Bicycle Friendly Campus Initiatives
Indiana University Office of Sustainability
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Final Report

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Introduction

The Indiana University (IU) Office of Sustainability (IUOS) Bicycle Friendly Campus (BFC) Initiatives Summer Internship was created to increase bicycle access, awareness, and use on the Indiana University Bloomington (IUB) campus. As a bronze-level Bicycle Friendly University (BFU), awarded by the League of American Bicyclists (LAB) in Spring 2011, IUB looks to build on past success by developing innovative new programs in each of the five-E cycling categories: engineering, education, encouragement, enforcement, and evaluation/planning. By strengthening the University’s commitment to and program offering(s) in each of these five categories, the University hopes to one day earn platinum-level designation.

Prior to beginning my summer work with the IUOS, I spent one-on-one time with each of my internship mentors to refine my work plan and identify the three projects to which I would dedicate my time over the summer months. This exercise helped bring me up to speed on the campus bicycle programs currently in progress and the projects the previous academic year intern, Hannah Hunt, had recently completed. I came to realize that the responsibilities of an IUOS summer intern are vastly different from our academic year counterparts. Academic year interns are primarily focused on student engagement and activity planning. With most students away from campus over the summer months, summer interns must focus on planning and programmatic updates/revisions. That said, my overarching goal for this position was to execute my tasks in such a way that the results of my work can easily be handed off to the next academic year intern. By completing time intensive meetings, research, and program planning, the next academic year intern will begin their term with two comprehensive action plans ready for implementation.

I focused my internship on three initiatives: revamping our bicycle website, expediting the arrival of a bicycle sharing program for our campus community, and organizing the university’s first bicycle information fair. I chose these three initiatives because they offered broad impact to improve on-campus cycling for our entire campus community (students and faculty/staff alike), they will directly impact our ability to earn a silver or gold BFU designation, and they offer significant return on a comparatively modest investment.
Contents

Part I. Bicycle Sharing Program Case Studies and Recommendations

1. Introduction – Why bike sharing?
2. Case Studies
   a. viaCycle at Georgia Institute of Technology
   b. Yellow Bike at Northern Arizona University
   c. ZotWheels at the University of California Irvine
   d. VikeBikes at Portland State University
   e. B-cycle at the University of Wisconsin Madison
3. Planning
   a. Program Introduction
   b. Design
   c. Software
   d. Bicycles and Equipment
   e. Storage and Maintenance
   f. Management/Distribution
   g. Investment and Costs
4. Conclusion

Part II. Bicycle Website Recommendations

1. Introduction
2. Location
3. Structure/Organization
4. Content
5. Promotion
6. Tracking

Part III. Big Red Eats Green (and Bikes)

1. Introduction
2. Event Overview
Bicycle Sharing Program Case Studies and Recommendations

Introduction – Why bike sharing?
Bicycle sharing has grown enormously popular. What’s been commonplace in many European cities for well over a decade is now beginning to catch on in a handful of cities around the U.S. Short-term and one-way rental options make sharing programs very appealing to tourists and locals alike in major metropolitans like Washington, D.C. and New York City.

Bicycle sharing has an equally well-established presence on many college campuses throughout the country. College towns share many important attributes with their bustling urban counterparts that contribute to successfully implementing a bicycle-sharing program.

First, many college towns have a fairly captive audience, not unlike that of major metropolitan, only on a different scale. Most college students, faculty, and staff live within biking distance of their professional or academic destinations, putting them well within the reach of public transportation. Given this high percentage of last-milers (people whose commute is <1 mile), creating a bicycle-sharing program greatly increases the appeal of other alternative and public transportation options. Bicycle sharing and alternative transportation enjoy a fruitful symbiotic relationship when it comes to college towns and metropolitans, as the two in combination make for a simple, stress-free transportation option for would-be weary cyclists.

Second, parking is a premium at nearly every university. Many campuses were built without single-passenger commuters in mind. Thirty years ago, college students didn’t dream of bringing their own car with them to campus. What was the need? Everything you could want was available on campus or within walking distance. Likewise, most major metropolitan were thriving long before cars were invented. As the cost of parking permits, registration fees, and single-passenger infrastructure continue to rise, multi-modal commuting options begin to look comparably affordable. After all, parking garages leave a much larger void in a university or municipal government’s general fund than does a simple bicycle-sharing program.

Lastly, it’s very important to address traffic. Everyone hates it and it seems to be everywhere, even in a small college town like Bloomington. Traffic increases stress, lowers productivity, and is very costly to the health of citizens and the environment alike. Bicycle sharing opens the door to a vast array of alternative transportation options, many of which are very effective means of traffic suppression. That said, it’s important to view the issue from a high-level, macro perspective. Traffic management is about balancing demand and shifting the load. If bicycle sharing can encourage commuters to use public transportation, it will help reduce congestion on our streets and highways. The argument makes itself.

Biking is an efficient, healthy, and affordable transportation options for IUB students, faculty, and staff. Our campus and surrounding community make for an ideal location to take advantage
of these and many other benefits that come with biking for recreation and transportation. Home of the Little 500 bicycle race and recently designated a bronze-level Bicycle Friendly University for its efforts to encourage cycling, implementing a large-scale bicycle sharing program at IUB is a logical next step in further strengthening our alternative transportation resume. With the University awaiting the results of the recently commissioned campus transportation demand management study, now is the perfect time to begin laying the groundwork for creating a bicycle-sharing program in Bloomington.

While accolades and designations are not everything, they are important. They are important in attracting top-notch prospective students and faculty to the University. Further, the University’s commitment to sustainable development has become an important decision point for many prospective students. The importance of IUB’s bicycle friendly university designation cannot be ignored, nor can the value in receiving a higher designation be overlooked. Implementing a bicycle-sharing program will, almost assuredly, raise IUB’s designation by itself. After all, the vast majority of gold and platinum-level bicycle friendly universities have some form of a bicycle-sharing program in place.

There are two core challenges faced when implementing a new bicycle-sharing program on a university campus. Who will pay for the program and who is going to manage it? Bicycle sharing programs can be very expensive. Large-scale, automated programs like Capital Bikeshare in Washington D.C. can run cost many millions of dollars. Further, even the most automated solutions require considerable oversight and management, resulting in an even larger total expenditure both upfront and throughout the life of the program. That said, bicycle-sharing programs do not need to be prohibitively expensive. The universities featured in this report have each developed unique ways of making bicycle sharing feasible from both a financial and operational perspective.

This report was written to help the IUB bicycling community evaluate its options for bicycle sharing. It includes two core sections: case studies and planning. The case study section will examine five very different university bicycle-sharing programs in an effort to explore different options for bicycle sharing and begin to determine which would work best for IUB. The planning section includes some preliminary recommendations for how IUB might begin moving forward with the launch of its first sharing program.
Case Studies
A logical first step in launching a successful bicycle-sharing program at IUB is to review all of our options. There are many different ways to launch and operate a bicycle-sharing program. To begin this exploration process, this report includes a handful of case studies featuring universities from across the country that have active, thriving bicycle sharing programs. The case studies featured examine how each program was designed and include specifics as to how each program is funded and managed. Each sharing program was selected after reviewing the list of bicycle friendly universities and examining the unique design and structure of each program. The programs were selected to illustrate a handful of different program design formats that IUB may choose to model their future program after.

The following programs are featured in this section.

viaCycle at the Georgia Institute of Technology
Yellow Bike at Northern Arizona University
ZotWheels at the University of California Irvine
VikeBikes at Portland State University
B-cycle at the University of Wisconsin Madison
viaCycle at the Georgia Institute of Technology

viaCycle (http://www.viacycle.com) at Georgia Tech University was created by four graduate mechanical engineering students who, at the time of creation, were working in a university lab focused on sustainable transportation research. The students believed that the bicycle sharing technology in use by large metropolitans (e.g. Capital Bikeshare) did not fit the university due to its investment and infrastructure requirements. The students received a $50,000 one-time grant from the Ford Motor Company to begin developing the viaCycle technology.

The impetus for the students to create their own system stemmed directly from the desire to reduce the infrastructure and footprint required for a secure bicycle-sharing program. viaCycle is based on what the creators refer to as “bike share in a box” technology that places the locking mechanism on the rear hub of “rugged, urban bicycles.” User pedaling provides power for each bike’s locking mechanism. Bicycle locks communicate with viaCycle servers via GPS communication technology and are housed in armored casings attached to the bicycles where a rear rack would ordinarily go. This rear hub locking technology does not belong to viaCycle alone. A handful of other companies also offer this technology and typically require some sort of monthly membership or rental fee to access the proprietary network that links the bicycles together and remotely controls their locking mechanisms.

Georgia Tech students, faculty, and staff who want to unlock a viaCycle bike can do so by calling a phone number affixed to the bike or by accessing the check-out system using the viaCycle mobile application. The system also features the ability to locate the closest available bicycle by accessing the system from a computer or mobile device. viaCycle bikes come with an attached cable that is used to lock the bike. Once users attached the cable lock to the bicycle, like they would any ordinary bicycle, they can use the viaCycle mobile app to remotely “lock” the bike rear hub via the program network. This will ensure that the bicycle is still there once they return and will not be checked out by another user.
The viaCycle technology was created and pitched to Georgia Tech and the City of Atlanta by the student engineers. Shortly after, viaCycle received logistical and financial go-ahead to begin launching a full-scale program on campus and, in the near future, at various locations throughout the city. Georgia Tech and the City of Atlanta pay the viaCycle company for use of the bicycle sharing technology. Membership fees fund the on-campus portion of the program. Students, faculty, and staff have the option of registering as “free” members or as “prime” members. Prime members receiving additional usage benefits. Free members do not pay a monthly fee to use the service, but must pay for rentals that exceed thirty minutes. Prime members pay a monthly membership fee of $5.95 in exchange for an unlimited number of rentals lasting up to two hours in duration. The fee structure for both free and prime members is shown below. Rentals exceeding twenty-four hours are not permitted. Users who do not return the bike within the twenty-four hour period are charged $100 for each additional twenty-four hour period up to a maximum of $1000.

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The viaCycle program at Georgia Tech currently has 600 registered users and is expected to continue growing rapidly during the coming fall semester. To date, the program has experienced
very few instances of damage to or theft of the program bicycles. The locking mechanism and program server link bicycles to individual users while in use, allowing missing bicycles to be tracked back to their most recent user. This allows program operators to quickly pursue missing bikes. Program use terms prohibit users from checking out bicycles to non-registered program users. Registered users must review and agree to terms of use prior to being admitted to the program.

The viaCycle program is managed almost exclusively by viaCycle as a service paid for by the Georgia Institute of Technology. Since the program does not require permanent kiosks or any other physical infrastructure, it can be easily purchased and placed on a campus with relatively little long-term planning. viaCycle is far more involved on the operation side of bicycle sharing than are most bicycle sharing technology vendors. University employees manage many, and possibly most, campus bicycle-sharing programs. While viaCycle does offer their technology for purchase without additional management services, they highly recommend that schools view the system as a capital purchase that is to be maintained and operated by an outside vendor. viaCycle recently announced their second large-scale campus implementation to launch in 2013 at George Mason University in Fairfax, Virginia.

Yellow Bike at Northern Arizona University
The Yellow Bike program at Northern Arizona University (http://home.nau.edu/sustain/yellowbike.asp) is a very unique, homegrown approach to bicycle sharing. The catalyst for creating a custom program at NAU was in the University’s desire to create a bicycle-sharing program for students, faculty, and staff, but an inability to shoulder the enormously high fees associated with automated locking technology. The University believed that it could create a very successful program without succumbing to burdensome contracts that would lock them into multi-year deals with an external vendor.

In 2004, NAU’s Office for a Sustainable Environment (a precursor to the NAU Office of Sustainability, which exists today) began developing the concept for a bicycle-sharing program
along with student groups who were interested in creating operationally focused sustainability programs on campus. In 2007, after the creation of the Office of Sustainability, the University began purchasing bikes for the would-be sharing program. The initial concept was based on a free bicycle rental program available to NAU students called Yellow Bikes. The program used regular, beach-cruiser style bicycles that are checked out to students. The program does not use high-end, heavy-technology bicycles like most bike sharing programs. The yellow bikes purchased for the program average around $200 a piece. NAU purchases the bikes from a local bicycle shop and paints them bright yellow.

The creators of the program tout the fact that it is, and always has been, free to students. They strongly believe that the long term success of a bicycle sharing program is guaranteed by making it free to students, as the vast majority of students on campus are not interested in committing to any sort of a recurring monthly fee. Program managers liken a paid bike-sharing program to paying for a parking permit. If the sharing program is free, students will see a bicycle-sharing program as a vehicle alternative, not as something that should be used in conjunction with vehicular transportation. In their experience, NAU has found that when presented with a choice between vehicle transportation and bicycle transportation, most students will forgo the bicycle option.

NAU started the program by created a simple liability waver that students must sign in order to check out a bike. Students would come directly to a location where the bikes were stored, sign a waver, and they’d be on their way. The University quickly realized that in order for the program to have long-term viability, they must find a way to control issues of theft and bicycle security. As the program manager admits, under the original program structure, they were quite literally finding bicycles in trees and on the roofs of campus buildings. In 2008-2009, to keep the program alive, they began to institutionalize the program within their student affairs department. As part of this transition they centralized the storage and checkout of the bicycles, rewrote the
liability waiver to reflect the program’s new structure, and commissioned the creation of a bicycle checkout software program.

The new Yellow Bike program required students to swipe their student ID cards when checking out a bicycle. The yellow bike software program automatically captures the date and time of checkout and the student’s information. If the bicycle, lock, and helmet are not returned in good working order, the student’s academic account is charged a fee for replacement. In other words, the students can now check out a bicycle like they would a library book. This new program structure reduced theft, misuse, and damage to almost zero. Students are permitted to keep the yellow bikes for up to one week. Program managers have considered offering a green and yellow bike that students can check out for an entire semester. However, due to limited manpower for program management and bicycle maintenance, they have opted to keep the program limited to its originally form. The program currently has 150 bikes and three checkout locations.

One advantage to a yellow bike program is the program requires very little, if any, marketing as the bikes market themselves. The NAU program manager believed that if IUB purchased 100 bikes and painted them bright red, a program would catch on immediately. Program costs are pretty straightforward. NAU program startup costs included the following: bicycles, helmets, locks, bicycle checkout storage, and any bicycle storage fees incurred. Ongoing costs are limited to maintenance and staffing various checkout locations, which are typically managed by student interns paid a modest hourly wage. Setting aside program startup costs (e.g. purchasing the initial fleet, etc.), the sharing program is largely self-sustaining, as lost or damaged bikes/equipment are replaced with student fees.

ZotWheels at the University of California Irvine
The concept of bicycle sharing at UC Irvine began in late 2006. The University’s Associate Director of Transportation and Distribution Service, Ron Fleming, developed a concept for a bicycle-sharing program after seeing an automated stroller rental system in use at a local shopping mall. Two years later, in 2008, Ron approached the stroller checkout company’s owner, Jay Maher, about the possibility of designing a similar mechanism for checking out bicycles on the UC Irvine campus. Mr. Maher loved the idea and began working on a design that would use custom bicycles provided by the Collegiate Bike Company. Before long, UC Irvine in partnership with Jay Maher created the first automated bicycle-sharing kiosk in use on an American college campus. The program was named ZotWheels (http://www.parking.uci.edu/zotwheels/main.cfm).
UC Irvine envisioned creating a program that allowed many different users to use the same bicycle for short one-way trips. They believed this program model was much better suited to their campus community than a sharing program that allowed users to check out bicycles for longer periods of time. The ZotWheels program is very similar to the automated sharing programs in use in many metropolitan communities. UC Irvine, in essence, deconstructed this sharing model, and built a custom version of the technology. The ZotWheels system is run by a server that monitors when bicycles are checked out and returned. Students, faculty, and staff must register with the program before participating. To date, usage among various campus community groups varies from year to year. Currently, the program’s heaviest user group is faculty and staff, who make up approximately 60% of program ridership.

UC Irvine’s Parking Operations Division manages the program and is responsible for maintaining the automated kiosks and registering users. A privately owned bicycle shop located on campus performs all routine and non-routine maintenance on the bicycle fleet. The University pays the bicycle shop a fee per bicycle serviced, making it so they do not need to dedicate funds and space to a campus-owned bicycle maintenance center.
The University has a lot of pride in having created an automated system from scratch. When asked what the greatest benefit is in creating a custom system, the UC Irvine program manager said that the University now owns an asset, an asset that can be upgraded, built-on, and modified whenever they choose. They are not tied into monthly or yearly usage fees paid to an external vendor and can thus use incremental funds to improve their system. While creating a fully automated, custom system can be expensive, the program manager said that the University was surprised that it wasn’t more than it ended up costing. Estimated program design/startup costs are as follows: $130,000 for program design, $30,000 for 100 bikes, and $60,000 for construction. All told, the program cost approximately $220,000 at startup. Users must pay an annual membership fee of $40. Maintenance and other ongoing costs are included as part of the UCI Parking Operations annual budget.

**VikeBikes at Portland State University**
VikeBikes (http://www.pdx.edu/bikehub/vikebikes) is a long-term bicycle sharing program at Portland State University in Portland, Oregon. VikeBikes puts a unique spin on the typical collegiate bicycle-sharing program and was created by a group of PSU undergraduate students. The students received a small grant to fund program startup costs. The concept is simple. Similar to most large universities throughout the country, PSU collects hundreds of abandoned bicycles from bike racks and other places around campus each year. Approximately two in five of these bicycles collected are salvageable for the sharing program. The university’s on-campus bicycle shop, the BikeHub, cleans them up and makes any necessary repairs. Many of the bicycles that are salvaged from around campus are left behind by their owners simply because they had one or two parts stolen.
Once the BikeHub takes ownership of the abandoned bicycles, they make a maintenance assessment to determine whether or not the bike is worth trying to salvage. Typically, they will only salvage a bike if it can be refurbished for under $150. Holding to this repair limit is very important in keeping the program profitable. After some minor repairs and refurbishment, the BikeHub rents these bicycles to students for an entire term or as long as an academic year. Students pay a one-time fee of $45 per term for a bicycle, lock, front and rear lights, and a helmet. User fees are added to funds that come directly from the BikeHub budget to sustain the program. BikeHub funding comes from PSU Parking Operations and student parking fees. Since program bikes are freely acquired and maintenance costs never exceed $150 per bicycle, each VikeBikes is self-sustaining after three consecutive terms being rented. This, of course, does not include soft costs like BikeHub maintenance hours or maintenance supplies already owned by the BikeHub.

Students who wish to participate in the program must agree to and sign a contract that includes detailed program terms and conditions. This contract outlines the length of the rental term and possible replacement costs for each of the components being rented. The program currently owns twenty-eight bicycles, which it rents year round. Currently, for the summer term, twenty-five of the program’s twenty-eight bicycles are checked out. During the academic year, it is not uncommon for there to be a waiting list for students who wish to participate in the program.
VikeBikes is popular with students and faculty/staff alike, with many of the summer rentals coming from visiting faculty.

To date, VikeBikes has experienced very little theft or damage to their small fleet of rental bikes. Part of this is credited to holding the students financially accountable for any lost or severely damaged equipment, but the program's largest theft-abatement strategy is separate from the program's required contract. When students, faculty, or staff join the VikeBikes program, they received a free membership to the BikeHub. BikeHub membership gives program participants access to free maintenance tools/supplies as well as guided maintenance instruction from BikeHub staff. Participants also received free access to all BikeHub cycling classes. Program managers believe that offering this membership package encourages participants to keep up on routine maintenance, helping VikeBikes to avoid any major damage from equipment neglect.

VikeBikes program managers hope to grow the program in the coming year by acquiring more salvaged bicycles. When asked what the biggest challenged facing the program is, their response was storage. With a distinctly urban campus, storage space is very hard to come by, leaving them with few options for rapidly expanding the program.

B-cycle at the University of Wisconsin Madison
B-cycle is a nationwide bicycle-sharing program created by Trek Bicycles, Humana (a managed health care company), and Crispin Porter + Bogusky (an advertising agency). The company, based in Waterloo, Wisconsin and was designed as an off-the-shelf solution for cities and universities interested in creating a bicycle-sharing program, but lacking in the technical knowhow necessary to create a large-scale program. B-cycle offers a start-to-finish solution that allows cities to easily implement bicycle-sharing programs in a variety of sizes.
Trek Bicycle Donates B-Cycle Bike Sharing System to City of Madison

$2 million investment ensures citywide bike sharing will open in May

The University of Wisconsin at Madison was the fortunate recipient of a free bicycle-sharing program. Trek Bicycles company headquarters are located twenty miles outside of Madison. The company approached the city and campus about using the metropolitan region as a test area for the B-cycle concept. The city promptly agreed and Trek began building the program, covering all capital and operating costs that were not met by user fees and advertising revenue. The University has been closely involved in selecting several checkout kiosk locations. In addition, a handful of University departments have started paying for advertising on the kiosks.

B-cycle is a very expensive bicycle-sharing solution that is most appropriate for large metropolitan areas similar to the programs operated in New York City and Washington, D.C. Estimates of Trek’s investment in the Madison program alone exceed $2 million and only cover program startup costs for 350 bicycles and 35 checkout kiosks. Ongoing operating costs easily exceed $700,000 annually. A very similar program was launched in Minneapolis in partnership with the University of Minnesota. This program was funded by a one-time $25 million federal grant through the government’s Nonmotorized Transportation Pilot Project.
Planning
Bicycle sharing is an important part of IUB’s continued growth as a bicycle-friendly university and one that will most assuredly help to increase the University’s LAB designation ranking. LAB’s most recent list of recommendations for IUB included bicycle sharing. However, the LAB does not specify the type of bicycle-sharing program that will boost a university’s ranking. Their mission is to get more people on bikes, reduce single-passenger, vehicle-based commutes, and improve cycling infrastructure in communities, businesses, and universities across the country. Thus, a bicycle-sharing program does not have to be expensive and highly complex to be seen as a win in the eyes of LAB judges.

Bicycle sharing at IUB need not be an overly complicated endeavor. As you can see from the case studies provided above, there are many ways to offer bicycle-sharing services on a university campus, each with its own complexities and challenges. There are three factors to strive for when creating a bicycle-sharing program: simplicity in use, simplicity in management, and low cost (both startup and ongoing). For a bicycle-sharing program to be successful, it must be easy to use – no questions asked. Successful programs must choose between management complexity and cost. High-cost programs tend to be automated in design and require fewer man-hours to keep the program operating. Low-cost programs are typically low tech and require more physical oversight and attention to maintain service availability and functionality. In the absence of a very large donation or grant, many universities choose to go the low-cost, high-oversight route, which has created some of the most simple and successful sharing programs currently in existence.

To be frank, it is very unlikely that IUB will have the financial means to launch of large-scale, automated bicycle sharing program now or in the future. Programs like Madison B-cycle and UCI’s ZotWheels are very complex and expensive. On the low-end, IUB would spend somewhere between $200,000 and $300,000 to create an automated program, and this would only include thirty to forty bicycles and a handful of kiosks. With a student body and campus as large as IUB, three kiosks and forty bicycles will not work. For large-scale, automated sharing programs to succeed, kiosks and bikes must be available at all popular foot and vehicle traffic destinations, of which, IUB has far more than three. Thus, to effectively launch an automated sharing program, IUB would be need a program similar in size to that of Madison B-cycle, at more than $2 million in startup costs alone. The only feasible way to launch a program of this
size and complexity would be through the procurement of a sizable federal or private grant in the $10-15 million range. This sum would fund the program launch and the first 10-12 years of operation, giving the program plenty of time to catch on and become self-sustaining.

Similarly, given the current technology available, a rear-hub locking bicycle-sharing program is not the best solution for IUB. Rear-hub locking technology is fairly new to the bicycle-sharing scene. With fewer than six years in the market, this technology is offered by a select few companies who charge a hefty premium for its use. Most companies that offer this technology (e.g. ViaCycle or Social Bicycles) have proprietary control over their unique version of rear-hub locking mechanisms, meaning that universities or municipalities who wish to use the technology must sign onto a multi-year contract with the company. The bicycles themselves are usually not the most expensive program component; rather, it’s the computer/cellular software system that the program uses to track users and distribute bicycles. As IUB is well aware, multi-year contracts with rear-hub locking companies are expensive and untested. With so few proven university applications, it’s hard to know precisely how well this technology will perform and be adopted on a campus like IUB.

The one major exception to the challenges facing the automated kiosk and rear-hub locking bicycle sharing programs is if IUB is able to create its own version of either model, from scratch. This can be done as evidenced by UCI’s ZotWheels program. However, the time, effort, and investment required to build one of these programs is impossible to predict and most assuredly difficult to manage. That said, it’s not too far outside the realm of possibility to think that students (e.g. information technologists, engineers, and informatics specialists) could conceivably design a program from the ground up. The easiest way to move forward with this option is to find a small government or private grant to support a group of students who are interested in designing a program as a student-led initiative. Framing the initiative as student-led is critical in securing a grant large enough to sustain the endeavor. As you may recall, the ViaCycle technology was partially funded by the Ford Motor Company.

The beauty of bicycle sharing is that the best programs are often the simplest. Some of the nation’s most successful university bicycle-sharing programs are laughably simple in design and execution. After all, does it really make sense to spend upwards of half a million dollars on forty bikes and three kiosks when you can spend $75,000 on a fleet of 60 conventional bicycles that are manually distributed? One key advantage that universities have over large municipalities when it comes to bicycle sharing is the direct accountability of program participants. Universities can easily track down individual students by their campus ID card and number, making it very simple to keep a fleet of rented bicycles secure and in proper working order. Most, if not all, universities already use this same technology in the libraries, recreation centers, and student union centers to check out and sell a wide variety of supplies, equipment, and other products. With this technology already in place, why not extend it to bicycles?
The bicycle-sharing programs in place at Northern Arizona University and Portland State University demonstrate the most simple, practical, and cost-effective approach to bicycle sharing on a university campus. Both programs treat bicycles like library books and use student financial information and accounts to hold students accountable for borrowed equipment. These programs are simple to setup and easy to finance and maintain. The most feasible program for IUB is going to be a combination of these two program models with a few additional options available to faculty and staff. Below I will outline some of the key features of an IUB bicycle-sharing program.

**Design**

Program design is simple and, as mentioned above, functions very much like the University’s library checkout system. Students, faculty, and staff would use their University ID cards to checkout bicycles from designated checkout locations around campus. Along with a bicycle, users would receive a lock, helmet, and front/rear lights. Before their first checkout, program participants must read, agree to, and sign a document stating program terms and conditions that includes information about what will happen should the rented equipment be lost, damaged or stolen.

The checkout scenario would be as follows. A program participant would go to a bicycle checkout location (e.g. a parking garage, library checkout counter, UITS information desk, etc.) and ask to check out a bicycle. The employee working at the desk would scan the user’s ID card and check to see if they’ve completed the program registration. If they have, they would be given a key to a bicycle rack where the bicycles are being stored and a number for the specific bike being checked out to them. The user would then walk to the storage facility – this could be a rack located inside a parking garage, a rack outside the library, or elsewhere – unlock the bike and be on their way. Program members would have two rental options.

**One-week rental:** One week rentals are available to the entire campus community and would account for the majority of bicycles being distributed. A one-week rental strikes a convenient balance between giving the user enough time to use the bicycle as their primary mode of transportation, but not so much time that the bicycle will be neglected and more vulnerable to theft or damage. One-week rentals would be offered free to students, faculty, and staff for the first month of their membership as a trial period. After this month ends, program participants would be required to pay $50 each academic year for an unlimited number of one-week rentals.

**One-semester rental:** One semester rentals are ideal for experienced cyclists or would-be full-time bicycle commuters. The rental option is targeted primarily at students who want to have a bicycle with them on campus, but do not want to bring their personal bicycle from home. This is also a good options for faculty and staff members who wish to have a bicycle to store in their
office for frequent transportation to/from or our around campus. Faculty and staff members would have access to a third rental option: an hourly rental. One-semester rentals would cost approximately $50 per term for students, faculty, and staff.

**Short-term (hourly) rental:** Short-term rental bikes are available department-by-department and are collectively funded using the healthy change fund available to all university departments. Each department will have the option to vote to use their healthy change funds toward the purchase of a bicycle, rack, helmet, lock, and lights for their department’s exclusive use. This bicycle would become the property of each department and would be available for short-term, collective use. This rental option is ideal for departments whose members are mostly vehicle commuters, but would like to have access to a bicycle for impromptu trips across campus or for errands or appointments around town.

The chart below illustrates which user groups would have access to each of the three program options.

<table>
<thead>
<tr>
<th>Rental Option</th>
<th>Students</th>
<th>Faculty</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-week rental:</strong> one week rentals are ideal for participants who need a short-term transportation solution.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>One-semester rental:</strong> one-semester rentals offer a semi-permanent transportation option for participants who plan to use a bicycle as their primary transportation mode.</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Short-term (hourly) rental:</strong> individual departments manage short-term rentals, with bicycles being purchased collectively using employee health credits.</td>
<td>X</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Software**
The software used for the IUB bicycle-sharing program would be as simple or as complex as desired by the program managers. For a simple version, the program must offer the following functionality:

- **Track Rental Fleet:** maintain a running tally of how many bicycles are in operation, currently available, currently checked out, and in need of repair or replacement. Each bicycle and piece of equipment (helmet, lock, and light) will have a unique barcode that will be used to keep a current list of program assets.
• **Track Program Members**: once program participants accept and sign the program terms and conditions, they are official program members, regardless of whether or not they have checked out a bicycle. The software must maintain a current list of all program members.

• **Track Bicycle Checkouts**: the software must allow program members to swipe their University ID card when checking out equipment. The software will assign individual pieces of equipment to a specific program member.

• **Track Checkout and Due Dates**: the software must keep track of the date, time, and location where each piece of equipment was checked out and automatically record when the equipment is due back.

• **Email Reminders**: program participants will receive an automatically generated email when equipment is checked out, nearing its due date, returned, and past due. Each of these emails will include links to program terms and conditions for quick and easy reference.

For a more complex version of the program, it may include the following:

• **Online** program registration for students, faculty, and staff.

• **Ranking of** the most popular checkout locations.

• **Identification of** program power users who would qualify for additional benefits due to frequency of use.

• **Bicycle maintenance tracking** to monitor bicycle condition based on age and use. This feature would also send maintenance reminders to program managers.

The program software would likely need to be created in conjunction with UITS. I would recommend offering a small stipend for a graduate student who is interested in partnering with UITS to develop the software. Northern Arizona University paid a graduate student $2,000 to design and development their program software and have expressed a willingness to discuss some of the application specifics with a group of developers from IUB.

**Bicycles and Equipment**

Program bicycles may be acquired through a couple of different methods. First, I recommend that the majority of bicycles be procured via the Little 500 contract with Schwinn Bicycles. These Little 500 bicycles are ideal for the IUB campus terrain and the program’s desire to keep maintenance costs down. Their simple design and mechanics make them easy to repair and cost-effective to maintain. Program equipment (helmets, lights, locks, maintenance tools) should be procured through one of the local, Bloomington-based bicycle shops.

Another means of procuring bicycles is from parking operations in lieu of the bi-annual bicycle auction. Concerns were raised in the most recent bicycle steering committee meeting from a
local bicycle shop owner about the condition of the bicycles being auctioned. She said that shortly after each bicycle auction, a wave of students come in with bicycle maintenance needs that far exceed their budgets. Students are frequently disappointed to learn that their “new” bicycle needs a couple hundred dollars worth of maintenance to be safely operable. In addition, there is reason to believe that students are overpaying for bicycles at the auction. Swept into the auction mentality, students over pay for bicycles far past their functional prime.

Bicycles acquired from parking operations must be carefully screened to determine whether or not that can be made safe to ride for as little investment in maintenance as possible. I recommend that bicycles only be accepted into the sharing program if they can be made ride ready for less than $100. A trained technician must carefully screen bicycles before they are accepted into the program. Bicycles not accepted into the program must be recycled or salvaged. Under no circumstances should these rejected bicycles be resold or otherwise released back into the student community.

Storage and Maintenance
Bicycles and other program equipment will be stored at a number of different locations around campus. I recommend identifying two to three distribution locations and at least one central storage facility. The storage facility will likely double as one of the checkout locations. Distribution centers should be located in areas of heavy student, faculty, or staff foot traffic and very close to the location of the individuals who are tasked with checking out the bicycles. These distribution centers are a very important program component and should be thoughtfully placed and designed. I recommend parking garages as a possible storage facility. Take for example, the Fee Lane Garage. Bicycles could be checked out at the SPEA/Business Information Commons and stored at the adjacent garage. Program participants would check out a bicycle from the library counter, receive their helmet and equipment, and be given a key and a number that corresponds to a bike on the racks located in the garage.

No less than 20-30 bicycles should be kept at any one distribution location, depending on the level of inventory each location can support. Extra bicycles will be stored at the central storage facility. As the program develops and the more popular checkout locations are identified, shifting of bicycle inventory from one location to another may become necessary. Bicycle transportation will be done via truck. Truck support for inventory shifting and balancing will be provided either by the campus bus service or parking operations.

One central location should be selected and used as a maintenance hub. The maintenance hub may also double as a storage facility and/or distribution location, depending on space. To start, the maintenance facility should only provide maintenance in support of the bicycle-sharing program, not to privately owned bicycles and equipment. Once the program has had enough time to develop and program managers can better assess the level of maintenance necessary to support
the program, the maintenance center may consider offering its services to the wider campus community for a fee. Fees collected from maintenance should be put back into the bicycle-sharing program.

Management/Distribution
IU Outdoor Adventures will manage program management and bicycle distribution with the assistance employees at various libraries, parking garages, and UITS information desks, depending on the location of the bicycle storage facilities. Bicycle distribution will be offered during operation of the checkout facility. For example, if one of the checkout locations were to be the Business/SPEA Information Commons, checkout hours would correspond with the library front desk hours. Maintenance hours will be required on an as-needed basis with enough hours to keep the program operating.

When bicycles are returned, they can be locked up at any of the distribution locations. The user’s helmet and equipment must then be returned to the adjacent checkout desk. The on-campus organization that agrees to participate in the program as checkout clerks (e.g. IU Library, UITS, Parking Operations, etc.) must be willing to allow their employees to leave the building temporarily to verify that the bike has been returned and is in reasonable good working condition. Bicycle mechanics will make a final assessment on whether each bike was returned in proper working condition and if any damage is to be charged to the student’s account.

The bicycle-sharing program will launch with approximately sixty bicycles. Forty-five of these bicycles will be for the weekly rentals and fifteen will be for semester long rentals. All weekly rental bikes will be painted bright red, while semester rentals will be painted with red and white stripes. The bicycle colors will help program staff differentiate between the two rental types and will help to generate buzz and excitement for the program.

Investment and Costs
Program costs are divided into two categories: startup and ongoing. Startup costs will account for the majority of program expenses, as bicycles and maintenance equipment must be absorbed before user fees are collected. Startup costs provided by IUSA should sustain the program through startup and at least the two years. After program launch, the program should be mostly self-sustaining with the occasional period of increased maintenance supplies or loss of equipment inventory. Please note: the following costs are estimates and will need to be evaluated and confirmed prior to program launch.

Anticipated startup costs include:
Bicycles (50-60 at approximately $250 a piece) $15,000
Program Software and Technology Supplies $10,000
Helmets (50-60 at approximately $39.99 a piece) $2,399.40
Lights (50-60 at approximately $39.99 a piece) $2,399.40
Locks (50-60 at approximately $34.95 a piece) $2,097.00
Maintenance Equipment $10,000
Total: $41,895.80

**Anticipated yearly program costs include:**
Student Program Management Stipend (2 at $2,000) $4,000
Student Mechanic Stipends (2 at $1,000) $2,000
Maintenance Supplies $6,000
Total: $12,000

Program costs should remain fairly constant depending on how many new bicycles are acquired from parking operations, as these bicycles will require approximately $100 a piece to refurbish. The number of hours each bicycle rental location is open will significantly influence the program budget. Rental hours should be limited for the first year of program operation to help keep costs down. As the program matures, additional rental hours may be supported from maintenance fees collected.

**Conclusion**
Bicycle sharing at IUB is a logical next step in the University’s development as a bicycle-friendly institution. Creating a bicycle-sharing program is a fun and exciting way to generate new interest in bicycle commuting among student, faculty, and staff populations here in Bloomington. Successfully launching the simple bicycle-sharing program described above is a solid first step toward one day creating an automated, large-scale sharing program that may include the larger Bloomington community. By successfully implementing a simple bicycle-sharing program, IUB bicycle advocates can begin to build a solid business case for why investment in a larger program would be valuable to the University. Developing a strong base of program participants will speak volumes toward the potential of a large-scale program.

Launching a simple, library-like sharing program will help the University achieve its desired silver or gold-level designation from the League of American Bicyclists. Further, it will help the City of Bloomington achieve is goal of reaching platinum. By taking this first step, IUB is proving to its competitors and prospective students, faculty, and staff that it is committed to providing sustainable transportation options on campus. It is proving its commitment to reducing the University’s carbon footprint and increasing the health and well-being of our entire campus community.
Bicycle Website Recommendations

Introduction
Launched in Spring 2012, the Indiana University Bloomington (IUB) bicycle transportation website is a central repository for bicycle-related information, resources, and news for students, faculty, and staff. Shortly after the nation’s first bicycle-friendly universities were announced in early 2011 by the League of American Bicyclists (LAB), university bicycle websites began cropping up at institutions around the country. Today there are dozens of university bicycle websites, each boasting their own unique features and resources aimed at making cycling easier and more convenient for their respective campus communities.

The purpose of this report is to present a set of recommendations for improving the existing IUB bicycle transportation website. Implementing these recommendations will greatly improve the accessibility and user experience of the website and will elevate IUB’s status as a bicycle-friendly university.

Contents
This report is divided into five topical areas, each addressing unique website topics. The sections listed below are complementary, but do not require simultaneous implementation.

I. Location
II. Structure/Organization
III. Content
IV. Promotion
V. Tracking
I. Location
Currently, the IUB bicycle transportation website is a subpage of the IU Office of Sustainability (IUOS) homepage. University bicycle websites vary greatly in where they are located within their respective university websites. Many are part of university transportation websites; some are part of student association, parking, or capital planning websites. Still others are independent and not housed within any other university program or department website.

The IUB bicycle transportation is housed within the IUOS website because it is one of the IUOS’s core programs and areas of focus. This is unique among university bicycle websites, with few, if any, controlled exclusively by a sustainability department. This unique position provides the IUB bicycle website with a high-degree of flexibility not afforded to most bicycle websites. Furthermore, this location elevates cycling above being considered one of many alternative transportation options to being seen as a university-wide commitment to community health and the environment. In order to avoid relinquishing this direct control, the IUB bicycle transportation website should remain under the guise of IUOS.

However, IUOS should consider creating a _____.indiana.edu URL redirecting to the bicycle website. A simple URL such as bicycle.indiana.edu would be more optimized for search and attract users who do not know about the IUOS.

http://www.bicycle.indiana.edu
*redirecting to*

http://www.indiana.edu/~sustain/bicycle

To begin the process of establishing a permanent URL redirect on bicycle.indiana.edu, the IUOS must first contact University Information Technology Services (UI TS) via this email address: iuhome@indiana.edu. UITS will walk you through the entire process; there may be certain fees associated with creating a new domain and URL redirect.
II. Structure and Organization
The existing IUOS website is in the process of being redesigned and redeveloped. One of the fundamental goals of this redesign is to increase the visibility and accessibility of the office’s eight working group. The bicycle website is a central component of the transportation working group’s mission and focus and will be a prominent feature on the new IUOS website.

One of the core challenges facing the IUB bicycle transportation website is the abundance of bicycle information available on various Indiana University (IU) websites. A quick search of “bicycle at Indiana University” on Google returns the following results:

- IU Parking Operations: Bicycling at IU (http://www.iubus.indiana.edu/parking_operations/alt_bicycling.aspx)
- IU Cycling Club (http://www.iucycling.com/)
- Sustainability Office: Bicycle Map (http://www.indiana.edu/~sustain/bikemap/)
- IU Police Department: Bicycle Theft Prevention (http://protect.iu.edu/police/bikes)
- IU Cycling Blog (http://iucycling.blogspot.com/)

The abundance of bicycle information sources available to the IUB community is not, in and of itself, a problem. The number of organizations on campus talking about cycling and providing valuable resources for cyclists are a testament to its prominence in our community. The problem is that the IUOS bicycle transportation website is not featured prominently in Google and does not currently house all of the information available on each of the websites listed above. The primary goal must be to evolve the current bicycle website so that it is an all-encompassing repository of bicycling information and resources.

By ensuring that content on the bicycle transportation website is intuitively organized, users will see that accessing information on our website is quicker and easier than on other related websites.

Core Navigation
The core navigation is the primary means by which users will access content on the bicycle website. The bicycle website core navigation will be a secondary path beneath the program menu on the new IUOS website. The bicycle website navigation path will likely be as follows:

IUOS Homepage > Programs > Transportation > Bicycle Friendly Campus Initiatives
Currently, the bicycle website is comprised of eight pages. At first glance, users may notice these eight pages do not fit together in a hierarchical structure. In other words, some pages are content buckets (housing many different topics), while others are single-issue pages (housing one topic). For example, the “Links” page is a content bucket, whereas the “Steering Committee” page is a single-issue page. When focusing on the creation of a logical user experience, it’s best to ensure that all pages are consistent in terms of hierarchical structure. Most content heavy websites will find that establishing a core set of content bucket pages will keep information organized and ensure that users can quickly and logically access the information they are seeking.

The following information graphic lists the current and proposed bicycle menu structure. The new menu structure will replace the existing menu structure.

<table>
<thead>
<tr>
<th>Existing Pages</th>
<th>New Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome</td>
<td>Overview</td>
</tr>
<tr>
<td>Parking Operations</td>
<td>Education</td>
</tr>
<tr>
<td>Keep Your Bike Safe</td>
<td>Campus</td>
</tr>
<tr>
<td>Biking Tips</td>
<td>Community</td>
</tr>
<tr>
<td>Maps</td>
<td>News &amp; Events</td>
</tr>
<tr>
<td>Links</td>
<td>Contact</td>
</tr>
<tr>
<td>Steering Committee</td>
<td></td>
</tr>
<tr>
<td>UBIke</td>
<td></td>
</tr>
</tbody>
</table>

### III. Content

Content is the single most important aspect of the IU bicycle website and the primary focus of this report. Users are attracted to excellent content that is easy to access. As some usability experts say, “Content is king!” In order to create an effective user experience, the bicycle website must strike a delicate balance between having enough useful and current content to keep users coming back to the site and not having text for the sake of text and risk drowning users before they can access the information they are seeking.

Included below are detailed descriptions of each page. Most pages on the site will house a few “subpages.” However, to avoid creating a site with more than three pages levels (a usability best practice), it is best for this fourth level to be distinguished using text-based links and anchor tags instead of a new page. For example, the Stanford University bicycling website uses text-based links and anchor tags for their entire site. Please note, the Stanford bicycle website is made up of only one page (pictured below). The new IU bicycle website will use anchor tag functionality on five of its six pages (excluding the Overview page).
Overview

When users select Bicycle Friendly Campus Initiatives from the list of IUOS programs, the first page displayed will be the Overview page. The Overview page functions as a web-based brochure that provides some general information about bicycling at Indiana University and encourages users to explore the other bicycle website pages. In order to maximize effectiveness of the Overview page, page copy must be concise, informative, well written, and casual. Sticking to a professional, but personable copywriting style throughout the bicycle website will be well received by students and faculty/staff alike.

The greatest challenge facing the bicycle website is the number of disparate audiences it must serve. Audiences include, but are not limited to: students, faculty, staff, community members, prospective students, and prospective faculty/staff. Fortunately, with a few exceptions, these disparate user groups are looking for one of two things. First, for current members of the IUB campus community, they want to find information and resources that will facilitate safe and fun biking on campus. Second, for prospective members of the IUB campus community, they want to get a sense for campus bicycle culture and accessibility.

Suggested Page Copy

Welcome to the Indiana University Bloomington Bicycle Transportation Website. Biking is an efficient, healthy, and affordable transportation option for IUB students, faculty, and staff. Our campus and surrounding community make for an ideal location to take advantage of these and many other benefits that come with biking for recreation and transportation.

Home of the Little 500 bicycle race and the Academy Award-winning movie *Breaking Away*, Indiana University Bloomington has a rich bicycling history. In 2010, the League of American Bicyclists designated IUB a bronze-level Bicycle Friendly University for its efforts in encouraging cycling.

Whether you are a current IUB student, faculty, or staff member or are considering making IUB your academic or professional home, we hope this website will serve as your comprehensive guide to biking on campus. Novice or seasoned veteran, there is something for everything when biking on campus or in our surrounding community.
**Additional Content**
The Overview page should include a couple images of cycling on the IUB campus as well as the League of American Bicyclists bronze-level Bicycle Friendly University logo. Suggested images are included below.

![Cycling Images]

**Education**
The education page provides visitors with a wide assortment of cycling education resources. This page will include information on a variety of topics and will include embedded videos and links to external resources. Each of the videos provided below should be embedded on the bicycle education page.

**Suggested Categories, Page Copy, and Content**
Safe and enjoyable biking begins before you get on your bike with proper education and training. Safe biking on and around the IUB campus is our greatest priority. There’s nothing that makes a cyclist feel more confident than fully understanding how their bike works and how to navigate safely on streets and paths. This page includes a variety of resources to help you ensure that your bike is in proper working order and that you are up-to-date on all of the latest safe biking skills and techniques.

**Training Categories:**
- Basic Bicycle Knowledge
- Purchasing a Bike
- Sizing and Customizing Your Bicycle
- Maintenance/Repairs
- Theft Prevention
- Riding Technique
- Avoiding Cars and Pedestrians
- Storing Your Bike
Basic Bicycle Knowledge
Need to brush up on your bicycle knowledge or acquire some basic biking vocabulary? If so, check out the following resources and you’ll sound like a pro in no time.

Videos:

How to Identify Bike Parts
(http://www.youtube.com/watch?v=17O1RFjTbtY&feature=plcp)

Links:

A Short Course In Bicycle Anatomy
(http://www.bicycle-riding-for-boomers.com/bicycle-anatomy.html)

List of Bicycle Parts
(http://en.wikipedia.org/wiki/List_of_bicycle_parts)

An Introduction to Cycling

Purchasing a Bike
Purchasing a bicycle can be an intimidating endeavor. Purchasing a used bicycle can be downright risky. These resources will help you navigate these challenging waters. Read up and make smart purchasing decisions at the next IU Parking Operations bicycle auction.
Videos:

*How to Choose a Bike*

(http://www.youtube.com/watch?v=w-uXizovCEE&feature=plcp)

*How to Determine the Correct Frame Size for a Bike*

(http://www.youtube.com/watch?v=exU6Mj-hlXE&feature=plcp)

*How to Buy a Commuter Bicycle*

(http://www.youtube.com/watch?v=DmDcMcyIvg0&feature=plcp)

*How to Buy a Mountain Bike*
How to Buy a Racing Bicycle

Links:

A Beginner’s Guide to Buying a Bike
(http://www.active.com/gear/Articles/A-Beginner_s-Guide-to-Buying-a-Bike.htm)

Buyer Be Wise
(http://www.bicycling.com/maintenance/bike-fit/buyer-be-wise)

Another Beginner’s Guide to Buying a Bike
(http://www.bikeradar.com/gear/article/beginners-guide-to-buying-a-bike-30635/)

How to Buy a Great Used Bicycle
(http://www.mnn.com/green-tech/transportation/stories/how-to-buy-a-great-used-bicycle)

Sizing and Customizing Your Bicycle
Want to avoid injury and set yourself up for success while biking? Start with sizing. A properly sized bicycle will enable pain and injury free riding. It will also enable you to quickly react to rapidly changing road and traffic conditions.
Videos:

*How to Customize a Bike*
(http://www.youtube.com/watch?v=CNwEQGmWmYJk&feature=plcp)

*How to Install a New Bike Seat*
(http://www.youtube.com/watch?v=ni20NKKe0GY&feature=plcp)

*How to Size a Bicycle*
(http://www.youtube.com/watch?v=R1L07e4GgMA)

*How to Fit Your Bicycle Helmet*
Links:

What Size Bike Do I Need?  

A Revisionist Theory of Bicycle Sizing  
(http://sheldonbrown.com/frame-sizing.html)

**Maintenance/Repairs**
A clean and well-maintained bicycle is a happy bicycle and will take you many miles. Love your bike. Protect it. Learn some basic maintenance and repair techniques and your bicycle with love you back for many years to come.

Videos:

*Basic Bicycle Maintenance*  
(http://www.youtube.com/watch?v=cY7b_ny9Als)

*Fixing a Flat Tire*
Basic Bicycle Chain Maintenance

http://www.youtube.com/watch?v=qICbxfC6R3Y&feature=plcp

How to Adjust Bike Brakes

http://www.youtube.com/watch?v=OoZPk0VvDnA&feature=plcp

How to Repair Bike Problems on the Trail

http://www.youtube.com/watch?v=hg6s596PPRY&feature=plcp
Links:

Basic Bike Maintenance
(http://www.rei.com/expertadvice/articles/bike+maintenance.html)

Bicycle Maintenance and Riding Tips
(http://www.bitrot.de/bbook_intro.html)

Basic Bike Maintenance
(http://www.ctc.org.uk/resources/Training_and_Education/CTC_Leaflet_Basic_Bike_Maintenance.pdf)

**Theft Prevention**
Nothing is worse than returning to the bike rack only to find your thin cable lock cut and your bike gone. Worse yet, getting components stolen can inhibit your ability to ride safely. Learn how to securely lock up with the resources below.

Videos:

*Bike Security*
How to Lock Your Bike

Links:

Buyer’s Guide to Bike Locks
(http://www.bikeradar.com/fitness/article/buyers-guide-to-bike-locks-20408/)

Proper Locking Technique
(http://www.sfbike.org/?theft_locking)

Lock Strategy
(http://www.sheldonbrown.com/lock-strategy.html)

Riding Technique
Want to increase your cycling endurance and make biking a little easier? Take some time to review these riding technique basics to ensure your ride is safe and smooth.
Videos:

*Bicycle Shifting Technique*

(http://www.youtube.com/watch?v=1sJxQrVS0KY)

*How to Start and Stop Your Bike*

(http://www.youtube.com/watch?v=72Gr0-EmsHM&feature=plcp)

Links:

A Complete Idiot’s Guide to Bicycle Gears & Shifting
(http://coachlevi.com/cycling/complete-beginner-guide-to-bicycle-gears-shifting/)

How to Effectively Shift Your Bicycle’s Gears
(http://www.intownbicycles.com/how-to/articles/index.php?a=how-to-effectively-shift-your-bicycles-gears)

Breaking and Turning Your Bicycle
(http://sheldonbrown.com/brakturn.html)
Proper Braking Technique
(http://bikenoob.com/2011/06/02/proper-braking-technique/)

Avoiding Cars and Pedestrians
As much as we’d love to ride on sidewalks, it’s just not possible. Learn the basics of bicycle commuting to ensure complete safety when biking near cars and pedestrians. These resources are a must for cyclists riding around Bloomington.

Videos:

An Introduction to Bike Commuting
(http://www.youtube.com/watch?v=Tbu3fWjYeRY&feature=plcp)

Bike Commuting: Situations to Consider
(http://www.youtube.com/watch?v=hX438XN-Z-U&feature=plcp)

How to Use Hand Signals Safely While Cycling in Traffic
How to Bike in a Busy City

Links:

Top Ten Commuting 101 Articles
(http://www.commutebybike.com/cats/commuting-101/)

Ten Secrets to Cycling with Traffic
(http://adventure.howstuffworks.com/outdoor-activities/biking/ten-secrets-to-cycling-with-traffic.htm)

Cycling & Traffic Skills
(http://www.bikesense.bc.ca/ch4.htm)

Storing Your Bike
Storing a bicycle doesn’t have to be a headache. The following resources will show your some cool, trendy, and secure ways to store your ride. If you are a student living on campus, be sure to check with RPS before implementing any of the storage methods described below.
Videos:

_How to Store Your Bike Creatively_
(http://www.youtube.com/watch?v=CmxdgOxZ_Kw&feature=plcp)

Links:

How to Store Your Bicycle
(http://www.performancebike.com/bikes/Content_10052_10551_-1_StoreYourBike)

3 Chic Ways to Store Your Bike Indoors
(http://www.casasugar.com/How-Store-Your-Bike-Indoors-16798182)

_Future Education Features_

The following features were identified as part of the competitive university bicycle website audit.

Bicycle classes and webinars would offer a fun and interactive way for students, faculty and staff to acquire additional cycling skills. Classes and webinars should be free or low-cost to encourage participation.

Stanford University offers bicycle training for interested individuals and those who would like to get a cycling citation fee reduced or eliminated.
Bike education opportunities

Bike Safety & & Bicycles classes
Fix your bike ticket! In lieu of paying a fine or going to court for a bicycle citation, you may opt to participate in the Bicycle Diversion Program sponsored by the Stanford Department of Public Safety and Parking & Transportation Services.

This program is available only during the first 30 days from the date the citation was issued. After that time period, the citation will be sent to the court for normal processing. You may re-take this class after 18 months, just like drivers' traffic school. If you have any questions, please contact SPDPS during office hours at (650) 723-9633.

- Call (650) 723-9633 or check the Bicycle Programs page of the Department of Public Safety website for the date, time and location of the next available bicycle safety presentation.
- Enroll and attend a 60-minute bicycle safety presentation put on by the Department of Public Safety and Parking and Transportation Services. You can register online at the Department of Public Safety website.
- Bring the certified card, your copy of the citation, and a picture ID to the presentation.
- Correct and have a deputy sign off any license or mechanical violations prior to attending the safety presentation.
- If you complete the program within the 30-day period, the bike citation will be dismissed.

Read the Stanford Report article on the program.

Bike Repair Clinics at the Campus Bike Shop
- Professional bike mechanic on duty to answer questions
- Tools and stand available for your use

Learn How to Ride a Bike
Never learned how to ride a bike? We can teach you. Most people can learn the basics of riding a bike in two hours. Send an email to bike-information@stanford.edu to be notified when the next class will be held.

(http://transportation.stanford.edu/alt_transportation/BikingAtStanford.shtml#bike-ed)

The University of Washington offers free webinars on a variety of bicycle-related topics.

(http://www.washington.edu/facilities/transportation/commuterservices/node/721)

Campus
The campus page is a complete guide to cycling on the IUB campus. This page will house a comprehensive list of bicycling at IUB topics.
Suggested Categories, Page Copy, and Content

Campus Bicycle Map
Bicycle Parking and Security
Bicycle Registration
End Trip Facilities
Bicycles on Public Transportation
Renting Bicycles
Buying Used Bicycles on Campus
Resources/Advocacy Organizations
Bicycle Education Opportunities
Events
Bicycle Updates/Notifications

Campus Bicycle Map
The Indiana University Student Association created a web/mobile application to help pedestrians and cyclists find safe routes between buildings on the IUB campus. The application can be accessed via the following link:

http://www.indiana.edu/~sustain/bikemap/

For bicycle routes and maps of the greater Bloomington community, please visit the Bicycle Route Information section on our Community page.

Bicycle Registration
Indiana University Parking Operations is responsible for bicycle registration, regulation, and rule enforcement on the IUB campus. If you have questions regarding these topics, (e.g. How long you can leave your bike unattended on a campus bicycle rack? Answer: One month with a valid bicycle permit.) you may contact Parking Operations at (812) 855-9849 or visit their website.

Interested in supporting cycling on the IUB campus? Buy a bicycle permit!

If you plan to park your bicycle on campus, university regulations require that you register and display a valid bicycle permit. A bicycle can be a major investment, so be sure to protect it by registering with Parking Operations as soon as possible. Registration may prevent ticketing and impoundment, aids in the recovery of lost or stolen bicycles, and can help with accident victim identification. The one-time registration fee of $10.00 goes directly to improving bicycle facilities and infrastructure on campus.
Applications for bicycle registration are available at the Parking Operations office located in the Henderson Parking garage. You’ll need the following information to register your bike:

- Owners name, address, and telephone number
- University ID number (for IU students and employees)
- Bicycle make, style, number of speeds, color, and any distinguishing features/marks
- Bicycle serial number

Please note: the $10 bicycle registration fee is a one-time fee for as long as you own your bike. If you purchase a new bicycle, you will need to pay another $10 fee for registration.

**Bicycle Parking and Security**
Cyclists will have no trouble finding a place to park their bicycle on the IUB campus. Visit the IUB Bicycle Rack Map to see exactly where each rack is located.

You can rest assured that when riding to the following campus buildings, there will be plenty of bicycle parking waiting for you:

- Ballantine Hall
- Franklin Hall
- HPER Building
- Jordan Hall
- Psychology
- SRSC
- Sycamore Hall
- Education Building
- Geology
- Indiana Memorial Union
- Library (Main)
- School of Music
- SPEA
- Woodburn
You can find these buildings using the IUB interactive campus map.

Please remember that you must have your bicycle permit properly displayed to park your bicycle on campus. Parking is only allowed at bicycle racks.

Please do NOT park your bicycle in the following locations:

- Inside administrative or classroom buildings
- In stairwells or hallways of residence halls
- On sidewalks
- Against or fastened to any tree, bush, plant, or other foliage
- Chained to or rested against disabled ramps, light poles, telephone poles, handrails, bus shelters, university signs, benches, trash receptacles or fences.
- Against or fastened to any water, steam, or gas pipe or any electrical fixture or emergency device.

Disobeying these parking guidelines will result in your bicycle lock being cut and your bicycle being impounded. Parking Operations and Parking Enforcement will not be liable for locks/chains that are damaged during impoundment.

**End Trip Facilities**
Shower and locker room facilities are available at two locations on the IUB campus.

**Student Recreational Sports Center (SRSC)**
1601 Law Lane
(812) 855-7772
Monday - Thursday       6:00am-11:30pm

Friday                  6:00am-9:00pm

Saturday                8:00am-9:00pm

Sunday                  8:00am-11:30pm

Wildermuth Intramural Center (WIC) at HPER
1025 E. 7th Street
(812) 855-5222
Monday - Thursday  
6:00am-8:00am  
11:30am-1:25pm  
3:30pm-11:30pm  

Friday  
6:00am-8:00am  
11:30am-9:00pm  

Saturday  
8:00am-9:00pm  

Sunday  
8:00am-11:30pm  

**Bicycles on Public Transportation**  
Bicycles are not permitted on Indiana University busses. However, they are permitted on Bloomington Transit busses. For more information, visit the Bicycles on Public Transportation section of our Community page.  

**Renting Bicycles**  
Indiana University Outdoor Adventures (IUOA), located in Eigenmann Hall, Room 020, rents mountain bikes and helmets. Students can rent small, medium, large, or extra-large Giant Talon 29ers for the following rates:  

**1 night:**  
IUB student $25.00  
Public $36.00  

**2-3 nights:**  
IUB student $50.00
Other types of bicycles can be rented at a variety of privately owned bicycle shops in Bloomington. For more information, visit the Renting Bicycles section of our Community page.

**Buying Used Bicycles on Campus**

Students, faculty, and staff can purchase used bicycles at the semiannual Parking Operations Bike Auction. Parking Operations holds bicycle auctions in September and May. Hundreds of abandoned and unclaimed bikes are sold to the highest bidder. Auctions are held in the Jordan Avenue Parking Garage. Cash and checks are accepted and all sales are final. Contact Parking Operations for more information.

Buyers beware! Buying used bicycles can be a risky endeavor. Used bicycle purchasers risk being very disappointed when they take their used bicycle to a local bike shop for a tune-up only to learn that their bicycle needs hundreds of dollars in repairs or is unfixable. Refer to the Purchasing a Bike section on our Education page for tips on how to identify a quality used bike and how to avoid unfixable junk bikes. Be especially cautious when purchasing bicycles off Bloomington Craigslist. Know what you are buying, the condition it is in, and what it is worth before making a deal.

**Bicycle Steering Committee**

Do you want to help make bicycling better at IUB? Do you want to be on the front lines of bicycle policy here in Bloomington? If so, consider joining the IU Bicycle Steering Committee. The Bicycle Steering Committee was founded in 2011 in partnership with the Transportation Working Group and the Office of Sustainability. The goal is to bring students, faculty, staff, and community members together to work together on a variety of bicycle planning projects. The committee is directly involved in the implementation of campus bicycle initiatives and events and offers a great opportunity for student leadership roles.

If you are interested in joining the Bicycle Steering Committee, please email bicycle@indiana.edu for more information.

**Campus Resources/Advocacy Organizations**

There are a variety of cycling organizations on the IUB campus. For more information, visit the links below.
Bicycle Education Opportunities
A variety of educational resources are available on our Education page.

Stay tuned for in-person bicycle training events.

Events
Indiana University and the City of Bloomington make up a thriving cycling community. We are fortunate to have a number of very exciting, annual cycling events. For more information on local events, please visit the Events section on our Community page.

IUB Bicycle Information Fair
The IUB Bicycle Information Fair is held in conjunction with the annual Big Red Eats Green event. For more information, visit the Indiana University Office of Sustainability website.

The Little 500
The Little 500 is the largest intramural event on the IUB campus and the largest collegiate bicycle race in the United States. The proceeds from this legendary bike race, held every April, go toward student scholarships at IUB. For more information, visit: http://iusf.indiana.edu/little500/index.html.

For a recap of the 2012 Little 5, check out this video:
Bicycle Updates/Notifications
Want to stay up on the latest Indiana University bicycle news and events. Follow us on Twitter and like us on Facebook.

Additionally, you can join our bicycle listserv. We send out periodic updates about news and events as well as invitations to our Bicycle Steering Committee Meetings. All are welcome!

Community
The campus page is a comprehensive guide to cycling in Bloomington. This page will house a comprehensive list of cycling in Bloomington topics.

Maps and Routes
Bicycles on Public Transportation
Local Bicycle Shops
Renting Bicycles
Resources/Advocacy Organizations
Bicycle Education Opportunities
Events
Bicycle Updates/Notifications

Maps and Routes
Bloomington and Monroe County are home to many great bicycling routes. To access the City of Bloomington Bicycle Map, click here:
http://bloomington.in.gov/media/media/application/pdf/280.pdf.

Route information is also available on Google Maps, via this link: http://goo.gl/1mBmD.
Bicycles on Public Transportation

Bicycles are permitted on all Bloomington Transit busses. Bicycle racks (located on the front of the busses) are available on a first come, first served basis. If the rack is full when the bus arrives at your stop, you will have to wait for the next bus to arrive. Bicycles cannot be brought inside the bus. Bicycle racks hold two bicycles at a time. Most bikes (including children’s bicycles) will fit on the rack.

For safety and security reasons, the driver cannot help you. You must be able to load your bike unassisted or have someone with you to help you.

For detailed instruction on how to use the bus-mounted bicycle racks, please visit this link: http://www.bloomingtontransit.com/Bike.htm.

Local Bicycle Shops

Bike Garage
http://www.bikegarage.com
507 East Kirkwood Avenue
(812) 339-3457

<iframe width="425" height="350" frameborder="0" scrolling="no" marginheight="0" marginwidth="0" src="https://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=507+East+Kirkwood+Avenue,+Bloomington,+IN&aq=0&oq=507+East+Kirkwood+Avenue&amp;slr=39.166603,-86.530895&amp;sspn=0.053237,0.074244&amp;t=h&amp;ie=UTF8&amp;hq=&amp;hnear=50
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View <a href="https://maps.google.com/maps?f=q&amp;amp;source=embed&amp;amp;hl=en&amp;amp;geocode=&amp;amp;q=507+East+Kirkwood+Avenue,+Bloomington,+IN&amp;amp;q=507+East+Kirkwood+Avenue&amp;amp;ll=39.166603,-86.530895&amp;amp;sspn=0.053237,0.074244&amp;amp;t=h&amp;amp;ie=UTF8&amp;amp;q=507+E+Kirkwood+Ave,+Bloomington,+Monroe,+Indiana+47408&amp;amp;z=14&amp;amp;ll=39.166698,-86.52778" style="color:#0000FF;text-align:left">Bloomington, IN Bicycle Infrastructure and Parking</a> in a larger map</small>

Bikesmiths
http://www.bikesmiths.net
112 South College Avenue
(812) 339-9970
Revolution Bike and Bean
http://www.revolutionbikeandbean.com/
401 East 10th Street
(812) 336-0241

Bicycle Doctor USA
http://www.bicycledoctorusa.com/
Renting Bicycles
Bicycle rentals are available at:

Bike Garage
http://www.bikegarage.com
507 East Kirkwood Avenue
(812) 339-3457
Revolution Bike and Bean
http://www.revolutionbikeandbean.com/
401 East 10th Street
(812) 336-0241

Indiana University Outdoor Adventures (Mountain Bikes Only)
http://imu.indiana.edu/iuoa/
Eigenmann Hall, Room 020
1900 E. Tenth Street
Bloomington, IN 47406
(812) 855-2231

**Resources/Advocacy Organizations**
There are many opportunities for advocacy and bicycle promotion in the greater Bloomington area. Please visit the following websites for more information.

City of Bloomington Platinum Biking Task Force

City of Bloomington Bicycle & Pedestrian Safety Commission
http://bloomington.in.gov/bpsc

Bloomington Bicycle Club
http://bloomingtonbicycleclub.org/

Bloomington Bicycle Club Blog
http://bloomingtonbicycleclub.blogspot.com/

Bloomington Bike Project
http://bloomingtonbikeproject.com/

Bloomington Velo News
http://bloomingtonvelonews.blogspot.com/

**Bicycle Education Opportunities**
The City of Bloomington offers a number of cycling educational opportunities. Visit the following link for more information:

**Events**
Bloomington is home to many cycling events and ways to get involved in the local cycling community. To stay current on each and every bicycle event, visit the following websites.

The City of Bloomington Bikes Week  
http://bloomington.in.gov/bloomington-bikes-week-2012

The City of Bloomington Bike to Work Day  
http://bloomington.in.gov/biketoworkday

Bloomington Bicycle Club Events  
http://bloomingtonbicycleclub.org/events.php
IV. Promotion

Vital to the success of the new IUB bicycle website is the ability to effectively promote the site and increase traffic. Most site traffic will come directly through the IUOS website. However, with some outreach to other campus and community organizations, the bicycle website will slowly begin to establish a vibrant link presence. The more organizations that link to the bicycle website, the higher our pages rank will be in Google. Eventually, our goal is for the searches “Bloomington bicycle,” “IU bicycle,” and “Indiana University Bicycle” to return the IUOS bicycle website as the first result.

Each of the following organizations should be contacted and asked if they are willing to link to bicycle.indiana.edu.

IU Parking Operations
IU Campus Bus
IU Outdoor Adventures
IU Health and Wellness Center
IU Cycling Club
IU Police Department
IU Student Association
IU Student Foundation
IU Residential Programs and Services

City of Bloomington
Monroe County
Bloomington Transit
Bloomington Bicycle Club
Bloomington Bicycle Project
Bike Garage
Bikesmiths
Revolution Bike and Bean

V. Tracking

It is very important that Google Analytics be used to measure and record traffic on the IU bicycle website. Google Analytics tags should be inserted on each individual page. This will help us to gauge who is visiting the website and where they are coming from. It will help us determine whether or not the website has an audience outside of Bloomington or if the majority of traffic comes from current IUB community members. Additionally, having access to analytics tracking data will help us to see which search terms are being used to access the website. This will help us to target future website improvements and content additions to the current website user base.
Big Red Eats Green (and Bikes)

Introduction
One of the primary objectives for my summer internship was to plan a fall bicycle event to promote on-campus cycling and community resources available to prospective students, faculty, and staff planning to join the IUB community. The original plan was for the IUOS to host an independent bicycle information fair in partnership with a local restaurant or business. After discussions with Bill and Emilie, we decided that it made sense for us to merge the bicycle information fair with the second annual Big Red Eats Green event. The first annual Big Red Eats Green event, hosted in September 2011, was enormously popular and, we believe, would benefit greatly from the addition of a sustainable transportation component. After all, the event’s target audience, members of the IUB community who are interested in sustainable, local food, are likely to be very interested in learning more about cycling on and around campus.

Big Red Eats Green (and Bikes) 2012 will have something for everyone, novice and advanced cyclists alike. Campus cycling organizations and Bloomington bicycle shops will host tables with information about basic biking rules, safety, mechanics, and local routes. Event attendees will have the opportunity to learn more about regional cycling advocacy efforts and events, and discover opportunities to get involved in our local biking community.

We are encouraging people to ride their bikes to the event and will be providing free, secure bicycle corrals staffed by event volunteers. Temporary bicycle corrals will be created using plastic fencing around an adjacent bicycle rack. Event volunteers will give a numbered card to the owner of each bicycle and man the corral throughout the entire event. The bike-check system will function similar to a coat-check at a theatre.

Bicycle Vendors
Below is a list of local bicycle organizations and businesses that have been invited to participate in the event.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Point of Contact</th>
<th>Email</th>
<th>RSVP (as of 7/26/12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-profit/Government</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Bloomington</td>
<td>Vince Caristo</td>
<td><a href="mailto:caristov@bloomington.in.gov">caristov@bloomington.in.gov</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Monroe County</td>
<td>Jason Eakin</td>
<td><a href="mailto:jeakin@co.monroe.in.us">jeakin@co.monroe.in.us</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Bloomington Transit</td>
<td>Brenda Underwood</td>
<td><a href="mailto:bunder@bloomingtontransit.com">bunder@bloomingtontransit.com</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Bloomington Bicycle Club</td>
<td>Keith Vogelsang</td>
<td><a href="mailto:pres@bloomingtonbicycleclub.org">pres@bloomingtonbicycleclub.org</a></td>
<td>No response</td>
</tr>
<tr>
<td>Bloomington Bike Project</td>
<td>Michael Lindeau or Steve Dean</td>
<td><a href="mailto:Ozp1@msn.com">Ozp1@msn.com</a></td>
<td>No</td>
</tr>
<tr>
<td><strong>University Organizations</strong></td>
<td><strong>Name</strong></td>
<td><strong>Email</strong></td>
<td><strong>Response</strong></td>
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<tr>
<td>-----------------------------</td>
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<tr>
<td>IU Police Dept.</td>
<td>Keith Cash</td>
<td><a href="mailto:kcash@indiana.edu">kcash@indiana.edu</a></td>
<td>No response</td>
</tr>
<tr>
<td>IU Parking Operations</td>
<td>Doug Porter</td>
<td><a href="mailto:porterjd@indiana.edu">porterjd@indiana.edu</a></td>
<td>No response</td>
</tr>
<tr>
<td>IU Campus Bus</td>
<td>Perry Mauull</td>
<td><a href="mailto:pjmaull@indiana.edu">pjmaull@indiana.edu</a></td>
<td>Yes</td>
</tr>
<tr>
<td>IUSF Little 500</td>
<td>Jordan Bailey</td>
<td><a href="mailto:Bailey25@indiana.edu">Bailey25@indiana.edu</a></td>
<td>Yes</td>
</tr>
<tr>
<td>IU Outdoor Adventures</td>
<td>Dustin Smucker</td>
<td><a href="mailto:dsmucker@indaina.edu">dsmucker@indaina.edu</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Healthy IU</td>
<td>Patty Hollingsworth</td>
<td><a href="mailto:pwhollin@indiana.edu">pwhollin@indiana.edu</a></td>
<td>Yes</td>
</tr>
<tr>
<td>IUOS Bicycle Steering</td>
<td>Emilie Rex</td>
<td><a href="mailto:ekrex@indiana.edu">ekrex@indiana.edu</a></td>
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</tr>
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</table>

<table>
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<tr>
<th><strong>Local Businesses</strong></th>
<th><strong>Name</strong></th>
<th><strong>Email</strong></th>
<th><strong>Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Garage</td>
<td>Anne Holihan</td>
<td><a href="mailto:anne@bikegarage.com">anne@bikegarage.com</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Bikesmiths</td>
<td>Jean Smith</td>
<td><a href="mailto:info@bikesmiths.net">info@bikesmiths.net</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Revolution Bike and Bean</td>
<td>Chris</td>
<td><a href="mailto:Rev.bikeandbean@gmail.com">Rev.bikeandbean@gmail.com</a></td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Event Coordination**
As of August 6th, 2012, Frances Einterz will take lead on event coordination for both Big Red Eats Green food and bike vendors/organizations. An email will be sent to all bicycle organizations participating in the event during the week of July 29th, 2012, to notify them of the change in event coordination. This email will also include preliminary instructions and table locations that will affect each participant on the day of the event.