

The Indiana University Task Force on Campus Sustainability

University Libraries

An initial assessment

*Note: Appendices C, D, G, and I referred to in this document are available as separate Excel Spreadsheet files available at either www.indiana.edu/~sustain or by request to sustain@indiana.edu

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Abstract

Libraries are a critical component in the functioning of a University. With students, faculty, and staff using the libraries, it has both direct and indirect impacts on the lives of thousands of people. The libraries, just by its core function, have been contributing to intellectual sustainability – a “connecting thread” for the sustenance of life. It is essential for the libraries to become sustainable in all its operations if Indiana University is to contribute to a world that will continually have healthy impacts on future generations.

An initial assessment was conducted this summer to determine where the libraries stand with respect to campus sustainability. The heads of 24 libraries and departments were interviewed to understand current practices in 7 major areas – Built Environment, Energy, Transportation, Food, Recycling/Resource Use, Academic Initiatives, and Environmental Quality. The data is mostly qualitative, and captures both factual and perception based factors. This assists in dealing with cultural change as that will accompany new initiatives.

These data will be guiding factors in designing short term and long term strategies for the libraries to go in a direction of sustainability. It points to practices that need to be changed, processes that need to be reexamined, and areas that need to be further researched. The libraries are currently following many efficient practices, and any new steps are to make the organization more effective. The most important and fundamental step that needs to be taken is to actively engage all of its employees in the various efforts.

Introduction

Libraries have been contributing to “intellectual sustainability” for centuries now. It is important to have central repositories that contain documented thoughts, facts, experiences, and ideas. They help in connecting the thread of humanity, and in turn ecosystems. Information is essential for the sustenance of systems, and libraries aid in facilitating the storing and dissemination of this information. Libraries “circulate” books (the most common example) and it is one of the most fundamental and principal ways in which it is [and has been] contributing to sustainability.

Indiana University at Bloomington (IUB) has students from all over the world who come to study various courses. Being one of the top research universities in the world, it attracts scholars, students, and visitors from all over the world. These are people who conduct groundbreaking research, and introduce new ideas and products on the planet. Resources and a congenial atmosphere are important requisites for successful research, and IUB provides this environment. The University Libraries form an important element in sustaining this environment.

Libraries are an integral part in the formation of knowledge capital. Ideas become new and useful only as a relative factor to existing ideas or applications. Libraries greatly facilitate this formation of something that is new. IUB libraries provide “access” to information. The role of libraries in a campus is hence very prominent, and very visible.

The presence of libraries is also very important within a community. It plays an important role in “social inclusion” (Percival et al., in Marsden, 2008) by providing access to the same information and encouraging learning within a community. Within a University system, the various initiatives that the libraries take helps bridge knowledge levels of students who come from varying economic and social levels/backgrounds. For instance, the technological resources provided in the Information Commons at Wells Library are accessible by all students i.e., there is no discrimination among students. Thus “access” and “equity”, which Percival et al., maintain as key for achieving sustainable development, are being maintained by the University Libraries.

Libraries, as an institution, can thus bring people together on an equal footing. Another major factor towards sustainability is that libraries facilitate communication. They are great players in communicating messages to the publics. They also indicate, through the materials circulated, the kind of information that is demanded. Thus tracking this data helps in understanding the needs of the publics. And, this also indicates the supporting knowledge the publics are seeking to support decisions they are trying to make. Hence, by looking from a macro perspective, supplying more of that, and the related information, aids in facilitating effective decision making. This is highly essential for achieving sustainability. It focuses on the principle that the citizenry should make well informed decisions for sustainable communities. Percival et al., also emphasize socially excluded communities, when living in close proximity to each other, can impact the quality of life in a community. This is due to the different decisions that should be made for the overall community. Thus, through communication strategies, libraries can bring together different pockets of a community.

In a University, libraries play a critical role in bringing together diverse people. It helps in bridging ideas and philosophies, and importantly increases tolerance for different thoughts. For example, the IU Health Center organizes an open poster session with a theme of what people love the most about their body, in the lobby of the Wells Library. Patrons and others stop by to express their thoughts. This helps people recognize and understand that people are physically different, and it is perfectly fine to be different. The resulting benefits in social acceptance are many, and can lead to a very healthy community.

Wealth out of waste

A very popular concept, this approach considers various creative ways of making use of wastes. As suggested by the title, it effectively focuses on making productive use of wastes from any process. In a much broader sense, the emphasis is on ensuring that the outputs of a process be thought of as inputs for another process. A lot of emphasis is on making sure that parts of the output do not end up in a landfill. Consider “waste is food” approach (McDonough, 2002) where the authors argue that in nature there are no wastes! Everything has a use. Applying the same to man made processes, it is about thinking of all phases of a process such that high efficiency is achieved. This approach has been integrated here.

Relationship with other STF projects

Eighteen interns, this summer, worked on different projects focusing on campus sustainability and beyond. The projects ranged from green computing to integrated pest management. Appendix A lists the different projects and it can be visually seen that all the projects have direct and indirect impacts on the Libraries as an organization. It can be further seen that coordination among various small aspects is required for progressing in the direction of sustainability. The reports of all the projects along with the bios of the interns can be found on the Task Force website.

With the potential of impacting the lives of many, IUB libraries can play a leading role in not just making itself sustainable as an organization, but also in making the campus sustainable. This summer, an assessment of the libraries was conducted to determine where the libraries stand with respect to campus sustainability. The next few sections of this report detail the research methods employed, the findings, analysis, and conclusions/recommendations.

Methods

The assessment was planned with a two pronged approach:

- A highly qualitative analysis to understand and identify areas, operations, and functions within the libraries that can be improved
- A thorough quantitative analysis to obtain specific information about specific areas or processes based on a priority list from the first step

This summer, the first step was executed. Problems or areas that can be improved were identified with qualitative and descriptive information. A questionnaire was designed with about 80 questions. These

questions covered the following areas: energy, transportation, built environment, recycling, resource use, academic initiatives, and environmental quality. The questionnaire is attached in appendix B.

Twenty-four libraries and departments on the IUB campus were covered for this initial assessment, and they are listed below:

- Life Sciences
- Geology
- GIMSS
- Swain Hall
- Business/SPEA
- Wells (West Tower)
- Museum + Annex
- Customer & Access Services
- HR Department
- Preservation Facility
- ALF Services
- HPER
- Optometry
- Chemistry
- Neal Marshall
- Fine Arts
- Education
- Subject & Area Librarians council
- Kent Cooper Services
- Library Information Technology Services
- University Archives
- Technical Services
- Reference Services
- Geography

Personal interviews were setup with the heads and a few other personnel from these units. The questions were directly asked by the author of this report, and the context and reasoning behind the questions were also explained where necessary. These direct meetings helped in facilitating the introduction of the task force, as well as explaining various concepts related to sustainability. Thus, these interviews also served as an educational tool about issues as well as university initiatives. Many of the questions, as explained in appendix B, were meant to check the awareness levels of the departmental heads. It is these department heads who can make decisions about practices within their library or departments, and at least a basic understanding of sustainability issues will aid in making the libraries sustainable. Along with being willing to adopt new practices, a basic knowledge about sustainability will also motivate the department personnel to take their own initiatives, under the direction or support of the head.

Many of the questions were abstract in nature, and free in scope for the interviewees to answer in a broader sense. The answers could be qualitative as well as quantitative. Many of the questions were also of the Yes/No type. There were questions which required the interviewees to rate certain factors as well. Many of these questions were also perception based. The objective was to find out what the librarians or department heads “think” about certain practices. Since sustainability and many initiatives in this direction are subjective, the perception of these decision makers matters a lot. Construction of incentives and strategizing to achieve organizational goals requires most of the decision makers to be on board with the idea. Hence, these questions are also designed to help in structuring strategies and establishing incentive structures.

The interviews took about 40 days to complete, and were conducted between end of June – beginning of August. Each of the interviews lasted for about 45 minutes on an average, with a few of the interviews being conducted over two sessions, one hour each. Along with the questionnaire,

photographs were also taken of a few facilities. The photos focused on recycling operations, built environment issues, furniture, resource/consumption issues, lighting, and energy issues.

Findings/Results

All the data collected has been tabulated in a spreadsheet, and is attached as Appendix C. Below is a brief summary of the results –

- Energy – Lighting has been a major concern. Many of the libraries expressed that there are just one or two [or few] switches for the entire floor, thus making the control of lighting very difficult. Almost all the libraries/departments would switch off all the lights at nights except for security lights.

Almost all (except 2) said they do not have a departmental goal of reducing energy consumption. They however do have a mission statement, and incorporating any energy related goals might not be difficult.

- Built Environment & environmental quality – Natural lighting was found to be good in just a few libraries. The major reason for lack of natural lighting was in the interest of preserving books which can deteriorate under sunlight. However, the design of the each of the facilities can be seriously questioned. Many of the work areas use additional lighting other than ceiling lights. It can be analyzed to see if the ceiling lights be reduced and focus increased on task lighting, or vice versa.

Heating and cooling has been satisfactory overall. However, there were many issues with high or low heating / cooling. In a few of the facilities, there were areas that were either very cold or very hot. Lack of localized temperature control was cited to be the reason. Thus, a particular facility cannot control the temperatures within the building based on the current situation.

Air quality was a problem in a few facilities. Overall, dissatisfaction was expressed among most of the facilities. Facilities with loading docks close by complained of diesel fumes entering the building. Department heads also cited cases of complaints from patrons/staff about allergies.

Ergonomic issues varied vastly across the libraries. The libraries have an in-house ergonomic expert, thus reducing the risk from various health problems for staff and patrons. It was found that, problems with ergonomic issues were quickly tackled. However, most of the department heads expressed that the furniture used was not the best designs available. A few of the facilities still used furniture from as late as 1960s. Lack of good furniture was found to have an effect on patrons leaving the libraries earlier than intended.

- Resource use – Paper is one of the largest resources consumed within the libraries. Since computing is an integral part of all operations and use, printing is frequent. The presence of print release stations was found to have reduced unnecessary printing and hence wastage of paper. Within offices and daily library operations, paper is reused when possible for use as note cards and scrap paper.

Other than paper, there are minimal wastes produced, of other types. Recycling is definitely practiced, and scrap metal produced from non-required book racks and others are sold. (See Appendix D) Though none of the wastes produced were toxic, used printer cartridges, toners, and computers were found to be harmful.

- Transportation issues - The primary means of transportation for traveling to and fro was found to be by car. Very few walk, bike, or take the bus. Carpooling is an option that is being considered, but not seriously. A few of the heads expressed serious concerns about carpooling. They said that they have to pick up their children on the way, run errands on a daily basis, etc. and hence, carpooling is not a possibility for either them or some of the staff.

Many of the student staff travel by bus, walk or bike, and few by car. A few of the facilities do not have proper bike racks. Though most of the bike racks are accessible and secure, concerns were still expressed about a lack of proper cover for the bike racks as well as fears about thefts. In fact, a few of the employees carry their bikes into the building/office. A wide interest was shown for biking, and a strong interest was shown to make the libraries more bicycle-friendly.

With many books and other materials being regularly transported from the Auxiliary Library Facility (ALF) to other libraries on campus, care has been taken to consider the most optimal route. The route involves mostly right hand turns. A map of the route is attached in appendix E.

- Towards sustainability – The libraries were generally found to be very aware of sustainability issues. Educational initiatives for either patrons or staff were not on the agenda of most of them. A few of the libraries, however took their own initiatives in communicating to fellow staff about reducing printing, recycling initiatives, etc. All the department heads expressed that the staff would be willing to take up sustainability initiatives. However, they do not have many incentives for the same. Ethical or moral incentives were the major ones cited as existing incentives. But, they did suggest that financial incentives and recognition can be excellent incentives to embrace new initiatives.
- An interesting unit – The technical services department (Col. W, Appendix C) is an interesting facility within the libraries. The head of the facility, Mrs. Mechael Charbonneau, mentioned that many recycling initiatives, paper conservation initiatives, and other sustainable initiatives were taken by the department employees. She also mentioned that they are very environmentally conscious.

Diversity is very important for sustainable development¹, and there is vast diversity found in this office. To quote Mrs. Charbonneau, “Where else in Southern Indiana can you find three people speaking in fluent Dutch?” It would be a good research idea to assess if there is any correlation between the diversity in the office and the willingness of the employees to take initiatives on their own.

¹ Resource sharing and efficient allocation of the same requires effective cooperation within the various pockets of a community. A mutual interest and exchange of benefits is required. Further, sustainability is no longer dependent on localized communities. It is increasingly crossing borders and involves people from different countries with varying economic interests. A focus on diversity and maintaining it can enhance sustainability.

Mrs. Charbonneau also collected additional data from the staff for a few questions from the questionnaire. It is attached in Appendix I.

The libraries were asked to list organizations they partner with, both within and outside IU. A consolidated list is outlined in Appendix F. This diagram is by no means all inclusive. It just indicates a sample of organizations as the interviewees had to name the organizations as a part of the interview, and they would have definitely provided more names if they were given more time. The purpose of the schema is more so to indicate possible types of organizations the libraries partner or deal with for providing various kinds of services to patrons. This diagram acts as a base for adding the names of more organizations to the schema, and thus can be used when designing specific strategies.

The photographs taken are available at the following link <http://picasaweb.google.com/LibrariesSustainability/UniversityLibrariesProject#>. They are an excellent visual about models for sustainability initiatives as well as various issues that need to be addressed.

Further, a sample Green House Gas analysis was also conducted. The ALF building which is metered independently was chosen as the sample building. The result of the analysis is attached in Appendix G².

Conclusion

The libraries are a critical organization in the sustenance of a University system. They play a great role in being an organization that facilitates collaboration while ensuring individual growth, and progress. It is vital for the entire libraries system to adopt practices that nurture sustainability. Along with organizational progress, it can greatly aid in positively furthering the minds of the people to adopt sustainable practices in their daily lives. With IUB graduates going out to different parts of the world, it can also be anticipated that there are many positive triggering effects which can impact the entire globe.

IUB Libraries are in a good position to take new initiatives as there are many sustainable practices already in place. The qualitative assessment done this summer facilitates prioritization of issues. Importantly, library employees are on board with taking sustainability forward. Refinement is required for many processes, and suggestions as explained by the employees themselves (see Appendix C) can be taken for ease of managing any cultural transitions.

Recommendations

The following recommendations are based on the analysis of the data collected. They are also based on the recommendations provided by the library staff.

² Analyzed and prepared by Jonathan Bell, Intern – Green House Gas Inventory, The Indiana University Task Force on Campus Sustainability, Summer 2008

- Leading by example – This should be a very important working objective. Every library and department should optimize every process. Patrons should be part of a system that makes the best use of resources, saves time, and provides highly valuable service. Being a part of, and seeing a highly efficient and effective system will have a bearing on the way patrons perform their own tasks. Further, it will act as a model for other departments and units on campus.
- Focus on educating department heads and library personnel – A session can be conducted for department heads and library personnel to learn about the principles of sustainable development. Particular emphasis should be laid on business principles, integrating environmental costs as a part of their daily operations, assessing related benefits, etc.
- Each library can make a detailed list of the organizations it deals or partners with. By ‘organization’, it includes any internal or external entity the library depends on for supporting its own services. [For example, a Janitorial service is an internal entity, and the library of another university is an external entity.] A schema can be created which details the relationship of every library with the various organizations it transacts with. Refer to appendix F.
- Financial management towards sustainability - Capital and operating budgets should be tied i.e., the ROI should be clear, and the resulting benefits based on a comparative analysis should determine capital investments. This additionally should help in creating a model that reduces dependence on grants for plugging new components in the operational process. (The focus should be on a self-sustaining operation)
- Employee engagement strategies – The following strategies are to motivate employees to participate in sustainability initiatives. These are also to encourage them to take their own initiatives (bottom-up approaches).
 - Dean’s award – An award (each in multiple categories) should be instituted and awarded to the employees and the departments.
 - Individual financial incentives – This was widely recommended by the staff themselves. Financial incentives can greatly encourage the involvement of employees in all initiatives.
 - Publicize efforts – Publicize employee efforts, and provide press exposure.
 - Recognition from university president – The president recognizing initiatives, and acknowledging them can greatly help in sustaining the initiatives.
- Inter library competitions
 - Energy challenge – Along the lines of energy challenge competition in IU dormitories, an energy challenge project be conducted to conserve energy → reduce costs.
 - Paper conservation – A competition to conserve paper, among the various libraries.
- Online Hall-mart – Currently, discarded and non-required furniture are handed over to the Facilities Manager who puts them in a hallway (called Hall-mart) in the Wells library. Anyone within the libraries who are interested in reusing them can take them if they want to. If not wanted by anyone, the materials are sent to the surplus store.

To further this, a list of the materials can be maintained on a website facilitating a quicker way of redistributing furniture and materials. Departments who are in need of furniture/materials can look up this website and place an online request. The materials can then be directly

transported to the department which needs it. This eliminates the intermediate transportation and storage that is currently done, and also reduces costs. Further, any materials not required by either the libraries or the surplus store can be distributed to other departments on campus or students. (An introductory schema for this process can be found in appendix H.)

- These findings indicate the need to critically assess the current interior designs. Altering the buildings, if considered expensive, need not be taken up as a starting point. Instead, the interiors of the libraries, offices, and other work areas can be modified through more efficient placement of furniture (to facilitate natural lighting and air flows), ergonomic furniture, automation of processes, etc.
- **The cost savings resulting from the various initiatives can be used for providing financial incentives to employees, diverted to the department budgets, conducting additional research, etc. This is in the larger interest of encouraging the players within the system to adopt sustainable practices, and once they see the benefits, it will help in self-sustenance of the system.**

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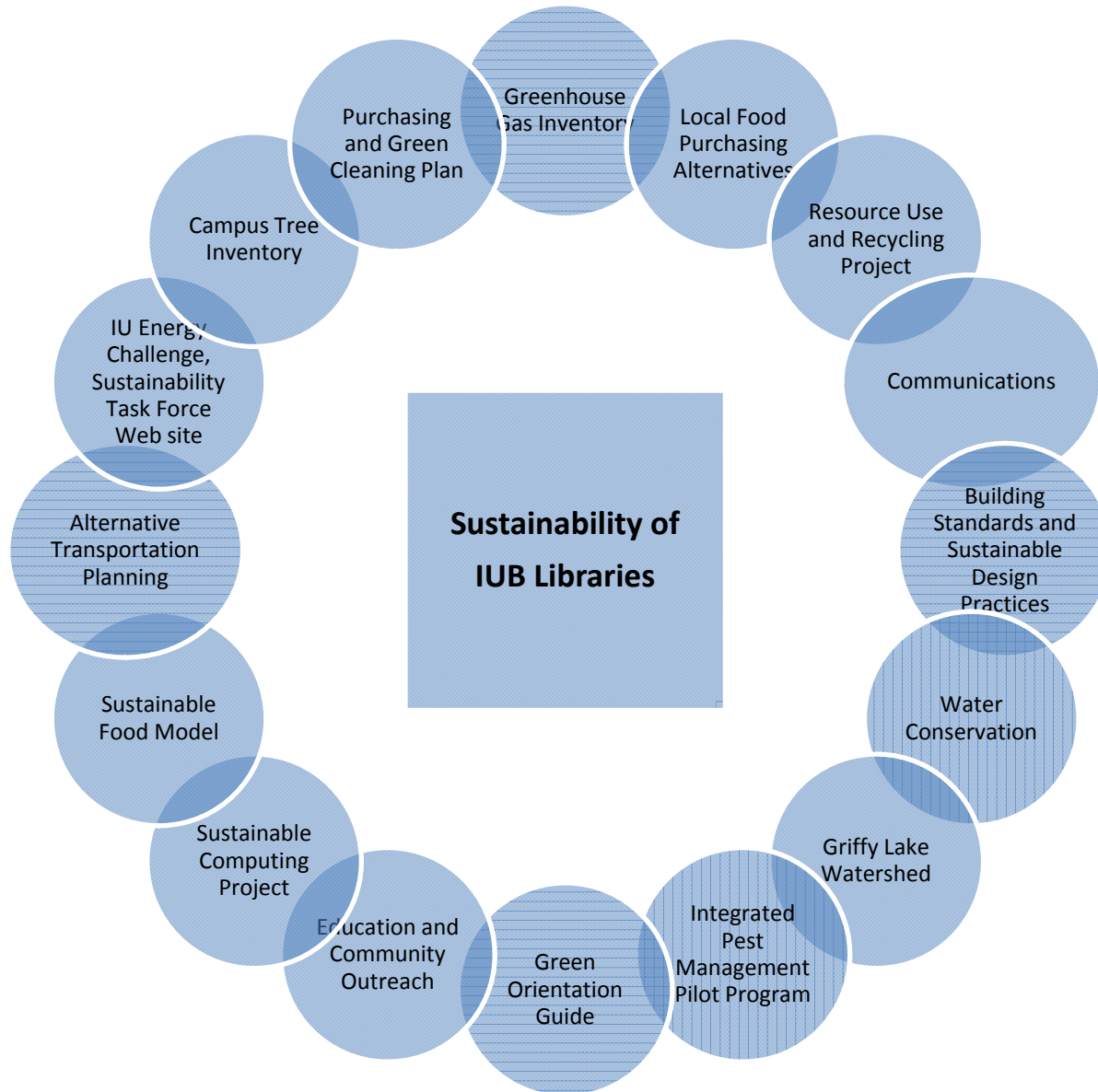
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Appendix A

Libraries, and Summer 2008 STF projects



Appendix B

Questionnaire

Are there unnecessary lights that burn?

If yes, how many?

Do you switch off all the lights at night?

If no, why not?

Do you have a lot of natural lighting?

What percentage (approx.) of the facility is well-lit by natural lighting?

Have any of your patrons or visitors complained of poor lighting in the library?

If yes how many (approx. %age or number)?

Do you use the most energy efficient lighting?

If no, then why not? If yes, then how was it possible?

On a scale of 1-5, how would you rate the quality of lighting inside the library?

Have any of your patrons or visitors complained of poor air quality in the library? If yes how many (approx. %age or number)?

On a scale of 1-5, how would you rate the indoor air quality inside the library?

On a scale of 1-5, how would you rate the quality of heating that you get in the library?

On a scale of 1-5, how would you rate the quality of cooling that you get in the library?

Number of employees:

How many of the employees walk to work?

How many of the employees bike to work?

Do you have accessible & safe bike racks close to the library?

How many of the employees drive to work?

Do you have any [organized] car pooling programs?

Do any of your employees carpool?

If yes, what percentage?

* How many miles do each of your employees travel to get to work? And what mode of transportation do they use? *(Can answer later)*

If living within walking distance, do you perceive it to be safe to walk to work?

How would you rate the security for users/patrons/staff at nights when they leave the library?

* What are the various wastes you produce? Which ones do you reuse? *(Electronics, paper, furniture, plastics, etc. A table of the forms of waste and quantity)*

Do you have double sided printing as the default option in your library?

Do you think patrons indulge in a lot of unnecessary printing?

How many personal printers does your office have?

Are there color printers within the library?

If yes, how many do you have?

How much does it cost to print one page?

Do you switch off all computers after work hours?

Have you taken any initiatives before to reduce printing?

If yes, what are they (record as comments).

Do you have a departmental goal of reducing energy consumption?

Do you have a mission/vision statement for the library?

Do you consider green options when purchasing? *(assess every input that goes in to the library operations)*

Have you previously taken any initiatives to encourage sustainability in your library?

If yes, what are they?

Do you currently undertake any initiatives to educate all visitors about sustainability?

Is yes, what are they?

Do you reuse paper if one of its sides is still clean? *(Ex. for notepads, note cards, etc.)*

Different uses

Do you measure how much paper is shredded?

Is yes, how much?

Do you measure how much paper is recycled?

Is yes, how much?

What do you do with stationery that you do not want anymore?

Do you have a vegetated roof?

Do you harvest rainwater?

Do you tap solar energy?

Are books transported by motor vehicles to this library?

* Approximately, how many miles are covered for this activity in a month? (*Can be answered later*)

What do you do with used furniture that you plan to discard?

The chairs, desks, and other furniture that you use, are they the best designs available?

Have you heard or received any complaints about backache or other health issues after having used the existing furniture? (*For ex. Are the chairs the best design available? Have anyone complained of backache or any other discomfort?*)

Is yes, what are they?

Do you think the library staff would be willing to take up sustainability initiatives?

Do you think the library staffs have any incentives to take up sustainability initiatives?

If yes, what are they?

What kind of incentives would be helpful to motivate library employees with regard to sustainability?

On a scale of 1-5, how would you rate the communication between staff in your library?

On a scale of 1-5, how would you rate the communication with other libraries? (*These two are crucial for supporting sustainable development*)

Are funds allocated for R&D to improve sustainability of the libraries?

Do you currently partner with other organizations to share resources? If yes, then which organizations and what resources?

Are there materials that you currently use which you know have harmful effects?

If yes, what are they?

Do you generate wastes that you deem as harmful?

If yes, what are they? How do you handle them?

Is your library's energy use metered?

Do you track the electricity consumption within your library? (*Are you aware of the electricity consumption within your library?*)

Do you use water within the library building?

If yes, for what purposes?

What cleaning materials do you use within the library?

Do you use chemicals within the library? (*for other than cleaning*)

If yes, what are they?

How would you rate aesthetics when considering installation of solar technologies or vegetated roofs?

Do you have diversity in the workplace?

If yes, what type? If no, why not?

On a scale of 1-5, how high would you rate the collective performance of all the employees in your library?

What are the top 5 things the libraries should focus on towards sustainability?



Computer graphics by the University Architect's Office

Visitor parking locations

Campus Pedestrian Safety

*** Use lighted pedestrian routes, especially when walking alone

24-hour access telephones

Emergency telephone: no coin needed to call 911

Public telephone: no coin needed to call 911

Emergency facilities

Indiana University Police Department

State Police Post

Fire Department

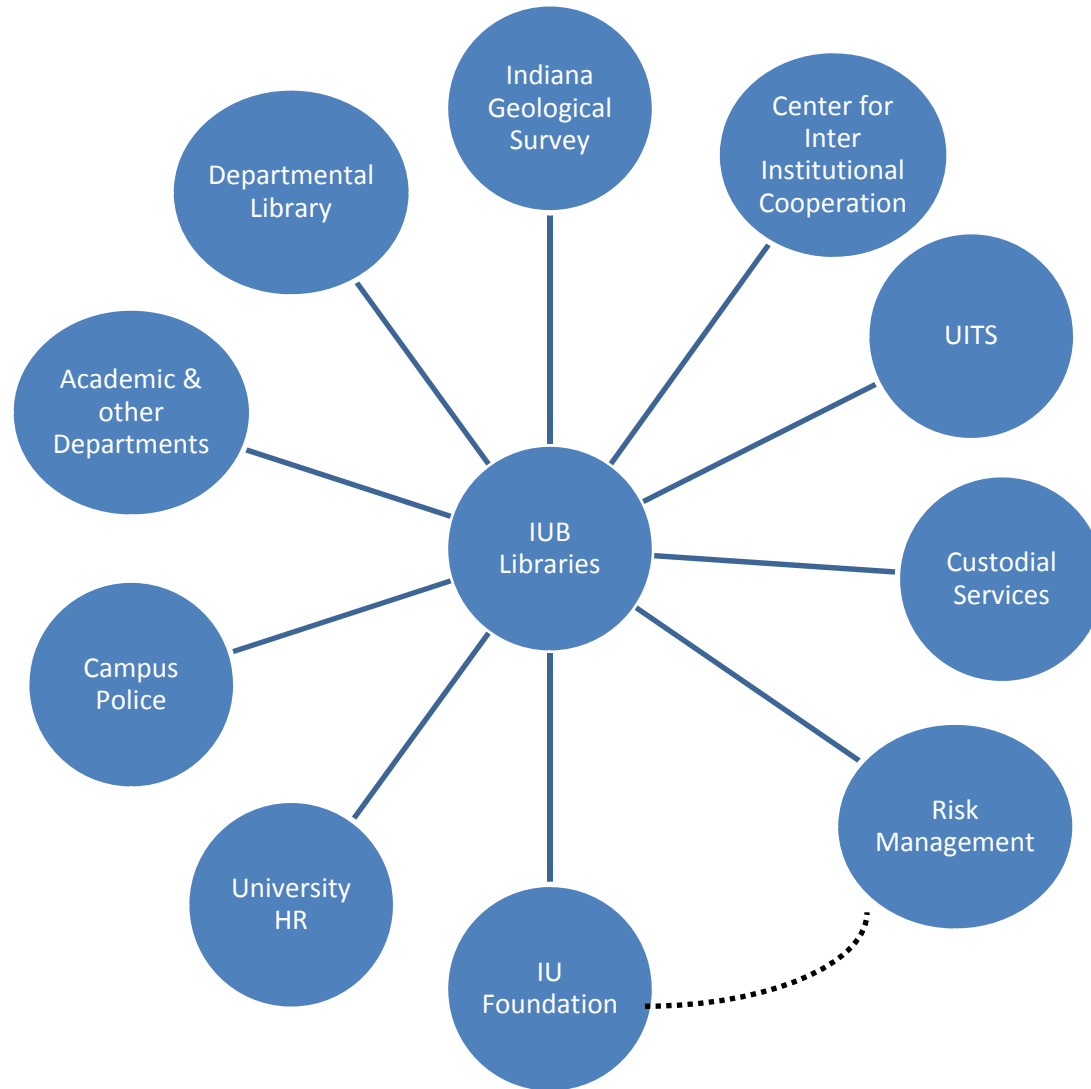
Campus Map
Spring 2007

INDIANA UNIVERSITY
BLOOMINGTON

Source: Mr. Vaughn Nuest
Auxiliary Library Facilities

Appendix F

Organizations that IUB Libraries partners with



NOTE: This is just a sample list of organizations. It can be customized for building specific relationships between the library units/departments with other organizations.

Appendix H

Hall-Mart – Proposed Model

- Eliminate storing at a temporary location by directly transporting from locations A to B
- Reduces the need for [intermediate] storage space, saves gas, and hence cut costs

