Analysis of the City of Eugene Bicycle Parking Standards

Final Report

Submitted to:

City of Eugene
Planning and Development
99 West 10th Avenue
Eugene, Oregon 97401

Prepared by:

Community Planning Workshop

Community Service Center
1209 University of Oregon
Eugene, OR 97403-1209
http://darkwing.uoregon.edu/~cpw

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Executive Summary

The City of Eugene is interested in the effectiveness of its bicycle parking standards, particularly as they relate to development in the Downtown area. The City of Eugene contracted with the University of Oregon's Community Planning Workshop (CPW) to assess bicycle parking standards. The City of Eugene wants to assess how well the bicycle parking standards meet the needs of residents and what could be done to improve the standards.

This report presents an analysis of the City of Eugene's Bicycle Parking Standards (City of Eugene Ordinance 9.6100). The analysis includes a review of how other jurisdictions have addressed bicycle parking, current use of bicycle parking structures in downtown Eugene, and perceptions of Eugene's bicycle parking standards. The report concludes with a set of observations and potential alternative approaches for the City to consider.

Methods

CPW used three primary data collection tools to gather information concerning the content, implementation, and outcomes of the City's bicycle parking standards. Our work program included the following elements: (1) a review of comparable bicycle parking standards; (2) an inventory of downtown bicycle racks; and (3) surveys and interviews with downtown residents, business managers, and experts. The Eugene Bicycle Coalition reviewed and commented on the survey questions before they were administered. This study was completed during the summer of 2005, a season of peak bicycle activity in the Downtown area and across Eugene.

Findings and Alternative Approaches

CPW developed the following findings and alternatives from our research and analysis of the current bicycle parking standards. Our research indicates that there are two primary approaches that municipalities use for bicycle parking standards: (1) have a required number of bicycle parking spaces per development; and (2) tie bicycle parking standards to the type of development. Some cities, like Eugene, use a combination of these approaches.

In general, when compared with other communities, the bicycle parking standards in Eugene are:

- *More prescriptive;*
- *Lack design standards; and*
- *Are less flexible regarding dimensional and quantity requirements.*

In reponse to these findings, the following sections provide alternative approaches to achieve the goals of Eugene's bicycle parking standards and encourage more bicycle use in the Downtown area.

Quantity of required bicycle parking

The downtown area is unique in terms of parking, including bicycle parking. CPW's interviews and inventory suggests the continued installation of public and private bicycle racks has resulted in bicycle parking capacity that meets or exceeds current demand. CPW found that half of the businesses we spoke with provide bicycle parking inside for their employees, while at the same time the City provides curbside bicycle parking for nearly all businesses. Alternative approaches for the City include:

- *Allow the Planning Director discretionary review (at least in the downtown area) of calculations for bicycle parking dimensions and in determining the number of spaces needed.*
- *Allow developments to add nearby (within 100') curbside (city-owned) bicycle parking in their inventory when calculating needed bicycle parking spaces.*

Location

Siting is a key consideration for bicycle parking infrastructure. Nearly all cyclists downtown (95%) lock their bicycles to bicycle racks – rather than other convenient objects (e.g., parking meters) – suggesting most downtown destinations have accessible bicycle racks. Personal safety and security of bicycles is a key consideration. An alternative approach for the City includes:

- *Discontinue installation of bicycle racks in alleys and other low visibility areas by the City or developers.*

Design

The design of bicycle parking structures is a significant factor in determining the effectiveness of the bicycle rack. In fact, all the cities CPW reviewed, except the City of Eugene, prescribe design standards for bicycle parking. (see Chapter 3)

Inverted-U racks are an effective design and tend to be the predominant type (64%) in downtown Eugene. Most short-term racks in the downtown area are located on sidewalks that are in close proximity to businesses. Moreover, the City of Eugene is the primary provider of short-term bicycle parking in the downtown area. Alternative approaches for the City include:

- *The City could develop bicycle rack design specifications that stipulate recommended designs (see Chapter 2).*
- *The City could provide safe, secure, and accessible long-term parking facilities.*

- *The City could provide for centrally located long-term parking lockers at new large-scale developments, potentially using system development charge funds.*
- *The City could require developers to contribute to a bicycle-parking fund to facilitate centrally located bicycle parking facilities.*
- *The City could include secure, long-term bicycle parking spaces in new Automobile parking structures.*

Table of Contents

Chapter 1
Introduction

This report presents an analysis of the City of Eugene's Bicycle Parking Standards (City of Eugene Ordinance 9.6100). The analysis describes how other jurisdictions have addressed bicycle parking, use of bicycle parking structures in downtown, and the perceptions of downtown business managers and residents. The report concludes with a set of observations and recommendations.

Background

Bicycling is an important means of transportation and leisure activity in Eugene. The City of Eugene has emphasized the importance of bicycles as an alternate means of transportation since the early 1990s (including in the 2003 update of the Central Area Transportation Study). The City has made significant investments in bicycle infrastructure, including 30 miles of off-street paths, 89 miles of on-street bicycle lanes, and 5 bicycle/pedestrian bridges spanning the Willamette River.[1]

Moreover, people in Eugene use bicycles as a means of transportation for work and leisure. Eugene has higher than average rates of bicycle use as a means of getting to work. According to the 2000 Census, 5.5% of people sixteen years and older in Eugene use bicycles to get to work, compared with 1.1% in Oregon and 0.4% across the U.S.

While bicycle infrastructure is available throughout the city bicycling is especially important in downtown Eugene, which has an extensive system of bicycle lanes. Several plans, including the City of Eugene Land Use Code, the City of Eugene Arterial and Collector Street Plan (1999), and the Eugene Downtown Plan (2004) promote the use of alternative transportation. One way for the City to promote this principle is to provide adequate and safe bicycle parking throughout the downtown area.

The City of Eugene has a set of standards for bicycle parking infrastructure, which are codified in the Chapter 9, Section 9.6100, of the City's development code. These standards apply to development across the entire city. The amount and type of bicycle parking required by type of use is specified in Eugene Code 9.6105(4). However, some uses, such as one and two-family residential, and some types of

[1] From the City of Eugene's website, http://www.ci.eugene.or.us/PW/transportation/bicycle/bicycleindex.htm.

industrial and manufacturing businesses are not required to provide bicycle parking.

The purpose of these standards are to provide safe, convenient, and attractive areas for the circulation and parking of bicycles to encourage the use of bicycles as a means of transportation. The ordinance defines different standards for long-term and short-term bicycle parking:

- **Long-term Parking Spaces.** Long-term bicycle parking spaces are intended to accommodate employees, students, residents, commuters, and other people who expect to leave their bicycle for more than two hours. Long-term bicycle parking spaces are always required to be sheltered from rain.
- **Short-term Parking Spaces**. Short-term bicycle parking spaces accommodate people who expect to leave their bicycle for less than two hours, such as visitors, customers, and messengers. Short-term bicycle parking spaces may include shelter from rain, depending on the number of spaces required.

In summary, the City of Eugene established bicycle parking standards to support land use and transportation objectives.

Methodology

This report presents an analysis of Eugene's bicycle parking infrastructure standards. Specifically, it:

- Compares the City of Eugene's bicycle parking standards with standards from four comparable cities.
- Presents an inventory of bicycle parking structures and use within selected areas of Downtown Eugene.
- Presents the results of a mailed survey assessing downtown residents' use of bicycle parking facilities and their perception of the types of bicycle infrastructure that would best meet their needs.
- Describes the opinions of downtown property owners, realtors, and developers about the standards for bicycle parking through personal interviews or mailed surveys.
- Makes recommendations to the City based on CPW's findings.

CPW used three primary data collection tools to gather information concerning the content, implementation, and outcomes of the City's bicycle parking standards. Our work program included the following elements: (1) a review of comparable bicycle parking standards; (2) an inventory of downtown bicycle racks; and (3) surveys and interviews with downtown residents, business managers, and experts. The Eugene Bicycle Coalition reviewed and commented on the survey questions before they were administered. This study was completed during the summer of 2005, a season of peak bicycle activity in the Downtown area and across Eugene.

Organization of this Report

The remainder of this report is organized as follows:

- **Chapter Two, Framework for this Study** describes the rationale for having bicycle parking standards and key components that get addressed in such ordinances.
- **Chapter Three, Review of Bicycle Parking Regulations in Selected Cities** summaries findings from CPW's review of regulations in four case study communities.
- **Chapter Four, Eugene Bicycle Parking Inventory and Use** presents the results of CPW's inventory of downtown bicycle parking facilities.
- **Chapter Five, Perceptions of Bicycle Parking Standards** summarizes the results of interviews with selected stakeholders and downtown business managers, and of a survey of downtown residents.
- **Chapter Six, Conclusions and Recommendations** presents CPW's key conclusions from the research and our recommendations about potential modifications to the existing City code.
- **Appendix A, Eugene Bicycle Parking Standards** includes the full text of Eugene Ordinance 9.6100.
- **Appendix B, Household Survey Instrument and Results** presents the results of a survey of downtown residents concerning they bicycle use and parking behavior.

Chapter 2
Context for this Study

The City of Eugene created bicycle parking standards to provide safe, convenient, and attractive areas for the circulation and parking of bicycles. But beyond this general purpose, what issues do such standards address? How are they implemented?

Bicycle standards vary from city to city, as do recommended designs for bicycle parking infrastructure. Many cities have ordinances that require developers to provide bicycle parking. This chapter reviews the general principles that underlie these ordinances: recommended locations; cost; and balancing bicycle parking with auto parking.

Rationale for regulation

Cities adopt development regulations to serve the public health, safety, and welfare. While different cities have different reasons for adopting bicycle parking standards, underpinning such regulations is the fact that the standards have a legitimate public purpose.

It is notable that not all cities include a purpose statement in their bicycle parking ordinances. These municipalities have either assumed that (1) the purpose of such standards is evident, (2) that the purpose does not need to be made explicit, or (3) a broader purpose is defined in a different section of the code.

Bicycle parking requirements

Bicycle parking requirements specifically refers to how municipalities define the amount of required bicycle parking. The requirements vary from city to city. Most cities regulate how many spaces are required, and the size of spacing. Recommendations for design of racks are also included in most ordinances.

Bicycle parking spaces are regulated by three main methods. Some cities allot bicycle parking spaces by calculating the square feet of a development. Others require a standard percentage of vehicular parking spaces be designated for bicycle parking. A third way to calculate bicycle parking spaces is by land-use and number of employees. In addition to requiring bicycle parking spaces, many cities also require a “u” rack design and specify how far apart racks need to be from the road or curb and from other racks.

Design considerations

Location

Location is an important consideration for effective bicycle parking facilities. Safe, convenient, and secure parking structures are essential to their use. The City of Portland's Office of Transportation states that, "The location you choose should meet the needs of potential users and consider where cyclists want to park, not where you might like them to park. To ensure that bicycle parking will be used, be sure to choose locations that are: convenient enough to encourage cycling; and secure enough to reasonably safe-guard against bicycle theft"[2].

The *Bicycle Parking Guidelines*, produced by the Association of Pedestrian and Bicycle Professionals, states that, "the best location for a rack area is immediately adjacent the area it serves."[3] Racks that are hard to find or are in areas perceived to be vulnerable to bicycle vandalism will not be used by cyclists. The *Bicycle Parking Guidelines* also state that, "The rack area should be no more than a thirty second walk (120 feet) from the entrance it serves and should preferably be within 50 feet"[4].

Bicycle Parking, by Ellen Fletcher, compares bicycle parking with automobile parking. She states that, "The bicycle parking facility should be located at least as conveniently as the most convenient auto parking"[5]. In summary, convenience and secure, visible areas are important considerations when locating bicycle parking spaces.

According to the International Bicycle Fund (IBF), several approaches exist to determine where to locate bicycle parking facilities. The IBF identifies the following approaches for determining rack location:

1. **Visual observation**. Look for where bicycles are parked illegally due to lack of legal parking. The (car) parking patrol people can probably do this for you in a week.

2. **User input**. Ask bicyclists (through clubs or advocacy groups) to create a list of most-needed spots for bicycle parking.

3. **Land use criteria**. Target every coffee shop, bookstore, video arcade, teen/young adult clothing store.

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[2] Bicycle Parking Facilities Guideline. The City of Portland, Office of Transportation. www.trans.ci.portland.or.us.

[3] Bicycle Parking Guidelines. Association of Pedestrian and Bicycle Professionals. byclinginfo.org, 2002.

[4] Bicycle Parking Guidelines. Association of Pedestrian and Bicycle Professionals. byclinginfo.org, 2002.

[5] Fletcher, Ellen. Bicycle Parking. Palo Alto: Santa Clara Valley Bicycle Association, 1983, p.7.

4. **Public-private partnership**. Have a grant program whereby businesses can request bicycle parking for customers and employees, paying for the installation themselves, but getting the racks paid for by the grant.

5. **Building code**. Require all new development or change of business to install bicycle parking proportionate to car parking requirements.[6]

Moreover, the IBF encourages consideration of the following criteria when siting bicycle racks:

- **Visibility**: Short-term parking should be easily visible from the street. Highly visible locations discourage theft and vandalism. Locations in alleys or in un-supervised parking structures or garages should be avoided.
- **Access**: Parking areas should be convenient to building entrances and street access, but away from pedestrian and auto traffic .
- **Security**: Surveillance is essential to reduce theft and vandalism. Surveillance can be accomplished by placing racks in highly visible areas or by hiring security.
- **Lighting**: Bicycle parking areas should be well lit for theft protection, personal security and accident prevention.
- **Weather Protection**: Bicycle parking areas should be protected from weather. This can be accomplished by using an existing overhang, covered walkway or by constructing a canopy or roof – either freestanding or attached to an existing building.
- **Avoid Conflict with Pedestrians**: Racks should be located so that parked bicycles don not block the pedestrian path.
- **Avoid Conflict with Automobile**: Bicycle parking should be separated from auto parking and roads areas with space and a physical barrier.[7]

Short-term bicycle parking

Short-term bicycle parking is intended for patrons or customers of establishments, and should generally be located in front of the business. The literature suggests that the type of parking facility (e.g., rack) makes a difference. The bicycle rack is an effective tool used for short-term bicycle parking. The design of the rack is an important to think about, as poorly designed racks decrease use and have the potential to waste space. The *Guide for the Development of Bicycle Facilities,*

[6] http://www.ibicycle.org/engineering/parking.htm, accessed 8/15/05

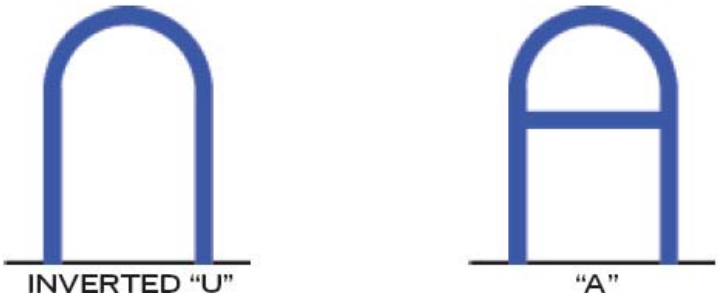
[7] http://www.ibicycle.org/engineering/parking.htm, accessed 8/15/05

produced by The American Association of State Highway and Transportation Officials, recommends that bicycle racks should be designed so that they:

- Do not bend wheels or damage other bicycle parts;
- Accommodate high security U-shaped bicycle locks;
- Accommodate locks securing the frame and both wheels;
- Do not impede or interfere with pedestrian traffic;
- Are easily accessed from the street and protected from motor vehicles;
- Are visible to passers-by to promote usage and enhance security;
- Are covered where users will leave their bicycles for a long time; or
- Have as few moving parts as possible.[8]

The *Bicycle Parking Guidelines* makes further recommendations on what type of racks to use (Figure 2-1). They recommend the "inverted U" or "A" racks to support bicycles, which are pictured below. These racks support two bicycles in a safe and easily accessible manner.

Figure 2-1. Recommended Bicycle Racks



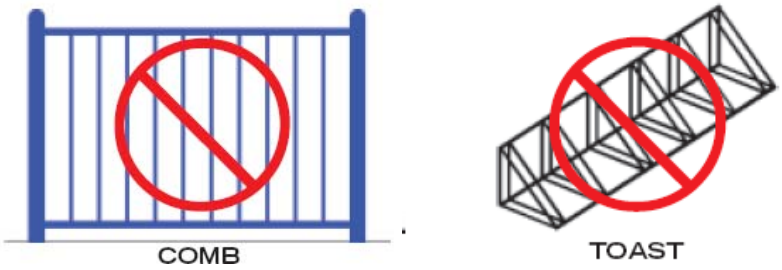
Source: bicyclinginfo.org

When thinking about what type of bicycle rack to use, it is also important to think about what racks *not* to use. According to The City of Portland, Office of Transportation, "old fashioned racks that hold only the wheel of the bicycle can cause damage and are a waste of money. Seasoned cyclists will find other alternatives and take their business elsewhere."[9] Racks that either waste space or damage the bicycle are the "comb " and "toast" racks, shown in Figure 2-2.

[8] Guide for the Development of Bicycle Facilities. Washington, DC: American Association of State Highway and Transportation Officials, 1999.

[9] Bicycle Parking Facilities Guideline. The City of Portland, Office of Transportation. www.trans.ci.portland.or.us.

Figure 2-2. Discouraged Bicycle Racks



Source: bicylclinginfo.org

Designing bicycle racks that safely and easily hold bicycles is one way to encourage optimal use of bicycle parking spaces.

Long-term bicycle parking

Long-term bicycle parking typically serves employees or others that are in a single location for more than a few hours. The focus is less on convenience and more on security.

There are just as many different design options for long-term bicycle parking as there are for short-term parking. Common options for long-term bicycle parking include storing bicycles inside the residence or business, bicycle lockers, and sheltered rack parking. *Bicycle Facility Planning* states, "Lockers provide the highest level of security for bicycles and are appropriate for use where day-long or longer storage is needed on a regular basis."[10] Materials used for construction of lockers range from particle board and fiberglass to galvanized and stainless steel. The cost of bicycle lockers tends to be higher than bicycle racks due to the more expensive materials used in construction. Table 2-1 compares the prices of both long and short-term parking.

Table 2-1. 1995 Bicycle and Parking Cost Ranges*

Model	Capacity	Cost Range
Lockers	1-2 bicycles	$500-$1300
Rack that secures both wheels and frame	Per bicycle	$65-150
Rack that secures frame and one wheel	Per bicycle	$65-80

* Note: All costs presented in 1995 dollars
Source: Bicycle Facility Planning

[10] Pinsof, Suzan Anderson. Bicycle Facility Planning. Chicago: American Planning Association, 1995.

Ellen Fletcher, who wrote *Bicycle Parking* compares the cost of bicycle lockers to automobile parking spaces. Though she wrote *Bicycle Parking* in 1983, the difference in prices is still applicable today. She states that, "auto parking spaces can cost $30,000 to $40,000 per space in urban areas; the cost of a bicycle locker, which completely encloses and protects the bicycle, can be as low as $200."[11]

Bicycle parking space exchanged for automobile parking space

Many cities, including The City of Berkeley and The City of Boulder, allow a certain reduction of automobile parking spaces in exchange for bicycle parking spaces. According to *Bicycle Facility Planning,* "Most ordinances link bicycle parking requirements to land use and the amount of automobile parking required. In some cases, bicycle parking is allowed to replace some of the required automobile parking for developments."[12] Allowing an exchange of bicycle parking spaces for automobile parking spaces can allow for more flexibility for bicycle parking standards.

Conclusion

Cities have different motivations for adopting bicycle parking regulations. Chief among them is ensuring that bicycle parking exists in appropriate locations and types to provide employees and patrons with transportation choices.

There are a few important considerations to take into account when planning bicycle parking. Parking should be located in a safe and easily accessible area. Racks should be designed to adequately hold the bicycle, and provide easy access to ensure efficient and productive use. Exchanging automobile spaces for bicycle parking spaces can be one way to allow for more ordinance flexibility. These recommendations provide a brief overview of bicycle parking infrastructure, however they are important first steps to think about when planning for bicycle parking.

[11] Fletcher, Ellen. Bicycle Parking. Palo Alto: Santa Clara Valley Bicycle Association, 1983, p. 1.

[12] Pinsof, Suzan Anderson. Bicycle Facility Planning. Chicago: American Planning Association, 1995.

Chapter 3
Review of Bicycle Parking Regulations in Selected Cities

CPW reviewed bicycle parking standards for Eugene and five other cities: Ann Arbor, MI, Boulder, CO, Bend, OR, Berkeley, CA, and Madison, WI. This review focused on differences and similarities within the codes in two main areas: minimum requirements of bicycle parking, and design standards for bicycle parking. The purpose of the code review is to provide a comparison of Eugene's current bicycle standards with the standards of these other cities.

Purpose

The purpose statement provides the context for the ordinance by articulating what public health, safety, and welfare benefits are achieved through the policy. Two of the ordinances CPW reviewed included purpose statements (Eugene and Madison, WI). The purpose of Eugene's bicycle parking standards is defined in Eugene City Ordinance Section 9.6100:

> **Purpose of Bicycle Parking Standards.** Sections 9.6100 through 9.6110 set forth requirements for off-street bicycle parking areas based on the use and location of the property. Bicycle parking standards are intended to provide safe, convenient, and attractive areas for the circulation and parking of bicycles that encourage the use of alternative modes of transportation. Long-term bicycle parking space requirements are intended to accommodate employees, students, residents, commuters, and other persons who expect to leave their bicycle parked for more than 2 hours. Short term bicycle parking spaces accommodate visitors, customers, messengers, and other persons expected to depart within approximately 2 hours.

The Madison, Wisconsin ordinance takes a relatively similar approach that addresses safety and congestion.

While the other four jurisdictions did not include explicit purpose statements in their ordinances, they all implicitly address issues related to safety, efficiency, and alternative transportation modes.

Minimum Requirements

Communities often mandate standards to ensure that new development provides infrastructure for safe and efficient transportation, including bicycles. The minimum level of service is typically most basic component of the municipal bicycle parking standards.

All of the ordinances we reviewed had minimum requirements—this is not surprising, the purpose of these ordinances is to ensure adequate bicycle parking infrastructure. The ordinances CPW reviewed indicate that cities take different approaches to establishing minimum standards. The most common approaches include:

- Defining a specific number of spaces be provided; and
- Establishing formulas to calculate the total number of spaces needed either by floor area or by a percentage of required auto parking spaces.

Our review reveals several approaches to minimum requirements. Boulder and Denver tie the requirement to the number of automobile parking spaces. Berkeley ties the requirement to floor area. Eugene and Madison establish a minimum number and require additional spaces based on the number of dwellings or floor area (depending on whether the development is residential or commercial). Each city's requirements are listed below in more detail:

- *Ann Arbor, Mich.*: The minimum bicycle parking spaces needed are assessed by land use, and then further broken down into three classes: Class A (medium to long-term parking), Class B (short to medium term parking), and Class C (short-term parking) (Ann Arbor Code Section 59.5:167). If the parking spaces or bicycle parking spaces required are determined by the owner to be in excess of the immediate need for parking, the provisions of up to 40% of the required parking spaces or bicycle parking spaces may be deferred if shown on an approved site plan. If the planning and development services manager or designee determines that some or all of the deferred parking spaces or bicycle parking spaces are needed, these spaces must be installed (Ann Arbor Code Section 59.5:164).
- *Bend, Or.*: Minimum bicycle parking spaces needed are assessed by land use (Bend Code section 10-10.24(8)). The total number of required motor vehicle parking spaces for industrial, commercial, and office uses may be reduced by up to 10% in exchange for bicycle parking facilities if the business meets one of the following criteria:
    - Participate in an area wide carpool/vanpool ride matching program for employees;
    - Designate at least 10% of the employee motor vehicle parking spaces as carpool/vanpool parking and placing such spaces closer to the building than other employee parking;
    - Provide showers and lockers for employees who commute by bicycle;
    - Provide twice as many covered, secured bicycle parking racks or facilities as required by this ordinance;

- Provide a transit facility that is approved by the local transit authority and related amenities. Related amenities include, but are not limited to, a public plaza, pedestrian sitting areas, and additional landscaping. (Bend Code section 10-10.24(5)(i)).

- *Berkeley, Calif.*: Requires that bicycle parking spaces be provided at a ratio of one space per 2000 square feet of gross floor area for each zoning district. (Berkeley Code section 23E.28.070). An Administrative Use Permit may be issued to designate up to 10% of automobile parking for bicycle and/or motorcycle parking. Any bicycle parking created by this designation must be in addition to otherwise required bicycle parking.
- *Boulder, Colo.*: The minimum number of bicycle parking spaces per site is at least three spaces or 10% of required off-street parking spaces whichever is greater. After the first 50 bicycle parking spaces are provided, the number of required bicycle parking spaces is 5% of required off-street automobile parking spaces (Boulder Code section 9-3.3-13). Bicycle parking requirements are not assessed by land use, rather by zoning district.
- *Madison, Wis.*: Madison requires a minimum of two bicycle parking spaces be provided for each establishment. After the first 50 bicycle parking spaces, additional required bicycle parking spaces are 0.5 (one-half) space per required unit listed by land use (Madison Code section 28.11(1)(c)). Madison's code is unique in that it contains a provision stating:

  > "Where the expected need for bicycle parking for a particular use is uncertain due to unknown or unusual operating characteristics of the use, the Zoning Administrator may authorize that construction or provision of not more than fifty (50) percent of the bicycle parking spaces by deferred. Land area required for provision of deferred bicycle parking spaces shall be maintained in reserve." (Sec. 28.11(3)(l)(1)(c)

- *Eugene, Or.*: Requires that four bicycle parking spaces be provided; in addition to the minimum, the number of spaces needed and percentage of long-term (<2 hours) and short-term (>2 hours) spaces needed are calculated by land use (Eugene City Code section 9.6105).

Design Standards

Several of the ordinances CPW reviewed include design specifications for bicycle parking facilities. The design standards can be broken down into two distinct categories: structural design and location. Many cities specify a preferred type of bicycle rack; some detail specific types of fastener to be used with the rack; others stipulate the preferred size

dimensions of the rack. Every city specified location standards for bicycle parking, as well as the preferred size of bicycle parking spaces.

The preferred bicycle rack design for most cities in this analysis is the "inverted U" type, with a height of 30"-36" and a width of 18"-36". The minimum separation of racks when parallel was 30" from center, 48"-60" when placed perpendicular. The preferred fastener for attaching the bicycle rack to the concrete was a mushroom head steel spike or an equivalent theft-proof device.

Listed below are the location and size standards for each city.

- *Ann Arbor, Mi.*: Ann Arbor establishes design standards by type of parking. Class A (medium to long-term parking) must be in the form of individual enclosed storage lockers, a enclosed bicycle parking shed, a room within a building which contains individual storage lockers or rack spaces, or individual private garages. Class B (short to medium-term parking) and Class C (short-term parking) requires fixed bicycle racks. Both classes of exterior bicycle parking must be placed in close proximity to main building entrances and in a location that is visible and easily accessible. A physical barrier, designed to prevent motor vehicles from driving into bicycle parking areas, must be provided between bicycle and motor vehicle parking when bicycle parking areas are located within a parking structure or lot. Bicycle parking in parking structures must be located on the street level and near an entrance and public sidewalk.
- *Bend, Or.*: All required bicycle parking must be located on site within 50' of well-used entrances and not farther than the closest motor vehicle parking space. Bicycle parking for multiple uses such as a commercial center or college may be clustered in one or more locations that are convenient for bicyclists but must meet all requirements for bicycle parking.
- *Berkeley, Ca.*: Berkeley generally requires that racks be installed parallel to curbs, unless there is sufficient sidewalk width or racks placed in the roadway.
- *Boulder, Co.*: Bicycle parking should generally be provided within 50' of the main building entrance in a visible and prominent location that is lit at night, and physically separated from auto parking to prevent cars from intruding into the bicycle parking area. Boulder also requires that there be a 5-foot access aisle for its bicycle spaces.
- *Madison, Wi.*: Madison requires bicycle parking be provided in a clearly designated, safe, and convenient location. This is defined as easily observable, with adequate separation of parked bicycles from cars and pedestrians, close to a building entrance, lit at night, and maintained to be free from mud and dust. Madison requires that bicycle parking spaces have a length of

6', a width of 2', overhead clearance of 6', and an access aisle of 5'.

- *Eugene, Or.*: Long-term bicycle parking must be provided in a well-lit, secure ground level location within a convenient distance of an entrance. Short-term bicycle parking must be provided within a convenient distance of, and clearly visible from the main entrance to a building. For both long-term and short-term bicycle parking shall not be farther than the closest automobile parking (except disabled parking). Eugene also requires that bicycle parking spaces have a length of 6', a width of 2', overhead clearance of 7', and an access aisle of 5'.

Key Findings

CPW developed the following findings based on our review of municipal bicycle parking ordinances:

- **Ordinances commonly tie standards to land use.** Four out of six of the cities surveyed assessed the minimum required number of bicycle parking spaces by land use. The other two cities assessed the minimum required number by zoning district.
- **The City of Eugene required the highest number of minimum bicycle parking spaces to be provided**. Moreover, Eugene's standards are more specific in breaking down the requirements by land use than any of the jurisdictions CPW reviewed. Madison seems to have greater flexibility in its standards, both by having less specific land use categories, as well as by giving the Zoning Administrator greater flexibility in applying the standards.
- **Some ordinances address long-term and short-term parking separately.** Both Eugene and Ann Arbor have provisions in their codes detailing requirements for long-term and short-term bicycle parking. Ann Arbor's code contains three categories of bicycle parking:
  - Class A (medium to long-term parking) is enclosed parking either in the form of individual enclosed storage lockers, and enclosed bicycle parking shed, a room within a building which contains individual storage lockers or rack spaces, or individual private garages;
  - Class B (short to medium-term parking) is covered bicycle racks;
  - Class C (short-term parking) is fixed bicycle racks. (Ann Arbor Code section 59.5:168.1(1))

  Eugene's code specifies the difference between long-term and short-term bicycle parking: long-term bicycle parking spaces are

intended to accommodate employees, students, residents, commuters, and other persons who expect to leave their bicycles parked for more than two hours; short-term bicycle parking spaces accommodate visitors, customers, messengers, and other persons expected to depart within approximately two hours. Moreover, all long-term parking spaces in Eugene must be sheltered from precipitation, and a percentage of short-term parking spaces must be sheltered depending on the number of spaces provided.

- **Some codes provide options to substitute bicycle parking for automobile parking.** Three out of the six cities surveyed had some provision in their code for the deferment or substitution of a percentage of automobile parking:

  - Ann Arbor: If the parking spaces or bicycle parking spaces are determined by the owner to be in excess of the immediate need for parking, the provisions of up to 40% of the required parking spaces or bicycle parking spaces may be deferred if shown on an approved site plan. If the planning and development services manager or designee determines that some or all of the deferred parking spaces or bicycle parking spaces are needed, these spaces must be installed (Ann Arbor Code section 59.5:164).

  - Bend: The total number of required motor vehicle parking spaces for an industrial, commercial, and office use may be reduced by 5% for each of the activities listed below provided by the owners or operators, up to a maximum 10% reduction in the total number of motor vehicle spaces.

  - Berkeley: An Administrative Use Permit may be issued to designate up to ten percent (10%) of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Administrative Use Permit must be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

- **Every city except the City of Eugene contained design provisions for their bicycle rack standards.** Almost every city contained provisions in their code for their preferred type of bicycle rack, as well as design guidelines for the rack. The preferred bicycle rack type for most cities was the "inverted U" type, with a height of 30"-36" and a width of 18"-36". Other rack types were mentioned in some cities, but the most important feature of all the racks was that the bicycle's wheels and frame could both be locked to the rack using a U shaped lock. The preferred fastener for attaching the bicycle rack to the concrete was a mushroom head steel spike or an equivalent theft-proof

device. The minimum separation of racks when parallel was about 30" from center, or 48"-60" when placed perpendicular.

Table 3-1. Summary of bicycle codes

City	minimum bicycle parking spaces required	size of spaces				preferred rack type	rack placement and specifications				
		length	width	overhead clearance	access aisle		height	width	fasteners	separation of racks	placement
Ann Arbor	Assessed by use to determine how many bicycle parking spaces needed; then further broken down by short-term and long-term bicycle parking spaces	6'	2'	7'	3'	A hoop style rack or another type of rack that can be securely anchored in pavement and designed so that both wheels and the frame of a bicycle may be securely locked with either a chain, cable, or padlock.					Exterior bicycle parking facilities shall be placed in close proximity to main entrances and in a location that is visible and easily accessible. Bicycle parking in parking structures shall be located on the street level and near an entrance and public sidewalk.
Bend	Assessed by use	6'	2'	7'	5'	Either a lockable enclosure or a stationary rack. Rack design must accommodate both U shaped locks and cables and include, but are not limited to, shapes such as an inverted "U" or a "ribbon".					All required bicycle parking shall be located on site within 50' of well-used entrances and not farther than the closest auto parking space.
Berkeley	provided at a ratio of 1 space per 2000 square feet of gross floor area					Palmer Group Series Flat Top, or equivalent (inverted U style)	32" - 36"	18" - 24"	1/2" x 3" mushroom head stainless steel Powers spike, or equivalent	If perpendicular to curb, side-by-side, min. 30". If parallel to curb, end-to-end, min. 48", prefer 60".	Generally, racks should be installed parallel to curb, unless there is sufficient sidewalk width or racks placed in roadway.
Boulder	2 spaces for every 10 car parking spaces -- At least 3 spaces or 10% of required off-street parking spaces, whichever is greater (in most districts). After the first 50 spaces are provided, required number of bike parking spaces is 5% of required off-street parking spaces.				5 ft	"inverted U" or "Cora" type racks			a high security tamper proof anchor such as a mushroom head carbon steel expansion anchor "spike" #5550 as manufactured by Rawl or an equivalent theft-proof device	**"inverted U"**: when side-by-side, min. 3.5' apart; when parallel, min. 10' between centers of racks. **"Cora"**: min.10' of clear space on both sides of rack.	Bicycle parking should generally be provided within 50' of the main building entrance in a visible and prominent location that is lit at night, and physically separated from auto parking to prevent cars from intruding into the bike parking area.
Eugene	4; then calculated by use to find the percentage of short term and long term bicycle parking needed	6'	2'	7'	5'						Long term: provided in a well-lighted, secure ground level location within a convenient distance of an entrance; short term: within a convenient distance of, and clearly visible from the main entrance to the building. Both: shall not be farther than the closest auto parking (except disabled parking)
Madison	2; after the first 50 bicycle parking spaces are provided, additional bicycle parking spaces required are 0.5 (one half) space per unit listed.	6'	2'	6'	5'	"inverted U" rack, the "post and ring" rack, Lightning Bolt rack from Creative Pipe, "Bike" bike rack from Dero Racks, UW rack, Campus Rack from Dero Racks, One and Two Post Key racks from MADRAX	30"-32" ("inverted U"	30"-36" ("inverted U")			clearly designated, safe, and convenient location - easily observable, adequate separation of parked bicyles from cars and pedestrians, close to a building entrance, lit at night, and maintained to be mud and dust free.

Source: Community Planning Workshop, 2005

Chapter 4
Eugene Bicycle Parking Inventory and Use

The City of Eugene seeks to "promote a broad range of transportation options" for residents and visitors.[13] To achieve this aim, the City implements bicycle-parking standards to ensure bicycle-parking facilities are available at commercial and large residential developments.

Prior to this study, the City had no inventory of bicycle parking facilities in the downtown area nor any empirical data on the use of those facilities. One of the most effective ways to gauge demand for bicycle parking structures is to complete systemic field analysis of existing structures. The purpose of this inventory is to quantify (1) the amount, (2) characteristics, and (3) intensity of use of downtown bicycle infrastructure. The remainder of this chapter highlights the methods and results of this inventory.

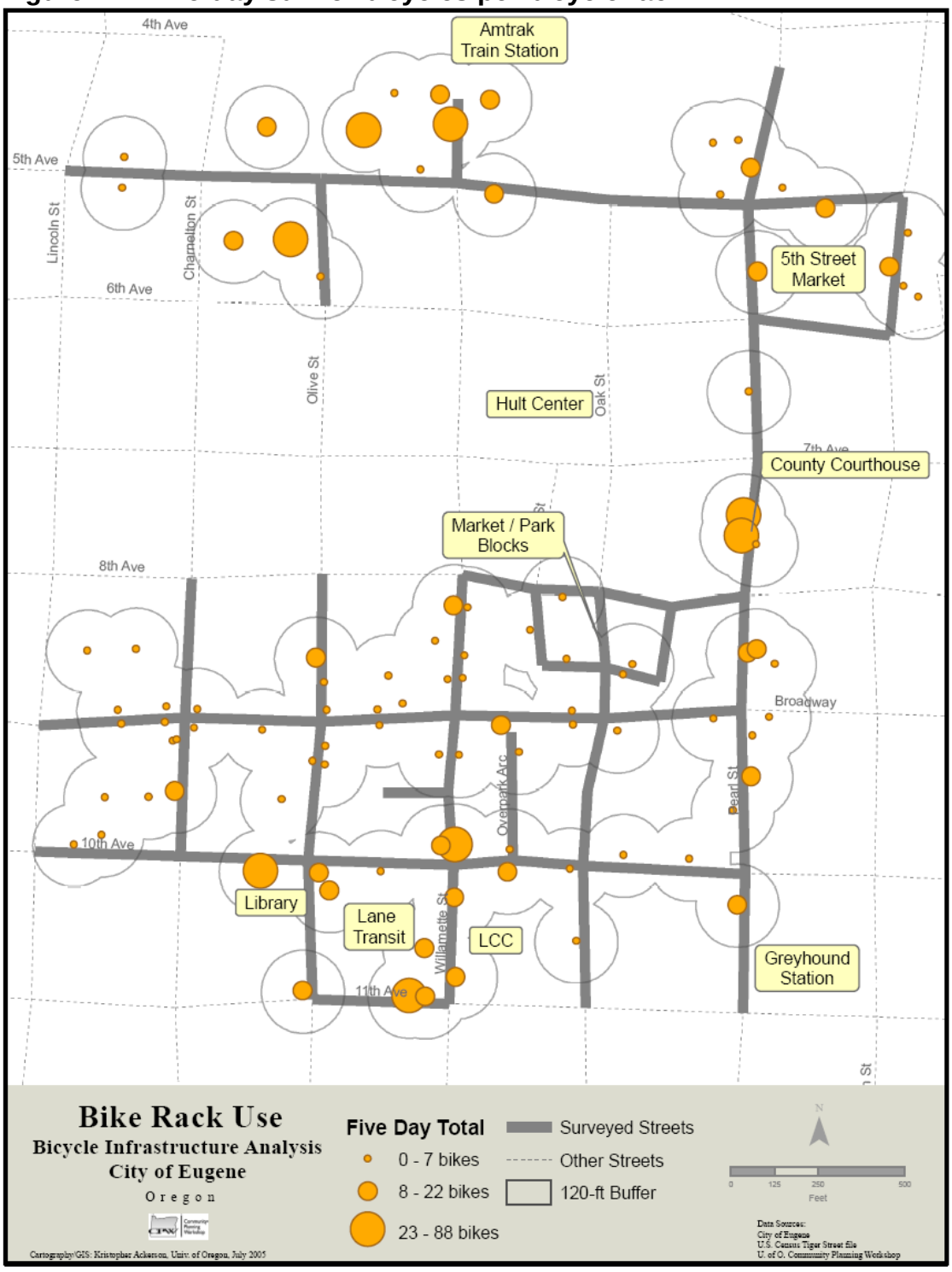
Methodology

CPW inventoried and monitored bicycle rack use in downtown Eugene to identify how the City can best meet the needs of cyclists. Cycling rates in downtown Eugene tend to be higher than elsewhere in the City, and parking is especially important issue for downtown residents, employees and customers. Although Eugene bicycle-parking standards apply throughout the City, this analysis focuses on downtown facilities where residents use bicycles most frequently.

City of Eugene and CPW staff identified five key downtown locations where downtown bicycle use is concentrated: Broadway Avenue, the Eugene Public Library, Pearl Street, the Park Street blocks, and the 5th Street Market (Figure 4-1).

[13]City of Eugene Transportation Services, http://www.eugene-or.gov/portal/server.pt?space=CommunityPage&cached=true&parentname=CommunityPage&parentid=3&in_hi_userid=2&control=SetCommunity&CommunityID=435&PageID=0 (accessed August 5, 2005)

Figure 4-1. Five-day sum of bicycles per bicycle rack*



* Note: The Association of Pedestrian and Bicycle Professionals recommends racks should be "no more than a thirty second walk (120 feet) from the entrance it serves and should preferably be within 50 feet." [14]
Source: CPW, 2005

[14] Association of Pedestrian and Bicycle Professionals, Bicycle Parking Guidelines, http://bicyclinginfo.org (accessed August 1, 2005).

The inventory located and mapped one hundred bicycle racks, lockers, and storage units within the study area using mobile Global Positioning Satellite (GPS) units. CPW collected GPS readings to enable both statistical *and* spatial analysis of fieldwork data. In addition to the location, several bicycle rack characteristics were recorded, including the rack:

- Type (i.e., inverted 'U', locker, wave, other);
- Location (public vs. private property and orientation to street);
- Siting under shelter vs. unsheltered;
- Number of spaces;
- Number of locked bicycles; [15]
- Types of bicycles (i.e., commuter, mountain, youth, leisure);[16]
- Number of businesses in the vicinity; and
- Distance from obstructing objects.

Bicycle use varies by hour and day – commuters and shoppers tend to travel more during certain times of day. The Tuesday Farmers' Market, for example, draws many residents downtown. Similarly, weekend evenings are busier than other nights due to dinner and pub patrons who ride bicycles downtown. To capture the range of times residents use downtown bicycle racks CPW monitored use at various times of day for 5 days (Table 4-1). More generally, summer is the most appropriate season to monitor ridership because residents tend to ride less often in the rain.

Table 4-1. Bicycle rack monitoring schedule

Day	Date	Time
Wednesday	7/13/05	9am-11am
Thursday	7/14/05	2pm-4pm
Saturday	7/16/05	7pm-9pm
Monday	7/18/05	10am-Noon
Tuesday	7/19/05	Noon-2pm

Source: CPW, 2005

[15] We recorded the number of bicycles locked to each bicycle rack. To better understand cyclist behavior, we also noted the number of bicycles per block locked 'illegally' to alternative structures (e.g., parking meters, trees, and benches). After the first day of monitoring these were the only data collected during monitoring.

[16] The type of bicycle was determined by field observation and is not intended to correlate with the trip purpose.

Inventory

A critical aspect of planning for the future of Eugene's bicycle infrastructure is to conduct an inventory and use assessment of existing bicycle facilities. The inventory and monitoring data presented here illustrates downtown Eugene's capacity to serve resident, employee, and customer cyclists.

Bicycle Rack Characteristics

Of the 48 street blocks selected for this inventory, most streets contained approximately two bicycle racks per block. On average, CPW found 170 bicycles locked downtown daily. Given that this represents a snapshot of daily ridership, and does not include bicycle stored indoors, it is reasonable to estimate overall daily ridership at between 200 and 500 cyclists in downtown Eugene.

Based on minimum standards set by the Association of Pedestrian and Bicycle Professionals,[17] the downtown district is reasonably served by current bicycle rack capacity (917 spaces at 100 racks) (Figure 4-1). The fact that 95% of downtown bicycles were locked to racks – rather than other convenient locations (e.g., trees, parking meters) – further supports this conclusion.

The City shares the burden of providing bicycle parking with developers who install racks for new construction. Currently, the City is the primary provider of downtown bicycle parking infrastructure with 71% of spaces (Table 4-2). However, nearly one-quarter of the City's spaces are located in alleys where only 5 bicycles were observed during monitoring.[18]

Table 4-2. Sheltered bicycle parking

	Sheltered	Unsheltered	Total
Private	14	15	29
Public	18	53	71
Total	32	68	100

Source: CPW, 2005

Eugene's bicycle parking standards typically require shelter from precipitation for short- and long-term bicycle parking facilities. Many bicycle racks (32%) are sheltered in the study area, and of these the City is the primary provider (Table 4-2). However, this finding does not account for the many businesses that provide employee parking inside their buildings (see Chapter 5). And of the 247 City-owned sheltered

[17] The APBP recommends bicycle racks be located within a minimum of 120 feet of destination entrances (www.bicyclinginfo.org).

[18] Business owners noted that bicycle racks in alleys experienced higher rates of theft than street-front locations.

spaces there are 55 sited in alleys – only one bicycle was observed in these sheltered facilities during CPW's inventory.

Certain bicycle rack designs, such as inverted-U racks, are more effective than others (see Chapter 2). In general, most downtown racks (64%) are inverted-U while 20% are 'wave or comb' designs, which are often used improperly or not at all (Table 4-3). Bicycle lockers are appealing to commuters because they protect bicycles from precipitation and theft. The inventory noted nine bicycle locker locations totaling 10% of all downtown spaces.

Table 4-3. Types of bicycle racks

	Inverted U	Locker	Wave/Comb	Other	Total
Private	16%	1%	7%	5%	29%
Public	48%	8%	11%	4%	71%
Total	64%	9%	18%	9%	100%

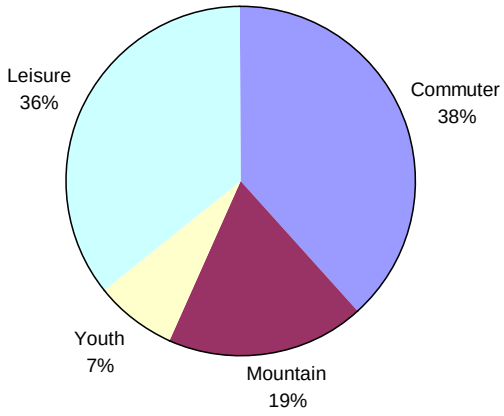
Source: CPW, 2005

Cyclists prefer to park within 50 feet of the entrance to their destination. To calculate the density of businesses near bicycle racks CPW counted the number of storefronts visible from each rack. Seventy-two percent of bicycle racks in the inventory are within site of 4-12 businesses, which suggests downtown bicycle racks adequately serve downtown businesses.

Downtown Cyclists

To better understand the type of cyclist that parks downtown CPW noted the style of bicycles located at bicycle racks. To estimate the type of rider CPW noted the type of bicycle frame, handlebars, wheels, and accessories (e.g., bicycle rack, trailer, panniers). Approximately three-quarters of cyclists downtown are commuters (to work or school) or leisure (running errands) riders (Figure 4-2). One-in-five bicycles were mountain bikes.

Figure 4-2. Types of cyclists



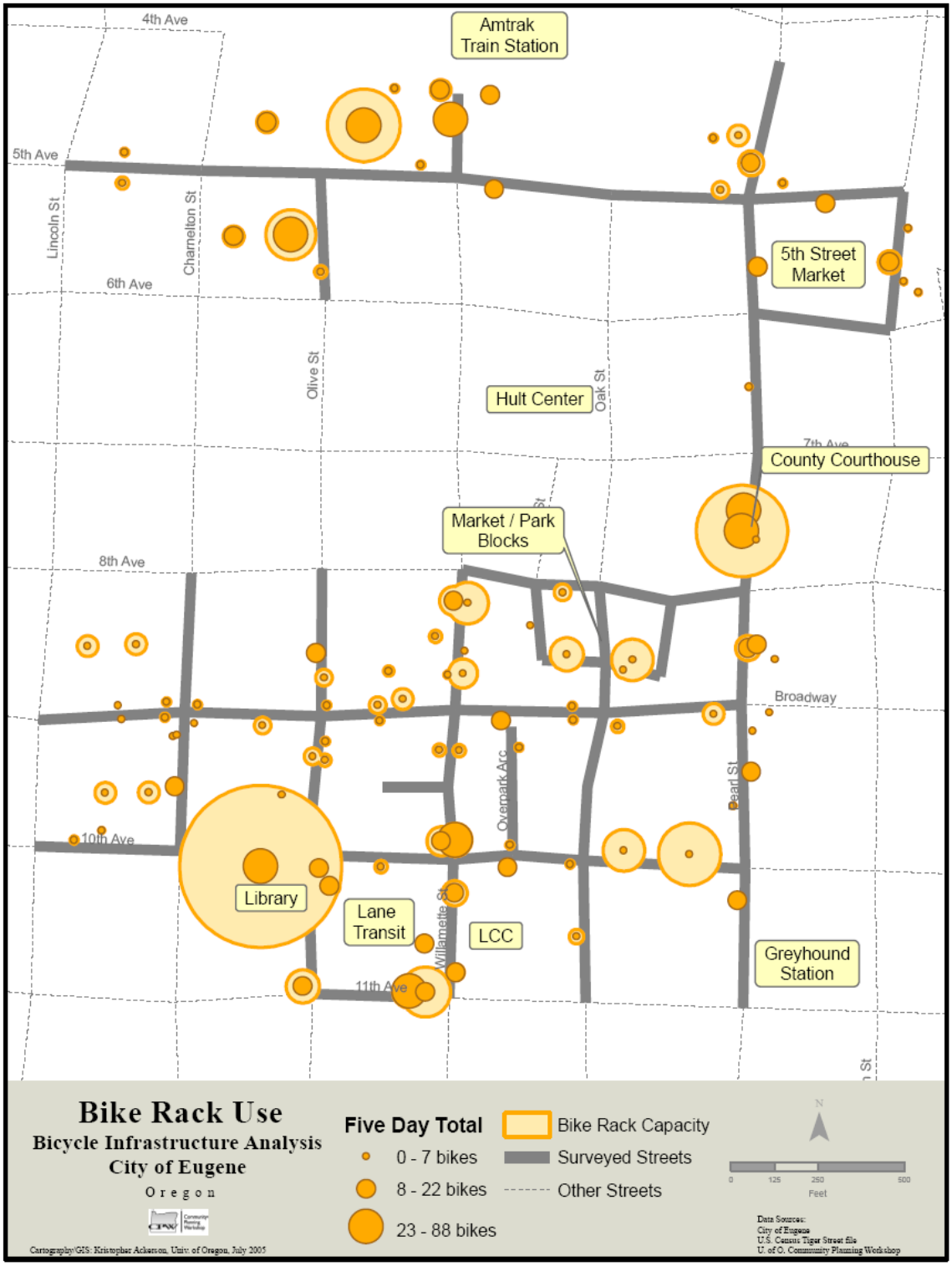
Source: CPW, 2005

Use Trends

CPW found that most cyclists use bicycle racks as primary sites (95%) for securing bicycles. Yet bicycle use and downtown bicycle racks are not evenly distributed in some locations (Figure 4-3). In general the available spaces are sufficient given current rates of use, but racks at the Amtrak Station, 5th Street Market, and LCC may be filled to capacity daily. In fact, the City recently removed City-owned bicycle cages located in the alley beside LCC because of

vandalism. LCC is currently pursuing opportunities to increase its bicycle parking capacity due to a noticeable shortage of spaces.

Figure 4-3. Bicycle rack use and capacity



Source: CPW, 2005

Key Findings

The downtown bicycle parking inventory reveals several key findings regarding ridership and current infrastructure, including:

- Most downtown locations are adequately served by current bicycle infrastructure, but 5th Street Market, the Amtrak Station, and LCC may need increased capacity.
- The City of Eugene provides the majority (71%) of outdoor downtown bicycle racks.
- Most cyclists are leisure/shoppers (36%) or commuters (38%).
- The majority of bicycle racks are inverted-U designs, which are the most efficient and effective style of rack.
- Approximately one-third of downtown racks are sheltered from precipitation.
- Rack location (i.e., street-side vs. alley) significantly impacts vandalism and theft rates, and therefore influences use.
- City standards require 1 space per dwelling unit for housing types that are typical in downtown.
- In general, large employers and residential sites experience more traffic and thus demand more bicycle parking.

Chapter 5
Perceptions of Bicycle Parking Standards

This chapter presents the results of surveys and interviews CPW conducted as part of this project. The purpose of this primary research was twofold: (1) to better understand how bicycle infrastructure gets used in the downtown area; and (2) to gather information about how different groups perceive the existing city policies.

Expert interviews

CPW conducted interviews with three downtown developers, the Site Manager of 5th Street Public Market and the Director of Lane Community College to assess their perceptions of bicycle parking standards. The experts interviewed include:

- Hugh Prichard: Prichard Partners
- Dan Tucci: Daniel C Tucci Investment
- Russ Brink: Downtown Eugene, Inc
- Jeff Davis: Lane Community College (LCC)
- Mike Vaughn: 5th Street Public Market

Excessive Bicycle Parking Standards

Several interviewees thought that bicycle parking standards are a necessary regulation and should be required for new developments. However, all thought that bicycle parking standards demand too many spaces for new developments. One example is the bicycle lockers for residents at High Street Terrace and employees at the office building on 10th and Mill. Though the developer indicated he was glad he put in bicycle lockers, he said, "The code required me to build far more lockers than were necessary. At any given point, the lockers are only half full."

Eugene currently bases the number of bicycle parking spaces by the use of the building, and then by square feet. Three interviewees thought there could be a better way to determine the number of required bicycle spaces. One said, "I would like see more practicality in the code. For example, the code is based on square feet. A more practical way would be to take a standard percentage of vehicle spaces required." Another, who did not think bicycle parking should be a requirement for new developments, suggested that downtown bicycle parking standards be assessed on a block-by-block basis, rather than by lot.

The developer was not required to add bicycle parking to the downtown mixed-use development Broadway Place. However, the developer decided to put in bicycle lockers anyway because he did not want

residents bringing their bicycles inside their apartments. Thus Broadway Place includes four bicycle rooms, which hold about twenty hanging bicycles each. The bicycle rooms allow for a triple lock system. One needs a key to get into the development, a number code to get into the bicycle storage room, and a key that unlocks the bicycles from the wall they are hanging on. The storage rooms at Broadway Place allow for a maximum number of bicycles to be stored in the least amount of space. The developer said, "I could probably fit six bicycles where the code fits one bicycle." He also says, "The code goes over-board on the square footage they require for bicycle parking. They require a huge footprint for bicycles, which is a real cost burden."

City Support

Lane Community College is not required to put in bicycle parking, however they perceive a need and would like to add bicycle parking to their facility. There were bicycle cages located on the side of the building, but the City removed them. LCC cites theft and lack of security for reasons of their removal. He also says that there is limited available space for bicycle parking. He would like to see more coordination between the City and LCC to work on bicycle parking space strategies and implementation.

Staff at the 5th Street Public Market indicated that the racks at the market are underutilized, stating "If 30 bicycles are parked at the market, only half would be at the designated racks." He says, "Many of the racks are 'swing arm' racks, and people may not know how to use them properly." Theft is the main concern of 5th Street Public Market. While the manager has received no complaints about the number of short-term bicycle parking spaces, he has heard complaints of employee bicycle theft. He says, "I hear about one bicycle being stolen every six months, and most are employee bicycles." Providing safe and secure parking is his main concern.

Conclusion

The key points drawn from the expert interviews are:

- Most interviewees thought bicycle-parking regulations are necessary, but the existing regulations miss the mark.
- The downtown developers thought the number of required bicycle parking spaces is excessive.
- The way of determining the number of bicycle spaces should be altered to allow for more flexibility. Possible suggestions include taking a percentage of vehicle parking spaces, or assessing parking by block, rather than by use.
- Some organizations, such as LCC and 5th Street Public Market, would like to see more secure long-term bicycle parking.

While regulations serve a legitimate public interest, the standards may need to be adjusted to more adequately reflect use and space limitations of developments in the downtown area.

Interviews with downtown business managers

CPW developed a set of questions intended to assess the level of service of bicycle parking downtown, and business manager's perceptions of the current standards for providing bicycle parking. The questions addressed three main topics: (1) characteristics of the businesses; (2) characteristics of bicycle parking provided by downtown businesses; and (3) perceptions of bicycle parking standards and requirements.

CPW interviewed 16 downtown businesses located within a select area of downtown blocks and the Fifth Street Market area. Each survey took approximately 20 minutes to complete and was conducted with a mix of owners, managers, and employees from the selected establishments.

The selected businesses represent a cross-section of existing businesses located in the study area. The aim was to survey a diverse group of businesses that ranged in size and longevity in the area. The businesses surveyed include:

- The Kiva
- Lane Community College Downtown Campus
- Downtown Athletic Club
- Scan Design
- M. Jacobs Furniture
- Eugene City Brewery
- Freudian Slip
- New Odyssey Juice Bar
- Poppi's Anatolia
- Hutch's Bicycle Shop
- Savoure Tea
- Footwise
- Paul's Bicycle Way of Life
- Miss Meers
- Steelhead
- The Shedd

Characteristics of the Businesses

Thirteen of the 16 businesses are either retail trade or eating and drinking establishments. Only two of the businesses have been in business for less than one year; the majority of the businesses, 10, have been in business longer than 9 years.

Only half of the businesses were able to estimate both the approximate number of customers they serve daily and the number of those customers who might commute by bicycle. Of these businesses, an estimated 33% of customers ride their bicycles to these establishments daily. For 94% of the businesses, an estimated 29% of workers commute by bicycle daily.

Only two businesses, Paul's Bicycle Way of Life and Lane Community College, provide incentives to employees to use alternative modes of transportation. Paul's pays its employees $0.25 more per hour if they ride their bicycles to work, while Lane Community College provides its employees with a free LTD bus pass.

Characteristics of Bicycle Parking

Assessing the characteristics of bicycle parking offered by downtown businesses is important as the City of Eugene evaluates the current and future level of service needs for bicycle parking in the downtown area.

CPW asked businesses whether they provide bicycle parking for customers and/or employees. While all of the businesses surveyed technically provide bicycle parking, four of the businesses indicated they do not provide bicycle parking on their premises. However, parking is provided nearby within walking distance of these four establishments.

Half of the businesses allow employees to park their bicycles inside, usually in a back room of the business. One business supplies a large locking bicycle cage located at the rear of the establishment for employees to use. Half of the businesses provide bicycle parking for customers and/or employees located in the front of their buildings. Approximately 25% of the businesses surveyed said their racks are filled to capacity daily.

Perceptions of business representatives

CPW asked businesses a series of questions designed to assess perceptions of bicycle parking standards. The questions addressed issues such as safety, location of bicycle racks, and the importance of bicycle parking.

CPW asked whether bicycles had ever been stolen from or near the businesses' properties. Ten out of 16 businesses have had either bicycle theft or vandalism on or near their property. There was a general perception that bicycle racks located in alleys or behind buildings are unsafe in terms of theft and personal safety. One business that provides employee parking in a locked cage at the rear of the establishment noted that more bicycles had actually been stolen from the cage than from the street parking used by customers. Another worker at a different establishment noted that she had used bicycle parking cages in the alley behind her workplace and her bicycle had been vandalized and had accessories stolen while parked there. A quarter of participants also commented on the misuse of alleyway bicycle cages being commandeered by transients to store their belongings.

A majority of the businesses, 11 out of 16, characterized bicycle parking for customers and employees as being "very important". Nine out of 16 said that bicycle parking space requirements should depend on the type and location of the business. One business noted that it may be better

for bicycle parking to be provided for the entire block but not necessarily be provided by every business.

Conclusion

Interviewees overwhelmingly agreed (69%) that bicycle parking was very important for downtown Eugene. Over half thought that bicycle parking requirements should be determined by the type and location of the business. This is in line with current City standards. Other participants suggested that bicycle parking be provided by the block, but not by each individual business.

Safety was the other big issue that came up in the business interviews. A large number of businesses have experienced theft or vandalism on or near their properties, even those with bicycle parking racks located in the front of the building. One participant suggested that the City send out promotional information including proper bicycle parking procedures and suggested types and uses of bicycle locks. There is a general perception that street side racks are safer than less visible racks located in alleys or behind buildings.

Downtown resident survey

CPW sent out 250 surveys to residents at St Vincent DePaul's Aurora Building, High Street Terrace, Broadway Place, and the Tiffany apartment buildings. CPW received 32 responses – a 12.8% response rate.[19]

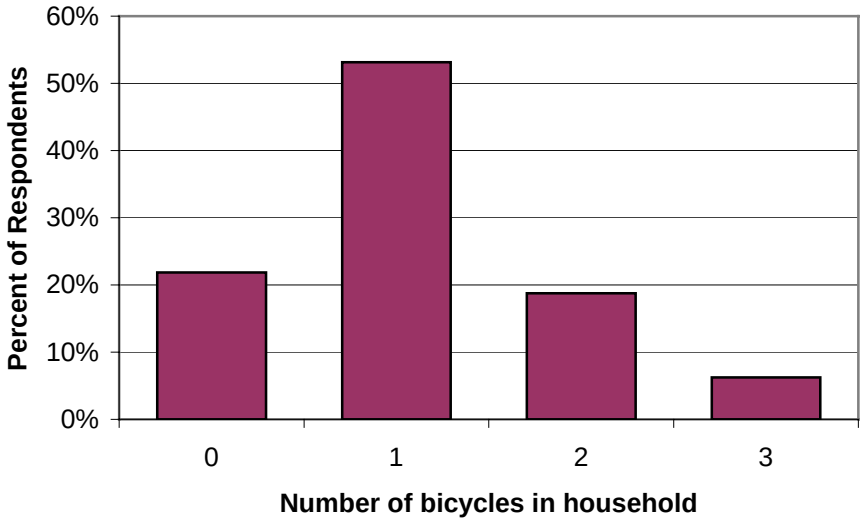
The purpose of the survey was to gain a better understanding of resident bicycle use downtown. The survey focused on how often residents ride bicycles downtown, where they usually park their bicycles, and how residents would improve bicycle parking downtown.

Findings

The first question asked how many bicycles respondents have in the household. Figure 5-1 shows that the majority of respondents (78%) have at least one bicycle in the household. 22% of the respondents have no bicycles in the household. Of the respondents with bicycles, 53% own one bicycle, 19% own two bicycles, and 6% own three bicycles.

[19] This response rate is insufficient to infer the results to all residents of the four housing complexes. Despite this limitation, the results are useful in that they provide anecdotal data on residents' perceptions and use of bicycle parking facilities.

Figure 5-1. Number of Bicycles in Household



Source: CPW, 2005

The next question asked how often residents used their bicycles for certain activities. Table 5-1 shows that 36% of respondents commute to work or school 4-7 times/week, and 24% never commute to work or school on bicycle. Recreational riding was the second highest use: 26% of the respondents ride their bicycles for recreation 4-7 times per week and 22% never ride their bicycles for recreation. Errands received the least frequent amount of bicycle use: 16% of respondents use their bicycles for errands 4-7 times per week and 36% of respondents never use their bicycles for errands. Bicycle use for leisure activities was evenly split. 17% of leisure riders use their bicycles 4-7 times per week, and 17% never use their bicycles for leisure activities.

Table 5-1. Frequency of Bicycle Use By Activity

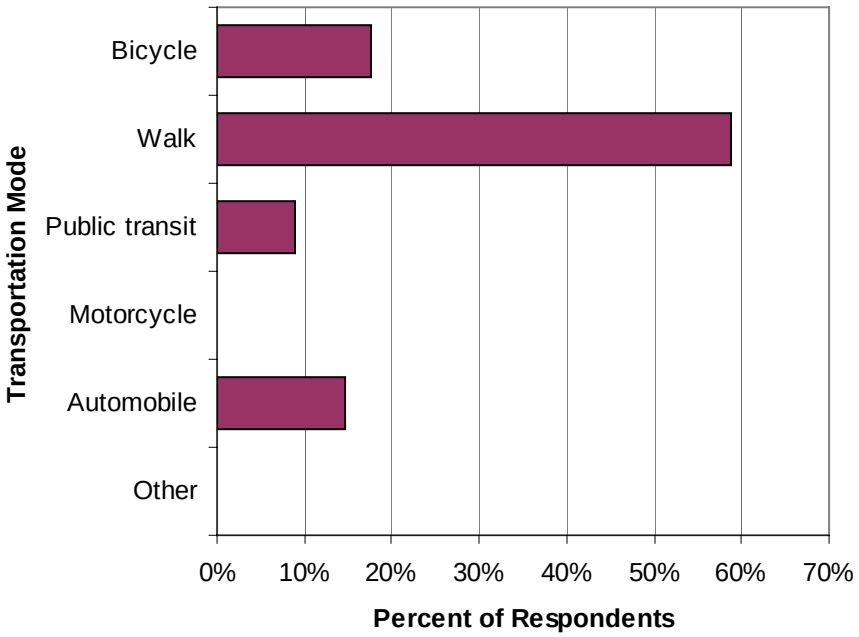
Purpose	Never	Rarely (1-3 times/ year)	Occasionally (4-12 times/ year)	Sometimes (2-3 times/ month)	Daily (4-7 times/ week)
Commuting to work/school	24%	16%	16%	8%	36%
Recreation (i.e., trail riding, road riding)	22%	7%	26%	19%	26%
Leisure (i.e., visit a friend's house)	17%	25%	21%	21%	17%
Errands/shopping	36%	8%	16%	24%	16%

Source: CPW, 2005

CPW then asked the respondents their primary mode of transportation in the downtown area. Figure 5-2 shows that most respondents walk

(59%). Bicycling (18%) is the second most common response for traveling downtown. Public transit (9%) and automobile (15%) are the remaining primary modes of travel downtown.

Figure 5-2. Primary Mode of Travel in the Downtown Area

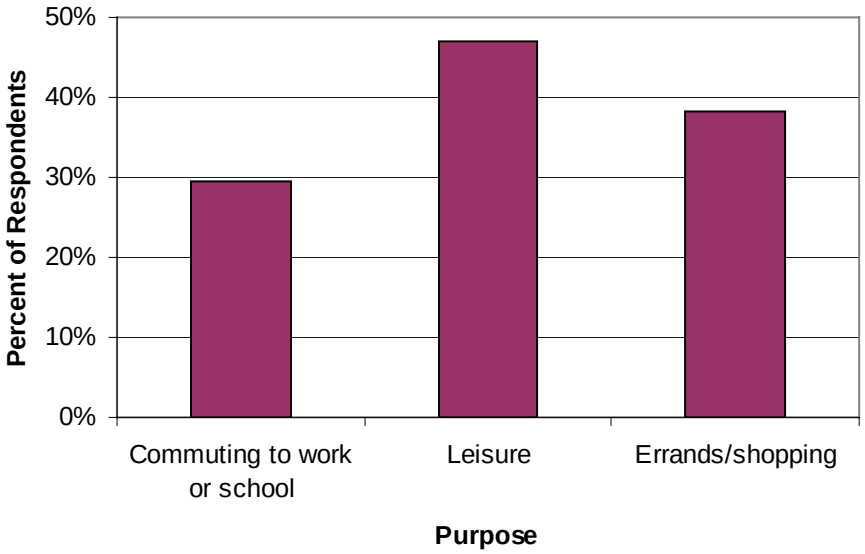


Source: CPW, 2005

The next question asked respondents if they bicycle downtown. The responses show that the majority of respondents (63%) said they bicycle downtown and over a third of the respondents (37%) do not bicycle downtown.

The last question about bicycle use asks what types of activities respondents use their bicycles for. Figure 5-3 shows that the majority of respondents (47%) use their bicycles for leisure. Errands received 38% of responses and commuting to work received 29% of responses.

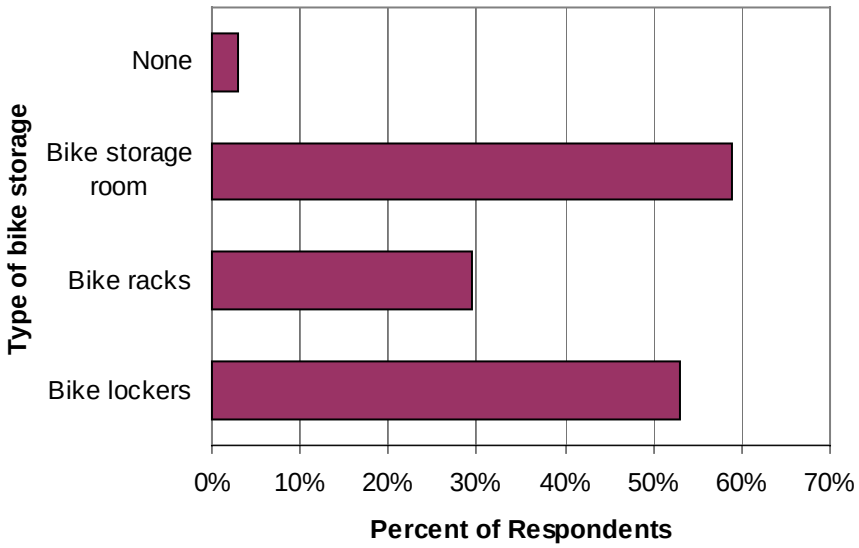
Figure 5-3. Purpose of Downtown Bicycle Use



Source: CPW, 2005

CPW then asked questions specifically about bicycle parking. The next question asked respondents what type of bicycle parking their residential building supplied. Figure 5-4 shows that bicycle storage rooms (59%) are the most common types of bicycle storage. Bicycle lockers (53%) are another common way that apartment building supply bicycle parking. Bicycle racks account for 29% of responses, and 3% of respondents said their apartment building does not supply any form of bicycle parking.

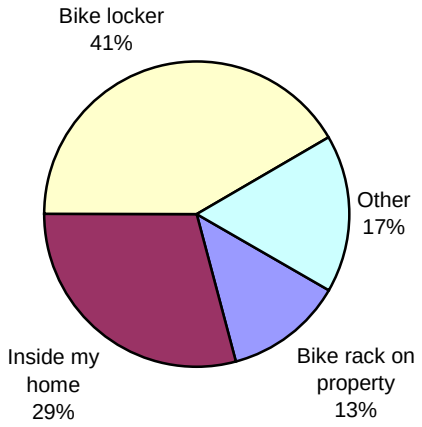
Figure 5-4. Supplied Bicycle Parking Facilities



Source: CPW, 2005

The next questions asked where respondents usually park their bicycles at home. Figure 5-5 shows that 41% of the respondents use bicycle lockers. Parking inside the home (29%) was another popular option. 13% use a bicycle rack on property.

Figure 5-5. Bicycle Parking at Home

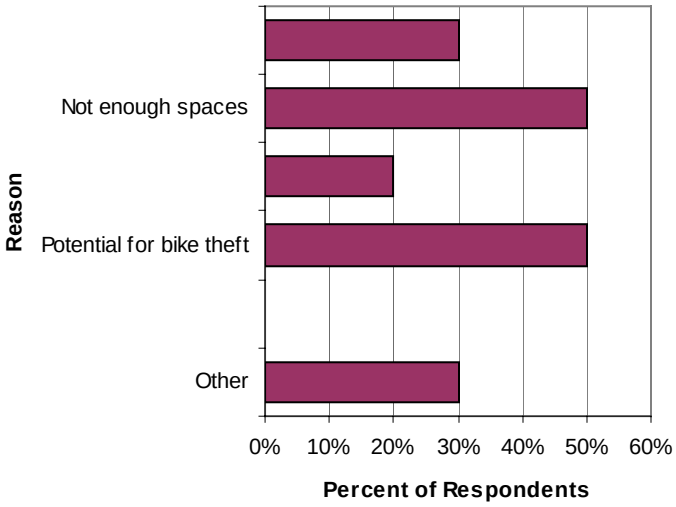


Source: CPW, 2005

The next survey question asked respondents if they use bicycle parking that is supplied by the residential unit. 63% of respondents said they

use the supplied bicycle parking and 37% said they do not use the supplied parking. CPW then wanted to assess why some respondents did not use supplied bicycle parking. Figure 5-6 shows that half (50%) of the respondents thought there were not enough spaces and half (50%) thought the there was a potential for bicycle theft. Inconvenience (30%) was another reason respondents did not use supplied bicycle parking.

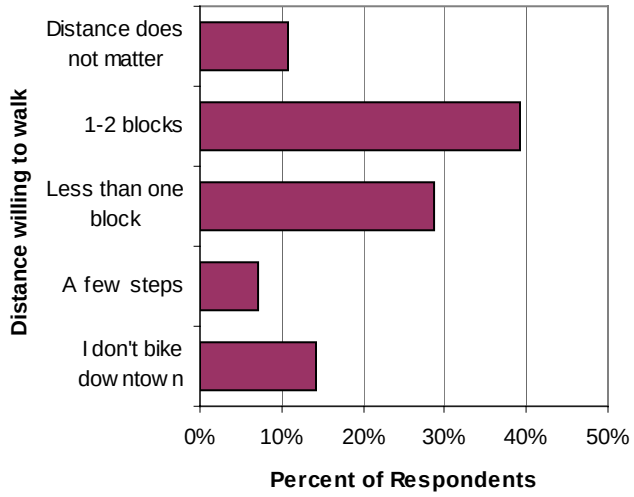
Figure 5-6. Reasons For Not Parking at Supplied Parking Spaces



Source: CPW, 2005

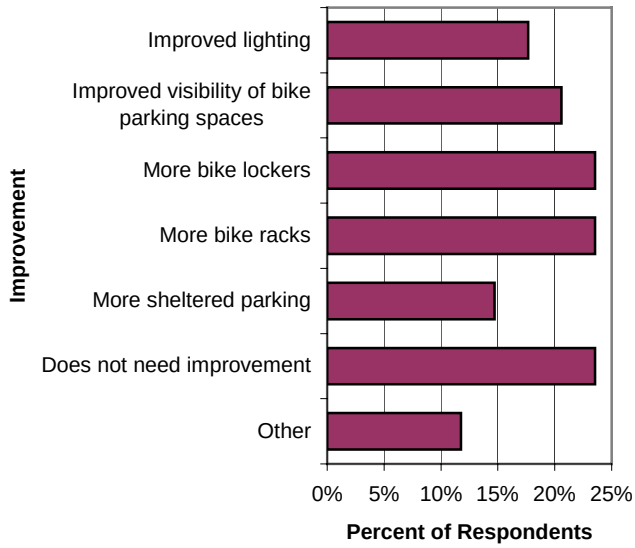
The next question asked when downtown, how far respondents were willing to walk from the bicycle rack to the destination. Figure 5-7 shows that 39% of the respondents are willing to walk 1-2 blocks. 29% would walk less than one block and 7% would walk a few steps. Only 11% thought distance does not matter.

Figure 5-7. Preferred Downtown Walking Distance from Bicycle Rack to Destination



The last question about bicycle parking asks how respondents would change bicycle parking downtown. Figure 5-8 shows that more bicycle lockers (24%) and more bicycle racks (24%) would be improvements. Improved lighting (18%) and improved visibility of bicycle parking spaces (21%) were also noted improvements. 24% responded that bicycle parking downtown does not need any improvement.

Figure 5-8. Downtown Bicycle Parking Improvements



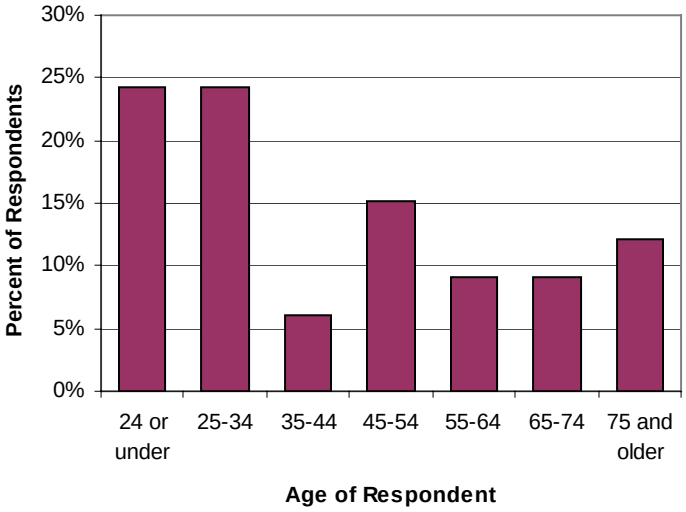
Source: CPW, 2005

CPW then asked questions about the characteristics of respondents. The next question asked if respondents work downtown. About 37% said they work downtown and about 63% do not.

The next question asked the gender of respondents. 44% were female and 56% were male.

The final question asked the age of respondents. Figure 5-9 shows that 24% are 24 and under and 24% are 25-34 year old. 12% of respondents are 75 or over.

Figure 5-9. Age of Respondents



Source: CPW, 2005

Key findings

The key findings from the expert interviews, business owner interviews and residential survey are:

- Bicycle parking regulations serve a legitimate public service
- Bicycle parking standards may be excessive
- Developers want more flexibility in code requirements
- Residents use their bicycles downtown
- There may be a need for more long-term residential bicycle storage facilities
- Bicycle theft is a legitimate concern for downtown residents and employees
- While the current code requires 1 bicycle parking space per dwelling for residential development, it does not consider informal bicycle parking in individual dwelling units.

Chapter 6
Conclusions and Alternative Approaches

The City of Eugene implements bicycle parking standards "to provide safe, convenient, and attractive areas for the circulation and parking of bicycles (Eugene City Ordinance 9.6100)." In preparation for potential changes to this ordinance, the City contracted CPW to (1) review parking standards in comparable cities, (2) inventory and monitor use of existing downtown bicycle parking structures, and (3) assess downtown residents' and business owners' perceptions of the current standards. This chapter discusses CPW's conclusions and potential alternative approaches for consideration.

Basis for Bicycle Parking Standards

City governments have the right to make and enforce laws necessary for the health, safety, and welfare of the populace.[20] A key role for city governments is the provision and maintenance of transportation infrastructure, which facilitates commerce and economic development and improves the residents' quality of life. To this end, many communities encourage cycling by stipulating bicycle-parking standards as components of transportation regulations.

Eugene Bicycle Parking Standards

CPW reviewed the bicycle parking standards of five comparable cities and found the codes share a common purpose – to provide safe and efficient bicycle infrastructure. The City of Eugene bicycle parking standards seek to accommodate residents, customers, employees, students, commuters, and others who routinely ride bicycles. In general, CPW found that when compared with other cities the Eugene bicycle parking standard is:

- *More prescriptive than standards in comparable communities.* Eugene uses a method to calculate the number of bicycle spaces needed that is more complex than other cities. By providing detailed directives for bicycle parking at new developments the
- *Lacks design standards.* All other cities in CPW's code review outline design standards to ensure racks are safe, efficient, and effective. Poorly

[20] "The concept of police power became very important after the passage of the Fourteenth Amendment (1868); on the one hand, the states had to be restrained from taking liberty or property without due process of law; on the other hand, the states could not be made helpless in dealing with grave problems of an economic and social nature (Columbia Encyclopedia, 2005, www.encyclopedia.com/html/p1/policepo.asp (accessed August 11, 2005))."

designed racks are not used or used improperly by cyclists, which undermines the intent of parking standards.

- *Contains inflexible bicycle parking dimension requirements*. Based land-use, location, and demographics, some Eugene developers have reduced bicycle parking where more was needed because the current standards contain inflexible dimension requirements. Conversely, other developers have installed bicycle racks that are never used to capacity. These outcomes are contrary to the intent of the standards and can entail reduced bicycle access or reduced rental income.

Conclusions and Alternative Approaches

To better achieve the goals of the bicycle parking standards, CPW has identified alternatives for the City to consider if it chooses to revise the code. Implementing bicycle-parking standards in downtown Eugene presents unique opportunities and constraints. The following conclusions and alternative approaches are based on bicycle rack inventory data, resident and business owner input, and CPW's analysis of the current standards as they relate to downtown Eugene.

At the broadest level, CPW concludes that the bicycle parking standards serve an important function and should be continued in some form. CPW has identified three general directions that the City could take when reviewing the bicycle parking standards:

1. **No change.** This alternative means the code would not be revised and code enforcement would continue unaltered.
2. **Adopt a new approach citywide.** Other cities calculate the number of needed spaces by land-use, topography, demographic characteristics, square feet, or as a percentage of automobile parking spaces. Eugene could adopt one of these approaches.
3. **Apply special bicycle parking standards downtown.** The downtown area is composed of unique demographic, economic, and physical characteristics distinct from the city as a whole. The City Council could adopt bicycle-parking standards that apply specifically to downtown.

The first option would not require any action on the part of the City, but based on the results of this project CPW does not recommend this option. City staff may, based on their experience and the outcomes of this report, recommend further evaluation of the current standards and ultimately suggest a new approach to Eugene bicycle parking. However, CPW recommends that the City consider the third option – create unique standards for downtown development.

The reasoning for this recommendation is three-fold. The following sections outline conclusions, areas for improvement, and alternative approaches to be considered by the City of Eugene.

Quantity

The downtown area is unique in terms of parking, including bicycle parking. The density of downtown development is high and the City has implemented various

downtown capital improvements, including bicycle racks, lockers, and cages. And aside from the University campus, downtown witnesses the highest rate of bicycle use in the city.

Today the continued installation of public and private bicycle racks has resulted in bicycle parking capacity that meets or exceeds current demand. The public library, for example, offers 78 spaces but only 25% are occupied during an average day. CPW found that half of surveyed businesses provide bicycle parking inside for their employees, while at the same time the City provides curbside bicycle parking for nearly all surveyed businesses. And despite this apparent abundance of bicycle parking, when calculating the needed spaces for a development staff does not include existing curbside spaces (city-owned) in the inventory.

It appears on face that downtown is well served by current bicycle parking structures, but certain exceptions should be noted. For developments such as LCC Downtown or movie theaters, where visitation ebbs and flows, the City could require more facilities to accommodate peak periods. Locations such as the library, on the other hand, could offer fewer bicycle parking spaces because visitation is dispersed throughout the day.

Alternative Approaches

The City may want to consider the following alternative approaches to managing the quantity of bicycle racks for new development:

- *Exempt downtown development from bicycle parking requirements.*
- *Calculate needed bicycle parking by land-use (less detailed than present system), by square-footage of development, as percentage of car parking requirements.*
- *Reduce the minimum standard number of spaces (Eugene Code 9.6105(2)).*
- *Allow developments to add nearby curbside (city-owned) bicycle parking in their inventory when calculating needed bicycle parking spaces.*
- *Focus current City bicycle parking capital improvements on long-term facilities (e.g., lockers). There is an excess of short-term bicycle parking downtown, but secure long-term parking is needed.*
- *Allow the Planning Director discretionary review of calculations for bicycle parking dimensions and in determining the number of spaces needed.*

Location

Siting is a key consideration for bicycle parking infrastructure. Bicycle parking structures must be safe (personal), easily accessible, and secure (equipment). Most cities, including Eugene, stipulate that parking must be well lit and visible for the safety of cyclists.

Bicycle planning professionals recommend bicycle racks be placed within 120 feet of destination entrances, but preferably within 50 feet of entrances. Nearly all cyclists downtown (95%) lock their bicycles to bicycle racks – rather than other convenient objects (e.g., parking meters) – suggesting most downtown destinations have accessible bicycle racks.

The city installed several upright bicycle cages in downtown alleys and automobile parking structures. Cyclists almost never use these units because, as business owners noted, they are frequently vandalized and indigents store personal property in them. If these bicycle cages were located in highly visible areas they would likely be used more often – a finding that highlights how bicycle parking funds can be effectively, or ineffectively, spent due to their location.

Alternative Approaches

The City may want to consider the following alternative approach when specifying the locations of bicycle racks for new development:

- *Discontinue installation of bicycle racks in alleys and other low visibility areas by the City or developers.*

Design

The design of bicycle parking structures is a significant factor in determining the effectiveness of the bicycle rack. In fact all cities except the City of Eugene in the code review component of this report (see Chapter 3) prescribe design standards for bicycle parking.

Certain bicycle rack designs are more effective than others. Inverted-U racks are an effective design and tend to be the predominant type (64%) in downtown Eugene. Wave, comb, and swing-arm designs (see Chapter 2) do not allow cyclists to use U-locks while locking their frame and front wheel to the rack, which discourages use. Alternatively, cyclists attach their bicycles across multiple spaces in order to attach their frame and wheel to the rack. By not addressing design, provision of bicycle racks by developers can waste space and serve fewer bicycles than well-designed systems.

The City currently specifies both long- and short-term bicycle parking to accommodate employees, commuters, and residents (long) and customers (short). The City of Eugene is the primary provider of short-term bicycle parking in the downtown area. Both businesses and the City offer long-term parking options, but businesses tend to allow employee parking inside while City-owned cages are poorly sited and designed, thus rarely used.

Alternative Approaches

The City may want to consider the following alternative approaches when specifying the design of bicycle racks for new development:

- *Develop bicycle rack design specifications that stipulate recommended designs (see Chapter 2).*
- *City could provide safe, secure, and accessible long-term parking facilities.*
- *City could provide for centrally located long-term parking lockers at new large-scale developments using system development charge funds.*
- *Developers could contribute to a bicycle-parking fund to facilitate centrally located bicycle parking facilities.*
- *Automobile parking structures could include secure, long-term bicycle parking spaces.*

Conclusion

Due to diligent implementation of current bicycle parking standards downtown Eugene is well served by bicycle parking infrastructure. If the City seeks to maintain the current level of service it may want to consider implementing all or select alternative approaches outlined above. By improving the specifications of bicycle parking structure quantities, location, and design it may be possible to continue facilitating bicycle use while spending bicycle parking funds more efficiently.

Appendix A
Bicycle Parking Standards

This appendix includes the full text of the bicycle parking standards CPW reviewed. They are presented in the following order:

- City of Ann Arbor Michigan
- City of Bend, Oregon
- City of Berkeley, California
- City of Boulder, Colorado
- City of Eugene, Oregon
- City of Madison, Wisconsin

City of Ann Arbor, Michigan Municipal Code
Chapter 59 OFF-STREET PARKING*

***Editor's note:** Ord. No. 41-86, adopted Oct. 20, 1986, has been codified herein as superseding former Ch. 59. Prior to the inclusion of said ordinance, former Ch. 59, pertained to off-street parking. See the Code Comparative Table.

Cross references: Transportation department, § 1:67; automobile parking system, Ch. 30, streets and sidewalks, Tit. IV; zoning and planning, Tit. V; historical preservation, Ch. 103, traffic, Tit. X.

5:161. Definitions.

(1) *Bicycle parking space.* An area and facility used for the securing of bicycles. This term shall include enclosed bicycle storage, covered bicycle racks or fixed bicycle racks which meet the requirements of this chapter for bicyle parking.

(2) *Driveway.* An access roadway between a public street and a parking space, structure or lot.

(3) *Front open space.* The area enclosed by the lot lines, the street right-of-way line and the established line of setback. Established line of setback shall be a line, drawn parallel to the street, extending from the point at which a principal building is closest to the street outward to the lot lines. All area directly in front of any part of the principal building shall also be considered to be in front of the established line of setback.

(4) *Parking lot.* A total surface area on 1 parcel of 1,200 or more square feet or 5 parking spaces used for parking and maneuvering of motor vehicles and which shall also include unenclosed parking structures.

(5) *Parking space.* A private area designed or used for the parking of a motor vehicle and properly accessed from a public street by a driveway or private street.

(6) *Residential zones.* Those areas classified pursuant to sections 5:10.2 through 5:10.8 of Chapter 55 of this Code. All other areas shall be considered nonresidential zones.

(7) *Retail center.* A group of predominantly commercial establishments managed as a total entity.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 12-02, § 1, 4-1-02)

5:162. Accessibility.

The parking spaces and bicycle parking spaces required by this chapter shall be accessible to a public street or alley and shall be kept available for the use of occupants, employees or other users of the building for which the space was provided. Nothing herein shall preclude a reasonable charge to the occupants of the building for use of the parking spaces or bicycle parking spaces.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95)

5:163. Buildings and uses affected.

(1) No new building shall be erected unless the parking for bicycles and motor vehicles required by this chapter is provided.

(2) No building shall be altered so the usable floor area is increased unless the minimum required parking for the entire building is provided.

(3) The minimum parking required by this chapter shall be provided for the entire building if the use classification or number of units of use of the building is changed and the parking space required for the new use exceeds that required for the previous use.

(4) The parking requirements of this chapter shall not apply to buildings owned or leased by a governmental unit or agency or by a public educational institution as long as they are used for governmental purposes. When such property is conveyed or otherwise made available for a private use, all the parking required by this chapter for that use must be provided.

(5) The area outside a building occupied by bicycle parking spaces shall be considered usable open space and be included in the calculation of usable open space of a site. When bicycle parking spaces are provided within a building, that floor area used for bicycle parking spaces shall not be included in the floor area used for calculating vehicle parking requirements.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95)

5:164. Deferred parking requirements.

If the parking spaces or bicycle parking spaces required by this chapter are determined by the owner to be in excess of the immediate need for parking, the provisions of up to 40% of the required parking spaces or bicycle parking spaces may be deferred if shown on an approved site plan. If the planning and development services manager or designee determines that some or all of the deferred parking spaces or bicycle parking spaces are needed, these spaces must be installed. Any person aggrieved by this determination may appeal as provided in section 5:97 of Chapter 55 of this Code.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 43-04, § 24, 1-3-05)

5:165. Barrier free parking.

All parking lots shall have barrier free parking spaces as required by and in conformity with state law (MCL 125.1352).

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 38-99, § 1, 9-20-99)

5:166. Use of off-street parking facilities.

(1) No person shall park a motor vehicle in the front open space, except on the driveway, in a structure or within an approved parking space or lot. This subsection shall not be applicable on those days when football games are played in The University of Michigan stadium. It shall also be inapplicable to persons who have obtained a permit issued by the city administrator for parking in the front open space during the Ann Arbor Street Art Fair. Such permits shall be issued in accordance with regulations adopted by the city council for the purpose of ensuring public safety and preserving the attractive appearance of the city.

(2) No person shall obstruct the use of a required off-street parking space or bicycle parking space by storing objects, structures or vehicles that are inoperative, unregistered or for sale.

(3) In residential zones, trailers, boats, campers and similar vehicles must be stored in a structure, on a driveway or in a location other than the front open space.

(4) In residential zones, no person shall park more than 2 commercially-licensed vehicles in the open on the vehicle owner's private property or within 500 feet of the property on a public street.

(5) In residential zones, no person shall park in any off-street parking space any vehicle over 22 feet long or a commercial vehicle licensed for an empty weight of more than 5,500 pounds.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95)

5:167. Required parking.

Parking for vehicles and bicycles in the amount specified in this section shall be provided on the same parcel as the principal use or on a separate parcel within 500 feet of the principal building if zoned "P" or zoned for the same uses as allowed on the property of the principal use. No lot zoned other than "P" shall have parking as its principal use. An off-site permanent parking easement must be recorded if required parking is provided on another lot. An off-site parking easement may not include parking spaces or bicycle parking spaces required to keep the other owner's property in compliance with this chapter. Any fraction of a required parking space or bicycle parking space shall be considered a full space. Required bicycle parking shall meet the design requirements for Class A, B and C facilities provided in Section 5:168.1. Property owners may provide a higher class of bicycle parking facility than is required by this section.

TABLE INSET:

	Use	Required Parking Spaces	Required Bicycle Spaces	Required Bicycle Class
RESIDENTIAL				
(1)	Child care centers and nursery schools	As required by Chapter 55	1 space per 10 care givers	B
(2)	Convalescent homes, hospitals and sanitariums	1 space for each 6 beds	1 space per 60 beds	B
(3)	Group day care homes	As required by Chapter 55	1 space per 10 care givers	B
(4)	Multiple-family dwellings zoned R4A and R4A/B	2 spaces per dwelling unit	1 space per 10 units	A - 50% C - 50%
(5)	Multiple-family dwellings zoned R4B, R4C, R4C/D and R4D	1 1/2 spaces per dwelling unit	1 space per 10 units	A - 50% C - 50%
(6)	Multiple-family dwellings located in any nonresidential zoning district	1 space per dwelling unit	1 space per 10 units	A - 50% C - 50%
(7)	1-family dwellings and mobile homes	1 space per dwelling unit	None	None
(8)	Rooming houses, boarding and lodging houses	1 space for each 3 beds	1 space per 5 beds	A - 50% B - 50%
(9)	Sororities, fraternities, student cooperatives and other organized group homes	1 space for each 5 beds	1 space per 2 beds	A - 50% B - 50%
(10)	Townhouse dwellings	2 spaces per dwelling unit	1 space per 5 units	A - 50% C - 50%
(11)	2-family dwellings	1 1/2 spaces per dwelling unit	None	None
(12)	Community center clubhouse and private swimming club building	1 space per 200 square feet	1 space per 1,000 square feet	C
COMMERCIAL				
(20)	Athletic clubs, health spas and roller rinks	1 space per 200 square feet of floor area	1 space per 1,000 square feet	B
(21)	Auto washes--Automatic	1 space per 500 square feet of floor area	1 space	C
(22)	Auto washes--Self serve	1 space per bay	1 space	C
(23)	Banks and Similar Financial Institutions	One space for each 200 square feet of floor area	One space per 2,000 square	C

			feet.	
(24)	Barber, beauty shops	1 space per 100 square feet of floor area	1 space per 750 square feet	C
(25)	Bowling alleys	5 spaces per alley	1 space per 5 alleys	C
(26)	Dance halls, assembly halls and convention halls	1 space per 100 square feet of floor area	1 space per 1,000 square feet	C
(27)	Furniture, home furnishings and appliance stores	1 space per 600 square feet of floor area	1 space per 7,500 square feet	C
(28)	Gasoline filling station	1 space per 300 square feet of floor area	1 space	C
(29)	Gasoline service station, Auto repair and service	1 space per 200 square feet of floor area	1 space	C
(30)	Hotels/motels	1 space per room	1 space per 30 rooms	A
(31)	Indoor court game facilities (Handball, racquetball and tennis clubs)	1 space per 1,000 square feet of floor area	1 space per 2,000 square feet	B
(32)	Funeral homes	One space per 100 square feet of floor area used for viewing or services. Site must provide a separately designated off-street assembly area for the lead car, hearse and family vehicle to be used in funeral processions so that these vehicles do not interfere with off-site traffic or access to required parking spaces	None	None
(33)	Restaurants and taverns not located in a retail center	One space for each 100 square feet of floor area.	One space per 750 square feet.	B - 50% C - 50%
(34)	Retail stores and retail centers			
	Retail stores and retail centers less than 300,000 square feet of floor area	One space per 310 square feet of floor area--minimum. One space per 265 square feet of floor area--maximum. (a)	One space per 3,000 square feet.	B - 50% C - 50%
	Retail stores and retail centers between 300,000--600,000 square feet of floor area	One space per 285 square feet of floor area--minimum. One space per 250 square feet of floor area--maximum. (a)	One space per 3,000 square feet.	B - 50% C - 50%
	Retail stores and retail centers more than 600,000 square feet of floor area	One space per 265 square feet of floor area--minimum. One space per 235 square feet of floor area--maximum. (a)	One space per 3,000 square feet.	B - 50% C - 50%
(35)	Storage and warehousing	1 space per 2,000 square feet of floor area	1 space per 30,000 square feet	B
(36)	Theaters	1 space for each 3 seats	1 space per 150 seats	C

OFFICE				
(50)	Business or professional offices	1 space per 333 square feet of floor area--minimum One space per 250 square feet of floor area--maximum (a)	1 space per 3,000 square feet	A - 30% C - 70%
(51)	Medical and Dental Offices and Clinics	One space per 150 square feet of floor area.	One space per 1,500 square feet.	A - 30% C - 70%
EDUCATIONAL/INSTITUTIONAL				
(60)	Churches	1 space per 3 seats or 1 space per 6 feet of pew. Public off-street parking spaces within 1,000 feet of the site may be counted if approved as part of a site plan	1 space per 50 seats or 100 feet of pew	C
(61)	Elementary and junior high schools	3 spaces per classroom	5 spaces per classroom	C
(62)	Senior high schools and institutions of higher learning	5 spaces per classroom	5 spaces per classroom	C
(63)	Stadia auditorium, not incidental to schools	1 space per 3 seats or 1 space per 6 feet of bench	1 space per 100 seats or 200 feet of bench	C
MANUFACTURING AND RESEARCH				
(70)	Heavy manufacturing, including tool and dye, foundries, lumber yards, steel fabrication and welding	1 space per 1,500 square feet of floor area	1 space per 25,000 square feet	B
(71)	Limited manufacturing, research and development laboratories	1 space per 600 square feet of floor area	1 space per 6,000 square feet	B
(72)	Headquarters business offices for commercial and industrial firms	1 space per 400 square feet of floor area	1 space per 3,000 square feet	A - 30% C - 70%
OTHER				
(80)	Other uses	Parking and bicycle spaces for uses not specified shall be determined by the planning and development services manager, based upon requirements for similar uses.		
(81)	Parking structures or principal use parking lots		1 space per 10 parking stalls	A - 30% C - 70%

(a) Additional parking may be provided if it does not increase impervious surfaces beyond that which would be provided by meeting the maximum parking required. Examples of additional parking may include, but not be limited to, under-structure parking, rooftop parking, or structured parking above a surface parking lot.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 8-98, § 1, 5-18-98; Ord. No. 38-99, § 2, 9-20-99; Ord. No. 27-00, § 3, 8-7-00; Ord. No. 51-50, § 1, 1-22-01; Ord. No. 12-02, § 2, 4-1-02; Ord. No. 9-03, § 1, 5-5-03; Ord. No. 43-04, § 24, 1-3-05)

5:168. Design of off-street motor vehicle parking facilities.

No person shall construct or establish a driveway or off-street parking structure, lot or space, except pursuant to a building permit issued upon the submission of plans showing compliance with the following standards:

(1) In residential zones, parking spaces or lots shall not be located in the front open space. However, multiple-family uses having more than 100 feet of street frontage, more than 20,000 square feet of land area, and more than 20 dwelling units may have parking spaces and lots as provided in subsection (2) of this section. Churches, child care centers and schools with more than 100 feet of street frontage and more than 20,000 square feet of land area may be permitted to have front open space parking located behind the required front setback line if approved as part of a special exception use review.

(2) In nonresidential zones, parking spaces and lots shall be located behind the front setback line required in Chapter 55 of this Code.

(3) Driveways leading to parking spaces and lots shall meet the following standards:

(a) A driveway leading to an enclosed space may be widened to the width of the parking space if the driveway does not exceed 30% of the front open space.

(b) The width of a driveway serving a single or two-family dwelling shall be between 10 and 24 feet. For uses other than single or two-family, the width of one-way driveways shall be between 10 and 15 feet, and the width of two-way driveways shall be between 18 and 24 feet.

(c) All driveways shall lead to a garage, carport, parking space or structure meeting the requirements of this Chapter, or back onto a street by means of the original opening or a second approved opening. A driveway with a width of up to 10 feet may be installed for single and two-family dwellings on parcels without adequate space for off-street parking.

(d) Driveways providing access to property in nonresidential zones may not be located in residential zones.

(4) No parking lot shall be located closer than 10 feet to any building used for a dwelling on the first floor.

(5) Parking spaces required by this Chapter shall be at least 9 feet wide and 18 feet long (16 feet long if 2 feet of overhang is provided when parking against a curb). However, up to 30% of the parking spaces may be designated as small car spaces, which shall be at least 8 feet wide and 16 feet long and clearly signed for "small cars." Spaces directly adjacent to a fence, wall or enclosure shall be increased by 1 foot in width. Barrier free parking spaces must be designated as required by and in conformity with state law.

(6) Parking lots shall have adequate maneuvering area and access to permit use of all parking spaces without moving other vehicles and prevent backing into a public street. Parking spaces shall be clearly marked and the lots shall conform to the following minimum stall and aisle standards:

Stall and Aisle Standards

Regular Size Cars

TABLE INSET:

(A)	(B)	(C)	(D)	(E)	(F)
Angle of Parking in Degrees	Stall Width*	Curb Length Per Stall	Stall Depth 90° to Wall***	Aisle Width**	Wall to Wall Width
0°	9'	20'	9'	12'	
45°	9'	12'7"	19'5"	12'	51'
60°	9'	10'4"	20'5"	16'	57'
75°	9'	9'3"	20'	20'	60'
90°	9'	9'	18'	22'	58'

Small Size Cars

TABLE INSET:

(A)	(B)	(C)	(D)	(E)	(F)
Angle of Parking in Degrees	Stall Width*	Curb Length Per Stall	Stall Depth 90° to Wall***	Aisle Width**	Wall to Wall Width
0°	8'	18'	8'	12'	
45°	8'	11'3"	17'	12'	46'
60°	8'	9'2"	17'9"	14'	49'8"
75°	8'	8'3"	17'5"	17'	52'
90°	8'	8'	16'	20'	52'

*Stall width shall be increased by 1 foot for those spaces which are adjacent to a fence, wall or enclosure. Barrier free parking spaces must be designated as required by and in conformity with state law.
**In lots that are designed for both regular and small cars, the regular size aisle width shall be used.

***Stalls which allow for vehicle overhang (next to curbs) can be reduced in depth by 2 feet.

GRAPHIC LINK: Parking Stalls

(7) Driveways and parking lots shall be surfaced with asphalt, concrete, pavers or brick in accordance with city engineering standards. However, driveways and parking areas which serve single or two-family dwellings with parking areas of less than 1,200 square feet or less than 5 parking spaces may be surfaced with gravel or other similar material meeting standards established by the Building Official. Approval of such surfacing shall be conditioned upon adequate coverage and barriers sufficient to confine the material.

(8) Parking lots which were constructed or site planned after October 1, 1984 have the option to continue to comply with the standards under which they were approved or to comply with the revised standard in the table below. Parking lots constructed or site planned after July 15, 1987, shall be illuminated from one-half hour after sunset to one-half hour before sunrise, at the levels specified below. The lighting of such parking lots must be designed to provide illumination levels at all unobstructed points of the parking lots in accordance with the following table. Illumination levels shall be measured 3 feet above the lot surface.

TABLE INSET:

Use	Minimum Illumination Level (footcandles)	Maximum Uniformity Ratio
Residential, church, school, private swimming club, and child care facility		
A. All Parking Lots	0.4	10:1
Non-residential		
Small (5--10 spaces)	0.4	10:1
Medium (11--99 spaces)	0.6	10:1
Large (100 or more spaces)	0.9	10:1

EXCEPTION:
Lighting levels may be reduced to 0.4 footcandle with a uniformity ratio of not more than 10:1 after 2:00 a.m., or after established hours of operation as filed with the city building department. Established hours of operation are one-half hour before to one-half hour after published business hours.

Church, school, private swimming club, and child care facility parking lots in residential neighborhoods, and site planned after July, 1988, shall have the option of reducing lighting levels by up to 50% after midnight with the uniformity ratio not to exceed 50:1.

Lighting plans and specifications for such illumination must be submitted pursuant to this chapter during the site plan approval process. The uniformity ratio shall be the ratio of the maximum to minimum illumination level.

Illumination level is the initially measured output of the fixture reduced by the lamp loss and luminaire dirt depreciation factors.

(9) Lighting for parking lots and spaces must be designed and maintained so the illumination is evenly distributed, so no more than 0.1 foot candle of illumination shines, glares or reflects into any premises used for residential purposes, and so that it does not adversely affect the vision of motorists on public streets.

(10) Parking lots shall be equipped with curbs or other barriers to confine vehicles to the parking lot. Driveways, parking lots and structures shall be constructed and maintained in a manner to prevent drainage nuisances and the formation of potholes and must be kept reasonably free of snow and ice.

(Ord. No. 41-86, 10-20-86; Ord. No. 13-87, § 1, 7-16-87; Ord. No. 36-89, § 1, 8-21-89; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 8-98, § 2, 5-18-98; Ord. No. 38-99, § 3, 9-20-99; Ord. No. 27-00, § 4, 8-7-00; Ord. No. 9-03, § 2, 5-5-03)

5:168.1. Design of bicycle parking facilities.

No person shall construct or establish a bicycle parking space except pursuant to a building permit issued upon the submission of plans showing compliance with the following standards:

(1) *Facility standards.* When bicycle spaces are required by this chapter, the total number of spaces shall be provided by 1 or a combination of the following 3 classifications of bicycle facilities in accordance with section 5:167.

(a) Class A (medium to long-term parking) - Enclosed bicycle storage - enclosed bicycle storage shall be in the form of individual enclosed storage lockers, an enclosed bicycle parking shed, a room within a building which contains individual storage lockers or rack spaces, or individual private garages. All types of enclosed bicycle storage shall be easily accessible, secure, well lighted and weather resistant. If racks within a room are used, 1 standard bicycle parking space shall consist of a space not less than 2 feet wide by 6 feet long with a minimum clear access aisle width of 3 feet. Credit can be extended for creative designs that use the available space more efficiently and store the equivalent number of bicycles in a smaller area. An impervious surface or concrete grass pavers shall connect the enclosed bicycle storage area to a sidewalk or driveway. Enclosed bicycle storage constructed exterior to a building shall comply with the zoning regulations for accessory structures.

(b) Class B (short to medium-term parking) - Covered bicycle racks - covered bicycle racks, such as hoop style racks or another type of rack that meets these standards, shall be securely anchored in pavement and designed so that both wheels and the frame of a bicycle may be securely locked with either a chain, cable or padlock. One standard bicycle parking space shall consist of a space not less than 2 feet wide by 6 feet long with a minimum clear access aisle width of 3 feet. Credit can be extended for creative designs that use the available space more efficiently and store the equivalent number of bicycles in a smaller area. Pavement shall meet city public services department standards. The racks shall be covered by a building overhang or a self-standing cover with a minimum clearance of 7 feet above grade. An impervious surface or concrete grass pavers shall connect the covered bicycle racks to a sidewalk or driveway. All covered bicycle racks shall comply with zoning regulations for accessory structures.

(c) Class C (short-term parking) - Fixed bicycle racks - fixed bicycle racks, such as hoop style racks or another type of rack that meets these standards, shall be securely anchored in pavement and designed so that both wheels and the frame of a bicycle may be securely locked with a chain, cable or padlock. One bicycle parking space shall consist of a space not less than 2 feet wide by 6 feet long with a minimum clear access aisle width of 3 feet. Pavement shall meet city public services department standards. An impervious surface or concrete grass pavers shall connect the fixed bicycle racks to a sidewalk or driveway.

(2) *Location criteria.* Exterior bicycle parking facilities shall be placed in close proximity to main building entrances and in a location that is visible and easily accessible. A physical barrier, designed to prevent motor vehicles from driving into bicycle parking areas, shall be provided between bicycle and motor vehicle parking when bicycle parking areas are located within a parking structure or lot. Bicycle parking in parking structures shall be located on the street level and near an entrance and public sidewalk.

(3) Lighting. Bicycle parking spaces shall be illuminated from one-half hour after sunset to one-half hour before sunrise, at the levels specified below. The lighting of such parking areas must be designed to provide illumination levels at all unobstructed points of the bicycle parking area in accordance with the following table. Illumination levels shall be measured 3 feet above the lot surface.

TABLE INSET:

Use	Minimum Illumination Level (footcandles)	Maximum Uniformity Ratio
Bicycle parking spaces	0.4	10:1

(Ord. No. 44-95, § 1, 11-9-95; Ord. No. 8-98, § 2, 5-18-98)

5:169. Special parking districts.

Property located in the downtown development authority district as described in section 1:154 of this Code is subject to the following standards:

(1) No off-street parking is required in the special parking district for structures which do not exceed the normal maximum permitted usable floor area or for structures zoned PUD with usable floor area which does not exceed 300% of the lot area. Structures which exceed the normal maximum usable floor area by providing floor area premiums, or PUD-zoned structures that exceed 300% of lot area, shall provide parking spaces for the usable floor area in excess of the normal maximum permitted. This parking shall be provided at a rate of one off-street parking space for each 1,000 square feet of usable floor area for residential uses, and 1 space for each 500 square feet for nonresidential uses. The required parking spaces may be provided in a public parking lot or structure pursuant to an agreement with the city. As an alternative, these required parking spaces may also be provided privately on or off site if shown on an approved site plan.

(2) The above parking requirement may be reduced by the city council, after having received a recommendation from the city planning commission, if it determines that the parking needs of the property will be met.

(Ord. No. 41-86, 10-20-86)

5:170. Variance and exceptions.

The zoning board of appeals shall have authority to interpret this chapter and may in specific cases and after public notice and hearings in accordance with Chapter 55 of this Code grant variances and exceptions to these requirements, providing such variance or exception is in harmony with the general purpose and intent of the requirements. The

procedural requirements for appeals under Chapter 55 shall be applicable to appeals under this chapter.

5:171. Nonconforming uses.

(1) Nonconforming parking lots and driveways lawfully constructed prior to January 1, 1986 may be maintained and continued as nonconforming uses. All parking lots or additions to existing parking lots legally constructed after January 1, 1986, must meet the requirements of this chapter. All legal nonconforming parking lots established prior to 1986 must have lighting installed in accordance with this chapter within 1 year of notification.

(2) Nonconforming bicycle parking spaces lawfully installed prior to November 26, 1995, may be maintained and continued as nonconforming uses. All new bicycle parking areas or additions to existing bicycle parking areas legally constructed after November 26, 1995 must meet the requirements of this chapter.

(Ord. No. 41-86, 10-20-86; Ord. No. 36-89, § 2, 8-21-89; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 44-95, § 1, 11-9-95)

5:172. Penalties.

Violation of any provision of this chapter constitutes a civil infraction punishable by a fine of not more than $1,000.00 per violation plus costs and all other remedies available by statute. Each day upon which such violation shall occur shall constitute a separate offense. In addition to these penalties, upon the request of the City Administrator or designee, the City Attorney may commence suit in a court of appropriate jurisdiction to abate any nuisance resulting from a violation of the provisions of this chapter.

(Ord. No. 41-86, 10-20-86; Ord. No. 44-95, § 1, 11-9-95; Ord. No. 25-04, § 5, 8-2-04)

(8) Required Bicycle Parking.

(a) On-site bicycle parking shall be provided as listed below. Fractional spaces shall be rounded to the next highest number. Bicycle parking for multiple uses or large commercial developments may be provided in one or more locations.

Use	Requirement
Multi-family dwellings with 4 units or more:	1 covered space per unit
Retirement home or assisted living complex:	2 covered spaces or 1 covered space for every 10 employees whichever is greater
Retail sales and service:	1 covered space for every 10 employees plus 1 space for every 20 motor vehicle spaces
Street vendors, itinerant merchants, and similar temporary sales operations:	No bicycle spaces required
Restaurants, cafes and taverns:	1 covered space for every 10 employees plus 1 space for every 20 motor vehicle spaces
Professional office:	1 covered space for every 10 employees plus 1 space for every 20 motor vehicle spaces
Medical or dental office or clinic or hospital:	1 covered space for every 10 employees plus 1 space for every 20 motor vehicle spaces
Stadium, arena, theater or similar public use:	1 space for every 20 seats
Elementary School:	1 covered space for every 10 students in grades 2 through 5
Junior High School:	1 covered space for every 10 students
High School:	1 covered space for every 10 students
College:	1 space for every 10 motor vehicle spaces plus 1 covered space for every dormitory unit

Use	Requirement
Public or private recreational facility:	1 space for every 10 employees plus 1 space for every 20 motor vehicle spaces
Industrial uses without retail trade or service:	1 covered space for every 20 employees
Industrial uses with retail trade or service	1 covered space for every 20 employees plus 1 space for every 20 motor vehicle spaces

(b) Parcels in the Central Business (CB) zone that do not have adequate area on-site to satisfy the standards in subsection (a) shall either provide bicycle parking in the right-of-way or common bicycle parking area as approved by the City or pay a fee equivalent to the cost of providing the required bicycle spaces.

(9) Bicycle Parking Location and Design; Other Required Conditions

(a) Each required bicycle parking space shall be on asphaltic concrete, portland cement, or similar hard surface material and each space shall be at least 2 feet wide by 6 feet long with a minimum vertical clearance of 7 feet. An access aisle with of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking.

(b) Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary rack upon which the bicycle can be locked. Bicycle rack design must accommodate both U shaped locks and cables and include, but are not limited to, such shapes as an inverted "U" design or a "ribbon". Racks shall be securely anchored to a walkway, parking lot, building, or other approved structure.

(c) Where required, covered bicycle parking may be provided underneath an awning, eave, or other structural overhang; inside the main building or an accessory parking structure; or other facility as determined by the Site Plan Review Committee that protects the bicycle from direct exposure to the elements.

(d) Except as noted below, all required bicycle parking shall be located on site within 50 feet of well-used entrances and not farther than the closest motor vehicle parking space. Bicycle parking for multiple uses such as a commercial center or college may be clustered in one or more locations that are convenient for bicyclists but must meet all requirements for bicycle parking.

Subject to City approval, bicycle parking for uses in the Central Business (CB) zone may exceed the distance standard if the required parking is provided within the public right-of-way or in a common parking area.

(e) Lighting shall be provided in a bicycle parking area so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or motor vehicle parking lots. Bicycle parking shall be at least as well-lit as motor vehicle parking.

(f) For new commercial developments and public buildings in which 25 or more persons will be employed the building plans shall indicate facilities that provide changing room(s) and shower(s) that are available to employees who bicycle to work. Such facilities may be incorporated into restrooms, exercise rooms, or similar facilities in the building.

[Section 24(5)(c) amended by Ord. No. NS-1216 passed May 2, 1979]
[Section 24(4)(f) amended by ORD. No. NS-1308 passed January 7, 1981]
[Section 24(3) amended by ORD. No. NS-1560 passed April 15, 1992]
[Section 24(5)(f) thru (i) added by ORD. No. NS-1592 passed June 2, 1993]
[Section 24(6)(i) amended by ORD. No. NS-1592 passed June 2, 1993]
[Section 24(8)(a) thru (b) added by ORD. No. NS-1592 passed June 2, 1993]
[Section 24(9)(a) thru (f) added by ORD. No. NS-1592 passed June 2, 1993]
[Section 24(4)(i) added by ORD. No. NS-1599 passed August 4, 1993]
[Section 24(5)(e) amended by ORD. No. NS-1651 passed February 7, 1996]
[Section 24(6)(c) amended by ORD. No. NS-1651 passed February 7, 1996]
[Section 24(5)(h) amended by ORD. No. NS-1670 passed February 19, 1997]
[Section 24(6)(j) added by ORD. No. NS-1670 passed February 19, 1997]

Bike Parking & Berkeley Municipal Code

Chapter 23E.28 OFF-STREET PARKING AND TRANSPORTATION SERVICES FEE

Section 23E.28.070 Bicycle Parking

Bicycle parking spaces required by each District's bicycle parking requirements shall be located in either a locker, or in a rack suitable for secure locks, and shall require location approval by the City Traffic Engineer and Zoning Officer. Bicycle parking shall be located in accordance to the design review guidelines. (Ord. 6478-NS § 4 (part), 1999)

Chapter 23E.28 OFF-STREET PARKING AND TRANSPORTATION SERVICES FEE

Section 23E.28.070 Bicycle Parking

Bicycle parking spaces required by each District's bicycle parking requirements shall be located in either a locker, or in a rack suitable for secure locks, and shall require location approval by the City Traffic Engineer and Zoning Officer. Bicycle parking shall be located in accordance to the design review guidelines. (Ord. 6478-NS § 4 (part), 1999)

Chapter 23E.36 C-1 GENERAL COMMERCIAL DISTRICT PROVISIONS

Section 23E.36.080 Parking -- Number of Spaces

Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070.

2120 Milvia - 23,033 sqft = 12 spaces
2180 Milvia - approximately 75,000 sqft = 38 spaces
1947 Center - approximately 100,000 sqft = 50 spaces

Chapter 23E.40 C-N NEIGHBORHOOD COMMERCIAL DISTRICT PROVISIONS

Section 23E.40.080 Parking -- Number of Spaces

2. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space and in accordance with the requirements of Section 23E.28.070;

Chapter 23E.48 C-NS NORTH SHATTUCK COMMERCIAL DISTRICT PROVISIONS

Section 23E.48.080 Parking -- Number of Spaces

2. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space and in accordance with the requirements of Section 23E.28.070;

Chapter 23E.52 C-SA SOUTH AREA COMMERCIAL DISTRICT PROVISIONS

Section 23E.52.080 Parking -- Number of Spaces

2. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070.

Chapter 23E.56 C-T TELEGRAPH AVENUE COMMERCIAL DISTRICT PROVISIONS

Section 23E.56.080 Parking -- Number of Spaces

4. The Sather Gate Alternative Transportation Fund is hereby established for the deposit of funds from projects in the District. This fund shall be used exclusively for costs incurred to accomplish the following objectives within the District:

…

c. To purchase, install and maintain bicycle parking facilities; and

….

B. The following provisions shall apply to properties within the District which lie between Dwight Way and Parker Street, and including those lots which front on Parker Street:

…

2. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070;

Chapter 23E.60 C-SO SOLANO AVENUE COMMERCIAL DISTRICT PROVISIONS

Section 23E.60.080 Parking -- Number of Spaces

2. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070.

Chapter 23E.64 C-W WEST BERKELEY COMMERCIAL DISTRICT PROVISIONS

Section 23E.64.080 Off-Street Parking and Loading Requirements

D. One (1) bicycle parking space per two thousand (2,000) square feet of gross floor area of non-residential space shall be provided, in accordance with Section 23E.28.070.

J. Subject to the finding in Section 23E.64.090.F, an Administrative Use Permit may be issued to designate up to ten percent (10%) of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

Chapter 23E.68 C-2 CENTRAL COMMERCIAL DISTRICT PROVISIONS

Section 23E.68.080 Parking -- Number of Spaces

5. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of commercial space, and in accordance with the requirements of Section 23E.28.070;

Chapter 23E.72 M MANUFACTURING DISTRICT PROVISIONS

Section 23E.72.080 Off-Street Parking and Loading Requirement

D. One (1) bicycle parking space per two thousand (2,000) square feet of gross floor area of non-residential space shall be provided, in accordance with Section 23E.28.070.

G. Subject to the finding in Section 23E.72.090.D, an Administrative Use Permit may be issued to designate up to ten percent (10%) of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

Chapter 23E.76 MM MIXED MANUFACTURING DISTRICT PROVISIONS

Section 23E.76.080 Off-Street Parking and Loading Requirements

D. One (1) bicycle parking space per two thousand (2,000) square feet of gross floor area of non-residential space shall be provided, in accordance with Section 23E.28.070.

G. Subject to the finding in Section 23E.76.090.E, an Administrative Use Permit may be issued to designate up to ten percent (10%) of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

Chapter 23E.80 MU-LI MIXED USE-LIGHT INDUSTRIAL DISTRICT PROVISIONS

Section 23E.80.080 Off-Street Parking and Loading Requirements

C. One (1) bicycle parking space per two thousand (2,000) square feet of gross floor area of non-residential space shall be provided, in accordance with Section 23E.28.070.

Chapter 23E.84 MU-R MIXED USE-RESIDENTIAL DISTRICT PROVISIONS

Section 23E.84.080 Off-Street Parking and Loading Requirements

3. Bicycle parking spaces shall be provided at the ratio of one (1) space per two thousand (2,000) square feet of gross floor area of non-residential space, and in accordance with the requirements of Section 23E.28.070.

Subject to the finding in Section 23E.84.090.J, an Administrative Use Permit may be issued to designate up to ten percent (10%) of automobile parking required for a use for bicycle and/or motorcycle parking, unless a Use Permit from the Board is required to approve any part of the application, in which case the Use Permit shall be approved by the Board. Any bicycle parking created by this designation shall be in addition to otherwise required bicycle parking.

Section 23E.84.090 Finding

J. In order to approve a Use Permit for the substitution of bicycle and/or motorcycle parking under Section 23E.84.080.F, the Zoning Officer or Board must find that the substitution will not lead to an undue shortage of automobile parking spaces and that it can be reasonably expected that there will be demand for the bicycle and/or motorcycle parking spaces.

Design Review Guidelines say the following:

Bicycle Parking.
New developments should provide usable bicycle racks that are visible from a public way and that do not impede pedestrian or auto circulation. When possible, locked and covered structures for bicycles should be provided and designed to be compatible with the building and neighborhood.

City of Boulder Co. Municipal Code.

*9-3.3-13**Bicycle Parking**.*

(a) Required Parking Spaces: At least three bicycle parking spaces or ten percent of the required off-street parking spaces, whichever is greater, are required in all districts except A-E, RR-E, RR1-E, ER-E, LR-E, LR-D, MR-E, MR-D, MR-X, MXR-D, and MXR-E districts. After the first fifty bicycle parking spaces are provided, the required number of additional bicycle parking spaces is five percent of the required off-street parking spaces.

(b) Parking Facilities: Bicycle parking facilities, both lockers and racks, shall:

> *(1)Provide for storage and locking of bicycles, either in lockers or medium-security racks or equivalent installation in which both the bicycle frame and the wheels may be locked by the user;*
>
> *(2)Be designed so as not to cause damage to the bicycle;*
>
> *(3)Facilitate easy locking without interference from or to adjacent bicycles; and*
>
> *(4)Consist of racks or lockers anchored so that they cannot be easily removed and of solid construction, resistant to rust, corrosion, hammers, and saws.*

(c)Additional Guidelines: Additional bicycle parking facilities guidelines shall be the following:

> *(1)Such facilities shall be consistent with their environment in color and design and be incorporated whenever possible into building or street furniture design.*
>
> *(2)Such facilities shall be located in convenient, highly visible, active, well-lighted areas but shall not interfere with pedestrian movements.*

Bicycle Parking Standards

9.6100 **Purpose of Bicycle Parking Standards.** Sections 9.6100 through 9.6110 set forth requirements for off-street bicycle parking areas based on the use and location of the property. Bicycle parking standards are intended to provide safe, convenient, and attractive areas for the circulation and parking of bicycles that encourage the use of alternative modes of transportation. Long-term bicycle parking space requirements are intended to accommodate employees, students, residents, commuters, and other persons who expect to leave their bicycle parked for more than 2 hours. Short term bicycle parking spaces accommodate visitors, customers, messengers, and other persons expected to depart within approximately 2 hours.
(Section 9.6100, see chart at front of Chapter 9 for legislative history from 2/26/01 through 6/1/02.)

9.6105 **Bicycle Parking Standards.**

(1) Exemptions from Bicycle Parking Standards. The following are exempt from the bicycle parking standards of this section:

(a) Site improvements that do not include bicycle parking improvements.
(b) Building alterations.
(c) Drive-through only establishments.
(d) Temporary activities as defined in EC 9.5800 Temporary Activity Special Development Standards.
(e) Bicycle parking at Autzen Stadium Complex (see EC 9.6105(5) Autzen Stadium Complex Bicycle Parking Standards).

(2) Bicycle Parking Space Standards.

(a) A minimum of 4 bicycle parking spaces shall be provided at each development site.
(b) A bicycle parking space required by this land use code shall be at least 6 feet long and 2 feet wide with an overhead clearance of at least 7 feet, and with a 5 foot access aisle. This minimum required width for a bicycle parking space may be reduced to 18" if designed using a hoop rack according to **Figure 9.6105(2) Bicycle Parking Standards**. Bicycles may be tipped vertically for storage, but not hung above the floor. Bicycle parking shall be provided at ground level unless an elevator is easily accessible to an approved bicycle storage area.
(c) All required long term bicycle parking spaces shall be sheltered from precipitation. Shelters for short term bicycle parking shall be provided in the amounts shown in Table 9.6105(2)(c) Required Sheltered Bicycle Parking Spaces.

Table 9.6105(2)(c) Required Sheltered Bicycle Parking Spaces

Short Term Bicycle Parking Requirement	Percentage of Sheltered Spaces
5 or fewer	No shelter required
6 to 10	100% of spaces sheltered
11 to 29	50% of spaces sheltered
30 or more	25% of spaces sheltered

(d) Direct access from the bicycle parking area to the public right-of-way shall be provided with access ramps, if necessary, and pedestrian

access from the bicycle parking area to the building entrance.

(3) Bicycle Parking Location and Security.

(a) Long term bicycle parking required in association with a commercial, industrial, or institutional use shall be provided in a well-lighted, secure location within a convenient distance of a main entrance. A secure location is defined as one in which the bicycle parking is:

1. A bicycle locker,
2. A lockable bicycle enclosure,
3. Provided within a lockable room, or
4. Clearly visible from, and within 30 feet of the employee's work station.

Bicycle parking provided in outdoor locations shall not be farther than the closest automobile parking space (except disabled parking). Long term bicycle parking required in association with a multiple-family residential use shall be provided in a well-lighted, secure ground level location within a convenient distance of an entrance to the residential unit. A secure location is defined as one in which the bicycle parking is provided outside the residential unit within a garage, a lockable room, a lockable bicycle enclosure, or a bicycle locker.

(b) Short term bicycle parking shall consist of a securely fixed structure that supports the bicycle frame in a stable position without damage to wheels, frame, or components and that allows the frame and both wheels to be locked to the rack by the bicyclist's own locking device. The required spaces for each use category are listed in EC 9.6105(4) Minimum Required Bicycle Parking Spaces. Short term bicycle parking shall be provided within a convenient distance of, and clearly visible from the main entrance to the building as determined by the city, but it shall not be farther than the closest automobile parking space (except disabled parking).

(4) Minimum Required Bicycle Parking Spaces. The minimum required number of bicycle parking spaces shall be calculated according to Table 9.6105(4) Minimum Required Bicycle Parking Spaces.

Table 9.6105(4) Minimum Required Bicycle Parking Spaces

Uses	Required Bicycle Parking (Minimum 4 bicycle spaces required unless -0- is indicated.)	Type and % of Bicycle Parking
Accessory Uses		
All Uses in this category	-0-	NA
Agricultural, Resource Production and Extraction		
All Uses in this category	1 per each 600 square feet of floor area.	100% short term
Eating and Drinking Establishments		
All Uses in this category	1 per each 600 square feet of floor area.	25% long term 75% short term
Education, Cultural, Religious, Social and Fraternal		

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Artist Gallery/Studio	1 per each 500 square feet of floor area.	25% long term 75% short term
Ballet, Dance, and Gymnastic School/Academy/Studio	1 per each 400 square feet of floor area.	25% long term 75% short term
Church, Synagogue, and Temple, including associated residential structures for religious personnel	1 per 20 fixed seats or 40 feet of bench length or every 200 square feet in main auditorium where no permanent seats or benches are maintained (sanctuary or place of worship).	100% short term
Club and Lodge of State or National Organization	1 per 20 fixed seats or 40 feet of bench length or every 200 square feet where no permanent seats or benches are maintained in main auditorium.	100% short term
Library	1 per each 500 square feet of floor area.	
Museum	1 per each 500 square feet of floor area.	25% long term 75% short term
School, Business or Specialized Educational Training (excludes driving instruction)	1 per 5 full-time students.	25% long term 75% short term
School, Driving (including use of motor vehicles)	1 per each 3000 square feet of floor area.	25% long term 75% short term
School, Public or Private (Elementary through High School)	1 per 8 students.	25% long term 75% short term
University or College	1 per 5 full-time students.	25% long term 75% short term
Entertainment and Recreation		
Amusement Center (Arcade, pool tables, etc.)	1 per each 400 square feet of floor area.	25% long term 75% short term
Arena (Both indoors and outdoors)	1 per 20 seats.	25% long term 75% short term
Athletic Facilities and Sports Clubs		
-- Playing Court	1 per 5 courts.	25% long term 75% short term
-- Viewing Area	1 per each 280 square feet of floor area.	25% long term 75% short term
-- Locker Room, Sauna, Whirlpool, Weight Room, or Gymnasium	1 per each 750 square feet of floor area.	25% long term 75% short term
-- Lounge or Snack Bar Area	1 per each 600 square feet of floor area.	25% long term 75% short term
-- Pro Shops or Sales Area	1 per each 3000 square feet of floor area.	25% long term 75% short term
-- Swimming Pool	1 per each 2000 square feet of floor area.	25% long term 75% short term
Athletic Field, Outdoor	4 per each athletic field	100% short term
Bowling Alley	1 per each lane.	25% long term 75% short term

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Equestrian Academy and Stable	-0-	NA
Equestrian Trail	-0-	NA
Golf Course, Miniature Indoor	1 per each 400 square feet of floor area.	25% long term 75% short term
Golf Course, Miniature Outdoor	1 per each 400 square feet of floor area.	25% long term 75% short term
Golf Course, with or without country club	-0-	NA
Golf Driving Range	1 per each 400 square feet of floor area.	25% long term 75% short term
Park and Playground	4 per park or playground	100% short term
Race Track, including drag strip and go-cart track	1 per 20 seats.	25% long term 75% short term
Theater, Live Entertainment	1 per 20 seats.	25% long term 75% short term
Theater, Motion Picture	1 per 20 seats.	25% long term 75% short term
Financial Services		
Automated Teller Machine (ATM)	-0-	NA
Bank, Savings and Loan Office, Credit Union	1 per each 3000 square feet of floor area.	25% long term 75% short term
Government		
Government Services, not specifically listed in this or any other uses and permits table	1 per each 3000 square feet of floor area.	25% long term 75% short term
Information Technology Services		
All Uses in this category	1 per each 2750 square feet of floor area	25% long term 75% short term
Lodging		
Bed and Breakfast Facility	1 per 10 guest bedrooms.	100% long term
Homeless Shelter in Existence as of January 1, 1984	1 per 20 beds.	75% long term 25% short term
Homeless Shelter not in existence as of January 1, 1984	1 per 20 beds.	75% long term 25% short term
Hotel, Motel, and similar business providing overnight accommodations	1 per 10 guest bedrooms.	75% long term 25% short term
Recreational Vehicle Park, may include tent sites (See EC 9.5600)	-0-	NA
Manufacturing		
All uses in this category excluding storage uses	1 per each 3000 square feet of floor area.	75% long term 25% short term
Storage	-0-	NA
Medical, Health, and Correctional Services		
Blood Bank	1 per each 3000 square feet of floor area.	100% short term

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Correctional Facility, excluding Residential Treatment Center	1 per 20 beds.	75% long term 25% short term
Hospital, Clinic, or other Medical Health Treatment Facility (including mental health) in excess of 10,000 square feet of floor area	1 per each 3000 square feet of floor area.	75% long term 25% short term
Hospital, Clinic or other Medical Health Treatment Facility (including mental health) 10,000 square feet or less of floor area	1 per each 3000 square feet of floor area.	75% long term 25% short term
Laboratory--Medical, Dental, X-Ray	1 per each 3000 square feet of floor area.	25% long term 75% short term
Meal Service, Non-Profit	1 per each 3000 square feet of floor area.	25% long term 75% short term
Nursing Home	1 per 15 beds.	75% long term 25% short term
Plasma Center, must be at least 800 feet between Plasma Centers	1 per 15 beds.	75% long term 25% short term
Residential Treatment Center	1 per 15 beds.	75% long term 25% short term
Motor Vehicle Related Uses		
Car Wash	-0-	NA
Motor Vehicle Sales/Rental/Service, excluding motorcycles, recreational vehicles and heavy trucks	1 per each 6000 square feet of floor area.	100% short term
Motorcycle Sales/Rental/Service	1 per each 6000 square feet of floor area.	100% short term
Parking Area not directly related to a primary use on the same development site	-0-	NA
Parts Store	1 per each 3000 square feet of floor area.	100% short term
Recreational Vehicles and Heavy Truck, Sales/Rental/Service	1 per each 4000 square feet of floor area.	100% short term
Repair, includes paint and body shop	1 per each 6000 square feet of floor area.	100% short term
Service Station, includes quick servicing	1 per each 6000 square feet of floor area.	100% short term
Structured Parking, up to two levels not directly related to a primary use on the same development site	10% of auto spaces.	100% long term
Structured Parking, three or more levels not directly related to a primary use on the same development site	10% of auto spaces.	100% long term
Tires, Sales/Service	1 per each 6000 square feet of floor area.	100% short term

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Transit Park and Ride, Major or Minor, only when shared parking arrangement with other permitted use	-0-	NA
Transit Park and Ride, Major or Minor	10% of auto spaces.	25% long term 75% short term
Transit Station, Major or Minor	-0-	NA
Office Uses		
All Uses in this category	1 per each 3000 square feet of floor area.	25% long term 75% short term
Personal Services		
All Personal Services Uses, except Barber, Beauty, Nail, Tanning Shop and Laundromat	1 per each 3000 square feet of floor area.	25% long term 75% short term
Barber, Beauty, Nail, Tanning Shop	1 per each 2000 square feet of floor area	25% long term 75% short term
Laundromat, Self-Service	1 per each 2000 square feet of floor area	25% long term 75% short term
Residential		
One-Family Dwelling	-0-	NA
Secondary Dwelling (Either attached or detached from primary one-family dwelling on same lot)	-0-	NA
Rowhouse (One-Family on own lot attached to adjacent residence on separate lot with garage or carport access to the rear of the lot)	-0-	NA
Duplex (Two-Family attached on same lot)	-0-	NA
Triplex (Three-Family attached on same lot)	1 per dwelling.	100 % long term
Four-Plexes (Four-Family attached on same lot)	1 per dwelling.	100 % long term
Multiple Family (3 or more dwellings on same lot)	1 per dwelling.	100% long term
Manufactured Home Park	-0-	NA
Controlled Income and Rent Housing where density is above that usually permitted in the zoning yet not to exceed 150%	1 per dwelling.	100% long term
Assisted Care & Day Care		
-- Assisted Care (5 or fewer people living in facility and 3 or fewer outside employees on site at any one time)	-0-	NA
-- Assisted Care (6 or more people living in facility)	1 per 10 employees	100% long term
-- Day Care (3 - 12 people served)	-0-	NA

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
-- Day Care (13 or more people served)	1 per 10 employees	100% long term
Rooms for Rent		
-- Boarding and Rooming House	1 per guest room.	100% long term
-- Campus Living Organizations, including Fraternities and Sororities	1 for each 2 occupants for which sleeping facilities are provided.	100% long term
-- Single Room Occupancy	1 per dwelling (4 single rooms are equal to 1 dwelling).	100% long term
-- University and College Dormitories	1 for each 2 occupants for which sleeping facilities are provided.	100% long term
Trade (Retail and Wholesale)		
Agricultural Machinery Rental/Sales/Service	1 per each 4000 square feet of floor area.	25% long term 75% short term
Appliance Sales/Service	1 per each 6000 square feet of floor area.	25% long term 75% short term
Boat and Watercraft Sales/Service	1 per each 6000 square feet of floor area.	25% long term 75% short term
Building Materials and Supplies	1 per each 6000 square feet of floor area.	25% long term 75% short term
Convenience Store	1 per each 3000 square feet of floor area.	25% long term 75% short term
Equipment, Light, Rental/Sales/Service	1 per each 4000 square feet of floor area.	25% long term 75% short term
Equipment, Heavy, Rental/Sales/Service- includes truck and tractor sales	1 per each 4000 square feet of floor area.	25% long term 75% short term
Furniture and Home Furnishing Store	1 per each 6000 square feet of floor area.	25% long term 75% short term
Garden Supply/Nursery	1 per each 6000 square feet of floor area.	25% long term 75% short term
Garden Supply/Nursery, including feed and seed store	1 per each 6000 square feet of floor area.	25% long term 75% short term
General Merchandise (includes supermarket and department store)	1 per each 3000 square feet of floor area.	25% long term 75% short term
Hardware/Home Improvement Store	1 per each 6000 square feet of floor area.	25% long term 75% short term
Healthcare Equipment and Supplies	1 per each 3000 square feet of floor area.	25% long term 75% short term
Liquor Store	1 per each 3000 square feet of floor area.	25% long term 75% short term
Manufactured Dwelling Sales/Service/Repair	1 per each 3000 square feet of floor area.	25% long term 75% short term
Plumbing Supplies and Services	1 per each 6000 square feet of floor area.	25% long term 75% short term
Regional Distribution Center	1 per each 6000 square feet of floor area.	25% long term 75% short term

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Retail Trade when secondary, directly related, and limited to products manufactured, repaired, or assembled on the development site	1 per each 3000 square feet of floor area.	25% long term 75% short term
Storage Facility, Household/Consumer Goods	-0-	NA
Storage Facility, Household/Consumer Goods, enclosed	-0-	NA
Shopping center with at least 2 or more businesses and at least 50,000 square feet of gross floor area	1 per each 3000 square feet of floor area.	25% long term 75% short term
Specialty Store (An example includes a gift store)	1 per each 3000 square feet of floor area.	25% long term 75% short term
Storage Facility	-0-	NA
Wholesale Trade	-0-	NA
Utilities and Communication		
All Uses in Utilities and Communication Category, except for Broadcasting Studios	-0-	NA
Broadcasting Studio, Commercial and Public Education	1 per each 3000 square feet of floor area.	25% long term 75% short term
Other Commercial Services		
Building Maintenance Service	1 per each 3000 square feet of floor area.	100% short term
Catering Service	1 per each 3000 square feet of floor area.	25% long term 75% short term
Cemetery, includes crematoria, columbaria, and mausoleums	-0-	NA
Collection Center, Collection of Used Goods (See EC 9.5150)	-0-	NA
Garbage Dump, sanitary landfill	-0-	NA
Heliport and Helistop	-0-	NA
Home Occupation (See EC 9.5350)	-0-	NA
Kennel	-0-	NA
Model Home Sales Office	-0-	NA
Mortuary	1 per each 280 square feet in main auditorium.	100 % short term
Photographers' Studio	1 per each 3000 square feet of floor area.	100 % short term
Picture Framing and Glazing	1 per each 3000 square feet of floor area.	100 % short term
Printing, Blueprinting, Duplicating	1 per each 3000 square feet of floor area.	25% long term 75% short term
Publishing Service	1 per each 3000 square feet of floor area.	25% long term 75% short term
Temporary Activity (See EC 9.5800)	-0-	NA

Table 9.6105(4) Minimum Required Bicycle Parking Spaces		
Uses	**Required Bicycle Parking** (Minimum 4 bicycle spaces required unless -0- is indicated.)	**Type and % of Bicycle Parking**
Train Station	1 per each 3000 square feet of floor area.	75% long term 25% short term
Upholstery Shop	1 per each 3000 square feet of floor area.	100% short term
Veterinarian Service	1 per each 6000 square feet of floor area	100% short term
Wildlife Care Center	1 per each 6000 square feet of floor area	100% short term

(5) Autzen Stadium Complex Bicycle Parking Standards.

(a) So long as a city-approved intergovernmental agreement incorporating a transportation demand management plan for Autzen Stadium complex is in effect:

1. A minimum of 150 permanent bicycle parking spaces are required to be provided to accommodate employees of the Autzen Stadium complex, athletes using the complex, and visitors to the complex. Twenty-five percent (25%) of those spaces shall be sheltered from precipitation. The permanent bicycle parking spaces shall be provided in a well-lighted, secure location within a convenient distance of a primary employee entrance to either Autzen Stadium, the Casanova Center, or the Moshofsky Center. A secure location is defined as one in which the bicycle parking is clearly visible from employee work areas, or in which the bicycle parking is provided within a lockable room, a lockable bicycle enclosure, or a bicycle locker. Bicycle parking provided in outdoor locations shall not be farther than the closest employee auto parking space (except disabled parking).
2. Secured temporary bicycle parking that will accommodate a minimum of 550 temporary bicycle parking spaces is required for each major event occurring within Autzen Stadium to accommodate major stadium event patrons. Temporary bicycle parking shall be provided in temporary attended areas as described in the approved Autzen Stadium transportation demand management plan.

(b) If the above referenced intergovernmental agreement is not in effect, the Autzen Stadium Complex shall be required to provide 1 bicycle space per each 16 seats, with 20% of the spaces provided being long term parking spaces and 80% being short term parking spaces.

(Section 9.6105, see chart at front of Chapter 9 for legislative history from 2/26/01 through 6/1/02; and amended by Ordinance No. 20269, enacted November 25, 2002, effective December 25, 2002.)

9.6110 **Adjustments to Bicycle Parking Standards.** Adjustments may be made to the standards of EC 9.6100 through 9.6105 if consistent with the criteria in EC 9.8030(9) Bicycle Parking Standards Adjustment of this land use code.

(Section 9.6110, see chart at front of Chapter 9 for legislative history from 2/26/01 through 6/1/02.)

Bicycle Parking in Madison

On March 1, 1988, the Madison Common Council passed an ordinance requiring the provision of off-street bicycle parking for new developments, expansion of existing developments, and changes in use that would require additional parking.

For expansions or changes in use, bicycle parking is required based only on the extra amount needed by the addition or change in use, not for the entire development. This is similar to the way in which off-street automobile parking requirements work. In fact, the bicycle parking requirement is included in zoning ordinance section 28.11 dealing with off-street parking and loading facilities.

The number of bicycle parking spaces required for a development is determined by the Zoning Administrator based on guidelines included in the ordinance. Bicycle parking facilities are required in all districts, including the Central Area.

The purpose of this ordinance is to provide adequate and safe facilities for the storage of bicycles.

The size of each bicycle parking space is specified as at least two feet wide by six feet long with an access aisle of five feet and a vertical clearance of at least six feet. Many commonly marketed bicycle parking racks have spaces narrower than two feet, these racks are unacceptable.

Bicycle parking requirements can be fulfilled by lockers, racks or equivalent structures in or upon which the bicycle may be locked by the user. All racks must be securely anchored to the ground or building surface. Racks must be designed to accommodate U-shaped locks. These high security locks are increasingly popular due to high bicycle theft levels and the rising price of new bicycles. U-shaped locks are designed to allow the user to lock one or both wheels (if the front wheel is removed) and the bicycle frame to a stationary object. Many commonly marketed bicycle parking racks do not facilitate this type of lock, however. These racks area unacceptable. The attached *Bicycle Parking Rack Selection* guidelines includes a list of acceptable bicycle parking racks.

Bicycle parking needs to be located in a clearly designated, safe and convenient location. A safe bicycle parking location is one in which activity around the bicycle rack is easily observable. Bike racks located in remote locations such as alleys or behind landscaping gives bike thieves time to work. A safe location also ensures adequate separation of parked bicycles from motor vehicles and pedestrians. A convenient location is close to the bicyclist's destination. Usually this will be close to a building entrance. Surfaces around bicycle parking racks must be maintained to be mud and dust free.

Attached are a copy of relevant sections of Madison's zoning ordinance regarding bicycle parking, and *Bicycle Parking Rack Selection* guidelines and recommendations.

If you have any questions, please call either the Zoning Administrator at 266-4560, or the Pedestrian-Bicycle Coordinator at 266-6225.

28.11 OFF-STREET PARKING AND LOADING FACILITIES.

(1) Statement Of Purpose. The purpose of this section is to provide for the regulation of accessory off-street parking and loading facilities, and to specify the requirements for off-street parking and loading facilities for different uses. The regulations and requirements which follow are established to promote the safety and general welfare of the community by:

(a) Increasing the safety and capacity of public streets by requiring off-street parking or off-street loading facilities to be provided.

(b) Minimizing adverse effects of off-street parking and off-street loading facilities on adjacent properties through the requirement of design and maintenance standards.

(c) Lessening congestion and preventing the overtaxing of public streets by regulating the location and capacity of accessory off-street parking or off-street loading facilities.

(d) Providing adequate and safe facilities for the storage of bicycles.
(Am. by Ord. 9426, 3-11-88)

(2) General Regulations.

(a) Scope Of Regulations. The off-street parking and loading provisions of this ordinance shall apply as follows:

1. For all buildings and structures erected and all uses of land established after the effective date of this ordinance, accessory parking and loading facilities shall be provided as required by the regulations of the districts in which such buildings or uses are located. However, where a building permit has been issued prior to the effective date of this ordinance, and provided that construction is begun within ninety (90) days of such effective date and diligently prosecuted to completion, parking and loading facilities in the amounts required for the issuance of said building permit may be provided in lieu of any different amounts required by this ordinance.

2. When the intensity of use of any building, structure or premises shall be increased through addition of dwelling units, gross floor area, seating capacity or other units of measurement specified herein for required parking or loading facilities, parking and loading facilities as required herein shall be provided for such increase in intensity of use.

3. Whenever the existing use of a building or structure shall hereinafter be changed to a new use, parking or loading facilities shall be provided as required for such new use. However, if the said building or structure was erected prior to the effective date of this ordinance, additional parking or loading facilities are mandatory only in the amount by which the requirements for the new use would exceed those for the existing use if the latter were subject to the parking and loading provisions of this ordinance.

4. Bicycle parking facilities shall be provided as required for all new structures and uses established as provided in Sec. 28.11(2)(a)1. or to changes in uses as provided in Secs. 28.11(2)(a)2. and 3.; however, bicycle parking facilities shall not be required until the effective date of this paragraph. Notwithstanding Secs. 28.08(1)(i), 28.09(1)(i) and 28.09(5)(a), bicycle parking facilities shall be provided in all districts including districts in the Central Area. (Cr. by Ord. 9426, 3-11-88)

(3) Off-Street Parking Facilities. Off-street parking facilities accessory to uses allowed by this

ordinance shall be provided in accordance with the regulations set forth herein as well as in subsection (2) above.

(a) Utilization.

1. In the residence district, accessory off-street parking facilities provided for uses listed herein shall be solely for the parking of passenger automobiles (including passenger trucks) and bicycles of patrons, occupants or employees. Such vehicles are limited in size to less than one (1) ton in capacity.

(e) Size. . . . Required bicycle parking spaces shall be at least 2 feet by 6 feet. An access aisle of at least 5 feet shall be provided in each bicycle parking facility. Such space shall have a vertical clearance of at least 6 feet. (Am. by Ord. 11,205, Adopted 3-21-95)

(h) Design and Maintenance.

2. d. Bicycle Parking Facilities. Accessory off-street parking for bicycle parking shall include provision for secure storage of bicycles. Such facilities shall provide lockable enclosed lockers or racks or equivalent structures in or upon which the bicycle may be locked by the user. Structures that require a user-supplied locking device shall be designed to accommodate U-shaped locking devices. All lockers and racks must be securely anchored to the ground or the building structure to prevent the racks and lockers from being removed from the location. The surfacing of such facilities shall be designed and maintained to be mud and dust free. (Cr. by Ord. 9426, 3-11-88) (Sec. 28.11(3)(h)2. R. & Recr. by Ord. 4556, 5-13-74)

(I) Location. All parking spaces required by this ordinance shall be located on the same zoning lot as the use served except that parking facilities may be located on land other than the zoning lot on which the building or use served is located, provided:

3. Bicycle parking facilities shall be located in a clearly designated safe and convenient location. The design and location of such facility shall be harmonious with the surrounding environment. The facility location shall be at least as convenient as the majority of auto parking spaces provided. (Cr. by Ord. 9426, 3-11-88)

(l) Schedule Of Required Off-Street Parking Facilities. Accessory off-street parking spaces shall be provided as required hereinafter for the following uses. . . .

1. Bicycle parking facility spaces shall be provided in adequate number as determined by the Zoning Administrator. In making the determination, the Zoning Administrator shall consider when appropriate, the number of dwelling units or lodging rooms, the number of students, the number of employees, and the number of auto parking spaces in accordance with the following guidelines:

Off-Street Bicycle Parking Guidelines	
Land Use	**Bike Space**
Dwellings/Lodging rooms	1 per dwelling unit or 3 lodging rooms
Clubs/lodges	1 per lodging room plus 3% of person capacity
Fraternities/sororities	1 per 3 rooms
Hotels/lodging houses	1 per 20 employees
Galleries/museums/libraries	1 per 10 auto spaces
Colleges/universities/junior and high schools	1 per 4 employees plus 1 per 4 students
Nursery/elementary schools	1 per 10 employees plus students above second grade
Convalescent and nursing homes/institutions	1 per 20 employees
Hospitals	1 per 20 employees
Places of assembly, recreation, entertainment and amusement	1 per 10 auto spaces
Commercial/manufacturing	1 per 10 auto spaces
Miscellaneous/other	To be determined by the Zoning Administrator based on the guideline for the most similar use listed above

a. In all cases where bicycle parking is required, no fewer than two (2) spaces shall be required.

b. After the first fifty (50) bicycle parking spaces are provided, additional bicycle parking spaces required are 0.5 (one half) space per unit listed.

c. Where the expected need for bicycle parking for a particular use is uncertain due to unknown or unusual operating characteristics of the use, the Zoning Administrator may authorize that construction and provision of not more than fifty (50) percent of the bicycle parking spaces be deferred. Land area required for provision of deferred bicycle parking spaces shall be maintained in reserve. (Sec. 28.11(3)(l)1. Cr. by Ord. 9426, 3-11-88)

Appendix B
Household Survey Instrument and Results

CPW sent out 250 surveys to residents at St Vincent DePaul's Aurora Building, High Street Terrace, Broadway Place, and the Tiffany apartment buildings. CPW received 32 responses – a 12.8% response rate.[21]

The purpose of the survey was to gain a better understanding of resident bicycle use downtown. The survey focused on how often residents ride bicycles downtown, where they usually park their bicycles, and how residents would improve bicycle parking downtown.

This appendix presents the survey instruments with the percent responses.

[21] This response rate is insufficient to infer the results to all residents of the four housing complexes. Despite this limitation, the results are useful in that they provide anecdotal data on residents' perceptions and use of bicycle parking facilities.

Downtown Bicycle Parking Survey

Instructions: Your household has been selected to participate in this survey about bicycle use and parking in downtown Eugene. This questionnaire should be filled out by an adult in the household, someone 18 years of age or older. Please answer the questions on behalf of all members of the household. **Please return the survey in the enclosed postage-paid envelope by Wednesday August 10th, 2005**. All responses will be anonymous.

Your participation is voluntary. If you have any questions regarding the survey, please contact Kris Ackerson at the University of Oregon (541-346-3653). If you have questions regarding your rights as a research participant, please contact the Office of Human Subjects Compliance call (541) 346-2510. Please mail completed surveys to CPW, 1209 University of Oregon, Eugene, OR 97403.

First, we would like to ask you some questions about your bicycle use.

Q-1. How many bikes are there in your household? _____ bikes (If none skip to Q-6)

Bikes	Valid Percent
0	21.9
1	53.1
2	18.8
3	6.3
Total	100

Q-2. Approximately how often do you use your bike for the following activities?

Purpose	Never	Rarely (1-3 times/ year)	Occasionally (4-12 times/ year)	Sometimes (2-3 times/ month)	Daily (4-7 times/ week)
Commuting to work/school	24%	16%	16%	8%	36%
Recreation (i.e., trail riding, road riding)	22%	7%	26%	19%	26%
Leisure (i.e., visit a friend's house)	17%	25%	21%	21%	17%
Errands/shopping	36%	8%	16%	24%	16%

Q-3. What is your primary mode of transportation when traveling downtown?

Other	0%	Motorcycle	0%	Walk	59%
Automobile	15%	Public transit	9%	Bicycle	18%

Q-4. Do you use your bike downtown?

63% Yes
37% No

Q-5. What do you use your bike for when you are downtown? (Please check all that apply)

Commuting to work or school	29%
Leisure	47%
Errands/shopping	38%

Next, we would like to ask you some questions about bike parking.

Q-6. Does your residential building supply: (Please check all that apply)

Bike lockers	53%	Bike storage room	59%
Bike racks	29%	None	3%

Q-7. At home, where do you usually park your bike?

Bike rack on property	13%	Other	17%
Inside my home	29%	Total	100%
Bike locker	42%		

Q-8. If your residential unit supplies bike parking, do you usually use it?

63% Yes
37% No, why not? (Please check all that apply)

Other	30%
Personal safety	0%
Potential for bike theft	50%
Potential for theft of accessories	20%
Not enough spaces	50%
Inconvenient	30%

Q-9. If you bike downtown, how far are you willing to walk from the bike rack to your destination?

I don't bike downtown	14%	Distance does not matter	11%
A few steps	7%	Total	100%
Less than one block	29%		
1-2 blocks	39%		

Q-10. How would you improve bike parking ***downtown***?

Other	12%	Improved visibility of bike parking spaces	21%
Does not need improvement	24%	Improved lighting	18%
More sheltered parking	15%		
More bike racks	24%		
More bike lockers	24%		

Finally, some questions about yourself.

Q-11. Do you work in the downtown area?

37.5% Yes
62.5% No

Q-12. What is your gender?

44% Female
56% Male

Q-13. What is your age?

24 or under	24%
25-34	24%
35-44	6%
45-54	15%
55-64	9%
65-74	9%
75 and older	12%

Please provide any additional comments or suggestions in the space provided below.