also known as Transportation Demand Management (TDM), focus on encouraging the use of alternative travel modes such as bicycling and taking public transit and disincentivizing driving alone. TDM strategies are effective solutions that have been increasingly implemented by progressive cities across the globe, including to increase the number of citizens cycling.

Seattle’s Bicycle Master Plan

The program elements outlined in Seattle’s BMP, such as creating bicycle safety programs and increasing the attractiveness of bicycling by improving the on-street bicycle network, are examples of how Seattle uses TDM strategies to increase the amount of people using a bicycle as a way to travel around the city.
First crafted by SDOT in 2007, the Seattle City Council unanimously approved an update to the BMP in April 2014. However, the Council did not outline a clear funding mechanism for the plan. Yet, in the spring of 2015, Mayor Murray released Move Seattle, his 10-Year Strategic Vision for Transportation, aimed at meeting that challenge. The report combines all four of Seattle’s 20-year, long-range modal master plans that focus on infrastructure for bicycles, transit, pedestrians, and freight. If passed, this plan will fund half of the projects in Seattle’s BMP, creating miles of safer bicycle facilities.

**Seattle’s Transportation Demand Management Program**

The Seattle Department of Transportation and Commute Seattle are actively engaged in assisting individuals, residents, and businesses in reducing their reliance on single occupancy vehicles to travel to Center City. Increasing transportation alternatives, including cycling and working towards full implementation of the Bicycle Master Plan are key TDM strategies.

**Center City: An Area of Focused Growth**

In addition to TDM strategies, centers-based land-use planning is another effective congestion mitigation strategy focuses on reducing demand for driving cars. In Seattle, the Comprehensive Plan: Toward a Sustainable Seattle (Comp Plan) is the centerpiece of the city’s major land use planning efforts. This 20-year roadmap outlines Seattle’s key strategy for accommodating the city’s projected growth: the Urban Center and Urban Village Strategy (UVS). The UVS was created in response to the 1990 Washington State Growth Management Act, which aims to reduce urban sprawl by controlling growth and encouraging multimodal transportation systems, thereby protecting the environment, preserving quality of life, and promoting economic vitality. This development strategy directs the majority of new employment and residential growth into existing urban centers where such increased density can more easily be absorbed.

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117 “Council Approves Bicycle Master Plan Update.”
118 “Move Seattle.”
119 Ibid.
120 Scott Kubly.
121 Noland and Kunreuther, “Short-Run and Long-Run Policies for Increasing Bicycle Transportation for Daily Commuter Trips.”
122 Department of Planning and Development, “What & Why.”
123 Karen Kreis, “The Urban Centres and Urban Villages Strategy of Seattle.”
125 Karen Kreis, “The Urban Centres and Urban Villages Strategy of Seattle.”
The UVS has been incredibly effective; between 1994 and 2014, 75% of Seattle’s residential and employment growth has been limited to areas designated as Urban Villages and Centers, made up of a mixture of commercial and mixed residential zones. Such concentrated growth results in more compact business centers with increased transit access and greater walk-, bike- and livability.

Seattle’s Center City, the area focused on in this report, is almost entirely composed of these concentrations of growth (see Figure 8). Composed of three Urban Centers: the downtown Urban Village as well as the Capitol Hill/First Hill, Uptown; and South Lake Union Urban Villages, Center City is currently undergoing widespread new development and redevelopment. Building height limitations in several Center City neighborhoods have recently been revised to allow for taller buildings. These up-zoned areas are where future major development is likely to occur and, in some areas, is already occurring. In line with Seattle’s Comp Plan, the GMA, and the UVS, the city is increasingly growing up, not out.

**Urban Transportation Trends**

Seattle’s increasing urban density is not unique; it reflects global trends toward growing urbanization, and along with it a significant reduction in vehicle ownership and vehicle use among millennials. That trend exists in tandem, and is driven in part by an increasing national acknowledgement that global warming, primarily caused by human use of fossil fuels, is a serious problem that must be addressed. In 2012, 64% of Seattle’s greenhouse gas emissions came from road transportation; 45% of which came specifically from personal vehicle use. In 2011 the Washington State legislature passed a law requiring the State Department of Transportation to reduce annual per capita vehicle miles traveled consistent with the stated goals of the Governors Climate Change Challenge Executive Order, and decrease the annual per capita vehicle miles traveled by 18% by 2020, and by 50% by 2050. Transportation alternatives, such as cycling, are part of the solution.
Chapter 4. Land Use Regulation & Real Estate Development Overview

This chapter:
- Outlines the private development process and relevant stakeholders;
- Defines and describes types of regulation within the land use code, including how they shape private commercial development.

Bicycle parking is created in privately-owned commercial buildings by developers, who do so in part by adhering to land use code requirements. The code is developed by City planning professionals and adopted by City council.

Overview of the Real Estate Development Process

Construction of new commercial buildings is a multistage process. It often takes several years from a developer’s initial identification and purchase of a parcel of land to the point where tenants occupy the resulting building. A new commercial building is the product of a combination of market forces, community vision, municipal regulation, and architectural creativity. The role of a municipal planning department is to create and enforce regulations that support the vision of their community. Developers and architects, on the other hand, apply their capital and technical expertise to meet regulatory requirements while balancing the current market demand for amenities. This marriage of public and private needs is an iterative and complex process. The chart below (Figure 9) illustrates a simplified version of the real estate development process from beginning to end. The key stakeholders involved in each step are also listed.

![Figure 9: Overview of the real estate development process.](image)

Each group of stakeholders has differing motivations, priorities, and responsibilities in the commercial real estate development process, but are all largely focused on ensuring that the new building can compete with existing buildings, and is generally comparable in terms of the amenities provided. Financiers and developers are concerned with the financial viability of the development. From their point of view, the financial return on their investment in the property must be as significant and certain as possible. The marketability of a building is a critical component to ensuring return on investment, and can be influenced by the inclusion of amenities such as high-quality bicycle end-of-trip facilities. Architects strive to meet the needs of their developer clients and are primarily concerned with the

141 Urban Land Institute, *Public Incentives and Financing Techniques for Co-Development*.
142 Ibid.
143 Ibid.
144 Ibid.
145 Ibid.

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design of the specific building on which they are working. However, architectural standards and design
trends also drive their work. The final stakeholder in the development process, and also of critical
import are property managers. Their focus is on whether the development is appealing to the tenant
market they are aiming to capture.

Overview of Municipal Land Use Regulation

In the United States, land use regulations were initially adoption during the early 1900’s in response to
rapid industrialization and growth.\textsuperscript{147} Industrialization meant the creation of large factories and high-
density worker housing. The idea of separating uses – primarily industrial from residential – came out of
the industrialization process.\textsuperscript{148} Known as municipal zoning, specific geographic areas (or zones) were
designated for different purposes (or uses) to protect community character and human health. During
the post World War II period, which was an era of significant private commercial and residential
development, the amount of municipal regulation increased in response to the creation of built
environments that were often visually unappealing and, at times, unsafe and even unsanitary.\textsuperscript{149}

Municipalities implement and enforce laws, which are “codified” into what is known as “city code.”\textsuperscript{150}
City departments regulate the built environment through the building and land use codes. Building
codes provide minimum requirements for design and construction of new buildings and alterations to
existing buildings.\textsuperscript{151} The land use code protects and promotes public health, safety and general welfare
through regulations...consistent with the City’s Comprehensive Plan. The land use code classifies land
within the City into various land use zones, to regulate uses and structures. The provisions of the code
are designed to provide adequate light, air, access, and open space; ... maintain a compatible scale
within an area; minimize traffic congestion and enhance the streetscape and pedestrian environment.
They seek to achieve an efficient use of the land [while] direct[ing] development to lots with adequate
services and amenities.\textsuperscript{152} Bicycle parking is one element described in the land use code.

All new buildings are legally required to adhere to both the land use and building codes. Before receiving
a certificate of occupancy, which enables a building owner and/or property manager to rent out space
to tenants, inspectors verify that the new building has been built to the standards laid out in both the
land use and building codes.

Public Stakeholders: Municipal Planning and Regulatory Tools

Municipalities in the United States typically contain both land use and transportation planning departments.
Planning departments focus on both short- and long-range city land use planning and maintain and enforce
the land use code.\textsuperscript{153} Transportation departments perform short- and long-range planning regarding publicly-
owned transportation infrastructure, including sidewalks, roads, and bridges.\textsuperscript{154}

In the City of Seattle, the Department of Planning and Development (DPD) regulates private
infrastructure through the land use code and the building codes. Where its planning and enforcement

\textsuperscript{147} Ibid.
\textsuperscript{148} Ibid.
\textsuperscript{149} Ibid.
\textsuperscript{150} Seattle City Clerk, “Types of Council Action.”
\textsuperscript{151} Seattle Department of Planning and Development, “What Is the Building Code?”
\textsuperscript{152} Seattle Municipal Code: 23.02.020 General Purpose and General Provisions. 23.02.020 - General purpose and general provisions
\textsuperscript{153} American Planning Association, “What Is Planning?”
\textsuperscript{154} Seattle Department of Transportation, “Seattle Department of Transportation Planning.”
efforts overlap DPD collaborates with other city departments. Seattle’s Department of Transportation (SDOT) is one department with whom DPD works closely, since both departments have joint responsibility for the physical planning of Seattle’s built environment. In general, SDOT regulates transportation infrastructure in the public realm and is also partially responsible for transportation in relation to private development. For example, SDOT works with existing and new commercial and residential buildings to manage and mitigate impacts on the transportation system created by employees or residents of those buildings.

**Types of Regulation**

Seattle’s regulatory environment is complex. The land use code can be broken down into two general areas: elements that are required and elements which are completely optional or which include some choice on the part of the private developer. Each type is summarized below with a relevant example from Seattle’s land use code, which is known as the Seattle Municipal Code (SMC).

**Requirements and Specific Parameters**

Elements that are deemed critical for a building to include or exclude are outlined as requirements in the SMC. These requirements are the most common and strongest form of land use regulation. For example, the SMC parking requirements for automobiles differ by zone. Some low-density zones require a minimum quantity of automobile parking to be required in new buildings.\(^{155}\) In other zones, including those defined as Urban Centers, no automobile parking is required,\(^{156}\) but a maximum number of spaces is outlined. The goal of this SMC requirement is to ensure that the level of parking provided is consistent with the City’s long-term transportation goals. The rationale recognizes that buildings in Urban Centers have access to regular transit services, which provide an alternative to driving a vehicle. Buildings in lower density neighborhoods with less frequent transit access will necessitate more drive alone trips.

**Options and Incentives**

In many respects, the land use code gives developers latitude to choose elements that most appropriately fit the character of each building, while still helping the City meet its overall goals for the built environment. One example of this type of regulation in Seattle is that in designated “pedestrian zones,” which are intended to be pedestrian-oriented commercial streets, the ground floor use of commercial buildings is limited to those uses that have the potential to animate the sidewalk environment.\(^{157}\) Allowable “active” uses are outlined in the SMC and differ by zones but generally include retail establishments and art galleries.\(^{158}\)

Incentives in the land use code offer developers an opportunity to gain additional building height – usually referred to as additional density - in return for providing amenities that benefit the public. A “public benefit” is a resource, convenience or facility offered to the general public for their use and/or enjoyment, with or without charge.\(^{159}\) Examples of bonusable public benefits in Seattle include public restrooms, public atriums, and parklets.

In commercial buildings, building density is described and limited in several ways through the land use code, including through height limits, setback standards (the allowable distance from the street), and

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\(^{155}\) [City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.](#)

\(^{156}\) [Seattle Department of Planning and Development, “Seattle’s Commercial Zones.”](#)

\(^{157}\) [Ibid.](#)

\(^{158}\) [Seattle Municipal Code: 23.49.009 - Street-Level Use Requirements.](#)

\(^{159}\) [The Center for Inclusive Design and Environmental Access, “Using Public Amenities.”](#)
“floor area ratio” (FAR) limits. FAR is the ratio of a building’s gross floor surface area to the area of the lot on which the building is located. For example, a building with 200,000 square feet of useful floor area on a building site of 20,000 square feet has a FAR of 10-to-1, or 10 (200,000 divided by 20,000). A building site’s area equals 1 FAR by definition. Thus, a project on a 20,000 square foot site that is allowed to increase its density by 2 FAR would be allowed to add 40,000 square feet. The graphic (Figure 10) below illustrates how different FARs can be accommodated on a plot of land and how different FAR can be manifested in a building design. Building height limits and allowable FAR are the two ways the land use code regulates the density of commercial buildings.

**Regulatory Incentives that Provide Additional Allowable Density**

Floor area exemptions and floor area density bonuses enable additional building density in Seattle. Receiving a floor area exemption permits a developer to exclude any building space used to provide a set of predetermined “exempt” amenities from their allowable floor area calculations. Street-level uses are an example of such an exemption. Any street-level space used to accommodate one of a list of approved “exempt” amenities is not included in the calculated floor area of buildings. This exemption means that the allowable floor area of the building is bigger than it would have been without the street-level amenity. Additional floor area can represent additional rentable space to a developer, which ultimately equates to a higher return on investment.

Density bonuses are an appealing incentive to developers because they allow a new development to be built taller and thus to have more floor area, than otherwise permitted. The density bonus provides the same kind of benefit to the developer as an exemption, but at a higher rate of return. Density bonuses provide additional floor area such that, for every square foot of floor area used for a public benefit amenity, a developer receives the right to build at a ratio above one square foot of amenity to one square foot of bonus density, or may receive the right to increase the overall density of the building through an increase in building FAR, up to some maximum development capacity. For example, for every one square foot of open space provided around buildings (in certain locations and so long as it meets certain open space amenity criteria) the developer receives permission to build 5 additional square feet of open space. Seattle’s density bonus is structured within the SMC so that only buildings

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160 Office of the Auditor, “Review of Controls Over Selected Public Benefit Features in Downtown Seattle.”
161 Ibid.
162 Roger Valdez, “What Is Floor Area Ratio (FAR)?”
163 Seattle Municipal Code: 23.49.011 - Floor Area Ratio, Subsection B: Exemptions and Deductions from FAR Calculations.
164 City of Seattle, “Incentive Zoning Overview.”
within designated incentive zones are eligible. Furthermore, the range of bonusable public benefit amenities differs by zone. Different density ratios can apply to different zones and amenities. The exact physical specifications of public benefit features eligible for the density bonus, including size and elements to be included, are described or referenced in the SMC. The range of public amenities that are eligible for the density bonus in a given city – including Seattle – tend to change over time. These changes reflect shifts in public amenities that are deemed important, necessary and which are not otherwise being provided by the private real estate market.

**Density Bonuses and Incentive Zoning In Seattle**

Since 1996, Seattle has used incentive zoning to encourage the provision of “public benefit” amenities, such as public plazas, bathrooms, and public art. Historically, the geography scope of the incentive zoning provisions in Seattle was limited to downtown. Over the last several years, incentive zoning has expanded into other zones where rezones have created additional development potential.

At this time, Seattle’s Non-Residential Bonus Program, which is for commercial buildings, is available in downtown, on some lots in South Downtown, and in certain South Lake Union (SLU) zones. In general, 75% of the bonusable floor area in commercial buildings must be gained by providing a combination of both on- or off-site affordable housing and child-care facilities. The remaining 25% of bonusable floor area may be gained through the provision of other on-site public benefits. The exact on-site amenities vary by zone but generally include open space, green street improvements, public plazas and restrooms, or the transfer of development rights (TDR).

Downtown bonus-eligible on-site amenities include public plazas, parcel parks, public bathrooms, public transit access, and shopping atriums. In 2013, incentive zoning was expanded to SLU as part of a neighborhood rezone. The bonus density which may be gained in SLU, beyond affordable housing and childcare amenities, is gained through the state TDR program, which aims to preserve farm and forest lands by removing development capacity in these areas, while also generating funds for local projects to support livable communities where additional development will occur. Buildings that abut streets designated as “green streets” are also eligible for density bonuses in Seattle. Such density is obtained by providing various types of open space amenities.

**Variance from Land Use Requirements**

Developers may request the right to deviate from all requirements in the land use code except from prohibited uses or height limits. Typically, developers must provide a rationale to the director of a municipal planning department in order to receive permission to deviate from any code requirements.

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167 As per SMC 23.58A.026 - Application of floor area limits in zones with an incentive zoning suffix. In zones with an incentive zoning suffix, extra floor area may be allowed in addition to the maximum gross floor area allowed by the FAR limit indicated by the incentive zoning suffix.


169 Seattle Department of Planning and Development, “Downtown Amenity Standards.”

170 Office of the Auditor, “Review of Controls Over Selected Public Benefit Features in Downtown Seattle.”

171 City of Seattle, “Incentive Zoning Overview.”

172 Seattle Office of Housing, “Incentive Overview.”

173 City of Seattle, “Incentive Zoning Overview.”

174 Ibid.

175 Seattle Department of Planning and Development, “Downtown Amenity Standards.”

176 The specific program is the Landscape Conservation and Local Infrastructure Program (LCLIP)

177 City of Seattle, “Incentive Zoning Overview.”


179 Seattle Department of Planning and Development, “Land Use / Master Use Permit - Variance.”
Excessive financial burden is a common rationale given for not providing a required amenity, but developers also request deviations to accommodate amenities in certain ways that the code does not allow but that would positively impact the building occupants or the urban environment in general. This ability to deviate from the code allows additional flexibility in creating solutions outside of the code that may not have been considered when the code was originally implemented.

**Legislative Updates to the Land Use Code**

Updates to the land use code are made periodically and are adopted by a legislative body, such as a city council. The land use code must be compliant with a broader municipal comprehensive plan. Therefore updates to a city’s comprehensive plan usually trigger subsequent land use code updates. Governing bodies, such as city councils, can request that the city’s planning department review and update specific elements at any time.

**Guidelines**

Along with code regulations, cities provide encouragement, recommendations, and information to private developers to assist in the creation of buildings that fit with the city’s urban vision and goals. Typically cities publish additional documents, including directors rules, client memos, and other guidance as part of this effort. Design review is an example of a municipal program that is not a part of the code that aims to influence the design of private buildings.

In general, design review examines public and private projects for their aesthetic, architectural, or urban design quality and compatibility with nearby development. Design review primarily focuses on the appearance of new construction, site planning, and concerns such as landscaping, signage, and other aesthetic issues. The program typically involves reviewing development projects for their consistency with a community’s adopted standards or criteria addressing community character and aesthetic quality.

**Seattle’s Design Review Program and Design Guidelines**

Seattle’s Design Review Program brings together developers and architects, DPD staff, and the Design Review Boards (DRB). Buildings that are large enough to be subject to review must receive DRB approval before they receive the permits that are required before site development can commence. Design review is required for all new developments that meet geographically-specific size threshold. In downtown, the threshold ranges between 20,000 and 50,000 square feet, depending on building use. Outside of downtown, commercial buildings over 12,000 square feet of gross floor area are subject to review.

The Seattle Design Guidelines, which are a separate document from Seattle’s land use code, contain aesthetic and use-oriented recommendations regarding the exterior of new developments. The design guidelines are a reference document used by architects, developers and DRBs to ensure that a shared framework is used when individual building projects are assessed during the Design Review Process.

There are two types of guidelines in Seattle: city-wide design guidelines, and neighborhood-specific design guidelines. The neighborhood guidelines are intended to complement the citywide guidelines and provide an additional level of neighborhood-level specificity in order to retain the character of Seattle’s many unique neighborhoods. Developers are requested to refer to both documents. Where

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180 Municipal Research and Services Center, “Development Regulations and Zoning.”
181 Seattle City Clerk, “Types of Council Action.”
182 Municipal Research and Services Center, “Design Review.”
inconsistencies exist between the documents, the neighborhood guidelines supersede. The city-wide guidelines were recently completely overhauled in a year-long process, with adoption in 2013.

Several Center City neighborhoods have their own unique guidelines. Neighborhoods with guidelines include: Downtown; Capitol Hill; Pike/Pine; South Lake Union; Upper Queen Anne; Uptown; and Yesler Terrace. Each of the guidelines was adopted in 2013 except for the downtown guidelines, which were adopted in 1999.

Design Review Board Districts and Responsibilities
There are seven geographic DRB districts throughout the city. Each board contains five members representing the following interests: community, design, development, business, and residential. DRBs review proposed new developments in their district. The review process involves multiple stages of review, starting at the initial design and point of permit application. DRB members and city staff provide design feedback and recommendations to the building architect, within the bounds of the design guidelines. The DRB makes formal recommendations to the DPD director who will only overturn a DRB’s decision if it is clear that the decision was based on a misinterpretation of the guidelines.

Upcoming Policy Opportunities
Seattle’s Design Review Process is currently under review. That review is aimed at identifying, evaluating, and implementing organizational, structural, and procedural changes to the program. Changes to the Design Guidelines themselves are not a part of this review. A set of recommendations to improve the Design Review Program will be submitted to the Mayor and City Council by the end of 2015.

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183 Seattle Department of Planning and Development, “Design Guidelines.”
184 Ibid.
185 Seattle Department of Planning and Development, “Boards & Staff.”
Section B: Findings

Section B Chapters
5. Seattle’s Bicycle Parking Regulations
6. Bicycle Parking Regulations in Other Cities
7. Developer Perspectives
Chapter 5. Long-Term Bicycle Parking in Seattle

This Chapter:
- Describes Seattle’s bicycle parking regulatory environment, including components of Seattle’s Municipal code (SMC), advice in the Seattle Design Guidelines, and elements of the Transportation Management Program;
- Outlines the key take-aways from this aspect of our research.

As a precursor to identifying opportunities to improve bicycle parking in Seattle, we first analyzed how the city currently regulates the creation of bicycle parking in commercial buildings. To compile information about the SMC, the Seattle Design Review process, and other relevant city processes, we reviewed many City of Seattle-published documents and related resources. We also interviewed city officials, developers actively working in the city, and bicycle parking professionals.

Bicycle Parking Regulation In the Seattle Municipal Code

The SMC is the most prescriptive mechanism through which the city regulates the supply of bicycle parking in new buildings. It outlines the minimum quantity and quality standards that bicycle parking must meet, as well as some incentives related to bicycle parking.

Bicycle Parking Requirements

Bicycle parking requirements for commercial buildings in Downtown zones are outlined in a different part of the SMC than commercial buildings located in the rest of the city. Downtown zones make up the majority of Center City, with the exception of a portion of Uptown, South Lake Union, First Hill, Pike/Pine, and Capitol Hill (see Figure 11).

Long-term vs. Short-term Parking Definitions

Outside of the Downtown zones, quantity requirements are outlined in the SMC for both long- and short-term bicycle parking. Definitions of the two types of bicycle parking are also provided. Long-term parking is defined as parking used by a cyclist who plans to park for four or more hours. Short-term

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187 Encompasses the following: Downtown Office Core 1 (DOC1), Downtown Office Core 2 (DOC2), Downtown Retail Core (DRC), Downtown Mixed Commercial (DMC), Downtown Mixed Residential (DMR), Pioneer Square Mixed (PSM), International District Mixed (IDM), International District Residential (IDR), Downtown Harborfront 1 (DH1), Downtown Harborfront 2 (DH2), and Pike Market Mixed (PMM).
188 Downtown bicycle parking is regulated through SMC section 23.49.019. Bicycle parking requirements for the rest of the city are contained in SMC section 23.54.015.
189 Seattle Municipal Code: 23.49 - Downtown Overlay Maps, Map 1A: Downtown Zones and South Downtown Boundary.
190 City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.
parking is for use by a cyclist planning to park for less than four hours. Bicycle parking requirements in the SMC that affect Downtown zones are not given in terms of long- and short-term parking – just that bicycle parking in general is required.

**Quantity**

Bicycle parking has been required in all new commercial buildings in Seattle since 2006. Prior to 2006, bicycle parking requirements were tied to vehicle parking requirements in the SMC: bicycle parking amounts required were a proportion of the amount of vehicle parking required, and in areas where no vehicle parking was required, bicycle parking was not required either. The 2006 code change separated bicycle and vehicle parking requirements, which expanded bicycle parking to building locations where it had not previously been required and tied bicycle parking requirements directly to building square footage. The minimum quantities required are based on building use and size (square footage); as building square footage increases, so does the number of bicycle parking spaces required (see appendix B for exact numeric SMC requirements for all commercial uses). The purpose of use-dependent quantities is to consider the number of people within the building and the types of building users. For example, offices need primarily long-term parking for their tenants, whereas primarily short-term parking is appropriate for retail shoppers or restaurant customers.

**Quantity Requirements for Office Buildings:**

- Downtown zones (most of Center City): one bicycle parking space per 5,000 ft$^2$
- Urban Centers (remainder of Center City and other Seattle Urban Centers): one bicycle parking space per 2,000 ft$^2$
- The rest of Seattle (outside of Urban Centers): one bicycle parking space per 4,000 ft$^2$

In buildings large enough to require more than 50 bicycle parking spaces, the per square foot requirements are halved once 50 space are provided. For example, downtown office buildings are required to provide one bicycle parking space per 5,000 ft$^2$ of gross office space. Thus, a building with 250,000 ft$^2$ of office space is required to have 50 spaces, but a building with 500,000 ft$^2$ would only be required to provide 75 spaces – just two thirds as many spaces for a building twice the size.

**Quality and Accessibility**

As mentioned above, Seattle distinguishes between long- and short-term bicycle parking by the length of anticipated continual use by a single individual. The code does not specifically the qualities of either type of parking beyond this time-oriented distinction. The SMC does, however, list some other quality and accessibility criteria for bicycle parking. Parking must be:

- Provided in a safe, accessible and convenient location;
- Covered, if any covered vehicle parking is provided in a building (applicable to long-term bicycle parking only);

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192 Ibid.
194 Requirements for all building uses are contained in Appendix B
197 Ibid.
199 Calculated by (250,000 / 5000) = 50
200 Calculated by ((250,000 / 5000) + (250,000 / 10,000)) = 75
201 City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.
• Installed in such a way that it can perform to manufacturer specifications and allows adequate clearance for bicycles and their riders;
• Separated from automobile parking areas by a barrier or painted lines when located off-street;
• Inclusive of directional signage when bicycle parking facilities are not clearly visible from the street or sidewalk;
• Located in a safe, accessible, and convenient location;
• Located either on the building lot, within a shared facility, or within 100 feet of the building lot (alternatively, the developers can request to pay a fee to the city in-lieu of providing the parking, transferring the responsibility of providing the required parking to the city).

**Other End-of-Trip Facilities**
Downtown buildings with at least 250,000 square feet of gross office space must provide one shower per gender in addition to clothing storage areas for use by employees and occupants of the building. The facilities must be easily accessible to the bicycle parking facilities.\(^{203}\)

**Incentives**
Code elements for commercial buildings both downtown and in the rest of the city provide options that developers may choose to exercise in relation to bicycle parking. First, bicycle parking is one of a range of 12 permitted street-level uses in Downtown zones. Buildings that abut the street may allocate up to 30% or 50 feet (whichever is smaller) of the building frontage for bicycle parking inside the building at the ground level.\(^{204}\) This option was added to the code in 2014, as part of the update focused on the Seattle Waterfront. It has been used only once to our knowledge.

Developers have an option to reduce or eliminate required bicycle parking by paying into a city fee in-lieu fund if they can demonstrate significant hardship in providing the required amount of bicycle parking.\(^{205} 206\) During our research and in conversations with SDOT and DPD staff, we found no evidence that any developers have exercised this option or that the city has any formal structure to manage any funds received through this program.

Although car parking is not required in Urban Centers, and Downtown zones, new commercial buildings in some areas of Seattle do require car parking.\(^{207}\) Where the size and use of the building dictate that over 40 automobile spaces are required, up to 5% of required these spaces may be substituted for bicycle parking spaces at a ratio of 4 bicycle spaces for every one vehicle space removed.\(^{208}\)

**City Mode-Split Goals**
The City of Seattle does not have adopted mode-split targets for all transportation modes. However, through its 2005 Comprehensive Plan the city outlined a goal for the percentage of total trips made by a mode other than

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\(^{204}\) Seattle Municipal Code: 23.49.009 - Street-Level Use Requirements.
\(^{205}\) City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.
\(^{207}\) City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.
driving alone in a car (single occupant vehicle [SOV]. See Figure 12). The downtown non-SOV mode-split for commute trips in 2015 was 69%. In relation to bicycle mode-split, the city’s current Bicycle Master Plan (BMP) sets a performance target of quadrupling bicycle ridership between 2014 and 2030. The city plans to monitor progress towards this measure through regular city-wide counts.

Seattle Design Guidelines Related to Bicycle Parking

The city-wide Seattle Design Guidelines refers to bicycle parking in four places. The guidelines encourage:

- Ramps for wheeled devices, including bicycles;
- Integration of access for all modes;
- Location of bicycle facilities (including bicycle parking and showers and lockers) such that these end-of-trip amenities maximize convenience, security, and safety;
- Signage, kiosks, lobbies, and bicycle parking as an opportunity to share bicycling information.

None of the neighborhood-specific guidelines provide additional guidance about bicycle parking or other end-of-trip facilities.

City of Seattle Transportation Management Program (TMP)

New Seattle buildings that are expected to generate at least 25 employee or student vehicle trips in any single p.m. hour are required to prepare and implement a Transportation Management Program (TMP). The purpose of a TMP is to ensure that a building mitigates the adverse traffic or parking impacts that could otherwise be created by regular SOV travel to and from that location. For institutions (such as educational and medical facilities), the TMP is an element of its Major Institution Master Plan (MIMP). The MIMP is intended to balance the needs of large institutions to develop facilities for the provision of services with the need to minimize the impact of the development on surrounding neighborhoods. For other types of buildings that require TMPs, they are one element of the required Master Use Permit (MUP).

The need for a TMP is typically identified through the State Environmental Policy Act (SEPA) environmental review or other land use code-required reviews. The Department of Planning and Development (DPD) and the Seattle Department of Transportation (SDOT) share responsibility for working with developers and property managers to create and implement effective TMPs.

A TMP generally contains two elements: a vehicle trip maximum threshold, or “goal”, which can either be a numeric threshold or a proportion of all trips; and a list of program elements to meet that goal. Once all parties agree to the TMP goal and elements, a formal Director’s Decision is published. This DPD-created document specifies the TMP goal and sometimes outlines specific program elements. For a TMP

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209 City of Seattle, “Seattle’s Comprehensive Plan: Toward a Sustainable Seattle.”
210 Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
211 Seattle Department of Transportation, “Seattle Bicycle Master Plan Implementation Approach.”
212 Ibid.
214 Ibid. Public Life: PL4 B1
215 Ibid. Public Life: PL4 B2
216 Ibid. Public Life: PL4 B3
219 Seattle Department of Planning and Development, “Transportation Management Programs Directors Rule.”
220 Seattle Department of Transportation, “Transportation Options Program Overview.”
where the Director’s Decision specifies the TMP goal but no program elements, any element may be modified by written agreement between the applicant and the City. Each TMP building’s compliance with the TMP goal (and potentially the elements) is measured by SDOT on a biennial basis.  

TMP elements are categorized as either required, recommended, or location-dependent. No bicycle facility-related amenities are required as standard in a TMP. Required items include both reporting and participation in the TMP, as well as designating a Building Transportation Coordinator (BTC). The following highly recommended and location-dependent elements relate to bicycle end-of-trip facilities, as per the 2012 TMP Directors Rule:

**Highly recommended:**

- **Provide on-site shower and locker facilities.** These facilities serve commuters who bike or walk to work. The city may establish a number of showers and lockers consistent with the number of bicycle racks provided for commuters or by some other ratio depending on the location.
- **Construct infrastructure improvements that are consistent with the city’s Design Guidelines related to the transit and pedestrian environment.** Potential improvements include (but are not limited to) the following:
  - Safe bicycle access routes
  - Illumination
  - Wayfinding features

**Location dependent:**

- **Provide more bicycle parking than required by the Land Use Code.** The applicant can increase the amount of bicycle parking required by the code.
- **Provide bicycle storage that meets city performance standards,** including but not limited to ease of access, weather-protected locations, good lighting, and other security standards. Acceptable bicycle storage includes but is not limited to secured bicycle corrals or bicycle lockers. Other amenities to encourage bicycle use can include maintenance facilities such as a work bench, tools, air pumps for tires, and a bicycle-share program.

Information about bicycle parking design is not included and city performance standards, referenced in the Directors rule, are not current.

**Results and Key Takeaways**

The 2006 SMC code change to disassociate bicycle parking requirements from vehicle parking requirements and expand bicycle parking-required locations was a progressive step toward legitimizing bicycling as a form of commuter transportation in Seattle. However, the discrepancy between downtown quantity requirements and those for Urban Centers outside of downtown means that the bicycle parking requirements in downtown, which has the highest concentration of buildings, are much lower than in locations with lesser density, contradicting the intent of Seattle’s policy to emphasize transportation alternatives in more dense, congested areas. Increased consistency and alignment with city policy is needed.

Quality requirements in the SMC attempt to address impediments to the safe accessibility and use of long-term bicycle parking. However, the lack of specificity requires significant interpretation by

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221 Seattle Department of Planning and Development, “Transportation Management Programs Directors Rule.”

222 Ibid.
individuals responsible for both implementing (developers, architects) and ensuring satisfactory implementation (building inspectors) of these requirements. Furthermore, the SMC provides no information about the intent of the quality specifications, thereby missing an opportunity to provide valuable information to those who interact with these requirements. More detail is needed.

Except in general terms, considerations for cyclists’ accessibility to the bicycle parking provided are not currently addressed in Seattle’s Design Guidelines. The level of specificity and emphasis placed on cyclist accessibility should be on par with the attention given to pedestrians in the Seattle Design Guidelines.

The list of TMP elements does contain important information about cyclist amenities. However, because none of the bicycle amenities are required in all buildings, there is no guarantee that they will be implemented. Future TMPs should place increased emphasis on bicycle amenities by elevating them to being a required element. In addition, although the TMP Directors Rule provides some information about the quality of bicycle parking amenities, city-approved performance standards related to long-term bicycle parking should be developed and regularly updated.
Chapter 6. Bicycle Parking in Other U.S. Cities

This chapter:
- Describes the bike parking regulatory environment in Portland, Oregon and San Francisco, California;
- Outlines our key take-aways from this element of our research.

In order to identify best practices and opportunities to improve Seattle’s regulatory environment around bicycle parking in commercial buildings, we looked at what other cities have done to encourage and regulate long-term bike parking. Our literature review revealed that Portland, OR and San Francisco, CA are widely recognized as two of the most progressive cities in the U.S. in terms of how they regulate and/or incentivize bike parking. These cities also have two of the highest bicycle commute rates in the country, 6.1% and 3.8% respectively, and are fairly similar in population size to Seattle. In order to understand more about how bicycle parking regulation is approached in these cities, we interviewed public officials, developers actively working in the city, and bicycle parking professionals. Drawing on these interviews and our review of each city’s municipal code, we outline our findings below.

Portland, Oregon

Portland has the highest bicycle mode split of any large city in the U.S. and was one of the first cities to add prescriptive bicycle parking requirements to its municipal code. The city made this change in 1996 with the goal of increasing the number of city residents choosing to travel around the city by bicycle. During our research we interviewed city transportation and land use planners, developers, and local TDM professionals in Portland, especially those in the Lloyd District.

Portland’s bikeability has its roots in the city’s Central City Transportation Management Plan (CCTMP), developed through a collaborative, city-wide process between 1990 and 1994. The plan “establishes an overall policy framework to support growth in the Central City while managing the parking and transportation system...[to] minimize congestion, increase transit use, walking, and bicycling and improve air quality...[while] enhance[ing] the Central City’s overall environment and attractiveness.” As part of this plan, the city outlined a combined bike-walk mode split goal of 10% of all commute trips by 2010. This combined goal was necessary at the time because the city did not have enough data to separate the two modes. At the time the CCTMP was written, just 4% of all commute trips were made by bike or on foot. According to several of the Portland-based interviewees, the identification of this mode split goal was critical in determining how the city authored the bicycle parking portion of its code.

Bicycle Parking Code

Through our interviews, we learned that much of Portland’s current bike parking code was created in 1996, through a lengthy and politically challenging process that included much stakeholder input. When first proposed, requirements that new buildings include bicycle parking, and regulation of bike parking design was seen as excessive and unnecessary by many in the development community. Despite that fierce opposition, the bike parking code requirements listed below were created based on the city’s desired bike-walk mode split goal outlined in 1995 in Portland’s CCTMP (please note that not all of the

224 The League of American Bicyclists, “Bicycle Commuting Data for the 70 Largest U.S. Cities,.”
225 ibid.
226 “Central City Transportation Management Plan & Policy Introduction.”
227 “CCTMP 3.2: Mode Split Walk/Bike.”
228 ibid.
following relevant code elements were added in 1996). The city is currently updating the CCTMP and anticipates simultaneously updating bike parking requirements in Portland’s land use code. The Impending Bike Parking Code Update section below contains information about the types of changes being considered. However, the sections immediately following discuss Portland’s current requirements.

**Quantity**
Minimum requirements in commercial buildings have not changed since they were first implemented in 1996. Just 0.5 and .42 long-term bike parking spaces are required per 5,000 ft$^2$ of office and retail space respectively. Some amount of long-term bicycle parking is required in buildings of 2,500 ft$^2$ or more. In contrast, the minimum amount of long-term bike parking required in residential buildings increased greatly in 2010.\[229\]

**Quality and Accessibility**
Portland’s land use code includes the following relevant elements:\[230\]

- **Defines the purpose of long-term bike parking as:**
  - Providing “employees, students, residents, commuters, and others who generally stay at a site for several hours, a secure and weather-protected place to park bicycles.”\[231\] \[232\]

- **Provides clear long-term bike parking design standards** (revisions likely in next code update):
  - Must be located on site or within 300 feet of the building;
  - 50% must be covered and designed to protect a bicycle from rainfall;
  - Must be “secure,” defined as being in a locked room, an area enclosed by a fence with a locked gate, within view of an attendant or security guard, within 100 ft. of an attendant or security guard, or in an area monitored by a security camera or that is visible from employee work areas;\[233\]
  - Layout and space requirements for bike parking are outlined, including specifics such as the minimum allowed ceiling height;
  - Requires signage at the entrance of all buildings if parking is not visible from the street;

- **Allows up to 25% of any required car parking spots to be replaced with long-term bike parking** at a ratio of five bicycle parking spaces in exchange for one vehicle parking space.\[234\]

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\[229\] Long-term bike parking minimums were increased in residential buildings to 1.5 spaces per unit for the Center City district and 1.1 spaces per unit outside that district. According to several of our Portland interviewees, the minimum was changed because there was a widespread recognition that many Portland residents owned more than one bicycle and that residents did not have enough space to store their bicycle(s) at home.


\[232\] According to several of our Portland interview, this bike parking “purpose” is meant to inform developers about the reason that particular provisions are included in the code.


Bicycle Parking Code Update

The City of Portland is updating its CCTMP as part of the city’s current general comprehensive plan update, for which a widespread public outreach process is already underway. Though the specifics of the code update have not been determined, the changes the city is considering include the following types of provisions, many of which will first require input from stakeholders:

- **Increasing clarity and specificity about code-based bike parking design standards** such as the allowable distance between handlebars;

- **Accounting for bicyclists with varying levels of ability** through an emphasis on accommodating non-standard bike types such as cargo bikes and limiting the amount of vertical racks allowed;

- **Adjusting the definition of long-term bike parking** in terms of what is considered to be adequately “secure” and “covered.” Only locked or limited-access rooms or bike lockers, which also completely protect bicycles from the elements, are likely to be allowed. City officials have learned that neither video cameras nor the presence of other people deter bike thieves;

- **Adding elements that address the safety of the approach to the parking area** including how well-lit the path is, whether the cyclist has to carry their bicycle down stairs, etc.

- **Updating the minimum amount of long-term bike parking required** for various building uses, shower and locker requirements in commercial buildings, and the Bike Locker Bonus;

- **Moving all bike parking design requirements out of the code and into a user guide or Director’s Rule** so as to be able to more swiftly update standards to current best practices.

Mode-Split Goals

The city has increased its bike commute mode-split goals since they were first outlined in 1996. Portland’s 2009 Climate Action Plan outlines a goal of 25% of all trips. At the Oregon Active Transportation Conference in 2010, the director of the Portland Bureau of Transportation stated that the city would first work towards a 10% bike mode-share goal to make progress towards this impressive goal. With the requirement of just 0.5 long-term bike parking spots per 5,000 square feet of commercial space, the city’s code is only requiring the creation of enough bike parking for roughly 1.5% of employees who work at a particular building. Our analysis finds the goals and the reality of the code incongruous.

Incentives

We learned about Portland’s “Locker Room Bonus,” a density bonus for the creation of bicycle end-of-trip facilities, at the outset of our research. This density bonus was added to the code in 1996, during the same update to require bike parking in new developments. Based on our interviews, we learned that the rationale behind the incentive was that bike parking would be more effective at encouraging Portland residents to bike to work if it was paired with shower and locker facilities. At the time, the city was starting...
to build public infrastructure, such as bike lanes and dedicated cycle paths. The city saw end-of-trip facilities, such as long-term bike parking, showers, and lockers, as necessary to maximize the use of public infrastructure. The incentive recognized that while bike parking is relatively low-cost (one source noted that the Go Lloyd TMA was able to add bicycle parking facilities to commercial buildings that had little to no long-term bicycle parking for no more than $1,500\textsuperscript{239}), showers and lockers are comparatively much more expensive.\textsuperscript{240} The city offered a density bonus of 40 ft\textsuperscript{2} of building floor area in exchange for every 1 ft\textsuperscript{2} of floor area devoted to locker room space so long as the facilities include showers and lockers in addition to at least 110\% of the long-term bicycle parking required in the code.\textsuperscript{241}

The bonus was used just 5 times between 1996 and 2001\textsuperscript{242} and an estimated 6 or 7 times since then. Of the 18 density bonus options in Portland’s code, the Locker Room Bonus was the third most-frequently used bonus between 1996 and 2001, perhaps because it had one of the lowest costs per square foot and one of the highest returns on investment. We heard from several city officials and other stakeholders that, while originally intended to incentivize developers of commercial buildings to put in more higher-quality long-term bicycle parking, the density bonus has been used in several residential projects where the bonus was not intended to be used.

We also heard that commercial buildings are installing locker rooms in Portland without using the density bonus and that tenant demand for this amenity is very high. Some commercial buildings that are undergoing renovations are also adding these amenities. This suite of bicycle amenities is required in one part of Portland. According to city officials, when that change was made, developers did not resist.

**Existing Buildings**

Portland’s code requires buildings that are undergoing a change of use or density with construction costs of more than $153,450 to bring their building into conformance or partial conformance with a set of particular aspects of the code listed in a Non-Conformance section.\textsuperscript{243} Bicycle parking is included on that list. A developer can either choose to pay 10\% of the proposed value of alterations towards bringing their building into partial conformance or they can choose to bring their building into full compliance over a 2 to 5 year period, depending on the size of the building. The bigger the building, the more time the developer can take to bring the building into compliance.

Portland’s code also has a provision allowing car parking to be replaced by bicycle parking. However, according to our discussions with local officials, this element of the code, which was primarily meant to affect existing buildings,\textsuperscript{244} has not been as effective as hoped. There are simply many zones in Portland that do not currently require and have not required vehicle parking in the past, leaving few car parking spots for conversion.

**Other**

Along with the bicycle parking requirements listed in the code, the City of Portland provides a myriad of information on the PBOT website to assist developers and architects in meeting the highly-specific bicycle parking standards outlined in the city’s code, including:

\textsuperscript{239} Atkins, “Bike Parking = Bike Riders.”
\textsuperscript{240} From our interviews with developers, we learned that, depending on the available plumbing connections and whether a building is being renovated or is a new building, adding shower and locker facilities can cost between $50,000 and $300,000.
\textsuperscript{241} Johnson Gardner, LLC, “Evaluation of Entitlement Bonus and Transfer Programs.”
\textsuperscript{243} City of Portland, Portland Zoning Code: 33.258.070 Nonconforming Development.
\textsuperscript{244} City of Portland, Portland Zoning Code: 333.266.110.E3 – Minimum Required Parking Spaces, Bicycle Parking Standards.
• A Handbook of Approved Bicycle Racks to assist in the selection of quality bicycle parking;\textsuperscript{245} \textsuperscript{246} \\
• A list of Bicycle Rack Manufacturers/Distributors.\textsuperscript{247}

In addition, the city partners with the local Transportation Management Association \textit{Go Lloyd} to host bike summits for employers and property managers\textsuperscript{248} and provides general information about applicable topics such as “How to Prevent Bike Theft” on the PBOT website.\textsuperscript{249}

\textbf{Results and Key Takeaways}

While city officials are currently in the process of updating the bicycle parking portion of Portland’s code, it is important to note that the changes being considered trend towards more bicycle parking standard specificity and an increased ability to adapt more swiftly to ever-evolving best practices. All of the individuals we interviewed from Portland discussed the importance of monitoring the bicycle parking and other end-of-trip facilities being created to ensure that the way the code is written is best meeting the changing needs of residents over time.

Portland’s residents and private sector stakeholders see long-term bicycle parking is an increasingly important tenant amenity in the city. Many developers are including long-term bicycle parking and other end-of-trip facilities in new commercial buildings without the use of the city’s unique Locker Room Bonus: the expectation for such amenities is so strong. Yet, this culture did not develop overnight. It involved years of collaboration between the private and public sectors working towards a vision outlined in Portland’s CCTMP and other city plans. For this reason, public officials plan to involve a variety of stakeholders before coming to any final decisions about changing the bicycle parking elements of the land use code.

The current Portland code update will not focus solely on long-term bicycle parking in commercial buildings. The city will take a comprehensive look at changing the code to impact all zones, all building types and uses, and all types of bike parking.

\textbf{San Francisco, California}

In September 2013, San Francisco completely overhauled its bicycle parking requirements.\textsuperscript{250} This update included significant increases in both the amount of bicycle parking required and the level of layout and design detail outlined.\textsuperscript{251} The city justified this overhaul by citing San Francisco’s decade-long increase in bicycle ridership and the general lack of bike parking on private property. When compared to national standards and the best practices of other cities, city officials determined that existing code requirements were not sufficient to meet the growing demand for bicycle end-of-trip facilities.\textsuperscript{252}

While our report is focused on long-term bike parking in commercial buildings, San Francisco’s code update was more comprehensive. The update impacted buildings of all types of uses and in all zones within the city, as well as parking garages. It also addressed both short-and long-term bicycle parking. San

\textsuperscript{245} “Handbook of Approved Bicycle Racks.”
\textsuperscript{246} Please note that the bike racks listed here are not the only bike racks allowed. The City used to have such a system, but it became too burdensome to maintain as best practices changed so frequently.
\textsuperscript{247} “Bicycle Rack Manufacturers.”
\textsuperscript{248} “Portland Employer Bike Summit.”
\textsuperscript{249} “7 Tips for Preventing Bike Theft.”
\textsuperscript{250} “Bicycle Parking Requirements.”
\textsuperscript{251} City of San Francisco, \textit{Bicycle Parking: Definitions and Standards}, 2013.
\textsuperscript{252} “Bicycle Parking Requirements.”
Francisco public officials believe that the update would not have been as effective if it had been carried out in a piecemeal fashion, similar to how San Francisco’s bike parking code has been updated in the past.

**Bicycle Parking Code**

San Francisco’s post-2013 bike parking requirements are the result of a year-long collaboration between multiple city departments, developers, property owners, and bicycle advocacy groups. City officials worked with industry trade groups such as BOMA and the Residential Builders Association (RBA) in order to gain acceptance of the updates in the year leading up to the code overhaul. The bike parking update included the relevant elements below.

**Quantity**

- **Expanded and increased bike parking requirements** by:
  - Defining long- and short-term bicycle parking in terms of their respective uses:
    - Long-term bike parking is called “Class 1” and is defined as “spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, non-residential occupants, and employees;”
    - Short-term bicycle parking is called “Class 2” and is defined as “bicycle racks located in a publicly-accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use;”
  - Outlining the amount of bicycle parking required based on building use and the city’s desired minimum of 5% of trips made by bicycle:
    - One long-term bike parking space is required per 5,000 ft\(^2\) of occupied office space;
    - One long-term bike parking space is required per 7,500 ft\(^2\) with a minimum requirement of two spaces.

**Quality and Accessibility**

- **Clarified bicycle parking design standards** by:
  - Defining elements that must be included in the design of long-term bicycle parking, including that it protect the entire bicycle, its components and accessories against theft and inclement weather, including wind-drive rain.
  - Limiting acceptable forms of long-term bike parking to: “individual lockers, attended facilities, monitored parking, restricted access parking, and stacked parking.”
  - Outlining layout and space requirements for bike parking, including a prescribed minimum distance that bike racks must be from walls and other bicycles;
  - Ensuring easy, direct access to bike parking by requiring it be located on the ground floor and near the building lobby whenever possible as well as at least as accessible as the most

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253 Ibid.
254 RBA represents owners of smaller-scale residential buildings of 20 units or less.
256 Ibid.
257 Ibid.
258 Ibid.
259 Ibid.
accessible car parking space (otherwise long-term bike parking is limited to one floor above or one floor below grade);

- Creating a Zoning Administrator Bulletin, similar to a Director’s Rule for Seattle’s Department of Planning and Development, with clear layout and design requirements; wayfinding signage is only required for short-term parking.

- **Provided configuration parameters for how car parking spaces could be converted to bicycle parking** (no maximum conversion limit),\(^{260}\)

- **Increased and expanded the requirements for showers and lockers** in buildings with commercial and industrial uses,\(^{261}\)

- **Restructured the bike parking requirements** to make it more similar to other sections of the city’s code and easier to understand;\(^{262}\)

- **Does not allow a fee-in-lieu or exemption for long-term bicycle parking.**

**Incentives**

From conversations with city officials, we learned that bicycle parking has such high tenant demand in San Francisco (SF) that the city does not see a need to explicitly incentivize developers to create it. However, bicycle parking does not count towards a developer’s allowable FAR calculation, which may reduce the incentive to locate bike parking in the parking garage.\(^{263}\)

**Existing Buildings**

In interviews, we learned that city officials proposed that the 2013 code update include requirements for existing buildings to add long-term bicycle parking. However, many developers and property owners advocated strongly against such provisions, arguing that asking owners of existing buildings to bring their buildings into compliance with the new bike parking standards would be too great of a cost burden for the affected property owners. This debate resulted in such changes being politically infeasible. Therefore, in order to impact at least some existing buildings, the city included the following elements in their code update:

- A requirement that all city-owned buildings and garages must comply with the updated bike parking code within one year of the ordinance passing;\(^{264}\) San Francisco’s Planning Department is required to inventory a set number of city-owned buildings every 5 years to monitor the impact of this requirement. Should 85% or more of the bike parking provided be in use, or should bicycles be clearly improperly parked due to inadequate parking supply, bike parking minimums will be deemed inadequate and will be updated at that time;\(^{265}\)

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\(^{260}\) City of San Francisco, *Reduction and Replacement of Off-Street Parking Spaces.*

\(^{261}\) City of San Francisco, *Requirements for Shower Facilities and Lockers.*

\(^{262}\) “General Plan and Planning Code Amendments for Bicycle Parking.”

\(^{263}\) City of San Francisco, *San Francisco Planning Code - Section 102: Definitions Floor Area, Gross.*

\(^{264}\) “General Plan and Planning Code Amendments for Bicycle Parking.”

• A detailed description of how existing car stalls could be converted to long-term bike parking stalls in a way that could meet the new bike parking code requirements;\(^\text{266}\) This provision was included in the Zoning Administrator Bulletin because developers did not know how to appropriately convert car stalls to bike parking.

• Expanded the criteria that what would require existing commercial buildings to add bicycle parking. This change aligned building modification triggers to add bike parking with already established triggers in the city’s code, which more appropriately reflected the relatively small cost of adding bike parking. Changes that would trigger bicycle parking requirements were modified from major renovations, major change of use, and the addition of car parking to include the following: addition of a new residential unit; enlargement of a building by 20%; and change of use if the requirement would increase the required amount of bicycle parking by 20%.\(^\text{267}\)

• A requirement that existing buildings which do not provide bike parking must allow tenants to bring bikes inside the building or install a long-term bicycle parking facility.\(^\text{268}\) We learned that this provision was politically difficult and was, therefore, included in the city’s Environment Code. The location of this provision greatly reduced its impact on existing buildings because this element of San Francisco’s code is less legally enforceable than land use code.

Results and Key Takeaways
During the 2013 update process, developers reacted negatively to the increase in design standard specificity rather than the increase in number of stalls required. However, since making these code changes, city officials believe that more building plans submitted for approval include bicycle parking at the point of initial review. When developers do not include adequate bike parking designs, clearer specificity in the code makes it easier for the planning department to simply cite the code when asking a developer to update their building design. Anecdotally, the increased specificity in terms of layout and design standards has resulted in better long-term bicycle parking designs. In addition, more existing buildings have chosen to use the automobile-to-bicycle parking stall conversion provision.

The city’s decision to separate bike parking design information from the codified quantities and location citing requirements has increased flexibility for city officials. This is useful because design standards and best practices in bike parking are quickly evolving. City officials decided to separate this type of information so this information could be updated more swiftly. The SF Zoning Administrator Bulletin is as enforceable as the code, but is more flexible in that amendments can be made without formal legislative action.\(^\text{269}\)

SF property managers fiercely resisted changes to the code that would increase requirements in existing buildings. Given that cities such as San Francisco are already intensively developed, ensuring that existing buildings provide enough long-term bike parking for their tenants is key to meeting demand for adequate end-of-trip cycling facilities. By requiring all city buildings to comply with the updated code provisions within one year of the ordinance passing, the city of SF hopes to demonstrate that the cost burden would not be too high for the private sector.

\(^{266}\) City of San Francisco, “Bicycle Parking Requirements: Design and Layout.”
\(^{267}\) “General Plan and Planning Code Amendments for Bicycle Parking.”
\(^{268}\) Ibid.
\(^{269}\) Only the Zoning Administrator needs to approve any changes.
Lessons Learned From Other Cities

One of the primary takeaways from our research about the regulatory environments of other bicycle-friendly cities is the importance of providing developers and architects with detailed design and layout standards for long-term bike parking. It is also important to provide definitions of bicycle parking-related terminology in the land use code for all building types, uses, and in all zones. The code can be a way to educate about the importance of bike parking as well as develop a greater shared understanding what elements affect the quality and usability of bike parking. This detail might be especially important in bicycle-friendly cities where the market is already driving the creation of bike parking even without the use of density bonuses. In general, the more information provided the more certain a city can be that the long-term bike parking created in new buildings will be both functional and easily accessible.

Another key finding of this research is that as more types of people bike, the wider variety of long-term bike parking and other end-of-trip facility types required to meet their needs. For example, if more individuals with children are enticed to bike to work, they are likely to have bicycles with trailers, or longer-than-standard cargo bikes, with greater carrying capacity so that they can accommodate taking their children to school on their way to work. Therefore, the accessibility of bike parking for individuals with a variety of needs and abilities is an increasingly important element to consider in any bike parking code update.

We also learned that developing stakeholder buy-in when making major changes to the land use code is critical. Sharing a common vision of where the city is headed, accompanied by a mode split goal for bike commuting, is one important element for making the case that the quantity of long-term bike parking spaces provided in commercial buildings (as well as residential buildings) needs to be increased. One way to help demonstrate the need for changes to the code is by regularly inventorying the city’s bike parking and other end-of-trip facilities and assessing how well the current code is creating enough usable, accessible bike parking.

Finally, while our report focuses on long-term bike parking in new commercial buildings, neither Portland nor San Francisco updated bike parking requirements in commercial buildings in isolation from other building types, such as residential buildings. Instead, they updated the requirements and standards for all building types and uses, in all zones, and for all types of bike parking (both long- and short-term). Commercial buildings are just one element that should be considered in any code update.

We used the key lessons collected here to inform the options we selected to assess in Chapter 9.
Chapter 7. Developer Perspectives, Interview Findings

This Chapter:
- Summarizes the perspectives of the developers and other private sector real estate development stakeholders we interviewed regarding the creation of long-term bicycle parking in Seattle;
- Outlines the key takeaways from this aspect of our research and how this information was used to inform the policy options we chose to analyze.

During the course of our research, we interviewed a range of individuals working in private real estate development. Most interviewees were Seattle-based developers (ten), but we also talked with architects (three), building managers (three), tenant brokers (one), architects (four) and design professionals (six) working in Seattle and Portland. Our interviews focused on understanding developer perspectives both specific to bicycle parking and to broader considerations, where relevant. We also used the interviews to gather evidence to formulate, refine, and analyze the policy options we evaluate in Chapter 9. Below is a summary of the key findings from our interviews with these individuals.

Trends in Long-Term Bicycle Parking

We heard from many developers that prospective commercial tenants are increasingly demanding high-quality long-term bicycle parking and other end-of-trip facilities. Large technology (tech) firms are a significant driver of this demand. This is not surprising: tech firms’ employee base is largely white, male, and affluent: the dominant cycling demographic in the US.\(^{270}\) Tech tenants are seeking Class A (the highest quality) office space and, as of 2014, made up 32.5% of office jobs in the Seattle/Bellevue Metropolitan area.\(^{271}\) Growing demand for high-quality long-term bicycle parking facilities can be attributed, in part, to the increasing quantity and quality of public investments in bicycle infrastructure, such as designated bicycle lanes, which makes cycling to work feasible for a wider range of people. End-of-trip facilities, such as showers and day-use lockers are being demanded alongside bicycle parking, showing the desire of many area residents to balance cycling to work in Seattle’s notoriously inclement weather with dressing professionally in the workplace.

Private developers, especially those hoping to attract tech tenants, are responding to the increasing pressure to offer high-quality long-term bicycle parking as a standard building amenity. From interviews we understand that bicycle parking facilities are increasingly provided in a locked room or cage located in the building’s basement or parking garage. Developers mentioned that tenant demand has led to long-term bicycle parking quality upgrades in many existing commercial buildings. Anecdotally, showers and lockers are being added in some new and existing buildings that serve that same tech tenant demographic. We learned of at least two new buildings of around 100,000 square feet that are providing showers and day-use lockers in anticipation of tenant needs. We also learned of one commercial building in Center City that recently added shower and locker facilities in order to prevent the loss of a tenant.

While our research confirmed that developers are thinking about bicycle parking, it is also clear that long-term bicycle parking is a very small consideration in the overall development process. In part, this is due to the lack of information about what good bicycle parking looks like. Every single developer we

\(^{270}\) People for Bikes, “Participation Statistics Archives.”
\(^{271}\) Kurt Wagner, “Google’s Employee Demographics: Mostly White, Mostly Male.”
\(^{272}\) JLL Real Estate, “U.S. High Technology Outlook 2014.”
talked to expressed strong interest in having more information about what constitutes good bicycle parking. Some even expressed frustration at wanting this information and not being able to find it.

Our discussions with developers about bicycle parking often turned to comparing bicycle parking against vehicle parking. Vehicle parking continues to be provided in many new Center City commercial developments even though it is no longer require by the SMC. Some officials we interviewed suggested that demand for vehicle parking is overstated and sometimes results in as much as a third of vehicle spaces in garages being vacant at any one time. We consistently heard from Seattle developers that there is no easy way to quantify the return on investment for bicycle parking, whereas dollar value can easily be placed on car parking spaces. While developers do not need to make an explicit choice between vehicle and bicycle parking in designing a new building, the extent of emphasis placed on vehicle parking seems to negatively impact the emphasis placed on bicycle parking. As long as developers continue to provide below-grade vehicle parking, it will likely remain most cost-effective for developers to place bicycle parking in the same general location. As discussed in several other places in our report, this co-location of vehicle and bicycle parking often leads to lower-quality bicycle parking, especially since accessibility considerations are often not addressed.

That said, some buildings exceed these baseline trends. Some of the developers we interviewed are clearly capitalizing on the growing market demand for bicycle facilities by creating excellent end-of-trip facilities and folding them into the marketable “story” of their building. We spoke with some developers who discussed a growing need to find ways to uniquely position their building so as to stand out in Seattle’s increasingly competitive real estate market. The use of bicycle infrastructure in creating that unique proposition appeals to some developers, but not all. We observed - and others discussed - a range of attitudes among developers, from minimally considering and providing bicycle parking, to creatively incorporating it. Best practices in long-term bicycle parking design, which takes bicycle parking out of the dark corner of the garage or improves quality in some other regard, are being applied by some Seattle developers. Those developers are eager to create a market advantage through the quality of bicycle parking provided, and/or have access to more information about the potential to create high-quality bicycle parking facilities. However, the majority of developers rely on their architect for knowledge about bicycle parking design best practices. Bicycle parking knowledge and experience is wide-ranging among architects, who are routinely consulted with about long-term bicycle parking design, including the location, size, and shape of any long-term bicycle parking facility created, as well as the specifications of the bicycle rack designs selected.

Other Development Trends Impacting Bicycle Parking

The industry standard for the amount of square footage suggested per worker in office buildings is decreasing. The number decreased from around 200 ft$^2$ per worker in 2010, to 176 ft$^2$ per worker in 2012 and is predicted to continue declining to 151 ft$^2$ in 2017. This industry-wide shift is largely the result of new trends in office space configuration and organizational work flows. For example, the traditional office cubicle layout is being replaced by “benching,” where more employees work together at one larger desk. In terms of transportation infrastructure – and specifically bicycle parking – this means increasing numbers of workers travelling to and from, as well as working in, commercial office buildings. But because bicycle parking quantities are tied to square footage, as office density increases, per capita employee access to bicycle parking decreases.

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273 NAIOP, “Changes in Average Square Feet per Worker.”
Developer Decision Factors Related to Bicycle Parking

Financial Bottom Line

Financial viability is an important consideration in creating any new building. In commercial buildings, this viability is the relationship between the cost of raw land and construction costs as compared to the rental income that can be expected upon the building’s completion. The commercial viability of a building is calculated through an industry-standard measurement, called the BOMA standard. The BOMA standard uses the ratio of rentable space (including both communal and privately-rented space) to the rest of the un-rentable space (including parking) and compares that ratio to the rental rate of similar nearby buildings. A specific building’s potential to provide return on investment in a competitive manner (in line with nearby rental rates) is critical to securing financing for building construction.

The question of financial viability relates to how developers think about long-term bicycle parking. Bicycle parking is typically viewed as a non-rentable amenity. An increase in non-rentable space can have a negative impact on the financial bottom line of a building. While increasing the quantity of bicycle parking required in the SMC is extremely unlikely to cripple the Seattle commercial real estate market, it could alter the viability of some projects. Perhaps more importantly, being aware of how developers think about the financial viability of projects provides a context for understanding their sensitivity to policy proposals that would increase the amount of un-rentable space in their building as well as why density incentives contained in the land use code are appealing.

A second point that the BOMA standard highlights is the intensity of developer competition in a local marketplace. Imbalances between buildings in the types and extent of amenities, which come about due to changes in the land use code over time, serve to encourage existing buildings to attempt to “keep up” and improve amenities while not strictly required to do so, in order to be able to remain competitive with newer buildings.

Density-Based Incentives

As mentioned above, in principle, density bonuses are attractive to developers because they increase the amount of rentable space and, therefore, improve the financial bottom line of any new building. However, during our interviews, we learned that developers are attracted to density incentives only if the amenity provided in return for the additional density fits with the developer’s vision for the building and the tenant market being targeted, and only if the return on investment is sufficient. In addition, we heard from every developer we interviewed that Seattle’s current incentive structure is overly complex and is set up in such a way that it is often infeasible to actually benefit from the incentives. Specifically, the ratio of additional density in return for a public amenity may not be sufficiently financially attractive and some buildings sizes and locations may not be able to realize the full benefit because of building density and height limits.

Real Cost vs. Opportunity Cost

Our research revealed that the cost of long-term bicycle parking infrastructure itself is very low. Showers and day-use lockers, on the other hand, are seen as costing much more than bicycle parking alone, due to the additional space, and utility connections that are required. The primary objection we heard from developers in regard to placing bicycle parking in more accessible and visible locations such as the

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275 The full name is the Building Owners and Managers Association (BOMA) National Standard Method for Measuring Areas in Office Buildings.

ground floor of a commercial building, is the opportunity cost of that space. The majority of the
developers we interviewed discussed ground floor retail as being a highly-profitable, highly-desired
space. However, several other developers raised the question of whether ground floor retail is needed
in every single commercial building and whether retail vacancy rate in some Center City neighborhoods
may contradict conventional wisdom about the profitability of ground floor retail space. In addition,
developers voiced concern about the feasibility of placing bicycle parking on the ground floor of new
buildings that have relatively small footprints because of the competing needs of ground floor
amenities. Some also stated reservations about the feasibility of adding bicycle parking in commercial
buildings being renovated because of the structural limitations of such buildings, which may not have a
basement or might be constrained by existing elements such as elevator shafts and machinery. Our
research leads us to believe that retrofitting buildings may not necessarily increase the actual cost of
providing bicycle parking infrastructure, but that there may be accessibility and quality trade-offs
because of the limitations of working within existing building constraints.

**Is Bicycle Parking Provided for Free or Available For a Fee?**

*Trends in Tenant Amenities*

Some Seattle commercial buildings that provide high-quality bicycle parking to their tenants do so for a
monthly fee. Others offer the amenity for free. While no data exists showing the percentage of bicycle
parking that has a fee associated with it in Center City, we heard from some developers that because of
the time it would take to administer the fee-based system, they preferred to offer bicycle parking for
free. Others explained that the financial reporting structure related to add-on amenities meant that it
was not cost effective to charge tenants separately for bicycle parking.

*A New Private Market Alternative*

In addition to long-term bicycle parking located in commercial buildings, long-term, commuter-appropriate bicycle parking is being supplied on a small-scale by the private market, for a fee. In both
Seattle and Portland we interviewed developers who have incorporated a long-term bicycle parking
rental component into recently developed and centrally-located, multi-unit residential buildings. Bicycle
parking, as well as showers and day-use lockers, are rented to paying members on a monthly basis for
between $25 and $45 per month. The for-rent bicycle parking in Seattle reached capacity within just one
year of opening. Portland’s facility is still under construction, but the developers anticipate a similar,
overwhelmingly positive response.

**Conclusions**

Several categories of findings from our developer interviews have implications that are especially
important in improving the condition of long-term bicycle parking in Center City’s commercial buildings.
First, our interviews confirmed that bicycle parking is an considered in all new and some existing
buildings, especially in Class A commercial buildings. However, there is a lack of information about what
good quality bicycle parking looks like. There is also a lack of developer incentives to move bicycle
parking above ground, where it may be of higher quality and will certainly be more accessible to cyclists
(both easier and safer to access).

While our research suggests that the quantity and quality of bicycle parking in Class A buildings is being
driven by market demand, a similar push for other types of commercial buildings to provide high-quality
tenant bicycle parking is much less evident. Therefore, it is likely that there is an ever widening-range in
the quality of bicycle parking provided between the parking available in Class A and that in non-Class A
buildings. This trend suggests the exacerbation of an increasingly inequitable situation, with negative
consequences for non-tech workers, and those in non-Class A buildings. The City has a goal of ensuring
that cycling is accessible for all ages and abilities. Amenity needs of tech workers are known and demand is being met with bicycle parking varying degrees of quality. However, what is less clear is the extent to which the needs of other demographic sectors are being considered and met. Further, the quality of bicycle parking is hardly inducing demand from less traditional cycle demographics, which are potential bicycle riders. Relying on the private market to create high-quality, long-term bicycle parking everywhere it is needed is unlikely to result in the most equitable outcomes. Adding additional quality and accessibility provisions in the SMC will increase uniformity in the provision of high-quality long-term bicycle parking in a wider range of Seattle buildings.

The new private market for high-quality long-term bicycle parking in both Seattle and Portland indicates that there is a gap in the supply of long-term bicycle parking in the two cities. While some users of the facilities may be nearby residents, the shower and day-use locker facilities are clearly oriented to a commuter market. The presence of a private market alternative is not necessarily negative, but it does raise equity concerns. Only those who can afford the monthly fee will be able to access these private transportation facilities. Similarly, building managers’ decisions about whether to charge for access to secure bicycle parking also have equity implications. Buildings typically employ workers at a wide range of earning levels. Not all building employees will be able to afford the fee and could see it as a deterrent to choosing to commute to work by bicycle. Seattle’s land use code does not specify whether long-term bicycle parking should be provided for free to building tenants. City officials should make a decision about whether long-term bicycle parking facilities in commercial buildings should be offered for free or for a fee to building tenants.

Finally, the declining per worker square footage trend presents a problem for ensuring a sufficient quantity of bicycle parking spaces for employees in the long term. As the number of workers in a given building increases, the number of workers sharing bicycle parking amenities will also increase. This trend means that even if the proportion of workers in a given building who cycle to work remains constant over time (which is contrary to the city’s long-term goals), per-worker access to the bicycle parking facilities will decrease. Tying the quantities of bicycle parking in the SMC to specific goals, such as a desired bicycle mode-split goal, and regularly revising quantities upward in-line with decreasing per-worker square footage, would ensure that the quantity of bicycle parking in new buildings sufficiently meets demand. A more challenging issue is how to ensure that existing buildings continue to provide enough bicycle parking as their number of tenants increase. Transportation Management Plans appear to be the most appropriate vehicle for addressing this problem, by requiring that bicycle parking quantities are adjusted upwards in line with numbers of employees using the buildings.

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277 Seattle Department of Transportation, “Seattle Bicycle Master Plan.”
Section C: Analysis

Section C Chapters
8. Evaluation Criteria
9. Policy Options & Analysis
10. Recommendations & Next Steps
11: Areas for Further Research

PFL Spaces: Accessible Design.
Chapter 8. Evaluation Criteria

This Chapter:
- Introduces criteria through which we will evaluate options;
- Explains how we will assess how each option meets the criteria.

Our research revealed an array of potential policies that could increase the quality, quantity, and accessibility of long-term bicycle parking in Seattle's Center City. In the following chapter, we analyze ten policy options in terms of their effectiveness in meeting those objectives, and the feasibility of their implementation. We assess the options against a set of criteria, discussed below, by estimating outcomes in comparison to what we estimate will otherwise occur in the status quo scenario: today’s current regulatory environment.

Effectiveness

We evaluate the effectiveness of each option in two broad ways. First, we look at whether it is intended to create an increase in the quality, quantity, and/or accessibility of long-term bicycle parking in Seattle’s Center City. Each option receives a + or = rating depending on whether it improves or does not address each element of quality, quantity, and accessibility. No single option we suggest would lead to a simultaneous increase in all three.

- **Increases quantity** – We evaluate whether each option will lead to the creation of more long-term bicycle parking.

- **Increases quality** – We evaluate whether the option will improve the quality of long-term bike parking. Quality means that the bike racks installed are designed to meet the needs of commuters of all ages and abilities and that the bike parking area is designed in such a way that a cyclist can use the space safely and comfortably, a factor of whether the parking area is fully covered and completely secure.

- **Increases accessibility** – We evaluate whether the options will create more accessible bicycle parking. We define accessibility in terms of the following components, both of which impact the quality of the cyclist’s experience traveling from the street to the parking area:
  - **Wayfinding**: When a cyclist arrives at her destination, she can easily locate the long-term bicycle parking.
  - **Safety of the approach**: Once a cyclist has identified the location of the long-term bicycle parking, he can safely navigate on his bicycle to the parking entrance. Perception of safety is also considered.

We further evaluate effectiveness in terms of how broad the impact is likely to be if the policy option is implemented. We consider the policy’s geographic scope of impact and likelihood of use by developers. Policies will receive a score of low, medium, or high for this effectiveness criteria.

- **Likelihood of use**: Some options mandate that developers take a specific action, while others rely on developers to act voluntarily. We weigh the overall attractiveness of the option by considering perceived or actual opportunity cost to the developer in determining the likelihood of whether a developer would use a voluntary option.
• **Geographic scope**: Since the land use code regulates areas of the city under different code sections, and options in the code may only be available in different building uses, sizes, and locations, we consider geographic impact of the potential option.

**Feasibility**
Political and administrative feasibility are central to an option’s ability to be implemented. We rate options on a scale of low, medium, or high.

• **Political Feasibility**: We evaluate the extent to which external support or opposition exists for each policy option. We primarily focus on support and opposition from developers. Where broader political considerations impact the feasibility of an option these are also discussed and evaluated. Low political feasibility indicates active opposition. Medium feasibility indicates a neutral position, neither in support of nor opposed. High political feasibility indicates general support for the option.

• **Administrative Feasibility**: This criterion will measure the extent to which an option fits within existing administrative processes and work plans. Low administrative feasibility translates to an entity needing to invest considerable resources up front to modify existing processes, work plans, or systems in order to implement the policy option. High administrative feasibility indicates that the option could easily be, or has already been added to, an administrative work plan, or that implementation would not require a new administrative process to be created.
Chapter 9. Policy Options and Analysis

This Chapter:
- Describes the likely outcomes if no action is taken to increase the quantity, quality, and accessibility of long-term bicycle parking in Seattle’s Center City;
- Introduces policy options to address all three aspects of this problem;
- Analyzes options using criteria defined in Chapter 8 to evaluate the likely outcomes, trade-offs, and uncertainties of each option.

Below, we describe ten policy options as well as the status quo scenario and evaluate each in terms of our chosen criteria. We outline the most likely outcomes for each option and identify the key uncertainties in our analysis before making our recommendations in Chapter 10. We gathered the information included for each policy option below from our interviews and literature review.

The No-action Alternative
We anticipate the following future state, should no action be taken to increase the quantity, quality, or accessibility of long-term bicycle parking in Seattle.

Quantity
The total quantity of long-term bicycle parking in commercial buildings within Center City will continue to increase as the number of buildings built using post-2006 code (which requires bicycle parking) increases. However, since the quantities provided within each new building will remain consistent with current code requirements an insufficient number of bicycle parking spaces will be created. Current code requirements equate to an accommodation of between 2.3% to 3% of commuters in the majority of Center City (Downtown zones) and between 4.5% and 7.5% of commuters in the northern and northeastern neighborhoods of Capitol Hill, Uptown and north South Lake Union (see option 2a below for more information). Larger buildings will continue to provide proportionally fewer spaces than smaller buildings due to the fact that the code structure reduces bicycle parking requirements after 50 bicycle parking spaces are provided. Existing commercial buildings, including those undergoing renovations, will not be required to upgrade bicycle parking to current code requirements, meaning that bicycle parking will be supplied in such buildings in an uneven manner, solely driven by market demand.

Quality
The quality of bicycle parking will remain inconsistent, due to a lack of information about cyclists’ needs and of bicycle parking design best practices. Developers and architects will rely on existing – typically very limited – knowledge to shape the design of long-term parking facilities. Bicycle parking accessibility will remain low and will continue to be primarily located within below ground parking garages or low value (and inherently inaccessible) ground floor spaces. Most likely, ground floor bicycle parking will only be provided in buildings with no garage. In such instances, bicycle parking will likely be seen as a burden to provide as it reduces the net rentable space of that building, a perspective which may further impact the quality of the parking provided.

Long-term Outcomes
If the status quo continues, market decisions will almost exclusively shape the existence of long-term bicycle parking in Center City’s commercial buildings. Our research indicates that market actors lack the information to improve the existing conditions, and the incentive to move parking to a more attractive location. Additionally, the quantity of long-term bicycle parking provided will not support the increased demand associated with Seattle’s vision for a multi-modal transportation system.
Furthermore, a separate retail market providing high-quality long-term bicycle parking, which already exists on a small scale in Seattle, will expand. In the long-term, while the for-fee amenities will be attractive and used, reliance on this market solution to provide covered and secure bicycle parking may result in increased inequality in bicycling demographics, act as an additional barrier to bicycle commuting, and, ultimately, negatively impact the city’s larger transportation, environmental, economic vitality, and quality-of-life goals.

**Options to Improve Long-term Bicycle Parking**

We have grouped the alternatives analyzed in this chapter into four separate categories: Regulatory Tools, Regulatory Options and Incentives, Provide Information, and Further Research. We limited our analysis to options that will increase at least one of the three deficiencies in long-term bicycle parking in Center City: quantity, quality, or accessibility. No single option we analyze addresses all three elements of the problem in the short-term. We also considered options that have been successful in other bicycle-friendly communities.

**Category A: Regulatory Tools**

The following four options rely on changes to a variety of components in Seattle’s regulatory environment. Options one, two, and three would require changes to the Seattle Municipal Code (SMC) and would have an extremely high breadth of impact if adopted by the City Council because they would impact all new commercial development built in Center City moving forward. Option three, on the other hand, would require changes to Seattle’s Design Guidelines, which is a less prescriptive regulatory tool, and would, therefore, have a slightly lower breadth of impact.

**Option 1. Increase Specificity in the SMC**

Bicycle-friendly cities in the U.S., including Portland, OR, and San Francisco, CA, have clear and prescriptive land use code requirements for what bicycle parking should look like in new buildings. The level of detail far exceeds information currently contained in Seattle’s land use code. In addition, as each city has updated the bicycle parking elements of its land use code, the trend has been to further increase the specificity of these requirements. Officials in these cities found that a higher level of code specificity leads to an increase in the quality and accessibility of the long-term bicycle parking created. In contrast, where a lack of specificity existed, the quality and/or accessibility of the bicycle parking created suffered.

Other cities clearly define bicycle-specific terminology in their land use code, including differentiating long- from short-term bicycle parking. The SMC currently defines short- and long-term bicycle parking only in terms of the length of time the user intends to leave her bicycle parked; four hours or more for long-term parking and less than four hours for short-term parking. However, there are many important physical characteristics that separate long- and short-term bicycle parking, including the amount of security and cover the parking area provides. The length of time a bicycle is parked is one of the least important of these distinctions.

In addition, best practices in bicycle parking are quickly evolving; as the range of the types of people cycling expands, so do the needs of this broader cycling cohort. Code must adapt to these changes to

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279 Terms such as *U Lock*, *cargo bike*, and *bike locker* are not commonly understood by non-cyclists. Our research indicates that such definition sections act as a way to educated developers and architects.
ensure that the needs of people of all abilities and life stages are met. For example, an increasing number of people are using pedal-assist bicycles and cargo bikes to accommodate carrying children and groceries. Both of these types of bicycles are heavier and/or longer than the average bicycle. Such changes directly impact the type of long-term bike parking necessary to appropriately and safely store these bicycles.

Using elements of San Francisco (SF) and Portland’s land use codes as a guide, this policy option would add clear standards to the SMC, aimed at creating high-quality, long-term bicycle parking. Language should include, but not be limited to, the following:

**Clear Quality Standards**

- **Explicit definitions of the purpose and intended use of long-term bike parking** (e.g. commuters, employees, etc.);
- **Define “secure” and “covered,”** elements that make long-term bike parking appropriate for its intended purpose;
- **Include language that encourages long-term bicycle parking to be located on the ground floor of a building and visible from the street.**

**Clear Accessibility Standards**

- **Provide long-term bike parking dimension minimums,** such as height, width, and depth of the rack itself, allowable space between bicycles on the rack, as well as the rack’s distance from the wall, ceiling, and other objects;
- **Highlight the importance of bicycle maneuverability** within the parking area as well as entering and exiting the parking area;
- **Incorporate considerations for accommodating people of all abilities,** some of whom might be using bike trailers or cargo, pedal-assist, or other non-standard bicycles by limiting the number of vertical bike racks allowed (e.g. no more than 30% of required parking) so as to provide parking for those who cannot lift their bicycle;
- **Ensure easy and safe access to long-term bike parking areas** if not located on the ground floor by providing:
  - A service elevator large enough to accommodate bicycles;
  - A ramp of an appropriately-angled grade and width that minimizes conflict with cars;
  - Bike road markings on the floor of the garage or alley way that directs cyclists to the bike parking area, but which may also minimize conflict with cars;
  - A dedicated entrance/separated lane.
- **Requiring signage on the front of the building** and at bike parking entrances to guide cyclists to the parking area, should it not be visible from the street.

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280 In conversations with Portland public officials, we learned that in the city’s upcoming TSP update, PBOT is considering narrowing the definition of secure they use to just in a locked space or locker. They have determined that “in view of a camera” and “in view of a business” are not adequately secure.
Analysis of Outcomes, Tradeoffs, and Uncertainties

Although this option would not impact long-term bicycle parking quantity in commercial buildings, it would certainly increase the quality and accessibility of all future long-term bicycle parking in Center City as well as in the rest of Seattle.

By providing a definition of the intended use along with specific and detailed standards of what well-designed long-term bicycle parking looks like, this option will address the information deficiency we identified among developers, architects, and public officials about the critical features that make long-term bike parking effective and attractive. If such information were outlined clearly in the code, all stakeholders could ensure that a building’s long-term bicycle parking would be easy to find and safe and attractive to use. This option would regulate all commercial buildings going forward, which make it a highly effective policy option with a very high breadth of impact.

In general, developers and architects are supportive of having access to more information about what makes long-term bicycle parking effective. However, when SF updated its bicycle parking code standards in a similar way to this proposed option,\(^{281}\) the development community voiced displeasure with the addition of such a high level of specificity about bike parking. Their concerns centered on the potential for the stifling of design creativity and an added cost burden. Ultimately the code changes moved forward and SF developers and architects have since adapted to these well-defined requirements.

In respect to cost, since bicycle parking is already required for new commercial buildings in Center City, code revision to clarify requirements would add little to no actual cost for affected developers. The reaction of the development community is the area of greatest uncertainty in our assessment of this option. However, since some of the most innovative bike parking designs in the U.S. are being created in Portland and SF (see Figure 13 for an example\(^{282}\)), there is no evidence that providing clear, specific requirements for bicycle parking in the land use code will stifle creativity to the detriment of bicycle parking. To the contrary, public officials from these two cities who were interviewed for this report indicated that their city is moving towards even greater specificity in the code, due to the unintended consequences of having left certain elements undefined. For example, officials in Portland

\(^{281}\) See Chapter 6 for further information on the update.
\(^{282}\) Portland State University, Bike Parking.
reported that the omission of a specific minimum bike rack distance from the wall led to some bike parking being installed in such a way that the end parking spots were too close to walls to be usable. Officials see their upcoming code update as an opportunity to remedy this issue. In addition, this policy option has high administratively feasibility and could be implemented during the current update to the SMC parking requirements.

**Option 2a. Adopt Bicycle Mode-Split Goals for Center City & Tie Bicycle Parking Quantity Requirements to These Goals**

The 2014 Bicycle Master Plan (BMP) outlines a goal to quadruple the number of bicyclists in Seattle between 2014 and 2030. Bicycle parking is a critical element in encouraging individuals to choose to travel to work (and elsewhere) by bike. Therefore, the amount of bicycle parking spaces provided in each commercial building should be sufficient to accommodate the anticipated number of bike commuters arriving at that building on a given work day. Each building should also have enough excess space available to accommodate Seattle’s anticipated growth in ridership. Furthermore, researchers have found that, similar to vehicle parking, bicycle parking should be considered full when it is used at 80% capacity.

Our research indicates that the SMC requirements, which vary by zone throughout the city, are not sufficient to accommodate any growth in some areas. Commute Seattle’s 2014 Center City Commuter Mode Split Survey found that 3.1% of all commute trips into Center City were made by bicycle, yet most commercial buildings are required to accommodate just 3% of building employees - or less in large buildings. Using an average ratio of 1 worker per 151 ft\(^2\) of commercial space, we calculate that the long-term bicycle parking minimums currently required in the land use code for Downtown zones are such that, bicycle parking would be available to 3% of employees in an average office building in Downtown zones, reduced to closer to 2% for larger buildings.

It is difficult to assess exactly how much parking is needed in order to meet future demand without clearly articulated targets. Our research also suggests that it is difficult to convince the development community that bicycle parking quantity requirements should be increased if the need for more bicycle parking is not clearly and numerically articulated.

As mentioned in Chapter 6, Portland’s 2009 Climate Action Plan outlines a goal of increasing the percentage of trips taken by bicycle in the city to 25% by 2030. To help move the city towards this ambitious goal, the director of the Portland Bureau of Transportation (PBOT) pledged to begin this work by articulating a shorter-term goal of 10% bicycle mode-share. From interviews with Portland public officials and consultants, we learned that these mode split targets helped articulate to the development community the need and value of increasing the amount of long-term bicycle parking required. Specifically, we learned that these targets were heavily referenced when Portland’s bicycle parking code was recently updated to include an increase in the number of long-term bicycle parking spaces required in new residential buildings from 1 space required per four dwelling units to 1.5 spaces per dwelling unit. Similarly, in San Francisco’s most recent bicycle parking code overhaul, the resulting ordinance specifically stated that the quantity of bicycle parking required was increasing to meet a minimum of at least 5% of trips generated by bike.

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283 Seattle Department of Transportation, “Seattle Bicycle Master Plan.”
284 “Bicycle Parking in the City Centre: Implementation Fact Sheet.”
285 Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
286 NAIOP, “Changes in Average Square Feet per Worker.”
287 “City of Portland and Multnomah County Climate Action Plan 2009.”
288 Jonathan Maus, “At Summit, PBOT Director Announces New 10% Bike Mode Split Goal.”
289 “Executive Summary: General Plan and Planning Code Amendments for Bicycle Parking.”
As part of its Comprehensive Plan, Seattle has already articulated goals for the percentage of commute trips made by single occupant vehicles (SOV). Adopting a specific target for the number of commute trips made by bicycle would help make the connection between the number of bicycle parking spaces required in commercial buildings and the city’s goals for how to effectively move people through Center City.

Another issue that complicates any strategy for ensuring bicycle parking quantities are sufficient to meet future demand – and support rather than hamper bicycle mode-share – is the changing office worker to square footage ratio. This ratio has been and will likely continue to decrease, meaning that the amount of bike parking spaces available per capita will also decrease over time, resulting in even fewer workers having access to long-term bike parking under current code requirements. Using an adopted mode-split goal alongside per worker square footage ratios to calculate bicycle parking space quantities will allow the city to react to this important trend and ensure that sufficient bicycle parking is created for building workers who who like to cycle to work.

Figure 14: Amount of long-term bike parking created under current SMC requirements as compared to other cities and national bicycle parking guides. Required Office Bike Parking Per 5,000 ft²; Assumes 151 ft² required/employee.
This option would require the City to articulate a specific proportion of commute trips they aim to have made by bicycle over a given time period. This proportional target would then be used to quantify the appropriate amount of bicycle parking that each commercial building should be required to provide, thereby increasing the quantity of long-term bike parking provided in new commercial buildings in Center City. See Figure 14 above for a comparison of code requirements and the corresponding bike mode split outcomes for Seattle and other cities.

**Analysis of Outcomes, Tradeoffs, and Uncertainties**

Depending on the mode split target set, this option has a significant likelihood of greatly increasing the quantity of long-term bicycle parking in Center City. However, this option would not increasing bike parking quality and accessibility.

The primary feasibility issue is the option’s low political feasibility, but there are also administrative challenges. The City of Seattle is redefining its mode split targets for all downtown-bound non-SOV commute trips within the next several months as part of the current Comprehensive Plan update. It does not appear that more detailed mode-split targets for alternate modes will be part of that update. While the Comprehensive Plan is a very appropriate location for bicycle mode-split goals to be added, it may well be too late in the plan update process to add them. The Bicycle Master Plan, a second document where mode split targets could be added, is not being updated at this time. In terms of political feasibility, conversations with public officials in Seattle led us to believe that it is unlikely the city will create mode-specific targets, and that if they were to propose them, it might be difficult to secure buy-in from the development community.

**Option 2b. Extend Urban Center Quantity Requirements to Downtown Zones & Remove Quantity Reduction Clause In Buildings Large Enough to Require Over 50 Spaces**

As discussed above, bicycle parking quantity requirements are not consistently applied throughout Seattle. Though Center City has the highest concentration of jobs and the city’s most frequently visited end destinations (see Figure 7 in Chapter 3), the downtown Urban Center (regulated through the Downtown zones section of the SMC) – which encompasses the greater portion of Center City – has the lowest bicycle parking quantity requirements in the entire city. These low requirements are compounded further by the fact that the SMC enables buildings large enough to require more than 50 bicycle parking spaces to only increase the number of bicycle parking spaces at 50% of the square footage-based quantity requirements once 50 spaces are reached.\(^301\)

In downtown, just one bicycle parking space is required per 5,000 ft\(^2\) of office space,\(^302\) creating enough parking for between 2.3% and 3% of employees in an individual office building, depending on the building’s size (the lower proportion relates to larger buildings that with a square footage threshold that triggers the reduced bicycle parking quantity requirements discussed above\(^303\)). Urban Centers outside

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\(^{302}\) Ibid.

\(^{303}\) Ibid.
of downtown (First Hill/Capitol Hill, Uptown, Northgate, and the University Community) require one space per 2,000 ft² of office space, resulting in enough bicycle parking for 4.5% to 7.6% of employees per office building.

In this option, Seattle would extend the bicycle parking quantity requirements from Urban Centers to the Downtown zones (SMC 23.49) code requirements, and remove the SMC reduction clause for when the number of bicycle parking spaces required exceeds 50 spaces in both sections of the code that regulate bicycle parking (SMC 23.49 and 23.54).

In addition to currently low quantity requirements in the downtown code element, only a very limited number of building uses must provide long-term bicycle parking. Buildings that house restaurants and cinemas, for example, have no long-term bicycle parking minimums in downtown, even though their workers who might want to commute by bicycle.

**Analysis of Outcomes, Tradeoffs, and Uncertainties**

This option would have a wide impact: it would increase the quantity of bicycle parking required in new commercial buildings in much of Center City. However, it would not address quality or accessibility of that bicycle parking. The new quantity requirements would more than double the amount of long-term bicycle parking provided in each new commercial building in downtown (see Table 2, below). This option would provide a first step towards ensuring that Seattle’s densest neighborhoods have sufficient bicycle parking to meet the increasing demand of residents who want to travel by bicycle, both now and in the future.

<table>
<thead>
<tr>
<th>Office Building Square Footage</th>
<th>Long-Term Bike Parking Spaces Requirements</th>
<th>Current Downtown Requirements*</th>
<th>Current Urban Center Requirements*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. Number of Workers*</td>
<td>1 per 5,000 ft²; 0.5 per 5,000 ft² after 50 spaces</td>
<td>2.5 per 5,000 ft²</td>
<td></td>
</tr>
<tr>
<td>5000</td>
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<td>150</td>
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<tr>
<td>% workers with a bike parking space</td>
<td>-</td>
<td>2.3% to 3%</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

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This option is both high politically and administratively feasible. The proposed changes could be implemented during the SMC parking requirements update, which is taking place in the next eight to ten months. Our research revealed that some developers are already providing more long-term bicycle parking in new commercial buildings than the minimums required through the SMC. While it is possible that developers will be less open to increasing quantities because of the additional building area that would need to be dedicated to bicycle parking, it would be difficult for developers to disagree with the logic that downtown, the densest of Seattle’s Urban Centers, should have amounts of long-term bicycle parking required equal to Seattle’s other Urban Centers.

Option 3. Increase Bike Parking Advice in the Seattle Design Guidelines

As discussed in Chapter 4, members of the Design Review Boards (DRB) examine and make design recommendations for private development projects over a certain size. The Design Guidelines documents used in the DRB process are created and updated by DPD and approved by the Seattle City Council (Council). Seattle’s current guidelines include few references to bicycle parking access.

Through our research we identified a variety of bike parking accessibility issues, including the physical location of bike parking within buildings and the ease of approach to that parking. These and similar issues have been addressed in Portland and SF through changes to code requirements. However, in Seattle the Design Guidelines and the extent of the Design Review Process present an additional opportunity to increase bicycle accessibility in new commercial buildings. Interviews elicited some reservations from developers about the over-prescriptively of requirements and their negative impact on creative design. In response, this option provides broad guidance that allows for flexibility of context-sensitive solutions.

In this option, the city would add emphasis into the Design Guidelines about ways to increase accessibility of bicycle parking, including wayfinding and the ease and safety of the approach to long-term bicycle parking. These guidelines could include encouraging (all of equal emphasis):

- Placing long-term bicycle parking at grade where possible;
- The creation of a separate entrance to bicycle storage facilities, such as storage rooms accessed directly from the street;
- (If bicycle parking must be accessed through the parking garage), an access ramps for parking located below ground to be of an appropriate grade (no more than 5°) for comfortable ingress and egress by cyclists of a range of abilities;
- (If bicycle and vehicle parking access must be co-located) parking area driveways and aisles that safely accommodate both cyclists and vehicle drivers, such as with driveway markings (painted lines, or lighting) to delineate that bicycles and cars share the space;
- The use of exterior signage to assist cyclists with locating and accessing parking, irrespective of its location within the building.

Analysis of Outcomes, Tradeoffs, and Uncertainties

The geographic breadth of impact of this option depends on the set of Design Guidelines updated. If information is added to the city-wide Guidelines, this option has the potential to influence bicycle parking accessibility and wayfinding in all new commercial buildings over 50,000 square feet – and smaller commercial buildings in some locations (see table A of 23.41.004 for exact thresholds). If vehicle ramps are often designed too steeply for bicyclists, depending on the placement of the ramp exit.

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307 Seattle Department of Planning and Development, “Design Review Program.”
308 Seattle Department of Planning and Development, “Design Guidelines.”
310 Seattle Department of Planning and Development, “Design Guidelines.”
added to the neighborhood guidelines, the scope of impact is limited to the specific neighborhood. The option will not impact the quantity or quality of the actual parking infrastructure.

Assessing the likely impact of this option on a specific development is challenging due to the nature of the design review process. From the perspective of architects and developers, the design review process is a significant step in the formation of a building’s design. DRB input routinely influences building design revisions because design approval from the DRB is required for permit issuance for any new building under review. However, the design guidelines themselves are a reference document and not a prescriptive checklist of criteria that all buildings must meet. Additionally, the scope of the DRB’s design purview means that improvements to bicycle parking wayfinding and approach design would be one among many elements under review. Furthermore, DRB members themselves are not bicycle parking experts and may not place emphasis during design review meetings on bicycle parking, compared to other elements in the guidelines. Therefore, we estimate that this option alone cannot ensure consistent enforcement of high quality accessibility and wayfinding in new commercial buildings, but will undoubtedly have some positive impact.

Administratively and politically, adding the proposed language to the Design Guidelines is moderately feasible. The guidelines document already exists and contains similar such language. City officials acknowledge that the current guidelines do not address bicycle parking wayfinding and accessibility, and that the qualities recommended here would be useful. However, we learned from city officials that the opportunity to update the guidelines with this language is limited in the short-term. A review of the Design Review Program is currently underway, with completion anticipated by the end of 2015. This review is concerned with the program structure and not the Design Guideline documents though. The latest citywide guidelines were implemented just one year ago after a lengthy process. The appetite to open the guidelines in the short-term is very low; the next update opportunity will likely occur within the next three to five years. Updates take approximately one year to complete, including approval by the City Council.

Changes to the neighborhood guidelines might be a nearer term opportunity, although their impact would obviously be more limited. Neighborhood guidelines, which complement and are used in conjunction with the citywide guidelines, have already been developed for several Seattle neighborhoods. Selecting which neighborhood guidelines are developed or updated is a process influenced by community interest, and the ability or need to dovetail the project with other city led efforts in that neighborhood, such as a neighborhood rezone. Updates to neighborhood Design Guidelines by DPD are preceded by development of an Urban Design Framework. An Urban Design Framework is a collaboratively developed community vision document that informs neighborhood-specific design guidelines.

Option 3: Increase Bike Parking Advice in the Seattle Design Guidelines

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| Feasibility            | Political | High | Administrative | Med |

312 An Urban Design Framework is a collaboratively developed community vision document that informs neighborhood-specific design guidelines.
313 Seattle Department of Planning and Development, “Uptown Urban Design Framework Development.”
Category B: Regulatory Options and Incentives

The following three options are solutions that rely on changes to elements in the SMC which are focused towards incentivizing developers to either provide certain amenities or locate them in a specific area by either exempting the space from floor area calculations or providing additional “bonus” density. If adopted by the City Council, all options would be “optional,” and need to be actively implemented by a developer, so the breadth of impact is tied to the level of interest from the development community.

Option 4. Include high-quality bicycle parking as an optional street-level use in Commercial and Mixed Use Zones (outside of downtown)

Currently, the SMC lists bicycle parking as one of the 12 allowable street-level uses in downtown zones. Specifically, bicycle parking may occupy up to 30% of a commercial building’s street-facing façade (frontage) in downtown zones[^315]. Other allowable street-level uses include retail, art museums, and restaurants. Street-level uses are required in buildings that abut Seattle’s pedestrian designated streets, also known as P Zones[^316] and are encouraged in all other locations. Street-level uses are intended as activating uses, meaning that they are active uses that create and enhance pedestrian-oriented areas.

Whether required or not, space dedicated to designated street level uses is exempt from floor area calculations. This incentivizes developers to include street-level uses, by providing no net loss of buildable floor area in a development. Aesthetic guidance for street-level uses are not currently contained in the code, but this option would add parameters for the bicycle parking created when implemented as a street-level use.

This policy option would expand the locations where bike parking would be an allowable street-level use and encourage the creation of long-term bicycle parking which is easily accessible, and visible, from the street. Specifically, the policy would be expanded to all commercial zones[^317], and the Seattle Mixed zone[^318], so long as bicycle parking provided meets some pre-determined quality standards (see Option 1), and the space is designed in such a way that it effectively activates the street-facade. The existing downtown optional street-level use for bicycle parking should also be revised to ensure that the bicycle parking created effectively activates the space. This could be achieved through requirements that the spaces include windows and visible bicycle repair stations.

Through our research we found that at-grade (first floor) bicycle parking, when provided, is more directly and safely accessible than below grade parking, which is typically collocated in the vehicle parking lot. Visible bicycle parking also emphasizes and normalizes bicycling, which is important in changing culture and behavior.[^319] SF’s municipal code states location preference for bicycle parking at grade (ground floor),[^320] whereas the Seattle code currently encourages parking (regardless of transportation mode) to be provided below grade because anything built below grade is exempt from allowable floor area calculations.[^321]

[^314]: Seattle Department of Planning and Developmen, “Pike / Pine Conservation Overlay District.”
[^316]: P Zones include First, Third and Fifth Avenue in downtown, and Westlake in South Lake Union.
[^318]: As per Seattle Municipal Code: 23.48.004 – Uses, Section D, Required Street-Level Uses.
[^319]: “Bicycle Parking Manual.”
[^320]: City of San Francisco, San Francisco Bicycle Parking Spaces Required, 2013.
[^321]: Seattle Municipal Code: 23.49.011 - Floor Area Ratio, Subsection B: Exemptions and Deductions from FAR Calculations.
**Analysis of Outcomes, Tradeoffs, and Uncertainties**

This option directly addresses accessibility of bicycle parking and, because of the visible nature of the facility, will also likely improve quality due to architects and developers preferring to “show off” good bike parking design. This option, however, will not increase overall quantity, nor improve conditions in relation to ease of use of the actual racks.

Extending the existing street-level use option to additional commercial and mixed use zones has moderate geographic breadth of impact. We also estimate the likelihood of use to be low to medium, based on the reality that building interiors that are both street-level and street-facing are highly valued as rentable retail space. Several of the other, competing street-level uses create rentable spaces. In contrast, bicycle parking is typically thought of as a tenant amenity and, while valuable to tenants, is not typically thought of in terms of returning profit in the same way as monthly rental income. That could change over time though. We interviewed two developers - one in Portland, the other in Seattle - who mentioned that the long-term bike parking in their buildings is being rented out for between $25 and $45 per month. We also learned that many residential buildings and parking garages in New York City are charging $15 and $175 per month respectively for use of secure bike parking.\(^{322}\)

Because this option largely extends an existing provision into additional locations, which provides design specifications around an existing code element we see it as highly administratively feasible. As a choice that a developer can select if they deem it appropriate for a particular development, it is highly politically feasible. However, one additional political consideration is the extent to which long-term bicycle parking fits with Seattle’s vision for its commercial street-level environment, a value judgment that is difficult to assess.

**Option 5. Exempt all interior space used for long-term bicycle parking from allowable building area (FAR) calculations**

As referenced in option 4 above, our research suggests that at-grade (ground floor) bicycle parking, when provided, is more directly and safely accessible than below grade parking, which typically shares space with the vehicle parking lot. This option would incentivize developers to place parking in any location on the ground floor or any above floor, by exempting such space from floor area calculations, so long as it meets predefined bicycle parking quality requirements (see option 1).

In commercial buildings the allowable density - height and bulk of the building - is a function of the floor area and the allowable ratio of that floor area to the building site (the land on which the building is located). For example, a building with an FAR of 10, on a building site of 20,000 square feet has 200,000 square feet of useful floor area.\(^{323}\) In Seattle, amenities located below grade are already not counted toward a building’s total floor area calculation.\(^{324}\) In SF, the land use code also exempts all bicycle

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\(^{322}\) Anonymous, “Request for NYC Bike Parking Information.”

\(^{323}\) Office of the Auditor, “Review of Controls Over Selected Public Benefit Features in Downtown Seattle.”

\(^{324}\) *Seattle Municipal Code: 23.86.007 - Gross Floor Area and Floor Area Ratio Measurement, Subsection A*.
parking from gross floor area and therefore FAR calculation. One Seattle developer interviewed during our research mentioned that a building she recently created received just such an FAR exemption for the building’s at-grade long-term bicycle parking facility at her request for a code variance.

This policy option would eliminate net loss of building space for all space used for long-term bicycle parking, regardless of location, and thereby reducing the financial incentive to place bicycle parking in below-grade parking garages where cyclist accessibility issues are greater.

As discussed above we heard from developers that a building’s first floor space is valuable because it can be leased for retail. We also heard that there are many competing needs for ground level space, such as lobbies, elevators, heavy machinery and delivery entrances. An exemption from floor area calculations would enable developers to recoup some of the revenue lost by foregoing other uses to provide bicycle parking. This exchange would occur through developers being able to build additional space equal to that being used for bicycle parking elsewhere in the building envelope, increasing the area for potentially rentable space.

**Analysis of Outcomes, Tradeoffs, and Uncertainties**

This policy option would improve the quality and accessibility of bike parking, but it would not increase quantity. The breadth of impact of this option is medium because it would be applicable to all new commercial buildings within Center City, although not guaranteed to be used by developers. This option provides flexibility to place bicycle parking in any location within the building. That said, the cost-benefit tradeoff for the best use of at-grade space is not easily generalizable, making it difficult to assess the likelihood that this option will be attractive enough to developers to be implemented. Some developers we interviewed suggested that it can be difficult to secure retail tenants and that using the ground floor as a tenant amenity could be the best use in some buildings. Others cautioned that retail is highly lucrative and questioned whether the exemption, or “trade,” of one square foot of at-grade for an equal amount of above-grade space would be a strong enough financial incentive because of the high value of ground floor space over the remaining rentable area. We also heard that due to the number of uses required on the ground level buildings with a smaller footprint may not be physically able to take advantage of the incentive.

An additional consideration brought to our attention in interviews is whether there is a need for such an incentive in the long-term, or whether this kind of incentive is appropriate for locations where below grade parking is not generally provided, such as Pioneer Square. As the tenant market become accepting of renting office space where no vehicle parking is provided (vehicle parking is not currently required by code in any part of Center City), new buildings will not be constructed with expensive below grade parking garages. Thus, bicycle parking, which is required in all location in Center City, will be routinely located at-grade. Yet, interviews indicated that Seattle is far from such a reality and that many

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325 City of San Francisco, *San Francisco Planning Code - Section 102: Definitions Floor Area, Gross.*

326 Seattle Department of Planning and Development, “Seattle’s Commercial Zones.”
developers, especially in South Lake Union, are already providing parking beyond what code
requirements allow (due to code maximums).

Administratively, this option would be straightforward to implement because it would only require an
amendment in the SMC where exemptions for other uses already exist in the code. DPD is currently
reviewing and potentially updating the bicycle parking code. Our analysis, therefore, suggests high
political feasibility for this option based on the existence of other exemptions, and the existence of this
same code language in other cities.

Option 6. Offer a density bonus for buildings that provide 110% of required long-term
bicycle parking and other end of trip facilities (showers and lockers)

As mentioned in Chapter 3, other tenant amenities in addition to bicycle parking - such as showers and
lockers - are also important end-of-trip facilities for bicycle commuters. As stated above, the required long-term bicycle parking
quantities in the SMC are only sufficient to provide bike parking for roughly 3% of downtown employees, a
marginally lower amount than the 3.1% of commuters who currently commute by bicycle to Center City. These quantities provide no capacity for bicycle mode-split growth.

This option would incentivize developers to provide a more holistic suite of bicycle end-of-trip facilities
for their tenants, encouraging them to go above current minimum code requirements. In return,
developers would receive a density bonus (additional allowable building square footage) for every
square foot of bicycle end-of-trip amenity that exceeds code minimum requirements for that building
(i.e. additional long-term bicycle parking, and shower and locker facilities in buildings smaller than
250,000 square feet). The bonusable amenities should be of the highest possible standards and should
include ample dressing space, clothes drying racks, and hair dryers. This option would set a high enough
bonus ratio so that developers would in fact be incentivized to use it; meaning that the return in extra
floor area is at least equal in value to the shower and locker infrastructure investment made. All new
commercial buildings would be eligible to take advantage of this incentive.

Through our comparative cities research, we learned that the City of Portland instituted a 40:1 FAR
bonus for this exact suite of amenities in 1996. That density bonus is structured in such a way that it
can be used in new buildings as well as those being renovated. It does not prescribe specific quantities
or square footage of any particular type of amenity, but requires showers, a dressing area, and lockers,
plus the additional 10% above required parking quantities. The Portland bonus is considered a public
benefit because locker rooms encourage increased cycling and with it community-wide health, traffic,
and environmental benefits. The incentive has been used around 13 times in the past 18 years. The
city code does not otherwise require showers and lockers to be provided in buildings. A City of Portland
analysis conducted in 2001 states that “discussions with private sector users suggest that this option is
now considered for projects where it may not be a great fit, including residential projects. Many agreed

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329 Commute Seattle, “2014 Center City Commuter Mode Split Survey Survey Results.”
331 City of Portland, Locker Room Bonus Option.
332 Johnson Gardner, LLC, “Evaluation of Entitlement Bonus and Transfer Programs.”
333 Ibid.
that new commercial projects will likely provide a locker facility of some type, however likely not to the standard specified for this bonus, and not with additional bike parking.” This comment speaks to the importance of limiting the bonus to commercial buildings and ensuring that the required facilities are of the highest possible quality standards, which are elements of the option proposed here.

In contrast, SF requires specific quantities of showers and lockers based on a building’s square footage, similar to how code specifies amounts of long-term bicycle parking. At a minimum, SF requires one shower and six clothes lockers where a building’s occupied floor area exceeds 10,000 ft\(^2\). As building size increases, so do the requirements.

**Analysis of Outcomes and Tradeoffs**

This option will improve cyclists’ overall “end-of-trip” experience. This option increases bicycle parking quantity through the additional parking component (110% of the amount required in the code is required). However, the quality and accessibility of the parking itself is not addressed. We estimate the breadth of impact of this option to be high, since the incentive would be open to all commercial buildings, both new and renovating, in Center City. However, the extent to which developers choose to use the incentive is wholly tied to the bonus ratio. Identifying the appropriate ratio requires an economic analysis of the cost of installing shower and locker infrastructure, and the value of additional rentable space created through the bonus. However, if we assume that the ratio set would ensure that the net value of providing the bonusable amenities is marginally positive, we anticipate some use of this incentive - especially by developers targeting tech-industry tenants who, as we learned in developer interviews, are increasingly demanding such amenities. Furthermore, as the financial benefit (through an increase in the bonus density) increases, we can assume that the numbers of developers taking advantage of this incentive will also increase.

Administratively, this option would be complicated to implement. The current Seattle Incentive Zoning Program is itself quite complicated and specific bonusable amenities differ by zone - although they are limited to designated incentive zones (see Chapter 4), which include downtown, South Lake Union and areas around high capacity transit stations. Functionally, the bonus could be added to the general incentive zoning code provisions for all incentive zones, using a structure similar to that of the density bonus for open space amenities. The open space amenities incentive provides developers with specific bonus density for providing one or more amenities from a predefined list, such as green space setbacks and green street amenities. The open space incentive is based on the premise that “amenities, including public open space, are an important aspect of livability in areas targeted in the Comprehensive Plan for concentrated housing and employment growth...developments that add density will increase

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334 Ibid.
335 City of San Francisco, *Requirements for Shower Facilities and Lockers*.
336 We do not explicitly recommend a specific ratio as part of this option. The depth of analysis needed to assess an appropriate density bonus ratio was beyond the scope of this research project.
337 City of Seattle, “Incentive Zoning Overview.”
demand for public open space. If additional public open space is voluntarily provided to offset additional demand, the impacts on available open space resources will be mitigated.\textsuperscript{339}

The political feasibility of this option is also low for several reasons. First, a new precedent for providing a bonus for tenant amenities in Seattle would be set. Bonus incentives are a valuable mechanism for municipalities to encourage private investment in infrastructure that benefits the public, which the private market may not otherwise create. Currently, on-site amenities such as plazas, open space, and transit entrances are all open to the public. Thus, the “public loss” of undeveloped land is traded for publicly accessible amenities, which have increasing public value as urban areas develop. However, the argument does exist, and is the foundation of the Portland bicycle infrastructure bonus, that decreasing barriers to bicycling has positive social externalities, including reduced traffic congestion, and overall improved environmental health.\textsuperscript{340}

A second political consideration is the impact on the existing bonus structure of adding an additional bonusable on-site amenity. The current structure of the Seattle incentive zoning program is highly slanted towards encouraging provision of affordable housing and affordable child-care facilities. The majority of possible additional commercial density must be “earned” through provision of housing and child-care facilities. The remaining 25% - 40% of density can be earned through on-site amenities,\textsuperscript{341} such as public plazas in some locations (downtown). Adding bicycle infrastructure as an additional bonusable feature would diminish the positive impact that could be gained for the other on-site amenities, which Seattle has already prioritized. Supporters of existing bonus features would likely not be supportive of the reduced emphasis on existing bonuses which is inherent in adding a further bonus, irrespective of the actual bonus structure. One final consideration is that if bonus capacity, which is currently dedicated to affordable housing, is ever changed, it would create an opportunity for the city to incentivize other important amenities. However, there are many interests eager to apply bonus density to various amenities.

The implementation timeline of this option is challenging to ascertain. While a code amendment is an 8 to 10 month process, the complexity and necessity of commissioning an economic analysis to assess an appropriate ratio would increase that timeline. Furthermore, the city is looking at the Incentive Zoning Program right now. Specifically, the affordable housing incentive is under discussion.

\textit{Uncertainties}

Several uncertainties confound this issue, clouding our ability to clearly assess the need for this incentive. We understand from interviews that there is growing market demand for bicycle end-of-trip amenities, including bicycle parking and showers and lockers facilities, especially from high-tech tenants seeking Class A commercial office space.\textsuperscript{342} But without further data collection, it is difficult to know the extent to which the market is already automatically responding to demand. For example, to what extent are bicycle end-of-trip amenities already being provided as a standard in new commercial buildings? Will this increasing high-tech tenant demand for end-of-trip bike amenities bleed over into commercial buildings of all sizes and classes, or will it result in a division between the quality of bike parking and other end-of-trip amenities provided in large, Class A buildings and other lower class buildings? What are the long-term equity implications if this is the case?

Our research uncovered a growing trend toward private entities charging for access to centralized long-term bicycle parking, showers, and/or lockers in New York, Portland, and Seattle. The extent to which

\textsuperscript{339} Ibid.
\textsuperscript{340} "The Hidden Health Costs of Transportation."
\textsuperscript{341} Seattle Office of Housing, “Incentive Overview.”
\textsuperscript{342} Class A is the highest quality building.
the private market is already providing shower and locker facilities in Seattle was not fully explored during this study, nor in the Commute Seattle facility inventory. Therefore, the extent of the need to incentivize developers to include this amenity is unknown, but is clearly connected to the extent to which the private market is already meeting demand.

Interviews with developers impressed upon us the competitive nature of the real estate market. Based on this, we estimate that even a temporary incentive to improve bicycle end-of-trip facilities in new buildings could increase the quality precedent within the market such that other future developments would be under pressure to match that level of amenities. Thus, this option could result in higher quality amenities as a developer feels market pressure to match the amenities of her peers.

Finally, because of the complexity of Seattle’s incentive bonus structure, coupled with the complexity of allowable commercial building density and height limits in the SMC, some developers we spoke with expressed concern that this option’s structure would inherently be skewed to benefit only larger buildings within downtown, exacerbating the uneven supply of end-of-trip facilities identified in the Commute Seattle inventory.343

Category C: Provide Information

The biggest single barrier to high-quality bicycle parking in Seattle is the lack of information about bicycle parking best practices among the individuals responsible for designing, installing, inspecting, and funding that long-term bicycle parking. Every developer and architect we talked with was hungry for more information about bicycle parking; primarily because the tenants that developers hope to attract or retain expect this amenity. To meet this latent need, we analyze two options below: one consisting of the creation of shared “static” information, in the form of a bicycle parking design best practices document and/or web-based list of approved bicycle vendors; the other consisting of “active” information, meaning information provided through presentations to industry trade groups or direct, hands-on technical assistance.

Option 7a. Provide More Static Long-term Bicycle Parking Best Practices Information:

- Create a bicycle parking design best practices document
- Create and maintain a list of approved bicycle vendors online

Create a bicycle parking design best practices document

Bicycle-friendly cities such as San Francisco,344 Portland, and Toronto345 as well as public agencies like the Lane Transit District in Oregon,346 develop and publish bicycle parking best practice documents. The documents reiterate and build on information provided in the land use code. They contain sample bicycle parking structure layouts and easy to understand information about the intended users of the parking and user needs, in addition to design and rack selection considerations.

To implement this option, knowledgeable staff would research and compile long-term bicycle parking design best practices and create a document that could be shared with developers, architects, property managers, planners, and building inspectors alike. This design standards guide could be based off the

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343 Commute Seattle, “2010 Center City Bicycle Amenity Inventory Final Report.”
344 City of San Francisco, “Bicycle Parking Requirements: Design and Layout.”
345 City of Toronto, “Guidelines for the Design and Management of Bicycle Parking.”
346 Alta Planning & Design, “Regional Bike Parking Study.”
national APBP bike parking standards and other national and international guidelines, as well as documents already created by other cities. The document would not be a part of the code, but may be referenced in the land use code, or other city documents, such as the TMP Directors Rule, and city web pages. As a stand-alone document, it could be updated regularly to reflect the latest bicycle parking design standards, without requiring lengthy legislative approval.

**Create and maintain a list of approved bicycle vendors online**

The Portland Bureau of Transportation maintains a list of bike parking vendors. A Seattle agency or department such as Commute Seattle or SDOT could create and maintain a similar list of long-term bicycle parking vendors whose products meet a set of predefined standards. This information would connect developers, architects, property managers, and planners with bicycle parking experts as required, and will provide developers with assurance that the racks would meet the needs of their tenants.

**Analysis of Outcomes, Tradeoffs, and Uncertainties**

The provision of static information option will not increase the quantity of bike parking created but our research suggests that either version of this option would be widely utilized and would therefore have a broad impact on the quality and accessibility of the Seattle design and development community’s implementation of long-term bicycle parking.

Either option would provide more clear information about bike parking quality and accessibility best practices, and could be easily referenced by decision makers. However, documents would be for reference only, with no guarantee or requirement that developers would follow this guidance. We estimate cost of infrastructure as the biggest barrier to use. For example, while long-term bicycle parking is very low-cost in comparison to other aspects of a building’s design, costs do vary between low and high-quality parking. Some developers may not perceive the additional cost for high-quality bicycle parking to be “worth” the investment. Thus, the primary uncertainty of this option is the extent to which the design community would actually make use of the resources created. In addition, depending on who would create and manage these documents, the cost is uncertain.

Since creating this information would not require any legislative action or formally require any action on the part of developers, the political feasibility of implementing either option is high. Administrative feasibility will vary, depending on which agency took on the responsibility of creating and/or funding the creation of these documents.

**Option 7b. Provide Information Via Direct Assistance and/or Presentations**

This option could take the form of a consultant, such as Commute Seattle, providing low-cost technical assistance to developers regarding site-specific bicycle parking opportunities during the building design phase. Go Lloyd, the TMA in Portland’s Lloyd District, has used this strategy successfully. Such

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349. “Bicycle Rack Manufacturers.”
information could also be disseminated through presentations to the American Institute of Architects (AIA), the local NAIOP chapter (the Commercial Real Estate Development Association), Seattle’s Design Review Boards, or other industry trade groups. The type of information provided could include sharing contemporary studies that show evidence of the increasing market demand for high-quality bike parking and other end-of-trip facilities, or the newest trends in efficient bike parking design.

Analysis of Outcomes, Tradeoffs, and Uncertainties

Many of the benefits and uncertainties, related to this option are similar to those of the “static” information option. In summary, while this option would provide developers and architects with increased specificity about bike parking quality and accessibility best practices, the extent to which the information will be used to improve bicycle parking is uncertain.

Compared to static information, the active information would likely reach fewer people, since it would not be available online, or available at any time. Instead, it would require an individual developer, architect, or property manager to seek out the presentation or consultant service. That said, because information will be tailored to a specific development it will likely be seen as more useful and have more of an impact. There is some opportunity cost for developers and architects to attend a presentation about bike parking. These individuals have incredibly busy schedules and may not make the time to attend a presentation or reach out to a consultant for help with their long-term bike parking room layout. Because of the increased effort required (by either the agency providing the information, or those seeking it) we see this option as having a medium impact on improving bicycle parking.

As with the static information option, this active version does not directly address bike parking quantity. Depending on the presentation content, a discussion and recommendation of providing an appropriate level of bicycle parking above minimum code requirements could take place. However, it is unlikely that this would influence uniform increases in bicycle parking. Because this option does not currently have a funding source and would be time-intensive we see this option as having low administrative feasibility.

Category D: Further Research

Option 8. Collect More Robust Data About the Current State of Long-term Bicycle Parking and other End-of-Trip Facilities

During our research, we identified key gaps in information regarding the state of long-term bicycle parking in Seattle’s Center City. The 2010 Commute Seattle Bicycle Facility Inventory provides some information about the quality, quantity, and accessibility of long-term bicycle parking in commercial buildings in Center City. This data was useful in understanding the extent and nature of the problem that our report recommendations aim to remedy. However, details in the data are limited. For example, the Seattle land use code was changed in 2006 to require bicycle parking in all commercial buildings. With the current level of data it is not possible

\[351 \text{ Seattle Municipal Code: 23.49.019 - Parking Quantity, Location, and Access Requirements..., Subsection E: Bicycle Parking.}\]
to ascertain the impact of that code change. Data that can correlate trends in quantity, quality, and accessibility to specific iterations of the code are a valuable asset in ensuring that future code updates respond to current implementation deficiencies.

In our other-cities research we identified that both SF and Portland have methods to track bicycle parking implementation, and see it as a key element that informs future code updates. For example, the TMA in Portland’s Lloyd District conducts periodic bicycle amenity inventories similar to Commute Seattle. In SF, the city uses periodic capacity counts at bicycle parking in city-owned buildings to measure whether rack capacity is sufficient, and code quantities should be revised. We learned that having a measure of current state is important to be able to make informed decisions for the future.

Data will provide a greater understanding about any distribution and quality issues related to these important amenities that could then be addressed through future code changes. One additional opportunity that we identified in our research is for the level and categories of data collected to be able to track trends in bicycle parking that would be useful to other developers. We know from interviews that real estate supply and demand are highly competitive, with both tenants and tenant brokers on the demand side seeking the best possible amenities, and developers on the supply side seeking to provide the same level of amenities as competing buildings. Increased information about the types of facilities being built - including the extent of amenities and the location of bicycle parking (at or below grade) - is useful information for all agents in the private market.

This option would involve SDOT expanding upon Commute Seattle’s 2010 inventory and collecting the following specific data about each commercial building in the study: *(all are data categories are valuable but each of two below groupings are generally ordered from highest priority, should only some data collection be possible)*

- **Bicycle-amenity related:**
  - Measure accessibility (street to rack navigation) of bicycle parking in as much detail as the quality of the parking.
  - End-of-trip facilities provided (i.e. showers and lockers, clothes drying facilities); their location’ and whether they are stand-alone or part of a tenant fitness center.
  - Where the bicycle parking is located (at-, above-, or below-grade)
  - Entrance type & location (separate or integrated with garage, entrance on street facade or alley)
  - Whether building management allows bicycles to be brought into the building
  - Whether the building has a service elevator large enough to accommodate bicycles

- **More detailed building information:**
  - Year vested (critical to knowing what version of the code was used)
  - Year built (if year vested information not available)
  - Rentable square footage
  - Square footage rental rate of at- and below-grade spaces (to compare the economic value of bike parking to developers)
  - Primary tenant industry
  - Building class (class A, B, C, etc.)

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**Analysis of Outcomes, Tradeoffs, and Uncertainties**

This option will not directly affect the supply of high-quality, accessible bicycle parking in terms of quantity, quality, or accessibility. However, data is a valuable resource that could improve bicycle parking conditions in the future and help target future code requirements and incentives and holds the potential for significant long-term impact.

This option is moderately administratively feasible, recognizing that staff capacity at whichever agency conduct data collection may be limited. The next Commute Seattle facility inventory is scheduled for summer 2015 and it is possible that some of this information could be gathered almost immediately. Regardless of which agency carries out the work, some funding would need to be secured to conduct the data collection and analyze the data meaningfully. An additional consideration is the possibility that developers would not agree to share this level of additional information. Finally, we estimate that this option has high political feasibility as it focuses on providing clear information upon which to base code updates.

| **Option 8. Collect More Robust Data About Long-term Bicycle Parking in Center City** |
|-----------------|-----------------|
| **Effectiveness** | **Feasibility** |
| Quantity        | +               |
| Quality         | +               |
| Accessibility   | +               |
| Breadth of Impact | High            |
| Political       | High            |
| Administrative  | Medium          |
Chapter 10. Recommendations and Next Steps

This chapter:
- Outlines our recommendations and our suggested next steps.

Summary of Key Research Findings
While bicycle parking is an essential end-of-trip amenity and long-term bicycle parking is a requirement in all of Center City’s new commercial buildings, Seattle’s regulatory environment is not creating the appropriate amount of bicycle parking, or a high enough level of quality and accessibility. Increasing interest in bicycling as a mode transportation along with a surge in young, physically active workers moving to the city are fueling an increase in market demand for bicycle parking in Seattle. Developers are responding to this market demand but lack information and motivation to provide a sufficient amount of the highest quality and most accessible bicycle parking to meet the demands of cyclists.

Policy Recommendations
In order to improve the quantity, quality, and accessibility of long-term bicycle parking in Seattle’s Center City, we recommend simultaneous implementation of many of the options analyzed in the previous chapter. As stated earlier, no single policy option we evaluated will solve all aspects of the problem. We have organized our policy options based on their effectiveness (how likely they are to be implemented and to meet our goals to improve bike parking quality, quantity, and accessibility) and feasibility (how easily and swiftly could they be implemented from a political and administrative perspective).

Tier 1: Highly Effective & Highly Feasible – Implement Now
Five of the options we analyzed should be implemented immediately because they have a very high likelihood of improving the quantity, quality, and accessibility of bike parking in Center City and are highly feasible.

Recommendation – Implement the following Tier 1 Options immediately:
- Clearly define bicycle parking standards and specifications in Seattle’s land use code;
- Extend Urban Center quantity requirements to the downtown Urban Center and remove quantity reduction clause in buildings large enough to require over 50 bike parking spaces;
- Provide developers with centralized information about bicycle parking best practices;
- Exempt interior space used for bicycle parking from building size calculations;
- Collect more information about existing long-term bicycle parking and other end-of-trip facilities in Center City commercial buildings.

Clearly Define Long-Term Bicycle Parking Specifications in the SMC (Option 1, page 59)
The addition of such specifications would expand the level of information in the SMC regarding the quality and accessibility expectations of long-term bicycle parking. It would bring Seattle more in line with cities like Portland and San Francisco in terms of specificity. It would meet developer needs of additional information about expectations. This code change could be made during the current update.

Extend Urban Center Quantity Requirements to Downtown Zones & Remove Quantity Reduction Clause In Buildings Large Enough to Require Over 50 Spaces (Option 2b, page 64)
This option would increase the number of bicycle parking spaces in a building to be consistent with Seattle’s other Urban Center requirements. This would create some capacity for mode-split growth. A second
component of this option would be to eliminate the ratio reduction for buildings big enough to require over 50 parking spaces, recognizing that large buildings need at-least the same amount of per worker access to bicycle parking as smaller buildings. This code change could be made during the current update.

Provide Static Information About Long-term Bicycle Parking Best Practices/Approved Vendors (Option 7a, page 74)
This solution would complement the additional information in the SMC (Option 1) by providing a more comprehensive and more accessibly written, online document or webpage, which developers and architects can use as a resource to ensure that bicycle parking meets usability criteria demanded by their tenants. A second section would list approved vendors of bicycle racks. The document would address both quality and accessibility issues. As above, change would bring Seattle more in line with cities like Portland and San Francisco. It would meet developers’ need for additional information about quality and accessibility expectations. SDOT, DPD, or Commute Seattle could reasonably implement this solution once funding is allocated.

Exempt All Interior Space Used For Long-Term Bicycle Parking From Building Area Calculations (Option 5, page 69)
This solution would incentivize developers to locate bicycle parking above grade, in a location that would be separate from (below ground) vehicle parking, and therefore easier and safer to access. We heard from developers that financial bottom line is incredibly important and that the ability to choose the location of amenities based on the unique character of a building is important. This option has already been implemented in San Francisco. This code change could be made during the current update.

Develop a More Robust Dataset About the Current State of Bicycle Parking and Other Bicycle End-of-Trip Amenities (Option 8, page 76)
This information will create a better understanding of the current state of bicycle parking in Center City, and be useful in identifying gaps in parking in specific building types and ages. Data is needed to analyze what other regulations or incentives could further improve the state of long-term bike parking in Center City. Commute Seattle is conducting an inventory this summer.

Tier 2: Highly Effective & Moderately Feasible – Build Support, Then Implement
Two of the options we analyzed have a high likelihood of improving the quantity, quality, and accessibility of bike parking in Center City, but they are slightly less politically or administratively feasible in the immediate term. While we believe these options should be implemented as soon as possible, we recognize that broad support for these options must first be built.

Recommendation – Build support for the following Tier 2 Options:
- Increase bike parking quantities, based on clearly defined bicycle mode-split goals;
- Add bicycle parking accessibility information to Seattle’s Design Guidelines.

Adopt Bicycle Mode-Split Goals and Use Them To Update Bike Parking Requirements (Option 2a, page 62)
This solution would methodically connect and articulate the city’s transportation vision to a clear measurable bicycle mode-split goal and ensure sufficient bicycle parking capacity to support that vision.
This is the single option that we identified and analyzed that will reliably increase the number of long-term bicycle parking spaces and be able to meet future demand. This option reflects efforts undertaken periodically by other cities, including San Francisco and Portland, to revise bicycle parking quantity requirements. Because of the additional cost to developers, we anticipate some resistance to this option. The implementation of this policy may require coalition building to garner sufficient support and build understanding about the importance of creating sufficient bicycle parking to meet long-term demand. As a first step, we recommend that the city adopt bicycle mode-split goals as soon as is feasible; through the current Comprehensive Plan update, if possible. Alternatively, the city could use its stated goal of quadrupling bicycle mode-split by 2035 to extrapolate required parking to meet that goal and review the bicycle parking quantities during the current code update.

**Increase Bicycle Accessibility Advice in the Seattle Design Guidelines (Option 3, page 66)**

Highlighting the importance of bicycle parking accessibility through the Design Guidelines will improve accessibility. This solution is complementary to providing additional accessibility information through the SMC as well as through a separate document or web page, both of which are Tier 1 Options. While some neighborhood guidelines are being updated this year, as well as on a continuing rolling cycle, the highest impact and most appropriate document is the citywide Seattle Design Guidelines. Building support for such changes, which is already seen as a burdensome process by some developers, is important to ensuring this change will be accepted during the next Design Guidelines update. This option should be implemented during the next update to the Seattle Design Guidelines, which will likely occur in the next 3 to 5 years.

**Tier 3: Moderately Effective & Feasible – Evaluate**

Two of the options we assessed are likely to have some impact on improving the quantity, quality, and accessibility of bike parking in new commercial buildings in Center City, but we believe they would be less effective than the other options we considered and recommend as Tier 1. We recommend gathering further information before moving forward with these options until more impactful options are implemented.

**Recommendation – Monitor impacts of Tier 1 options and continue to evaluate the need for the following Tier 3 Options:**
- Add long-term bike parking as an optional street-level use outside of downtown;
- Provide technical assistance to private stakeholders.

**Designate Bicycle Parking as an Optional Street-Level Use in Commercial and Mixed-Use Zones (Option 4, page 68)**

This option would make it easier for developers to choose to locate bicycle parking within the street-facing, ground-level interior of their building. Bicycle parking located in, and accessed through, the street facing ground floor will be safe and easy to access. This option is similar to the tier 1 option to exempt all interior space used for long-term bicycle parking from building area calculations. We estimate less impact from this option due to fewer developers taking advantage of the option. It has a higher opportunity cost than the general exemption because the range of other street-level uses includes several which generate rental revenue, or more effectively activate the space. We see this as administratively feasible during the

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353 Puget Sound Regional Council, “Growth Targets and Mode Split Goals for Regional Centers.”
current code update. However, the policy question of whether long-term bicycle parking is an appropriate street facing use, which sufficiently activates pedestrian thoroughfares, is more ambiguous.

**Provide Technical Assistance to Developers, Architects, and Others Regarding Bicycle Parking Best Practices (Option 7b, page 76)**

This option would provide project-specific, interactive information to developers and architects. Providing technical assistance to these professionals on specific projects, and giving presentations to groups of individuals who routinely influence the supply of bicycle parking, about the importance and physical components of excellent bicycle parking, will have a high impact on quality and accessibility. The efforts may also serve as a catalyst for building momentum about improving long-term bicycle parking for everyone in the city. However, this option is also incredibly resource-intensive. Ongoing staff resources, with specialized knowledge of bicycle parking best practices, would be required. Commute Seattle is the most appropriate organization to take on this responsibility, due to its current work program scope and client base. We see funding as a significant barrier to the viability of this option.

**Tier 4: Uncertain Effectiveness & Feasibility – Evaluate**

We recommend moving forward with the Tier 4 option only once more detailed data collection and analysis can be used to further assess this option. Offering a density bonus for providing bicycle end-of-trip facilities has significant uncertainties, as discussed in Chapter 9. Because the additional data collected as a recommended tier 1 solution are likely to address some of these uncertainties, we recommend using that new data to further analyze this option and consider the uncertainties.

**Recommendation – Collect more information and further evaluate:**

- Offer a density bonus in exchange for bicycle parking end-of-trip facilities in new buildings.

**Offer a Density Bonus for Commercial Buildings That Provide 110% of Required Long-Term Bicycle Parking as well as Showers and Day-Use Lockers (Option 6, page 71)**

This option could incentivize developers to provide a full suite of bicycle end-of-trip facilities (110% of parking; showers and day-use lockers). It has the potential to be a powerful tool to encourage the creation of a full suite of bicycle end-of-trip amenities in a wide range of buildings. However, without additional data about the types of buildings already providing such amenities (which we recommend be collected), it is not possible to assess the need for this option in Seattle. In addition, because Seattle’s incentive zoning structure is so complex, and the appeal of particular incentives so tied to the bonus ratio and the location of a particular building, it is difficult to assess how often such an incentive would be used. Based on our research in other cities, it is highly likely that this type of incentive would not be widely used in Seattle. We, therefore, recommend that two action items precede decision. First, more detailed data should be collected about the types and sizes of buildings already providing such amenities (and whether they are stand-alone amenities or part of an on-site gym facility) to help assess the need. Second, the city should commission an economic study to ensure that the bonus ratio is set at an appropriate level to create some financial incentive to developers without the loss of an unjustly high amount of density in return.

**Next Steps**

1. We recommend focusing immediate-term efforts towards implementing tier 1 solutions. Collect additional data (Tier 1 solution) to assess where further regulatory changes are needed. Work with DPD staff to ensure that the current parking code update incorporates the changes recommended here.
2. **Develop support for Tier 2 solutions by engaging stakeholders in a conversation about the importance of this work and taking advantage of policy windows as they arise.**

3. **We also recommend further research** into ways to address the shortage of long-term bicycle parking in existing Center City commercial buildings. A number of options to influence the supply of bicycle parking in *existing buildings* arose during stakeholder interviews and our literature review. A list of solutions which seem worthy of further study for a variety of reasons but which we did not fully analyze, are contained in the following chapter. A second list of areas for further research, also contained in the following chapter, have potential to improve bicycle end-of-trip facilities in *new buildings in Seattle*, but were slightly beyond the scope of this paper.
Chapter 11. Areas for Further Research

During the course of our research we encountered a plethora of ideas about how to improve the state of bicycle end-of-trip facilities, including bicycle parking, in Seattle. Many ideas were tangential to our central focus of bicycle parking in new commercial buildings in Center City, but are worthy of exploration because of their synergy with our projects’ overall goal of ensuring that each prospective commuter cyclist has a safe, secure, and attractive bicycle parking space at her end destination. Ideas that appeared to merit further research are categorized and listed below. The level of detail varies among options but is not necessarily reflective of merit. We sincerely hope that these ideas are brought to life and complement the solutions posed through our research in order to improve bicycle end-of-trip facilities in Seattle.

Potential for Both Existing and New Buildings

Strengthen & Renegotiate Bicycle Amenities in Transportation Management Plans (TMPs)
As discussed in Chapter 5, TMPs can include additional requirements above base code, including additional bicycle amenities, as a way of mitigating transportation impacts of large buildings. TMPs hold promise in addressing bicycle amenities in existing buildings. However, while TMP requirements are highly enforceable during building development, once the building is occupied, the enforceability of the specific elements of the TMP is very limited. TMPs could be strengthened first and foremost by requiring bicycle parking and other end-of-trip facilities. In addition, TMPs could ensure that a greater quantity and higher level of accessibility and quality of long-term bicycle parking is met in new buildings with TMPs than required by the Seattle Municipal Code (SMC).

Potential for Existing Buildings

Require Commercial Buildings Undergoing Substantial Renovations to Comply with Bicycle Parking Code Standards
This option would require buildings undergoing substantial renovations to comply with bicycle parking requirements in the SMC. One critical factor when considering whether to renovate a building in Seattle is whether the planned updates will trigger what is termed as a “substantial” renovation. This trigger is one way that the city influences existing buildings to improve energy performance and add newer health and safety buildings requirements that were not in place during initial construction. This option would add bicycle parking to the list of items that must be brought into compliance for any building undergoing a substantial renovation.

Analysis
This policy would increase the number of buildings in Center City with long-term bicycle parking. Because this policy would add a requirement to the code updates that are already triggered during substantial renovation projects, there would be some cost to developers to implementing this policy option. Therefore, this policy may require coalition building to garner sufficient support and build understanding about the importance of long-term bicycle parking infrastructure in all buildings.

From a political feasibility perspective, developers are likely to be concerned that adding another compliance element during a substantial building renovation would add additional cost and may lead to more buildings being completely torn down instead of renovated. However, we know that bicycle

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354 We heard this argument from multiple developers when we discussed this option during our interviews.
parking is very low cost, and the central issue is the opportunity cost of the space dedicated to bicycle parking – especially if the building does not contain below ground parking – rather than the cost of the bicycle parking itself.

**Require Existing Buildings to Allow Bicycle Storage in Work Areas When No Long-Term Bicycle Parking is Provided**

Require existing buildings that have freight elevators, but no long-term bicycle parking, to allow bicycle commuters to bring their bicycles inside the building until such time that adequate long-term bicycle parking has been installed. A variety of similar versions of this policy have been implemented in cities like New York\textsuperscript{355} 356 and San Francisco,\textsuperscript{357} with varying levels of success.

**Rebate for Long-term Parking Infrastructure in Existing Buildings**

In order to incentivize property owners and managers to add bicycle parking to their building, the city or another entity could provide a rebate for the cost of installing long-term bike parking. The Go Lloyd TMA in Portland’s Lloyd District has a bike rack-purchasing program funded through parking meter revenue, Business Improvement District revenue, and grants. However, given that bicycle parking itself is relatively inexpensive, the amount of work a developer might need to go through in order to apply for that free bike parking might not be worth that property manager’s time.

**Shared Parking Facilities or Agreements**

Encourage shared bicycle-parking negotiations between existing and new buildings. In order to assess the viability of this option, research would need to be conducted to identify opportunities to leverage available long-term bike parking so that tenants of older buildings which many not be easily retrofitted with secure, covered bike parking have a secure, covered space to leave their bicycle. An entity such as Commute Seattle could assist in brokering negotiations between buildings.

**Additional Potential Regulatory Options For New Buildings**

**Emphasize Bicycle Amenities in Street Right-of-Way Vacation Negotiations**

The Seattle Department of Transportation (SDOT) is involved in negotiating the terms of street vacations, many of which are currently occurring in the South Lake Union neighborhood. Large commercial developments that span multiple street blocks are requesting to take private ownership of the public alleyways that divide the blocks. Such negotiations involve public benefit amenities provided by the developer in return for the loss of public access to the alleyway. Are there opportunities to prioritize bicycle facilities as a public benefit amenity? Publicly available secure, covered bicycle parking, which is located close to high capacity transit stations in some other cities may be an appropriate amenity in some locations. Pronto stations could be another.

**Increase Allowable Car-to-Bicycle Parking Substitution Rate**

While not relevant in Seattle’s Center City because no vehicle parking is required in new commercial buildings, in locations where a certain amount of vehicle parking is required, the city could increase the percentage of required car parking that may be substituted for bicycle parking in new buildings. Both San Francisco and Portland have such provisions. One individual we talked with suggested that the city should not limit the amount of car parking that can be converted from vehicle spaces to bike parking spaces.

\textsuperscript{355} Bicycle Access to Office Buildings.

\textsuperscript{356} “Bicycle Access Bill and Office Buildings.”

\textsuperscript{357} “San Francisco Approves Accommodation of Bicycle Parking In Commercial Buildings.”
Increase Range of Building Sizes and Uses Required to Provide Showers and Lockers

This option would reduce the minimum office building square footage threshold in the SMC that triggers the installment of shower and locker facilities. It recognizes that such amenities, while not as important as long-term bicycle parking, are also important end-of-trip facilities for bicycle commuters: research shows that access to showers and lockers can increase the attractiveness of bicycle commuting.

Currently, the SMC requires showers (one per gender) and lockers in downtown buildings with more than 250,000 ft$^2$ of rentable office space. In an office building of 250,000 ft$^2$, we calculate that this equates to a requirement of two showers (one per gender) for over 1,650 employees. Furthermore, buildings with less that 250,000 ft$^2$ of rentable office space, or fewer than 1,650 employees, are not required to provide shower and locker facilities.

San Francisco requires shower and locker amenities at three different floor area thresholds for offices and other commercial uses. The requirement for the smallest building size is one shower and six clothes lockers where the occupied floor area exceeds 10,000 ft$^2$ (with extra facilities required as the floor space increases). The requirement for the largest building size is four showers and 24 clothes lockers where the occupied floor area exceeds 50,000 ft$^2$. The City of Portland has no code requirement for showers and lockers, but does provide a density bonus at a ratio of 40 ft$^2$ of additional floor space for every square foot of shower and locker space provided, so long as 110% of the required bicycle parking is also provided. During our interviews, we spoke with developers in Seattle who had included shower and locker facilities in buildings of just 100,000 ft$^2$.

Using San Francisco as a model, the City of Seattle could reduce the square footage-building threshold for which showers and lockers must be provided to 50,000 ft$^2$ of rentable space in the SMC. The new code provision could specify that four showers (two per gender), 24 lockers, and dressing areas must be provided. Additionally, this option would include language indicating that the shower and locker facilities must be located within a reasonable distance and within easy access to and from any long-term bicycle parking provided. This code change would expand access to end-of-trip facilities among a wider range of buildings and impact a large number of office buildings in the Center City. Using the same employee per square foot ratio as above, we estimate that commercial buildings with over 331 employees will be affected.

Additional Potential Regulatory Incentives for New Buildings

Add Pronto Stations on Downtown Public Plazas in Return for Increased Building Density

Pronto is Seattle’s municipal bike sharing system aimed at providing access to bicycles for short point-to-point trips within the home area of the bike sharing system. Pronto bicycles can be rented from each station and can be returned to that any station in the system to end the trip. The siting of future Pronto

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358 Although significant analysis was conducted on this option it is contained in this section of our report because it is not central to improving bicycle parking conditions.
362 Using the projected real estate industry standard estimate for 2017 of 151 ft$^2$ per employee.
363 City of San Francisco, Requirements for Shower Facilities and Lockers.
364 Using the projected real estate industry standard estimate for 2017 of 151 ft$^2$ per employee.
365 “Pronto Cycle Share: How It Works.”
Cycle Share bike stations and how more stations might be encouraged through Seattle’s regulatory environment is a rich area for further study and was of considerable interest to the City officials with whom we spoke. Could there be a way to tie the inclusion of Pronto stations to downtown’s on-site amenity density bonus program?

Currently, plazas, which must be located on the ground floor of commercial buildings, are one of the ten bonusable downtown amenities. One opportunity to increase the number of Pronto station downtown would be to require all future developments that receive a bonus density for providing public plazas to include a Pronto bike station on that plaza. A related opportunity would be to provide a density bonus for buildings that already have a plaza and are undergoing renovations to include a Pronto station on the plaza. We recommend that, should this idea be of interest, the reader review the analysis provided for the density bonus option analyzed in Chapter 9 of this report to gain some insight into the structure of Seattle’s incentive zoning. Also, there may be other incentives that building managers would respond to in return for placing a Pronto station on an existing, underutilized public plaza that did not surface during our research.

Other

Transit Stations
Our literature review uncovered the importance of providing long-term bicycle parking at public transit stations. According to research by John Pucher, bike parking at transit stations has been used by bike-friendly municipalities in the United States and across the globe as a way to increase the number of citizens choosing to bike. Additionally, as bicycle parking in commercial buildings becomes more secure, meaning that it is more often in cages and locked rooms, non-tenant access is eliminated. Visitor access to covered parking may decrease, which would increasing the need for a secure alternative for downtown visitors for whom short-term, on-street parking is unappealing either because of the lack of security, lack of weather protection, or both. The City has already outlined the importance of this type of bike parking in the BMP. Could the parking be provided for a fee, and, therefore, be self-funding?

Transportation Impact Fees
Should transportation impact fees be instituted in Seattle, look to the Portland model. Portland’s System Development Fee structure allows developers to reduce their fees by demonstrating their commitment to encouraging transportation alternatives. Developers receive a credit for providing qualified public improvements, which can include those both on and off-site. We understand from Portland-based developers that amenities can include bicycle end-of-trip facilities.

From the Seattle Downtown Amenities Standards document: “Urban plazas are relatively large, strategically located open spaces that denote important downtown places, create a public focus for surrounding development, increase access to light and air at street level, and provide points of orientation within downtown. As key elements of the streetscape, urban plazas are especially beneficial when sited to complement the transit network by physically denoting major transit facilities, facilitating access to station entrances for large volumes of pedestrians, and providing amenities that contribute to the comfort and convenience of transit riders.”


Appendices

Appendix A: Key Findings from the Commute Seattle 2010 Center City Bicycle Amenity Inventory

The survey found that:

- Of the 1,152 commercial buildings inventoried, only 260 contained bicycle-parking amenities; just 111 contained showers; and only 83 provide day-use lockers.

- Among the 10 Center City neighborhoods, the percentage of commercial buildings with long-term bicycle parking varied widely, from just 3.8% in Capitol Hill to 43.2% in the Central Business District.

- Of the buildings with bike parking, 40% provided this amenity to tenants only. This means that the majority of commuters working in buildings without bike amenities have little, if any, access to long-term bicycle parking.

- In aggregate, Center City has 6,415 bicycle-parking spaces, but 5.9% of those spaces are unusable due to poor design and installation. This means Center City has a net capacity of 6,035 bicycle parking spaces. Using employment data as a proxy for demand, Commute Seattle found that the following neighborhoods had a neighborhood-wide undersupply of bicycle parking to meet existing demand: Denny Triangle, Central Business District, First Hill, International District, and Pioneer Square. It is important to note that Commute Seattle’s analysis understates the match between supply and demand because much of the parking is behind locked doors and only accessible to building tenants, rather than tenants and workers in neighboring buildings.

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Number of buildings</th>
<th># buildings w/o racks</th>
<th>% of buildings w/o racks</th>
<th># of buildings w/o showers</th>
<th>% of buildings w/o showers</th>
<th>No. of buildings w/o lockers</th>
<th>% of buildings w/o lockers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capitol Hill</td>
<td>104</td>
<td>100</td>
<td>96.2%</td>
<td>103</td>
<td>99.0%</td>
<td>104</td>
<td>100.0%</td>
</tr>
<tr>
<td>International District</td>
<td>65</td>
<td>59</td>
<td>90.8%</td>
<td>64</td>
<td>98.5%</td>
<td>63</td>
<td>96.9%</td>
</tr>
<tr>
<td>Belltown</td>
<td>199</td>
<td>165</td>
<td>82.9%</td>
<td>181</td>
<td>91.0%</td>
<td>189</td>
<td>95.0%</td>
</tr>
<tr>
<td>South Lake Union</td>
<td>100</td>
<td>137</td>
<td>81.5%</td>
<td>152</td>
<td>90.5%</td>
<td>154</td>
<td>91.7%</td>
</tr>
<tr>
<td>Queen Anne</td>
<td>101</td>
<td>81</td>
<td>80.2%</td>
<td>94</td>
<td>93.1%</td>
<td>96</td>
<td>95.0%</td>
</tr>
<tr>
<td>Denny Triangle</td>
<td>111</td>
<td>85</td>
<td>76.6%</td>
<td>96</td>
<td>86.5%</td>
<td>103</td>
<td>92.8%</td>
</tr>
<tr>
<td>First Hill</td>
<td>87</td>
<td>64</td>
<td>73.6%</td>
<td>82</td>
<td>94.3%</td>
<td>84</td>
<td>96.6%</td>
</tr>
<tr>
<td>Pioneer Square</td>
<td>132</td>
<td>96</td>
<td>72.7%</td>
<td>114</td>
<td>86.4%</td>
<td>117</td>
<td>88.6%</td>
</tr>
<tr>
<td>Central Business Dist</td>
<td>150</td>
<td>105</td>
<td>56.5%</td>
<td>150</td>
<td>85.8%</td>
<td>159</td>
<td>89.8%</td>
</tr>
<tr>
<td>Center City</td>
<td>1,152</td>
<td>892</td>
<td>77.4%</td>
<td>1,041</td>
<td>90.4%</td>
<td>1,069</td>
<td>92.8%</td>
</tr>
</tbody>
</table>

Table 3: Commute Seattle 2010 Inventory Findings Summary Table shows the numerical and proportional breakdown of buildings without adequate bicycle parking facilities, and other end-of-trip facilities, by neighborhood.
### Appendix B: Current Bicycle Parking Quantities in the Seattle Municipal Code

**Table A for 23.49.019: Minimum Bicycle Parking Requirement for Downtown Zones**

After the first fifty (50) spaces for bicycles are provided, additional spaces are required at one half (½) the ratio shown.

<table>
<thead>
<tr>
<th>Use</th>
<th>Bicycle parking required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>1 space per 5,000 square feet of gross floor area of office use</td>
</tr>
<tr>
<td>Hotel</td>
<td>.05 spaces per hotel room</td>
</tr>
<tr>
<td>Retail use over 10,000 square feet</td>
<td>1 space per 5,000 square feet of gross floor area of retail use</td>
</tr>
</tbody>
</table>

**Table E for 23.54.015: Bicycle Parking Requirements (Balance of City. Commercial only listed)**

After the first fifty (50) spaces for bicycles are provided, additional spaces are required at one half (½) the ratio shown.

<table>
<thead>
<tr>
<th>Use</th>
<th>Long-term</th>
<th>Short-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. COMMERCIAL USES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating and drinking establishments</td>
<td>1 per 12,000 square feet</td>
<td>1 per 4,000 square feet; 1 per 2,000 square feet in UC/SAO^2</td>
</tr>
<tr>
<td>Entertainment uses</td>
<td>1 per 12,000 square feet</td>
<td>1 per 40 seats and 1 per 1,000 square feet of non-seat area; 1 per 20 seats and 1 per 1,000 square feet of non-seat area in UC/SAO^2</td>
</tr>
<tr>
<td>Lodging uses</td>
<td>1 per 20 rentable rooms</td>
<td>2</td>
</tr>
<tr>
<td>Medical services</td>
<td>1 per 12,000 square feet</td>
<td>1 per 4,000 square feet; 1 per 2,000 square feet in UC/SAO^2</td>
</tr>
<tr>
<td>Offices and laboratories, research and development</td>
<td>1 per 4,000 square feet; 1 per 2,000 square feet in UC/SAO^2</td>
<td>1 per 40,000 square feet</td>
</tr>
<tr>
<td>Sales and services, general</td>
<td>1 per 12,000 square feet</td>
<td>1 per 4,000 square feet; 1 per 2,000 square feet in UC/SAO^2</td>
</tr>
<tr>
<td>Sales and services, heavy</td>
<td>1 per 4,000 square feet</td>
<td>1 per 40,000 square feet</td>
</tr>
</tbody>
</table>

Footnotes to Table E for 23.54.015

^1If a use is not shown on this Table E for 23.54.015, there is no minimum bicycle parking requirement.

^2For purposes of this Table E for 23.54.015, UC/SAO means urban centers or the Station Area Overlay District.
Bibliography


———. “Seattle’s Commercial Zones.” City of Seattle Department of Planning and Development, August 2012.


Seattle Department of Transportation. “Seattle Bicycle Master Plan.” City of Seattle, June 2013.


