

2012

Bike Sharing as Alternative Transportation at Bridgewater State University

Jennifer Ashley

Follow this and additional works at: http://vc.bridgew.edu/undergrad_rev

 Part of the [Transportation Commons](#)

Recommended Citation

Ashley, Jennifer (2012). Bike Sharing as Alternative Transportation at Bridgewater State University. *Undergraduate Review*, 8, 16-25.
Available at: http://vc.bridgew.edu/undergrad_rev/vol8/iss1/6

This item is available as part of Virtual Commons, the open-access institutional repository of Bridgewater State University, Bridgewater, Massachusetts.
Copyright © 2012 Jennifer Ashley

Bike Sharing as Alternative Transportation at Bridgewater State University

JENNIFER ASHLEY



Jennifer Ashley is pursuing a Master's degree in Athletic Training at BSU.

Her research project

was conducted when she was an undergraduate student with funding from The Center of Sustainability and the Adrian Tinsley Program. Jennifer worked under the mentorship of Dr. Pamela Russell and Dr. Tom Wu. She presented at the 2011 ATP Summer Research Symposium and the 2012 National Conference on Undergraduate Research. Jennifer says she hopes to ride with you on a BSU bike-share bicycle before she graduates.

This research project examined the feasibility of a bike share program as an effective form of alternative transportation at Bridgewater State University. Bike share models were developed, first, by brainstorming with key members of the BSU campus and surrounding community. Next, three New England colleges with bike share programs were explored to determine how they structured their programs and overcame their challenges. Lastly, the BSU community was surveyed to assess potential interest and usage in bike sharing. The results stated that 84% of total participants were interested in a bike share program with 50% reporting they would use it eleven or more times per year. Participants report 46% would use it for on-campus classes and commuting while 45% would use it for fitness and errands. There are two types of bike sharing programs that are feasible for BSU. One is geared toward commuters and on-campus commuting, which needs a higher turnover rate, and the other is a slower check out and longer usage.

Keywords: bicycle, bike, bike-share, sharing, transportation

Bike Sharing as Alternative Transportation at Bridgewater State University

Global fossil fuel costs are skyrocketing. In June of 2010, fuel delivery was \$83 per barrel and the forecast for December 2011 is between \$100 and \$120 per barrel (U.S. Energy Information Administration, 2011), while, in 2009, Americans spent 4.8 billion extra hours and 3.9 billion additional gallons of gas in traffic congestion. Traffic congestion projections for medium density areas parallel those of the high density areas in 2009. Boston is rated as the sixth worst city for traffic congestion (Cholia, 2011; Urban Mobility Report, 2010). The increase in time in cars may contribute to the fact that in 2008 over two-thirds of adults in America were overweight and one-third was obese (U.S. Department of Health and Human Services, 2011).

As awareness of these issues becomes more preminent, many college campuses are investigating alternative, healthy ways for their student body to get around campus and into the community at large. According to the Association for the Advancement of Sustainability in Higher Education 2010 report there are close to 100 college campuses with bike share programs (Kersey, 2011). This proposed project will explore the plausibility of piloting a bike

share program on the Bridgewater State University campus through examination of the prospects and barriers.

New England campuses with climate and terrain similar to Bridgewater report positive responses from their programs. Brandeis University offers a semester long, free bicycle rental that requires student enrollment in a lottery system, because of a high demand in bike usage (Brandeis University, 2011). The University of New Hampshire bicycle users report positive results from a weeklong bicycle rental program. In April, 2011, Tufts University had 300 people participate in their bike-share program on the first day (Kersey, 2011). While the immediate favorable reports are plentiful, Bowdoin College did not examine the cost benefits or the supply chain of their bike share program. They had neglected to take into account the cost of repairs, damage and storage for their 50-bike program. They revived their program in 2009 after it went out of service in 2006 due to this oversight (Pratt, 2011).

The feasibility of a sustainable bike sharing program at Bridgewater State University may impact the university in many positive ways. Bicycling may help eliminate the need for additional parking, green house emissions and traffic congestion. In 2008, the University of New England encountered a problem of parking space shortage; hence, they provided bicycles to all incoming freshmen that agreed to go car-less on campus. They were able to eliminate a 95-car parking lot converting it to a basketball court and river view tent for campus events (Tang, 2010). An average American sits in traffic congestion for 34 hours a year at a cost of \$808 dollars per person and Boston rates sixth on the worst hit traffic cities (Cholia, 2011; Urban Mobility Report, 2010). Unfortunately, we at Bridgewater State University contribute to this waste. For example, students slowly circle around parking lots waiting for spaces and faculty and staff often drive to the other side of campus to attend meetings and events. For every mile a person rides a bike, one pound of CO₂ emission is saved (U.S. Environmental Protection Agency, 2010). Students and campus employees could contribute to these savings by using bicycles to travel about campus. Resident students could use bicycles to shop and recreate in the community. The availability of bicycles on campus could reduce the number of trips, cars and bus routes, so it would help to reduce global resource consumption.

Mass transportation can be increased with bike sharing. If commuters know they will have a bicycle waiting for them when they arrive at the commuter rail or bus stop, their commute is more integrated. Ralph Becker, mayor of Salt Lake City, notes the integration between bicycling and transit, such as getting off the train, hop on your bike, and go where you want (Bergethal, 2011).

Cycling also promotes a healthy lifestyle; improving student, faculty and staff's physical health with aerobic exercise is a cost benefit that is often overlooked. Cycling burns calories and decreases obesity, blood pressure, insulin levels and triglyceride levels, all of which affect diabetes (Gordon-Larson, Boone-Heinen, Sidney, Sternfeld, Jacobs, & Lewis, 2009). Diabetes presently affects 25.8 million Americans. The estimated cost of diabetes to the economy in 2007 was \$218 billion dollars. In the under twenty age group, one of every 400 Americans has Type I diabetes (American Diabetes Association, 2011). The risk of breast cancer is reduced in women who bike thirty minutes a day (Luto, Latikka, Pukkala, Hakulinen, & Vihko, 2000).

Sharing bicycles year after year also helps to sustain global resources. According to the National Bicycle Dealers Association (2009), the total US bicycle industry market share for 2009 was \$5.6 billion dollars with 14.9 million bicycles sold. Bikes in a bike sharing program are available year-after-year, so the purchase of new bicycles is unnecessary, reducing saving global resource consumption. By purchasing quality bikes in bulk and controlling the supply chain, bike sharing programs can leverage the purchase and discount of future purchases by recycling used bikes.

Instituting a bike sharing program at BSU may have several advantages such as a potential decrease in the number of shuttle services that are offered on campus, which would save the amount of fuel used for the campus shuttle, number of miles the shuttle is run, and operation and repair costs of the vehicles. Bike sharing could also permit a decrease in the number of parking spaces needed on campus (Tang, 2010), which would save on infrastructure expenses, road repairs and snow removal. Most importantly, the exposure to alternative transportation as a viable means of reducing the carbon footprint of biodiesel vehicular transportation can also create a lifelong love affair of cycling that could improve fitness and create a healthier lifestyle. Therefore, the purpose of this study was to examine the feasibility of establishing a bike sharing program at Bridgewater State University.

METHODS

Participants

Focus group. Thirteen individuals were selected to participate in focus groups based upon their job responsibilities and specific knowledge of community and university resources. Participants included: community planning organizers, town councilmen, a local bike shop purchasing manager, a university transportation representative, a recreation department coordinator, the sustainability director, student affairs administrators,

a parking department representative, a police department representative, the fitness center director, and faculty mentors for the grant.

Campus interviewees. This study researched bike share programs at three different New England campuses: Tufts University, University of New England and Brandeis University. Universities were selected based on a combination of student demography and population, size and terrain of campus, climate, and unique features (railroad crossings, building density, etc). Across these campuses, outdoor recreation directors, sustainability directors, student managers and bike share program facilitators were interviewed since they had intimate knowledge of their campus bike share program and were able to answer detailed questions.

Survey participants. Bridgewater students, faculty and staff volunteered to complete a 10-question survey to determine feasibility and interest from full-and part-time students, faculty, administrators and staff.

Procedures and Instruments

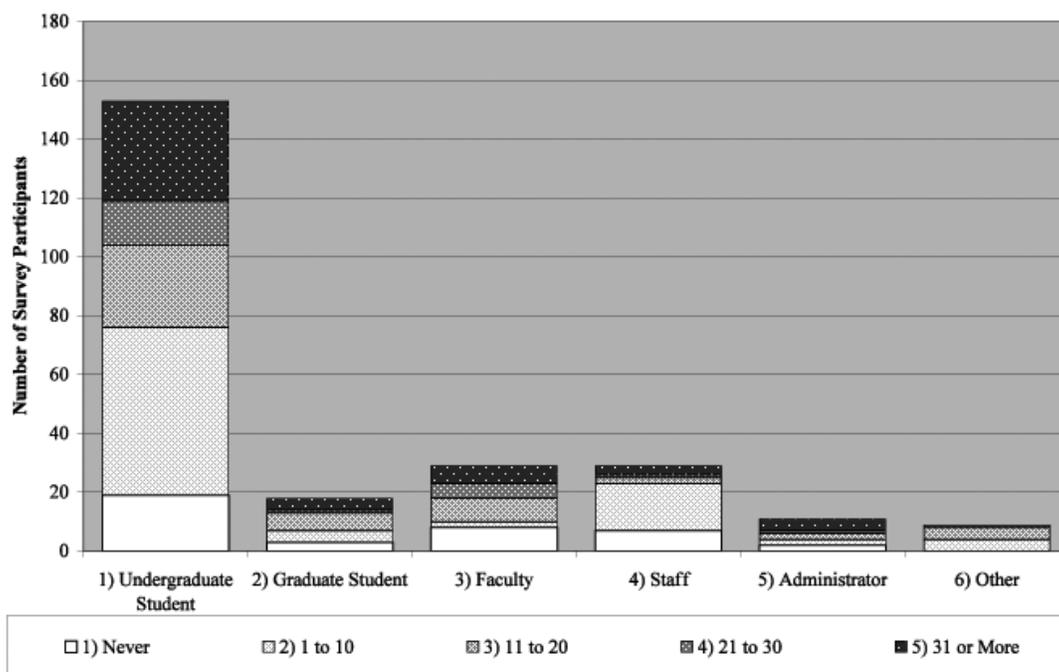
BSU focus group interviews. Members were invited to a luncheon through an email contact or a face-to-face request. Invitations were given 10 days in advance and reminders were sent out the day before. After a brief presentation of a BSU bike sharing idea, questions and comments were facilitated and two scribes collected answers. Topics of discussion included: benefits, challenges, and a summary of other bike share programs.

The focus group was used to create questions for the college campus interviews.

Selected college campus interviews. From the information gathered in the focus group interview, a 37-question survey was developed to address what other universities had done to overcome the challenges to a bike share program. The three selected New England colleges/universities were contacted using Facebook, college websites, Whitepages.com and telephone calls. Interviews were conducted face-to-face, by telephone and over email. Data were collected by the interviewer on paper, then typed and sent to interviewee for editing. Face to face interviews were collected on or near the selected campuses. Photos were taken after each interview or collected through email. At each campus, interviews ascertained bike usage, membership, fees, sustainability, start up costs, cost/benefits, maintenance costs, the goal of the program, marketing, and implementation. The data from these interview questions were used to determine cost-benefits, Social Return on Investments, and Break Even Point (BEP) to assess the plausibility of bike sharing at BSU. (Appendix A)

Surveys. Surveys were distributed to students, faculty, administrators and staff at Bridgewater State University. There were two methods of delivery; paper surveys were distributed in several different locations (i.e., front of the Kelly Gymnasium, the Maxwell Library, the Chapel commuter lot, and the Campus Center) and staff and faculty were emailed a link to a Zoomerang online survey. Directions for both forms of the

Figure 1. Anticipated Participation Interest in Bike Sharing



survey asked participants to complete the survey once only. Appendix B.

Data Analysis

Survey data were tallied and analyzed to create frequency distributions and summative descriptions of open response answers. (Appendix B) Price elasticity was determined using Alfred Marshall’s analysis of percent of change in quantity demanded divided by the percent change in price. Cost-benefit and Social Rate of Return addressed social, environmental and economic aspects of the proposal and was conducted using a narrative format on information provided through interviews at other campuses. BEP identified the financial break-even point for the program if a bike share model with membership fees was proposed. Monetary membership values were determined from the BSU campus survey and costs for the bikes and accessories from University of New England’s and Sobi’s social bicycle company. BEP was calculated as total contributions (membership fees) = Total Fixed Costs (costs of bikes).

Results

A total of 252 surveys (32 electronically, 220 paper) were distributed to students, faculty, administrators and staff on campus. All survey data were analyzed.

Survey results indicated that 84% (210/252) participants would like to participate in a bike share program with 37% (57/153) of undergraduate students reporting they would use a bike one to ten times a year. Thirty-six percent (4 /11) of administrator respondents report that their anticipated bike use would be 31 times or more per year. Fifty-five percent (16/29) staff respondents anticipate their bike use would be 1 to 10 times a year.” Lastly, 66% (19/29) of faculty respondents reported anticipated bike use between 11 and 31 or more times per year. Those who are on campus more regularly (faculty, staff and administrators) reported a higher number of times that they would use a bike than students’ anticipated bike usage.

Occupation by membership fees

Further, the results indicated that 79% (120/153) of undergraduate students were willing to pay between \$1-\$20 dollars for a yearly membership. Faculty and administrators were willing to pay more than students: 30% (10/33) of the faculty and administrators were willing to pay \$21 to \$30 but only 16% (27/168) of the students would pay this same amount. Similarly, faculty and administrators reported higher anticipated rates of usage.

The middle of each price range was selected for computation

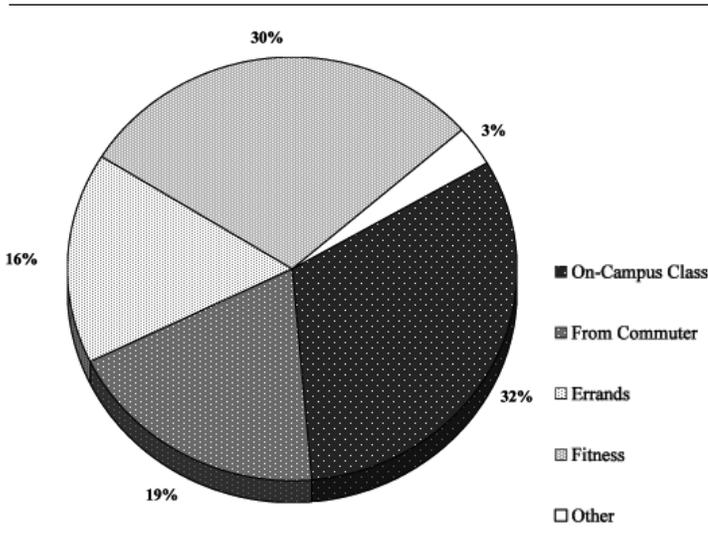
Table 1: Membership Fees

	1) \$1 to \$10	2) \$11 to \$20	3) \$21 to \$30	4) \$31 to \$40	5) \$41 or More
1) Undergraduate Student	45% (n=68)	34% (n=52)	17% (n=26)	2% (n=3)	1% (n=2)
2) Graduate Student	29% (n=5)	47% (n=8)	6% (n=1)	12% (n=2)	6% (n=1)
3) Faculty	33% (n=8)	21% (n=5)	29% (n=7)	8% (n=2)	8% (n=2)
4) Staff	57% (n=13)	30% (n=7)	4% (n=1)	4% (n=1)	4% (n=1)
5) Administrator	33% (n=3)	22% (n=2)	33% (n=3)	0% (n=0)	11% (n=1)
6) Other	44% (n=4)	33% (n=3)	0% (n=0)	11% (n=1)	11% (n=1)
Total Sample	43% (n=101)	33% (n=77)	16% (n=38)	4% (n=9)	3% (n=8)

Table 2: Price Elasticity

	1) \$1 to \$10	2) \$11 to \$20	3) \$21 to \$30	4) \$31 to \$40	5) \$41 or More
1) Undergraduate Student	68	52	26	3	2
2) Graduate Student	5	8	1	2	1
3) Faculty	8	5	7	2	2
4) Staff	13	7	1	1	1
5) Administrator	3	2	3	0	1
6) Other	4	3	0	1	1
Total Sample	101	77	38	9	8

Undergraduate Bike Usage



which indicated membership fees should not be increased above the \$21-\$30 range since the elasticity is greater than 1. At this point membership fee increases do not justify membership lost. Money will be lost for membership lost for any fee increase.

Bike Usage

Since the greatest number of survey participants and largest population on campus is undergraduate students, a detailed look at their responses was merited.

Usage for travel on-campus to classes and to and from commuter lots (51%) requires rapid turn around on checking out and checking in bicycles, while fitness and errands (46%) do not mandate a quick system of check out.

Each participant was asked to mark the top three locations they would pick up or return a bicycle. The Campus Center had the

highest number of responses 23% (131/578), yet dividing the campus by east and west, 35% (135/388) of undergraduates selected the west locations of Campus Center and Boyden Hall while 65% (205/388) chose locations on the east side of campus. Faculty and administrators were split down the middle between east and west campus locations.

The on-campus shuttle is under used, as 69% (172/252) of participants have never used the shuttle and 22% (54/252) reporting one to ten uses per year.

cost

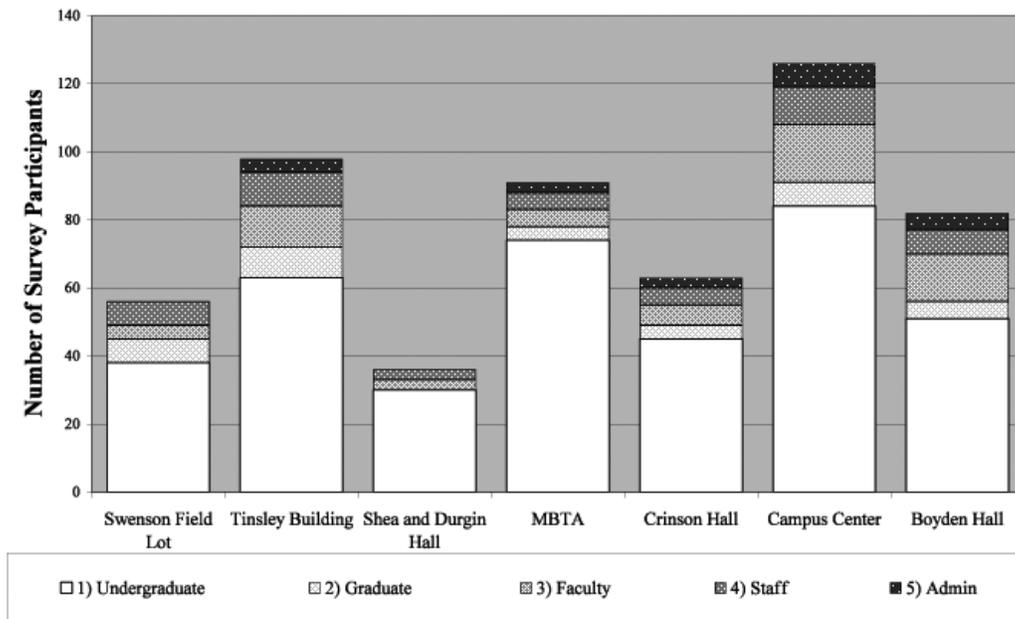
Advantages of Bike Share

Social Return on Investment: A bike share program lessens the dependence on fossil fuels while decreasing parking needs, traffic congestion, greenhouse emissions, foreign dependency on fuel, and number of days and frequency of the campus shuttle. Bike sharing increases exercise, enlarges the campus accessibility in a timely manner, provides for transitions in public transportation (bike waiting at the train stop) and saves global resources by using bikes over and over each year. Bike sharing also creates social dynamics that allow individuals to gather in a collective manner to foster unity for like-minded college members to network on environmental, sustainability, economic and exercise interests.

Cost of Bike Share Program

Cost-Benefit Analysis: Model one: The cell phone bike share system would cost \$1100 USD per bike, shipping and on-site assembly (approx \$100/bike), \$8/bike/month wireless connectivity and hosting, 10% of revenues booked on the platform (no helmet or lock included). Model two would cost \$300 for a Giant Sedona plus the costs of a bicycle, helmet, lock, and light. Both models would require the same bike shelters, bike paths, repair center, storage, and IT data management. Bike repairs were averaged at \$25 per year for

Bicycle Check-Out Locations



tubes, patch kit, chain and tire. Damage and major repairs for either bike model could be billed to the user and repaired by a bike shop. Bike share program management has been done in other universities through work-study, existing job structures, graduate assistantships and student organizations. Old Colony Council, Canton, MA, offers grants available for bike racks funding support, and bike pathways would be part of redevelopment of green space integrated into new pedestrian and vehicle roadways. Benefits of a bike program would include decreased need for parking spots thus less maintenance (e.g., restriping, snow removal, trash pickup). Benefits could be expansion of campus boundaries by improving access to the community resources, decreased need for campus shuttle and its associated costs, a greener/healthier campus, less traffic congestion/fossil fuel use, and an extension of public transportation from commuter rail train stops.

Break-Even Point

Each model was determined for 100 bicycles with a membership fee of \$20 a month. Model one would use a bicycle that has an electronic check out system done online which allows quick check outs. The cost is \$1,200 per bike. Given 100 bicycles, the total cost would be \$120,000. If the user fee was \$20, then it would take 6,000 users to reach the break-even point for bicycle start up. Monthly fees for this model would also include a percentage fee for electronic usage from the bicycle company at \$800 a month, which would require an additional 40 users a month to break even. Model two would use a manual check out from the library or recreation center at a cost of \$325 per

bike. Given 100 bikes, the total cost would be \$32,500. If the user fee was \$20, then the breakeven point would be reached after 1,625 users (\$32,500/\$20/user).

Discussion

The results of the feasibility study determined that a bike share program at Bridgewater State University was desired by an overwhelming majority of survey participants (84%) in all areas of the campus community. According to the survey results, 36% of administrators have indicated that they would use a bike 31 or more times a year, 55% of staff would use a bike one to ten times a year, and 66% of faculty would use it ten to twenty times a year. A majority of the surveyed undergraduates (37%) estimated usage at one to ten times a year. Administrators, faculty and staff often spend more time on campus out of class so that they have more opportunities to use a bike than undergraduates throughout the year.

To make a bike share program more sustainable, Brandeis University has implemented a successful membership fee structure for their semester rentals. The BSU survey reported that a large majority of undergraduate students were willing to pay \$1 to \$10 dollars a year, and the largest percentage of administrators and faculty were willing to pay \$21 to \$30 a year. Similarly, those who reported a greater usage were willing to pay more for a membership. The price elasticity indicated that \$21 to \$30 would be the highest amount charged before losing the greatest number of participants.

Understanding the bike usage was important in developing a bike share program. The bike usage for on-campus and commuter lot usage required a bike share program that allowed for a quick check out and higher turnover; yet, for errands and fitness allow for a longer check out process and longer rental time. Two of the campuses, Brandeis and UNE, had two separate bike share programs, one for longer use and one for shorter turnovers, thus allowing the needs of two different users to be met. The BSU survey reported that on-campus and commuter lots had 51% and the errands and fitness had 46%.

Location of bike placement varied among survey participants: The Campus Center scored the highest with the Tinsley Center and the MBTA parking lot second and third, respectively. These locations rated the highest but would need an effective way to check bicycles out. It would be imperative to add additional bike racks to these locations in response to indicated demand regardless of other check out locations.

Social Return on Investment entailed items gained from a bike share program. The most impressive bike program was the University of New England's because it received support from the entire campus. Their program started with a problem of insufficient parking spots on campus. The solution was to offer incoming freshman that agreed to leave their cars at home 28 free Zipcar hours or a free bicycle. This solution resulted in 255 freshmen that chose a bicycle for transportation. They raised the parking fee from \$60 to \$300 dollars to generate the funds. Not only were they successful in solving the parking issue, but UNE was able to eliminate a 95 spot parking lot. The parking lot was then converted to a riverside event center and outdoor basketball courts. Students have continued to use their bikes in the following years. At Brandeis University priority was given to those who used a bike for primary transportation, thus making bike sharing more sustainable for the environment while lessening dependence on fossil fuels, traffic congestion and emissions. The outdoor recreation director of UNE was in charge of managing the bike program in order to make it more affordable. At Brandeis and Tufts, the program was completely student driven with connections to the Sustainability Center. Tufts University hired an intern for continuation of the bike program in the summer. UNE used their bikes for campus tours for potential students and, in the summer, they rented their bikes to seminar participants. All funds were returned to the program.

The break-even point for a sustainable program factored in the costs of the bikes and maintenance with the example of a \$20 membership. Costs of hosting fees and revenue splits were included. Funding for program start up was considered to come from a number of areas: student government organizations,

sustainability grants and increased parking fees. While on-going funding came from membership fees, grants and student government funds, program contracts would require students to be accountable for major repairs. In order to avoid constant repairs and downtime for bikes, Brandeis learned that purchasing a higher quality and standard model for their bikes helped run a more efficient fleet.

The BSU slow check out model is based on Tufts' model. Rentals could be done from the campus library. Students would sign waivers at the beginning of the year and a category could be added to their Connect card that allowed librarians to know the waiver was signed and check out could occur. This system would allow for a greater range of check out times and an online, real-time website for availability. BSU quick bike check-out model is based on The Social Bike Company's model. They offered quick turnover on bike check out with pick up and return at any location. The lock and security system was built into the bike and used wherever a u-type bike lock can be secured. Use of either model would allow the BSU campus to benefit from a healthier form of alternative transportation.

Conclusion

A bike share program at BSU has been determined to be very feasible and would benefit the campus and student body greatly. A majority of sampled BSU campus users are interested and willing to pay a membership fee to access bikes through a bike share program. The most beneficial bike share program would be the quick check out model that allows all users access, no matter their time restrictions. Bikes would be turned over quicker and more efficiently with this model. A bike share program would allow BSU users an alternative transportation system that would benefit them and their community.

References

- American Diabetes Associations. (2011). 2011 National Diabetes Fact Sheet. Retrieved on April 15, 2011 from <http://www.diabetes.org/diabetes-basics/diabetes-statistics/>
- Brandeis University. (2011). Campus Sustainability Initiative: About Deisbikes. Retrieved on April 12, 2011 from <http://www.brandeis.edu/campussustainability/transportation/deisbikes/index.html>
- Bergethal, D. (2011, Jan-Feb). Building Bicycling into Transportation Networks. *AmericanBicyclist*, 20-25.
- Cholia, A. (2011). Drivers waste 3.9 billion gallons of fuel because of traffic Congestion in 2009 *Alttransport Your Guide to Smarter Ways of Getting Around*. Retrieved on April 20, 2011 from <http://alttransport.com/2011/01/drivers-wasted-3-9-billion-gallons-of-fuel-because-of-traffic-congestion-in-2009/>

- Kersey, A. (2011, April 5). Tufts University rolls out bike share program. *Somerville Patch*. Retrieved on April 11, 2011 from <http://somerville.patch.com/articles/tufts-university-rolls-out-bike-share-program>
- Luto, R., Latikka, P. Pukkala, E., Hakulinen, T. & Vihko, V. (2000). The effect of physical activity on breast cancer risk: A cohort study of 30,548 women. *European Journal of Epidemiology*, 16, 973-80.
- National Bicycle Dealers Association. (2009). 2009- The NBDA Statpak. Retrieved on April 20, 2011 from <http://nbda.com/articles/industry-overview-2009-pg34.htm>
- Pratt, M. (2011, April 10). Bike sharing gets students around, off campus. Associated Press. *Boston.com* Retrieved on April 15, 2011 from http://www.boston.com/news/local/massachusetts/articles/2011/04/10/bike_sharing_gets_students_around_off_campus/
- Tang, D. (2010, Sept. 22) Bike-sharing programs spin across U.S. campuses. *USA Today*. Retrieved on April 18, 2011 from http://www.usatoday.com/news/education/2010-09-21-college-bike-sharing_N.htm?csp=34news
- Urban Mobility Report. (2010a). Texas Transportation Institute. "What does congestion cost us?" Retrieved on April 20, 2011 from <http://mobility.tamu.edu/ums/report/>
- Urban Mobility Information. (2010b). Texas Transportation Institute. "How congested are the roads? Are they getting worse?" Retrieved on April 20, 2011 from <http://mobility.tamu.edu/ums/>
- U.S. Energy Information Administration. (2011). "Short-Term Energy and Summer Fuels Outlook." Retrieved on April 20, 2011 from <http://www.eia.doe.gov/emeu/steo/pub/contents.html>
- U. S. Environmental Protection Agency. (2010, November) Light-duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2010. Retrieved on April 18, 2011 from <http://www.epa.gov/OMSWWW/fetrends.htm#summary>
- U.S. Department of Health and Human Services. (2011). "Statistics Related to Overweight and Obesity." Data from the National Health and Nutrition Examination Survey (NHANES) 2003-2006 and 2007-2008. Retrieved on April 18, 2011 from <http://win.niddk.nih.gov/statistics/>

Appendix A

Campus Interview Questions:

Overview-

1. Why did you start a bike share program – reasons
2. How and why was it initiated?
3. How was it funded to start up?
4. How long has the program been operating?
5. What were the challenges to start-up?
6. What were your start-up costs?
7. How did you determine the physical location of the bikes on campus?
8. How has your membership grown?
9. What kind of facilities to store and maintain the bikes? (take a tour and take some pictures)
10. What are the challenges to maintain?
11. Is theft a problem – how do you secure the bikes?
12. What is the process to obtain a bicycle? How long are rentals?
13. Has anyone had any injuries/claims? How are you insured?

Management-

1. How is the program now sustained – financially, maintenance and repair of bikes
2. Who manages the day-to-day operation of the program? What organization/department?
3. Who oversees the program? What organization/department?
4. What university division/person does is the program accountable to? What organization/department?
14. How many bikes do you have?
15. What do you do to address personal accountability for public property?
16. How does program address helmet usage?
17. What are the safety issues?
18. How do you enforce any rules? Fees? Membership? Damage to cycle?
19. Do you have a goal for your program?

Operations-

1. What is your operating budget? How is it allocated?
2. Have you lost any bikes?
3. How long does a bicycle last?
4. What are your yearly maintenance costs?
5. What do you do with the bikes in the winter? In the summer when there are less students on campus?
6. How often are the bikes used? What are the measurable benefits? What are perceived benefits?
7. If you have a membership? Are there fees? If so, how many people are members (% of student body)?

Marketing-

1. What are your marketing tools? Web? Brochure? Incoming students? Who does the marketing?
2. How do you/did you establish a cycling culture on campus?

Conclusion-

1. How would you improve your program?
2. What are the strengths of your program?
3. How are the campus bikes used in the community?
4. How has your bike share program influenced sustainability efforts on campus?

Appendix B

Bike Sharing as Alternative Transportation at
Bridgewater State University
(Department of Movement Arts, Health Promotion & Leisure Studies)

Bicycling helps eliminate the need for additional parking, green house emissions and traffic congestion. We are conducting a survey to evaluate how feasible is the development of a sustainable bike sharing program at Bridgewater State University. We are simply interested in your opinion, and your participation would be most appreciated and helpful to us. Please use a check mark (ü) for each of the following questions.

1. What is your gender?
Male
Female
2. How do you commute to Bridgewater State University?
Commuter train
Car
Bicycle
Walk
Other (please specify) _____
3. How often do you take campus shuttle in a year?
0
1-10
11-20
21-30
31+
4. Do you presently own or ride a bicycle?
Yes
No
5. If bikes were provided by BSU, how many times a year would you ride?
0
1-10
11-20
21-30
31+
6. Please check (ü) three locations that you would pick up and return a bike share bicycle for your convenience and schedule.
 1. Swenson Field Lot
 2. Tinsley Building
 3. Shea and Durgin Hall
 4. MBTA commuter train lot
 5. Crimson Hall
 6. Campus Center
 7. Boyden Hall
7. If BSU provided bicycles, how much a year would you be willing to pay for membership?
\$1- 10
\$11-20
\$21-30
\$31-40
\$40+
8. What is your occupation?
Undergraduate student Faculty
Graduate student Staff
Other (please specify) _____
9. What are your thoughts about having a bike sharing program at Bridgewater State University? (e.g. interested/uninterested and strengths/weaknesses)