

**CITY OF BOULDER
TRANSPORTATION ADVISORY BOARD
AGENDA ITEM**

MEETING DATE: July 8, 2013

AGENDA TITLE: Public hearing and consideration of a recommendation regarding development-related bicycle parking requirements

PRESENTERS: Tracy Winfree, Director of Public Works for Transportation
Michael Gardner-Sweeney, Transportation Planning and Operations
Coordinator
Kathleen Bracke, GO Boulder Manager
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EXECUTIVE SUMMARY

The City of Boulder is considering changes to bike parking requirements for new development. While the city provides some bicycle parking in public areas of the downtown commercial district, property owners are required to provide adequate bike parking for their buildings throughout the city.

Development-related bicycle parking requirements are codified under Title 9, "Land Use Code" of the Boulder Revised Code (BRC). According to the BRC, the Transportation Advisory Board (TAB) cannot get involved in any review under the land use regulation, [title 9](#), "Land Use Code," B.R.C. 1981, unless its opinion is requested by the city council. While Planning Board will consider a staff recommendation and approval of proposed development-related bike parking requirements, a TAB recommendation is being sought as part of the public input to guide the Planning Board in its decision-making process. The BRC requires the TAB to hold a public hearing prior to making any recommendation.

Improvements to the city's development-related bicycle parking requirements will better meet demand and cyclist's needs and is an important element of an integrated multimodal transportation system. As part of the *Complete Streets: Bike and Pedestrian Innovations* focus area of the 2013 Transportation Master Plan Update, the city is developing strategies to enhance bicycling opportunities for residents, commuters, students, and visitors. While the TMP Update is underway, work on regulations for new development was already in progress with results already available. Staff believes it is prudent to advance changes to these bike parking regulations for new development and incorporate the changes into the TMP Update. This bike parking policy analysis is also being coordinated with the 2013 *Access Management & Parking Strategies* (AMPS) interdepartmental process.

TAB ACTION REQUESTED

Consider a recommendation to the Planning Board regarding the policy direction and approach for development-related bicycle parking requirements.

COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

Economic: Providing bike parking for customers supports local businesses and invites bicyclists to shop. Bicyclists tend to shop local and invest in the local economy. A local survey estimates the direct economic benefit of the bicycling industry in Boulder to be \$52 million annually. Short-term/customer bike parking also demonstrates that businesses support sustainability and values bicycling as a viable transportation mode.

Environmental: Reducing the number of trips made by cars reduces congestion and frees up road space for essential motor vehicle trips. Bicycle parking is an efficient use of land dedicated to storage a personal vehicle used for travel. An estimated eight to 10 bicycle parking spaces can be accommodated in the same space designed for the average motor vehicle parking space. Biking is a zero emission transportation option, reducing green house gas and vehicle miles traveled.

Social: An adequate supply of well-designed and located bike parking supports a complete transportation system. Bicycling expands modal choice for low-income, older adults and children as well as improves access for all community members. It is an active transportation modes that address health problems related to sedentary behavior.

OTHER IMPACTS

- Fiscal: The public process, review and approval of changes to development-related bike parking regulations is supported by existing funding from the city's budget in 2013.
- Staff time: Staff resources for this project have been funded and included in the 2013 budget.

STAFF RECOMMENDATION

Staff recommends that the development-related bike parking requirements be calculated based on land use and square footage (commercial) or units/bedrooms (residential) and that a ratio of short-term bike parking and long-term bike parking be required consistent with **Attachment C**. Staff also recommends that the Design and Construction Standards be amended to require a multi-bike parking rack that provides the form and functionality of an inverted U-rack with a serpentine flow as illustrated in **Attachment D**.

BACKGROUND

Bike parking is an end of trip necessity and providing convenient, safe and secure bike parking is needed to increase bike mode share. People in Boulder ride bikes 20 times more than the national average and every bicycle trip begins and ends with the need for a safe and secure parking place. According to the 2012 Travel Diary survey, 79 percent of all households responding own a

bicycle. Of these, bicycles per household have increased from 1.98 bicycles per household in 1992 to 2.48 bicycles per household in 2012.

Since 2007, the City has conducted a downtown bike parking count each summer to estimate the demand for bicycle parking and identify locations where additional bike parking is needed in the downtown area. The total number of bicycles parked downtown has increased almost 48 percent over the six years of the count from a total of 2,796 to 4,131 bikes parked. The average number of bikes parked is over 1,000 per day.

Types of bike parking

The purpose of a bike trip including how long a cyclist will leave their bicycle are important to understanding where and what type of bike parking to provide. In general, cyclists either seek short-term or long-term parking.

Short-term bike parking offers a convenient and accessible area to park bicycles for customers and other visitors who seek to leave their bicycle for two-hours or less. Short-term bicycle parking should be located on the public access/street level, within 50 feet of main building entrance(s) and outside the building.

Long-term bicycle parking offers a secure and weather protected place to store a bicycle for several hours or more. Long-term bicycle parking should be covered and located in a locked room or within an area that is within view of a parking attendant/employee work areas or enclosed by a fence with a locked gate.

All bicycle parking should be located in a visible and prominent location that is lit at night and physically separated from automobile parking.

Design of bike parking

In general, bicycle parking should be designed to offer two contact points between the rack and bike, accommodate a wide range of bicycle frame styles (mountain bike, cruiser, road, child-size and more), and be simple to use by novice and expert cyclists alike.

Bike Parking Requirements and Standards Update

The City initiated the review of bike parking based on the Downtown Bike Parking Survey and concerns raised from the cycling community. On behalf of their members and the greater bicycling community, Community Cycles has expressed dissatisfaction with the city's design standard for the multi-bike parking racks and bicycle storage lockers. The organization also is concerned that bike parking supply is not meeting demand.

A pilot program launched in February 2013 as a partnership between the City and Community Cycles is offering low cost bike racks and installation through a bike parking subsidy for existing development. As a pilot, the program seeks to address the lack of quality bike parking for bicyclists and businesses to better understand and address where supply is not meeting demand.

The City is seeing a trend of developers choosing to voluntarily provide bike parking spaces that exceed existing requirements. Additionally, several recent redevelopment projects have sought

guidance from the City on how to better accommodate bike parking demand. Specifically, developers would like to provide long-term bike parking for new multi-family residential developments to better accommodate demand of future tenants and prospective home buyers. Examples include the Peloton and the Landmark Lofts. The Steelyards development also has consulted the City on how to retrofit their development to improve long-term bike parking options.

As part of the Transportation Master Plan update, the Transportation Division is developing strategies to better accommodate future bike parking demand by introducing a more diverse set of tools to provide more and improved bike parking. The Transportation Division is working collaboratively with the Community Planning and Sustainability (CP&S) Department to update bike parking regulations for new development. This initiative will help address the new Access Management Parking Services (AMPS) goals that are currently being developed to provide a connected transportation system for all modes of travel. The AMPS project goal is to evolve and continuously improve Boulder's citywide access and parking management strategies and programs tailored to address the unique character and needs of the different parts of the city.

An objective of the bike parking regulations update is to define the minimum quantity of employee / resident (long-term) and customer / visitor (short-term bike) parking based on land use criteria, rather than using the existing approach which is based on a percentage of the required number of car parking spaces. The update also proposes to revise bike parking rack design for multi-bike parking and include new solutions for long-term bike parking.

STAFF ANALYSIS

Existing policy

New developments in the City of Boulder are required to provide bike parking. The City's *Boulder Revised Code* and *Design and Construction Standards* offer guidance on city standards for bike parking, including criteria for providing parking that serves short-term as well as long-term bike storage needs.

Currently, the quantity of bike parking required by a new development is calculated based on zoning district as well as a percentage of off-street vehicle parking requirements using the Institute of Transportation Engineering (ITE) trip generation. No bicycle parking spaces are required in agricultural and low density residential zoning districts. In all other zones, at least 3 bike parking spaces or 10 percent of the required off-street parking spaces, whichever is greater, are required. After the first 50 bicycle parking spaces are provided, the required number of additional bicycle parking spaces is 5 percent of the required off-street parking spaces.

Two types of bike parking rack styles meet city design standards: the inverted U rack and the cora-style multi-bike parking rack. Bike lockers are specified as the only design to provide long term bike parking solutions. **Attachment A** shows each bike parking standard design.

Peer City review

New technologies and best practices present an opportunity for the city to review its policy on the quantity and design requirements that new developments must provide for both short and

long-term bike parking. Transportation staff conducted a review of other Bicycle Friendly Communities (BFC) that recently updated their bike parking policy, including:

- Davis, California (BFC – Platinum)
- Denver, Colorado (BFC – Gold)
- Fort Collins, Colorado (BFC – Platinum)
- Madison, Wisconsin (BFC – Gold)
- New York, New York (BFC – Silver)
- Portland, Oregon (BFC – Platinum)
- Seattle, Washington (BFC – Gold)
- Tempe, Arizona (BFC – Gold)

Additionally, staff consulted the Association for Pedestrian and Bicycle Professionals (APBP) *Bike Parking Design Guide, 2nd edition*, published in 2010. Collectively, this research found that an emerging industry standard and policy that each community has adopted is to calculate the quantity of bicycle parking based on land use type and square footage rather than associating it with the amount of bike parking required by a development. In particular, the bike parking requirements for Fort Collins and Davis were used as case studies. Beginning with the recommended requirements from both of these communities, staff developed proposed requirements based on specific conditions for Boulder. Bike parking regulations adopted in Fort Collins and draft requirements under consideration in Davis are included in **Attachment B**.

Proposed policy

Based on the peer city review as well as local and national trends, staff is proposing that city requirements for bike parking be changed to calculate the number of minimum bike parking spaces based on land use and square footage (commercial) and units/bedrooms (residential) for the proposed development. It is also recommended that new developments provide for the needs and users of both short-term bike parking (located within 50 feet of main entrance(s) on the ground floor, outside the building) and long-term bike parking (covered and secure – protected from the weather and theft). **Attachment C** presents the proposed bike parking requirements being considered and example calculations for different types of development.

In response to TAB input provided at the June 2013 meeting, staff has reviewed the proposed requirements for the number of bike parking spaces as well as the ratio of long-term to short-term bike parking. At the TAB meeting on July 8, additional example calculations like those provided in **Attachment C** will be presented for light-industrial and commercial land uses, and the rationale for the proposed quantities and ratio of long-term to short-term bike parking requirements will be explained in greater detail.

Staff also reviewed the recommended quantity of bike parking required for transit facilities, as TAB members also expressed concern that a proposed minimum requirement of 10 percent of automobile spaces was insufficient. Based on additional research, staff recommends that the proposed minimum requirement be 15 percent of automobile spaces. The city's existing goal is

to achieve a minimum bike mode share of 15 percent. Additionally, the *US 36 First and Final Mile Study* commissioned by 36 Commuting Solutions identified suitable options that better connect RTD riders to/from the US 36 Bus Rapid Transit (BRT) stations and the surrounding activity centers. The study conducted an inventory of existing bike parking and vehicular parking spaces supplied at six Park and Ride stations along the US 36 Corridor, including the Table Mesa Park and Ride. Bike parking to vehicle parking ranges from three to eight percent, with the exception of the Table Mesa park-n-Ride which is currently 14 percent. The study also recommended that an increased amount of secure and covered long-term bike parking be provided.

It is important to note that the development-related bike parking requirements are minimum standards to be achieved. A new development is also required to develop a Transportation Demand Management (TDM) Plan that demonstrates strategies to increase travel choices, offering the opportunity to choose how, when and, if travel will be by car or in some other way. The aim is to balance demand with the transportation system. TDM packages for new developments are increasingly including managed parking, secure bike parking and commuter incentives programs like Bike to Work Day to encourage bicycling. TDM packages also ensure bike parking supply meets demand for new developments designed for students and other populations with high bike mode potential.

Proposed changes carried forward and adopted will be evaluated overtime. Iterative changes to development-related bike parking requirements may be necessary as new cyclists are attracted to use the system and based on future bicycle mode share.

Changes to the design for multi-bike parking racks also are proposed. The cycling community has expressed that the current Cora-style multi-bike parking racks are no longer suitable to secure the variety of bikes used by cyclists today. In particular, bikes used for commuting are often equipped with a set of rear panniers and/or a front basket to carry goods and personal belongings. The design of the Cora-style rack hangers does not provide the spacing needed to allow a bike to have two points of contact with the rack. Staff proposes to amend the design of multi-bike parking to provide the form and function of an inverted U while offering the efficiency of parking four, six, eight or more bikes per rack. **Attachment D** shows two proposed bike parking rack product designs that would meet this new requirement. The inverted U rack, designed to park two bicycles will continue to also be a city preferred bike parking rack style.

Public Process

In June, the City used *InspireBoulder.com* to ask people about where they currently park their bicycles and to share photos as well as their input on where they park their bike and how well this bike parking meets their needs. The feedback provided supports the need for additional bike parking throughout Boulder.

A stakeholder meeting among developers, architects, property managers and bicyclists will be convened in July to share perspectives and provide input on proposed changes for new development requirements.

The Transportation Division continues to work with the Community Planning +Sustainability Department current and long-range planning divisions as well as Downtown University Hill Management & Parking Services on advancing the internal review of proposed development-related bike parking regulations. The City Attorney's Office (CAO) also is involved in

developing the ordinance changes. The public input coupled with the lessons learned from the Bike Parking Subsidy project will be incorporated into the proposed policy and guide development of final regulations to advance to Planning Board and City Council for their consideration and adoption.

NEXT STEPS

The Transportation Division plans to continue gathering public input on the proposed changes to bike parking regulations throughout the month of July. Working with CP+S and the CAO, proposed changes to the BRC ordinances for development-related bike parking requirements are anticipated be drafted in August. The Planning Board will consider a recommendation on changes to development-related bike parking requirements in early Fall 2013.

Attachment A: City of Boulder bike parking standard designs

Attachment B: Peer community bike parking regulations

Attachment C: Proposed Bike Parking requirements for new development

Attachment D: Proposed multi-bike parking rack design examples

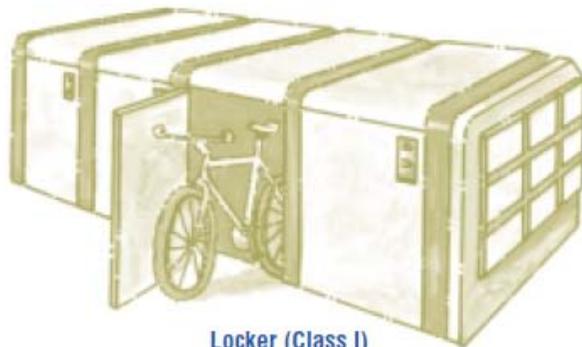
City of Boulder Bike Parking Standard Designs



Inverted "U" (Class II)



Cora (Class I)



Locker (Class I)

City of Fort Collins Bike parking Standards – Nonresidential

<i>Use Categories</i>	<i>Bicycle Parking Space Minimums</i>	<i>% Enclosed Bicycle Parking/ % Fixed Bicycle Racks</i>
Nonresidential Parking Requirements		
Restaurants a. Fast food b. Standard	1.5/1,000 sq. ft., minimum of 4 1/1,000 sq. ft., minimum of 4	0%/100% 0%/100%
Bars, Taverns and Nightclubs	1/500 sq. ft., minimum of 4	0%/100%
Commercial Recreational	1/2,000 sq. ft., minimum of 4	20%/80%
Theaters	1/30 seats, minimum of 4	0%/100%
General Retail	1/4,000 sq. ft., minimum of 4	20%/80%
Personal Business and Service Shop	1/4,000 sq. ft., minimum of 4	20%/80%
Shopping Center	1/4,000 sq. ft., minimum of 4	20%/80%
Medical Office	1/4,000 sq. ft., minimum of 4	20%/80%
Financial Services	1/4,000 sq. ft., minimum of 4	20%/80%
Grocery Store, Supermarket	1/3,000 sq. ft., minimum of 4	20%/80%
General Office	1/4,000 sq. ft., minimum of 4	20%/80%
Vehicle Servicing and Maintenance	4	n/a
Low Intensity Retail, Repair Service, Workshop and Custom Small Industry	4	n/a
Lodging Establishments	1 per 4 units	60%/40%
Health Facilities	1/5,000 sq. ft., minimum of 4	20%/80%
Industrial: Employee Parking	4	n/a

City of Fort Collins Bike parking Standards Residential

<i>Use Categories</i>	<i>Bicycle Parking Space Minimums</i>	<i>% Enclosed Bicycle Parking/ % Fixed Bicycle Racks</i>
Residential and Institutional Parking Requirements		
Multi-Family Residential	1 per bedroom	60%/40%
Fraternity and Sorority Houses	1 per bed	60%/40%
Group Homes	No requirement	n/a
Recreational Uses	1/2,000 sq. ft., minimum of 4	0%/100%
Schools/Places of Worship or Assembly and Child Care Centers	1/3,000 sq. ft., minimum of 4	0%/100%
Small Scale Reception Centers in the U-E, Urban Estate District	1/4,000 sq. ft., minimum of 4	0%/100%
Extra Occupancy Rental Houses	1 per bed	0%/100%

City of Davis Bike parking Standards (DRAFT – June 12, 2013)

Land Use	Examples	Standard (sf = gross square feet)	Short Term Parking	Long Term Parking
Residential – group living	Fraternity, sorority, co-op housing	1 per bed	25%	75%
Residential – multi-family	Apartments, condominiums	1 per bedroom	25%	75%
Lodging	Hotel, motel	1 per 10 guest rooms	50%	50%
Restaurant – quick serve	Deli, coffee shop, bar	1 per 150 sf	75%	25%
Restaurant – sit down	Restaurant	1 per 500 sf	75%	25%
Retail, general commercial	Grocery store, hardware, furniture	1 per 1000 sf	75%	25%
Commercial Services	Garden supply, appliance stores, auto repair, auto dealership (office /showroom)	1 per 1000 sf	75%	25%
Office	Professional, medical, dental, government, clinic, bank	1 per 1,500 sf	75%	25%
Shopping Center	Mix of personal services, retail, restaurants, offices	1 per 1,750	75%	25%
Institutional	Schools, day care, hospital	1 per 2,500 sf	75%	25%
Light Industrial	R&D, business park	1 per 2,000 sf	25%	75%
Industrial	Warehouse, manufacturing	1 per 7,500 sf	25%	75%
Civic, cultural, religious centers	Library or museum (occupancy), places of worship (seat)	10% of maximum occupancy or seats	75%	25%
Commercial Recreation	Theater (seats), health club (occupancy)	10% of maximum occupancy or seats	75%	25%
Open Space, parks, recreational uses	Ball field, driving range, playground, parks	As determined by the Community Development and Sustainability Director		
Downtown (Core Area)	Includes all non-residential land use types in downtown	Apply same standards for land use above when feasible. City provides an on-going bicycle rack program for the Downtown Core Area		

Boulder Bicycle Parking Requirements

Table x.x Minimum Amount and Type of Bicycle Parking Spaces Required**Modified 4/22/13**

Land Use Category	Example Land Uses	Minimum Bicycle Parking Spaces Required ⁽¹⁾	Long Term / Secure ⁽²⁾ Bicycle Parking Percentage	Short Term / Visitor ⁽³⁾ Bicycle Parking Percentage
Residential / Lodging:				
Single Family – detached	Detached dwelling units	No requirement	n/a	n/a
Single Family – attached with private garages ⁽⁴⁾	Townhomes or condominiums - with an enclosed private garage for each unit	No Requirement	n/a	n/a
Single Family – attached without private garages	Townhomes or condominiums - without an enclosed private garage for each unit	1 per dwelling unit	75%	25%
Multifamily	Apartments - without enclosed private garage for each unit	1 per bedroom	75%	25%
Greek System Student Housing	Fraternity or Sorority Houses	1 per bed	75%	25%
Other Group Homes	Co-op housing	1 per bedroom	75%	25%
Assisted Living Housing	Senior housing, long term care housing	1 per every 4 employees	75%	25%
Commercial Lodging	Hotel, motel	1.5 per 10 bedrooms	75%	25%
Housing within Parking Management Districts - Downtown Boulder (CAGID), University Hill (UHGID) and Boulder Junction	Dwelling units within the CAGID, UHGID, and Boulder Junction District boundaries	1 per bedroom Minimum of 2	75%	25%
Commercial / Other:				
Restaurants / Taverns with low turnover	Sit down restaurants, bars, taverns, nightclubs	2 per 1,000 sq. ft., Minimum of 4	25%	75%
Restaurants with high turnover	Fast food, coffee shop, sandwich shop, other quick serve	3 per 1,000 sq. ft., Minimum of 4	25%	75%
Retail / Service – small format (less than 10,000 sq. ft.)	Specialty retail, beauty salon, convenience market, telephone store, bank	1 per 2,000 sq. ft., Minimum of 4	25%	75%

ATTACHMENT C

Retail / Service – large format (more than 10,000 sq. ft.)	Grocery store, furniture store, shopping center, appliance store	1 per 4,000 sq. ft.	35%	65%
Office	General, medical, professional, government, financial services	1 per 2,000 sq. ft. Minimum of 4	75%	25%
Light Industrial	R&D, business park, light manufacturing, auto service	1 per 2,000 sq. ft. or 1 per 4 employees	75%	25%
Industrial	Warehousing, heavy manufacturing	1 per 4,000 sq. ft. or 1 per 4 employees	75%	25%
Recreation	Health Club, climbing facility	1 per 1,000 sq. ft.	25%	75%
Theater	Movie theater, performing arts facility	1 per 20 seats	25%	75%
Medical Facilities	Hospital, clinic, medical campus	1 per 5,000 sq. ft.	75%	25%
Institutional, Civic	Place of worship, library, museum, recreation centers	15% of maximum person occupancy	25%	75%
Schools	Daycare center, school	3 per classroom Minimum of 4	25%	75%
Parking Management Districts	Retail, office, and all other non-residential uses within districts such as CAGID, UHGID and Boulder Junction	2 per 1,500 sq. ft.	40%	60%
Transit Facilities	Bus or rail access park-n-rides, transit centers, rail stations	1 % of auto mobile parking spaces	70%	30%

1. Minimum number of bicycle parking spaces required of all parking types. The allocation of Long Term / Secure spaces and Short Term / Visitor spaces is further defined by the columns to the right for each land use type which detail the percentage of each type that must be provided.
2. Long Term / Secure Bicycle Parking Spaces are defined as those that are located in a secure enclosed lockable space where the space itself can be locked (to prevent unrestricted access) and is protected from the elements, as specified in Boulder’s Design and Construction Standards, Section 2.11 (E). These spaces are for use by residents, employees, or parkers that require secure bicycle storage for longer periods of time, or for more valuable bicycles. Long Term / Secure Bicycle Parking may be provided in a locked separate room, within a locked cage, or within a building. The secure parking area will also have approved bicycle racks where the bikes can be stored and locked within the secure space.
3. Short Term / Visitor Bicycle Parking Spaces are defined as those that are available to the general public in a bicycle rack that meets the City of Boulder bicycle rack standards (See Design and Construction Standards Section 2.11 (E)). These spaces may be used by employees, patrons, visitors, customers, residents, etc. for short term and/or less secure bicycle parking.
4. A “private” garage is a garage that is assigned to only one specific dwelling unit and is fully enclosed and lockable.

Boulder Bicycle Parking Supply Examples:

Land Use Type	Size	Total Spaces Required	Long Term / Secure Spaces	Short Term / Visitor Spaces
Fast food restaurant	4,000 sq. ft.	12	3	9
Sit-down restaurant	6,000 sq. ft.	12	3	9
Bank	5,000 sq. ft.	4	1	3
Large format retail	120,000 sq. ft.	30	10	20
Small format retail	20,000 sq. ft.	10	3	7
Health Club	35,000 sq. ft.	35	9	26
Elementary school	12 classrooms	36	8	28
Daycare	4 classrooms	12	3	9
Medical Campus	300,000 sq. ft.	60	45	15
Light Industrial	35,000 sq. ft.	18	14	4
Park-N-Ride Lot	300 automobile spaces	30	22	8
Downtown Boulder - 7,500 FTEs with 21% bike mode share - 2,000 bike spaces currently available - 2,800 to 4,000 bikes observed on peak weekends	3,000,000 sq. ft.	4,000	1,600	2,400

Proposed Multi-bike parking rack design examples



Source: <http://www.belson.com/cbr.htm>



Source: <http://bikerack.com/flow-rack>