Bicycle Rack Utilization Study & Bicycle Facilities Improvement Report

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SUMMARY

This report discusses the University of Washington (UW) 2008 Bicycle Rack Utilization Study, and the bicycle facility improvements planned in response to the study’s findings.

On May 15, 2008, the total number of bicycles counted on the UW main campus was 2,660, a 16.1% increase from the 2,291 bicycles counted last year. Approximately 3,062 bicycles were estimated to be on campus on May 15th. This estimation includes bicycles parked in bicycle rooms, lockers, offices, and at bicycle racks. Overall, the bicycle rack utilization rate in 2008 was 41%, up from 37% in 2007.

UW Commuter Services repositioned bicycle racks into high-demand areas, maintained equilibrium of supply and demand of bicycle racks across campus, and promoted bicycle transportation events such as Bike in the Rain in March and Bike to Work Month in May 2008. The rising costs of gas and living expenses, increased concern over climate change, and the collective efforts by UW Commuter Services to promote alternate transportation, were some of the major factors that increased the number of bicycle commuters within the UW community.

In 2008, the University of Washington acquired the UW Tower office building. Bicycle racks were positioned at the plaza, parking garage, and a secure bike enclosure was added to accommodate the increase of UW employees there.

Over 300 presumed-to-be-abandoned bikes and accessories were tagged in July, 2008; 74 bicycle and bicycle frames with tags remaining were removed on two days: September 11, 2008, and September 22, 2008. Approximately 40 bikes and 120 accessories were incorrectly tagged. More than 40 abandoned bikes and 30 accessories were not retrieved.
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INTRODUCTION
This report documents the University of Washington (UW) 2008 Bicycle Rack Utilization Study, and the bicycle facility improvements that are planned in response to the study’s findings.

SURVEY METHODOLOGY
The survey was completed by the UW Commuter Services staff on Thursday, May 15, 2008, between the hours of 10:30 a.m. and 2:30 p.m. Historically, the survey has been conducted on a sunny Wednesday in May with temperatures in the 70’s. Although May 15th was not a Wednesday this year, it was sunny and clear with temperatures in the 60’s.

Surveyors used CAD maps of campus bicycle facilities to locate and count the number of bicycles parked at each location, including inside bicycle rooms. Surveyors also marked locations on CAD maps where bicycles were illegally parked on rails, posts, trees, or other non-rack locations. The survey did not include bicycles parked in lockers, offices, and hallways.

Utilization is calculated by dividing the number of bicycles parked at legal bicycle racks by the number of bicycle parking spaces available.

FINDINGS
As illustrated in Table 1 on the following page, the campus bicycle rack utilization survey has been conducted every year for the past twelve years. Since 2005, bicycles parked on railings at McMahon and Haggett Halls have been included in the counts.

Findings from the 2008 survey are below:
• Almost 2,700 bicycles were counted campus-wide
• The rack utilization rate in 2008 was 41%, up from 37% in 2007
• Rack utilization percentage at individual locations across campus ranged from zero (no bicycles parked) to over 100% (the number of bicycles parked exceeded rack capacity)

Table 1: Campus Bicycle Rack Utilization 1995 – 2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
<th>Bicycles</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>5632</td>
<td>2198</td>
<td>39%</td>
</tr>
<tr>
<td>1997</td>
<td>5560</td>
<td>2250</td>
<td>40%</td>
</tr>
<tr>
<td>1998</td>
<td>5544</td>
<td>2091</td>
<td>38%</td>
</tr>
<tr>
<td>1999</td>
<td>5811</td>
<td>1916</td>
<td>33%</td>
</tr>
<tr>
<td>2000</td>
<td>6178</td>
<td>2030</td>
<td>33%</td>
</tr>
<tr>
<td>2001</td>
<td>6161</td>
<td>2204</td>
<td>36%</td>
</tr>
<tr>
<td>2002</td>
<td>6184</td>
<td>2009</td>
<td>32%</td>
</tr>
<tr>
<td>2003</td>
<td>5722</td>
<td>1835</td>
<td>32%</td>
</tr>
<tr>
<td>2004</td>
<td>5218</td>
<td>1923</td>
<td>37%</td>
</tr>
<tr>
<td>2005</td>
<td>5487</td>
<td>2011</td>
<td>37%</td>
</tr>
<tr>
<td>2006</td>
<td>5757</td>
<td>2227</td>
<td>39%</td>
</tr>
<tr>
<td>2007</td>
<td>6112</td>
<td>2291</td>
<td>37%</td>
</tr>
<tr>
<td>2008</td>
<td>6426</td>
<td>2655</td>
<td>41%</td>
</tr>
</tbody>
</table>
North and west campus zones had the highest utilization percentages, as illustrated in Table 2.

<table>
<thead>
<tr>
<th>Campus Zone</th>
<th>Percent Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>40%</td>
</tr>
<tr>
<td>East</td>
<td>26%</td>
</tr>
<tr>
<td>North</td>
<td>44%</td>
</tr>
<tr>
<td>South</td>
<td>42%</td>
</tr>
<tr>
<td>West</td>
<td>53%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>41%</td>
</tr>
</tbody>
</table>

Abandoned Bicycles
During the “UW Annual Bicycle Removal Campaign” in July 2008, over 300 presumably abandoned bicycles across campus were tagged. According to Washington state law, any bicycle, or any part of a bicycle that has been tagged for over fourteen consecutive days, can be impounded by the UW Police Department (UWPD). After two months, 74 bicycle and bicycle frames with tags remaining were impounded by the UWPD. After 60 days has passed from the time any bicycle or any part of a bicycle was impounded, all remaining items that have not been claimed by their rightful owner will be auctioned by the UW Surplus Property Warehouse.

During the Bike in the Rain kick-off in February 2008, abandoned bikes that were collected in 2007 were sold. This event proved to be a success for UW Commuter Services and will be used again as the venue for selling abandoned bikes in the future.

EVALUATING ADEQUACY OF BICYCLE RACKS
As part of the program of encouraging and facilitating bicycle usage by students, faculty, and staff, the UW has an interest in ensuring the best possible placement of bicycle racks around campus. Two methods were used to identify locations in need of additional bicycle racks and locations with a surplus of bicycle racks:
   1) Evaluation of specific locations with over 80% utilization, or below 5% utilization
   2) Comments given by campus cyclists, and building coordinators to Commuter Services

IMPROVEMENT AREAS
One of the objectives of monitoring the use of bicycle racks on campus is to identify locations where existing bicycle facility is not well-matched to its demand. High-demand locations are identified and evaluated for their potential to accommodate additional bicycle racks. Low-demand locations are identified and evaluated for their potential to relocate their racks, with care taken to maintain a minimum capacity at all areas. Bicycle racks with maintenance issues are also noted during the bicycle rack utilization survey.

Below is a list of new locations that were created in 2008:
   1. UW Tower Parking Garage: One Toast-13 bike rack was added
   2. UW Tower Secure Bike Enclosure: Four Toast-13 bike racks were added
   3. UW Tower: Three Toast-13 and one Custom-7 bike racks were added by the main lobby
Below is a list of locations with over 80% utilization rate:

1. Architecture Hall
2. Bloedel Hall, Northwest
3. Bryants Building
4. Ceramic and Metals Arts Facility
5. Chemical Library, East
6. Chemical Library, Southwest
7. Clinic, Southwest
8. Condon Hall, North
9. E2 Parking Lot
10. Fisheries Center, North
11. Fluke Hall, North
12. Gould Hall, Northwest
13. Gould Hall, West
14. Guggenheim Hall
15. Hall Health Center
16. Hutchinson Hall, West
17. Johnson Annex, East
18. Kane Hall, West
19. Kincaid Hall, Southwest
20. Lander Garage
21. Loew Hall, Southwest
22. Mary Gates Hall, East
23. McCarty Hall
24. McMahon Hall
25. Meany Hall, Red Square
26. Mercer Hall
27. Nuclear Physics Lab
28. Oceanography Building, S Top
29. Odegaard Library, by George entrance
30. Padelford Hall, N18 Garage
31. Physics/Astronomy Building
32. Stevens Courtyard
33. Terry Lander Hall, East
34. Terry Lander Hall, West
35. Thomson Hall
36. UW Club
37. UW Parking Services
38. UWMC K-Wing, North
39. UWMC, by emergency entry
40. UWMC, I-Wing courtyard
41. UWMC, T-Wing, West
42. West Campus Parking Garage
43. William H. Foege Building

COVERAGE

UW Commuter Services’ goal is to provide an adequate number of bicycle racks across the campus to accommodate all bicycle commuters. The main campus of the University of Washington has 218 buildings, with each building having at least one bicycle rack. Additionally, bicycle racks and lockers are also located all over the campus in areas such as parking garages, the Burke-Gilman trail, and recreational areas.

BICYCLE LOCKERS

There are 291 bicycle lockers on campus with a maximum capacity of 591 rental spaces. At the time of the survey in 2008, 18 locker spaces were vacant because of transition between rentals and 9 were broken. Hence, the total number of spaces rented out was 564 or a utilization percentage of 95.4%.

On May 19, 2008, UW Commuter Services sent a bike locker utilization e-survey to current bicycle locker renters. An estimate bicycle locker utilization rate of approximately 71% was deduced based on responses to the question, “Last week, how many days did you ride your bicycle to campus and park in your bicycle locker?” By multiplying this percentage rate by the total number of bicycle lockers rented out, approximately 401 bicycles occupy a locker a day.
Here is a summary of the five central issues that concern bicycle locker owners:

A. Availability:
   1. The waiting list is too long; more lockers are needed
   2. Provide short-term lockers (daily rental) and share-lockers program
   3. Stack lockers to “give people the option if they can handle upper lockers”.
   4. Repairs and maintenance take too long, which keep people out of using their lockers
   5. Provide more lockers near shower areas such as IMA
   6. Provide more covered bicycle racks

B. Cleanliness:
   1. Inside of lockers needs to be cleaned out more often; “it gets nasty inside”.
   2. Pressure-wash the area around lockers so it won’t get slippery with tree droppings and moss. “It's dangerously slippery when wet.”
   3. Lockers need a base to keep dirt out, bottom to keep water from accumulating inside, and a broom for bikers for self-cleaning.

C. Leasing option:
   1. “Payment should be payroll deduction, or pay-online, reduced price for UPASS should be instituted.”
   2. “Is there a way to pre-confirm that you “do” want a locker when your name comes up on the waiting list? I was on vacation last summer and missed the confirmation window.”

D. Pricing:
   1. “Price of lockers should be subsidized to encourage bicycle commuting.”
   2. “How about daily rental using my UPASS or Husky card. $0.50 per use...”
   3. “I wish that I could get discounts on E12 monthly commuter parking with a bicycle locker (instead of UPASS). I think the bus and biking are equally positive ways to get to work...”

E. Security:
   1. “I would not ride my expensive bicycle to campus at all if I did not have a secure place to lock it...” “Bicycle theft incidents are high on campus without a locker.”
   2. “Fix the ones locked open.”
CONCLUSION
The University of Washington continues to promote transportation options, such as bicycling, by providing bike racks and bike lockers to faculty, staff, and students. The survey conducted suggests that more cyclists are commuting to the University. As a result, additional bike racks and bike lockers are needed to meet the increase demand.