Urban area improvement through streetscape environments

College Avenue in Chatham Arch neighborhood Indianapolis, IN

Jon Bonham
5th Year Undergraduate Landscape Architecture Program
Department of Landscape Architecture
Joseph C. Blalock, Advisor
College of Architecture and Planning
Ball State University
Muncie, IN 47306
ABSTRACT

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According to the studies done by the Federal Highway Administration fewer than 6% of Americans make daily trips on foot (http://www.usatoday.com/news/nation/2003-08-28-sprawl-usat_x.htm). By living near where we work and shop we can create walkable communities, a sense of place, help reduce obesity, and reduce the stresses in our daily lives. In order to encourage people to move away from sprawl and toward walkable communities the quality of life must be equal to or better than the quality of life in the suburbs. Having a street that can supply the surrounding neighborhoods basic needs within a quarter mile can do this. Chatham Arch has improved dramatically since the 1970’s. However, the neighborhood still lacks the basic shops and services that people require.

Many urban areas in Indianapolis are seen from the suburbs and surrounding regions as unsafe places because the city has been abandoned by the middle class. Currently, there is a high demand for living spaces in and around Indianapolis. The current majority of housing development to meet this need is developing on existing farmland surrounding Indianapolis. These development patterns only increases current traffic problems, promotes sprawl, increases national obesity rates, and decreases tax revenues for the city of Indianapolis. By retrofitting existing neighborhood fabrics in Indianapolis a higher quality of life is promoted by reusing existing urban land, reducing the number of people dependant on the automobile, and lowering the national obesity rates.

This study looks at the history and theory of urban areas in Western Culture and the history of Chatham Arch Neighborhood in Indianapolis. The case study is an example of a streetscape project that has already been successful in strengthening the German Village community in Columbus Ohio. This project used a major neighborhood streetscape to act a communal node. Current gaps were studied along Massachusetts Avenue and North College Avenue up to the I-65 overpass, as a
possible mixed-use district for the local neighborhood needs without detracting from Massachusetts Avenue Arts District.

College Avenue offers a great opportunity and currently has many empty lots and undesirable views though it was once considered a great street. College Avenue has the potential to further connect the Chatham Arch Neighborhood with the surrounding historic neighborhoods.
# Table of Contents

## Introduction

- Background .................................................. 1
- Purpose of Study ............................................ 3
- Guiding Questions .......................................... 3
- Definition of Key Terms ..................................... 3
- Assumptions .................................................. 5
- Significance of Study ........................................ 6

## Related Literature

- Historical Background ....................................... 7
- Role of Landscape Architect ............................... 8
- Relevant Theory ............................................. 13
- Case Study ................................................... 16
- Design Issues ................................................ 19

## Methodology

- Project Type .................................................. 21
- Site Selection Criteria ..................................... 21
- Description of Site and Context .......................... 22
- Special Considerations ..................................... 37

## Site Inventory and Analysis

- Introduction .................................................. 38
- Opportunities and Constraints ............................ 39
- Goals and Program .......................................... 40

## Schematic Design

- Economical ................................................... 44
- Social .......................................................... 44
- Political ....................................................... 45
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>German Village Columbus, OH</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>Typical Home in German Village</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Typical Storefront in German Village</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>Site Context Marion County Site Outline in Red</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>Site Boundary Outlined in Red</td>
<td>26</td>
</tr>
<tr>
<td>6</td>
<td>Diagram showing Historic Chatham Arch Neighborhood</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>College Avenue 1893</td>
<td>28</td>
</tr>
<tr>
<td>8</td>
<td>College Avenue 1979</td>
<td>28</td>
</tr>
<tr>
<td>9</td>
<td>College Avenue 2003</td>
<td>29</td>
</tr>
<tr>
<td>10</td>
<td>IPS Bus Depot and Empty Parking Lot</td>
<td>29</td>
</tr>
<tr>
<td>11</td>
<td>Downtown Indianapolis Circulation Diagram</td>
<td>30</td>
</tr>
<tr>
<td>12</td>
<td>Site Circulation Diagram</td>
<td>31</td>
</tr>
<tr>
<td>13</td>
<td>Downtown 5-Minute Walk Diagram</td>
<td>32</td>
</tr>
<tr>
<td>14</td>
<td>5-Minute Walk Diagram</td>
<td>33</td>
</tr>
<tr>
<td>15</td>
<td>Land Use Diagram</td>
<td>34</td>
</tr>
<tr>
<td>16</td>
<td>Undesirable Views</td>
<td>35</td>
</tr>
<tr>
<td>17</td>
<td>Desirable Views</td>
<td>36</td>
</tr>
<tr>
<td>18</td>
<td>Concept 1 High Profit</td>
<td>46</td>
</tr>
<tr>
<td>19</td>
<td>Concept 2 Social Needs</td>
<td>47</td>
</tr>
<tr>
<td>20</td>
<td>Concept 3 Political, Double the Population</td>
<td>48</td>
</tr>
<tr>
<td>21</td>
<td>Schematic Design 1 High Profit</td>
<td>49</td>
</tr>
<tr>
<td>22</td>
<td>Schematic Design 2 Social Needs</td>
<td>50</td>
</tr>
<tr>
<td>23</td>
<td>Schematic Design 3 Political, Double the Population</td>
<td>51</td>
</tr>
<tr>
<td>24</td>
<td>Section 1 High Profit</td>
<td>52</td>
</tr>
<tr>
<td>25</td>
<td>Section 2 Social Needs</td>
<td>52</td>
</tr>
<tr>
<td>26</td>
<td>Section 3 Political, Double the Population</td>
<td>53</td>
</tr>
<tr>
<td>27</td>
<td>Detailed Area</td>
<td>56</td>
</tr>
<tr>
<td>28</td>
<td>Master Plan</td>
<td>57</td>
</tr>
</tbody>
</table>
Background

When I reflect over the past four years and think about what I enjoyed most in my studies of Landscape Architecture at Ball State University my mind lingers on the design competitions and community based projects in which I have participated. Even the extra curricular activities I have participated in have been dedicated to helping the local Muncie community. My minor, urban planning, has caused me to think about the bigger picture of how a city would analyze economic costs and benefit problems and solutions that affect them. I have always wanted to make a positive difference in the world. Living and working the past year in an urban village in England has strengthened my commitment to try to design a better place to live at home in Indianapolis. It is this commitment to creating a stronger community that instinctively steers my focus toward the area of Urban Design. In order to make a better community that community must have a higher quality of life. I know from my studies that some redesigned streetscapes can increase that quality of life, making a better community, and ultimately a better city.

I come from Castleton, a suburb of Indianapolis and I feel empty for it. After returning home from my internship in England I caught up with some of my friends from high school. Only two of my friends still lived in the same homes and it seems to me that everyone else was leaving the suburbs of Indianapolis and moving away in search of a better quality of life. Ten of my friends moved to Hamilton County, past Noblesville far from where we played basketball and ran track together.

I sympathize with those landscape architecture professionals who have written about the suburbs as being confusing places with little character or sense of place. People need a sense of place in order to call it their own. However, I am not wanting to retrofit all of Castleton. One day though, probably within my lifetime my home in Castleton will become abandoned and derelict.
In order to help stop this trend of wasteful consumerism toward neighborhoods I am wanting to take a once great neighborhood and adapt it to not only tie it into the city but to become an example neighborhood like German Village in Columbus, OH. I would like my site to be near downtown Indianapolis in order to be within walking distance of the activities or heart of Indianapolis.

This study is being done to act as a guide for similar placemaking streetscape development around the Midwest in order to strengthen and diversify our communities.

Through time our downtown neighborhoods thrived as being communities that were close to their entire daily needs. After the invention of the streetcar and later the automobile people began moving farther and farther away from downtown and began commuting to work. After World War II and the development of the subdivision, people abandoned entire neighborhoods in cities all over the country becoming dependant on the automobile. Chatham Arch was one of those neighborhoods, abandoned by many people. During the 1970’s Chatham Arch and the surrounding neighborhoods became no man lands. Some sections of the neighborhoods were destroyed because they were becoming places where no one would be caught after dark. After the Indianapolis Historic Preservation Society did its Historic Area Preservation Plans in 1979 the neighborhood residents started to take back their neighborhood. Riley Area Development group focused on Massachusetts Avenue, which runs through the southern edge of Chatham Arch, to act as a strengthening cultural spine for the surrounding neighborhoods. College Avenue currently has several vacant lots and does not support the surrounding neighborhoods like it had a hundred years ago. Infill development along College Avenue is essential to replace the current vacant or empty lots and in providing the essential missing local, daily needs of the current neighborhoods. In order to provide a healthy, safe, economically sustainable and diverse social fabric, College Avenue must become friendlier to its neighbors. It must become at least a safe place for the children and adults that live and walk in it. Currently, the avenue is being used as a substitute for an interstate rather than a street in a neighborhood.
Purpose of Study

The purpose of the study was to provide a potential opportunity of infill and streetscape redesign for a segment of College Avenue in Chatham Arch in order to act as a neighborhood spine and promote healthy, safe, and general welfare of the Chatham Arch neighborhood as well as the surrounding neighborhoods. The final product will be a master plan of College Avenue, from Michigan Street north to the I-65 overpass.

Guiding Questions

Landscape architects should raise the following questions when thinking about creating a well-designed streetscape in an urban setting:

- How can design of a streetscape contribute to community building and village making?
- What are the economic, environmental, political, and social issues involved in designing and implementing a streetscape design?
- How can the local community have a sense of ownership in an improved area in their neighborhood?
- What are some benefits from designed streetscapes?
- What role does the landscape architect play in the planning and design of the streetscape?

Definition of Key Terms

*community*: “1: a unified body of individuals: as a state, commonwealth b : the people with common interests living in a particular area; broadly : the area itself <the problems of a large community> c : an interacting population of various kinds of individuals (as species) in a common location d : a group of people with a common characteristic or interest living together within a larger society <a community of retired persons> e : a group linked by a common policy f : a body of persons or nations having a common history or common social, economic, and political interests <the international community> g : a body of persons of common and especially professional interests scattered through a larger society <the academic community>
2: society at large
3 a: joint ownership or participation <community of goods> b: common character: likeness <community of interests> c: social activity: fellowship d: a social state or condition” (http://www.webster.com).

cultural sustainability: “...the ability of a culture or society to maintain itself, i.e., to survive, through the implementation of regenerative environmental design, the establishment of renewable, i.e., sustainable agricultural practices, and the creation of social equity though equal access to renewable resources at local, regional, national and planetary scales; this is coupled to decreased emphasis on production and consumption at all levels...” (Benson p.1).

designed: “1: to create, fashion, execute, or construct according to plan: DEVISE, CONTRIVE 2 a: to conceive and plan out in the mind <he designed the perfect crime> b: to have as a purpose: INTEND <she designed to excel in her studies> c: to devise for a specific function or end <a book designed primarily as a college textbook> 3 archaic: to indicate with a distinctive mark, sign, or name 4 a: to make a drawing, pattern, or sketch of b: to draw the plans for intransitive senses” (http://www.webster.com).

engineered: “1: to lay out, construct, or manage as an engineer 2 a: to contrive or plan out usually with more or less subtle skill and craft b: to guide the course of” (http://www.webster.com).

human-scale: is a form of ergonomics except it pertains to how the body as a whole feels comfortable in space. Human-scale refers to designing space to meet the spatial needs of people so people will feel comfortable both physically and psychologically.

physical sustainability: “...the ability of a culture to maintain its identity over time through integration of the principles and practices identified above into its social, political, economical, and aesthetic value structures and beliefs, while retaining the
ability to absorb physical, economic, and social impacts or changes as necessary or appropriate; emphasis is placed on inclusiveness and qualitative as opposed to quantitative measures-of-life.” (Benson p.1).

_placemaking:_ “Placemaking is the way in which all human beings transform the places they find themselves into the places where they live.” “Placemaking consists of those daily acts of renovating, maintaining, and representing the places that sustain us…” (Schneekloth p. 1-6).

_sustainable:_ “2 a: of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged <sustainable techniques> <sustainable agriculture> b: of or relating to a lifestyle involving the use of sustainable methods <sustainable society>” (http://www.webster.com).

_sustaining:_ to “…keep up, prolong…” (http://www.webster.com).

_streetscape:_ “1: the appearance or view of a street 2: a work of art depicting a view of a street” (http://www.webster.com).

**Assumptions**
The following assumptions were required for this site-specific design project.

- An economic study has been conducted and approves the need for College Avenue to become a neighborhood street.
- The neighborhood and its resident’s needs come first over the city’s current need for a commuting vehicular corridor and perceived need for more parking for the downtown area.
- The people want to live a healthy lifestyle that involves activities like walking, cycling, and living an active lifestyle.
• The landscape architect is the project manager and has the power to determine and implement all design decisions and strategies.

Significance of the Study
The goal of this study was to define the need for well-designed streetscape that could act as the glue of the community. Ultimately, this study can become a model to spark further streetscape improvements throughout Indianapolis and the Midwest that works toward creating a sense of place and/or strengthening neighborhoods and communities both culturally and physically.
Related Literature
Historical Background

Streets have existed for approximately 8,000 years. Since this time streets have served not just as corridors, but also as arenas for a wide variety of activities blending functions and traffic forms with social needs. During the middle ages, streets were primarily viewed as functional transportation arteries and every structure was set close to the street. The structures worked with the street to form the streetscape of the middle ages. However, during the renaissance the street and architecture on either side became the subjects of artistic importance. This role of the streetscape as art developed further through the Baroque period. The peak in Baroque streetscape design occurred in the layout of the new Paris by Baron Haussmann during the 19th century (Jefferson p. 3).

New technology from the industrial revolution changed cities dramatically. Over the course of a few decades in the 19th century, European cities were changed from lightly populated political centers to overpopulated slums with poor infrastructure. Social reform and the invention of the car required a new urban order be created. The first goal of the reform was to solve the social distress of the industrial cities through the use of different planning strategies. The car was used as the tool of implementation. By the beginning of the 20th century the traditional city form was noted to be unsatisfactory. By the middle of the 20th century streets were becoming abandoned as a consequence both functionally and architecturally. Planning policy during this time began to separate uses of buildings and required those uses be isolated in large groups in specific parts of the city. This policy created a trend of decentralization, which did not begin to raise attention until the late 1950’s when the first debate against modernistic planning ideology was raised. Still, today the car represents the major premise for urban planning not only in Indianapolis but the country as a whole. Traditional cities still face competition from subdivisions that are based on ease of vehicular traffic use (p. 3 Jefferson).
The Role of Landscape Architects in Streetscape Design

Landscape architects have played a crucial role throughout the 19th and 20th centuries in shaping and responding to the modern needs of society.

The Romantic period had a principal aesthetic theory that the beautiful and picturesque were unified visually linking designed and natural landscapes. Landscape architects like Fredrick Law Olmsted and H.W.S. Cleveland used Romantic design to further their humanitarian, social goals. The start of the utopian planning ideas of progressive social revolution through community planning started during the Romantic period. Their beliefs about the built environment reflected the ideas of landscape architects of the time. The theory that landscape architects and early utopian planners was that the physical environment directly influenced human behavior. This revolutionary idea encouraged new thinking on old issues and would later be adopted by 20th century designers like LeCorbusier, a French architect and Tony Garnier a French planner (Pregill p.472-6).

The Victorian period is looked upon as a transition era between the Romantic period of the 19th century, the early utopian planning movements, the City Beautiful Movement and the Neoclassicist Revival. The eclectic nature of Victorian design related to houses that lacked unity and required a unified streetscape to spatially tie the neighborhood together. The streets during the Victorian periods were typically smooth surfaced and well graded, with solid curbing, which defined roadway edges.

The curbing also separated pedestrian space from vehicular space. Trees being planted between the pedestrian space and vehicular space originated before the Victorian period and were popularized by Thomas Jefferson. This planting style was common usually on main streets. It was the Victorian period’s streetscape design that used rows of the same type of street trees to unify the eclectic homes in the neighborhood. These street trees were installed when the lots in the neighborhoods were being platted. The trees spacing from trunk to trunk was closely spaced, ultimately creating an overhead plain across the street (Pregill p.572) (see figure 7).
Grading also played an important role in the Victorian streetscapes. The houses were elevated two to three feet above the level of the street by either a low retaining wall or a 45-degree slope. The purpose of the grading was to have the building site as flat as possible by taking up as little space as possible on the site for grade change (Pergill p.572).

The limitations of the Victorian period were that streets were limited in addressing the spatial, social, and environmental needs, which was attempted by such landscape architects as H.W.S. Cleveland and Fredrick Law Olmsted. One of the reasons the movement became popular was also one of the reasons the movement was limited. The Victorian period showed that Americans did not want a unique or native style but rather a design that was culturally on par with our European peers, following traditional European styles of design and planning (Pergill p. 573).

The World’s Columbian Exposition of 1893 encapsulated all of the idealized visions of urban grandeur that lead to the City Beautiful Movement. During this time the American character was rejected for the “European-inspired historical associationalism.” Fredrick Law Olmstead, Daniel Burnham, and Henry Codman tied the different parts of the site together with a unified architectural style and a series of axes. The grand spaces of the Columbian Exposition impressed and inspired its visitors. The exposition’s urban design principle was the same as in the City Beautiful Movement that follow it, an idealized urban ideal of beauty (Pergill p. 580-3).

The City Beautiful Movement approached design as highly structured, formal, and as historicist aesthetic but viewed urban beauty as a way to morally uplift society. Charles Mulford Robinson, a theorist of the time explained, “Social problems are to a large degree problems of the environment...with municipal art [an aspect of City Beautiful] the utilitarian advantages and social benefits become so paramount that they are not forgotten...This art, which serves so many social ends, is municipal in the sense of communal... It is not a fad. It is merely a bit of aestheticism...Altruism is its impulse...” (Pergill p. 584) (http://xroads.virginia.edu/~cap/citybeautiful/city.html).
A New Solution to Social Problems

This quest for a solution to the social problems continues today. However, another solution to the problems associated with urban centers was to become decentralization or to create new communities outside of the cities. These communities outside of cities are today called subdivisions. Earlier forms of the subdivision existed well before 1870 but were for the wealthy only. The wealthy have since Roman times either lived outside of the cities in mansions or villas or in its center. The invention of the modern-day subdivision was designed by Fredrick Law Olmstead and Calvert Vaux. Their subdivision, called Riverside, was designed to allow different types of people, not just the wealthy, all of the benefits of the city with none of the disadvantages associated with urban life such as bad air, lack of outdoor space, noise, confusion, and frantic lifestyle. Riverside initially failed due to the Chicago fire in 1871 and The Economic Panic of 1873. It was not until the 1920’s that the lot sales boomed. Riverside was designed to follow the Romantic period’s ideals of pastoral beauty (Pregill p. 534-8, Tishler p.34-44).

The Automobile Age

"Few changes... have had the dramatic impact on landscapes as have transportation innovations, particularly in North America." (Pregill p.687)

The Automobile Age started in 1900 with 10,000 registered automobiles in the United States. By 1920 there were 8,000,000 registered automobiles and by 1930 there were 23,000,000. There were several advantages to having an automobile over a horse drawn carriage. Some of the advantages over horse drawn carriages were that cars took up less space per vehicle and moved faster. However, there became new problems because of the automobile as well. Such problems included hazardous street crossing for pedestrians, pollution, significantly more traffic management, and the vehicles required greater turning radii. The introduction of inexpensive personal vehicles meant that more
people could afford cars thus adding more cars to the roads and causing more traffic problems. If automobiles had been used as public transportation vehicles instead of individual personal vehicles the benefits of the automobile would not have outweighed the problems (Pregill p.687).

Traffic patterns changed, for safety reasons. Parking spaces were introduced which consumed valuable land in cities. The car made it possible for suburbs to continue to expand away from the cities. After World War II the auto oriented society started to reshape commercial businesses. Markets changed from being centralized business nodes into linear marketplaces with parking frontages. Shopping strips emerged similar to the main street shopping districts in concept but at a different scale. Other new auto-based businesses emerged like the motel, the drive-in movie theater, the gas station, fast-food restaurants and the drive through bank. This further decentralized cities. These businesses limited driver contact with other people like motor traffic itself limits drivers' contact with the landscape (see figure 8).

America followed German autobahns design by developing a national system of high-speed car dominated landscapes called the Interstate Highway system. These interstates allowed people to live farther away from cities and still take the same time to get to work. The Interstate Highway system was too expensive for states to solely fund its construction so the federal government funded the Interstates’ construction. The federal government also sponsored programs that hastened developers to construct the subdivisions far from urban centers. These subdivisions caused further decentralization of our cities and encouraged the abandonment of our traditional neighborhoods and streets. The Interstate Highway system and government sponsored programs of homes away from urban areas caused the destruction of viable urban neighborhoods and much of the historic fabric of the United States (Pregill p.689-90, 694-7).

In the 1970’s the mounting problems produced by the automobiles such as high gas costs and air pollution caused a backlash in favor of public transportation. This trend, though diminished, is continuing today as Houston and Los Angeles, which have traditionally been car dominated cities have considered comprehensive rail systems. Davis, California
has an extensive bicycle path network that makes pedaling faster and more convenient than driving for short in-town trips. Urban planners in the 1970's and 1980's started to create tax incentives for historic preservation to make such development economically feasible for individuals to purchase and improve blighted historic homes in abandoned neighborhoods. Since the 1980's there has been a revival in the City Beautiful ideas generally referred to as Neotraditionalism (Pregill p.701, 706, 710).
Relevant Theory

There are several theoretical principles about good streetscape design. The following concepts were relevant to the proposed site in the Chatham Arch neighborhood in Indianapolis.

The Life and Death of Great American Cities by Jane Jacobs
Jane Jacobs addressed several important issues such as what causes cities to fall and to be reborn. I walked away from this book with four primary principles that were all interdependent to each other.

- **Cities must have generations of diversity.** Diversity creates interest in the neighborhood or street. Without diversity the city would lack a sense of uniqueness.

- **Cities have a need for mixed-use buildings.** Buildings must have at least two uses and preferably more. This insures the presence of people outdoors at different times of the day and causes the building to have different purposes.

- **Cities should have small blocks.** The opportunity to turn corners must be frequent to allow the chance encounter for neighborly activity.

- **Cities must be concentrated.** The dense concentration promotes city life and diversity to contribute interest in the neighborhood (J. Jacobs p. 143-221).

Livable Streets by Donald Appleyard
Streets are where most people grow-up. Streets are essential for life to exist, as we know. Streets have been essential to life since before Roman times. Today streets are dangerous, noisy, polluted, impersonal places which people who live there can do little about. Public streets are controlled by agencies and ordinances that do not take the residents’ needs or wants into consideration. Most residents are frustrated when unable to control their neighborhood. Appleyard talks about a sustainable street—a street where children grow-up, adults live, and at which the elderly can spend their last days. Every street should strive to be sustainable (culturally and physically). In his book Livable
Streets Appleyard discusses seven principles he calls The Ideal Street: A Charter of
Street-Dwellers' Rights. He discusses the following principles:

- **The Street as a Safe Sanctuary**-Streets should be safe from speeding cars and
careless drivers. Children should be able to walk or cycle safely through
neighborhood streets to where they want to go i.e. the playground or school.
Motorists passing through should know that this is pedestrian territory and
move slower and more carefully as guests not owners. Emergency Vehicle
access should be provided.

- **The Street as a Livable, Healthy Environment**-The street should not be subject
to noticeable noise or vibration from traffic. Neighborhood residences should
be able to sleep soundly. People should be able to talk normally on the
sidewalks. No shouting. People should be able to study, eat, and be sick or
tired without the constant or intermittent rumble of traffic in their homes. The
air should be clean. The street environment should be comfortable with places
to sit, converse, and play.

- **The Street as a Community**-Streets should be places where communal activities
are possible. A street should not have too many strangers on it. This means that
businesses that attract mainly people from outside the neighborhood should be
outside the neighborhood. The neighborhood should be able to add detailed
design to its streets.

- **The Street as Neighborly Territory**-The street in a neighborhood should
become territory to the residents along them. This encourages plantings from
neighborhood on the street, maintenance provided by the neighborhood, and
monitoring of street behavior.

- **The Street as a Place for Play and Learning**-Streets should be able to be places
of play. Places of diverse character, with different surfaces and adequate spaces
for play such as along the street or in mini-parks directly accessible from the
street.

- **The Street as a Green and Pleasant Land**-The installation of plants on streets is
one of the most common desires of those who live on city streets. Plants
provide microclimates, reminders of the natural environment, and the changing of seasons.

- *The Street as a Unique Historic Place*—Streets must have pride and special identity. This identity may be some unique quality such as a view, creek, old tree, or a particular house or garden. All streets have history though evident only on some. Without nostalgia a street’s history is suppressed. Residential Streets should be destinations, not routes (Appleyard p.243-245).

**City Comforts: How to Build an Urban Village by David Sucher**

This book only has three general principles but they focus on the details of a street. Many of the details described by the author himself as being, “...so obvious as to be invisible.” (Sucher p.3). There are three rules outlined by David Sucher.

- **Rule #1 - Build to the Sidewalk.** “The sidewalk is important because it channels pedestrian movement and forces people into closer proximity where they may bump into each other and act neighborly.” (Sucher p.12).

- **Rule #2 - Make the Streetfront Permeable.** “Place windows and openings along the sidewalk...people must be able to see in and out, they must also be able to enter. Therefore put your front doors where they are visible...face the sidewalk.” (Sucher p.12-13).

- **Rule #3 - Put the Parking Behind, or Under, or Above or to the Side of the Building.** “Parking lots are a necessity. ... Parking lots are not the kind of places you want to hang around. Parking lots are crucial but taming them will be one of the crucial parts of piecing-together urban villages. ...the basic rule must be to put parking out of sight.” (Sucher p.12-13).
Case Study

German Village Columbus, OH

Columbus, OH is approximately the same size population as Indianapolis. Columbus also is a state capital located in the Midwest. Columbus has several historic neighborhoods located within 30 minutes walking distance from the downtown. German Village is one of these neighborhoods. It is a model for a modern urban neighborhood design. The neighborhood was established as a national historic district in 1976 (see figures 4,5,6). Traditionally the neighborhood was a 19th century working class neighborhood but deteriorated in the early 20th century as a victim of urban decline. Today the neighborhood is revitalized because of its residents’ hard work and dedication. The neighborhood was platted in 1814 and developed between 1840-1914. Traditionally settled by German immigrants, they transformed the neighborhood into a little Germany. Businesses were around before modern day zoning and as a result were scattered through the neighborhood. The neighborhood started to decline after the first zoning ordinance in 1923 which as a result changed the entire village to become zoned as manufacturing and commercial use. This ended the residential quality of the neighborhood. The onset of the World Wars stirred strong anti-German sentiment and streets were renamed as a result and the German culture was forced to stop its culture. After World War II many of the residences moved to the developing suburbs. Urban renewal programs came to Columbus in the early 1950’s. German Village was scheduled to be torn down. It was Frank Fetch who started purchasing land with a belief that the area could be restored. Today, it is because the neighborhood “has control over itself and [the] initial development occurred on a busy commercial street.” (Thomas interview 11.03).

The neighborhood’s character can be summarized by narrow lots, closely spaced buildings, extensive use of brick, wrought iron fences, and neighborhood commercial buildings interspersed amongst the residential buildings. The neighborhood ordinances now require owners of properties in German Village to apply for improvements, renovations, or additions (Wulker p.2-3, 6-9) (see figures 1,2,3).
Figure 1: German Village Columbus, OH
Figure 2: Typical home in German Village

Figure 3: Typical storefront in German Village
Design Issues

Neighborhood Branding
In the July 1999 issue of Metropolis, there was an article written about how the Mayor of Chicago invested several million dollars to help give neighborhoods a sense of identity. The Puerto Rican neighborhood now has a 150-foot steel flag stretching across the street as a gateway to the neighborhood. The Greek neighborhood in Chicago now has a little temple to act as a landmark/gateway to the neighborhood (Metropolis July 1999).

The current trend of cities around the country is to reinvest into themselves. Neighborhoods are searching for a sense of identity and the concept of neighborhood branding is one way of assigning or branding the sense of place.

Measuring the Health Effects of Sprawl
In September 2003 a study conducted by Smartgrowth America scientifically connected the relationship between Urban Sprawl and Physical Activity, Obesity, and Morbidity. The study was titled Measuring the Health Effects of Sprawl by Barbara A McCann and Reid Ewing. This study found that people living in sprawling counties are more likely to walk less and weigh more than people living in less sprawling counties. Also, the study determined that people in sprawling counties are more likely to suffer from hypertension. The study results held true after controlling for age, education, gender, race, and ethnicity. The study included 448 counties in urban areas in the United States. Sprawling counties were defined for the study as counties that are “...spread-out-areas where homes are far from any other destination, and often the only route between the two may be on a busy high-speed road that is unpleasant or even unsafe for biking or walking....” (McCann p.2-4).

The study concluded that people in sprawling areas walk less for exercise, which explains higher obesity levels. The study suggests that daily activity like walking for errands
could have a larger impact on our individual health. Individuals living in sprawling counties weighed more on average than their urban counterparts. The study controlled for variables such as race, age, and sex. The study quotes a national poll, which discovered that 55 percent of Americans want to walk more instead of driving and that 52 percent want to bicycle more. The director of the CDC said obesity might soon become the nation’s number-one health risk replacing the current number-one tobacco (McCann p.5-8).

**Significance**

This study demonstrates that the form of the built environment directly affects our health. The conclusions that can be drawn from this study are that promoting denser development will promote more walk-able communities thereby reducing national obesity rates and promoting the health, safety, and general welfare of the nation.
Methodology
Project Type
This project is considered to be an urban streetscape redesign. What makes this project significant compared to other streetscape improvements is that this street, College Avenue, was once great and a part of the neighborhoods. It is no longer part of its former neighborhoods. This study aims through the design of the streetscape to allow for sustaining communities to exist, for the street to be functioning on a daily basis mainly for those who live in or near the proposed street.

Site Selection Criteria
The following criteria were required for the selection of the site in conjunction with the specific project type.

- The street had to be within three hours driving time of Muncie, IN
- The street had to have a history, both a time of glory and a time of depression
- The street had to be part of an existing neighborhood and retain some of its existing character.
- The neighborhood had to have an identity
- The neighborhood had to be organized preferably by a neighborhood association or neighborhood board that has some control over the neighborhood.
- The neighborhood had to be within 30 minutes walking distance from the heart of a major city.
- The surrounding streets had to have a hierarchy of circulation
- The majority of the historic street patterns had to be intact
- The neighborhood must have had some experience as a declining neighborhood that has suffered from urban renewal.
- The neighborhood must be concentrated and not decentralized
Description of Site and Context
The site criteria were invaluable in selecting the site in Indianapolis of College Avenue from I-65 south to E. Michigan Street in the Chatham Arch neighborhood (see figures 4,5,6,9-17).

History of Chatham Arch Neighborhood
The beginnings of the Chatham Arch neighborhood date back to the founding of Indianapolis in 1820-1821. Alexander Ralston and Elias P. Fordham laid out a “Mile Square” city plat of land that was donated by the United States government to be used as the new capital of Indiana. The remaining land outside of the “Mile Square” was divided and sold as farmland. The land that Chatham Arch sits on today was located on one of these subdivided parcels of land purchased by John Wood Sr. Wood had the idea to subdivide his plot of farmland into residential plots of land. Wood had the idea of naming the place Chatham. No one knows why John Wood Sr. named the place Chatham. Chatham is the name of a city in England and also the title of William Pitt the Elder, Earl of Chatham, who was popular in the American colonies before the American Revolution. Wood’s idea of subdividing the land was premature when the state of Indiana went into bankruptcy in 1839-1840 whilst trying to construct a canal, which in theory would have made Indianapolis a national transportation node. However, because of the states bankruptcy Indianapolis became isolated from the country and delayed Wood’s residential units from being sold for another decade.

The Madison and Indianapolis Railroad was completed in the 1840’s and was the first railroad in Indianapolis. Abraham Bird purchased land west of John Wood’s land with the same idea Wood had of subdividing the land for residential use. By 1849, the railroad was booming and the residential market became lucrative and a railroad depot and shops were constructed in 1853 for William Young. The depot was moved, the railroad sold the land and it became a rail car factory from 1853-1859. The government used the land during the civil war as army stables and fire destroyed those buildings in 1865. In 1871, the land was subdivided into residential plots. Through Young’s division of land and streets were for the most part still intact. One of Young’s streets was called Arch Street.
The only other street named by Young to retain its original name is Broadway. Young’s divisions of land shaped much of the character of the Chatham Arch neighborhood. The other plots of land in Chatham Arch occurred south of Massachusetts Avenue starting in 1849 by German immigrants. Their plots of land extended to Noble Street, which is now College Avenue. Two other large landowners purchased the remaining pieces of land that make up the rest of historic Chatham Arch neighborhood. Massachusetts Avenue was originally a mix of residential and commercial buildings. A transition occurred from 1890 until 1918 transforming Massachusetts Avenue into a solid commercial district. Other commercial buildings began appearing along College Avenue.

Horse drawn streetcars existed on Massachusetts Avenue by 1870 and were electrified in the early 1890’s. A similar streetcar line ran down College Avenue during this same time period. Both lines were removed in 1953. The streetcar made the corner businesses possible.

Between the first and the second World Wars the neighborhood shifted from privately owned residences to rental properties and after World War II the neighborhood became largely lower income as the residences moved to newer neighborhoods. Massachusetts Avenue eroded, houses deteriorated, urban renewal occurred and there was a shift in the need for parking lots. All of these elements brought Chatham Arch to become a no man’s land (Indianapolis Historic Preservation Commission p. 1-25).

However, because of the Historic Area Preservation Survey and Historic Area Preservation Plan done in 1977 and 1982, the Riley Area Development Group and the city of Indianapolis’s involvement in preserving and strengthening Massachusetts Avenue it today is seen as one of the up and coming areas of Indianapolis for artists and young professionals. Currently, many of the historic homes in the Chatham Arch neighborhood have been bought and are being renovated. However, there are still several vacant or empty lots along College Avenue (see figures 6,9,15,16).
Through redesigning College Avenue, it will serve as it had in the past as a place for the people of Indianapolis to conduct their daily business such as buying groceries, getting haircuts, or having their clothes dry cleaned as they went off to work. This redevelopment is meant to make College Avenue not only safer for those who live in the area but also to make it an aesthetically pleasing environment to reflect the character of Chatham Arch.
Figure 4: Site Context Marion County Site Outline in Red.
Figure 6: Diagram showing Historic Chatham Arch Neighborhood
Figure 11: Downtown Indianapolis Circulation Diagram

Volume

1 - 5000
5001 - 10000
10001 - 15000
15001 - 20000
20001 - 25000
25001 - 30000
30001 - 35000
35000+
Figure 13: Downtown 5-Minute Walk Diagram
Figure 15: Land Use Diagram
Figure 17: Desirable Views
Special considerations

The history of the neighborhood and the uniqueness of its street patterns and rare historical architecture should be respected when any development occurs within it. Some businesses and infill development of the neighborhood have not respected this and are looked upon by the community as not contributing to the neighborhood. The neighborhood to the east St. Joseph has suffered much more severely from development by those developers and designers who have chosen to disrespect the area’s unique history and value to Indianapolis. This disrespect of the neighborhood’s identity by certain businesses, and institutions has undermined the Chatham Arch neighborhood association. Any proposed design in or near the neighborhood should be reviewed by the neighborhood association. The Historic Area Preservation Plan of Chatham Arch and Riley Area Development Group’s work should be reviewed when designing in or near the neighborhood (see figure 5,6).
Site Inventory and Analysis
Site Inventory and Analysis

See figure 4 and 5 for base maps of the study area. Notice the building’s density around the site but lack of density within the project site. The site is bound by the I-65 North overpass south to Michigan Street and one block east and west of College Avenue. The Massachusetts Art District exists in the proposed site. Currently the intersection of College Avenue, Massachusetts Avenue, and Saint Claire Street has several empty lots. The Massachusetts’ Arts District contains a variety of different architectural styles ranging from modern to some of the oldest existing buildings in Indianapolis. Several of the lots along College Avenue are currently empty parking lots or vacant land. See figures 10,16 the parking lots have had a lack of maintenance to the point where tall weeds have become established in the cracks of the paving. The IPS bus depot labeled in figure 10 as of March 2004 was still active, but the facility plans to move out of the area leaving the bus depot and old Coca Cola Bottling Company vacant.

Some questions are raised upon examining the width of the College Avenue in relation to the most current traffic counts (http://www.in.gov/dot). The current traffic count on this section of College Avenue is roughly 10,500 cars a day. In another area of Indianapolis East 82nd Street the traffic counts for residential developments is roughly twice the volume of traffic and less traffic lanes. Any development along College Avenue will have to take into account the increased volume of traffic.

Another issue is the current speed limit of College Avenue, which is 35 miles per hour. However, upon examination of the site most motorists were traveling in speeds exceeding 40 miles per hour. The individual lane widths along College Avenue promote faster driving conditions and therefore are discouraging pedestrian or cyclist usage (see figure 9).

Walking only a few feet away from College Avenue with no protection from motorists and speeds in excess of 40 miles per hour discourages pedestrian or cyclist usage and are dangerous conditions for children to experience.
Widening College Avenue would only promote faster vehicular traffic decreasing pedestrian safety and only widening the sidewalks would cause pedestrian to stay as far from the road as possible. Perhaps traffic calming measures could be implemented that do not affect emergency vehicles and promote a safe urban environment.

The proposed zoning plans from 1982 should be reconsidered in relation to the current character of the Chatham Arch neighborhood (see figures 15,16). Zoning for solely commercial developments would not work historically in this neighborhood and in a modern day context the current residents of Chatham Arch would most likely oppose commercial developments encroaching further into the historic neighborhood. Perhaps mixed-use development, single-family, or multi-family development that respected the neighborhood’s character would be more acceptable.

As illustrated in figure 13 and 14 there is a general lack of basic services within the traditional five minute walking radius. The proximity of a grocery store see figure 13 is about a ten to fifteen minute walk which may be too much for some residences.

**Opportunities**

- Large quantities of empty lots, with infrastructure, ready to be developed (see figures 15,16).
- Site is within a twenty-minute walk of Monument Circle (see figure 13).
- City currently has a high demand for housing downtown.
- Statewide has a high demand for single-family housing.
- There is an opportunity to make large profit margins for development.
- There is an opportunity to increase the city of Indianapolis’ tax base by having more people who work in Indianapolis living in Indianapolis.
- Private elementary school and daycare center within a five minute walk (see figure 13 and 14).
Constraints

- The city only owns the right of way of College Avenue, the IPS Bus Depot and the old Coca Cola Bottling Plant.
- The proximity of the site to the interstate creates safety and quality of life issues.
- Families want the best school system for their children. IPS schools are not among the best in the state.
- There is a lack of general transportation organization for the streets among its users. This organization of automobile traffic relates to parking, speed of traffic, width of lanes, and the safety of the pedestrian.
- Indianapolis as a whole is mostly dependant on the automobile as the method of travel. People are used to using the car for most activities.

Goals:

- Create a historically respective, vital, and healthy pedestrian oriented streetscape to encourage small business development.

- Allow College Avenue to become a mixed-use “spine” that reinforces the previous goal. Mixed-use consists of more than two uses per building.

- Respect the principles from City Comforts, David Sucher; Livable Streets Donald Appleyard; and Jane Jacobs, Life and Death of the Great American Cities.
Program:

- Create smaller blocks and a higher density

- Provide for dense housing of more than 8 units per acre where new buildings promote stairs over elevators.

- Install awnings, window boxes, pedestrian signage, and public artwork.

- Provide for 500-1500 residential units within the next twenty years for the Chatham Arch neighborhood.

- Minimize views to the interstate.

- Promote views from the interstate through the use of rooftop activities.

- Implement building restrictions to preserve desirable views such as the downtown skyline and the tower of the Coke a Cola bottling plant.

- Implement a two-way bicycle system.

- Keep the METRO system (IndyGo) operating and allow for future light rail transit. Mass transit serves the elderly, youth, and lower income sector of the population.

- Provide pedestrian scaled streetscape elements respectful to the history of the area.

- Provide green oasis pockets of open space.
- Provide opportunity for seasonal sidewalk cafes and other temporary stands or businesses like hot dog vendors.

- Provide two-way traffic passage at reasonable speeds.

- Provide special attention to façade details to insure compatibility with the façade details of existing older buildings in the area as well as documented historic details.

- Promote alleys for use as a service area.

- Offer incentives for rooftop usage such as ecological green roofs or functional rooftop gardens or cafes.

- Promote pedestrian crosswalks identified by more than two white lines. Make these crosswalks engage neighborhood streets.

- Encourage transitional buffer zones from public space to semi-public to private spaces through the use of familiar streetscape elements like hedges, brick walls, cast iron railings, etc.

- Prohibit open surface parking lots with direct views from the street.

- Provide public restrooms that are well lighted, ventilated, and maintained.

- Allow for Chatham Square originally a fountain and promised reconstruction of the infrastructure by the city of Indianapolis in 1982.

- Encourage public art and work by artists and artisans from the Massachusetts Avenue Arts District.
- Promote new buildings to be built to the sidewalk.

- Allow new and existing storefronts on the street to be visually permeable.
Schematic Design
Schematic Design Concepts

Concept 1: High Profit
This concept (see figures 18,21,24) explores the economic opportunities that create the greatest profit margins for a seven-year time period. In this concept College Avenue’s traffic calming consists of implementing simple painted lanes in a specific pattern as a method of traffic calming. The majority of the development in the site is single-family homes ranging in price from $150,000 to $350,000 with an average housing price of $225,000. The total scope of the project would be roughly 30 million dollars. This will allow developers a profit margin of between 5-15%. In dollars this will roughly translate to between 1.3 million and 4.4 million dollars profit. Developing with a unit density traditionally implemented in the neighborhood and designing homes that maintained the historic character of Chatham Arch, 130 new housing units will be constructed.
The main strength of this concept is that it has the highest profit margins and will be the easiest to get built. However, after about twenty years the site will begin to show signs of reverting back to its current state of neglect and abandonment.

Concept 2: Social Needs
This concept (see figures 19,22,25) involves installing a median, narrowing all the lanes one foot, and implementing other traffic calming devices such as bollards and vegetation close to the road. This concept also contains a multi-story private middle school with room for about a thousand students in the place of the IPS Bus Depot and converting the Coca Cola Bottling factory into loft apartments. The concept proposes a park south of the intersection of Massachusetts Avenue on College Avenue. The concept also contains infill historically respective single-family, multi-family housing, and mixed-use buildings where appropriate.
The main strength of this concept is that it attempts to give what the residences want most and will require throughout life. The drawback of this concept is that the profit margins are fairly low if all together not profitable. This would most likely not get consideration
because almost every project build has to be designed to return profit to the developers or clients within seven years.

**Concept 3: Political:** Mayor of Indianapolis’s plan to double the downtown population. This concept (see figures 20, 23, 26) illustrates the idea of placing 1,500 housing units along College Avenue in multi-family high-rise structures. This concept also includes the basic support services that the 2,800 new residences would depend. All of the parking for the residences and services would be below or above ground parking structures. One of the strengths of this concept is the density of living that Indianapolis has never seen before. This concept would almost guarantee different users of the neighborhood twenty-four hours a day. The biggest weakness about this concept is that it is not true to Indianapolis’s style of living. In the neighborhood to the west St. Joseph a twelve story low income housing development has developed and is not looked well at by the neighborhood. If this concept were to be implemented it would be extremely difficult to blend those living in the towers with the traditional single-family housing.

Of the three schematic design concepts, elements of each will need to be applied to the preferred schematic design in order for the design to have the opportunity to be successful. Promoting residential retention is extremely important. Residential retention can be achieved through the built environment by creating a unique sense of character with elaborate details. Attempting to meet the mayor of Indianapolis’ citywide goals is important for the possible funding of non-profit aspects of the design and the associated political ramifications.
Figure 20: Concept 3 Political, Double the Population
Figure 21: Schematic Design 1 High Profit
Figure 23: Schematic Design 3 Political, Double the Population
Figure 24: Section 1 High Profit

Figure 25: Section 2 Social Needs
Figure 26: Section 3 Political, Double the Population
Master Plan
Master Plan

In order to elaborate further detail in this design a smaller site was required. By choosing the northern part of the site for further detail a greater connection can be shown to the Chatham Arch Historic Neighborhood, the Monon Trail, and the Massachusetts Avenue Arts District (see figure 24). The master plan (see figure 25) combines the three elements from the three schematic designs and balances the elements together. The master plan still maintains the goals and program elements stated earlier. The three conceptual elements the master plan focuses on are economic, social, and political.

One of the elements from the program stated earlier was to promote smaller blocks. These smaller blocks were reinstated in the master plan on the IPS Bus depot site. The streets locations are approximately were they were historically located based off of Sandborne Maps from the 1950’s. Edison Street, Carrollton Avenue, and 9th Street are restored to the grid in Indianapolis. Historically a streetcar line ran down College Avenue connecting different neighborhoods of Indianapolis. The master plan has accounted for a mass transit line once again linking the neighborhoods of Indianapolis with important destinations as seen in the city wide transportation diagram figure 30 and in the Indianapolis Star article titled “Fishers-to-Downtown Route is Rapid Transit’s First Step” dated from April 14, 2004. The most important thing to remember about mass transit is that it must be cleaner, more comfortable, and more efficient than driving in order to be successful.

The project site is historically respective, not only with its street names, locations, and general function but also in the facades’ details seen in figure 27. The streetscape itself is pedestrian oriented by requiring that the parking lots be to the side, behind, or underneath the buildings. There is a high demand for parking in the downtown region by excavating underneath the interstate to the Northern part of the site a large amount of parking can be provided for the public (see figure 24). Notice also in the section (figure 27) how the buildings are built to the street with no buffer zone between the pedestrian and the
storefronts. Also, notice in the section that there is a green buffer between the sidewalk and the street to help protect pedestrians from vehicular traffic this proposed section could be compared with College Avenue from 1893.

Another program element that should be emphasized is that the storefronts are visually permeable this allows the passersby the opportunity to see into the stores and shoppers in the stores to see out which increases businesses sales and visual interest this can be seen in the section and character sketch (figures 27 and 29).

In figure 26 the proposed land use diagram shows the completion of a mixed-use spine and dense development along College Avenue. By having a greater density and diversity of uses there is a greater amount of eyes on the street creating a safer place. Having a denser development also allows more governmental resources to be dedicated to less land. This means lower infrastructure costs per person or a higher quality and longer-term infrastructure for this area of Indianapolis. The recent housing market trends are requiring more housing in Indianapolis and a greater demand for downtown housing. This project can act as a model for solving the need for more housing units in downtown with a variety of housing types and price ranges (figure 26). Several of the buildings along College Avenue are proposed to be mixed-use with commercial, offices, and residential in the same building. Mixed-use is defined in this project as Jane Jacobs defined mixed use in Life and Death of the Great American Cities as consisting of more than two uses per building. By having mixed-use development there is a greater chance of someone always being on the street or able to look onto the street. This prevents times when the site would be empty of people. By having mixed-use development in this manner a greater sense of a community environment is achieved.

In order to sustain a community environment a long term program of annual local activities and achievements must be recognized. Local activities would have to be organized by the neighborhood association and in this example the Chatham Arch neighborhood association would be in charge of organizing a program of year round
activities and celebrations designed to develop residents of the area into the community. This can be done through a variety of different ways.
Figure 26: Land Use Comparison
Figure 28: Intersection of 10th Street and College Avenue
Figure 29: Character Sketch of Public Plaza on College Avenue
Figure 30: Mass Transit Diagram
Mass transit in order to be successful in Indianapolis must be cleaner, more comfortable, and efficient than driving.
Another way of engaging the people of the community is to allow them to work on the community by implementing local artisans for the construction and maintenance of site furnishings such as ornamental streetlamps, benches, fountains, planters, bollards, and trashcans. The details are very important to any streetscape design. By having direct communal involvement in the design and creation of specific streetscape elements a sense of character and uniqueness is provided. However, there must be one unifying element on College Avenue that informs visitors that they are on College Avenue. This single element can visually tie all of College Avenue together beyond the site boundaries could be the historic style lower wattage streetlamps that originally existed. This design looks at using this historic lighting element in the center of College Avenue’s mass transit lane.

A further need of the community is a new middle school. With the current IPS school system at capacity adding more students without new schools would create citywide problems. By retrofitting the Coca Cola Bottling Plant into a new middle school either public or private the local community would be relieving the current demand on the IPS school system and giving the building an active use in the community.

By looking at the detailed axonometric intersection College Avenue and 10th Street (figure 28) one can see the variety of uses and activities that can exist. These activities are focused more for local residents than the city as a whole and should not detract from the Massachusetts Avenue Arts District’s theaters, shops, and restaurants.
Benefits for the Entire Site

By combining the beneficial elements of the schematic design a successful community can be inspired through this streetscape design. The schematic designs each looked independently at three different issues. After analyzing the benefits of each design and balancing those with the schematic designs the master plan can exhibit the following benefits.

Economic Benefits see figure 31

- 43 units of additional single-family housing for the whole site.
- 215 units of additional multi-family housing units for the whole site.
- 98,000 square feet of new retail space
- 68,300 square feet of new office space

Social Benefits see figure 32

- Bicycle Lane (connection to the Monon and relives some automobile traffic)
- Middle School (residential retention)
- Grocery Store
- Public Spaces (see figure 29)
- Mass transit system (relieves ever increasing traffic volumes see figure 30)

Political Benefits see figure 33

- Greater public parking Downtown placed under interstate
- Greater diversity of housing types
- Increase in the downtown population
- Greater tax base for Indianapolis
- An increase in the visual prowess of the Indianapolis skyline
Figure 31: Economic Benefits
Figure 33: Political Benefits
Conclusion

This study's conclusion in one possible design for College Avenue there are obviously others. The importance of this study is that the principles, goals, program elements, and conceptual elements be used in combination to create a more successful College Avenue streetscape. College Avenue is currently not safe for pedestrians and any redesign of the College Avenue streetscape should look to preserve safety and the general welfare. Any design for College Avenue should take into account the economic, social, and political requirements from a holistic view. This holistic view is not only of the Downtown region but also of the entire city of Indianapolis and the surrounding suburban counties.

There is study has allowed for a tremendous opportunity to develop College Avenue as an economically, socially, and politically successful streetscape environment. This area of Indianapolis is one of the few remaining historic areas. The Chatham Arch historic neighborhood is one of the oldest neighborhoods in the city of Indianapolis. It has been a great pleasure to explore in detail this area of Indianapolis and its rich history.

Ultimately, this study has been done to illustrate the possibilities of what a rich streetscape environment can be in Indianapolis. It is the hope that his study acts as a model for truly successful development in Indianapolis that can allow for Indianapolis as a whole to develop into the future.
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