Landscaped Urban Corridors for Pedestrian
Recreation and Community Unity

a comprehensive design project focusing on the creation of landscaped pedestrian linkages, to and from established community facilities, which emphasize recreation while providing glimpses of cultural amenities.
Abstract

This publication describes the process which was undertaken for the design of an Urban Greenway Corridor which serves the community of Muncie, IN. along with the Ball State University Campus. The intention of this design project was to facilitate the desired recreation which is demanded by the people living in both of these communities, and allow for access to currently under-used park and cultural facilities and amenities. This urban greenway was to unify the community by way of specifically designed greenway corridors which link existing park and campus facilities. The design was implemented using existing city streets, and designing them in order to meet the desired criteria set forth in the design process.

The design project was a successful one. Design solutions were generated which helped to alleviate the current problems of disconnectedness, lack of purpose, and lack of identity. This design project was to serve as a ‘kit of parts’ and will be vital in the future for the generation of design guidelines and implementation of a urban greenway system of this unique kind.
"...I believe that mothers and fathers would enjoy taking evening strolls with their children in the summertime along designated urban parkways where they can see other families engaging in the same activities..."

- Benjamin B. Jennings

Introduction
Open park space is a specific landscape which is of high value in a community of any size. Landscape connections, urban greenways, and accessible venues designed on, and in harmony with the land, can create perceived spaces where interaction among the members of the community are facilitated and encouraged. These urban greenways, which include thoughtfully designed sidewalks and paths, the placement of trees will facilitate interaction among all of its users. It will be valuable in providing a connection to and from the landscape spaces which provide so many people with so much enjoyment.

The purpose of this study is to determine how to create an urban greenway which currently has fragmented and separated open space facilities. Through a comprehensive landscape design process and research into various other park master plans, case studies, and design strategies, a well conceived comprehensive project can become a reality.

Topic Area
The establishment and design of a pedestrian urban greenway system that facilitates recreation for the citizens of Muncie and Ball State University.
Problem
The problem plaguing the Muncie parks is a distinct lack of connectedness, purpose, and identity.

Problem Statement
The design process addressed the development of a specific written program and design solution for the establishment of pedestrian recreation corridors and urban greenways for Muncie, IN. and Ball State University communities. The proposed system would help to alleviate the fragmentation which currently exists, and allow for recreational travel between desired community facilities. Emphasis should be placed upon the provision of various recreational choices, and access to cultural amenities as well. The circuit should take into consideration the importance of designing for the distinctly different demographic populations existing in the focus area. It should be noted that existing amenities which currently benefit the community, yet remain disjointed and separate, would be included in the design study. By allowing the community as both a single and separate entities to interact by way of recreational freedom, and exposure to cultural facilities, a unique and responsive system can be developed.

Sub-Problems
Four main 'sub-problems' support the problem statement. These 'sub-problems' are as follows:
• Existing community parks are fragmented and separate.
• Distinct disconnectedness creates problems of public accessibility.
• There is a lack of meaningful and purposeful activities and facilities.
• Public use is discouraged, and thereby the sense of community is broken down in a social, educational, and recreational aspect.
Hypothesis
The creation, establishment, and application of design criteria and guidelines for social and public spaces (pedestrian corridors) will provide for recreational and culturally educational choices and opportunities, which, in turn, will strengthen the social glue which helps hold community identity and social activity together.

Project Description
This comprehensive design project was an attempt to provide recreational choices and opportunities for pedestrians within the Muncie Community. The project focused upon using two existing parks, Westside and McCulloch, along with portions of the Ball State University campus, and unifying them by way of designed pedestrian corridors and urban greenways. These corridors provided the backbone for the project, and were intended to facilitate recreational opportunities of various types, for various users. The urban greenways were to be designed along suitable, existing city streets, and allow for connections through neighborhoods, as well as between the parks and the campus. By way of previous design projects, the White River corridor has also been utilized in order to provide for the same type of recreational connection between the two respective parks.

The scope of the project included providing for and facilitating popular recreational activities for the users, along with providing for contact with cultural amenities which were to help in providing richness to the community.
Literature Review

Parks and open space have been and are distinct and important features in the landscapes of our past, present, and future generations. Urban parks are community assets (Hayward: 1989), and Americans value parks and open space more than nearly every other land use (Berens and Garvin: 1997). They provide a convenient setting for a broad variety of leisure and recreational activities, as well as enhancing the image and perceived value of the community (Hayward: 1989). It is this perception that is lacking in the Muncie community. Establishing this public view of its open spaces, and designing convenient and exciting connections to facilities of the same intention will “re-define” the Muncie park system and give its residents recreational facilities to be proud of and take pride in. Designing urban greenways to project this view to the public will be done by incorporating uses and facilities that the public desires access to. Studies have shown that home-buyers identified natural open space and walking and biking paths as among the top four features (77 and 74 percent, respectively) that they ranked very or extremely important (Berens and Garvin: 1997). Also highly ranked were gardens with native plants and walking paths (56 percent); wilderness areas (52 percent); community/recreation centers (52 percent); and interesting little parks (50 percent) (Berens and Garvin: 1997). In another poll, greenery and open space were second only to low crime and safe streets in quality of life issues (Berens and Garvin: 1997). The public does demand beautiful open spaces and various recreational amenities and facilities. The Muncie community is no exception. It has been my personal observation that members of this community want and need a place to exercise and recreate. Men, women and students alike can be seen jogging, biking, and rollerblading along streets and sidewalks; simply where they can find room to squeeze through. It is these people, these users who would welcome a park system with urban greenways which would allow them the freedom to exercise how they choose, and not have to fear for their well-being or worry about how to get from one place to the next within the busy urban fabric of Muncie and Ball State. This community is thirsty for the quality of life that can be tagged by two themes: active recreation and nature in the city (Hayward: 1989). A balance between the two is imperative. It is important to design
facilities which will allow the community to achieve the *active recreation* levels they desire. In order to do this, an understanding of the types of recreation which exist is imperative. Most activities can be classified into these four categories of recreation experience: *physical recreation, social recreation, cognitive recreation, and environment-related recreation* (Gold: 1980). Seeing as how this is a study dealing with sites which are outdoors, specific clusters of activities can be used to allow greater flexibility (Gold: 1980). For purposes of physical recreation, one should plan and design for activities such as climbing, skateboarding, jogging, walking, football, basketball, bicycling, etc. (Gold: 1980). Social recreation should also be planned and designed for, and includes picnicking, listening to music, fairs, etc. (Gold: 1980). As for *nature in the city*, parks and open space provide a much needed aesthetic to the everyday grind of public and city life. Take Bryant Park in New York City for example. It was built in 1911, but by 1980 it had become a haven for drug dealers due to its elevation above street level, tall shrubs, and high iron fence (Berens and Garvin: 1997). But, at this time a neighborhood and city effort began transforming the park, and it finally became a model for park restoration around the country (Berens and Garvin: 1997). Now, by implementing *nature in the city*, Bryant Park has become a place for people to enjoy lunch in the sun, listen to music, move their chairs, and catch some rays (Berens and Garvin: 1997). Granted, Muncie is not New York City, but the same principles and techniques can be applied to this study and design in order to increase park draw, capacity, and perception. Another way to incorporate *nature in the city* is to use interpretive facilities and educate the public about the cultural aspects of their surroundings. Interpretive facilities do just this. “The purpose of these interpretive programs is to relate and explain to people the natural, historic, and cultural values of the park and the surrounding lands and waters through various means so that these values will be made more meaningful and enjoyable” (Fogg: 1990). The interpretive facilities which will be used here will be interpretive shelters or wayside exhibits, and will be used to help the visitor understand, enjoy, appreciate, and develop respect for his/her cultural environment (Fogg: 1990).
Benefits of the Urban Greenway

Several different types of benefits will occur from the establishment of the urban greenway system. Both cultural/educational benefits and recreational benefits are:

Cultural/Educational Benefits:
- Users are allowed to learn about cultural history and have exposure to cultural amenities in the community.
- Mixing of ages, races, and genders strengthens community unity, and promotes healthy interaction and social growth.
- Users are provided with access to Ball State University facilities.
- Users are provided with information about proper exercise techniques and up-to-date health tips.

Recreational Benefits:
- Physical Recreation
  - Users are exposed to several health benefits due to regular physical activity.
  - Provision for several types of outdoor recreation opportunities including biking, walking, jogging, rollerblading, skateboarding, etc.
- Social Recreation
  - Opportunities to meet, talk with, and interact with those of the community engaging in the same types of activities.
  - Opportunities to experience activities with family and strengthen bonds.
  - Opportunities to facilitate different community wide activities.
- Cognitive Recreation
  - Increased opportunity to travel safely and freely between points of interest within the community.
  - Allows users to clear heads, assemble thoughts, strengthen minds.

Economic Benefits:
- Opportunity for city beautification and an increase in property value along greenway routes.
Project Goals and Objectives

Three goals and objectives were identified for this design project. They are:

Goal for providing "Connectedness"
Design corridors for pedestrians which allow them to recreate freely due to continuity of elements and recognizable locations within neighborhoods.
   1. Establish a hierarchical system which connects the neighborhoods and existing facilities in a meaningful and relevant manner.
   2. Establish specific design criteria which brings cohesiveness to the project.

Goal for providing "Purpose"
Create a safe, healthy and meaningful system of spaces that can be used for the benefit of public recreation and cultural awareness.
   1. Establish features to provide users with relevant information about recreational activities and cultural features within the surrounding area.
   2. Provide an outlet for recreational activity through specific design features which are appropriate for the pedestrian corridors and urban greenway.

Goal for providing "Identity"
Create recognizable and distinct places which evoke community unity and encourage use through the provision of various activities.
   1. Design unique and recognizable signage and facilities.
   2. Utilize the local geography in order to develop a sense of distinct placeness.
Assumptions
The scope of the project was of such large proportions that the design solutions required several assumptions which served as background material. The assumptions were:

- The Muncie community shall welcome the idea for the pedestrian corridor/urban greenway system.
- Ball State University desires to be an integral partner in the pedestrian corridor/urban corridor system.
- Minnetrista Cultural Center will allow itself to be an integral part as well.
- The Greenway development along the White River corridor shall be completed, and will allow itself to become incorporated into this proposed community system.
- The Cardinal Greenway System will allow itself to be linked to this system.
- The City of Muncie will cooperate by providing for the necessary amendments to existing facilities and features which will change due to the design impact.
- Work will be done in order to unify and coordinate other existing cultural facilities not directly impacted by the urban greenway; i.e. Oakhurst Gardens, etc., into the project.
- Negative cultural activities at McCulloch Park will be alleviated.

With the inclusion of these major assumptions into the design process, I was able to focus on designing a functional urban greenway.
Site Description and Location  (See Appendix A)

The site was in the city of Muncie, Indiana. More specifically, the site area includes two city parks, portions of Ball State University, and the existing streets which run throughout the area. Specifically, the actual design implementation would take place along the designated urban greenway route (existing streets) as decided through the extensive research and design process.

The three main nodes that were investigated for this project were the campus of Ball State University, McCulloch Park to the east, and Westside Park to the south. The project focused on the selected urban corridors which exist as streets in the current Muncie street grid. Some of the selected streets include Highland Ave., Minnetrista Pkwy., Neeley Ave., Nichols Ave., and Celia Ave. The site was selected based upon features relevant to the design goals which already existed in the study area. The location of the Ball State University Campus, McCulloch Park, and Westside Park are within a relatively close proximity of each other, and are connected by the urban corridors mentioned above, along with the White River corridor. The three nodes and their established connections provided an ample opportunity to create an urban greenway system, which will take advantage of cultural amenities within the community, and will provide ample recreational choices and opportunities for users throughout the study area.

The Ball State University Campus lent itself to this project by being a recognizable community landmark and having a central and dominant location within the town of Muncie. There were areas in several directions and locations which could lend themselves to become connections in the urban greenway system. McCulloch Park is nicely located along the White River corridor, and is connected to Ball State by way of an urban corridor(s). The corridor routes that were looked at consist of Highland Ave, West to St. Joseph Ave, which runs through the Minnetrista Cultural Center Center grounds for a short distance.
and connects with Minnetrista blvd. This then becomes Neeley Ave. at the intersection of Minnetrista blvd. and Wheeling Ave. From here, there is a direct link to the Ball State University campus, the open space adjacent to the Health and Physical Performances Laboratory, and Irving Gym. These locations allowed for the creation of a suitable pathway for the urban greenway system to utilize, while revitalization of the community and campus streetscape takes place as well. This corridor path also allows for ease of access, opportunity to tie into campus neighborhoods, and the opportunity to design a park node on the Ball State Campus which would strengthen the mission of the building which it adjoins. Westside Park is located along the White River corridor, is a short distance from the Ball State campus, and just down the river corridor from McCullugh Park. The urban corridor link between Westside and Ball State consists of a couple of options. From Westside Park heading North to Ball State, Nichols Ave. and Celia Ave. provide a highly suitable combination of recreational travel options. There is an opportunity to reach more of this neighborhood by utilizing both streets, along with Adams St. In order to “weave” through the neighborhood until either one intersects with Gilbert St. From here, a connection to the Burris Backyard Playground is possible, and a routing along McKinley Ave. becomes a distinct possibility. Westside Park will provide scenic interest along the river, along with open space and recreational choices.

Note:
Westside Park and McCullugh will be linked by The White River Corridor, as stated in the assumptions. This will allow the creation of a loop system between the two parks and the University which will allow recreational travel between these three major community facilities.
Client/User

The main clients for this comprehensive project were the city of Muncie, IN. and Ball State University, respectively. Within these two communities are three other basic user groups. These groups included Muncie residents, Ball State University students and faculty, and visitors to the city and university.

It has been my personal observation that there are a large number of people who jog, rollerblade, fitness walk, and engage in other various forms of active recreation around both Muncie and the Ball State campus. Professors jog between classes and during lunch hours. Students rollerblade in their spare time, in evenings, and on the weekends. People of all ages ride their bikes to and from work, for recreation, and for sport.

At the current time, though, there are no specific facilities for people to perform these types of activities. The potential is there, it must be taken advantage of.

I believe that mothers and fathers would enjoy taking evening strolls with their children in the summertime along designated urban parkways where they can see other families engaging in the same activities. Students would love the opportunity to have a designed bike trail and loop system that they could ride, instead of having to navigate along busy city streets. Joggers would relish the challenge of finally completing the park system loop without having to stop during their route, truly a great accomplishment.

The picture painted here is only a brief sample of what will come about when the project is completed, and a truly successful urban park system is implemented, used and fully enjoyed.
Data/Methodology

There were several integral types of data needed in order to successfully accomplish the design. The data topics were reduced into four basic areas which were looked at during the duration of the comprehensive project. One type of data looked at was demographic information. This information was critical for identifying community growth and history, types of prevalent users, and the wants and desires of the user groups. A second data category looked at was site information. This information allowed for the study of various areas within the community by looking at opportunities and constraints, site systems, suitability criteria and relationships to other areas of interest. This allowed or the selection of the best possible sites that I could for project implementation. A third data category looked at was design criteria and specifications. In order to design for recreation facilities and cultural amenities, one needed to know how to design them, how to implement them, specific uses, and the like. This was a crucial part of the design because if these features did not hold up, there would be essentially no design. Finally, the fourth data category was the environmental and site specific systems. This category was important because it allowed for the study of conditions of the site which would have affected the way the design was implemented. For instance, sun patterns, how the site deals with rain, wind patterns, landscape patterns and the like. All of this data proved to be crucial in the final design outcome; aspects provided crucial information and helped to provide the best solution possible.

The research method most beneficial and relevant to my endeavor was the descriptive survey method or the normative survey method. These methods entailed the researcher observing the scene and relaying the information as fact. The information was physically observed, as well as collected through questionnaires and polling data which were previously completed and compiled. I saw this as being the best and most productive research method available for my particular design project. I also relied heavily on research materials and texts from which I obtained design specifications and recommendations in order to design for the specified user group and specified activity. Specific site information came from the conducted site analysis, while design specifications came from research materials and texts on the subject.
Programmatic Statement

The purpose of the program was to provide the client or reader with an understanding of the desired amenities that were to be included in the design of the pedestrian recreation corridors/urban greenway. These elements were crucial to the intended success of the project, and are re-iterated here in order to provide a dual understanding between the client and the landscape architect.

The two major groups of program elements included:

1. Recreational Facilities
2. Pedestrian Needs Facilities

Recreational facilities were a main focus of this design solution. One main design element of extreme importance was the implementation of a built trail feature which provides a smooth and continuous surface in order for users to partake in recreational activities such as bicycling, jogging, rollerblading, walking, etc. The trail surface was to be denoted with various markings showing distance traveled, type of use, etc. Incorporated into the system was a signage feature which accompanies the trail and provides the user with information such as location maps, distances, places of interest, health tips, exercise tips, etc. The signage system was to be consistent in design and should provide a major service to the user. Also incorporated into this pedestrian recreation system was lighting. The lighting was to be consistent in both design and location, and should serve to light the trail and facilities at night. This provides safety for all who are using the system, along with providing an aesthetic flair. Another design element implemented was various street tree and shrub plantings, along with other vegetative plantings for aesthetic interest. Street trees were used to line the pedestrian corridors and provide shade, shelter, and buffers. Other plantings were to be used to beautify and signify the various corridor routes, rest facilities, and park facility areas. Seating elements were also another important amenity along the pedestrian system route. Seating was placed at various points along the recreational trail, in order to allow for sitting breaks, relaxation, or social viewing and interaction.
Other major elements which were to be incorporated into the design were "pedestrian needs facilities." Pedestrian Needs Facilities included bike parking, shower and change facilities, and rest stations. Parallel to these provisions were needs which were less "hands-on," and more cerebral. These needs included continuity of facilities and on-road intersection needs.

Bike parking is directly related to the amount of bicycle use which will occur on the recreational system. The implementation of proper and secure bicycle parking and locker facilities allows more users to feel securely about leaving their bicycle for a period of time in which they cannot keep track of it or need to rest, get water, etc. Change facilities, locker storage, etc. are included to provide users with facilities to clean up, change clothes, store possessions, and have access to other facilities which are necessary in order to promote healthy and proper recreation and exercise. Rest Stations were to provide users with facilities which supply water, provide rest rooms, and allow the user to take a break along the way. Continuity of facilities included provisions for lack of gaps in sidewalks and other obstacles, creating a barrier free network, and providing for continuity of signage features and markers. On-road intersection needs-included provisions for having pedestrian crossings at intersections by way of walkways or signals, along with providing curb cuts with sloped access to the street or having at grade crossings in order to satisfy ADA requirements. Maintenance provisions allow for clean-up and proper care to be taken by the proper parties responsible and/or designated.

The combination of the elements described in these two groups provide a beneficial recreational aspect for the client(s). This pedestrian recreational system would not only benefit the users in a healthy and fun manner, but would help to provide for community unity. This, in turn, making for a socially acceptable and meaningful activity facility which is accessible to everyone.
Site Inventory (See Appendix B)

Part A: Nodes and Existing Features

Stemming from the decisions made by the application of the suitability assessment criteria to the selected streets within the design boundaries, an urban greenway route was determined. This route then became the actual "site" to be designed. Thus, there needed to be an inventory taken of existing features, amenities, and facilities. They inventory list was:

Inventory of Existing Nodes

Areas of the Ball State University Campus
- Educational and Recreational facilities available
- High concentration of users on North end; dormitories, etc.
- Empty lot adjacent to Health and Human Performances building
- Rental neighborhoods sandwiched between campus sectors; i.e. Dicks St., Dill St., Martin St., etc.
- Neighborhood sandwiched between Campus and Westside park.

Westside Park
- Play Equipment
- Parking areas
- Between White River Blvd. A and White River Corridor
- Adequate Open Space
- Scattered Vegetation
- Softball Diamond
- Picnic Shelter
McCulloch Park
- Existing Pathways (approx. 2 mi.)
- Lots of Good Existing Vegetation
- Three Picnic Shelters
- Adjacent to White River Corridor
- Baseball Diamond
- Run-Down Play Equipment
- Facility Buildings

Burris Backyard Playground
St. Mary's Church Grounds
Minnetrista Cultural Center
- Ball Mansions
- Oakhurst Gardens
- Adjacent to County Fairgrounds
**Part II: Street Selection**

*Inventory of Selected Urban Corridors: Selected Streets Used to Create the Urban Greenway Path.*

**Celia Ave.**
- North and South Street
- Runs from Westside Park to Ball Hospital
- Runs Along St. Mary's Church Grounds
- Runs Through Neighborhoods

**Nichols Ave.**
- North and South Street
- Runs from Westside Park to Burris School
- Currently Vacant Lot Adjacent to Road a Block from Westside Park...Through Neighborhoods

**Adams Ave.**
- Runs East and West between Celia and Nichols a few blocks from Westside Park
- Runs Through Neighborhoods

**Gilbert St.**
- Runs East and West between Celia and Nichols Behind Ball Hospital and Burris School, etc.
- North and South Street

**McKinley Ave.**
- Runs Through Middle of Ball State Campus

**Highland Ave.**
- Runs East and West
- Runs Through McCulloch Park and Fork at Walnut
- Runs Into Back of Minnetrista Property
- Runs Through Neighborhoods
St. Joseph St.
- Runs East and West from Walnut through Minnetrista
  and Stops at Fairgrounds Property

Minnetrista Pkwy.
- Runs Through Minnetrista Cultural Center
- Splits at Ball Mansions
- Turns into Neeley Ave. at Wheeling Ave.

Neeley Ave.
- Runs East and West from Minnetrista to Ball State Campus
- Through College Neighborhoods
- Intersects McKinley Ave. on Ball State Campus

Miscellaneous: Considered During Conceptual Design
Riverside Ave.
- East and West Through Ball State Neighborhoods
  and Fraternity Row.

University Ave.
- Runs Through Ball State Village and Intersects with
  McKinley Ave. at Vacant Corner (CBX Bookstore)
Suitability Assessment Criteria (See Appendix C)

In order to determine the urban greenway routing system, streets needed to be selected and ranked according to levels of suitability. These suitability criteria were established to allow the urban corridors to be evaluated, ranked and then selected to create the urban greenway system. Streets which exhibited these qualities, all or most, were deemed suitable and were then used to create the current urban greenway path system proposed in the final design scheme.

- Spatial allowance along roadside to allow for functional design of recreational corridor.
- Existing sidewalks which could potentially be re-developed.
- Good relationship to “hearts” of existing Ball State and Muncie Neighborhoods.
- Routed through low “danger potential” areas.
- Lack of travel obstacles
- Provision to travel along, through, and by cultural amenities within the community.
- Streets lead to “terminus” point which can be designed and incorporated into circuit.
- Relatively low to moderate speed of traffic movement.

Five Factors for Selection of a Recreation Route (from Time Savers Standards for Landscape Architecture)

1. Bicycle Traffic Generators
   - Schools, Parks & Rec. Facilities, Community Activity Centers, Employment Concentrations, and Shopping & Commercial Centers

2. Scenic & Recreational Amenities
   - Its value is equal to close proximity to parks and other scenic & recreational attractions
   - The most varied and attractive routes will be used the most.

3. Terrain
   - Different users (bicyclists) won’t tolerate steep grades; \( g > 5\% \) ...equals a sharp drop in the length of uphill grade one will tolerate.

4. Adequate Space
   - Consider spatial dimensions of users, maneuvering space for balancing, and additional clearance to avoid obstacles.
   - Assume “two-way travel” ...provide appropriate widths.

5. Negative Factors including elevated embankments, busy arterioles, and adverse weather
Site Analysis (See Appendix II)

The purpose of the analysis phase was to take the site inventory and cross reference it with the programmatic statement and its elements to see how they might work into the whole scheme of the design project. This analysis phase allowed me to determine what types of facilities might go where, and how certain amenities would fit into the urban greenway mesh. Basically, this step was useful in identifying opportunities and constraints which influenced the design.

Nodes such as the Ball State campus and the two parks provided both cultural and recreational opportunities for the users. Nodes including Minnetrista, St. Mary's Church Grounds, and Burris Backyard provided these types of opportunities, but they were each fairly restricted to their respective type.

Empty lots and vacant sites which are set back along the corridor system provided ample and sufficient opportunities for establishing rest areas, rest facilities, comfort stations, etc. One such lot exists along Nichols Ave., directly across the railroad tracks, heading north. Another lot exists at the corner of McKinley Ave. and Neeley Ave., on the Ball State Campus. A third empty lot exists directly adjacent to the west boundary of McCulloch Park. Due to the location of these empty lots, they provided ample space and opportunity for creation of pedestrian rest facilities at the various locations.

The trail itself would run along the established corridor route, and would take the place of the existing sidewalks or current setbacks in areas where adequate room was identified. Trees and vegetation were to be planted in the designated buffer spaces between and along trail and roadway. Vegetation was also to be planted for purposes of beautification and function. The established trail system was to be read within the community just as the completed White River Greenway was read; as a natural amenity which winds its way through the community.
There were to be provisions for establishing *on-road-intersection-needs*, this meaning that there was to be specific criteria implemented in order to protect users of the trail from harm at several different intersections which would be traveled through along the course of the trail system. These guidelines provided for design of safe and aesthetic crossing areas at the various intersection points along the urban greenway. These intersections include:

- White River Blvd. and Nichols Ave.
- Nichols Ave. and the Railroad bed
- Celia Ave. and Jackson St.
- McKinley Ave. and Riverside Ave.
- Neeley Ave. and New York St
- Neeley Ave. and Wheeling Ave.
- Highland Ave. and Walnut St.

Amenities such as lighting, seating and social areas were strategically placed along the route as to facilitate all types of activities as well as users needs. Target areas were neighborhoods, cultural feature areas and overlooks, greenway interchange areas, and various other locations along the trail system.

It is also noted that the neighborhood which is dissected by University, Riverside, and Linden Avenues was to be included and considered in the analysis phase of the design study. Further exploration was to be completed during the conceptual design phase.
Concept One (See Appendix E)
Connecting Existing Nodes via Urban Greenway System

The purpose of this concept was to investigate the possibilities of a design which dealt strictly with the connection of the existing nodes via the urban greenway system. The concept dealt with the design of a corridor which was simply routed in order to allow the user to have access to all major nodes, while being able to recreate freely along the corridor path. The corridor would connect the following nodes: Ball State University, Minnetrista Cultural Center, McCulloch Park, The White River Corridor, Westside Park, St. Mary’s Church, and the Burris Backyard Playground.
This design concept was simply focused upon facilitating recreational activities along the linear corridor, while providing the user with access to and from the existing cultural and recreational facilities that currently exist within the Ball State and Muncie communities respectively.
Concept Two (See Appendix F)
Creating Inter-neighborhood Greenway Paths

The purpose of this concept was to investigate the possibilities of a design which strictly dealt with the creation of inter-neighborhood greenway paths. These paths were to be part of the total urban greenway system, and were not to replace the main greenway corridor. Instead, these inter-neighborhood routes were to supplement the greater corridor system and its related activities at a smaller, more neighborhood oriented scale. The main idea behind this concept was to find a way to facilitate all users. This included the elderly, wheelchair bound persons, and the like. Smaller circuits which were to allow for recreational activities within the neighborhoods of these users would allow them to involve themselves in the greenway activities, yet there wouldn't be a need to travel a great distance in order to do so.
Concept Three (See Appendix C)
Creating an Entire Greenway Circuit

The purpose of this concept was to investigate the possibilities of a design which strictly dealt with the creation of an entire greenway circuit; connecting all of the nodes existing within the community, as well as utilizing the assumed White River Greenway, and making clear connections and transitions by way of designed amenities.

An element of major importance in this concept was the greenway interchange areas. These areas were to be located at junctures which occurred when the urban greenway met the White River Greenway. These areas were to serve as transition zones between the different parts of the greenway, yet were to reinforce the idea of a continuous greenway circuit.
**Master Plan Components**

*Master Plan (See Appendix H)*

The Final Master Plan was a culmination of the three different concepts that were developed in the design development phase of the project.

The final plan was designed in a Satellite Loop Trail Layout. This means that there was one main trail loop, (the connection of Westside Park to Ball State University to McCulloch Park), with other loops which access the surrounding neighborhoods and tie into the main pathway.

The designed Urban Greenway Path runs along the selected city streets which were determined from the evaluation of the suitability assessment criteria.

The design calls for a connection to the assumed White River Greenway, and it also allows for the Cardinal Greenway to be tied into the urban greenway circuit at the McCulloch Park Interchange.

*Pedestrian Rest Stations and Greenway Interchanges (See Appendix I)*

Pedestrian Rest Stations and Greenway Interchanges played major roles in the success of the design of the final master plan. These areas served both functional and aesthetic purposes, and provided the needed facilities throughout the course of the urban greenway system. These facilities included designed entry courts, spacious areas for continuation of recreational activities, needed locker and restroom facilities, and access to refreshment and Internet services (Neeley Ave. Rest Station only).

**Greenway Specifics**

Basic dimensions of the designed trail system were:

- 5' wide vegetative buffer between the existing street and the designed pathway
- 12' wide greenway path for two-way travel
- 30' long seating area approximately every 100'
Celia and Nichols Avenues (See Appendix J)
- Greenway path along the East side of Celia Ave. and the West side of Nichols Ave. to avoid any crossing of streets while moving from one of these paths to the other.
- Terminated at the South end by the Westside Park Interchange.
- Nichols Ave. adjacent to the Nichols Ave. Rest Station which was implemented in a vacant lot along the route.

Gilbert Street and McKinley Avenue (See Appendix K)
- Greenway path along the South side of Gilbert St.
- Connection to the Burris Backyard Playground along Gilbert St.]
- Greenway path along the St. Mary’s Church Grounds (Cultural amenity)
- Greenway path along both sides of McKinley Ave. and Terminates at the Neeley Ave. Rest Station.
- The Neeley Ave. Rest Station includes rest facilities, beverage station, and electronic kiosks.

Neeley Avenue (See Appendix L)
- Greenway runs along the North side of Neeley Ave.
- Greenway terminated at West end by the Neeley Ave. Rest Station.
- Visible Crosswalks designed into greenway path system.

Highland Avenue (See Appendix M)
- Greenway runs along the North side of Highland Ave.
- Greenway terminated at the East end by McCulloch Park and the McCulloch Park Rest Station.
- Connection to the Cardinal Greenway at this juncture.
- Connection to River Walk via McCulloch Park Rest Station.
Signage Features with Iconography and Lighting (See Appendix N)
Icons were designed in order to represent various areas and routes within the Urban Greenway System. These icons are visible on signs and signposts which appear in the parks and rest areas, and line the path system and greenway corridor. The lighting elements are designed to heighten the experience along the pathway. The lights are down lit to provide the maximum efficiency at the 8 foot height.

Other Design Features
There are other design features which helped to complete the design of the Urban Greenway System. These types of features included designed light features, refuse containers, drinking fountains, and lighted bollards.

All features stated here were designed using the shape found in the design of the greenway system.
Suggestions for Plant Material

The greenway design called for specific plant material for specific site conditions. The suggestions for various plant material throughout the design were:

Street Trees:

Littleleaf Linden: *Tilia cordata*
Callery Pear: *Pyrus calleryana* ‘Bradford’, ‘Redspire’
Village Green Japanese Zelkova: *Zelkova serrata* ‘Village Green’
Kousa Dogwood: *Cornus kousa*
Yellowwood: *Cladodris knutkeds*

Shrubs:

Firethorn: *Pyracantha coccinea*
Barberry: *Berberis thumbergii*
Burning Bush: *Euonymus alatus* ‘Compactus’
Yews: *Taxus spp.*
Conclusion

Overall, the Urban Greenway System was a great success. The project has many strong design qualities, and the process could be translated into any community anywhere. The urban greenway system would serve a lot of people, and open many of their eyes to things that they might have never known about, heard about, or seen before.

Recreational and cultural choices and activities are what have driven this project from day one. These opportunities provide the public with a variety of things to both see and do; it brings families together, makes friendships stronger, allows new friendships to be made, and provides the community with outlets for various activities.

The addition of the pedestrian rest stations also helps to provide for park nodes within the community, in areas which are in need of an amenity to draw activity to it; otherwise it stands vacant and useless, in the urban greenway system it is a much needed space and spatial experience. Many greenway plans will come and go, but this one shall stand the test of not only time, but flexibility. Adaptations can be made in order to deal with the ever-changing social and political structure of the community, while keeping everybody recreating happily.

'Landscaped Urban Corridors for Pedestrian Recreation and Community Unity' was a project completed by Benjamin B. Jennings...BLA...Class of 1998. Many thanks to those who have helped along the way, including Dr. Ronald Spangler, Mr. Leslie Smith, the BLA Class of 1998, my dear friends, my family, and the love of my life...she knows who she is.
Appendix A

Muncie, Indiana
Appendix C

Suitability Assessment Map
Appendix D

Site Analysis Map
Appendix E

Concept 1
Appendix F

Concept 2
Appendix G

Concept 3
Appendix J

Celia and Nichols Ave's.
Appendix L

Neely Ave. Design

Neely Ave. Rest Station/Beverage Stop/Electronic Kiosks
Appendix M

Highland Ave. Design
Bibliography

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Internet Sites

Courtesy of Houston-Galveston Area Council, Houston, TX. Found @ www.hgac.cog.tx.us/transportation/bikeplan.html. 1.21.98 12:32 pm.

Courtesy of the Metropolitan Branch Trail Coalition, Washington, D.C. Found @ announce.com/MBT.htm#trail. 1.21.98 12:49 pm.