



Access Management and Parking Strategy

Parking Code Changes (Phase I)

Draft ordinances

City Council

November 6, 2014



Draft Ordinances for CC Consideration

- Ordinance No. 8005 amending Land Use Code Section 9-9-6 Parking Standards to:
 - Simplify and correct parts of the vehicle parking requirements, and
 - Add new bike parking requirements by land use
- Ordinance No. 8006 amending the Design and Construction Standards (DCS) to
 - Modify multi-bike parking rack design standards



Presentation overview

- Background (AMPS)
- Community Input
- Vehicle Parking Requirements
- New Bike Parking Standards
- TAB input / Planning Board discussion and recommendation
- Staff recommendation



AMPS Guiding Principles:

- Provide for All Transportation Modes
- Customize Tools by Area
- Support a Diversity of People
- Seek Solutions with Co-Benefits
- Plan for the Present and Future
- Cultivate Partnerships



Public Outreach & Input

- AMPS Open House: May 1st
- Stakeholder Meeting: June 12th
- Planning Board meeting: July 17th
- AMPS Open House: October 20th
- Additional outreach and communication since PB



Vehicle Parking Requirements



Topic 1:

Updating RH-1 Parking Standards

Current requirement: 1 space for first 500 square feet and 1 additional space for each 300 square feet or portion thereof not to exceed 4 spaces per DU

Proposed requirement:

- 1 space for detached DU
- 1 space for a 1 bedroom attached DU
- 1.5 spaces for 2 bedroom attached DU
- 2 spaces for 3 bedroom attached DU
- 3 spaces for 4 or more bedroom attached DU



Topic 2:

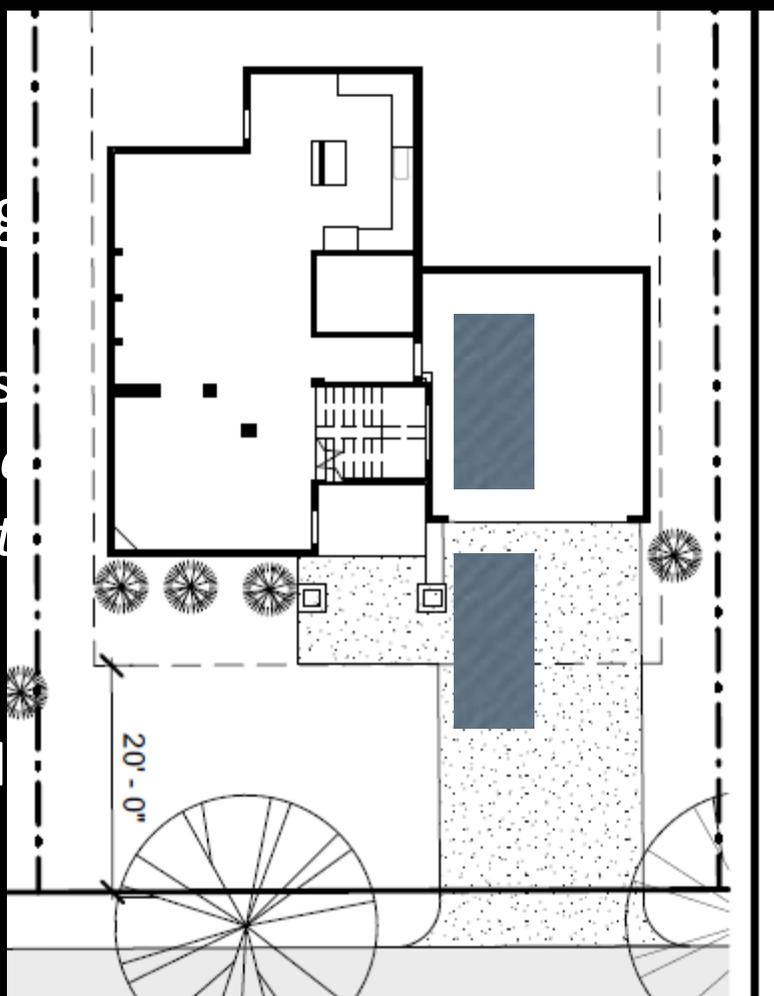
Making Driveway Parking Standards for RL-2 Consistent with other Districts

Suggested change

- Parking Standards required landscaping or RL-1 zoning districts

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- Variance Standard RE, or RL-1 zoning

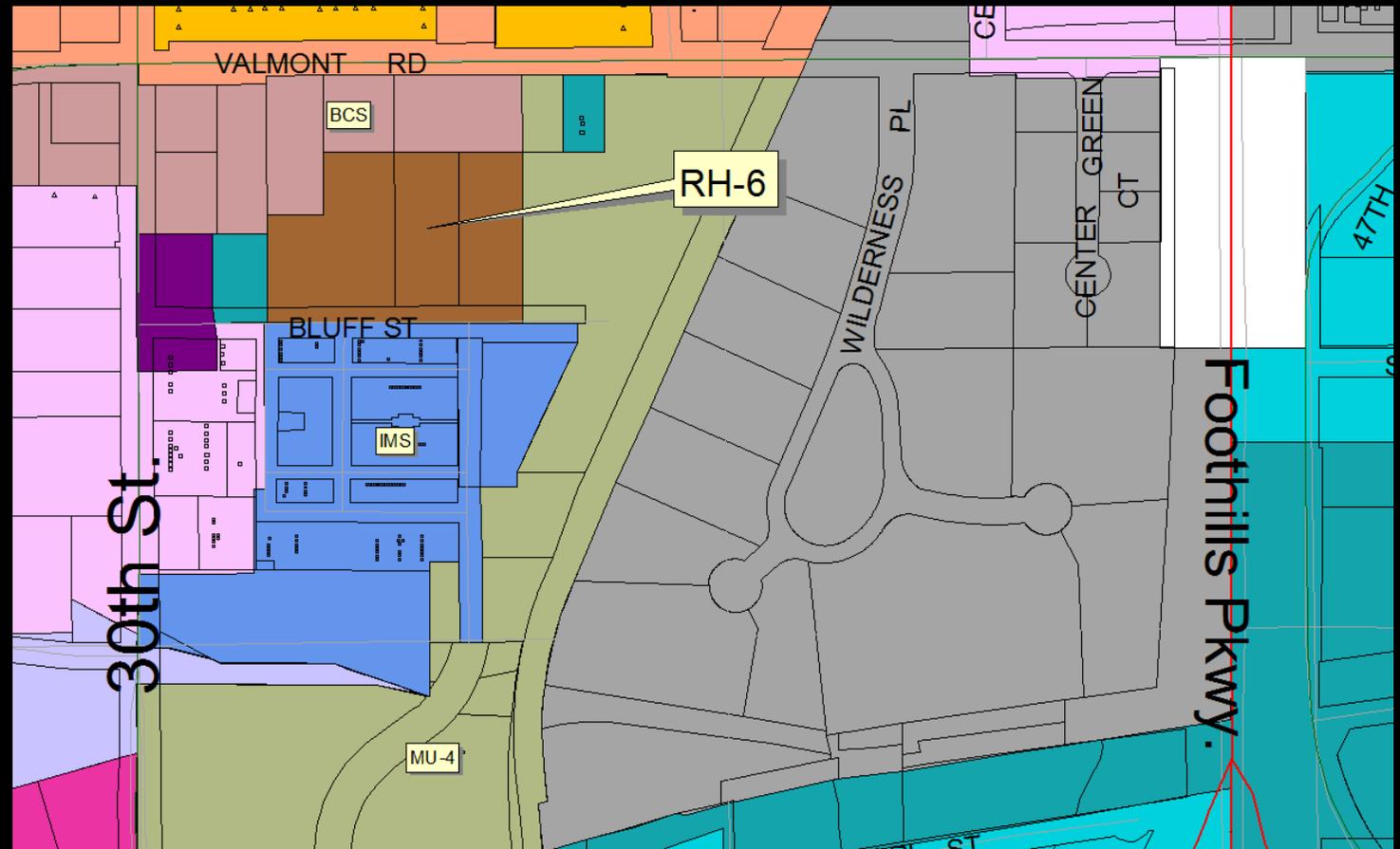


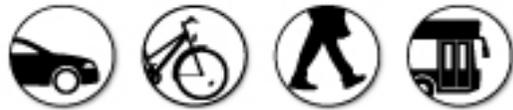
*located in any
however, in RR, RE,*

ilt in an ~~RR-1, RR-2,~~

Topic 3:

Specifying Non-Residential Parking Requirements in the RH-6 Zoning District





Topic 4:

Updating Accessible Parking Requirements

Accessible space requirement

~~0 spaces for the first 7 DUs, 1 space per 7 DUs thereafter.~~ Must meet the Americans with Disabilities Act, as amended.

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20 plus 1 for each 100 over 1000



Topic 5:

Reducing the Parking Rate for Low Parking Demand Nonresidential Land Uses

Proposed change:

Airports and aircraft hangers

<u>Airport and aircraft hangers</u>	<u>1 parking space for every 4 outside airplane or glider tie down spaces;</u> <u>1 parking space for every 4,000 square feet of floor area of private airplane hangar space (with or without external or internal walls);</u> <u>1 parking space for every 2,000 square feet of floor area of commercial or "executive" airplane hangar space, and,</u> <u>parking for associated office space or areas not used for aircraft hangers shall be required per Table 9-3</u>
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Topic 5:

Reducing the Parking Rate for Low Parking Demand Nonresidential Land Uses

Proposed change:

Warehouses

<u>Warehouse or distribution facility or uses in industrial zones with accessory warehouse spaces</u>	<u>1 space per 1,000 square feet of floor area used for warehousing and/or storage of goods, merchandise or equipment. Parking for associated office space or production areas not used for warehousing or storage outlined above shall be required per Table 9-3</u>
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Topic 5:

Reducing the Parking Rate for Low Parking Demand Nonresidential Land Uses

Warehouses:

Warehouse	Square footage	Existing Parking provided	Required parking per current code	Proposed parking requirement	Observed peak parking
3600 Pearl	11,312	11	28	14	6
3635 Pearl	10,665	41	26	13	19
Frontier Buildings	188,116	324	420	260	173
3825 Walnut	100,872	185	252	134	114



Topic 5:

Reducing the Parking Rate for Low Parking Demand Nonresidential Land Uses

Proposed change:

Self-storage

<p><u>Self-service storage facility</u></p>	<p><u>3 parking spaces for visitor parking, plus parking required per Table 9-3 for office spaces or areas not specially designated for self-storage. No parking required for square footage of floor area designated for self-storage.</u></p>
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Topic 5:

Reducing the Parking Rate for Low Parking Demand Nonresidential Land Uses

Self-storage:

Self Storage	Square footage	Required parking	Approved reduction/ spaces	Proposed parking requirement
5002 28 th	36,000	90	25% reduction & 56% deferral: 16	4
5675 Arapahoe	184,440	461	82% reduction: 54	9



Topic 6:

Simplifying Parking Standards for Retail Centers

Projected change:

Retail centers over 50,000 sf

Retail Centers over 50,000 sf of floor area under common ownership or management that may contain a mix of uses, including but not limited to retail, restaurants, brewpubs, taverns and/or office, but excluding residential uses

1 space per 250 square feet of floor area for retail and office uses and restaurants, brewpubs and taverns uses. Other uses within the retail center identified in this table shall require parking at the specified rate for that use

Topic 6: Retail Centers

Retail Center	Current Parking	Current Parking rate	@1:200	@1:300	@1:400	@1:250 (suggested)	Peak usage per transportation study	
Basemar	493	1:169	416	278	208	333	280 (weekday afternoon)	
Willowsprings	246	1:224	276	184	138	220	174 (weekday afternoon)	
Ideal Market	78	1:156	NA- No change (<50,000)*					
Community Plaza	154	1:218	NA- No change (<50,000)*					
Table Mesa Shopping Center	937	1:298	1358	905	679	1086	751 (weekday afternoon)	
The Meadows	1373	1:162	1112	742	556	889	No data	
The Village	898	1:240	1079	719	539	863	599 (Friday evening)	
Twenty Ninth Street	3229	1:264	4265	2844	2133	3413	1778 (Saturday evening)	
Crossroad Commons	834	1:172	720	480	360	576	636 (weekday afternoon)	

Topic 6: Retail Centers

Shopping Center	Current Parking provided	Required parking	Approved parking (appl. Reduction %)	Proposed parking
Table Mesa Shopping Center	937	1003	937 (6%)	1086 (1021)
The Village	898	958	857 (10%)	863 (777)
Twenty Ninth Street	3229	3456	3110 (10%)	3413 (3072)
Crossroad Commons	834	575	575 (n/a)	576

Topic 6: Retail Centers

Table 1- Retail center floor area and seating analysis

Retail center	Square footage- restaurants	Seats	Required parking per seating	Required parking – floor area
Twenty Ninth Street	67,785	2280	760	1:89
The Village	30,403	846	282	1:108
Crossroad Commons	3,408	90	30	1:114
Basemar	17,425	565	188	1:92
Ideal Market	5,347	144	48	1:111
AVERAGES	24,874	785	262	1:103

< 30% restaurants/brewpubs/taverns: **1:250 sf**

> 30-60% restaurants/brewpubs/taverns: **1:175 sf**

> 60% restaurants/brewpubs/taverns: **1:100 sf**



Topic 7: Simplifying Parking Requirements for Restaurants, Brewpubs and Taverns

TABLE 9-4: SUPPLEMENTAL USE SPECIFIC PARKING REQUIREMENTS FOR NONRESIDENTIAL USES IN ALL ZONES

<i>Use</i>	<i>Parking Requirement</i>
Restaurant, brewpub, or tavern – interior seating	Greater of 1 <u>space</u> per 3 <u>interior or exterior</u> seats, or the ratio for the use module <u>unless within a retail center meeting the criteria below.</u>
Restaurant, brewpub, or tavern – outdoor seating:	

*Ideal Market and Community Plaza are excluded as they are less than 50,000 square feet.



Topic 7: Simplifying Parking Requirements for Restaurants, Brewpubs and Taverns

<p><u>Restaurant, brewpub, or tavern – outside of retail centers greater than 50,000 square feet</u></p>	<p><u>1 space per 3 seats for indoor seats. Where outdoor seats do not exceed 20 percent of the indoor seats, no additional parking spaces are required. Where outdoor seats exceed 20 percent of the indoor seats, 1 space per 3 seats must be provided for those seats exceeding 20 percent of the indoor seats. Unless additional parking is provided to meet the requirements above, the maximum number of outdoor seats for restaurants, brewpubs, and taverns on sites that do not meet the required number of parking spaces for indoor seats shall be 20 percent x the number of parking spaces provided on the site x 3.</u></p>
<p>Restaurant, brewpub, or tavern— outdoor seating:</p>	
<p>a. Outside seats for restaurant, brewpub, or tavern with up to and including 50 interior seats if outside seats do not exceed the greater of 6 seats or 25 percent of interior seats; or b. Outside seats for restaurant, brewpub, or tavern with more than 50 interior seats if outside seats do not exceed the greater of 12 seats or 20 percent of indoor seats</p>	<p>No additional parking spaces required</p>
<p>c. Outside seats for restaurant, brewpub, or tavern in excess of requirements of Subsection a or b of this use</p>	<p>1 space per 3 outdoor seats in excess of exempted outdoor seats</p>
<p>d. Outside seats for restaurants, brewpubs, or taverns that do not meet the parking requirement for their indoor seats</p>	<p>The maximum number of outdoor seats shall be calculated in accordance with the following formula: (the number of parking spaces provided on site) x 3 x (the percentage of seats permitted in Subsection a or b of this use) = the maximum number of outdoor seats that may be provided without providing additional parking</p>

*Ideal Market and Community Plaza are excluded as they are less than 50,000 square feet.



Topic 8: Address 'duplexes' in parking standards

TABLE 9-1: RESIDENTIAL

<i>Zone District Standard</i>	<i>RR, RE, MU-1, MU-3, BMS, DT, A, RH-6</i>	<i>RMX-2, MU-2, MH, IMS</i>	<i>R</i>
Minimum number of off-street parking spaces for a detached dwelling unit (DU)	1	1	
Maximum number of off-street parking spaces for an attached DU	N/A	N/A	
Minimum number of off-street parking spaces for an attached DU	1	1 for 1- or 2-bedroom DU 1.5 for 3-bedroom DU 2 for a 4 or more bedroom DU	

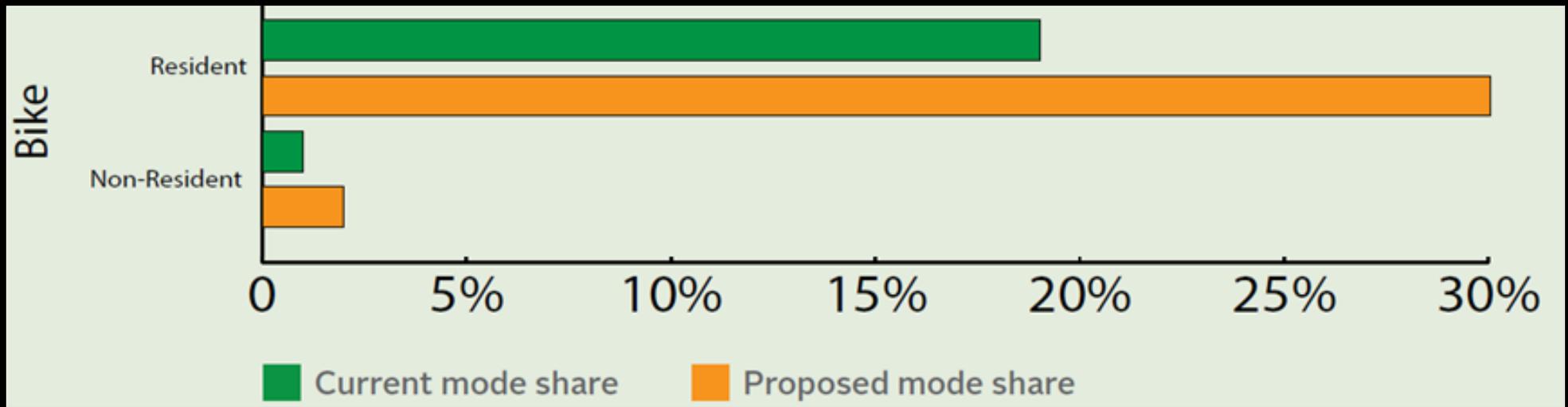
< or duplex



Bike Parking Standards for new development

Marni Ratzel GO boulder/Transportation

Bike Mode Target for 2025



Short-Term bike parking

- Offers a convenient and accessible area to park bicycles for customers and other visitors.
- Short term bicycle parking shall be located:
 - On the public access level;
 - Within fifty feet of the main building entrances; and
 - Outside the building.



Long-term bike parking

- Offers secure and weather protected place to store bike for several hours
- Required to be covered and shall include use of one of the following:
 - A locked room;
 - An area enclosed by a fence with a locked gate;
 - An area within view of an attendant or security guard or monitored by a security camera; or
 - An area visible from employee work areas.



City of Boulder



The Peloton



Current standards Boulder Junction

Land Use Category	Long-term / secure and covered	Short-term / visitor
Residential		
RH-3	2 spaces per DU	1 per 10 DU, minimum 4
MU-4, RH7	2 spaces per DU	1 per 10 DU, minimum 4
Non-residential		
RH-3, RH-7, MU4 in parking district	Min 3 or 1:2,000 sq. ft if residential uses is < 50% of floor area or 1:2,500 sq. ft., which ever is greater	Min. 3 or 1:4,000 sq. ft if residential uses < 50% of Floor area or 1:5,000 sq. ft., which ever is greater
RH-3, RH-7, MU4 not in parking district	Min. 3 or 1: 1500 sq. ft. which ever is greater	Min. 3 or 1:2000 sq. ft. which ever is greater



Current requirements Elsewhere Citywide

- Minimum of 3 bike parking spaces
~ or ~
- 10% up to 50 spaces
- 5% for any additional bike parking spaces

For example

1,000 off-street vehicle parking spaces

= 75 bike parking spaces, as follows

50 on first 500 and

25 on second 500 off-street parking spaces.

- No requirement in A, RR, RE, RL, RM & RMX



Existing Conditions





BIKE PARKING REQUIREMENTS

Topic 1 Quantity of required bike parking

Topic 2 Bike parking design standards



Topic 1: Quantity of required bike parking

- Define minimum quantity for:
 - ▶ Employee / resident (long-term)
 - ▶ Customer / visitor (short-term bike)
- Calculate based on land use, and:
 - ▶ Land use and square footage (commercial)
 - ▶ Units/bedrooms (residential)



Examples of Proposed Requirements

Land Use Category	Min. Spaces Required	Long-term / secure and covered	Short-term / visitor
Residential			
Dwelling Units without a private garage*	2 per unit	75 %	25 %
Cooperative housing units	1 per 3 beds	75%	25%
Non-residential			
Restaurants, brewpubs, taverns	1 per 750 sq. ft.	25%	75%
Office, Medical, Financial uses	1 per 1,500 sq. ft.	75%	25%



First reading questions

- What was the level of public outreach to property owners?
- How will sites that would become non-conforming would be affected by the updated regulations?



Topic 2: Bike parking design standards

- Amend multi-bike parking rack design
- Provide better guidance on long-term bike parking

Multi-Bike Rack design

Existing Cora-style



Rail mounted inverted U racks





Long Term Bike Parking Solutions





Transportation Advisory Board Input

- Unanimously supports policy direction and approach
- Favors inverted U bike parking rack design
- Expressed desire for bike parking that accommodates cargo bikes and trailers



Planning Board discussion and recommendation

- Reviewed proposed changes on July 17th and Sept. 18th
- Suggested changes to retail parking requirements / requested additional information on RH-1 and ADA parking
- Unanimous recommendation of approval of ordinances with bicycle parking increased by 25%



Staff recommendation

Motion to approve:

1. **Ordinance No. 8005** amending Boulder Revised Code Section 9-9-6 Parking Standards to:
 - Simplify and correct parts of the vehicle parking requirements and
 - Add new bike parking requirements by land use.
2. **Ordinance No. 8006** amending the Design and Construction Standards (DCS) to amend multi-bike parking rack design standard.



AMPS Next Steps

- Continued public outreach
- Continued research of best practices/peer communities
- Study Session with City Council (February?)
- Late 2014/Early 2015: Advance Phase II (long term) parking change drafting



Questions?



Resource Information:



Peer City Review

- 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)

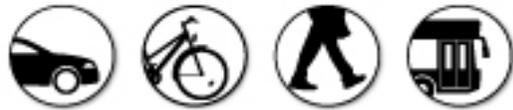


Local case study examples: Residential

Residential	Units	Existing Total (long, short)	Proposed Total (long, short)
Red Oak Park (2637 Valmont)	79	42 (0,42)	158 (118,40)
Two Nine North (30 th St.)	240	36 (0,36)	476 (358,120)
Elements (1707 Walnut)			
Landmark Lofts II (28 th St.)	138	178 (128,50)	276 (207,69)
950 28 th Street	84	208 (170,38)	168 (126,42)

Proposed Standards

- *2 Bike Parking Spaces Per Unit*
- *75% long-term spaces*
- *25% short-term spaces*



Local case study examples: Office

Medical	Square Feet	Existing Total (long, short)	Proposed Total (long, short)
1739 Broadway	20,910	34 (24,10)	14 (10,3)
1101 Arapahoe	13,851	12 (0,12)	9 (7,2)
1777 Broadway	23,657	28 (0,28)	16 (12,4)
3333 Walnut Street	158,199	42 (0,42)	105 (79,26)
1738 Pearl Street	42,000	19 (0,19)	28 (21,7)

Proposed Standards

- *1 per 1,500 square feet*
- *75% long-term spaces*
- *25% short-term spaces*



Local case study examples: Medical

Medical	Square Feet	Existing Total (long, short)	Proposed Total (long, short)
BCH – Foothills	418,000	104 (0,124)	279 (208,70)
BCH – Broadway	304,530	46 (28,18)	203 (152,50)
Boulder Medical Center	76,200	20 (0,20)	51 (28,13)

Proposed Standards

- *1 per 1,500 square feet*
- *75% long-term spaces*
- *25% short-term spaces*

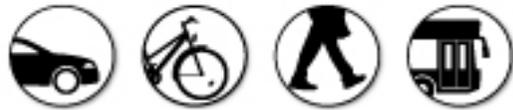


Local case study examples: Lodging

Lodging Uses	Guest Rooms	Current Provided	Proposed (Long, Short)
St. Julien Hotel	102	58 (34,24)	34 (17,17)
Hampton Inn	101	14 (0,14)	34 (17,17)

Proposed Standards

- 1 space per 3 guest rooms
- 75% long-term spaces
- 25% short-term spaces



Local case study examples: Office

Commercial / Retail	Square Feet	Existing Total (long, short)	Proposed Total (long, short)
Walgreens	14,820	8 (0,8)	20 (5,15)
Alfalfa's	36,066	20 (0,20)	48 (12,36)
Trader Joes	14,200	14 (0,14)	19 (5,14)
Christie Sports	8,820	10 (0,10)	12 (3,9)

Proposed Standards

- *1 per 750 square feet*
- *25% long-term spaces*
- *75% short-term spaces*

TDM and Development Review

- Integrate Parking Management and TDM
- Conduct Best Practices Review
- Modify Existing Transportation Options Toolkit for new developments



Parking for Cargo bikes & trailers





Solutions Overview

Types

Lockers

Cages / Rooms

Custom

Space Saving

Options

Vertical Parking

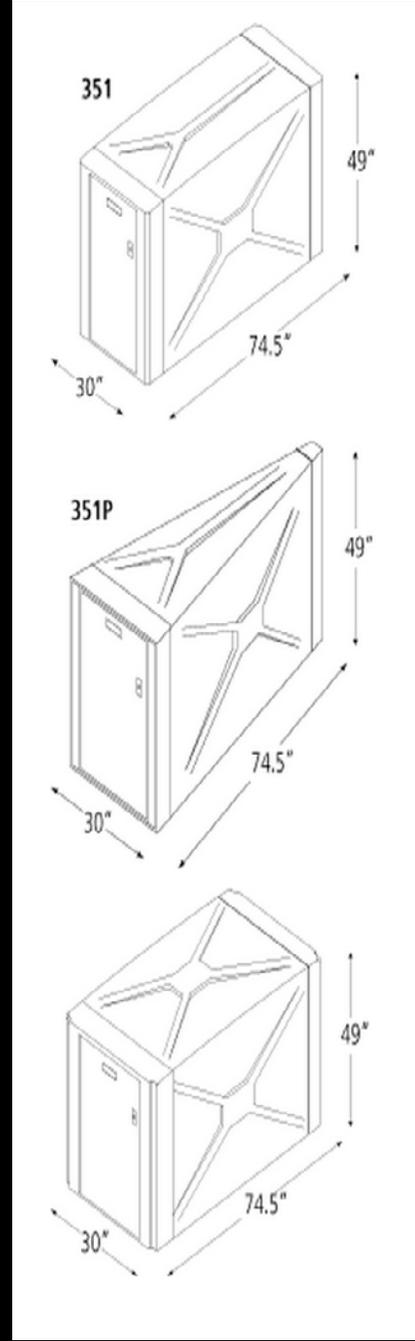
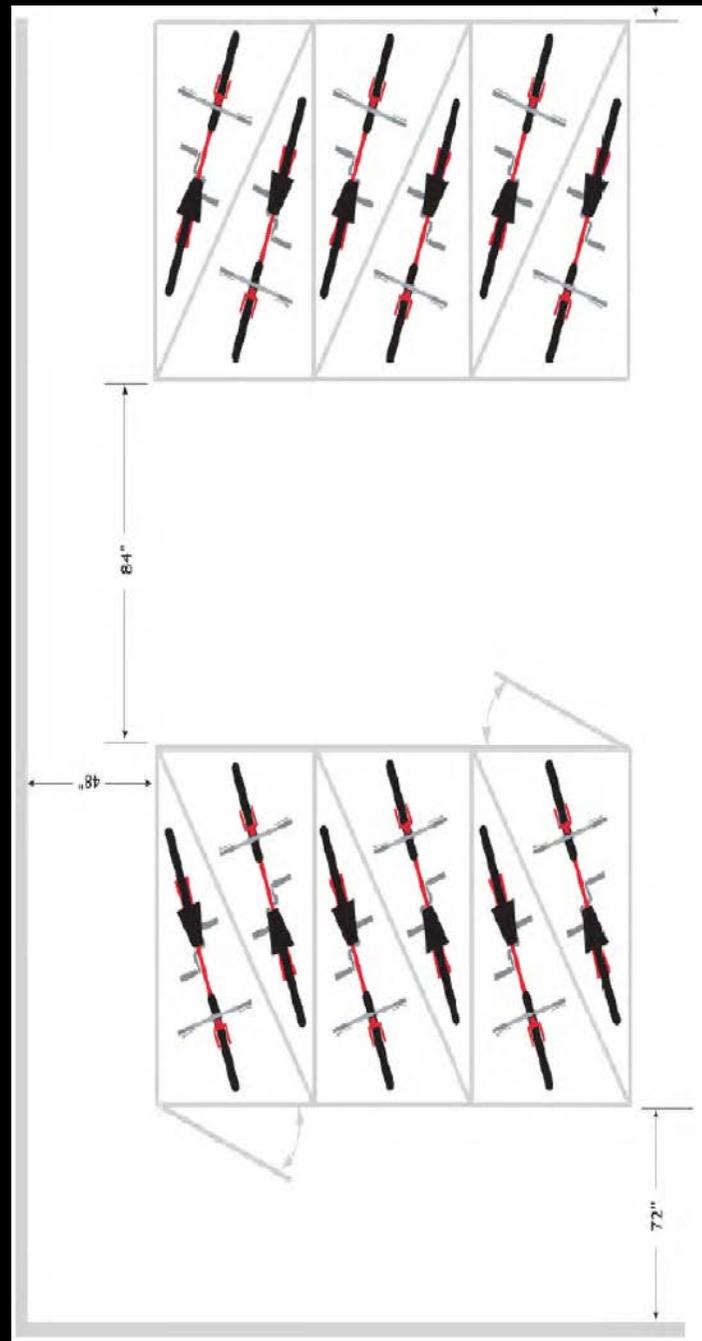
Double Decker



Bike Lockers

Description

Fully encloses
single bicycle
Accessible only to
user and owner by
key lock.



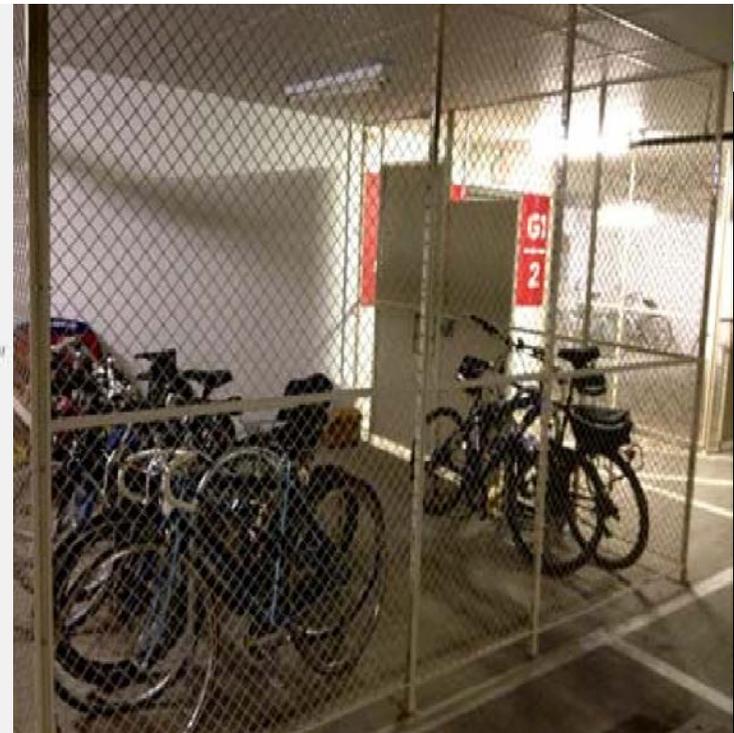
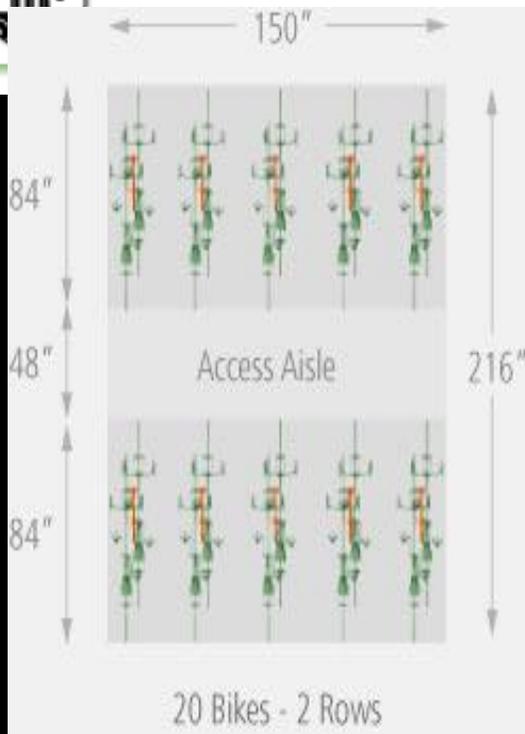


Bike Rooms

Description

Fully enclosed facilities that include U racks on the inside.

Access is restricted to the owners of the bicycles stored inside.





Custom

Description

Custom solutions to fit specific situations

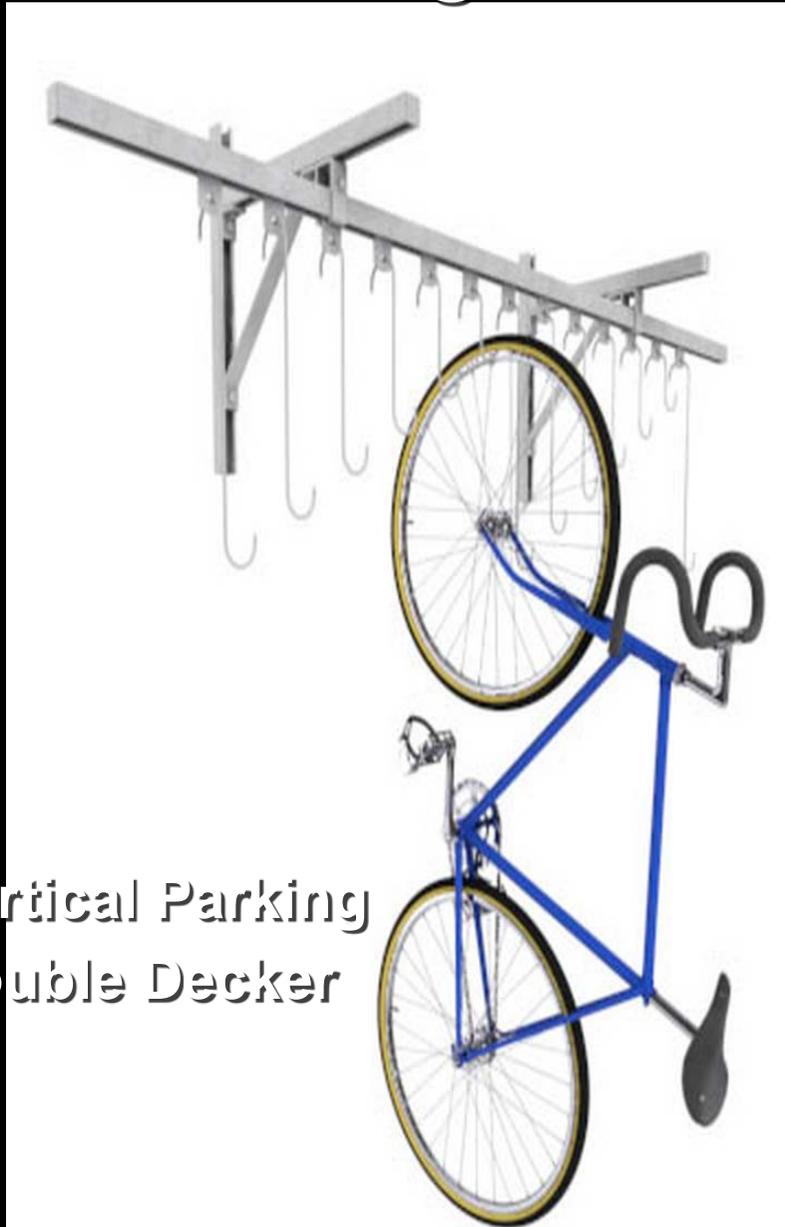
Example

The Lambeth
Bikehanga





Space Saving



Vertical Parking
Double Decker





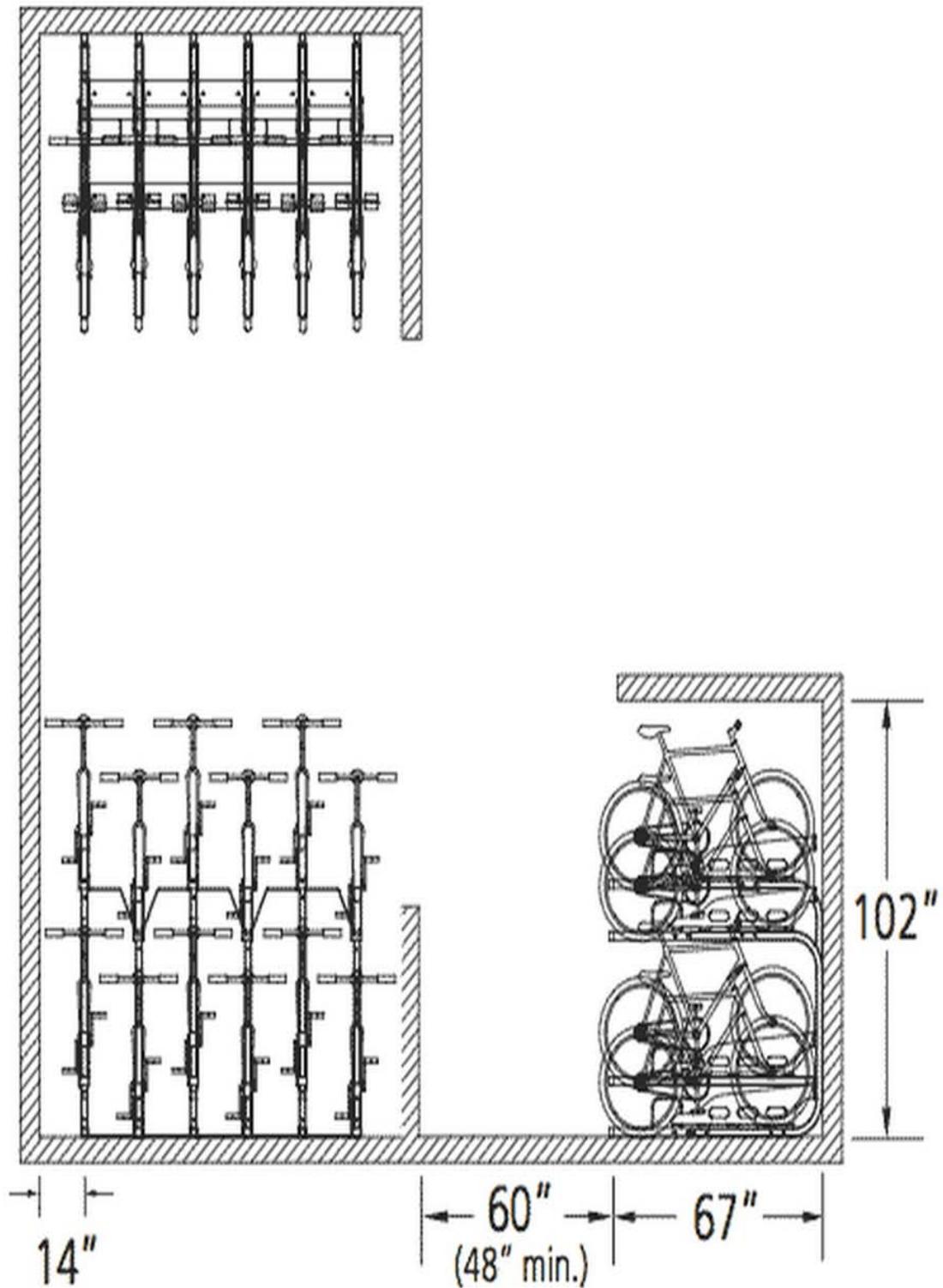
Space Saving

Pros

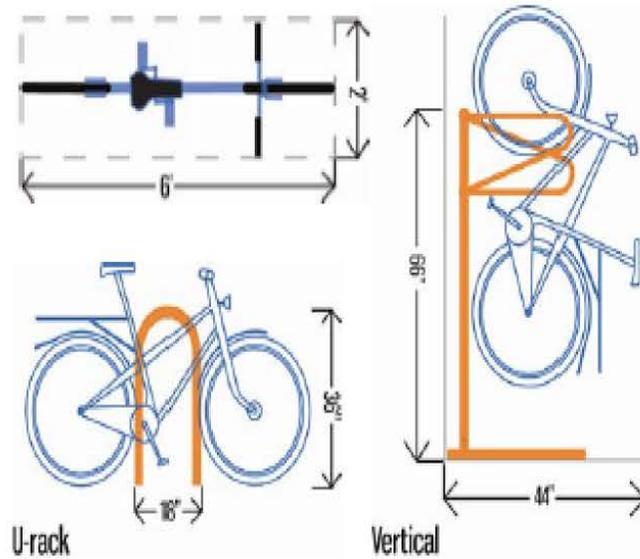
Very space efficient

Cons

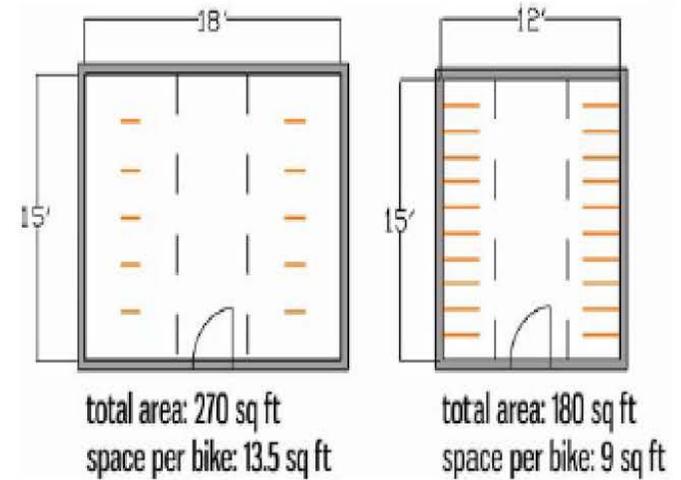
More expensive
Difficult to use



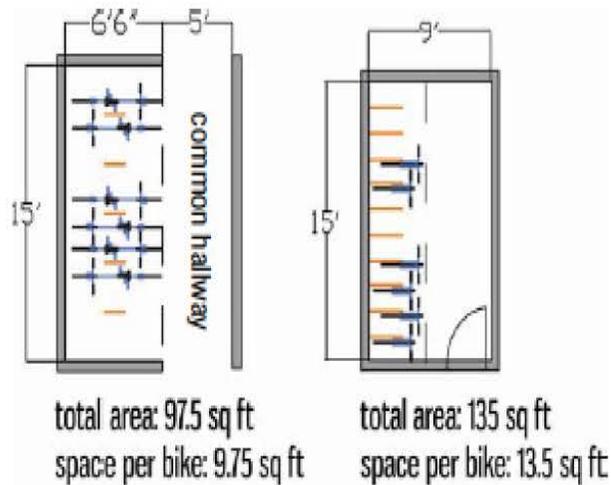
Bicycle parking can be accommodated in 15 square feet per space or less:



Medium Bike Room – 20 bikes

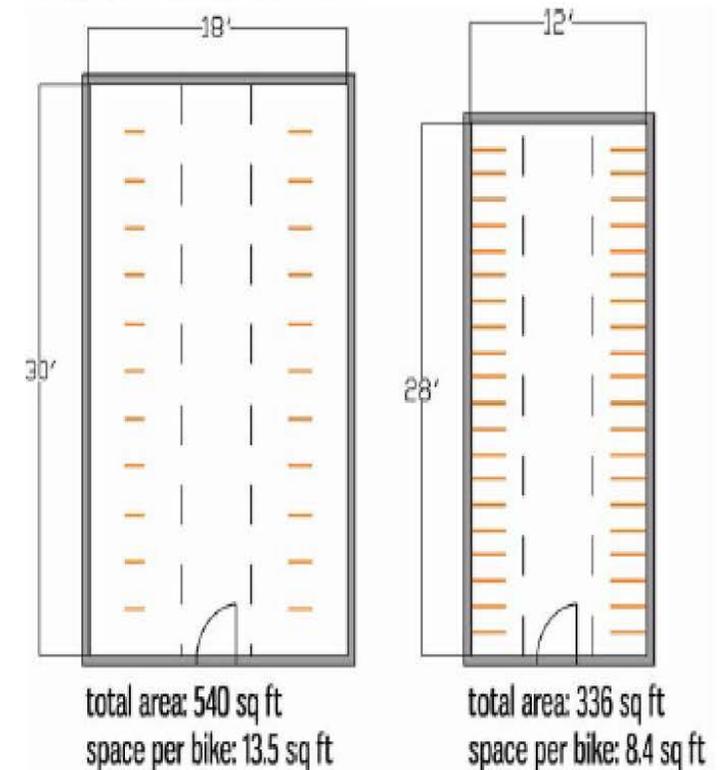


Small Bike Room – 10 bikes



U rack —
vertical —
* all layouts include a 5' wide aisle

Large Bike Room – 40 bikes





AMPS Next Steps

- Summer 2014
 - Best practices report on AMPS focus areas
 - Community outreach
 - TDM Tool Kit/coordination with TMP Update
 - Planning Board review of ordinance
- Fall 2014
 - City Council- bike & phase I code changes
 - Return to Boards
 - Follow-Up City Council Study Sessions (July & Oct.)

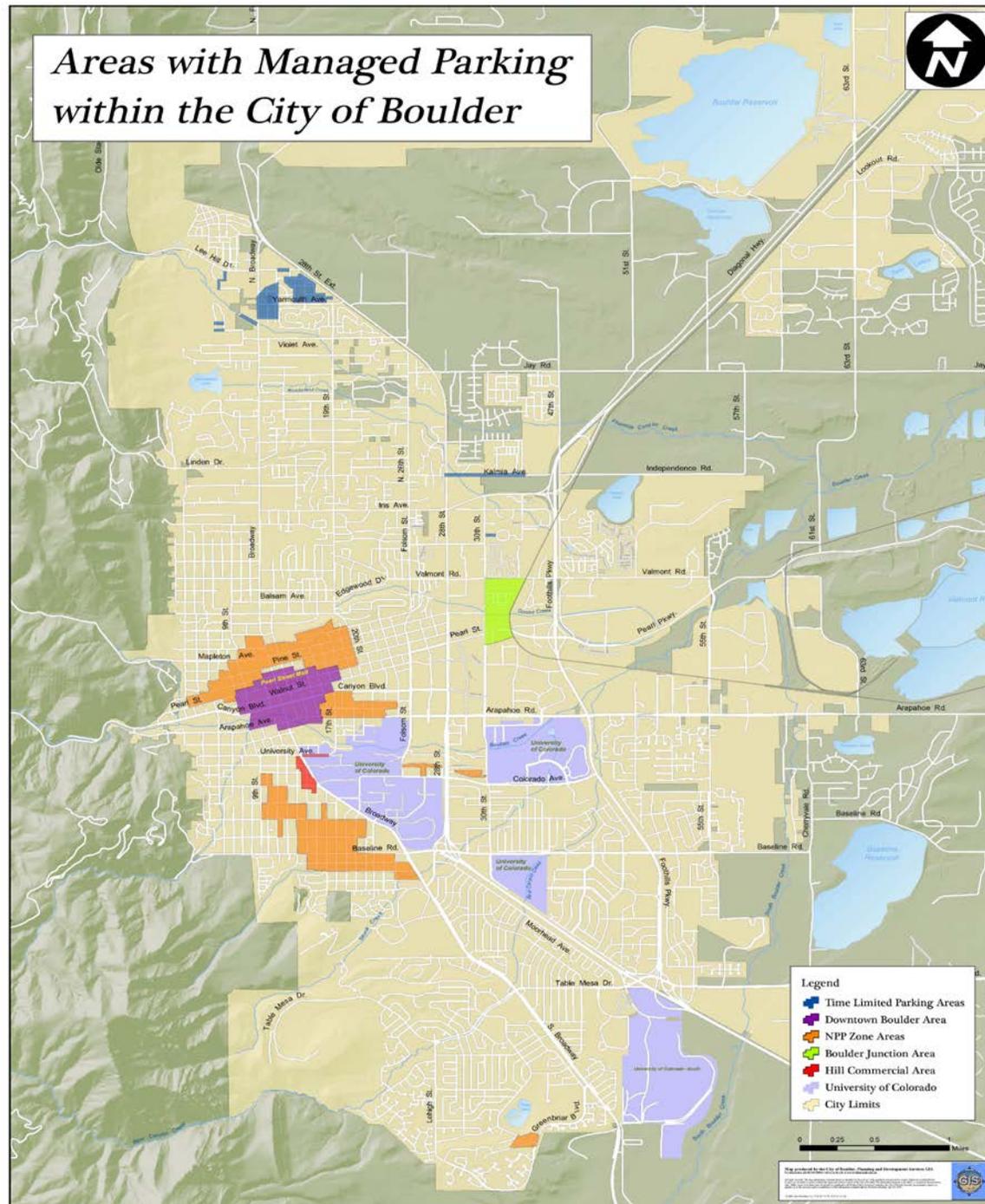


Reference slides

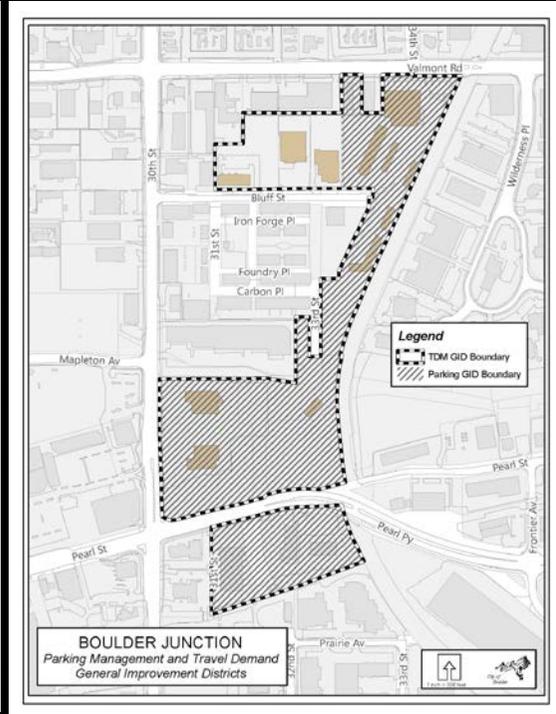
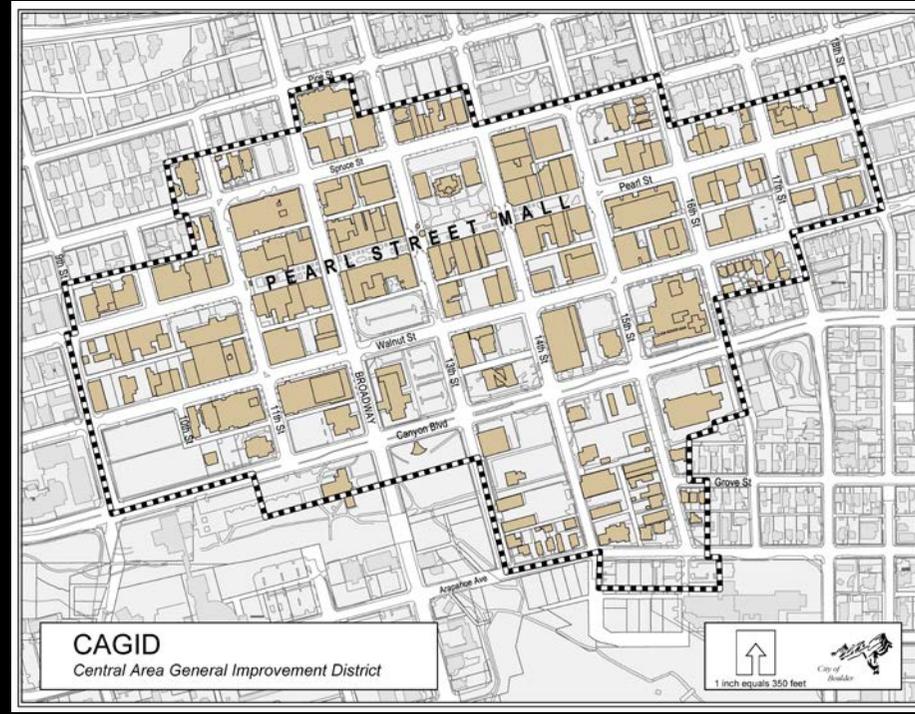
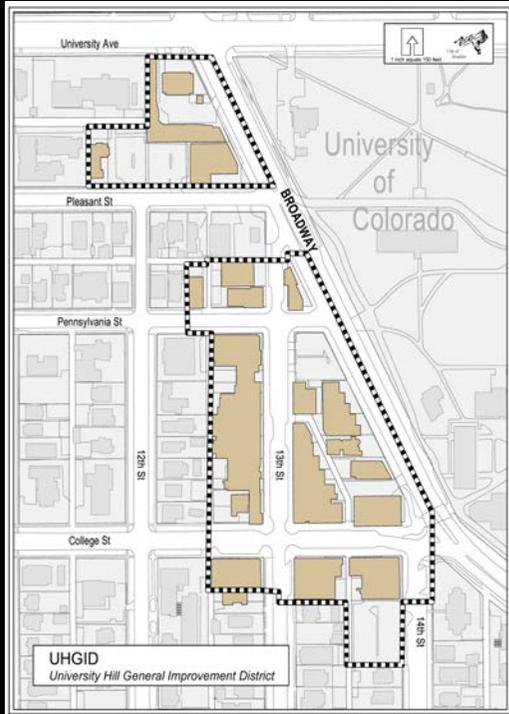


Existing Management Areas

Areas with Managed Parking within the City of Boulder



Creating Tools: Districts



- Taxing districts for parking with bonding capacity
- No parking requirement for commercial uses



Multi-Modal Access: TDM

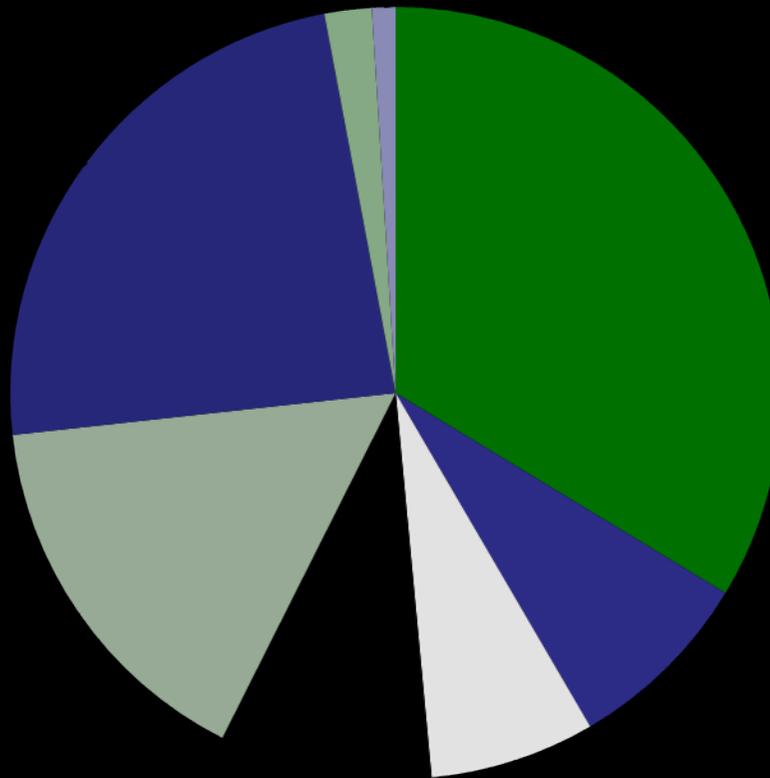
Downtown Employee Alt Mode Share

Primary Mode	2011	2008	2005	1999	1997	1995	Shift
Drove alone	43%	34%	36%	59%	51%	56%	-13%
Carpooled	5%	6%	9%	8%	7%	7%	-2%
Walked	10%	8%	8%	8%	10%	10%	-1%
Bike	14%	13%	6%	8%	11%	11%	+3%
Bus	22%	29%	34%	14%	19%	15%	+7%
Multi-modal	6%	9%	6%	1%	2%	n/a	n/a
At home	0%	0%	0%	n/a	n/a	n/a	n/a
Other	<1%	1%	1%	2%	1%	1%	-<1%
Total	100	100	100%	100%	100%	100%	

Travel mode used for work commute on the survey day



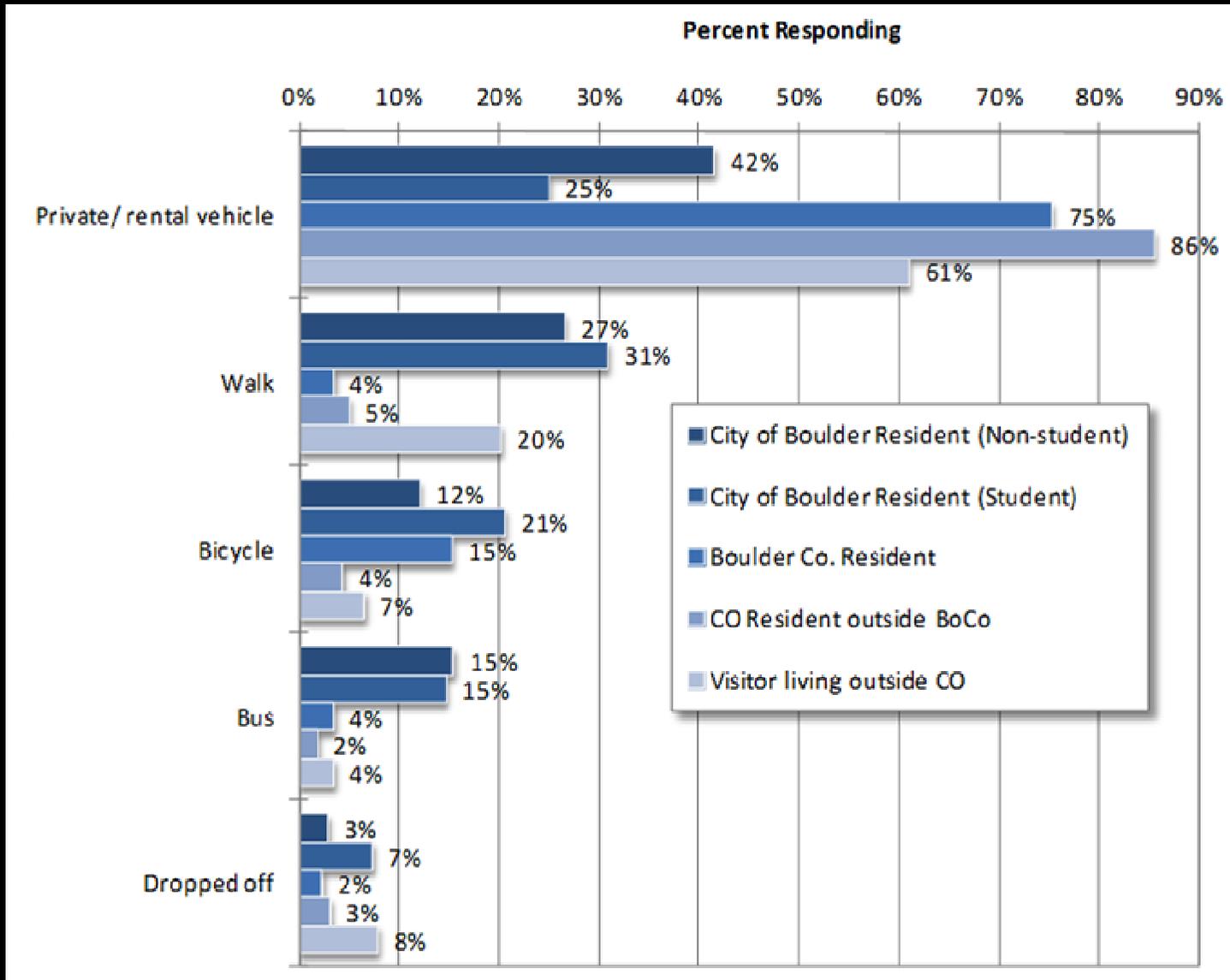
Multi-Modal Access: TDM



Source: 2012 Boulder Valley Employee Survey, Mode Split for Typical Week



Mode of Transportation to Downtown by Visitor Type 2012





Feedback

- Intradepartmental Staff Kickoff Workshop
- Boards:
 - Transportation Advisory Board
 - Planning Board
 - Downtown Management Commission
 - Boulder Junction Access District Commission
 - Downtown Boulder boards: BID & DBI



Feedback: Themes

- Existing system is working:
 - Districts, integration with alt modes, SUMP
- Technology can play a larger role in access and parking
- Parking policies shape development
- Higher level of integration needed

Projects Underway:



Internally illuminated cabinet

BoulderPark

FREE PARKING SAT & SUN

AVAILABLE PARKING

Variable Message content:

*Pre-determined message loops with various content.

*Once garage is "FULL" a message automatically is triggered to display the destination of the nearest garage with available space - once spaces become available again, the pre-determined message loops begin replaying.

Available Car Count content:

Lower portion of sign displays live car count information.

It is desirable to have "auto-reset" at 2:00am every day so that manual counts are never necessary

Software to be open architecture as per the NTCIP Guide.

FRONT SIDE
DIGITAL MESSAGES



Back-in parking on University Electrical charging stations



Depot Square and BJAD Districts



Projects Underway, con't.

- Renewable Energy Assessment of Garages
- Pilot Parklet on the hill
- Development of citywide guiding principles
 - Joint advisory board meeting
 - Update to City Council in the fall
- Assessment of existing programs and policies including prioritization matrix
- Ongoing coordination with plans (TMP, CAP)
- Inventory of future planning efforts



Where we have been:

- Developed 7 focus areas
- Selected a consultant
- Joint Board meeting August 2013
 - Development of citywide guiding principles
 - Joint advisory board meeting
 - Update to City Council in the fall
 - Assessment of existing programs and policies including prioritization matrix
 - Ongoing coordination with plans (TMP, CAP)



Future: AMPS Schedule

Phase One: 2013

- Development of citywide guiding principles
 - Joint advisory board meeting
 - Update to City Council in the fall
- Assessment of existing programs and policies including prioritization matrix
- Ongoing coordination with plans (TMP, CAP)
- Inventory of future planning efforts



Future: AMPS Schedule

Phase Two: 2014 and beyond

- Implementation of changes based on guiding principles and prioritization matrix
- Continue TMP and CAP coordination
- Development of tool box of citywide strategies
- Application of AMPS to new planning efforts

CAGID Parking Analysis

Downtown Boulder Parking Study

Table 3. Total Public and Private Parking in Downtown Boulder⁽¹⁾



Quadrant ⁽²⁾	Public Parking Spaces				Private Parking Spaces				All Public and Private Parking Spaces
	Long Term	Short Term	NPP Commuter	Total Public	Surface Lots	Parking Structures	Alleys	Total Private	
Northwest	189	499	113	801	372	269	125	766	1,567
Southwest	458	476	0	934	0	587	5	592	1,526
Southeast	396	292	17	705	387	357	108	852	1,557
Northeast	385	617	217	1,219	529	560	93	1,182	2,401
Total	1,428	1,884	347	3,659	1,288	1,773	331	3,392	7,051

Notes:

1. Includes CAGID area and private lots at the edge of CAGID (church, Boulderado, Boulder County). Does not include Civic Campus outside of CAGID.
2. Quadrants are divided by Walnut Street and 13th Street



CAGID Parking Analysis

Existing Land Use:

- 3,100,000 sq. ft. of non-residential space
- 235 dwelling units
- 7,300 FTEs

Projected additional development at “buildout”:

- 1,265,00 sq. ft. of non-residential space
- 180 dwelling units



CAGID Parking Analysis

Existing Parking Supply and Demand

CAGID:

- 3,659 spaces
- 74% occupied – typical weekday daytime

Private:

- 3392 spaces
- 61% occupied – typical weekday daytime

Total:

- 7,051 spaces
- 68% occupied – typical weekday daytime



CAGID Parking Analysis

Calculated Parking Demand Rates:

- 1.48 spaces per 1,000 sq. ft. non-res. floor area
- 35% of comparable ITE parking demand rates

- 0.97 spaces per dwelling unit
- approx. equal to ITE rate

Buildout non-residential parking demand increase:

- 1,871 spaces
- 221 existing spaces displaced by new development
- 2,092 additional parking spaces needed at today's rates



CAGID Parking Analysis

Accommodating Additional Parking Demand

Mitigating Parking Demand Increases:

- TDM to increase alternative mode use (parking space equivalents – PSEs)

60% non-driver today in the future?

- Increase CAGID parking space utilization in structures

73% now in the future?

- Increase Private parking space utilization

61% now in the future?



CAGID Parking Analysis

Accommodating Additional Parking Demand – Continued

Build Additional Parking:

- Private spaces (Daily Camera, Wells Fargo?)
- New CAGID parking structure (200 spaces at Broadway/Spruce?)
- CAGID / Private joint venture?

CAGID Parking Analysis

Parking Model:

- project future parking demand in 5 year increments
- test the effectiveness of various TDM and demand reduction strategies

Table 4A
Downtown Boulder Parking Supply and Demand Model

Last updated: 11/26/2011

FOX TUTTLE
TRANSPORTATION GROUP

Existing Downtown Boulder Parking Supply and Demand Rates and Comparable Metrics of Transportation Engineers (TE) Info:

Current Commercial Parking SUPPLY Rate in CAGID Area	3.12 spaces per 1,000 sq. ft.
Comparable ITE Average Commercial Parking SUPPLY Rate	7.25 spaces per 1,000 sq. ft.
Current Commercial Parking DEMAND Rate in CAGID Area	1.48 spaces per 1,000 sq. ft.
Comparable ITE Average Commercial Parking DEMAND Rate	4.7 spaces per 1,000 sq. ft.
Current Residential Parking SUPPLY Rate in CAGID Area	1.6 spaces per DU
Comparable ITE Residential Parking SUPPLY Rate	1.4 spaces per DU
Current Residential Parking DEMAND Rate in CAGID Area	0.97 spaces per DU
Current ITE Downtown Residential Parking Demand Rate	1.20 spaces per DU
Aggregate non-driver mode share for downtown users	40%
Aggregate SOV or HOV driver mode share for downtown users	40%

Key Assumptions:

- *** Weekly Mid-day Peak Period Evolution¹⁰
- *** With Revised Zoning in the DT3 District
- *** With Downtown Visitor and Employee Alternative Mode Use Increasing from 60% to 6% Over Time
- *** With CAGID Parking Structure Space Utilization Increasing by 5% Over Time
- *** With Downtown Private Space Utilization Increasing by 5% Over Time

	Planning Horizon				Subtotal	Buildout Total
	Existing	2012 - 2016	2017 - 2021	2022 +		
Downtown Boulder Development by Planning Horizon¹¹						
Residential Units (DU)	235	21	61	58	185	415
Commercial Floor Area (sq. ft.)	3,078,141	245,166	500,412	478,845	1,264,423	4,342,986
Employees - full time	5,942	0	0	0	0	5,942
Employees - part time	2,268	0	0	0	0	2,268
Employees - full time equivalent	7,210	800	1,510	1,445	3,815	11,121
Parking Supply and Demand Increases And Supply Reductions¹²						
Residential Parking Supply ¹³	370	34	98	157	288	664
Residential Parking Demand ¹³	228	20	58	95	175	403
Commercial Parking Supply ¹³	6,675	619	1,786	1,938	2,744	9,419
Commercial Parking Demand ¹³	4,548	422	741	709	1,871	6,419
Total Parking Supply - residential and commercial	7,045	653	1,884	2,100	3,032	10,083
Total Parking Demand - residential and commercial	4,776	442	800	804	2,046	6,822
Existing parking space supply displaced by new development ¹⁴	0	141	107	61	309	309
Existing parking space demand displaced by new development ¹⁴	0	96	73	52	221	221
Incremental parking supply increase due to development at existing supply rates	0	793	1,290	1,257	3,341	3,341
Cumulative parking supply increase due to new development at existing supply rates	0	793	2,084	3,341	3,341	3,341
Incremental COMMERCIAL parking demand increase due to new development at existing demand rates	0	518	813	763	2,092	2,092
Cumulative COMMERCIAL parking demand increase due to new development at existing demand rates	0	518	1,331	2,092	2,092	2,092
Commercial Parking Space Demand Reductions: Parking Space Equivalents (PSEs)¹⁵						
Projected alternative mode use access (non-SOV)	609	629	648	679	679	679
Projected commercial parking demand rate over time (spaces per KSF)	1,48	1,42	1,34	1,29	1,23	1,23
Cumulative PSEs due to increase in alternative mode use by new downtown users ¹⁶	0	126	1,090	1,115	1,313	1,313
PSEs due to increase in alternative mode use by existing downtown users ¹⁷	0	127	1,451	1,786	1,786	1,786
Total Cumulative Parking Demand Increase After Considering Increased Alternative Mode Use:	0	274	748	983	983	983
Parking Space Equivalents by Increasing CAGID "Parking Structure" Space Utilization¹⁸						
Percent increase in existing parking space utilization	0%	5%	5%	5%	5%	5%
CAGID structured parking spaces available	2209	2309	2409	2409	2409	2409
PSEs realized from increased space utilization	0	110	110	110	110	110
Parking Space Equivalents by Increasing PRIVATE Parking Space Utilization¹⁹						
Percent increase in existing parking space utilization	0%	5%	5%	5%	5%	5%
Private spaces available in lots and structures (includes alley spaces)	306	326	326	326	326	326
PSEs realized from increased space utilization	0	163	163	163	163	163
Potential Physical Parking Space Supply Increases:						
Developer built commercial parking at Tully Center building	0	300	0	0	300	300
Large lot developer built parking (such as Colorado Building or the Wells Fargo lot)	0	50	100	0	150	150
Small lot developer built parking (sunny)	0	10	10	0	30	30
CAGID/Private pair venture parking structure	0	0	0	0	0	0
New CAGID parking structure (possibly at the Broadway/Spruce lot)	0	0	0	200	200	200
Subtotal Physical Parking Space Supply Increase:	0	350	110	200	660	660
Cumulative Physical Parking Space Supply Increase:	0	350	470	670	670	670
Cumulative Net Commercial Parking Demand:	0	86	24	54	54	54
surplus or deficit	0	surplus	deficit	deficit	deficit	deficit
Total Cumulative Non-Residential Parking Supply:	6,675	7,030	7,445	7,355	7,355	7,355

Notes:

- All land use and development projections provided by RRC and/or CAGID
- Parking supply and demand rates based on existing parking supply and demand inventory
- Assumes that the Tully Center structure and Colorado Building lot is consumed by construction by 2016 and the Wells Fargo lot is consumed by construction by 2021
- Future parking supply based on current parking supply rates in the CAGID area
- Future parking demand based on current parking demand rates in the CAGID area
- Existing demand in these displaced lots is estimated at average existing demand rate of 68%
- A parking space equivalent (PSE) is a parking space that is not physically needed due to access to the downtown area by an alternative to the single occupant or multi-occupant automobile driver that would otherwise have needed to park in the downtown area.
- An alternative mode use increase will decrease the demand for parking, and may result from a variety of TDM measures (Bike passes, Bike Station, etc.) and external factors such as the price of fuel. This factor estimates the impact of increasing the alternative mode use by the NEW downtown users associated with NEW development.
- This factor estimates the larger impact of increasing the alternative mode use by the EXISTING downtown users.
- This parking model analyzes the weekday mid-day parking supply and demand in the CAGID area of downtown Boulder. This weekday mid-day peak likely has the highest CAGID-wide parking demand, but it should be noted that there are other peak times where there are even higher localized parking demands in the downtown area, such as on Friday evening when the parking structures and on-street spaces west of Broadway are full, or on weekend days when the parking structures east of Broadway can become full.
- Assumes that the existing 7% utilization rate of CAGID parking structures is increased over time
- Assumes that the existing 62% utilization rate of PRIVATE parking is increased over time



CAGID Parking Analysis

Five alternatives tested using the parking model:

Scenario / Table	Land Use Increase	Alt. Mode Use Increase	CAGID Structure Utilization Increase	Private Lot and Structure Utilization Increase	Additional Parking Spaces Constructed	Year 2016 Surplus or Deficit	Year 2021 Surplus or Deficit	Buildout Surplus or Deficit
4A	Yes	Yes	Yes 5%	Yes 5%	680	86	-24	-18
4B	Yes	Yes	Yes 10%	No	480	86	87	-118
4C	Yes	Yes	Yes 5%	No	680	86	-188	-183
4D	Yes	Yes	No	No	680	86	-298	-303
4E	Yes	No	No	No	680	-158	-861	-1,412



CAGID Parking Analysis

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- 7,300 FTEs

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Back Pocket Slides
available for Q & A



Online Bike Parking Surveys

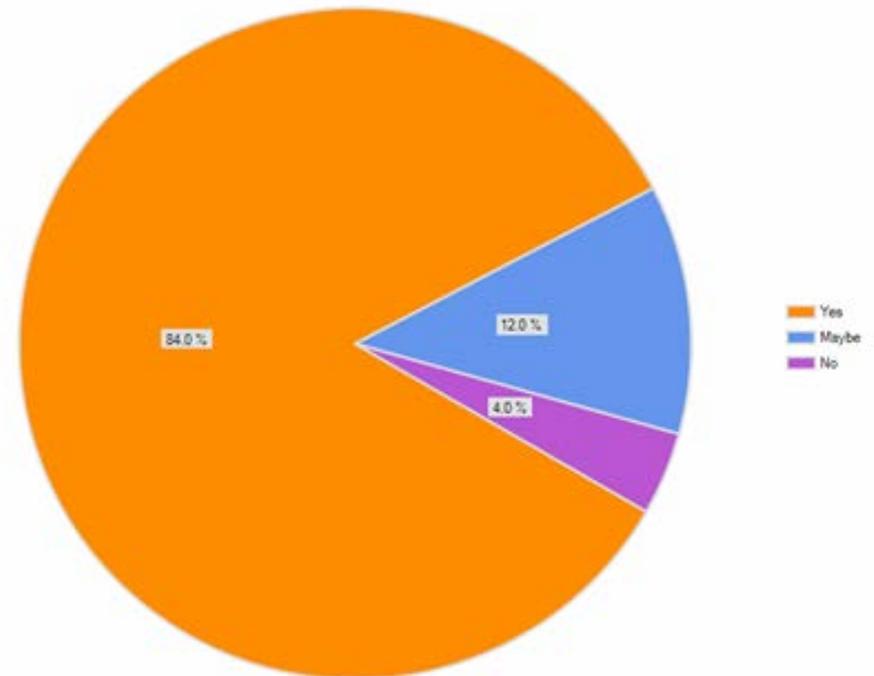
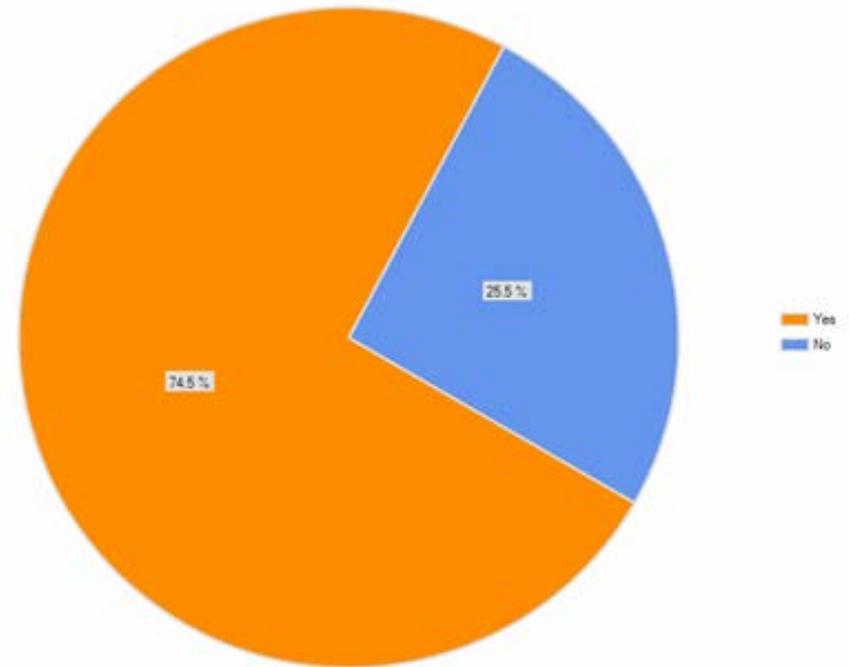
Solicited feedback from

- Residential property managers (10)
- Residents (35)
- Employer work sites (18)
- Employees (82)
- General community (226)



Key Findings

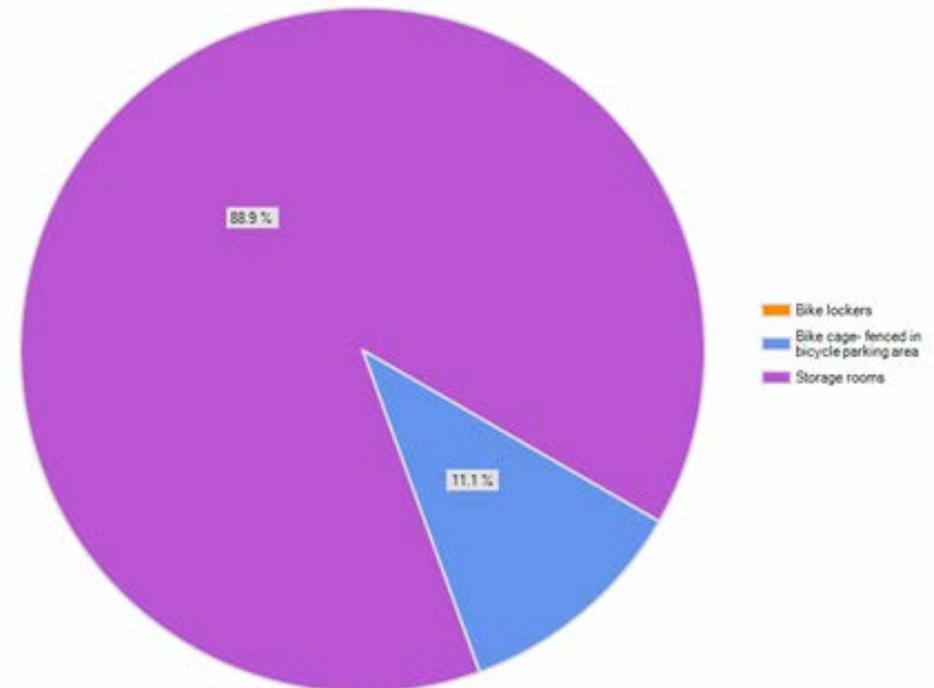
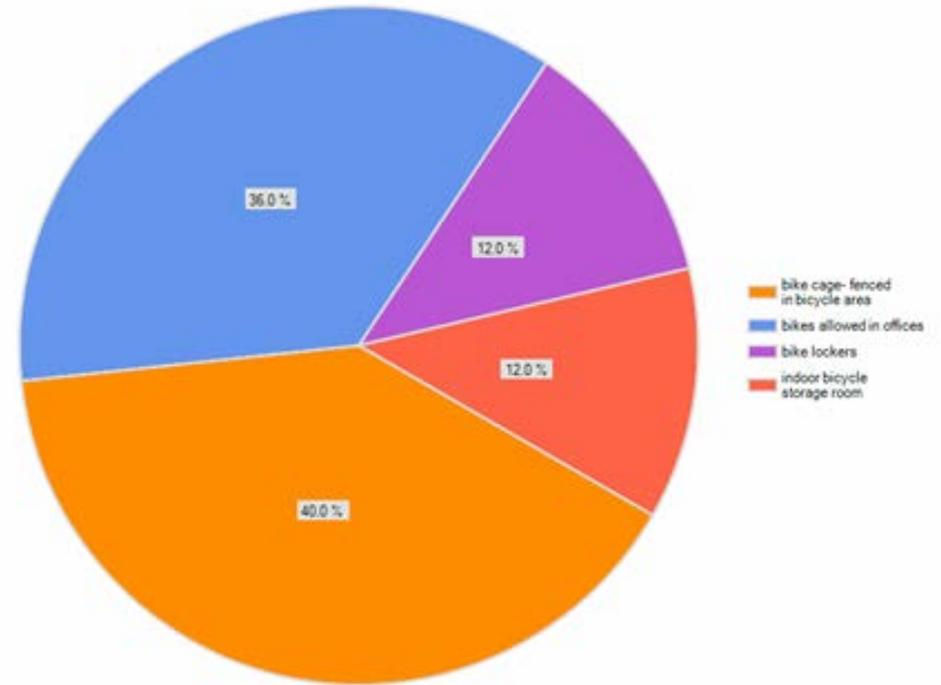
- Majority would like to have access to long-term bicycle parking





Key Findings

- Employees prefer fenced bike cage or to bring into their office
- Residents prefer storage rooms





Community Survey

Tell us about a destination you bike to:

- Is there short-term bike parking?
- Is there long-term bike parking?
- Is the bike parking provided adequate?



Community Survey Key Findings

Most destinations around town

- Provide short-term bike parking, but quantity may not be sufficient
- Do not provide long-term bike parking, but those that do are doing it right.

I think that there should be more covered bicycle parking. Boulder does a great job providing secure short-term bicycle parking (for the most part) but bikes deteriorate quickly when left exposed to rain/snow/sun and it would be nice to have roofs or awnings to protect bike parking and keep our bikes in good working order.



TDM Plan for New Developments

Current Process

- **Triggers:** Estimated Peak Hour vehicle trips
- **Requirements:** Negotiated, Three years of Eco Passes, evaluations
- **Targets:** “significant trip reduction”
- **Enforcement:** None beyond financial guarantee for Eco Passes
- **Funding:** No specific funding outside of GO Boulder budget

Options

- **Triggers:** Location, Access to transit, parking reductions
- **Requirements:** Eco Passes, parking management, TMO membership
- **Targets:** Specific and measurable objectives; VTR, or SOV mode share
- **Enforcement:** Fines, Evaluation and improving of non-compliant programs
- **Funding:** TMO Memberships, development fees