Pathway to Creating a Bicycle Friendly University

Prepared By: Grace Kyung
Advisor: Mary Edwards
Master of Urban Planning
Capstone Final Project
Executive Summary

This report details a multi-year effort that culminated in the creation of a more sustainable bicycle friendly campus at the University of Illinois at Urbana-Champaign (UIUC). Two key projects are highlighted—the creation of a bike fee, paid by UIUC students and a campus-wide bike sharing program. The process brought together a variety of stakeholders who collaborated to create the bike-friendly environment and recent statistics point to an increase in the number of students riding bikes on campus. There were many highlighted campus efforts for creating a more bicycle friendly campus that were led as important precursors to the success of the creation of a bike fee and a campus-wide bike sharing program. The success of these two programs will impact the University positively towards sustaining its goal of ensuring individuals of the campus have reliable and encouraging ways for bicycling on campus. The overall safety and health benefits will be a positive impact for the campus to reduce accidents and a healthier environment. Recommendations will be to hire an active transportation coordinator, implement the Bike Fee with strong student involvement, create a bike sharing system for campus and a community-wide bike share program, and develop and implement a campus-wide survey. Through the work individuals have put towards campus and these two projects I have been able to spearhead, the University will become more bicycle friendly.
Table of Contents

Introduction .................................................. 4
Bicycling Background ........................................... 5
Report Overview ............................................... 6
Stakeholders .................................................. 7
  Institutional Structure
  Bicycle Support Organizations

Current State of Biking at UIUC ................................ 10
  Number of Students Riding Bicycles
  Mode Shift Data

Highlighted Campus Efforts ...................................... 11
  Campus Bicycle Center
  University Bicycle Code
  Campus Bike Plan

UIUC Bike Initiatives ........................................... 13
Bike Fee .......................................................... 14
Bike Sharing ..................................................... 20
Impacts of Bike Fee & Bike Sharing .............................. 23
Benefits .......................................................... 24
Recommendations ................................................ 26
Reflections ........................................................ 27
Conclusion ....................................................... 27
References ....................................................... 28
Introduction

The University of Illinois Urbana-Champaign (UIUC) is an unique place that has placed it as one of the fastest-growing college towns in the U.S. UIUC was founded in 1867 as a public institution with a total of 43,206 students. It is ranked 11th among public universities and ranked 25th among world universities. It has the 6th best College of Engineering in the country and 15th best College of Business in the country. UIUC has further excelled in becoming the best return on investment in the Midwest. UIUC is a great stomping ground for creating a more bicycle friendly campus by being one of the top green colleges in the nation.

My journey with the UIUC biking environment began in June 2013 while working on my Master of Public Health capstone project that entailed the development of a Departmental Bike Share Manual. The purpose of the Departmental Bike Share Manual was for departments like Administrative Information Technology Services, who would like to have a bike sharing system but do not know where to begin to start a program. From this project, I gained an appreciation for how bicycling can change a community. It inspired me to continue my work during my Master of Urban Planning to spearhead two new initiatives: a student fee for bike-specific projects on campus and developing a bike share program for campus.
Bicycling Background

Bicycling is not a new phenomenon, but it is a concept being more strongly considered on our campus and campuses across the nation. People who bike have shown to live longer, have better blood pressure, and are less likely to be overweight. Adults who choose to commute to work by bicycle have shown to lose on average 13 pounds in the first year. Adolescents who bike are 48% less likely to be overweight adults. Women who bike 30 minutes a day have a lower risk of breast cancer. This has caused a spike in the American economy by Americans spending $81 billion on biking annually to generate 770,000 jobs and $10 billion in taxes. This has caused a shift in how Americans view bicycling in a positive way by 47% of Americans say they want more bike paths, lane, and trails in their community. Over the last decade, U.S. bike commuting grew 47% nationwide and 73% in the largest cities. Bicycling is a feasible and sustainable way to promote transportation because 50% of all trips Americans make are 3 miles or less and 40% are 2 miles or less.

source: bike jerks
This report offers a detailed examination of the history of bicycling at UIUC, along with an analysis of existing and more recent campus efforts, including the bike fee program and the bike sharing initiative. It provides a thorough discussion of how bicycling initiatives are funded at UIUC and includes reflections on lessons learned throughout the processes. The following sections will share the important stakeholders within the bicycling campus efforts, current state of biking at UIUC, highlighted campus efforts, and the UIUC bike initiatives to understand how these have affected the success of the Bike Fee and creating a campus-wide bike sharing program.

The report will highlight the efforts from these two initiatives and the impacts it will have on the University. These efforts will have positive safety and health benefits for the University. The report shares recommendations to the University and reflecting on the experiences of how it has affected the campus.
Stakeholders

These stakeholders play an integral role into creating a bicycle friendly community.

Institutional Structure

The University of Illinois Urbana-Champaign's (UIUC) Facilities & Services and Institute for Sustainability, Energy, and Environment (iSEE) are the two largest departmental stakeholders that have worked towards creating a more sustainable campus.

- Facilities & Services (F&S) is the largest administrative unit at UIUC that provides all physical plant, operations, and essential conditions for a sustainable campus. It plays a large role in leading changes on campus towards becoming more bicycle friendly because it houses many of the staff and decisions in constructing bicycle infrastructure and policies.

- TDM Coordinator works with the regional transportation planning partners to coordinate the networks for all forms of campus travel. The position advocates for active transportation, such as walking, biking, transit, carpools, and ride sharing. The coordinator approves plans for items like bike paths and oversaw the development of the Campus Bike Plan. Through this the coordinator prioritizes to make the campus safer and friendlier for all modes of transportation.
Stakeholders

- Campus Bicycle Center Manager oversees the Campus Bicycle Center. The manager is responsible for educating and training individuals on how to fix their own bicycles. The center is a place where individuals are welcomed to learn from one another on different levels of bicycle maintenance techniques. The manager attends all meetings related to bicycles and has a good understanding of students and faculty/staff needs at UIUC on biking. The manager is educating and encourages the use of bicycles on campus.

- Associate Director for Sustainability is the spearhead for F&S’s sustainability movement. Sustainability is an important part of F&S’s mission and goals to promote sustainable practices for employees and maintain the buildings and campus grounds. After committing to campus neutrality by 2050, this position works on the strategies developed for items like active transportation as well as future innovation and enhance sustainability.

- Campus Bicycle Coordinator supports the facilities and services, which make UIUC a Bicycle Friendly University. The coordinator serves as an advocate for bicyclists on campus and aids in planning improvements for programs and services for cyclists. This individual is the voice for the Campus Bicycle Plan and accomplishing the University’s goal to accomplish the 5 E’s.

- iSEE encourages sustainable transportation and the reduction of gas emissions. They coordinate various sustainability projects on campus and are the lead department on campus to develop and implement strategies for a sustainable environment.

- Associate Director for Campus Sustainability is similar to the role of the Associate Director for Sustainability at F&S. The associate director within iSEE focuses on the implementation and oversees the Illinois Climate Action Plan (iCAP). iCAP has a section devoted to transportation and one of the strategies within the plan is to instrument the Campus Bike Plan.

- Sustainable Transportation Intern primary role is to develop transportation programs to reduce single-occupancy vehicle mode choice. This role works on efforts to increase bicycle education and encouragement, bike sharing, teleconferencing, ride sharing, and works as an advocate for sustainable change.

Bicycle Support Organizations

There are many subgroups that were not captured within Facilities & Services and iSEE that are equally large stakeholders.

- Student Sustainability Committee (SSC) is a student led organization on campus that focuses on the implementation of 1.1 million dollars from two student fees towards sustainability and clean energy. SSC reviews proposals and projects that increase environmental efforts on campus and inspire change for students. SSC has provided much of the financial support for bicycle improvements on campus, such as bike parking and the Campus Bicycle Center.
Stakeholders

• BikeFace is the lead student RSO on campus that focuses on encouraging bicycle use on campus. One of their primary roles is to work with fellow student bike advocates to establish a more inclusive community towards biking. BikeFace has been heavily involved with bike advocacy and establishing better relationships with University entities towards increasing bike safety and education.

• Bike Advocates is a general term for any other students on campus that have been involved with bike advocacy and developing a more inclusive community towards biking. Fellow bike advocates have been representatives from organizations like Students for Environmental Concerns.

• The Bike Project of Urbana-Champaign is a non-profit organization within Champaign-Urbana that focuses on educating and promoting an inclusive environment for bicycles within the community. The organization has played a large support role for the Campus Bicycle Center through its partnership with the University of Illinois.

• Champaign County Bikes (CCB) is a non-profit organization within Champaign-Urbana that works to encourage and facilitate bicycling as transportation and recreation, and to promote public awareness of the benefits that bicycling brings to the Champaign-Urbana community.
Current State of Biking at UIUC

Number of Students Riding Bicycles

The University has been partnering with Champaign County Bikes (CCB) for the last two years to gain a better understanding of how many bikes are on campus. These numbers are used to understand the demand for bicycle infrastructure, programming and services, and to further analyze the impact of past improvements. Bicycles are counted once in October and April from 10am to 11am.

In the last two years, there have been three bicycles counts that were done at UIUC. Figure 2 demonstrates how the number of bicycles on campus has varied throughout the years. April 2014, there was a drop in the number bicycles on campus because of weather. Only bikes that were stationary were counted during this time frame to avoid any replicated counts. It is anticipated that the number of students who ride a bicycle on campus is larger than the numbers shown in Figure 2 because of past survey data that has been collected shown in Figure 3.

![Figure 2: Bike Census Fall 2014 Data](image)

Mode Shift Data

Figure 3 shows data from the University District Traffic Circulation Study. Items that were surveyed were the respondent’s affiliation with the University, what method of transportation they choose, and the number of trips taken. While no correlation seems to exist between bicycling and bus ridership, there is a negative correlation between class year and bus ridership. There also appears to be a positive correlation between class year and driving alone. Because of these trends, it is likely that cycling will not affect bus ridership, but may impact students driving to campus.
Highlighted Campus Efforts

There are many different efforts that should be highlighted on campus for their efforts towards aiding in creating a more bicycle friendly campus. Many of these efforts are precursors to the projects that are within the report, but the Campus Bicycle Center, the University Bicycle Code, and the Campus Bike Plan have benefited the projects mentioned in the report the most.

Campus Bicycle Center

The Campus Bicycle Center (CBC) is collaboration between the University of Illinois and The Bike Project of Urbana-Champaign. The Center is the central hub for bike education and encouragement on campus to empower individuals with knowledge about how to repair and maintain bicycles. It distributes important bicycle education material, encourages mode-shift, educates individuals on campus and visitors about basic bicycle maintenance, and collaborates with campus and community on bicycle-related programs.

It is currently funded as collaboration between the University and The Bike Project. As of FY15 the University contributes $50,000 for the CBC manager and any student-employees, as well as approved bicycle-related event costs. The Bike Project is responsible for directly contributing $15,000 to the center, which is also used according to the criteria set forth for the University’s contribution. The Bike Project maintains responsibility for the bicycle related equipment and inventory necessary to fill its role within the campus community. As such, all federal and state taxes, which may be assessed against their equipment or merchandise, are the responsibility of The Bike Project.
The CBC reported in Figure 4 the income by month for year 2013 compared to year 2014 increased by about $7,000 by gaining new members to join the Center. Figure 5 demonstrates the change over time for income for the CBC from 2013 to 2014. The graph shows a significant spike in income for the CBC in August 2014 compared to 2013. The increase in income demonstrates the value of CBC as overtime more individuals have become members in order to use the space to learn more about bikes and feel encouraged to ride them within Champaign-Urbana.

**University Bicycle Code**

The University Bicycle Code is a code of conduct established for bicycle safety and protocol on campus. The update to the bicycle code includes citations with fees associated with them. They include but are not limited to fees for failure to register one’s bike, parking violations, pathway violations, and equipment violations. Further the code addresses bicycle registration and general rules of operation such as parking.

The University Bicycle Code is to be implemented through campus police and has not reported yet if the new code has had an effect on bicycling behavior on campus.

**Campus Bike Plan**

The Campus Bike Plan has been an eight-year project that was recently approved by the Chancellor Review Committee to be an official plan as part of the University’s master plan. This is a significant step for the University as it is recognizing that bikes are important to UIUC and the Campus Bike Plan will help outline the next best steps of bringing improvements to the campus.

Figure 6 gives the full implementation list of priority projects the University plans to follow for projects ranging from high, medium, and low priority project areas. Also, the list gives a detailed...
UIUC Bike Initiatives

list of study areas the University plans to analyze while implementing the Campus Bike Plan. The Campus Bike Plan addresses the University of Illinois’s goals and plans to tackle bicycling issues and concerns. This plan is designed to provide a road map for the university to become more bicycles friendly and to achieve goals towards safety, sustainability, and health. The plan structured around the 5 E’s from the League of American Bicyclists. The 5 E’s are engineering, education, encouragement, enforcement, and evaluation/planning. The plan is about a $5 million plan with continued on-going costs.

The Campus Bike Plan goals are to: (1) Increase safety for all campus users, including pedestrians, bicyclists, transit riders, and motorists; (2) Increase sustainability of campus transportation; (3) Improve mobility and convenience for cyclists on campus; (4) Identify funding needs and prioritize funding for improvement of bicycle facilities, services, and programming on campus;

UIUC Bike Initiatives

This report gives a detailed overview of the multi-year efforts the University has worked towards in creating a more sustainable bicycle friendly campus at the University of Illinois at Urbana-Champaign (UIUC). There have been two key projects I have been a part of that I would like to highlight how my involvement created an even more bicycle friendly campus. These two projects are the creation of the bike fee and creating a campus-wide bike share program.

The bike fee is a proposal of a new student fee towards bringing in one dollar per semester towards bike-specific projects. This new bike fee has created new opportunities for students to have their voices heard and give input on how the University should care about putting funding towards bicycling initiatives. The bike-sharing program is the continued discussion since 2011 of creating a bike share program on campus. This report will analyze how both will help the bicycle culture on campus and the possible effects it will have in the future.
Bike Fee

Referendum History

The Bicycle Programs and Infrastructure Fee (Bike Fee) was proposed in February 2014 for a $1 per semester student fee to fund bike-related projects at the University of Illinois Urbana-Champaign. This fee was proposed because the university was putting little to no funding towards bike-related projects. Students from BikeFace, a registered student organization on campus, led the movement for this fee.

In order to have a referendum on the ballot, students must gather enough petition signatures. With the support from the Illinois Student Senate, only 5% of the student body’s signature is required to be on the ballot. I attended student senate meetings to obtain the support from the student senators and was persistent in gathering enough signatures to be on the ballot in less than three weeks. With the help of BikeFace and many other student organizations, I gathered 2,400 signatures in less than three weeks to be on the Spring 2014 ballot. However through miscommunication and misinterpretation between Campus Student Election Commission and the Illinois Student Senate, the Bike Fee was not on the Spring 2014 ballot. Since the Bike Fee was supposed to be on the Spring 2014 ballot, it was agreed that the fee would be moved to the Fall 2014 ballot without the need to re-petition signatures to be on the ballot. In November 2014, the fee passed by 72.57% approval for the recommendation to implement the Bike Fee.

Below is the question and summary students voted on in the Fall 2014 ballot:

Question:
Do you recommend the creation of a one dollar ($1.00) per semester Bicycle Programs and Infrastructure Fee for support of bike-related projects?

Summary:
The Bicycle Programs and Infrastructure Fee would be used to fund bike-related projects at the University of Illinois at Urbana-Champaign. Use of the funds would include but not be limited to creating better bike infrastructure, expanding bike parking, creating safety courses and materials for bike encouragement and education, and creating a bike rental program. The funds would be managed by a committee comprised of at least two-thirds (2/3rds) students.

Mission

The Bicycle Programs and Infrastructure fee is a student fee that is charged: “To promote education, encouragement, engineering, and health for bike-related projects at the University of Illinois Urbana-Champaign.”
Bike Fee

Guidelines

Below are the guidelines established for the bike fee in how projects will be critique and funded.

1. Education
   - Offering ways to develop skills and confidence to ride a bicycle on campus
   - Safety Classes
   - Mechanic Classes
   - Awareness Campaigns
   - Student engagement

2. Encouragement
   - Opportunities and Incentive Programs
   - Student engagement
   - Promoting safety

3. Engineering
   - Implementing safe and convenient places to ride and park

4. Health
   - Improving wellbeing and lifestyle of students on campus

5. Supplementary funding from other sources is preferred

History of Funding for Bicycle Programs and Infrastructure

The Bike Fee was created in response to the lack of funding the University was putting towards bike-specific projects on campus. The source of funding for bicycle infrastructure at UIUC has been primarily from funding sources outside of the University budget. The Student Sustainability Committee has been the primary source of funding for bike-related projects on campus. The Illinois Student Senate has also helped in funding some bike-related projects on campus.

Below is a list of past projects within the last five years for bike-specific related projects:

Campus Bicycle Center

The Board of Trustees of the University of Illinois for the Campus Bicycle Center issued a Facility Use Agreement. Facilities & Services (F&S) with the partnership with The Bike Project of Urbana-Champaign fund the Campus Bicycle Center. The University contributed $50,000 in fiscal year 2015 (FY15), for the Campus Bicycle Center Manager, student employees, and approved bicycle-related event costs. The Bike Project of Urbana-Champaign contributed $15,000 in fiscal year 2015 (FY15) to the Campus Bicycle Center.
Bike Fee

Illinois Student Senate

The Illinois Student Senate (ISS) contributed $6,000 in Spring 2014 to support repainting various bike lanes at the University. Figure 7 highlights the areas that were repainted with the ISS funding.

Student Sustainability Committee Funded Projects

Student Sustainability Committee (SSC) Project History for Bike-Related Projects

I. Bike Parking
   a. Date: January 14, 2009
   b. Funding Amount: $10,600

II. Campus Bike Project
    a. Date: September 24, 2012
    b. Funding Amount: $39,872

III. Bike Parking
     a. Date: March 28, 2012
     b. Funding Amount: $225,000

IV. Bicycling Safety Campaign
    a. Date: April 24, 2013
    b. Funding Amount: $26,280

V. Campus Bike Shop
   a. Date: April 24, 2013
   b. Funding Amount: $30,266

VI. Sheltered Bike Parking for RAL
    a. Date: May 9, 2014
    b. Funding Amount: $46,200

For the first time in June 2014, the University designated funding a bike-specific project. It was to fund the Campus Bicycle Center for another year. This funding came from the hard work of students who asked the University to continue to fund the Campus Bicycle Center as many people valued this space as an essential asset to creating a more bicycle friendly campus. The University also charged Facilities & Services with developing a plan of how to sustain the Campus Bicycle Center in the future to prevent it from closing.
Bike Fee

Future of Bike Fee

The Student Fee Advisory Committee (SFAC) is currently examining the Bike Fee before being passed to the Board of Trustees for final approval. SFAC are student representatives who analyze each student fee proposed to the University to ensure it is beneficial for students on campus. The Student Sustainability Committee (SSC) will be the committee to oversee the Bike Fee. The SSC was chosen to oversee the Bike Fee because the SSC has a similar mission and goal to the Bike Fee. Both the SSC and the Bike Fee were created by students as a way to fund sustainability projects students wanted to see funded. SSC and BikeFace have worked together to create guidelines and criteria's to understand the mission and the goal of the Bike Fee to ensure the projects that are funded are representing what students voted on in the Fall 2014 ballot. It is expected that this fee will exist so long as it fulfills a need for students on campus.

Bike Fee Contribution to Illinois Climate Action Plan

The University of Illinois at Urbana-Champaign signed the American College & University Presidents’ Climate Commitment in 2008 to commit the campus to carbon neutrality by the year 2050. The Illinois Climate Action Plan (iCAP) was developed through consultation from various students, faculty, and staff to create a path toward the fulfillment of this goal.

Currently the greenhouse gas (GHG) emission from transportation has been increasing rapidly in the last five years. It was found with new updated data that instead of reaching the goal of reducing GHG emissions from transportation by 30% that it increased by 30%. A large contributing factor to this was through the increase of air travel.

The University has fallen behind in its goals to reduce carbon emissions from transportation from the lack of funding it have put towards increasing sustainable modes of transportation. In the 2010 edition of the iCAP, some of the projects the University planned to commit to were: implement an updated Campus Bike Plan, create a bike-sharing program by 2012, impose a GHG fee on all automobiles by 2015, reduce transportation emissions, and purchasing offsets from air travel impacts. Little to almost none of these have been accomplished.

The Bike Fee would directly impact the iCAP because it would be the catalyst to start developing programs that will reduce GHG emissions from the campus. It would create a ripple effect for the iCAP to launch into putting more effort into transportation and promoting sustainable modes of transportation.

Urgency of Bike Fee

Because of no dedicated funding sources from the campus, bicycles have been in direct competition with other modes of transportation for a limited source of funding. As such, infrastructure has degraded and while bicycle ridership has increased. Meanwhile, enforcement and penalties have become more salient, but there are no education programs offered on raising awareness on
Bike Fee

how to bike safely on campus and to promote the University’s updated bicycle code. The lack of initiatives to be proactive for safer cycling is a message being interpreted that riding a bicycle is more danger than driving if streets continue to be designed for only the car.

The urgency of the Bike Fee is to shift more attention to cycling on campus and how it is a safe and sustainable way to travel on campus. The Bike Fee can be used as a resource to help students make cycling safer, more efficient, and incentive individuals to choose the most sustainable mode of transportation. The University has neglected bicycles for decades, and this Bike Fee can be the momentum for positive mode shift for the student body, staff, and faculty.

Challenges

There have been many challenges I faced when working on this initiative. One of the first major obstacles faced when first proposing the bike fee was that I was new to the bicycling community, and I was not initially well perceived for this idea, as they did not know who I was and why I was imposing my idea onto them. So I had to start from square one of understanding what they would like to accomplish and how we can work together towards a mutual goal and vision. I used my skillset of being a strong communicator and listener and through a lot of advocacy work, I was able to gather about 2,400 signatures in less than three weeks with the help of many other people to ask students in the November 2014 ballot to vote on the referendum for the student fee.

However, those were the beginning of my problems, as I also had to work with students outside of the bicycling community and the University administration. Other student entities I had to work with were the Campus Student Election Commission (CSEC) and the Illinois Student Senate (ISS). CSEC and ISS had a miscommunication about my referendum that has delayed the bike fee process for a year. The bike fee was originally supposed to be voted on in March 2014 but was pushed back to November 2014 when CSEC overstepped their role and decided I did not meet the qualifications to be on the March 2014 ballot. Through much presence, I worked with CSEC, ISS, and the University administration to correct this error. Yet the problems did not stop, as after the fee was voted on in the November 2014 ballot, I found out the fee would not take effect until Fall 2016 when previously I had been told it could take effect in Fall 2015. This required more meetings with University administrators and students to address and ensure the fee will take effect in Fall 2016.
Bike Fee

Lessons Learned

From my commitment of wanting to create a more sustainable and bicycle friendly community, I was able to work with the campus community in having our voices as students heard. We as students decided to tax ourselves a dollar per semester to see changes happen so what would the University do to ensure our interests were represented. The Bike Fee worked and the University listened because the University decided to fund the Campus Bicycle Center back in June 2014. It further charged a department on campus to find a solution to keep the Campus Bicycle Center open in the future.

Through my work at UIUC, I believe I will be graduating this May with a legacy for fellow students to use and follow. Students now have an outlet to have their voices heard through bicycling initiatives and will further have a chance to be a part of the table at key stakeholder meetings of changes they would like to see on campus towards becoming more bicycle friendly. I was able to develop my leadership skills through this experience by understanding a community that was not well receptive of me in the beginning through communication and understanding their needs. I was tested from this experience of my level of commitment to my cause, but I stayed determined and focused on creating a more bicycle friendly community. In addition, I have used this experience to further enhance the skill set of new leaders who will become the voice and leader of the Bike Fee. I hope through this experience I have caused a ripple effect to bring in new emerging leaders and empower other students on campus to find ways to have their voices heard as well on issues they care about.

Recognition

From the positive work I have done at UIUC, I was recently recognized at the 2015 National Bike Summit as a presenter in their Big Ideas bike advocacy segment. I spoke to room of about 100 people about the history of the bike fee and how I was able to use this to have the University start putting direct funding to bicycle specific projects. Furthermore, I received a honorable mention for the 2015 Graduate Student Leadership Award.
Bike Sharing

Bike Sharing History

In Spring 2011, SSC funded a bike sharing feasibility study, and it established a three-tier approach to bike sharing. The three-tier approach was to have bikes available for employees, bikes available for short-term rental, and bike solutions for the students and the public. However, it was found that no improvements to developing a bike sharing could begin until the bike infrastructure was significantly improved. In the last 4 years, there have been vast improvements and new infrastructure plans are continuing to be implemented. Through the positive energy there has been around biking on campus, bike sharing has finally reached its push and potential for development.

Bike Share Campus and Community Goals

Through the work I have been doing since June 2013 on bike sharing, I have been thoroughly involved with the bike sharing discussion at the University. Many departments and students have approached me to work with them on many different approaches of how to bring a bike share program to campus. Through much thought and careful consideration, I decided to create the CU Bike Share Task Force. The CU Bike Share Task Force is comprised of representatives from the City of Champaign, City of Urbana, Champaign-Urbana Mass Transit District, and Champaign-Urbana Public Health District. The CU Bike Share Task Force is a combine effort to bring a bike share program that not only will work within campus but also be scalable and work within the community as a whole. The task force and I have been working together in addressing bike sharing and how to create an equitable program for the University.

Smart Locks

I have explored extensively what the best approach for bike sharing would be for our campus and the community. No system available seemed practical or feasible to work within the Champaign-Urbana area. Most systems seen in Chicago or Washington D.C. would cost the community millions of dollars to install and without high demand of tourism; it would not be reasonable to propose. While working with the CU Bike Share Task Force, I approached them with the idea of smart locks. The locks contain all the technology for the bike-sharing program linked to a smart phone. The smart locks will allow for versatility in the type of bikes to use within the system and where the bikes could be located. The CU Bike Share Task Force was receptive to the smart lock idea and there has been effort to use this system to create an equitable community-wide bike sharing program.
Student Sustainability Committee Funding Proposal

Project Description

The Student Sustainability Committee (SSC) oversees 1.1 million dollars and funds various sustainability projects. In March 2015, I submitted a proposal to the SSC to create a two-year pilot bike share program using smart locks. This pilot program will be a 50 bike fleet with the use of smart locks. The smart locks currently being explored are through a company called BitLock. BitLock offers a keyless bike lock for a low cost bike sharing system. Smart locks offer options to use any type of bike for the system to address the multipurpose needs of participants. BitLock offers the flexibility of not needing a docking station, being affordable, having an easy check out system, different branding opportunities, and customizable membership plans.

Project Description

Below is a 50-bike plan overlooking initial costs and yearly costs of the program

<table>
<thead>
<tr>
<th>Program Costs for Two Year Pilot Program - Estimates</th>
<th>Set Up Cost</th>
<th>Yearly Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Bikes</td>
<td>25-200</td>
<td></td>
</tr>
<tr>
<td>Number of Plans</td>
<td>3 – First plan free, $100/month per additional plans</td>
<td></td>
</tr>
<tr>
<td>One-Time Activation Fee</td>
<td>$500</td>
<td></td>
</tr>
<tr>
<td>50 BitLocks</td>
<td>$98.50/lock</td>
<td></td>
</tr>
<tr>
<td>Stripe (transaction fee)</td>
<td>2.9% + $0.30 per charge</td>
<td></td>
</tr>
<tr>
<td>Payment Processing Fee</td>
<td>6.50%</td>
<td></td>
</tr>
<tr>
<td>Subscription Fee in the monthly plan</td>
<td>$15/bike/month or $150/bike/year</td>
<td></td>
</tr>
<tr>
<td>Number of Bikes</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>bikes</td>
<td>$400/bike</td>
<td></td>
</tr>
<tr>
<td>monthly tune up</td>
<td>$35/bike</td>
<td></td>
</tr>
<tr>
<td>annual tune up</td>
<td>$420/bike</td>
<td></td>
</tr>
</tbody>
</table>

*2,500 Check Outs – this is a guess that at least each bike will have been checked out 50 times over a one year period

**Annual Tune Up - include bare minimum tune ups for the bikes – does not include any external costs

<table>
<thead>
<tr>
<th>Program Costs for Two Year Pilot Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Bikes</td>
</tr>
<tr>
<td>2 (1 for anyone with an university ID, anyone who is visiting and would like to use the system)</td>
</tr>
<tr>
<td>One-Time Activation Fee</td>
</tr>
<tr>
<td>50 BitLocks</td>
</tr>
<tr>
<td>Stripe (transaction fee)</td>
</tr>
<tr>
<td>Payment Processing Fee</td>
</tr>
<tr>
<td>Subscription Fee</td>
</tr>
<tr>
<td>Number of Bikes</td>
</tr>
<tr>
<td>Bikes</td>
</tr>
<tr>
<td>Annual Tune Up**</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Bike Sharing

Total Costs

Operation Costs:

Active/Sustainable Transportation Coordinator or Student Intern through iSEE – This will not be asked from SSC

2-year Pilot Program Costs: $56,110 + 30,685 = $86,795

Operations

Neutral Cycle will be contracted to provide the initial bikes and maintenance of the bicycles. The Sustainable/Active Transportation coordinator will run the pilot program that F&S and the Transportation SWATeam have been advocating to hire. Otherwise, iSEE will recruit a student intern to run the program.

Pricing

$20 Annual memberships
Unlimited 2 hour trips - no additional charges

$5 24-Hour Pass
Unlimited 1 hour trips - no additional charges

<table>
<thead>
<tr>
<th>Annual Membership</th>
<th>Overtime Fees</th>
<th>24-Hour Pass</th>
<th>Overtime Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 hours</td>
<td>INCLUDED</td>
<td>0-1 hours</td>
<td>INCLUDED</td>
</tr>
<tr>
<td>2-3 hours</td>
<td>$1.00</td>
<td>1-2 hours</td>
<td>$2.00</td>
</tr>
<tr>
<td>3-4 hours</td>
<td>$3.00</td>
<td>2-4 hours</td>
<td>$4.00</td>
</tr>
<tr>
<td>4-8 hours</td>
<td>$5.00</td>
<td>4-8 hours</td>
<td>$10.00</td>
</tr>
<tr>
<td>8-24 hours</td>
<td>$10.00</td>
<td>8-24 hours</td>
<td>$20.00</td>
</tr>
</tbody>
</table>

Educational Plan

An education plan will be proposed to have students who wish to participate in the pilot program to have the option to waive the annual membership fee if completing an online bike safety quiz. League of Illinois Bicyclists (http://www.bikesafetyquiz.com/) offers a robust quiz with three different levels that will be used for this promotion.
Bike Sharing

Additional Considerations

There are many different considerations that were further suggested and analyzed for the SSC proposal. A student advisory committee will be selected if the grant is awarded so that the bike share program is inclusive and developed in the best interests for the students. A liability waiver will also need to be made to ensure the safety of the users within the system.

Future of Bike Sharing

In May 2015, the two-year pilot bike share program proposal was awarded an $86,795 grant from SSC to implement the program. The next steps are to understand after I leave who will oversee the development of the system and how to ensure a quality bike share program will be developed. Two undergraduate students will be hired as interns to develop the bike sharing program. The goal is to launch the bike sharing program in Spring 2016 and develop a two-year pilot bike sharing program from there. Moreover, the long-term goal for the campus system is to create a scalable system that could be built into the community as well. There are limitations to consider like the dependence of the system on smart phones and credit cards needed to access the system. These factors will be important to consider as the program further develops in constructing an equitable bike share program.

Lessons Learned

There have been many lessons learned when approaching this bike share program. I initially thought when first working on bike sharing that I could follow the three-tier approach proposed from the bike sharing feasibility study, but I quickly found that that incremental change was the wrong approach to focus on if there were to be a bike-sharing program at this university. Instead, it was important to focus on transactive planning because there was a larger discussion that needed to be had before approaching bike sharing in this three-tiered approach. In order to accomplish this the long-term goal would need to be established. For this case, the wrong path was being taken with an incremental approach because outside of the university bubble there were conversations beginning with community stakeholders on a community-wide bike-sharing program. I have been challenged to work with many different perspectives on bike sharing and to develop a system that would satisfy everyone’s needs. Through the work I have been doing for the last two-years, I have been able to push for the creation of this bike share program.

Impacts of Bike Fee & Bike Sharing

The impact the bike fee and bike sharing on our campus will be positive and aid in the University of Illinois becoming a more bicycle friendly university. Through the effort I have put in into these projects and others, I have helped in the contribution towards the iCAP and other campus goals towards sustainability. It is too early to measure the direct impact the bike fee or bike sharing will have, but I have full faith that the outcome will pay off towards reducing our carbon emissions.
Benefits

The benefits from investing into bicycling on campus range and affect everyone on campus. Non-cyclists and cyclists need to work together towards creating a safer and more bicycle friendly community because bicycling promotes better safety, health, environment, economy, and a more sustainable campus.

Safety Benefits

The safety benefits of investing in bicycling have shown that it significantly can reduce crashes and fatalities. The Champaign Urbana Urbanized Area Transportation Study (CUUATS) is a transportation entity at the Champaign County Regional Planning Commission our local MPO finalized the University Traffic Circulation Study in 2013. The analyzed various traffic patterns within the University and how it affects the campus. It found between 2006 and 2010 there were 162 crashes involving pedestrians or bicyclists. Bicycle crashes exceeded the number of pedestrian crashes each year and the highest number of bicycle crashes was recorded in 2009.

Figure 8 summarizes the pedestrian and bicycle crashes by year along with the crash-severity information.

![Figure 8: Pedestrian and Bicycle Crashes 2006-2010](image)

108 out of 162 crashes were at the intersections along Green Street, Springfield Avenue, Sixth Street, Lincoln Avenue, and Fourth Street corridors.

This information shows that pedestrian and bicycle crashes are not changing over the years, and neither has the bicycle infrastructure. Harris reported protected bike lanes reduce bike-related intersection injuries by about 75 percent compared to comparable crossings without infrastructure (Harris, 2013). This information shows the University needs to start investing in bicycle infrastructure to improve safety of students on campus.
Benefits

Health Benefits

There are many benefits from focusing on creating a more sustainable campus through active transportation. Studies have shown there is benefits on focusing on the importance of mobility and accessibility and the problems communities are facing from planning cities incorrectly. It is found that individuals need about 30 minutes of daily-recommended level of physical activity to stay healthy, but only 25% of Americans meet this recommendation. Which leads to about 365,000 estimated annual deaths from poor nutrition and lack of physical activity. Figure 9 demonstrates the more physically active an individual is then their risk of dying prematurely declines significantly. However, with the way communities are being built currently, as the numbers show, Americans are not able to reach these benefits if they are dependent on using their car as their primary mode of travel.

Figure 9: Physical Activity Relationship to Relative Risk
Recommendations

There is no easy answer for how to create change in any community that we are a part of. But how I decided to work within the University of Illinois was by focusing on my involvement on campus. I knew I wanted to create direct change for bicycling and decided to immerse myself in every possible way to do this. I began to volunteer with The Bike Project of Urbana-Champaign and other community events to gain a better understanding of the bicycle culture outside of the University. This allowed me to gain a clearer idea of how the decisions we make at the University affects the surrounding area. I became a member of BikeFace and the Student Sustainability Committee to understand how the students viewed bicycling on campus and to become better connected with students in asking for their support on my initiatives. I maintained my relationships with members of the Illinois Student Senate, so I could continue to stay in touch with the general student population and ask them for their support on different bike sharing initiatives as well. I volunteered to be a part of campus organizations like the Transportation SWATeam and Campus Transportation Committee to work with non-students of the University and how they viewed bicycling issues on campus and to ask for their support as well on my various initiatives. I was also fortunate to work as the Bicycle Planning Intern for F&S and currently work as the Sustainable Transportation Intern for iSEE. Both of these experiences have made substantial impact on my role in aiding to create a more bicycle friendly campus. Overall, all of these experiences have led me to have strong connections between all stakeholders and be recognized for the work I have been doing within the campus community.

Recommendations for the University to continue to build a more bicycle friendly campus will be to first hire an active transportation coordinator to implement the Campus Bike Plan. This individual will spearhead this plan and ensure campus puts efforts towards creating a more inclusive environment for bicycling. It will be important to continue strong engagement with students on campus to promote sustainable transportation options and to push for items the Bike Fee should fund. The University should plan to create and execute the bike sharing system for campus through the awarded grant and work with community partners to develop a community-wide bike share program. Further, the University should develop and implement a campus-wide survey to understand mode shift and to compare and contrast changes over time.
Reflections

This report highlights the two major projects I have spearheaded into creating a more sustainable and bicycle friendly campus. These projects highlight the importance of bridging the connection between being actively involved within the community in order to become the best planner and public health practitioner to build healthier and bike friendly communities. These highlighted campus efforts and UIUC bicycle initiatives were successful with hours of networking and relationship building. Through effective communication in sharing goals and desires for creating a more bicycle friendly university, it aided in shaping and helping to successfully implement the projects. Transparency was found to be key in ensuring effective communication, and it was important to learn from any mistakes. The UIUC bicycle initiatives were successful by understanding past initiatives and the work others have already put into the bicycling efforts. Lessons were further learned by sacrificing time to listen to stakeholders needs and being patient throughout all the projects. It is important to never lose stamina and always adapting to change when noticing problems. The important aspect from these experiences I learned was to never give up on what you believe is right.

Conclusion

The University of Illinois Urbana-Champaign still has a long way to go before it can truly call itself a bicycle friendly university. There are many problems, which need to be addressed and those will take time to develop. Through the work I have done with the bike fee and bike sharing, I have opened new doors towards the campus becoming more bicycle friendly. The bike fee will bring in new funding to fund bike-specific projects and ensure students will have a voice and be at the table for decisions on bikes on campus. Bike sharing will open doors for more accessibility and better mobility on campus by allowing easy access to bikes. Through all my work, it will be rewarding to watch the growth of this campus and how it will become even more bicycle friendly.
References


People for Bikes. (2015). Retrieved from People for Bikes: http://b.3cdn.net/bikes/e938eeb335fc0f6200_0vm6iaaaf.pdf

The Bike Project of Urbana-Champaign. (2015). Retrieved from The Bike Project of Urbana-Champaign: http://thebikeproject.org/


[Page left intentionally blank]