

# Interactive Campus Sustainability Map Final Report

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## *I. Executive Summary*

As the University of Michigan has indicated specific sustainability goals for the betterment of campus, this report has been created in response as a way to reflect and exemplify that commitment. The intended final product that this report outlines is an online virtual Interactive Campus Map of sustainability efforts around the U-M campus. This map is intended for use by a spectrum of people, including current and prospective students as well as campus visitors. In order to be useful for its base of users, the sustainability efforts that have been included on the map cover a broad range of efforts and elements that define U-M's commitment to sustainability. In total, six different categories were created, which are: buildings, academic programs, sustainable transportation, campus events and initiatives, sustainable energy and natural areas.

In the stage of preliminary map development, U-M's sustainability website, *sustainability.umich.edu*, was carefully analyzed. While the site serves as a hub for the majority of U-M's sustainability efforts and programs, it does not include a centralized digital media outlet that details the full scope of topics in a visual manner. The online sustainability map is the effective solution for organizing the campus's scattered and dynamic efforts into a cohesive and easy-to-use interactive tool. In order to accomplish this goal, research was performed on peer institutions and general interactive media tools to determine how the map could best be effective and user-friendly. As a result of research and consultation with Michigan Marketing and Design (MM&D), Google Maps was decided upon to be the online platform for the map.

A comprehensive set of recommendations has been included to discuss how future map usage can reflect the interests of key stakeholders and reach its targeted audience. Planet Blue and the Office of Campus Sustainability have been kept in mind as two of the principle stakeholders, who seek to use this map as an online visual host of their efforts. Since the university is constantly growing, expanding and improving, bi-annual updates are recommended to ensure that the map reflects the most current efforts. As well, it is recommended that links to the map be placed in several key areas within the web community and at U-M in order to reach the targeted audiences. Specifically, the map must receive a permanent link at the top of the sidebar on the Planet Blue website (*sustainability.umich.edu*) and be given a permanent fixture on the Campus Information Map page (*umich.edu/~info*).

## ***II. Background/Introduction:***

On September 27, 2011, University of Michigan President, Mary Sue Coleman, delivered a speech about the rising importance of sustainability on campus as the university progresses into the future. In the spirit of her ambitious goals to “alter the face of our campus and, more important, the character of our teaching, research and impact as a global leader,”<sup>1</sup> questions have been raised as to whether or not the university is doing enough. Because U-M is such a large institution, it is difficult for students, staff, and community members to know about everything that is happening on and around campus. In response to this, Jim Michels of the Office of Campus Sustainability, proposed the idea for a comprehensive map of the University’s sustainability efforts to Dr. Mike Shriberg’s *Sustainability and the Campus* class. This report presents the numerous reasons why a geographically-oriented interactive map of the Ann Arbor campus is a necessary, useful, and attractive tool.

Currently, the University of Michigan has its own website dedicated to sustainability, called *sustainability.umich.edu*, which is a valuable resource to those within the U-M community. As a final product, the online interactive map, will be located on this website, as a valuable resource for students at U-M, students considering U-M, and the public. In addition to being located on *sustainability.umich.edu*, it is suggested that a link to the map be provided on the University’s homepage as well as other informative sites and packets sent out to prospective students. The benefit of the map, differentiating it from the U-M sustainability website, is that it is an interactive, compilation of prominent sustainability efforts, which are shown as geographical plots under one of six categories. This will make sure target audiences are reached while visual appeal and functionality are maintained.

## ***III. Project Goals/Objectives***

A variety of goals and objectives were considered in the creation of this map, and they are as follows:

1. **Provide a map that highlights the “pride points” of sustainability on campus.**  
*U-M has many sustainability efforts, but it lacks a central resource to explore all of these efforts at once. A pride point is something on campus that shows exceptional dedication to sustainability, including but not limited to: LEED certified buildings, exceptional campus initiatives, and environmental student groups.*
2. **Design a comprehensive map that is both visually appealing and user-friendly.**  
*To ensure that the campus community uses the map, it is important that it be easily understandable and simple to navigate while simultaneously providing a high level of comprehensiveness and aesthetic value. The user will have the ability to select which type of sustainability effort the map displays according to their specific interests or intentions.*

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<sup>1</sup> Marv Sue Coleman. "Going Green. Staving Blue: Sustainability At Michigan." University of Michigan Office of the Pre. Ann Arbor, MI. 27 Sept. 2011. Web. 15 Dec. 2011.  
<<http://www.umich.edu/pres/speech/speeches/110927sustainability.php>>.

3. **Allow an interface that can be expanded and edited in the future.**

*Because sustainability efforts are ongoing at the university, a primary recommendation is to allow for others to make relevant edits bi-annually to the map. Future Environment/RCIDIV 391 students, student volunteers, or the Office of Campus Sustainability (OCS) should be considered for expansion and revision of the map. At the termination of the semester, the map will be passed on to OCS and Michigan Marketing & Design (MM&D) to continue project efforts.*

4. **Facilitate growth in sustainable awareness and engagement among a dynamic target audience.**

*By providing a variety of sustainability elements, the map will be a resource that is appealing and applicable to a variety of people. The intention of the map is to expand general interest in U-M sustainability efforts by advertising through relevant listservs and web pages to students across disciplines. Furthermore, the map will be useful to prospective students and campus visitors. The geographically oriented categorization of ongoing campus programs, initiatives, locations, etc. will help reach these targeted audiences and conceptualize U-M as a school committed to sustainability.*

#### ***IV. Methodology and Findings***

##### *Overview*

Prior to initiating the design stages of the University of Michigan sustainability map's development, research was conducted utilizing scholarly journal articles and the maps of several peer institutions. Findings from the research led to the creation of a list of successful map design elements, most notably the incorporation of a user-oriented categorization system. With this in mind, six categories were developed, solid criteria were formed for each category, and a manageable list of map-points was created. Information about each point's sustainability efforts was collected, and a final map format was proposed.

##### *Research*

An informal literature review was conducted in which journal articles relating to the promotion of sustainable practices, successful product design techniques, and the creation of efficient map formatting were collected and analyzed. The Internet is increasingly becoming the most efficient way to connect with a variety of audiences, and it is vital to be straightforward in the relation of information. Barr *et al.* highlight the importance of utilizing the Internet as a main mechanism for sustainability awareness and behavioral change.<sup>2</sup> In addition, Johnson and Myatt highlight the importance of simplicity in product design and advertising efficiency, utilizing examples of inefficient, cluttered advertisements.<sup>3</sup> Based on this, important features that benefit map simplicity and overall efficiency were discussed within the group to ensure its usability. In terms of map format and functionality, Ai and Wang expressed the vitality of including a map selection

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<sup>2</sup> Stewart Barr, Andrew Gilg, and Gareth Shaw, "Helping People Make Better Choices: Exploring the Behavior Change Agenda for Environmental Sustainability," *Applied Geography* (2011), 713.

<sup>3</sup> Justin P. Johnson and David P. Myatt, "On the Simple Economics of Advertising, Marketing, and Product Design", *The American Economic Review* (2006), 756-784.

feature in order to create a user-oriented system that allows for a legible and well-configured map.<sup>4</sup> The combination of these articles influenced preliminary concepts for the design and elemental makeup of the campus map.

The American Association for Sustainability in Higher Education's (AASHE) website was used to locate sustainability maps offered by peer institutions. Some utilized examples included UC Davis, University of Minnesota, and University of Oregon. Maps from these schools were critically analyzed to aid in the construction of U-M's own map. The main focus of these reviews was to gauge peer institutions' success using the 'feature' list function. The main component of this function includes selectable categories, which allow for certain points to be viewed separately from one another. Other design elements taken into consideration were the inclusion of a separate page describing each map point, the use of the Google Maps platform, and the differentiation of map points noting a variety of student-engaging efforts.

### *Findings:*

The most beneficial findings from the research phase came from analyzing the effective and ineffective characteristics (design elements, functionality, etc.) of sustainability maps from peer institutions. The most important characteristics are described below:

#### Effective Characteristics of Sustainability Maps from Peer Institutions

- Group categorization of map points allows the user to look at only topics or elements of interest.
- Google Maps provides a well-known and simplistic format.
- Points that include photographs, videos, and additional information are more interesting and useful to the user.
- Links to related websites add to the comprehensiveness of a map and are a useful way to spread information.

#### Ineffective Characteristics of Sustainability Maps from Peer Institutions

- Including too many sustainability points results in a cluttered experience for the user.
- PDF format makes updating the map more difficult.
- Outdated content and lack of information detracts from the experience.
- Visually unappealing maps generate less user interest.

### *Brainstorming/Map-Formatting/Categories and Criteria*

Utilizing the research, the map's characteristics and design were determined. A user-friendly and functional map are two of the most important characteristics that allow the user to control which elements they want to view, thus decreasing the amount of elemental "clutter" on the map. In order to fulfill these characteristics, map elements were divided by content into six categories. Each category has a set of criteria which was constructed with the goal of including only prominent sustainability elements that are vital to campus efforts or are unique to the U-M. These categories are: buildings, natural areas, academic programs, sustainable transportation, sustainable energy, and campus events and initiatives.

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<sup>4</sup> Tinghua AI and Hong Wang, "Adaptive Strategies on the Visualization of Electronic Map", *Geoinformatics* (2006), 1-7.

Accepted criteria for each category are as follows:

- *Buildings*: Must be LEED certified, anticipating LEED certification, or exhibit exceptional green technology or practices (such as low-flush toilets, low-water flow, etc.).
- *Natural Areas*: Must be U-M-owned, provide a form of academic opportunity for students and community members, and provide aesthetic and natural value.
- *Academic Programs*: Must be a degree-earning program (either undergraduate or graduate) that provides an extensive choice of sustainability-related classes and learning opportunities.
- *Sustainable Transportation*: Must provide environmentally friendly alternative modes of transportation for students and/or the public, or encourage alternative transportation through assistance programs, repair shops, and/or public workshops.
- *Sustainable Energy*: Must be a University-owned or operated power source that maintains strong goals for reducing energy-usage and increasing energy efficiency, and aims to promote these goals in an educational format.
- *Campus Events and Initiatives*: Must be a prominent University-sponsored event that promotes sustainable behavior and activity, or; Must be an official University group (led by either students or faculty) that aims to promote sustainable behavior on campus.

With the established categories and criteria in place, thirty-five elements in total were chosen to be included as final points on the map. In order to obtain information about the sustainability efforts and motives of each point in a systematic way, a template was created for each category (See Attachment 1). The categorical templates created a solid foundation for gathering specific information on each element. With the templates in place, information was gathered through internet research and personal interviews. Once information on each of the thirty-five elements was obtained, efforts shifted towards presenting and uploading this information in the form of an interactive map. With this a Google map template was designed, and Michigan Marketing and Design (MM&D) was utilized as a source for implementing the final product.

## ***VI. Recommendations:***

*The following recommendations are ordered from most important to least important as determined by their relevance to the success of the project.*

***Most Important:*** *The first set of recommendations includes those that are essential to the success of the map.*

### **1. Set a one-month deadline for Michigan Marketing & Design (MM&D) to finish the map and publish it online after funding is allocated.**

*Due to the funding process, it is unclear at this time what an appropriate deadline for the publication of the map is. Once funding has been resolved, the map team proposes that MM&D should be given one month to publish the map online. This one-month time frame is recommended due to the substantial progress that has already been made in the design of the Interactive Campus Sustainability Map. The last step for the map team is to send MM&D a finalized list of research points, as well as the most updated Google Maps template. Assuming*

*that the map is funded, the MM&D designers will be in charge of the rest of the design process. This includes making a page for each element that will link directly to the element's icon on the map. Additionally MM&D will use photographs from the U-M photo bank to make each page more visually appealing for the user.*

**2. Establish a permanent link to the Interactive Campus Sustainability Map on the top sidebar of the Planet Blue sustainability website ([www.sustainability.umich.edu](http://www.sustainability.umich.edu)).**

*The Planet Blue website has already compiled many sustainability efforts on campus. The Interactive Campus Sustainability Map was carefully designed with the Planet Blue web page in mind, as it is a likely permanent home for the map. A link at the top of the website would assure that visitors could immediately locate the map instead of having to sort through other pages to find the resource. Ensuring that this link is easy to find will provide an efficient and appealing way for casual visitors to receive quick information about sustainability on campus.*

**3. Incorporate the Interactive Campus Sustainability Map into the Campus Information Centers website (<http://www.umich.edu/~info>).**

*The Campus Information Centers website compiles information that is useful to campus visitors and new students. The website features a tab called "Maps & Directions," which currently includes maps of Ann Arbor, Central Campus, South Campus, and North Campus. A link to the Interactive Campus Sustainability Map would fit nicely on this website. Since this website is used mostly by individuals who are unfamiliar with campus, this location would assure that the map was being viewed by a broad audience.*

**4. Disperse the Interactive Campus Sustainability Map link to relevant groups on campus and prospective students.**

*Several email groups and Facebook groups have been identified where a link to the Interactive Campus Sustainability Map could be posted. These groups have been pinpointed by their interest in sustainability and/or their ability to send information to large groups of people. These email groups include: Student Sustainability Initiative (SSI), Ford School of Public Policy, Program in the Environment (PitE), Earth and Environmental Sciences Department, Graham Scholars, TruMich, Erb Institute, NetImpact, Women in Science and Engineering (WISE), Residential College (RC), and Planet Blue Ambassadors. Additionally, to target prospective students, a link to the map should be provided in relevant university information packets (including online).*

**5. Highlight the Interactive Campus Sustainability Map on the main University of Michigan gateway ([www.umich.edu](http://www.umich.edu)).**

*The University gateway should feature a link to the Interactive Campus Sustainability Map soon after its initial launch. Likewise, after each future bi-annual update, the gateway should feature the map for at least one week. The University gateway, unlike the Planet Blue website ([sustainability.umich.edu](http://sustainability.umich.edu)), attracts a wider audience, including: staff/faculty, current students, prospective students, visitors to campus, Ann Arbor residents, and anyone else with an interest in U-M. By highlighting the Interactive Campus Sustainability Map directly on the main gateway, it is much more probable that individuals without a current background or interest in sustainability will visit the map. This provides a substantial benefit beyond being placed solely on the Planet Blue website.*

**6. Expand and edit the Interactive Campus Sustainability Map bi-annually.**

*Sustainability efforts at the University of Michigan are constantly expanding and adapting. For the Interactive Campus Sustainability Map to stay functional, useful, and convenient, the campus*

*map will need to be periodically updated. It is anticipated that bi-annual updates will be sufficient to capture any new “pride-points” since the last update. It is recommended that the Office of Campus Sustainability (OCS) be in charge of the bi-annual updates, utilizing help from student volunteers as seen fit. Special consideration should be kept to the categories already in place. Since the fixed costs of designing the Interactive Campus Sustainability Map will already be taken care of, it is anticipated that these bi-annual updates will be possible at a low cost to OCS.*

***Important:*** *The following recommendations are important to making sure the map is relevant after its implementation. They are not necessary recommendations for the success of the current project, but they will be important in the near future.*

**7. Implement a website traffic monitoring system to track its effectiveness.**

*Website traffic monitoring should be used to count the map’s hits, but it should also chart where the website’s users were directed from. With this information, the use of the map can be measured. The number of hits will help determine how much effort is still needed to promote the map. On top of this, the map will be featured on several prominent U-M websites, so this monitoring system would determine which of these websites has contributed most to the map’s viewership.*

**8. Utilize surveys to analyze user engagement of the map after its implementation.**

*Soon after the implementation of the map, it would be beneficial to send out a student survey to see if and how the map is being used. In this survey, it would be important to ask the following questions: “Have you heard of the Interactive Campus Sustainability Map?” and “Have you used the map?” Additionally, the survey could make use of open-ended questions to ask how the map could be improved in the future. A link to this survey on the map itself would be an efficient way to evaluate user experience.*

**9. Suggest that a student publication write a story about the Interactive Campus Sustainability Map.**

*The Michigan Daily and other similar student publications are great places to promote the new Interactive Campus Sustainability Map. A story in one of these physical publications would be beneficial in reaching people who have not otherwise heard of or visited the Planet Blue website.*

***Least Important:*** *The second section of recommendations is not essential to the success of the map. They may be harder to execute and may require high additional costs for the Office of Campus Sustainability. They do, however, provide creative ways to increase the audience of the map.*

**10. Create a mobile smart-phone application of the Interactive Campus Sustainability Map.**

*There would be a high initial cost of creating a mobile application, which is why this is less feasible at this time. However, a mobile application, free of charge, could reach a broad audience. The mobile application could be featured as a part of the official University of Michigan mobile application, or it could be a separate application entirely. The mobile application would make use of the “current location” feature to show if there are any nearby sustainability elements to a user at any given time. Additionally, the application could borrow*

*ideas from “Four Square” by giving users points or badges as they checked-in at various sustainability locations on campus, thus providing incentives for people to use the application.*

**11. Add a feature to the Interactive Campus Sustainability Map that shows, in real time, when sustainability events are happening on campus.**

*The Interactive Campus Sustainability Map includes major events with large implications for sustainability at the University. The Planet Blue website currently has a page dedicated to “events” that includes links to event calendars throughout campus. At this time, the Interactive Campus Sustainability Map does not include these smaller scale events. In the future, it would be beneficial to include a blinking blue dot, similar to the “current location” feature on Google Maps, that shows in real time when sustainability events are happening on that day. This would be beneficial for users, especially current members of the U-M community, to become involved in sustainability efforts on campus.*

**12. Develop a sustainability walking tour.**

*Looking at the Interactive Campus Sustainability Map, it is apparent that many of the elements are found near and around the Central Campus Diag. A sustainability walking tour, proposed initially as part of a mini-course for first-year students, could also be a great introduction to sustainability for visitors to campus. Starting and ending at the Samuel T. Dana Building, a walking tour of approximately one hour could be a quick way for individuals to see an important part of campus, while also learning about sustainability. The walking tour would be available online, as part of the proposed mobile application, or in print from the Campus Information Centers.*

**13. Develop a trademark logo to be used both in the website and building for publicity purposes.**

*Creating an identifiable logo would bring attention and awareness to the map. This logo could be placed on a number of University websites as a way to steer people to the interactive sustainability map. The logo should be simple but reflective of what the map signifies, which is a hub of sustainable campus efforts. Additionally, the logo could be placed in buildings or on initiative websites that are featured on the map, which would help draw more attention.*

***VII. Conclusions/Lessons Learned***

Sustainability at U-M encompasses many aspects of academia, infrastructure, and community involvement. Every building, department, program, and initiative on campus has its own agenda and goals to meet while trying to fit in with the overarching sustainability goals of the U-M as a whole. The division of these sustainability efforts on campus also speaks to the generally separated structure of the university. As a leading institution with undergraduate and graduate programs spread across 19 different schools and colleges, it can be difficult to connect the programs on an issue like sustainability. President Coleman has made it clear, however, that sustainability is a goal of U-M, and that strength can be drawn from the university’s multi-disciplinary nature.

In conclusion, the Interactive Campus Sustainability Map can be considered as a valuable addition to current University of Michigan sustainability efforts. Once live, the map will be a valuable asset to U-M as visually appealing and engaging resource that can be updated to

accommodate future progress. By utilizing media, categorical framework, and dynamic content, the map has the potential to reach a variety of audiences beyond just current environmental students. As environmental issues become increasingly important to our society, efforts such as this map will ensure that the University of Michigan remains a force for positive change.

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## Attachment 1: Element Research Templates

In order to implement a systematic approach for gathering information on individual map points, a research template was formulated for each category. Here are examples from each categorical template:

### *Buildings*

- Stephen M. Ross School of Business  
701 Tappan Street, Ann Arbor, MI 48109  
<http://www.bus.umich.edu/>
  1. **Construction Year:** 2009
  2. **LEED Certification:** Silver
  3. **Building Function:** Academic
  4. **Square Footage:** 270,000 square-feet
  5. **Energy Usage for 2011 FY:** 5,414,449 kWh
  6. **Sustainability Measures:** Besides being a world renowned business school, the Ross School of Business is also a leader in sustainability. The curriculum features many courses with a “Sustainability” tag, and Ross student groups -- including Net Impact -- discover how sustainability can be a major component in business. The LEED certified building uses energy conservation methods such as high-efficiency lighting, daylight dimming systems, motion sensors, and natural light to reduce energy consumption. A green roof insulates the building, reduces heating and cooling costs, and improves air quality. Additionally, water conservation, cork flooring, refurbished materials, and composting efforts throughout the building make the Ross School of Business an excellent example of a sustainable building on campus.

### *Natural Areas*

- Matthaei Botanical Gardens  
1800 North Dixboro Road  
<http://www.lsa.umich.edu/mbg/>
  1. **Type of area:** Natural Area (Conservatory, Greenhouses, Laboratory, Academic and Meeting Spaces)
  2. **Types of plants:** Peonies, daffodils, lilacs, trillium, poinsettia, aloe, skunk cabbage, magnolia, hibiscus, and other seasonal plants.
  3. **Basic Facts:** In 1907, the University of Michigan simultaneously opened the Botanical Garden and Arboretum on the site currently known as Nichols Arboretum. In 1955, however, given the aging and outdated facilities, the University was pressured to find a new site for the Botanical Garden with a closer proximity to central campus. With this pressure in mind, Regent Frederick C. Matthaei and his wife Mildred made a 200 acre donation along Fleming Creek in 1957, along with a significant monetary gift. With this donation and the additional purchase of an attached farm, along with the collaboration of prominent architect Alden B. Dow, the University dedicated the new Matthaei Botanical Gardens in 1962. Included within the site plans were a conservatory,

greenhouses, laboratories, and teaching and meeting spaces. In addition to these facilities, the Botanical Garden later added more exhibits, including a visitors center, walking trails, gardens, and various informative displays.

#### *Academic Programs*

- Program in the Environment (PitE)  
1120 Undergraduate Science Building, 204 Washtenaw Avenue, Ann Arbor, MI 48109  
<http://lsa.umich.edu/pite/>
  - 1. Year of implementation:** 2002
  - 2. Academic Focus:** Interdisciplinary, focused on Environmental Science
  - 3. Sponsoring Organization:** School of Natural Resources (SNRE) and College of Literature, Science, and the Arts (LSA)
  - 4. Basic Facts:** Program in the Environment (PitE) is an interdisciplinary undergraduate program that offers concentrations and academic minors to undergraduate students. PitE has recently added a Minor in Sustainability, to be available to undergraduate students starting in Winter 2012. PitE is overseen by the School of Natural Resources (SNRE) and the College of Literature, Science, and the Arts (LSA). PitE encourages all of its' students to seek practical experience, by either taking a field course or an internship related to their interests in environmental studies.

#### *Sustainable Transportation*

- Central Campus Transit Center  
**Year of Improvement:** 2010  
**Transportation Mode:** Campus "Blue" Buses and Ann Arbor Transportation Authority (AATA) Buses  
**Sponsoring Organization:** University of Michigan funds; also funded by stimulus money  
**Basic Facts:** In accordance with University of Michigan's mission to provide commuters with more transportation options, including sustainable options, the Regents approved upgrades to the Central Campus Transit Center early in 2010. The main goals of the improvement project were to increase commuter safety, add bicycle lanes, increase the number of bicycle racks, and build larger bike shelters. The Central Campus Transit Center is of special importance to the city of Ann Arbor because it functions as a bus stop for both the U-M Campus "Blue" Buses and the Ann Arbor Transportation Authority (AATA) Buses. The long-lasting relationship between U-M and AATA has made commuting on and off-campus easier and more cost-effective for both parties. The renovated transit center was open for use in Fall 2010.

#### *Sustainable Energy*

- Central Power Plant (Sustainable Energy)  
1120 East Huron Street Ann Arbor, MI 48104  
<http://www.plantops.umich.edu/utilities/CentralPowerPlant/>
  - 1. Year of Implementation:** 1924
  - 2. Energy Source:** Clean burning natural gas
  - 3. Sponsoring Organization:** Facilities & Operations

**4. Basic Facts:** The Central Power Plant (CPP) generates and processes four main utilities to U-M's Central and Medical Campuses -- steam, electricity, compressed air, and domestic hot water. The CPP is a major contributor to energy efficiency and reduced air pollution due to the implementation of a process called co-generation. Co-generation refers to the simultaneous production of both useful steam and electricity. By combining these processes into one power plant, the overall fuel efficiency is more than doubled when compared to a conventional thermal-electric power plant. By using this exhaust steam, the fuel efficiency of the CPP is approximately 78 percent, compared to a fuel efficiency of approximately 40 percent for most private utility plants.

*Campus Events and Initiatives*

- EarthFest -- Party for the Planet!

The Diag, Ann Arbor MI 48109

<http://sustainability.umich.edu/news/earthfest-2011-celebrate-planet>

**1. Date of Event:** Early fall every year

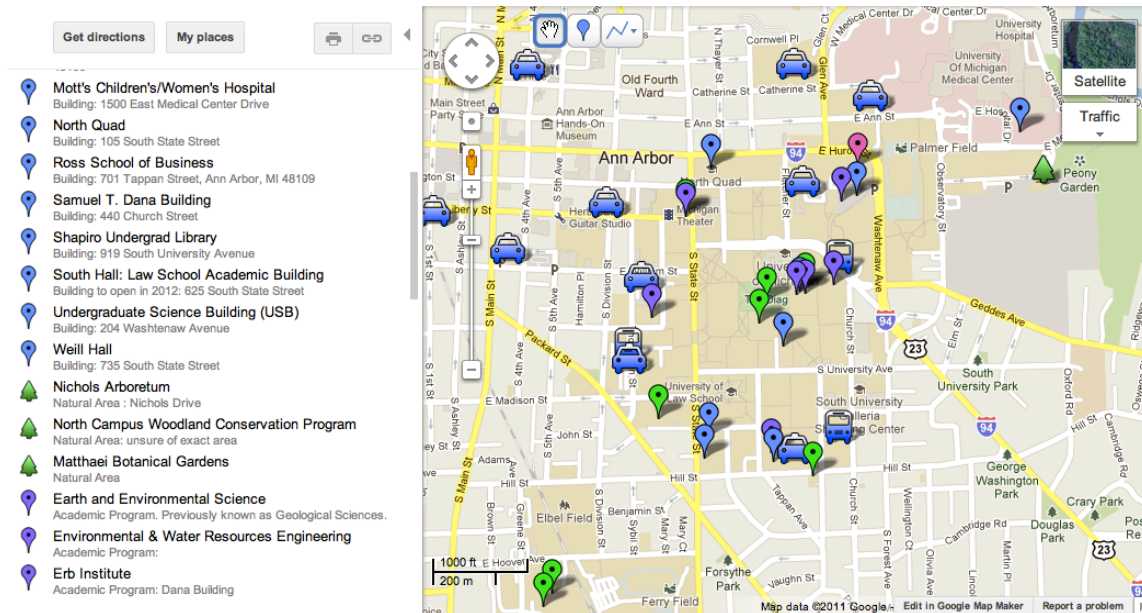
**2. Participating Groups:** Office of Campus Sustainability, Student Sustainability Initiative

**3. Basic Facts:** EarthFest: Party for the Planet!, is an annual festival in which the Diag is transformed into a celebration that promotes sustainability efforts on campus and fosters a sense of partnership with the campus community. The event has been held for almost 20 years, time the festival has been held. EarthFest selects three or four themes each year to focus on, and the sustainability efforts on campus highlight those specific themes each year. Spread across the sidewalks are a variety of colorful information booths that provide things like fresh local apples and spiced donuts, to reminder magnets on how to recycle properly. The event is sponsored by the Office of Campus Sustainability in conjunction with many other groups on campus. Each year the whole campus is welcome to come and join in the festivities and celebrate the University of Michigan's efforts to become more sustainable.

**Attachment 1 (Outside of Final Report):** Master List of Research Points

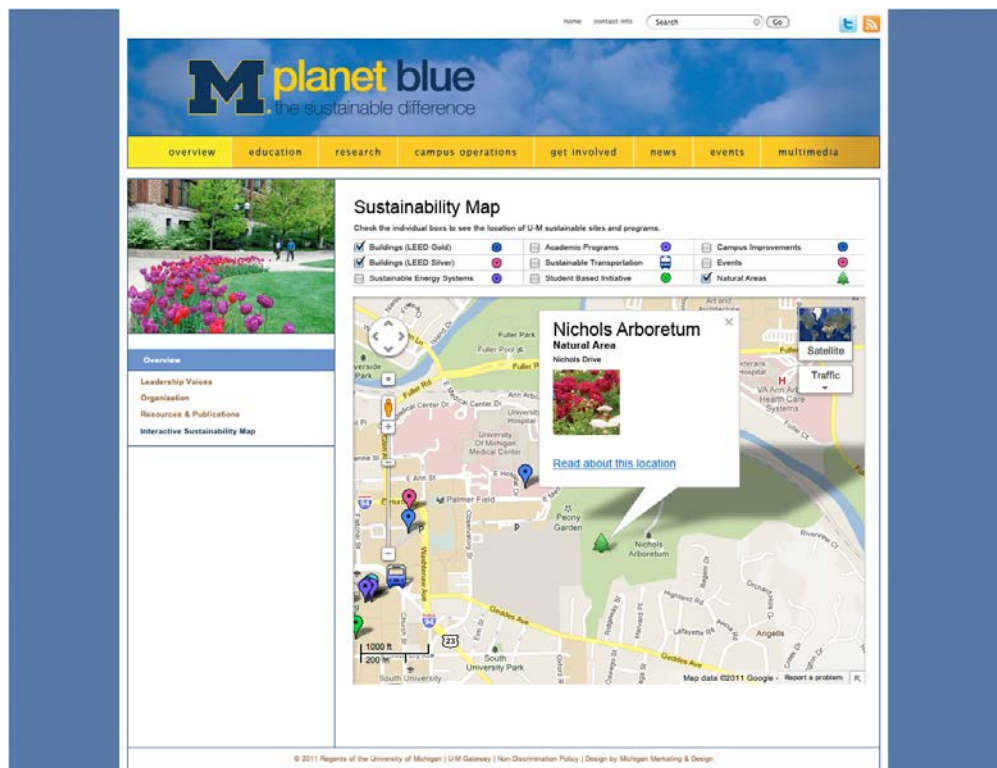
**Attachment 2:**

This shows a screenshot of the Google Maps template, zoomed in on the Central Campus Diag. The Google Maps template can be accessed using the following link: <http://g.co/maps/yb9pu>



**Attachment 3:**

Below is a template of the Interactive Campus Sustainability Map, as it will appear on the Planet Blue sustainability website.



**Attachment 4:**

Below is a template of the type of page that the Interactive Campus Sustainability Map will link to when the user asks for more information. It will include in depth facts about the element, as well as photographs for a better visualization.

The screenshot shows a web page for 'planet blue' with the tagline 'the sustainable difference'. The navigation menu includes: overview, education, research, campus operations, get involved, news, events, and multimedia. The main content area is titled 'Nichols Arboretum Natural Area' and includes a sub-header 'Nichols Drive' and a link to 'Interactive Map'. The page features several photographs: a field of colorful tulips, a large tree over a stream with people sitting on a stone bridge, and a group of people standing in a garden. A sidebar on the left contains a navigation menu with 'Overview' selected, and other options: Leadership Voices, Organization, Resources & Publications, and Interactive Sustainability Map. Below the photos, there are two bullet points:

- **Types of plants:** Native Michigan Trees (Ash, Oak, Maple), lilacs, peonies, rhododendron, azaleas.
- **Basic Facts:** The idea for a University-operated botanical garden and arboretum was first proposed in 1817, but it wasn't until 1907 that an 80+ acre plot of land was set aside for natural purposes. The arboretum, extending from Geddes Road to the Huron River, originally included over 75 species of trees and shrubs upon its opening in 1907. With the Botanical Gardens moving to a new site in 1916, operation of the arboretum was handed over to the head of the Department of Landscape Design, Aubrey Tealdi, and the name was successively changed to "Nichols Arboretum" in 1923. Over the years, improvements have been made to Nichols Arboretum, including foot trails, Dow Field, classroom and meeting facilities, and several expansions of natural species collections.

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