Dalhousie University Bicycle Parking Audit 2012

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Executive Summary

The purpose of the undertaken project was to determine the condition of Dalhousie University's current bicycle parking infrastructure. This was accomplished by performing a full bike audit on all three campuses that evaluated bicycle rack conditions, type, and capacity. Dalhousie's bike parking infrastructure was evaluated in three ways: using Halifax Regional Municipality's by-law for construction of new buildings, comparison with similar-sized universities, and changes that have occurred with Dalhousie's bicycle parking since its last audit one year ago. A high majority of Dalhousie's buildings are not in accordance with Halifax Regional Municipality's by-law in terms of the number of racks associated with the building. Similarly, Dalhousie University has the lowest ratio of bicycle spots to student population than the three similar-sized universities (Queen's, Guelph, and Stanford) that were evaluated. However, Dalhousie has made significant progress in terms of bicycle parking capacity over the past year. For further progress, it is recommended that Dalhousie address the bike parking shortage at the buildings with no bike racks and the buildings that are lacking according to HRM's Land Use bylaw. Similarly, the report indicates specific racks that are in poor condition and require maintenance. A map of all three campuses showing current bicycle rack infrastructure and bicycle facilities was created using GIS software and is included with the report.

Table of Contents

Introduction

Methods

Results

Discussion

Conclusion

References

Acknowledgements

Appendices

Introduction

Transportation is a critical part of sustainable development. Transportation can determine energy usage, air quality, fossil fuel usage, particle emissions, and land usage (Wen et al., 2010). These factors can have a large impact on both human health and environmental quality; thus, it is an important aspect to consider when attempting to increase sustainability. Transportation is an issue especially relevant to universities as the students, faculty, and other members of the community often commute to the campus each day to access the facilities.

The Campus Sustainability Movement has become increasingly popular, as universities across North America are considering ways to become more efficient and environmentally sustainable. A component of this includes incorporating active transportation into campus plans and designs to decrease the use of motorized vehicles. The use of bicycles as transportation to and on university campuses across North America has been increasing over the past years as universities decrease the obstacles faced by cyclists (Pucher et al., 2011). These obstacles can include a variety of things, such as proper signage, bike lanes, and bike parking.

Sufficient bike parking has been determined to be an important factor in a university communities' decision on whether to cycle to campus. The number of bicycle parking spots can limit the number of cyclists on campus if they cannot accommodate the current cyclists as well as future ones. Location of bicycle parking also affects bicycle ridership, as high traffic areas on campus require greater access to bicycle parking than low traffic areas. Similarly, the safety and upkeep of bicycle parking spots can either deter or encourage cycling on university campuses.

Dalhousie University has identified active transportation on campus, especially cycling, as an area that it would like to improve upon. The results from Dalhousie's sustainability survey in 2011 of 906 members of the university community indicated that approximately 11% of the respondents use cycling as their primary transportation to campus (Dalhousie Office of Sustainability, 2011). However, Dalhousie aims to increase this percentage through implementations, including ones that refer to bicycle parking, that encourage cycling on campus. The university's Active Transportation Guidelines describe bicycle-parking requirements for new constructions that will comply with Halifax by-laws and popular sustainability standards (Dalhousie University Department of Facilities Management, 2011). However, an analysis and comprehensive understanding of the university's current bicycle-parking is required in order to make future recommendations and changes, as well as provide insight as to the "bike-friendliness" of the campus.

In March of 2010, a research project was undertaken that performed an audit of the current bicycle racks at Dalhousie in order to recommend areas where future racks could be placed (Robinson, 2010). Since the completion of this project,

Dalhousie has already made additions to bicycle parking and are in the process of constructing more. Another audit of the bicycle parking is necessary to understand Dalhousie's progress in its goal of making the campus more accessible for cyclists. Similarly, more comprehensive information regarding the rack types, their locations, and their population coverage are crucial to a full understanding of Dalhousie's bicycle infrastructure. This information should also be used to compare Dalhousie's bicycle parking to other similar-sized universities, especially those that are deemed "bike-friendly", so that the progress can also be understood in relative terms.

Methods

1. Bike Rack Audit

Original data was collected through the identification and audit of all bicycle racks located within Dalhousie's three campuses – Studley, Carleton and Sexton. However, the audit excluded the bicycle racks located on King's College Campus. The areas were divided into different examination strips, which were allocated to different researchers in order to complete an exhaustive on-the-ground survey of all bicycle racks. The researchers located all accessible bicycle racks on Dalhousie's campuses and recorded the GPS coordinates, nearest Dalhousie building, rack design, capacity, and general description of the rack's condition. The method used to determine the bike rack capacity of each rack was specific to this project and was determined through consultation with the Director of Sustainability on the realistic capacity and limitations of each rack type (Appendix I).

The overall condition was determined as either being good, satisfactory, or poor based on such criteria as whether the rack was secure and sturdy (i.e. attached to the ground), free of rust, and located appropriately in terms of spacing between racks. Indoor racks that were inaccessible and future racks that had not been installed yet were considered to be in good condition. Existing bicycle racks were surveyed using a set of three GPS units (Garmin etrex) that recorded the GPS coordinates with an accuracy of 11 metres. Photographs were taken of each rack site to record the design and genera condition. Data received from the Director of the Office of Sustainability on bicycle racks that were not accessible to the researchers (i.e. indoor racks), as well as racks that are in the process of being established were included in the audit.

2. Bike Rack Mapping

Collected GPS coordinates of each of the bicycle racks were digitized using ESRI ArcGIS 10 software package to create an up-to-date map that accurately displays the current bicycle-parking infrastructure on each campus. The 2011 Halifax Regional Municipality geodatabase provided by the Dalhousie University GIS Centre was used as the base data. The process involved introducing the collected GPS coordinates into the ArcGIS software and creating an attribute table where the

information pertaining to each rack location was included. The information introduced into the mapping software included bike rack locations, design, and storage capacity. Facilities, such as showers and the Campus Bike Centre, were identified on the map using information from a previous audit and Dalhousie University's website (Robinson, 2010). All data provided by Dalhousie University was presumed to be accurate.

3. Calculation of Required Bike Racks for Buildings

The Director of the Office of Sustainability provided information on the square metres of each building at Dalhousie University. Thus, the required number of bicycle spots for each building in order to be in accordance with the Halifax Land Use Bylaw was calculated. The bylaw states that the new university constructions must have one bicycle parking spot associated with each 250 square metres of building space (Dalhousie University, 2011). All of the audited bike racks were then assigned to specific buildings based on the closest entrance. This information allowed for a comparison of actual number of bicycle spots associated with specific buildings to the number of spots required by HRM's bylaw for new building constructions.

4. University Comparisons

In order to make general comparisons of Dalhousie University's bicycle parking infrastructure to other similar-sized universities, the total amount of bike spots was used as an indicator. Dalhousie's total number of bicycle spots was available to the researchers from the audit data. The information regarding the total number of bicycle spots at Queen's University, Guelph University, and Stanford University were retrieved from each university's website.

5. Comparison with Previous Audit

The Director of the Office of Sustainability provided the research team with information from a full campus bicycle audit that was performed in 2010. This audit reviewed the capacity of all bike racks, their location, condition, as well as other various factors (Robinson, 2010). The report also suggested many areas for future bicycle parking (Robinson, 2010). This information was combined with the audit data to determine specifically which of the suggested areas were developed into bicycle racks over the two-year time interval.

6. Data Analysis

There was no statistical analysis of the quantitative data. All data recorded during the audit was summarized in an Excel spreadsheet. The spreadsheet was used to construct graphs for visual representation of the number of bike spaces pertaining to each rack design, specific buildings, within each campus, and between chosen universities.

Delimitations and Limitations

The project focused solely on the bicycle rack capacity, design and conditions, as taking into account other factors such as safety, lighting and accessibility to related services would be too difficult and time consuming to undertake and accomplish successfully. By doing so, the researchers could more closely examine and report the current conditions of the bike rack infrastructure and provide thorough information for future decisions regarding bike rack maintenance, upgrading or possible new installations.

There were some limitations in performing this project, for instance lack of time was an important limiting factor in performing most tasks. Time was limited in the sense that there were only ten weeks available to complete the research, and because the researchers are all full-time students, and part-time workers in some cases, finding suitable times to meet up and progress with the project could be challenging. The audit process was also lengthy to complete due to the large number of racks, the need to find their locations, and that racks were being changed or added at many locations during throughout the project. This resulted in the need for data being continuously updated and a reliance on information provided by the Director of Sustainability regarding racks that are in the process of being established.

Further, due to the lack of expertise, there was difficulty in determining and classifying the conditions, capacity and the different rack designs installed across all three campuses. Another constraint was the weather, as the project was implemented during the winter semester, and the core method of data collection was site surveying, which required significant time spent outdoors and proper visibility of the rack conditions. Other limitations included lack of access to the ArcGIS software needed to introduce the data into a map, as well as lack of access to certain indoor racks (required authorization). This lack of access resulted in the research group's inability to include the indoor bicycle racks located in the McCain Building parking garage in the report.

Results

The data was compiled to create a map of all three campuses that displays the sites for bike parking and type of racks at each site (Appendix III). The different types of racks found include staple, wave, comb, campus, wall-mounted, and indoor racks (Appendix I).

It was determined that there are a total of 754 bicycle parking spots at Dalhousie University (Figure 2). The findings indicate that at Studley campus there are a total of 496 bike parking spots, with the majority being staple racks (Figure 2). At Carleton, there are 133 parking spots, and the dominant rack type is comb (Figure 2). At Sexton, there are 125 spots, and these are also primarily staple racks (Figure 2).

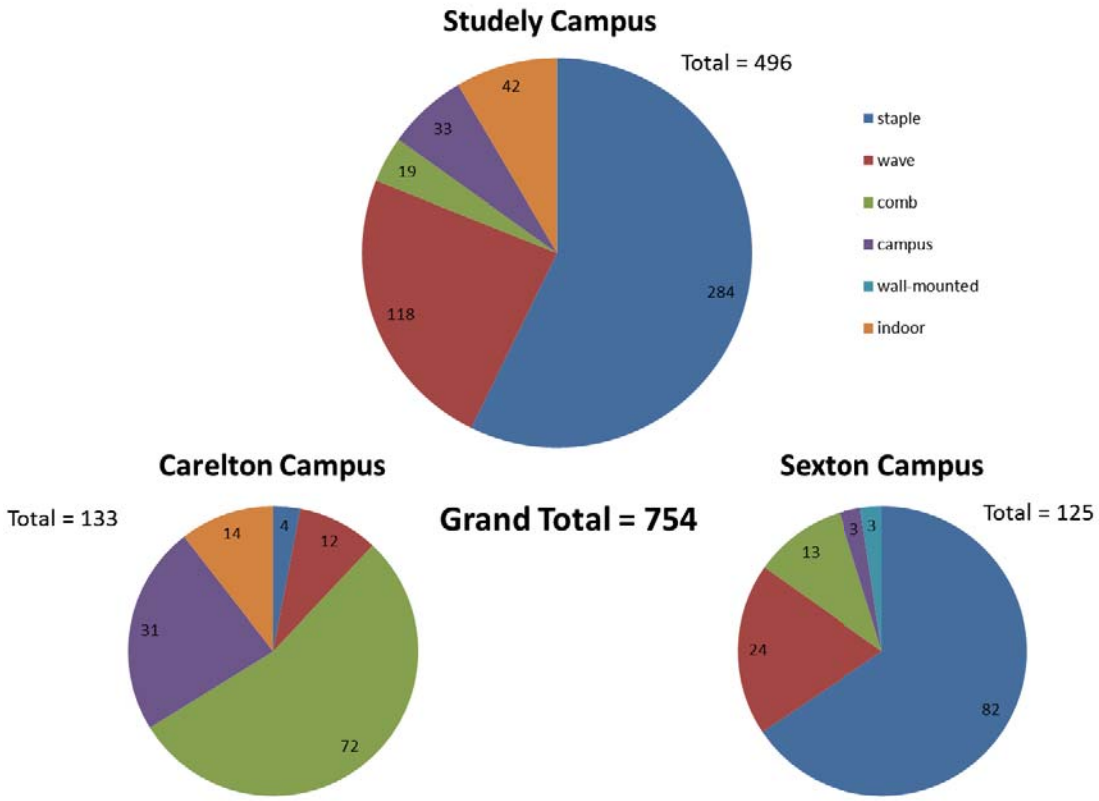

Figure 2: Number of bicycle parking spots based on rack type at Dalhousie University's three campuses: Studley, Carleton, and Sexton. Data collected in March, 2012.

Through the auditing process, racks at 59 sites across all three Dal campuses were assessed with 43 found to be in entirely good condition, 11 to be satisfactory, and 5 to be poor. A comprehensive listing of quality at all 59 rack locations can be found in Appendix 2 and 4. Currently on Studley campus there are approximately 50 buildings (CampusMap.Dal.ca). Of these 50 buildings, only 20 were found to have bicycle parking (Figure 3). On Carleton campus there are six buildings and three with bike racks (Figure 3). On Sexton there are 15 buildings, eight of which have racks (Figure 3). While it is predominantly small buildings that do not have racks,

there are a few larger buildings with no bicycle parking facilities. These include the Chemistry Building, Eliza Ritchie Hall, Risely Hall, and the Chapter House.

As such, it can be seen that on Studley campus, the only buildings with ample bike parking are the University Club, Studley Gym, Mona Campbell, De Mille House, Glengary Building, and Admin Computers (Figure 3). On Carleton, only the LSRI has ample parking while on Sexton the Medjuk Building, B Building, Sexton Gym, C Building and F Building have enough bicycle parking based on the HRM bylaw (Figure 3).

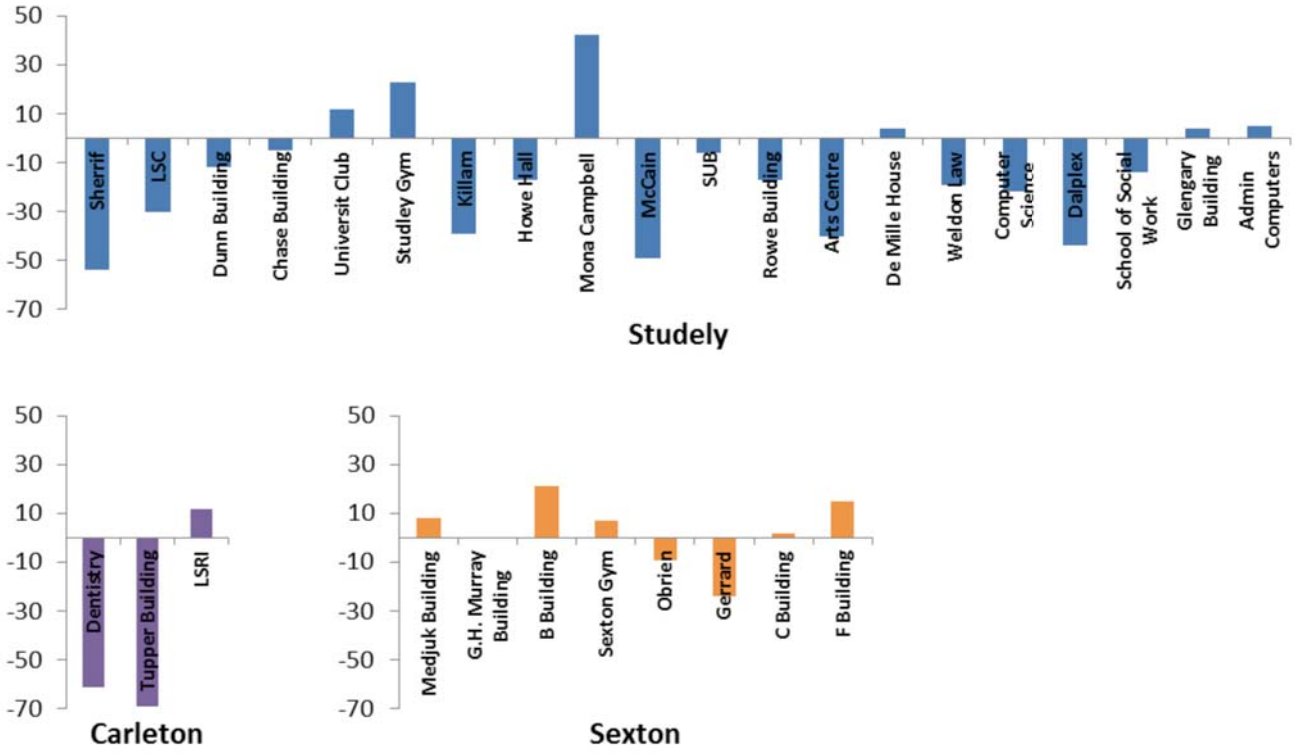

Figure 3: Number of bike parking spaces above or below the HRM bylaw for new buildings, requiring one parking spot for every 250 m^2 of building space, for all buildings at Dalhousie University's three campuses with existing bicycle racks. Data on number of parking spots collected March 2012, data on building sizes obtained from the Director of the Office of Sustainability.

The results from the university comparisons reveal that Dalhousie has a total student population of 17,226 full-time undergraduate and graduate students (Dalhousie University), with 754 bicycle parking spots. This gives a ratio of about 22 students for every available parking spot. The University of Guelph has a total student population of 19,594 (University of Guelph Office of Registrar Services) and 1,200 bicycle parking spots (University of Guelph), giving a ratio of roughly 16 students for every spot. Queen's University has 21,468 students (Queens University, 2008) and 1,550 parking spots (Queens Action for Active Transport, 2012), which results in a ratio of 13:1. Stanford has extensive bike parking infrastructure. With a student population of 15,318 (Stanford University 2012) and a total of 12,000 parking spots (Stanford University Parking and Transportation Services), Stanford boasts a ratio of 1.3 students for every spot.

Bicycle parking capacity at Dalhousie has increased over the last year, as can be seen when comparing the results of our audit to the extensive audit and report compiled by Derek Robinson in March 2010. Robinson noted an estimated shortage of 260 bicycle parking spots across all three Dalhousie campuses, and indicated 63 potential sites where new parking can be added (Robinson, 2010). These recommendations were based on multiple criteria, including proximity to building entrance, lighting (daytime and nighttime), and estimated population within 100 m, among others. The results indicate that the Dalplex is the only site that has fewer spots than were present at the time of Robinson's audit (Figure 4). As such, we have determined the total number of bicycle parking spots added since Robinson's audit to be 271 spots, with 150 added on Studley campus, 34 added on Carleton, and 87 added on Sexton (Figure 4).

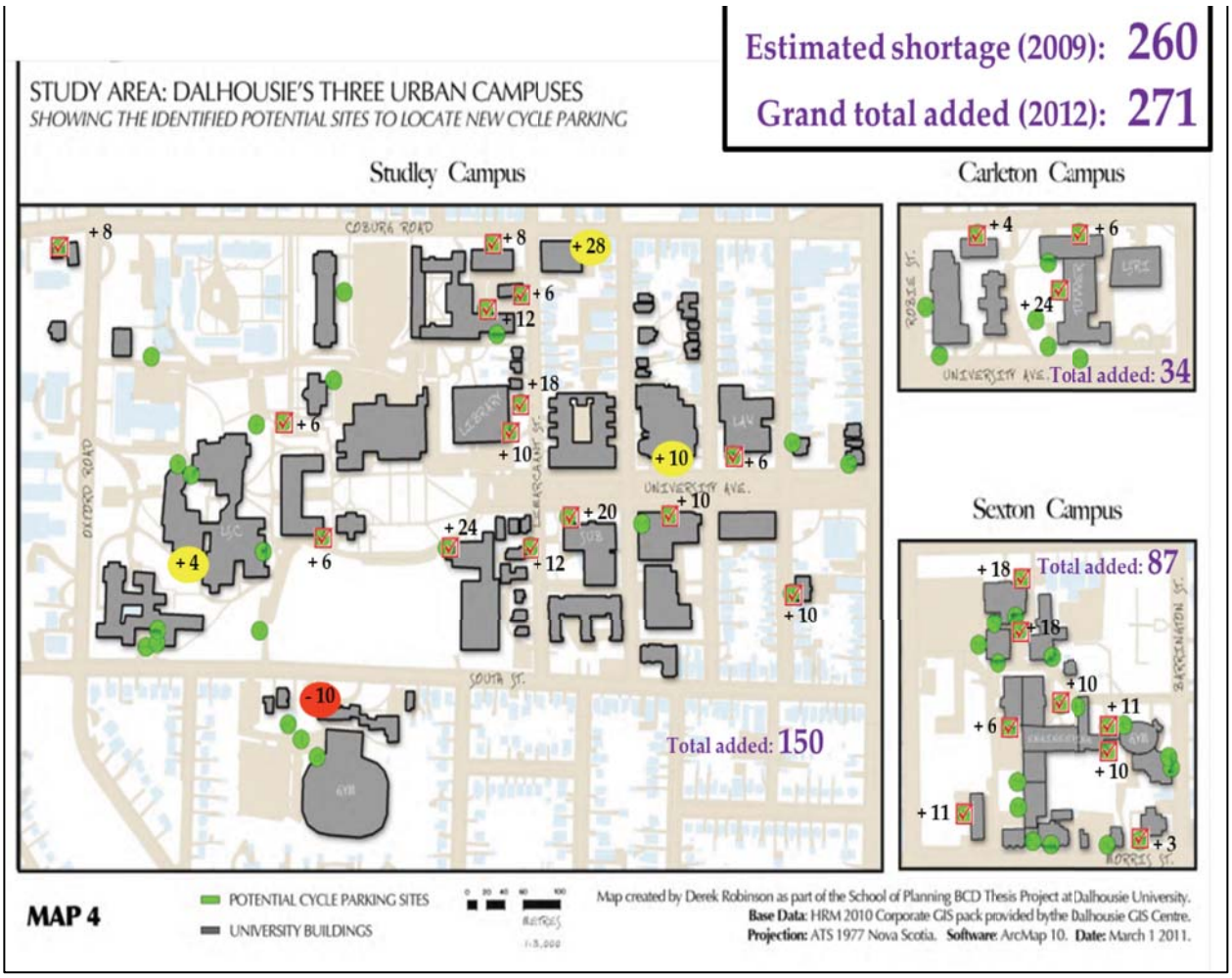

Figure 4: Recommended sites for new bicycle racks at all three Dalhousie campuses as indicated by green circles (Robinson 2011), and sites where new racks have been installed as indicated by red check marks. The number of additional parking spots per site is also displayed. Yellow ovals indicate sites where new racks have been added at sites not identified by Robinson, the red oval indicates a site where fewer bicycle parking spots now exist. Updated data collected in March 2012.

Discussion

The purpose of the undertaken project was to determine the current bicycle parking infrastructure at Dalhousie University. As Dalhousie strives to increase its sustainability, the promotion and encouragement of active transportation is a critical part of this transition. Although an audit had been performed one year ago, the researchers intended to update this information, as well as include the evaluation of some different criteria. The results from the audit were to be evaluated in relative terms using HRM's by-law for new buildings, comparison with similar-sized universities' bicycle infrastructure, and identifying changes in bicycle capacity since the audit that was performed one year ago.

The results from the audit indicate that Dalhousie University has a total of 754 bicycle parking spots across all three campuses (Figure 1). This can be understood as approximately 1 bicycle spot per 22 members of the university's student population. Studley campus, the largest of the three in terms of physical size and foot traffic, appropriately has the greatest number of bike racks (Figure 1).

Carleton campus has slightly more bike racks than Sexton, which is not in accordance with the campuses' relative sizes. However, Carleton campus has recently added a new building, the Life Science Research Institute, which includes indoor and outdoor bike racks that may have contributed to the discrepancy in bike spots between the two campuses. The results also indicate that a high majority of the total bike racks are in good condition (Appendix IV). However, the majority of the racks that are not in good condition are located on Studley or Sexton campus. This could be due to multiple causes, such as wear due to higher usage, age of the racks, environmental conditions, and general upkeep. Nevertheless, the results indicate that these campuses require improvement in the overall condition of some of their racks.

Different bicycle racks are associated with various strengths and weaknesses, which may inhibit or encourage cycling. Thus, it is important to analyze Dalhousie trends in terms of rack type. The staple rack is considered to be a good choice for rack type because it provides sufficient space for two bicycles to fit safely and securely, with two points of contact. The fact that the majority of racks on both Studley and Sexton campus are staples reveals positive progress in the promotion of active transportation (Figure 1). However, the majority of racks on Carleton campus are comb racks, which are often associated with difficulties in securing the bicycle wheel into the rack (Figure 1). This indicates an area of possible improvement for rack types, specifically on Carleton campus.

Not only do the results indicate areas on each campus that require attention and improvement, but they also determine specific buildings within each campus that are associated with either high or low number of bicycle parking spots. Although HRM's by-law that dictates that every 250 square meters of building space requires one bike parking spot is intended for new buildings, the application of this regulation to Dalhousie's existing buildings provides a reliable standard to evaluate the number of bike racks. The results indicate that all three campuses are in poor accordance with this regulation, as the majority of the buildings on the campus do not meet the calculated requirement of the number of bike spots (Figure 2). This indicates that significant improvement is required in specific locations on each campus in order to encourage cycling. However, it should be noted that the buildings that have been constructed since Dalhousie's 2010 Transportation Demand Management Plan, the Mona Campbell and LSRI, exceed those required by HRM's by-law (Figure 2). This indicates that Dalhousie is progressing in their transition to a sustainable university.

Bicycle parking infrastructure was compared between Dalhousie and other universities. The University of Guelph and Queens University were chosen for comparison because, like Dalhousie, they are both mid-sized urban universities and do not differ significantly in terms of climate. As such, it is assumed that all three Canadian schools experience similar bicycling conditions and demand for parking capacity. The findings reveal Dalhousie to have the fewest number of bicycle parking spots per capita, with only one spot for every 22 students. This indicates the need for Dalhousie to continue adding and improving bicycle racks around all three campuses.

Stanford University is the only school to have a Platinum level rating as

awarded by Bicycle Friendly University, an association of the League of American Bicyclists. The rating is determined based on criteria in five main categories, called the 5 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation and Planning. This audit is primarily concerned with Engineering, or "what is on the ground; what has been built to promote cycling on campus and in the surrounding community" (League of American Bicyclists, 2012). This includes looking at the availability of secure bike parking. Stanford received such a high overall rating in part because of its extensive bike-parking infrastructure, with one parking spot for every 1.3 students. While the conditions at this southern Californian university, particularly in terms of climate, make its comparison with Dalhousie slightly impractical, it nonetheless serves as a shining example of an institution that has put bicycling at the forefront of its transportation development. This creates the opportunity for the entire university community to engage in active transportation through cycling.

Clearly, Dalhousie has the opportunity to follow the lead of these other universities and increase its bicycle parking availability. Dalhousie has undergone significant upgrades in bicycle parking over the last few years, with 271 new spots in addition to those reported by Robinson (2011). Robinson notes that in 2009, the shortage of bicycle parking was estimated to be 260 spots. His report goes on to recommend potential sites for new bicycle parking. The results of the March 2012 audit show that bike racks have been installed or replaced at many of these recommended sites (Figure 4). It should be noted that our calculation methods might have differed from Robinson's, giving different totals for capacity at each rack (See Appendix I for clarification of counting methods). However, there remain a large number of potential sites where racks do not yet exist.

The enhancement of bicycle parking infrastructure is an on-going initiative and major undertaking of the Dalhousie Facilities Management and Sustainability Office. A long-term plan for improving biking conditions at Dalhousie has been outlined in the Active Transportation Guidelines and Transportation Demand Management Plan. While it may take several years before Dalhousie`s ratio of bicycle parking spots available per student is at par with other universities, this report will better inform decision makers as to which changes will make the most significant impact, beginning in the short-term. The sites that should be addressed soon include large buildings that do not currently possess proximal bicycle parking, such as the Chemistry Building, Eliza Ritchie Hall, Risely Hall, Henry Hicks Building, Chapter House, and A.J. MacDonald Building.

Further, attention should be given to increasing the capacity at sites by buildings far below the goal of one spot for every 250 m2, such as Sheriff Hall, LSC, Killam Library, McCain Building, Arts Centre, Dalplex, Dentistry Building, and Tupper Building. As seen in Figure 3, these buildings all have a deficiency of 30 or more bicycle parking spots, and would benefit significantly from the placement of new racks in close proximity. Finally, efforts should focus on fixing or replacing all racks identified as being below standard in terms of condition (See Appendix II). These recommendations will allow bike parking infrastructure to be improved where needed most in the near future.

Over the long-term, bicycle parking can be improved through initiatives such

as constructing more covered and indoor bicycle racks, and ensuring each campus is equipped with biking facilities such as showers, lockers, and a maintenance/repair centre. Dalhousie has set forward ambitious goals to promote biking on all of its three campuses, including constructing all new buildings to meet LEED Gold standards, which requires both indoor and outdoor bike parking, as well as implementing bike lanes, and designing a brand new bike centre (Office of Sustainability, 2011). Our audit plays a key part in ensuring that these goals are achieved, so that Dalhousie can become a more bicycle friendly university.

Conclusion

Bike parking infrastructure on campus directly limits the number of bikes that people can ride to school. Examining the type, number, location and condition of the bike racks provides a clear overview of Dalhousie University's bicycle infrastructure. More racks and the repair of some damaged racks are required. For the new racks, the university should choose designs that are strong, provide sufficient space, and are easy and secure to use (i.e. staple racks). This report contains up-to-date and complete information that can provide help for further improvements. This result of our research can also be seen as a reflection on the active transportation on Dalhousie campuses since cycling plays a major role in active transportation. In comparison to other universities' bike parking circumstances, Dalhousie's is not especially successful. However, many developments have been made over recent years and future plans place a greater emphasis on sustainable development and active transportation.

Besides bicycle parking space, more work is required in order for Dalhousie to become more bicycle-friendly. For example, bike lanes are also a crucial factor that affects people's decision on whether or not to cycle. The university is preparing a new campus plan that includes bike lanes and the findings from this report on the current location of bike racks can serve as a very useful reference. As a leading role in the community, the university has the responsibility and the ability to promote a more sustainable development. We also include a map in the Appendices with information of bike racks over three campuses. This provides current cyclers with more detailed bike parking instructions and encourages potential cyclers to choose bicycles as a transportation tool to travel to school.

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Appendix I

Figure 1: An example of a typical wave rack. The red arrows indicate spots where the researchers assumed that one bicycle could be stored. Thus, for all wave racks the capacity was determined by counting the end posts and the dips in the wave.

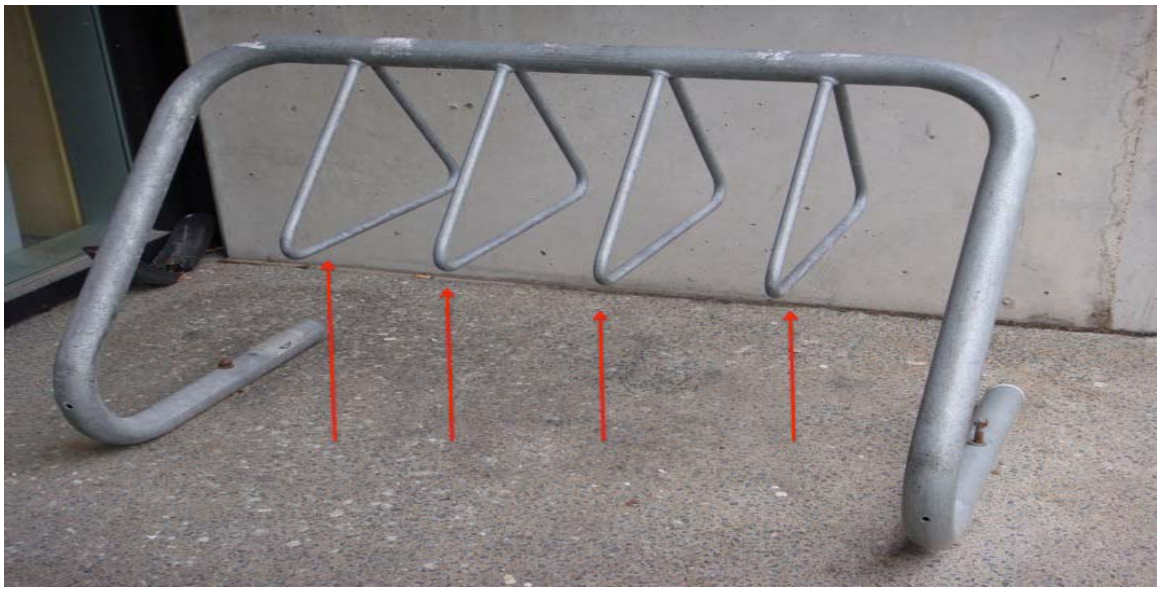


Figure 2: An example of a typical campus rack. The red arrows indicate spots where the researchers assumed that one bicycle could be stored. Thus, for all campus racks the capacity was determined by counting each hoop extension.

Figure 3: An example of typical staple racks. The red arrows indicate spots where the researchers assumed that one bicycle could be stored. Thus, for all staple racks the capacity was determined by assuming that each inverted-U could support two bikes.

Figure 4: An example of a typical comb rack. The red arrows indicate spots where the researchers assumed that one bicycle could be stored. Thus, for all comb racks the capacity was determined by assuming that each parallel section could support one bike.

Figure 5: An example of typical wall-mounted racks. The red arrows indicate spots where the researchers assumed that one bike could be stored. Thus, for all wall-mounted racks the capacity was determined by assuming that each wall-mounted rack could support one bike.

Appendix II

Table 1: Description and location of all bicycle racks considered to be below standard in terms of overall physical condition. Information collected from Studley, Carleton and Sexton campuses at Dalhousie University, March 2012.

Condition	Campus	Location	Rack Type	Additional Notes
Satisfactory	Studley	Dunn Building (facing King's)	1 comb	• rusty but sturdy
		Chase Building (facing Ocean Pond)	1 wave	• rusty
		Dunn Building (facing parking lot)	2 waves	• bent • slightly rusty • sturdy
		Outside Killam (facing Le Merchant St)	6 staples	• one is shaky
		Studley Gym	1 wave	• slightly bent
		Behind Admin Computing (University and Robie)	1 wave	• rusty
	Carleton	Tupper Building (facing Dentistry)	4 combs	• not attached to ground
	Sexton	Medjuck Building (facing Spring Garden)	2 waves	• slightly rusty
		B Building entrance	5 staples	• poor spacing (one too close to wave rack)
		B Building entrance	1 wave	• poor spacing (too close to one staple)
		Obrien cafeteria	3 wall-mounted	• awkward design • slightly bent
Poor	Studley	Outside LSC Biology and Earth Science	2 waves	• one is rusty and bent
		Outside LSC food court	1 wave	• shaky • one end not attached to the ground
		Howe Hall front entrance	1 comb	• not attached to ground
	Sexton	Outside gym (B Building entrance)	1 comb	• not attached • grass growing over • too close to wall
		Gerrard Hall	1 comb	• one end bent • not attached to ground

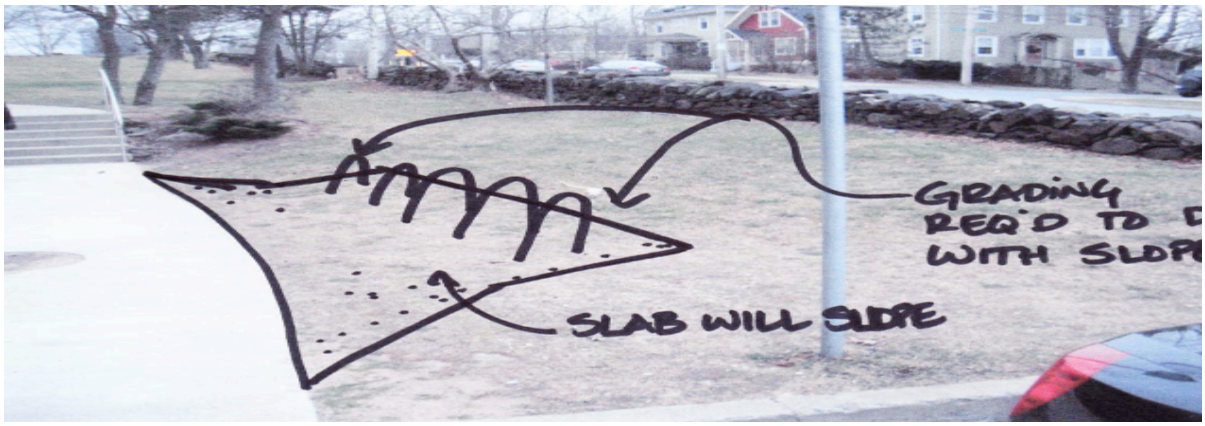
Appendix III

Figure 1: Promotional poster that displays the digitized maps of each campus created using GIS software. Each map displays the spatial orientation, design, and capacity of all audited racks. The map also displays bicycle facilities, such as showers and the Campus Bike Centre.

Appendix IV

Studley Campus

1.



Location: Outside Sheriff facing South Street
Type: 5 staples Number of spots: 10
Condition: good; new racks

2.

Location: Outside LSC Biology and Earth Sciences
Type: 2 waves Number of spots: 12
Condition: one is in good condition; the other is a bit rusty and bent

3.

Location: Outside LSC common area entrance
Type: 2 waves Number of spots: 12
Condition: good

4.

Location: Outside LSC cafeteria
Type: wave Number of spots: 6
Condition: not sturdy and one end is not firmly attached to the ground

5.

Location: Behind Dunn building
Type: comb Number of spots: 9
Condition: appears old and rusty, but is sturdy

6.

Location: Outside Chase building
Type: wave Number of spots: 6
Condition: okay condition, but rusty

7.

Location: In front of the Dunn building
Type: 2 waves Number of spots: 12
Condition: a bit rusty and bent, but sturdy; one rack is poorly placed close to chairs

8.

Location: Outside University Club
Type: 9 staples Number of spots: 18
Condition: good; new racks

9.

Location: Outside the Bike Centre
Type: 3 staples Number of spots: 6
Condition: good

10.

Location: Outside Studley Gym
Type: 12 staples and 1 wave Number of spots: 30
Condition: staples are new and in good condition, but wave is a bit bent

11.

Location: In front of Killam Library
Type: 4 waves Number of spots: 24
Condition: good

12.

Location: Outside side of Killam Library
Type: 6 staples Number of spots: 12
Condition: good, but one is shaky

13.

Location: On LeMarchant Street near Killam Library
Type: 9 staples Number of spots: 18
Condition: good

14.

Location: Outside Howe Hall facing the Killam Library
Type: 6 staples Number of spots: 12
Condition: good and covered

15.

Location: In front of Studley house (Howe Hall)
Type: 3 staples Number of spots: 6
Condition: good

16.

Location: On LeMarchant Street in front of Mona Campbell
Type: 10 staples Number of spots: 20
Condition: good

17.

Location: On LeMarchant in front of Mona Campbell Building
Type: 6 staples Number of spots: 12
Condition: good and covered

18.

Location: In front of Health Services Building
Type: wave Number of spots: 4
Condition: good

19.

Location: Outside Howe Hall front entrance
Type: 5 staples Number of spots: 10
Condition: good

20.

Location: Outside Howe Hall front entrance
Type: comb Number of spots: 10
Condition: bad and not attached to the ground

21.

Location: On Coburg in front of Mona Campbell Building
Type: 8 staples Number of spots: 16
Condition: good and covered

22.

Location: In front of McCain Building
Type: 2 campus Number of spots: 8
Condition: good

23.

Location: In front of Student Union Building
Type: 20 staples Number of spots: 40
Condition good and new racks

24.

Location: In front of Rowe Building
Type: 5 staples Number of spots: 10
Condition: good

25.

Location: Outside Arts Centre
Type: 5 campus Number of spots: 25
Condition: good

26.

Location: On Seymour Street in front of De Mille House
Type: wave Number of spots: 6
Condition: good

27.

Location: Outside Weldon Law Building
Type: 9 staples Number of spots: 18
Condition: good and new racks

28.

Location: Side of Rowe building facing the Computer Science building
Type: 2 waves Number of spots: 8
Condition: good

29.

Location: On Henry Street behind the Computer Science building
Type: wave Number of spots: 4
Condition: good

30.

Location: Behind Admin Computing Building
Type: wave Number of spots: 6
Condition: very rusty

31.

Photo not available

Location: Dalplex
Type: 11 staples Number of spots: 22
Condition: good and new racks

32.

Photo not available

Location: Between LSC and Sherriff
Type: 2 waves Number of spots: 12
Condition: good

33.

Location: Outside School of Social Work
Type: 4 staples Number of spots: 8
Condition: good and new racks

34.

Location: Outside Grad House
Type: 6 staples Number of spots: 12
Condition: good and new racks

35.

Location: Outside Glengary Building
Type: 5 staples Number of spots: 10
Condition: good and new racks

36.

Photo not available

Location: Inside parking garage behind Rowe building
Type: 2 campus Number of spots: 10
Condition: good and covered

Carleton Campus

37.

Location: In front of Dentistry Building near University Avenue
Type: 2 waves Number of spots: 12
Condition: good

38.

Location: In front of Tupper Building
Type: 4 combs Number of spots: 48
Condition: good, but not attached to ground

39.

Location: Side of LSRI Building near corner of College and Summer Street
Type: 5 campus Number of spots: 31
Condition: good

40.

Photo not available

Location: Outside Dentistry Building near College Street
Type: 2 staples Number of spots: 4
Condition: good and new racks

41.

Photo not available

Location: Outside Tupper Building on College Street
Type: 18 staples Number of spots: 36
Condition: good and new racks

Sexton Campus

42.

Location: In front of Ralph Medjuck Building facing Spring Garden
Type: 2 waves Number of spots: 12

Condition: good, but a bit rusty

43.

Location: Outside G.H. Murray Building and A.L. McDonald
Type: 2 waves Number of spots: 8
Condition: good

44.

Photo not available

Location: Outside B Building
Type: 8 staples Number of spots: 16
Condition: good and new racks

45.

Location: Outside Main Entrance by circle

Type: 5 staples and wave Number of spots: 14
Condition: good, but poor spacing between racks

46.

Location: Outside Sexton Gym
Type: comb Number of spots: 5
Condition: bad, not attached to ground, and grass is growing over it

47.

Location: By Sexton Gym parking lot
Type: 5 staples Number of spots: 10

Condition: good

48.

Location: Outside Obrien cafeteria
Type: 3 wall-mounted Number of spots: 3
Condition: okay, but awkward design and somewhat bent

49.

Location: Outside Gerard Hall
Type: campus Number of spots: 3
Condition: good

50.

Location: Outside of Gerard Hall
Type: comb Number of spots: 8
Condition: bad because one end is bent and rack is not attached to the ground

51.

Location: Outside C Building Transformer
Type: 5 staples Number of spots: 10
Condition: good and new racks

52.

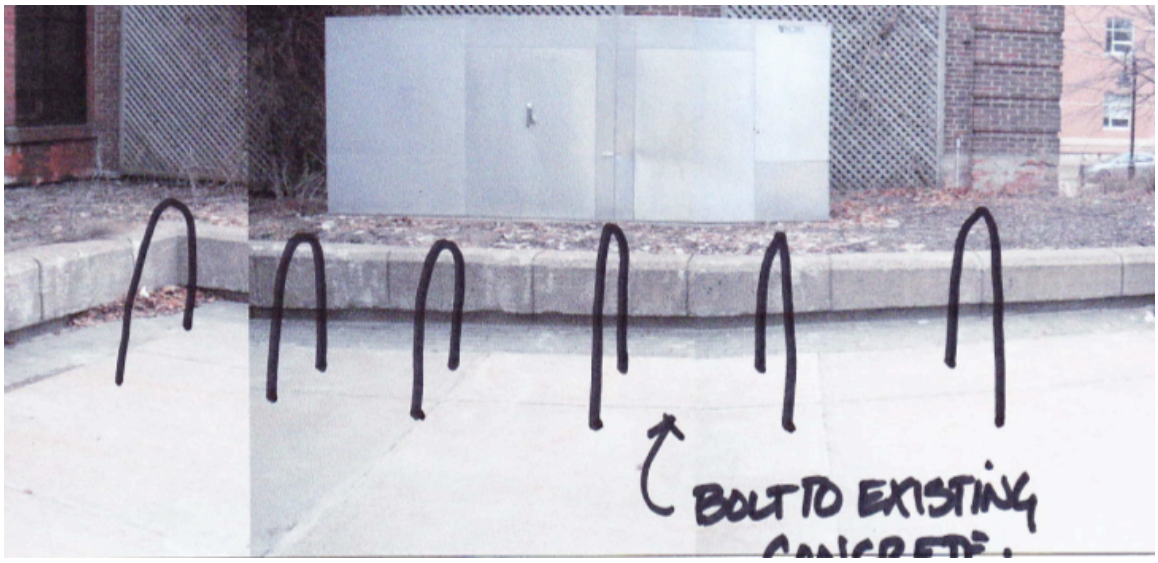
Location: F Building walkway at Spring Garden Road
Type: 6 staples Number of spots: 12
Condition: good and new racks

53.

Location: F Building walkway by Ralph Medjuck building
Type: 3 staples Number of spots: 6

Condition: good and new racks

54.



Location: Outside F Building courtyard
Type: 6 staples Number of spots: 12
Condition: good and new racks

55.

Photo not available

Location: Outside Ralph Medjuck building
Type: 3 staples Number of spots: 6
Condition: good and new racks and major undertaking

CAMPUS MAPS

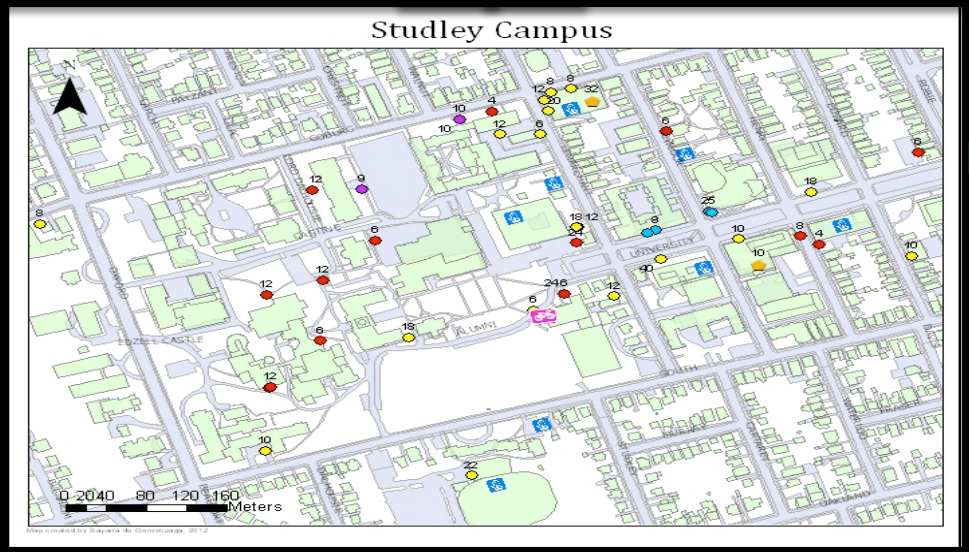
CAMPUS BIKE CENTRE

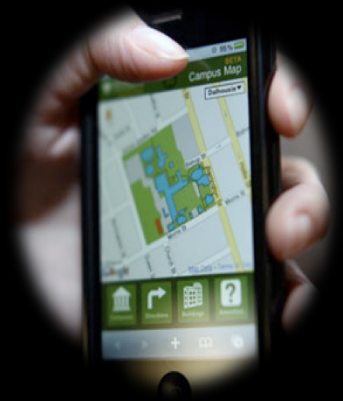
Where? 6185 South Street, B3H 1T7 (Studley Gym)

Contact us!

You can email us at bikectr@dal.ca or drop in during our hours:

Monday: 12pm-1:30pm & 2pm-4pm
Tuesday: 12:30pm-5:30pm
Wednesday: 9am-12pm
Thursday: 1pm-3pm
Friday: 12:00pm - 3:30pm
Sat & Sun: Closed





Get online access to campus directions buildings & locations at:
campusmap.dal.ca/

Bike Rack Map
Dalhousie University

DALHOUSIE UNIVERSITY
Inspiring Minds