

# Research White Paper on Bicycle Parking at CU Boulder

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## Background:

In 2008, the bike program (jointly managed between Parking and Transportation Services and the Environmental Center) created an MOU to renovate and expand bicycle parking on campus. For the first two years of the MOU a rack utilization approach was used to determine bike parking need. Any bike lot with use higher than 75% was flagged for expansion. In addition, those lots that may not have had usage over 75% but did contain out-dated racks were flagged for renovation. Bike program staff realized, after conducting the 2008 Bike Lot Census that the presence of errata was most likely due to inefficient lot locations rather than just an insufficient supply of racks. A more detailed analysis of bike parking is needed in order to make final recommendations to the larger planning group.

## Process:

- 1) Level I
  - a) Inventory and map useable building entrances<sup>1</sup>
  - b) Determine quantity of parking supply and errata within 50' of entrances<sup>2</sup>
  - c) Identify entrances with parking need based on over utilization or significant errata<sup>3</sup>
  - d) Generate Level I recommendations for planning group
- 2) Level II
  - a) Determine peak occupancy and use type for all campus buildings<sup>4</sup>
  - b) Calculate bicycle parking quotas per building<sup>5</sup>
  - c) Assign bike parking proportionate to each building entrance's activity levels
  - d) Generate Level II recommendations for planning group

The Level I recommendations serve as a cursory needs assessment for the Boulder campus. It highlights problem areas with over utilization or significant errata, while Level II recommendations will support a comprehensive bicycle parking plan based on zoning principles.

## Primary/Secondary Research:

The availability of secondary research is limited to CAD drawings of existing campus buildings, sidewalks, streets and similar infrastructure. In addition, the bicycle program has completed campus bicycle census counts for the past two years; this data will be instrumental in completing the research.

Primary research needs include identifying building entrances, calculating peak building occupancies and defining use types. Further secondary research will include reading and analyzing reports from transportation research centers across the county on bicycle parking implementation and effectiveness.

## Costs:

The costs of this project are primarily associated with student research assistant time. Student research assistants employed through the sustainable transportation program of the Environmental Center—at up to 20 hours or \$200 weekly—will work on this project throughout the term of the project. At present pay rates, this

amounts to \$4,000 for the term. In support, research leadership from professional staff of the bicycle program will meet with student research staff bi-weekly to review and guide the research.

**Time/Schedule:**

Based on available data and prior research projects, bike program staff will complete Level I research by March 1, while Level II research will be completed by June 1.

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1. Useable building entrances are those that allow primary building users access in and out.
2. According to the Victoria Transport Policy Institute (among others), bike planners recommend placing bike racks within 50' of an entrance.
3. Over utilization is defined as racks with over 75% use. Significant errata sites are those with persistent or numerous bikes.
4. Examples of use type are classroom, administrative, or research, which would require different amounts of bike parking.
5. Quotas can be determined through the campus's planning process or through external transportation policy research.

