REVITALIZE DOWNTOWN MUNCIE

BY

ATTRACTING STUDENTS AND ELDERS

A CREATIVE PROJECT

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

MASTER OF LANDSCAPE ARCHITECTURE

BY

WEI HUANG

CARLA CORBIN – COMMITTEE CHAIR

BALL STATE UNIVERSITY

MUNCIE, INDIANA

December 18, 2015
Acknowledgements

This project is dedicated to:

My grandma, without whom, I will never be who I am.

Carla; for all the input more than I ever thought. I appreciate your patient, guidance and for sharing your wealth of knowledge with me. You kept me realistic, but creative.

Lohren and Joe; for all the time you spend. Your guidance and encouragement helped me through this project and push it to its potential.

Jiao and Peggy; for all the wonderful conversations and inspiration. You always bright up my day.
# Table of Contents

## I. Introduction
1. Overview .................................................................-1
2. Significance .............................................................3
   2.1 We are losing our cities
   2.2 Population
   2.3 Town and gown
3. Problem and sub-problems ...........................................-6
4. Hypothesis, assumptions and delimitations .......................-7
5. Methodology ...........................................................-8

## II. Literature Review
1. A beautiful mess ......................................................-10
2. City decentralization ................................................11
3. Small city downtown revitalization .................................12
4. Living downtown .......................................................22
5. Downtown Muncie .....................................................24
6. Elder housing ..........................................................28
7. Elder living: beyond housing .....................................30
8. Student living ..........................................................32

## III. Case Studies
1. Auburn, AL (Small-city downtown revitalization) ...............38
2. Greenville, SC (Small-city downtown revitalization) ..........43
3. Savannah, GA (University in a small-city downtown) ........48
4. Auraria Higher Education Center (Universities as downtown developer) ..........................52
5. Nystrom Village Master Plan (Elder housing) 57
6. Rochdale Village, University of California at Berkeley (Student housing) 60

IV. Site Analysis
1. The Site 65
2. General Introduction 66
3. Muncie History through historic maps 70
4. The neighborhoods and districts 75
5. Demographic Profile 76
6. Downtown Land use Profile 78
   6.1 Land Use by Parcel
   6.2 Land Use by Square Feet
7. Downtown Assets Profile 81
   7.1 Historic Preservation Sites
   7.2 Vegetation Coverage
   7.3 Trees
   7.4 IVY TECH Foundation
   7.5 Muncie Millennium Place
   7.6 Courtyard at Marriott
8. Downtown Gateway Analysis 90
9. Transportation Analysis 93
   9.1 Average Daily Traffic
   9.2 Accident Locations
10. Parking Space Analysis 96
   10.1 Existing Parking Conditions
   10.2 New Parking Facilities
10.3 Parking Lots Usage Observations

11. Walkability

11.1 Walk Score

11.2 Bike and Pedestrian System

11.3 Public Transportation

12. Street Scale Profile

12.1 Main Street

12.2 Charles Street

12.3 Walnut Street

12.4 Mulberry Street

13. Downtown Density Profile

13.1 Density Standards

13.2 Residential Density Expectation

13.3 Downtown Muncie Housing Profile

14. Potential Development

15. Downtown Commercial Counts and Expectations

V. Design

1. Target Groups’ Preferences

2. Program (Goals and Objectives)

3. Development Framework

4. Master Plan Strategies

4.1 Super Courtyards

4.2 Green Service Stripes

4.3 Green Loop

3 Master Plan

3.1 Building Infill Strategies
CHAPTER ONE: INTRODUCTION

Overview

This project comes from the passion of urban life, the desire to do meaningful work for Muncie, Indiana, and eagerness to create better communities. Muncie, Indiana is a good place to live, full of history, contradictions and potential. Here, groups in different areas are dedicating both money and time to build a thriving and sustainable downtown. However, the central city, especially downtown, is losing its population and vibrancy, like many other small and medium sized American cities. Even worse, the connections of downtown Muncie with Ball State University have historically not been strong. Students do not typically go downtown. However, connecting BSU with downtown physically and socially could be means to activate Downtown’s vibrancy.

Based on U.S. Census data, Muncie still has significant population. More positive are the signs of population restoration. Both the enrollment expansion of Ball State University and the increasing elder population contribute to the population increases. With people returning to the city, opportunities exist to bring people back downtown to live, work, and play. There are arguable significant to attract people as an increased presence downtown. Instead of attracting them from elsewhere, it is more reasonable to revitalize downtown by increasing in numbers of those making their homes downtown. Functional and physical improvements are needed to enhance living conditions and community pride.

This creative project begins with literature review and case studies to explore strategies of small-city downtown revitalization. And then, the project exams existing development and assets in downtown Muncie and local history when downtown was an active commercial and cultural center for the area. Since students and elders are major segments population of Muncie, the project focuses on providing comfortable living conditions to attract these two groups back downtown. It also proposes a city framework with exemplary complete street
sections, and building facades; a district master plan with housing typologies, landscape systems, and a pedestrian network between campus and city; and student and elder housing detail design demonstrations. The conclusion will examine whether this creative project offers targeted residential density and enough living amenities. Also, future research will be identified in conclusion.
Significance

We are losing our cities

During the mid-1920s, most Americans went downtown “not only to work, but also to shop, to do business, and to amuse themselves” (Fogelson 5). Historian Sam Bass Warner, Jr. has pointed out, downtown were “the most powerful and widely recognized symbol of the American industrial metropolis” (ctd. in Fogelson 5). However, downtowns are being abandoned in many cities. Many U.S. cities started losing population following World War II due to highway construction, wide use of automobiles, suburban malls, increased income conditions, people’s eagerness to raise children in bigger and new suburban houses, and higher quality of suburban new schools. During the 1980s to 1990s, some major cities such as New York, Boston and Chicago saw their population restoration (Rappaport, 2). However, this situation did not happen to most small and medium-sized cities in general. Today, many inner cities are not energy-efficient, and inhabitants may suffer from poor health, drug or alcohol abuse, poor education levels, social division, and unemployment (Edwards and Turrent 8).
Population

As a typical post-industrial city, Muncie doubled its population during the gas boom from 1887 to 1901. At its peak population in 1980, Muncie had 76,460 residents, but this number fell to 70,085 by 2010 (United States Census Bureau, 1980 and 2010). Muncie still has significant population but not downtown, because of insufficient comfortable housing, retail, and other amenities. More positive are signs that people are coming back. With two decades of population decline during the 1990s and the 2000s, Muncie has had a 3.9% increase in population growth from 2000 to 2010 (United States Census Bureau). Most of this population growth has resulted from the increasing expansion of Ball State University. The 18 to 24-year-old population, which is mostly students, increased from 24.6% to 27.5% (U.S. Census Bureau, 2000 & 2010). Elders are the other significant and stable population in the city. In 2000, 13.2% of the residents, which equals 8,900 people, were over 65 years old. In 2010, 13% of the residents, 9,111 people, were over 65.

Functional and physical improvements are needed to enhance living conditions and community pride. Opportunities exist to bring people back downtown. There are advantages to attracting students and elders as an increased presence downtown. This creative project proposes a plan to provide reasonable housing density and healthy lifestyles for these two groups.
Town and Gown

Town-gown relations can be traced back to medieval Europe and have always been frustrating and annoying for both communities and universities (Brockliss 147). Many early universities were developed for educating members of the ministry, but the communities were considered morally corrupt; therefore, universities protected students from the communities (Mayfield 231). Effectively, universities were separated from surrounding neighborhoods and located in a more “rural idyll” (Brockliss, 165).

Today, colleges and universities around the United States are solving town-gown problems by developing programs that engage the community. Many have been succeed. However, Muncie and Ball State University are still facing town-gown issues on August 18, 2011. The BSU Daily News reported a downtown business group was “keen to” get more students out and spending. Ball State started its’ Campus Master Plan program in September 2013 to guide campus growth for the next 10 to 15 years. Online feedback voted walkability and physical connections between campus and community as the most favorable principles on the online feedback session. Sharing resources between Muncie and Ball State University solves thorny problems of lack of physical connections and relationships.
Problem & Sub-problems

This creative project revitalizes downtown Muncie by focusing on two specific populations: students and elders. This project explores how to provide necessary facilities primarily for students and elders, but also meets the requirements of other populations, increasing neighborhood density, creating pedestrian-friendly neighborhoods, providing compelling activities, enhancing the interactions among people of different backgrounds, and conveniently connecting downtown with the university. Eight sub-questions guide the project:

1. How can downtown be designed as an appropriate space for students’ and elders’ everyday lives?

2. What density and housing types are appropriate for downtown?

3. What types of pedestrian-friendly streetscapes could be created based on existing streets?

4. What types of attractive activities and outdoor spaces could be created for students and elders downtown?

5. How can healthy lifestyles be promoted downtown?

6. What types of pedestrian-friendly trails should be designed for downtown and where are the locations?
Hypothesis

Successful downtown Muncie revitalization requires increased urban density with appropriate housing types, adequate living essentials, attractive activities, pedestrian-friendly transportation networks, strong connections to the urban context, and a unique community identity. Integrating principles of urban design and sustainable neighborhoods increases quality of life and enhances community pride.

Students and elders are amenable population groups to live downtown. With these two population groups as major populations in Muncie, downtown Muncie has opportunities to house them as major residents. By relocating graduate students downtown, the connection between downtown and Ball State University should be strengthened physically and socially. In the meanwhile, this connection could offer educational opportunities for downtown elders at Ball State.

Assumptions

- The project would be the first phase of a new downtown revitalization plan.
- Residential typologies could house students and elders in one neighborhood.
- Ball State would choose to house graduate students downtown Muncie.
- Vacant lots, buildings, office space, and new parking lots could be repurposed for new development.
- Vacant and underused upper-floor offices could be redesigned as new apartments.
- Streets could become more pedestrian-friendly.
- Landscape could upgrade living conditions and promote healthy lifestyles.
- Neighborhoods could be more cohesive through design.

Delimitations

- The project does not address funding.
- The project does not engage community participation.
Methodology

Small-city downtown revitalization can be achieved by increasing residential density, offering more public green spaces, and providing basic resources, services, and other goods. It is assumed that university students and retired elders are two groups targeted for downtown living. These two groups are also active participants in modern walkable communities in current case studies. Downtown Muncie is selected because it is a place that the author is familiar with, easily accessible and has viable historic fabric. The primary tools of revitalize downtown Muncie are a review of literature, case studies, and extensive field studies.

A review of sources on current positions on small-city downtown revitalization has established distinctions between strategies for small cities and those that are applicable to a larger urban core. A review of historical and current demographic for the city of Muncie demonstrates that the population groups this project would be amenable for living downtown. A review of elders and students’ living requirements is used to design decisions.

Case studies are used to develop goals for density, to compare models for interesting residential population as for revitalization, and to critically evaluate potential improvement strategies for project site. The case studies follow Mark Francis’s case study method.

Field studies are used to document existing living density, abandoned or underused structures and parking lots, to assess significance of structures and facilities, analyze potential development areas, which will build a comprehensive understanding of physical and cultural contexts to support the final design.
References


United States Census Bureau, 1980 to 2010
CHAPTER TWO: LITERATURE REVIEW

Literature Review

A Beautiful Mess

“Downtown” is a term primarily used in North America to refer to an urban core, which most of the world calls the city center. Downtown is the center of the city in many ways. It is where most buildings with symbolic importance are located. It is the place that embodies community heritage. It is where significant civic spaces are located. It is the place that celebrates diversity. It is the place where most new, innovative and creative businesses could be located (Rypkema 14). Robertson concludes, “Taken together, these factors clearly demonstrate that downtown represents the heart and soul of most small cities.” (270)

“Downtown was a beautiful mess,” Walker Evans, one of the most influential photographers of the American scene, wrote for Fortune Magazine in 1962: “This was the time when commercial America was solidifying into what it is today. There are many central streets...that are lined with fifty-year-old buildings, in neighborhoods that still exude the atmosphere of 1911.”

Where are the buildings with meaning in your community—the buildings that were built to reflect symbolic values? The vast majority of them are downtown. Where are the public spaces in your community—the places where people gather to celebrate or mourn or protest? The vast majority of them are downtown.

- Donovan D. Rypkema
City Decentralization

Since 1920, downtowns in the United States have declined dramatically. The middle class and businesses have moved out of the cities to the surrounding suburbs. Many urban cores have been left with lower-income households, vacant lots, and abandoned buildings (Burayidi 1).

This decentralization of economic and social activities away from downtowns to suburbs has caused a series of problems. First, it has created a mismatch between living and working places, especially for low-income residents. Darden’s 1991 research showed that about 71% of the African American population, most low-income households, were living in city centers. However, at the same time, 80% of new jobs in manufacturing, retail and wholesale trades were in suburban areas (213). Lower-income households are unable to afford housing in the suburbs because zoning often prevents development of low-income housing in these neighborhoods (Burayidi 2). Second, cities lose tax revenues from those businesses and middle-class households that have located outside city boundaries. As a result, the residual city population becomes poorer and more dependent on public services (Burayidi 2). The wealth gap between cities and suburbs increases through this decentralization process. Third, decentralization of business and population is costly to cities, requiring additional infrastructure and amenities (Fischer 64). Fourth, with the loss of retail and service functions from the city center, the only important functions that remain in many downtowns are city and county governments, and some of the social services sector. These losses have caused the loss of companies and jobs, but also the sense of cities’ purpose and meaning (Mallach and Lavea 5).
Small City Downtown Revitalization

The decentralization trends discussed above apply to most American cities since the 1950s, whether large, medium-sized or small. The focus of this project is Muncie, Indiana. With 70,085 total populations, Muncie is a small city, which by definition is a settlement of less than 150,000 residents (Burayidi 3). A small Midwestern city that has experienced many tidal changes, Muncie has lost its manufacturing base, but has the assets of an established university that contributes a population of 20,503 students (BSU facts) plus 3,741 faculty and staff (Muncie, Delaware County, Economic Development Alliance). Downtown revitalization efforts date back to 1983, and currently seem to have established an upward momentum, with the Downtown Muncie Organization, Historic Muncie, Muncie Action Plan, Muncie Downtown Development Partnership and other public and private organizations and departments.

Since the 1950s, research has explored the topic of city decentralization to document the problems, but also analyze the policies that cities are using to stem the tide of decentralization and inner-city decay (Burayidi 2). Most of the research has been based on large urban areas such as Seattle, Los Angeles or New York City. Large and small city downtowns share some common characteristics. Downtown usually sits close to the place where the city began, often next to a body of water. Downtowns are usually the districts that maintain the strongest public identity and the highest density in the region (Burayidi 11). These descriptions fit downtown Muncie. Located beside White River, downtown Muncie has most of the historic buildings of the city dated back to the 1890s. It also has higher and denser buildings than other districts of the city.

However, major differences remain. To find out the differences between large city downtowns and small city downtowns, Kent A. Robertson, professor of community studies at St. Cloud State University in Minnesota, did a national survey of 57 cities across 46 states with populations of 25,000 to 50,000 and in-depth site visits to five cities between 1995 to 1999. Further, Michael A. Burayidi who is professor and chair of the Department of Urban Planning at Ball State University, Indiana did fourteen case studies on downtowns of small and
medium sized cities. He focused on successful strategies that have been used in these “resilient downtowns” which could be replicated in small-city downtown revitalization.

Small-city downtown revitalization principles are different from large-city downtowns because of unique distinctions. First, small city downtowns are more human scale than larger ones. The building heights are usually lower than the larger cities (Robertson 11). It offers opportunities to create unique streetscapes different from large cities. There are usually smaller amounts of people on the street during rush hour. The destinations are usually within walking distance (Robertson 11). Opportunities exist to encourage people walking in downtown. Having people walking on street create an image of vibrant downtowns. Robertson says that “no matter how aesthetically pleasing the downtown may be, it looks dead without the presence of pedestrians.”

Economically, having more people walking on street increased the pool of potential customers. The more a person walks on street, the more storefront she/he will meet. This could increase the amount that people would purchase. This principle can be understood from the anchor store designs in suburban shopping malls (Robertson 18). Moreover, Burayidi mentions that the small-city downtowns are usually within easy driving distance of all city residents, usually within ten to fifteen minutes. This offers more opportunities for small city downtowns to do businesses.

The most common way to improve pedestrianzation is to improve the streetscape. “People will often choose to walk if the pathways are comfortable, safe, interesting, and enjoyable; if distances between destinations are deemed walkable; and if destinations are clearly linked by a network of sidewalks (Robertson,17).” Pedestrian amenities such as flowers, trees, benches, human-scale lights, attractive pavement and banners could be added to soften
the downtown environment and encourage people to stay longer. The sidewalks could be widened to encourage building and business owners to create more interesting and attractive building façades and on-street activities. Interesting store windows help make the journey more appealing on foot. The speed limit of automobiles could be reduced to create a safe environment for pedestrian and drivers. However, parking lots create an uninteresting walking experience. Car entering and exiting parking lots are also dangerous for pedestrians. Since parking facilities are major pedestrian impediment, some cities use the strategy of locating the parking facilities behind main street buildings but connected to the main major downtown destinations. Also, people lingering on street could encourage more people to go outside and experience downtowns on foot (Robertson 18).

<table>
<thead>
<tr>
<th>Development Strategy</th>
<th>Cities Using Strategy (n=57)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Historic Preservation</td>
<td>50</td>
<td>87.7</td>
</tr>
<tr>
<td>2. Nightlife/Entertainment</td>
<td>49</td>
<td>86.0</td>
</tr>
<tr>
<td>3. Main Street Approach</td>
<td>44</td>
<td>78.6</td>
</tr>
<tr>
<td>New Office Development</td>
<td>44</td>
<td>78.6</td>
</tr>
<tr>
<td>5. Pedestrianization Improvements</td>
<td>42</td>
<td>72.2</td>
</tr>
<tr>
<td>Tourism</td>
<td>42</td>
<td>72.2</td>
</tr>
<tr>
<td>7. Downtown Housing</td>
<td>39</td>
<td>68.4</td>
</tr>
<tr>
<td>8. Traffic Circulation Changes</td>
<td>37</td>
<td>66.1</td>
</tr>
<tr>
<td>9. Transit Improvements</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td>10. Parking Facilities</td>
<td>20</td>
<td>37.0</td>
</tr>
<tr>
<td>11. Waterfront Development</td>
<td>18</td>
<td>31.6</td>
</tr>
<tr>
<td>12. Pedestrian Malls</td>
<td>17</td>
<td>29.8</td>
</tr>
<tr>
<td>13. Centralized Retail Management</td>
<td>13</td>
<td>22.8</td>
</tr>
<tr>
<td>Convention Center</td>
<td>10</td>
<td>17.9</td>
</tr>
<tr>
<td>15. Indoor Shopping Center</td>
<td>9</td>
<td>15.8</td>
</tr>
<tr>
<td>16. Sports Stadium/Arena</td>
<td>6</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Table 2-1 Small-city downtown development strategy utilization (Robertson)

<table>
<thead>
<tr>
<th>Development Strategy</th>
<th>Success Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Main Street Approach</td>
<td>3.57</td>
</tr>
<tr>
<td>2. New Office Development</td>
<td>3.52</td>
</tr>
<tr>
<td>3. Waterfront Development</td>
<td>3.47</td>
</tr>
<tr>
<td>4. Convention Center</td>
<td>3.40</td>
</tr>
<tr>
<td>5. Pedestrianization Improvements</td>
<td>3.36</td>
</tr>
<tr>
<td>6. Sports Stadium/Arena</td>
<td>3.33</td>
</tr>
<tr>
<td>7. Historic Preservation</td>
<td>3.32</td>
</tr>
<tr>
<td>8. Parking Facilities</td>
<td>3.20</td>
</tr>
<tr>
<td>9. Tourism</td>
<td>3.20</td>
</tr>
<tr>
<td>10. Centralized Retail Management</td>
<td>3.15</td>
</tr>
<tr>
<td>11. Downtown Housing</td>
<td>3.03</td>
</tr>
<tr>
<td>12. Transit Improvements</td>
<td>2.91</td>
</tr>
<tr>
<td>13. Indoor Shopping Center</td>
<td>2.89</td>
</tr>
<tr>
<td>14. Traffic Circulation Changes</td>
<td>2.81</td>
</tr>
<tr>
<td>15. Nightlife/Entertainment</td>
<td>2.80</td>
</tr>
<tr>
<td>16. Pedestrian Mall</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Table 2-2 Small-city downtown development strategy success rating (Robertson)
The strategy of “pedestrianization improvements” could be seen in all of the five downtowns that Robertson visited after the survey. It is also highly ranked (fifth place) in the Robertson’ survey as the strategy cities are using and successfully achieved (see Table 2-1 and 2-2). It also mentioned by Burayidi that resilient downtowns are accessible by different modes of transportation. He says that “all the resilient downtowns have identified ‘walkability’ as an essential component of their downtown revitalization strategy (p. 156).” In Burayidi’s fourteen resilient downtowns, the walk scores are from 86 to 98, which means the downtowns very walkable or walker’s paradise (see Table 2-3).

Second, smaller city downtowns usually have higher percentage of historic buildings than larger cities (Kenyon). Historic buildings are ranked as the most important asset for small-city downtowns in Robertson’s survey (see Table 2-4). Historic preservation is also the most popular strategy cities use (see Table 2-1). Successful downtown redevelopment programs include historic preservation as one key component (118). These cities take advantage of protecting their heritage. They attract tourism dollars to the city by marketing this distinctness. Economically, historic preservation projects are labor-intensive projects. They keep more money within the neighborhood(Robertson 16).
### Table 2-4 Small-city downtown assets (Robertson)

<table>
<thead>
<tr>
<th>Downtown Strength/Asset</th>
<th>Number of Cities Listing as One of Top Three Assets (n=57)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preservation/Architecture/Heritage</td>
<td>24</td>
</tr>
<tr>
<td>Waterfront/Riverfront</td>
<td>13</td>
</tr>
<tr>
<td>Daytime Workforce</td>
<td>12</td>
</tr>
<tr>
<td>Retail/Service Mix</td>
<td>11</td>
</tr>
<tr>
<td>Government Center</td>
<td>10</td>
</tr>
<tr>
<td>Strong Downtown Association</td>
<td>7</td>
</tr>
<tr>
<td>Central Location</td>
<td>7</td>
</tr>
<tr>
<td>Strong Retail</td>
<td>6</td>
</tr>
<tr>
<td>Availability of Land/Buildings</td>
<td>6</td>
</tr>
<tr>
<td>Parking</td>
<td>6</td>
</tr>
<tr>
<td>University</td>
<td>5</td>
</tr>
<tr>
<td>Parks/Open Spaces</td>
<td>4</td>
</tr>
<tr>
<td>Civic/Convention Center</td>
<td>4</td>
</tr>
<tr>
<td>Main Street Approach</td>
<td>4</td>
</tr>
<tr>
<td>Transportation</td>
<td>4</td>
</tr>
<tr>
<td>Community Spirit/Commitment</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: Thirty-eight other downtown strengths/assets were listed 1 to 3 times on this open-ended survey question.

### Table 2-5 Fort Collins downtown development organizations (Burayidi)

<table>
<thead>
<tr>
<th>Name</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convention and Visitors Bureau</td>
<td>Marketing and promoting downtown Fort Collins Coordinating Downtown Events</td>
</tr>
<tr>
<td>Downtown Development Authority</td>
<td>Advises community leaders on planning and development in the downtown Uses TIF funding to stimulate redevelopment in downtown</td>
</tr>
<tr>
<td>Downtown Business Association</td>
<td>Advocates for development in Downtown Fort Collins Produces programming and events downtown</td>
</tr>
<tr>
<td>Historic Fort Collins Development Corporation</td>
<td>Private non-profit organization with interest in historic preservation</td>
</tr>
<tr>
<td>Landmark Preservation Commission</td>
<td>Reviews redevelopment proposals affecting historic property to ensure authenticity of remodeling and preservation of historic elements of buildings</td>
</tr>
<tr>
<td>Beet Street</td>
<td>Promoting the arts in downtown, especially “Arts in Public Places”</td>
</tr>
</tbody>
</table>
Historic preservation includes not only the physical elements such as buildings and artifacts, but also the community’s way of life and history (Burayidi, 118). Downtown has the unique ability of tapping into the collective memory of many individuals (Robertson, 16). It links to many important events of the community. It was where parades and festivals took place, where civic decisions were made, where many people utilized the library, attended school and went to the theater. Downtown with the historic buildings is an essential component to create strong sense of community and sense of place.

However, historic preservation is not the most successful strategy for most of the cities according to Robertson’s survey (see Table 2-2). To preserve history, public and private partnership is expected. In Burayidi’s case studies, resilient downtowns have different organizations working closely to take advantage of downtown heritage for redevelopment. Take Fort Collins, CO for example, has six downtown redevelopment organizations (see Table 2-5). Each organization has its own responsibility, yet work together. Beet Street, the downtown non-profit organization, focuses on promoting performing arts in downtown has taken the project of restoring the “ghost signs” which are historic advertisements in downtown Fort Collins.

Third, the retail structure is different in smaller city downtowns. It is hard for smaller cities to attract regional or national chains to downtown due to the reduced market area and consuming ability. Only small percentage of small cities is still running department stores in their downtowns (Robertson 11). To revive downtown businesses, many downtown organizations provide three key roles which are safety, marketing, and service in a recession. Integrating parking in a historic downtown, developing way-finding signage, and creating safe environments are things that landscape architects could do. These designs could create visitor-friendly environments and increase the revisiting percentage (Burayidi 179).

Moreover, personal attention the customer is what makes downtown merchants differ from retailers in the mall. Another great strategy to do business downtown is to show that the businesses are not faceless but operated by neighbors.
Fourth, unlike larger city downtowns, most of the small city downtowns are not divided themselves up into different districts. Most of the large city downtowns contain financial district, riverfront, historic district, entertainment district, etc. Every district has its own distinct function and character (Robertson, 11). Small-city downtowns are more compact yet need to be multifunctional. The importance of diversity in cities was fully argued in Jacob’s book *The Death and Life of Great American Cities*. She made the statement that cities need to have “a most intricate and close-grained diversity of uses that give each other constant mutual support, both economically and socially (14).”

Fig. 2-3 Looking west on Main Street in a Friday afternoon. Traffic congestion is not a problem confront Downtown Muncie.
A healthy downtown need to contain wide range of activities to bring different groups of population for different reasons at varied times (Robertson 14). In Robertson's survey, “attracting people downtown evenings/weekends” was ranked the second major problem that small-city downtowns have. Downtowns are where government-related structures such as city halls, county courthouses, libraries, post offices, and police stations located. And often, the oldest churches in the city are in the downtown area. These structures demonstrate potentials to attract people during weekends. However, activities in these structures will not last long and hard to bring dollars directly to downtowns.

Traditionally, the primary functions that downtowns serve were shopping and employment. Many professionals that do not need lots of space, such as lawyers, accountants, financial advisors, and real estate agencies are the potential customers to locate their offices in downtowns. These offices with people working there could fill downtowns during usual working times. Besides the strategies of doing business downtown, entertainment activities such as nightclubs, movies and taverns and cultural activities such as theatres and museums could also bring people downtown at times other than 9am to 5pm on weekdays.

Besides bringing people from elsewhere to downtowns, many cities have recognized the advantages of having people actually living downtown. Over two-third of the cities in Robertson’s survey listed downtown housing as an ongoing strategy. Downtown housing could present in many different forms. An abandoned department store was rehabilitated into senior housing in Bangor, ME (Robertson 15). Upper-floor housing, which means apartments on the upper floor of retail, is a successful model of affordable housing in many city downtowns (Burayidi 63). Brownfields’ reclaiming and redevelopment are also saving ways of housing development in downtowns (Burayidi 64).

However, there are downsides of living downtown. Burayidi talks about Marci Goulart, a young professional living in downtown Chico, CA. She and her husband own two houses in downtown, one for living and one for their interior design business. She loves the energy of downtown with variety of people and things to do. The complaint she has is the noise
from young college students returning to the campus when the bars close at night. The two experience of the house’s vandalization are also drawbacks of living downtown.

Fifth, smaller city downtowns are mostly not struggling with the problems that usually confront larger cities such as traffic congestion and high crime rate (Robertson 11). In Robertson’s survey, these two problems both ranked near the bottom.

However, there are more principles need to be followed when designing a successful downtown. A successful downtown has a point of arrival. These points of arrival are design features that state the announcement that one has arrived in downtown. They provide places where public could meet either formally or informally. These points of arrival are usually public squares, plazas, or public parks (Burayidi 147).

Fig. 2-4 Looking from Morgan Square to the south in Spartanburg, South Carolina. The downtown revitalization strategy of offering affordable housing and upper-floor housing brings back population to vibrant downtown. (http://greenvillechautauqua.org/june-festival/spartanburg-chautauqua/)
A successful downtown usually has recognizable boundaries. The boundaries could be defined either by geographic features or highlighted by design. A well-defined downtown helps to create visual identity to set the downtown apart from the rest of the city (Burayidi 150).

A successful downtown usually has a clear vision/plan for future development. A successful downtown plan usually works with a wide variety of downtown interests such as business owners, customers, workers, residents, governmental officials, and institutional representatives to shape the most desirable direction for downtown to proceed (Robertson, 14). The framework could provide guidelines that are used to evaluate new projects, but not so prescriptive as to eliminate the unique qualities that make downtown distinctive (Burayidi 158).
Living Downtown

Healthy downtowns are vibrant places where people work, eat, play, shop, and live. As discussed above, over two-thirds of the cities in Robertson’s survey listed cultivating downtown housing as an ongoing strategy. Successful downtowns cultivate downtown living, because housing has “ripple effect” on downtown economy (Burayidi 47). In 2006, the Vincent Group conducted a web-based survey that received 772 responses from residents and held three focus group meetings for the Wilmington Renaissance Corporation to assess the demand for downtown housing. The survey shows that the demographic group that is most likely consider living downtown is “young, has no children, and works in professional and management jobs.” The study also shows that “downtown residential demand will be generated by empty-nesters, students, and people relocating to the area (6).”

Fig. 2-5 The concept of this project is to attract students and elders living downtown.
Similarly, according to a study by Randolph McKetty & Associate in 2005 for the City of Greenville, SC, almost half of the families were non-traditional families including young couples without children, empty nesters, household shared by friends or unmarried couples, and single household. Thirty four point two percent of the city population was young people aged 20 to 39. While young people are not interested in purchasing the real estate, the elders do. The elderly aged 65 years old and older owned 33% of the owner-occupied housing units in Greenville (12). Elders are a stable population for cities. Nine of ten Americans 65 and over want to stay in their current home as long as possible (Jenkens, xiii). According to data compiled by the Social Security Administration, a human reaching age 65 today, could expect to live, on average, until age 85. It means that these households and population could be expected to be stable for at least ten to fifteen years.

City of Mansfield, OH also shares the similar situation. Based on the study by the Danter Company in 2011, one-third of the participants would consider living downtown if appropriate housing were provided. Mansfield Alliance also stated in 2003 that downtown Mansfield has “a high potential demand for housing, including a significant increase in non-traditional households and household without children (107).”

All these studies and surveys show that the most amenable groups to live downtown are empty nesters retired or in pre-retirement age, young people, and couples without children. With over 15,000 undergraduate, 1,500 graduate enrollments every year from Ball State University and about 9,000 elder population aged over 65 in average for over ten years, downtown Muncie has the appropriate population to cultivate living.
Downtown Muncie

Muncie is an American legacy city. “American legacy cities were once industrial powerhouses and hubs of business, retail, and services scattered across New England, the Mid-Atlantic, and the Midwest” (Mallach & Brachman 2). In 1900, Muncie had over 15 factories in the city, including Ball Glass Works, G Jaeger Paper Co., Muncie Rubber Company, and other factories call for high energy for production. These factories provided jobs, and downtown area contained department stores, professional offices, and financial institutions that served the region. However, most of the natural fuel source ran out in 1991. The factories closed or moved out of the city. Muncie has seen sustained loss of jobs and population. As Alan Mallach and Lavea Brachman says in *Regenerating America’s Legacy Cities*:

Many social and economic forces have contributed to their (America’s legacy cities) decline: loss of the manufacturing firms that historically provided their economic base; regional migration and suburban flight that left impoverished urban populations behind; and a reduced housing market demand that led to diminished property values and abandonment. These changes resulted in decreased municipal resources and reduced capacity to deal with their ever-growing problems.

<table>
<thead>
<tr>
<th>City</th>
<th>Major College/ University</th>
<th>City Population</th>
<th>Residents over 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birmingham, AL</td>
<td>The University of Alabama at Birmingham</td>
<td>212,113</td>
<td>12.80%</td>
</tr>
<tr>
<td>Tucson, AR</td>
<td>The University of Arizona</td>
<td>526,116</td>
<td>14.70%</td>
</tr>
<tr>
<td>Winston-Salem, NC</td>
<td>Winston-Salem State University</td>
<td>236,441</td>
<td>13.30%</td>
</tr>
<tr>
<td>Manchester, NH</td>
<td>University of New Hampshire at Manchester</td>
<td>110,378</td>
<td>11.30%</td>
</tr>
<tr>
<td>New Orleans, LA</td>
<td>University of New Orleans</td>
<td>378,715</td>
<td>12.10%</td>
</tr>
<tr>
<td>Spokane, WA</td>
<td>Washington State University Spokane</td>
<td>210,721</td>
<td>12.70%</td>
</tr>
<tr>
<td>Charleston, SC</td>
<td>Medical University of South Carolina</td>
<td>127,999</td>
<td>11.10%</td>
</tr>
<tr>
<td>Knoxville, TN</td>
<td>University of Tennessee</td>
<td>133,270</td>
<td>14.00%</td>
</tr>
<tr>
<td>Palm Bay, FL</td>
<td>Florida Institute of Technology</td>
<td>104,898</td>
<td>20.20%</td>
</tr>
<tr>
<td>St. Louis, MO</td>
<td>University of Missouri</td>
<td>318,415</td>
<td>12.90%</td>
</tr>
</tbody>
</table>

Table 2-6 Ten Great Retirement Cities in the U.S. (created by author, information pulled from internet)
However, Muncie still has opportunities. At its peak population in 1980, Muncie had 76,460 residents, this number fell to 70,085 by 2010 (United States Census Bureau). Muncie still has significant population. Moreover, Muncie has had a 3.9% increase in population growth from 2000 to 2010 (United States Census Bureau). Most of the population resulted from the expansion of Ball State University. BSU enrollment causes 18 to 24 year old population, which are mostly students, increased from 24.6% to 27.5%. Elders are the other significant population of the city. In 2000, 13.2% of the residents, which equals 8,900 people, were over 65 years old, while in 2010, 13% of the residents, 9,111 people, were over 65 (U.S. Census Bureau). As the second largest employer, Ball Memorial Hospital is only 2 miles from downtown. It is also easy to travel from downtown to the hospital by taking MITS bus. Students and elders who are the most amenable groups to live downtown as mentioned above are two groups of significant population in Muncie. These groups could provide great opportunities for Downtown Muncie redevelopment.

Students and elders are not the first time being homed together. In Kiplinger’s news of 10 Great Retirement Cities in the U.S., all of the cities have more than one university or college (see Table 2-6). There are benefits to housing elders and students in one community. As stable population, elders tend to live longer in the community than the students. They are good resources for students to get active in the community. At the same time, students who are more active than elders bring more vitality to the community. Activities and stores appealing to students should also interest elders’ grandchildren. This could attract grandchildren to visit their grandparents more often.

As the largest employer, Ball State University has significant influence on the city economically and physically. In recent BSU master plan, “Prioritize convenient transportation and connections to town” is one of the seven draft recommendations. The rest are “Improve bicycle and pedestrian infrastructure, provide more opportunities for immersive learning, encourage additional sustainability initiatives, develop a new science building, expand resource for the theater and dance department, improve campus landscape and maintenance.” Another
college in town, IVY Tech Community College owns three properties in Downtown Muncie. The students are having their regular classes in downtown campus.

As mentioned above a successful downtown usually has a clear vision/plan for future development. Since 2011, the Muncie Action Plan worked with the public, and created strategic guides for the future development of Muncie (ACP Visioning+ Planning). Nine actions out of forty-seven are related to downtown revitalization. These actions could inspire design elements for this creative project. The nine actions are:

1. Develop and implement a plan to coordinate with and capitalize on the relocation of Ivy Tech to downtown. Create interdependent economic cluster near the new Ivy Tech location.
2. Create a healthy community initiative. Promote healthy lifestyles.
3. Continue to pursue a Cultural District designation from the Indiana Art Commission (IAC). The Muncie Arts and Culture District could be developed as a visitor tour.
4. Create and implement a Downtown Plan. The plan should include the mixed-use development, riverfront development, traffic, parking, and railroad noise mitigation.
5. Develop and implement a Sidewalk and Recreational Paths Plan.
6. Implement the City of Muncie’s 5-Year Parks and Recreation Master Plan. Improve the park system for residents.
7. Improve the appearance of the city gateways.
8. Explore the feasibility of an event space for year-round activities in or near downtown.
9. Implement models of sustainable design around the city. Create downtown parks and other projects to improve the amenities and educate the public.

While the Muncie Action Plan provides the framework for policy and programs, it lacks design elements enhancing community pride and bringing people back to downtown. Landscape architects have knowledge to revitalize Downtown Muncie by providing necessary facilities, interesting activities and attractive spaces.

Downtown Muncie has opportunities to cultivate urban living. However, the residential density is low compared with other small or medium sized city downtowns. Currently,
downtown Muncie has 3.1 living units per acre (see page 115 for more details). Residential density should be significantly increased in downtown Muncie. The numbers of retail shops, restaurants, and entertainments should be increased if there are more people living downtown. Since elders and students are targeted as major population, living requirements of these two groups should be closely studied.

Fig. 2-6 Looking through the window into The Barn Brasserie (Facebook page of The Barn Brasserie). With years of promotion, Downtown Muncie had new restaurants and businesses. The Barn Brasserie is one of them opened in 2013.
Elder Housing

Longevity is a great gift of the twenty-first century, but also a challenge. Elders are stable population for cities. Nine of ten of Americans 65 and over want to stay in their current home as long as possible. Eight out of ten of them want to remain at home even they believe they will need help caring for themselves (Jenkens xiii). The older adults who represent an increasing percentage of the disabled population want to live in a community that could help them stay at home, despite physical setbacks.

<table>
<thead>
<tr>
<th>UNIT TYPE</th>
<th>UNIT SIZE RANGE</th>
<th>AVERAGE UNIT SIZE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Typical Unit Area</td>
<td>Typical Unit Area</td>
<td></td>
</tr>
<tr>
<td><strong>Independent Living</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studio apartment</td>
<td>320–735</td>
<td>660</td>
<td>Rarely used today in market-rate projects</td>
</tr>
<tr>
<td>One-bedroom apartment</td>
<td>650–900</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>One-bedroom plus den apartment</td>
<td>850–1200</td>
<td>950</td>
<td>Usually includes an additional 1/2 bath</td>
</tr>
<tr>
<td>Two-bedroom apartment</td>
<td>1,100–1,400</td>
<td>1,200</td>
<td></td>
</tr>
<tr>
<td>Two-bedroom plus den apartment</td>
<td>1,200–1,800</td>
<td>1,400</td>
<td>Usually includes an additional 1/2 bath</td>
</tr>
<tr>
<td>Three-bedroom apartment</td>
<td>1,200–2,000</td>
<td>1,600</td>
<td></td>
</tr>
<tr>
<td>One-bedroom plus den cottage</td>
<td>900–1,200</td>
<td>1,100</td>
<td>Usually includes single-car garage minimum</td>
</tr>
<tr>
<td>Two-bedroom Cottage</td>
<td>1,200–1,800</td>
<td>1,400</td>
<td>Can include two-car garage</td>
</tr>
<tr>
<td>Two-bedroom plus den cottage</td>
<td>1,200–2,000</td>
<td>1,800</td>
<td></td>
</tr>
<tr>
<td>Three-bedroom cottage</td>
<td>1,400–2,500</td>
<td>2,100</td>
<td>Can include two-car garage</td>
</tr>
<tr>
<td><strong>Assisted Living</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studio/elcove unit</td>
<td>350–375</td>
<td>350</td>
<td>A few provided for couples</td>
</tr>
<tr>
<td>One-bedroom unit</td>
<td>450–600</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Two-bedroom unit</td>
<td>800–1,000</td>
<td>850</td>
<td></td>
</tr>
<tr>
<td><strong>Long-Term Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private room</td>
<td>230–320</td>
<td>250</td>
<td>Most market-rate projects and CCRCs are all private</td>
</tr>
<tr>
<td>Large private room</td>
<td>320–425</td>
<td>390</td>
<td>Newer models with shower in bathroom</td>
</tr>
<tr>
<td>Semi-private room</td>
<td>350–500</td>
<td>425</td>
<td></td>
</tr>
<tr>
<td><strong>Dementia/Memory Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private room</td>
<td>230–320</td>
<td>250</td>
<td>Shower in bathroom</td>
</tr>
<tr>
<td>Semi-private room</td>
<td>350–500</td>
<td>425</td>
<td>Only a few typically recommended</td>
</tr>
</tbody>
</table>

Table 2-7 Unit Types and Sizes for Senior Living (Eastman). CCRC in the table means Continuing Care Retirement Community. It provide independent, assisted Living, and skilled nursing facilities.
A study for the American Association of Retired Persons (AARP) found that men and women outlive their ability to drive by six to ten years on average (Nathans 2). Thus, the elderly prefer to live close to city amenities so they do not have to rely on automobiles for activities of daily living. This partly explains why retirees, baby-boomers, and empty nesters show a greater interest in downtown living (Burayidi 53). Downtowns have better pedestrian networks and more public transportation nodes are appealing to elders. Gail and Gene Zannon are typical empty-nester household that are attracted to downtown Santa Barbara. The Zannons lived in the suburbs until their children grew up and left home. The couple chose to move downtown because it was convenient for their needs. They do not have to drive in order to work or to access city amenities, because they are within walking distance. They also noted that they are not the only baby-boomers living in the block: three or four other similar families live nearby (Burayidi 54).

Smaller households require lower maintenance is another reason that drew elders to live downtown. With children grown up and left home, there is no reason for elders to live in large single family houses. As Aaron Nathans said in *The News Journal*, “Americans pinned their retirement dreams to the assumption they’d someday sell their current home for a reasonable price. That, combined with saving and investments, would help them buy a comfortable, smaller place”. Surprisingly, the smaller sized downtown housing could be opulent. The Zannors mentioned above have downtown housing with three bedrooms, two living rooms, a two-car garage, and an airy second-floor balcony.

Eastman lists the unit types and sizes for senior living in the book *Building Type Basics for Senior Living* (see Table 2-7). The apartments in the “independent living” group are suitable sizes for downtown living.
Elder Living: Beyond Housing

People are looking for more than housing in their lives. Elders are not exception. Education, health and socializing are additional aspects that elders consider when looking for places to live. Nowadays, education is more than time in classroom. More education could arouse curiosity and pursuit of new interests could enrich daily life throughout the lifespan. The fast-growing areas of education fertilize the ground for nontraditional learning for people 50 and older. The baby-boomers have both education in school and desire to continue to learn, explore, and do more (Coughlin 302). Public universities and local colleges are potential locations to offer life-long education.

According to People Quick Facts from United States Census Bureau, there are 14.1% people 65 years old and over in the States in 2010. In Muncie, the percentage is 13% in 2010. Also, people are living longer. According to data compiled by Social Security Administration: a man reaching age 65 today can expect to live, on average, until age 84.3; a woman reaching age 65 today can expect to live, on average, until age 86.6. Since people are living longer, caregiving will extend to a longer period (Coughlin 304). A study conducted by the National Alliance for Caregiving and AARP concludes that more than one out of four families provide care for an elder. It also reports that nearly half of all American workers in Fortune 1000 companies identify elder care as more critical today than child care. Health is an important aspect for communities with elders as major population. Opportunities for healthy living should be provided through design in these communities. Health is not a simple or singular aspect of our lives but must be multifaceted. The World Health Organization defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” Besides necessary health care, promoting healthier lifestyles is also important in communities with majority of elder populations.

To keep elders healthy, there must be outdoor opportunities for recreation and education, as well as access to culture, sports, shopping, and the public realm. Outdoor recreational facilities are essential elements for longevity communities. Walking trails are the
most popular outdoor recreational amenities. Golf course, swimming pools and tennis courts are also popular in longevity community designs, because they are important not only for people who participate but also for those who gather to watch and socialize. Other amenities such as bocce, lawn bowling, and horseshoes played on lawns are also popular (Suchman 69).

Nature is a key amenity for elders, appealing to their aesthetic sense and contributing to feeling of relaxation. Community gardens are good ideas to celebrate nature in longevity communities. The Zannons mentioned above suggested that “downtown housing units must be designed to allow enough lighting for those who want to engage in gardening on upper floors” (Burayidi 56). This might be a reflection of their passion of gardening, but Greg Holcombe, a Harvard-trained urban planner, made the same observation. He said that the one aspect that he could like to change about his downtown living is to add a roof-top garden to his condominium, so that he could engage gardening in his spare time. Other environmental features such as open spaces, trees, and water features should also being incorporated into the project design.

Socializing is also important. The overall community design should encourage interaction among residents. A vibrant neighborhood lifecycle is a complex system of different relationships including social, economic, and spatial structures. The street network works as the basic connector of these relationships. It shapes building footprints, highlights certain central areas, and determines the “perceived reach and weave” of a community (Mehaffy 25). Successfully connected neighborhoods should be pedestrian friendly, not isolate those who do not drive; offer easy access to the other neighborhoods; support neighborhood retail opportunities; increase communication opportunities, support the formation of social networks. The clubhouse or community center is extremely important element as the physical, social, and symbolic focus of the community (Suchman 71).
Student Living

University residences are not “dorms” anymore. There are more elements that designers and planner should think of to satisfy today’s students. As mentioned in Building Design + Construction magazine, graduate students are willing to work longer hours on their research projects so need affordable places that are on or near campus to live. Also, they prefer to live close to each other in a more compact setting to communicate easily (Burayidi 62).

Table 2-8 Ball State Fact Book shows that Ball State has stable graduate enrollment since 2008 (Ball State University)
According to the surveys mentioned above, young professionals are one of the most amenable groups to live downtown. Especially graduate students without children, who prefer smaller household and more compact living facilities. Downtown living could offer wider range of living choice from lofts to three bedroom apartments. It could also offer more convenient public transit, easier access to many different entertainments than anywhere else in the city. Coincidentally, many universities are making investments in their towns by locating their student housing in downtowns to benefit the town economic and to enliven downtowns. Ball State University has been offering stable graduate student population since 2008 to cultivate downtown living (see Table 2-8). It is assumed for the project that Ball State would house graduate students without children downtown Muncie.

To provide students better living conditions than anywhere else and to attract more of them, there are several elements that designers and planners should think of. First, a friendly locality is desirable. Local factors of the surrounding of the housing are as important as the design and service of the building. The location of the student housing is desired to be on or close to campus. Since downtown Muncie is a few miles away from the campus, easy transportation are required between downtown and the main campus. However, downtown Muncie could offer incomparable easy access to types of shops, post offices, churches, civic centers, open spaces, local walks and pleasant places for sitting and talking in all kinds of weather.

Second, living facilities should offer more opportunities to enrich students’ academic experience. They should provide civic education which means all the processes that affect people’s beliefs, commitments, capabilities, and actions as members or prospective members of communities (Crittenden & Levine), and teach them valuable lessons that could affect the course of their future lives (Winston & Roger 6). Living facilities are important because student sleep and spend more of their waking hours in living spaces than any other places. So, as part of the education development, living facilities should always be teaching and learning related.

Academic education should also be enhanced in living facilities. Living space is the most
common place where student would study. So, the quality of living conditions is important because the quality of the “intellectual effort” is part related to the place where work is done (Winston & Roger 47). Then, noise control is a significant aspect when designing student housing. Especially in downtown Muncie, the noises created by trains and urban activities should be reasonably controlled.

Socializing which is a part of civic education is important in student housing. For a student, an important part of coming to college is to meet people, and so to make friends. As Mullins and Allen mention in the brief guide of student housing, “The corridor or ‘hotel’ plan is not usually desirable other forms of circulation and grouping should be considered, e.g. around staircases or courtyards. (224)” However, the grouped residences are not enough to make sure that the residing individuals will become friends. Face-to-face meetings are needed through use of common facilities, also by some chance incident and attraction in and out of the buildings.

Socializing is not limited among students. Regular association with the local community is essential. For students who do not have roots at a local home, attachment to a local community is especially important to build up senses of belonging. Organization matter: playing the organ of a local church, joining a local orchestra or dramatic club, joining a local sports team or walking society.

Ecological sustainability is usually encouraged in universities by using green feature and technologies. These designs could influence students to make green choice in the future. Many universities are designing new residence halls to a minimum LEED Silver status and turn them into sustainability learning center. For example, Eastern Mennonite University, Harrisonburg, Va., completed Cedarwood, a 35,000 square feet residence hall in 2009 and achieved LEED Silver certification. Its green features include extensive natural day lighting, low-flow water fixture, a bio-retention filtration system to manage storm-water runoff, reflective roofing, and a solar hot water system. They installed a video dashboard in the lobby to deliver real time data on the building’s energy and water usage as well as background information on its
environmental characteristics. These features fuel students’ environmental awareness and make it easier for them to follow through with good ecological practices.

Third, student housing should also be budget-friendly. However, the rooms should be big enough for students’ daily activities and basic responsibilities. Winston and Roger offer common room sizes (Table 2-9), which apply for Downtown Muncie project. "It is important to achieve a balance of giving users space for movement, yet not saddling schemes with capital and running costs heavier than they need be for the type of use and user (Winston & Roger 617)."

<table>
<thead>
<tr>
<th>Floor area (wall to wall)</th>
<th>Floor area (area less fixtures)</th>
<th>Room width x depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>m² (ft²)</td>
<td>m² (ft²)</td>
<td>m (ft/in)</td>
</tr>
<tr>
<td>12.5 (135)</td>
<td>10.9 (117)</td>
<td>2.97 x 4.27 (9 ft 9 in x 14 ft)</td>
</tr>
<tr>
<td>12.5 (135)</td>
<td>10.9 (117)</td>
<td>2.74 x 4.57 (9 ft x 15 ft)</td>
</tr>
<tr>
<td>12.1 (130)</td>
<td>10.3 (111)</td>
<td>2.67 x 4.5 (8 ft 9 in x 14 ft 9 in)</td>
</tr>
<tr>
<td>11.6 (125)</td>
<td>9.9 (107)</td>
<td>2.87 x 4.08 (9 ft 5 in x 13 ft 4½ in)</td>
</tr>
<tr>
<td>11.6 (125)</td>
<td>9.9 (107)</td>
<td>2.74 x 3.77 (9 ft x 12 ft 4½ in)</td>
</tr>
</tbody>
</table>

Some students prefer to spend less money on their accommodation and to make do with much smaller rooms. Single rooms of 6.97 m² (75 ft²) floor area are known to be acceptable as bedrooms for young people in family housing where room use is restricted to sleeping and directly associated activities; but rooms less than 8.36 m² (90 ft²) are rarely satisfactory as study/bedrooms unless linked with other special advantages. Single study/bedrooms should preferably be between 10.22 m² (110 ft²) and 12.5 m² (135 ft²), and for most student users nowadays need not be larger.

Table 2-9 Floor area standards for student housing (Mullins, William, and Phyllis Allen)
References


Kenyon, James B. “From central business district to central social district: The revitalization of the small Georgia city.” *Small town (USA)* (1989).


CHAPTER THREE: CASE STUDIES

Small-city Downtown Revitalization

Auburn, AL

PROJECT NAME: Auburn Downtown Master Plan
LOCATION: Central Auburn, Alabama
DATE DESIGNED/PLANNED: May 2014
CONSTRUCTION COMPLETED: No
SIZE: approximately 174 acres including 2,429 residential units
LANDSCAPE ARCHITECT(S): Urban Collage in collaboration with Foresite Group, Inc.

PROJECT BACKGROUND: Like many American cities, Auburn experienced economic decline and loss of many single-family houses after the Civil War and the Great Depression. After World War II, Downtown Auburn began a period of redevelopment with the construction of many barrack-style housing units to meet the needs of returning soldiers. Auburn’s root in education has influenced downtown development. With the population growth since 1960 and because of the growth of Auburn University, Auburn has the opportunity to renew and expand downtown (Urban Collage 4).

PROJECT SIGNIFICANCE AND IMPACT: The Master Plan lays out the community-based vision for the future expansion of Downtown Auburn. It includes private development, open spaces, streetscape, circulation, transportation, and economic development (Urban Collage 1).

CONTEXT: Downtown Auburn is located in central Auburn, Alabama, adjacent to the campus of Auburn University (Figure 3-1).
Fig. 3-1 Urban Core Expansion Comprehensive Plan
(Urban Collage, p. 3)
SITE ANALYSIS: The project took into consideration the history of the city, existing conditions, potential character for different parts of the urban cores, existing zoning, land uses, commercial density and typologies, housing typologies and distribution, building heights, block sizes, floor to area ratio (FAR), vehicle circulation and traffic, parking conditions, pedestrian circulation and facilities, historic preservation areas, and potential development areas.

GENESIS OF PROJECT: The master plan is designed based on the concepts and policies within CompPlan 2030 to enhance the healthy growth of Downtown Auburn. The plan attempts to balance the relationship between Auburn University’s impact on Downtown and the growing market of families, young professionals and seniors in the City of Auburn.

DESIGN, DEVELOPMENT AND DECISION-MAKING PROCESS: The project engaged the public in the design process. The planning team collaborated with the city staff, a committee of local stakeholders and the citizens of Auburn to establish the key components of the plan. For the first public workshop and in online format the planning team organized a preference survey with 70 images and 30 questions focused on downtown architectural styles, land uses, development, streetscape, open spaces, transportation and identity. Based on feedback from the first workshop, 75 participants created boards to present their own “Downtown Plan” focusing on physical aspects of development, streetscapes, and open spaces. The final workshop asked participants to comment on the specific capital projects. In addition, four steering committee meetings, eight one-on-one stakeholder interviews, one open house, and two public hearings were held during the design process.

PROGRAM ELEMENTS: The project contains mixed-use buildings on the west, facing the university, with two blocks of retail/restaurant uses and a mix of single-family and multifamily units. South of the project, the urban core currently features a mix of religious institutions, university-owned office buildings, and single and multifamily buildings. This presents opportunities for mixed-use redevelopment.
ASSESSMENT: The project focused on increasing the urban density based on the existing urban core. Based on existing conditions, the master plan proposes preservation focus areas and development areas that parallel situations in the Downtown Muncie project. To enhance existing in-town neighborhoods, a sustainable mix of housing, retail, office and urban grocery are proposed in the downtown Auburn project. Compared with downtown Athens, GA and downtown Gainesville, FL, percentages of different land uses were adjusted for downtown Auburn. This is a method could be used in the Muncie project. The planners in Auburn also worked on the block size, and proposed new blocks. Since the block system in Downtown Muncie is well developed, downtown Muncie project is not going to deal with the block sizes. The Auburn project first worked on larger scale to identify the potential infill opportunities and proposed new developments. The smaller scale elements such as automobile transportation, parking, pedestrian walkability, open spaces, and others. This process is also a great example for downtown Muncie project.
References

Greenville, SC

PROJECT NAME: Greenville Downtown Master Plan
LOCATION: Greenville, SC
DATE DESIGNED/PLANNED: Started from the 1970s
CONSTRUCTION COMPLETED: Not applicable
CONSTRUCTION COST: No information found
SIZE: 800 acre downtown area

LANDSCAPE ARCHITECT(S): not involved until the 2008 plan

KEYWORDS: Mixed-use, Sustainable, Urban environment

PROJECT BACKGROUND: Greenville first worked on the streetscape plan for Main Street in the 1970s, which successfully attracted offices, residential, specialty retail, entertainment and arts. In the 1980s, Greenville attracted private and public investment to the whole downtown area and developed their first downtown plan which stated that “Greenville will have a thriving downtown recognized nationally as a ‘state-of-the-art’ community.” The previous industrial park was redeveloped as an art museum. Art tours are now provided throughout the city. Sculptures and fountains were sited along Main Street, and applications are open to the public to place their own art works downtown. In the 1990s, Greenville redeveloped another industrial area into the Peace Center for the Performing Arts. In 2008, Sasaki and Associates completed a new Downtown Master Plan focusing on the downtown gateways. (“Downtown Greenville”)

PROJECT SIGNIFICANCE AND IMPACT: With the successful Main Street project, Greenville has long been a success story of downtown revitalization. But the city recognized the need for ongoing improvement. The Sasaki plan mapped out the direction of future development. The plan looked beyond the main street and tried to achieve more fully functional downtown. Also, throughout the plan, downtown could expand the business opportunities to a larger area. The
Five Corners were proposed in the plan to give identities to the gateways of downtown area and different functional districts in Downtown Greenville.

CONTEXT: Downtown Greenville is located at the center of the city. Main Street is the most historically vibrant and economically successful area in downtown. The five gateways and new development focus areas are like satellites around Main Street (Figure 3-3).
SITE ANALYSIS: Downtown Greenville has successfully developed Main Street, and has increased business opportunities. However, there is a lack of people living there. The center of downtown also lacks connection to other attraction points and access to the necklace of green spaces encircles downtown.

GENESIS OF PROJECT: With the successful streetscape design for Main Street in the 1970s, the public and private investments for new developments in 1980s, and the redevelopment of industrial areas into the arts center in the 1990s, Greenville recognized the importance of continuous improvement. Since downtown Greenville lacks strong gateway identities, and the connections to the center, Sasaki developed the plan focusing the five gateways.

PROGRAM ELEMENTS: The main program of the project are: maintain Main Street, redevelop the downtown gateway to transform the arrival sequence, improve access from downtown to the necklace of green encircles downtown, connect the outer attractions to the center, tie downtown together by the primary transit system and use secondary streets to disperse traffic and make them pedestrian-friendly, and provide a broader range of housing types and prices to maintain diversity and affordability.

CRITICISMS: Downtown Greenville already had a successful Main Street and art district, which attracts more population and opportunities than downtown Muncie. Their first goal is to connect the attraction points, which is also the goal of downtown Muncie project. The planners for Greenville redeveloped and expanded the attraction points into new districts, each one with a strong identity developed out of its own geography and history. These attraction points are also used as gateways for downtown area. This strategy could also be used in downtown Muncie in a different way. Arrival sequences to downtown should be considered and carefully designed for downtown Muncie. Transitions of building heights, land uses, and building densities should be provided when entering downtown. However, the connections to the outer points rely on automobiles. Bicycle lanes were proposed in the downtown Greenville plan. However, the
bicycles are designed to share roads with cars, safety is still a problem. It should be considered in Muncie project to separate pedestrians and bicycles from automobiles. Moreover, downtown Muncie is more compact than downtown Greenville, with a much smaller boundary. The principle of developing different functional districts may not be appliable in Muncie.
References
Downtown Greenville, City of Greenville, South Carolina,
<http://www.greenvillesc.gov/424/Explore-Downtown>
Campus Development & Urban Renewal

*Savannah College of Art and Design (SCAD)*

**PROJECT NAME:** Savannah College of Art and Design  
**LOCATION:** Savannah, GA  
**DATE DESIGNED/ PLANNED:** Since 1978  
**CONSTRUCTION COMPLETED:** Not applicable  
**CONSTRUCTION COST:** No information found  
**SIZE:** Not applicable (The campus uses existing buildings in downtown, sharing some recreation spaces with the city, has no specific boundaries (Figure 3-5).)  
**LANDSCAPE ARCHITECT(S):** Not applicable

**KEYWORDS:** Urban renewal, Campus development, SCAD

**PROJECT BACKGROUND:** Savannah College of Art and Design (SCAD) dedicated to preserve the architectural heritage in the city of Savannah by reusing the existing old buildings in downtown Savannah. The college purchased and converted nearly three million square feet of building spaces. Adaptive reuse has become the key element of SCAD’s brand.

**PROJECT SIGNIFICANCE AND IMPACT:** The historic building reuse not only helped the city to restore the particular cultural environment of the city, but also benefits the school. It offers the school budget friendly ways of development. Also, it enables the college to integrate and take root within its host city.

**CONTEXT:** SCAD has not only used the reuse model in Savannah. When it expanded to Atlanta, Lacoste in France, and Hong Kong, the campuses followed the precedent of adaptive reuse of both historic and non-historic structures.
Fig. 3-5 SCAD’s facility master plan (USCAD)
Fig. 3-6 Mixed-use buildings in Savannah with retails on the first floor and apartments on upper floors (USCAD)

Fig. 3-7 Savannah Film Festival attracts hundreds of thousands of people downtown Savannah every year (USCAD)
PROGRAM ELEMENTS: The college firstly purchased the Volunteer Guards Armory in 1978 and then developed a former synagogue as a student center, an abandoned department store as a library, the complex owned by the Central Georgia Railway as the university museum, and many other projects.

CRITICISMS: SCAD’s urban renewal campus development model is applicable for downtown Muncie. IVY Tech community college is now using several buildings in Downtown Muncie for their regular classes. With Ball State’s expansion and development, there are opportunities for Ball State University to renew some currently abandoned downtown buildings for daily use. However, in SCAD’s campus plan, there is no planned graduates’ living facility. Most graduate students are living off-campus. SCAD loses the opportunity to enhance community pride among their graduate students and the opportunity to continue education in their student housing. Ball State University could take advantage of locating graduate student housing in Downtown Muncie to connect the school closely with the local community and to continue off-campus education in a more compact living environment.

References
Auraria Higher Education Center

PROJECT NAME: Auraria Higher Education Center
LOCATION: 777 Lawrence St, Denver, CO
DATE DESIGNED/PLANNED: December 2007
CONSTRUCTION COMPLETED: No
CONSTRUCTION COST: 200 million found in acquiring, reclaiming and developing the site
SIZE: 126 acres
LANDSCAPE ARCHITECT(S): SASAKI

KEYWORDS: university shared facilities, historic preservation

PROJECT BACKGROUND: Auraria is named after and built on the site of the first settlement of the gold mining boomtown in Colorado. Over 100,000 people were attracted to the region by the discovery of gold and started a mining town called Denver City. However, flooding from the 1860s through 1965 damaged Auraria. Auraria neighborhoods experienced blight and made it a prime candidate for urban renewal. The Denver Urban Renewal Authority assembled the Auraria Higher Education Center (AHEC) from the 1970s, housing three institutions includes the University of Colorado Denver (UCD), Community College of Denver, and Metropolitan State University of Denver (SASAKI). Sasaki proposed a campus master plan in 2007. Smithgroup JJR developed campus design guidelines in 2009.

PROJECT SIGNIFICANCE AND IMPACT: SASAKI’s master plan in 2007 built on the idea of giving each institution its own district within AHEC. Each school has its own distinct facilities, yet shares resources such as the library, the student center, and the recreation facilities. By using shared facilities, social and academic synergies were promoted among the schools. Also, the master plan focuses on developing a relationship between the campus and its surrounding neighborhood: introduce new activities such as residential living, office working, commercial trading, and retail selling to the campus that are typical of central urban communities.
CONTEXT: AHEC is located to the southwest of Downtown Denver surrounded by residential, industrial and limited commercial spaces (Figure 3-8).

SITE ANALYSIS: The project started with an analysis of campus growth needs in the following two decades. The space needed in the future two decades was calculated depending on the expecting student enrollment. The existing building uses and conditions were analyzed. The new buildings were proposed based on the analysis (Table 3-1).
Table 3-1 Potential Space Requirement Analysis (Sasaki)

<table>
<thead>
<tr>
<th>Use Category</th>
<th>Space Need</th>
<th>Deficit of Current Space Compared to Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Facilities</td>
<td>401,574</td>
<td>57%</td>
</tr>
<tr>
<td>Laboratory Facilities</td>
<td>470,084</td>
<td>36%</td>
</tr>
<tr>
<td>Office Facilities</td>
<td>606,743</td>
<td>37%</td>
</tr>
<tr>
<td>Study Facilities</td>
<td>247,502</td>
<td>52%</td>
</tr>
<tr>
<td>Special (athletics, etc.)</td>
<td>165,058</td>
<td>59%</td>
</tr>
<tr>
<td>General Use Facilities</td>
<td>539,014</td>
<td>60%</td>
</tr>
<tr>
<td>Support Facilities</td>
<td>121,499</td>
<td>21%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2,551,475</td>
<td>46%</td>
</tr>
</tbody>
</table>

Current Space Needs (expressed as assignable square feet)

<table>
<thead>
<tr>
<th>Use Category</th>
<th>Existing Floor Area</th>
<th>Total Space Needs</th>
<th>Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Facilities</td>
<td>170,764</td>
<td>328,998</td>
<td>158,234</td>
</tr>
<tr>
<td>Laboratory Facilities</td>
<td>300,916</td>
<td>385,671</td>
<td>84,755</td>
</tr>
<tr>
<td>Office Facilities</td>
<td>404,080</td>
<td>498,830</td>
<td>94,750</td>
</tr>
<tr>
<td>Study Facilities</td>
<td>119,123</td>
<td>204,596</td>
<td>85,473</td>
</tr>
<tr>
<td>Special (athletics, etc.)</td>
<td>68,429</td>
<td>139,518</td>
<td>71,089</td>
</tr>
<tr>
<td>General Use Facilities</td>
<td>213,197</td>
<td>447,003</td>
<td>233,806</td>
</tr>
<tr>
<td>Support Facilities</td>
<td>95,698</td>
<td>100,231</td>
<td>4,533</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,372,207</td>
<td>2,104,846</td>
<td>732,639</td>
</tr>
</tbody>
</table>
GENESIS OF PROJECT: With over 30 years of development, the three institutions lost their physical centeredness and institutional identity. There are also needs to integrate campus more closely into the downtown and the surrounding neighborhood, plan for the considerable growth of campus students, and design for environmental sustainability.

DESIGN, DEVELOPMENT AND DECISION-MAKING PROCESS: SASAKI proposed the new campus master plan in 2007 with urban design principles, public and private redevelopment elements, and environmentally sustainable design guidelines. Smithgroup JJR developed the Auraria Campus Design Guidelines in 2009, to provide guidelines for the design of the campus as a whole and the design of individual projects. The guidelines could also service as a basis for design review of campus and individual projects. An update plan including changes of street layout and the expansion of institutional neighborhoods has been developed in 2012.

PROGRAM ELEMENTS: The project includes 150,000 gsf which is about 200 to 250 rooms of Hotel or conference facility; 995,000 gsf of housing for students, faculty, and others; 200,000 gsf of commercial office spaces; 200,000 to 300,000 gsf of academic office spaces; 200,000 to 300,000 gsf of retail, arts and culture spaces.

CRITICISMS: The master plan focuses on enhancing the relationship among the institutions and between the institutions and the city. The planning team worked on the overall street layout and neighborhood plan. The institutions are allowed to develop their own neighborhoods. In this way, the institutions could have their opportunities to develop based on their own history and characters. The guidelines developed by Smithgroup JJR could ensure a cohesive campus.
References
“Auraria Campus Design Guidelines”
Elder Housing

Nystrom Village Master Plan

PROJECT NAME: Nystrom Village
LOCATION: Richmond, CA
DATE DESIGNED/ PLANNED: Pyatok Architects
CONSTRUCTION COMPLETED: Not applicable
CONSTRUCTION COST: Not found
SIZE: 400 dwelling units
LANDSCAPE ARCHITECT (S): Pyatok Architects (with landscape team)

KEYWORDS: senior housing, affordable housing, master planning

PROJECT BACKGROUND: Nystrom Village is part of the Nystrom neighborhood revitalization project in Richmond, California. The revitalization project’s funding vision is to create “a safe, diverse and thriving place, where kids walk to quality schools, people of all ages use the parks and community facilities, and a variety of housing options meet the needs of local residents (NURVE)”. The National Park Service requested preservation of five units on one of the blocks to retain the original architecture.

GENESIS OF PROJECT: Nystrom Village was originally built after WWII providing 102 housing units for workers in the Kaiser Shipyards. Richmond Housing Authority (RHA) planned to demolish most of the blighted structures and replace them with affordable housing rental units, senior housing units, and homeownership units.

PROJECT SIGNIFICANCE AND IMPACT: Nystrom Village offers housing units for the target users in the neighborhood plan, enhances the success of the revitalization project. The new living units could attract new residents and buyers to enhance the neighborhood’s economy.
CONTEXT: The site is located one block away from Nystrom Elementary School, MLK Community Center, and Maritime Child Development Center (Figure 3-9). These facilities could enhance community identity.

![Figure 3-9 The location and the nearby facilities of Nystrom Village](RHA of Richmond)

SITE ANALYSIS: Since the blocks are longer than typical, smaller groups of families are organized within one block, clustered around private pedestrian courts. At the meanwhile, the accesses between family clusters are provided to enhance communication among residents (Figure 3-10).

PROGRAM ELEMENTS: The project is a 400-dwelling unit development including 150 affordable apartments for seniors, 215 affordable rental family flats and townhouses, and 36 homes for first-time buyers with a priority given to civil servants.

CRITICISMS: The project is located in the urban setting, which relates to downtown Muncie project. Downtown Muncie blocks are about half size compared to the Nystrom Village project. The method of creating smaller groups of residence may not applicable to downtown Muncie project. The location of the Nystrom Village is close to many public facilities. In the downtown Muncie project, the location of the student housing and elder housing should be carefully
considered. The building volumes of the project could be a good example for Downtown Muncie project (3-11, 3-12).
References
Nystrom United Revitalization Effort, “Examining the power of transforming the built environment through collaborative housing, land use, and educational policies”. (2009)
Student Housing

*Rochdale Village, University of California at Berkeley*

PROJECT NAME: Rochdale Village, University of California at Berkeley

LOCATION: 2424 Haste St., Berkeley, CA 94704

DATE DESIGNED/PLANNED: Started February 1933

CONSTRUCTION COMPLETED: 1971

CONSTRUCTION COST: No information found

SIZE: 259 residents in 96 units (studios and 2, 3, and 4 bedroom apartments)

LANDSCAPE ARCHITECT(S): No information found

KEYWORDS: co-op housing, student housing,

PROJECT BACKGROUND: The University of California Students’ Cooperative Association (UCSCA) was founded to meet the students’ needs for affordable housing during the Great Depression. Their Berkeley Student Cooperative (BSC) system allows students to do workshifts in exchange for lower rent. Rochdale Apartments are an apartment complex within this system (BSC).

PROJECT SIGNIFICANCE AND IMPACT: Nonprofit co-op housing offers students a cheaper way to live and the opportunity to manage the financing and running of their houses. By offering low-rent housing to all university students, regardless of race, creed, color, or national origin, prejudice and discrimination were eliminated; cultural diversities were increased in the community. Low cost of board and lodging enables more students access to higher education. It also educates students, who develop skills for independent living skills of self-help living at minimal cost for their future lives.

CONTEXT: Rochdale Village has several houses and apartments around the UC Berkeley Campus
(Figure 3-13). It has one central office, kitchen, and maintenance area located to the north side of campus.

CRITICISM: Located in the California bay area, living costs for Berkeley students are high. By offering inexpensive housing, Rochdale Village makes it possible for more students to enjoy higher education. The life-style, which is self-help living at minimal cost, affects students in their future lives. Environmentally sustainable living, which is currently promoted in the village, reduces utility bills and creates more jobs for residents (Figure 3-14). However, it may develop liability problems. For example, Barrington Hall was closed in 1989 due to the enormous debate. Economic experts are definitely needed for these kinds of projects.
Figure 3-14 Rochdale Village installed more efficient equipment to reduce utility bills (Berkeley Student Cooperative)

References

http://www.bsc.coop/housing/houses/apartments/rochdale
Summary

Based on the studies of the cases above, there are several points should be considered for the downtown Muncie project. First, the project should be considered in larger and smaller scales. A development framework could be proposed for the site as well as design guidelines serve as the basis for private developments. Second, downtown development should integrate the expansion of the campus. The growth of campus students could bring opportunities such as student residents, and business potentials if they could be attracted downtown. At the same time, the campus could take a better use of community resources. The students, who usually do not have roots at a local home, could build up senses of belonging by living in a local community. Third, historic preservation should be considered for the project. The reuse of the historic buildings is an economical way of development and could enhance the distinct community identity. Fourth, the preferences of the target groups, graduate students and elders for this project, should be considered the designing process.
MUNCIE, INDIANA

The Site

The City of Muncie is located in east central Indiana with Indianapolis to the southwest about 55 miles away (Figure 4-1). The site of the creative project is the central business district of Muncie (Figure 4-2). The boundaries of the site are Madison Street to the east, Wyson Street to the north, Victor Street and Railway to the south. The White River, Council Street, Jackson Street, and Liberty Street bind the western edge of the site. The site covers approximate 164 acres.
General Introduction

Downtown Muncie sits in the heart of Muncie, on the south side of White River (Figure 4-3). Ball State University, which is the largest employer in the city, is located to the northwest of the site, on the other side of White River. The river moves through the city providing a green belt surrounding the downtown area from west, north, and east. The green spaces have the potential to expand into the Downtown. The White River Greenway Trail goes along the northwest edge of the site. The Cardinal Greenway is along the east edge of the site. Both offer potential pedestrian streams to downtown. In the area to the north of the site is Muncie Central High School (Figure 4-4), Muncie Field House (Figure 4-5), the transformer substation (Figure 4-6), some retail structures (Figure 4-7), and several single family houses (Figure 4-8). The railway and abandoned factory structures are to the south of the site (Figure 4-9). Single-family houses mainly bound the site on the west (Figure 4-10, 4-11). Toward the eastern edge of the site are a low-budget hotel, Cornerstone Center for the Arts, and Grace Church (Figure 4-12 – 4-17).
Fig. 4.4 Muncie Central High School is located to the north of downtown Muncie.

Fig. 4.5 Muncie Field House, located to the north of the site, offers indoor recreation opportunities for downtown residents.

Fig. 4.6 The Transformer Substation on Wysor Street is an industrial site, without positive contributions to a residential neighborhood.

Fig. 4.7 The abandoned retail structures on Wyson Street need to be removed or reused.

Fig. 4.8 Single-family houses on Wysor Street without deficient setback.
Fig. 4-9 The abandoned structures and plazas to the south of the site have no positive contribution to downtown.

Fig. 4-10 The streetscape of single family houses on South Council Street lacks a sense of neighborhood.

Fig. 4-11 The abandoned houses on South Liberty Street show potential for reuse.

Fig. 4-12 The McDonald’s signage on South Madison Street is a distinctive sign to the east of Downtown Muncie.

Fig. 4-13 The abundant retail structures on Madison Street have no positive contribution to the neighborhood.
MUNCIE DOWNTOWN REVITALIZATION

Fig. 4-14 The low-budget motel on South Madison Street offers low-cost living options close to downtown. However, the street design needs improvements.

Fig. 4-15 Local services support downtown living

Fig. 4-16 CONERSTONE Center for the Arts located to the east of downtown is a strong attraction point

Fig. 4-17 Grace Church Parish to the east of Downtown Muncie shows opportunities to celebrate diversity in downtown
Muncie History through Historic Maps

The Revolutionary War ended in 1783. From 1787, the Treaty of Paris allows people to buy land in Indiana. After the Treaty of St. Mary’s in 1818, the federal government purchased most of the land south of the Wabash River. The native Indians were forced to leave Indiana. Delaware County was opened for settlement in 1820 (Ravesloot 2). An 1821 map shows the historic boundary of Delaware County (Figure 4-18).

On January 26, 1827, Delaware County had 1,000 residents. The village of Munseetown (later Muncie) was named county seat. By 1860, the population was more than 1,782. In 1865, Muncie was incorporated as a city, the same year that the Civil War ended (Ravesloot 2). The historic map from 1876 shows the city when most of the development happened to the south of the White River (Figure 4-19).

As coal was discovered in southern Indiana and proved to be an efficient fuel source, a geologist was asked to drill for coal in Delaware County in 1876. He found a bizarre gas emerging from the ground which was later discovered to be natural gas. East Central Indiana experienced a natural gas boom ten years later (Ravesloot 15). Industries like glass-making and steel-making moved to the area to take the advantage. The Ball Brother Glass Manufacturing Company built a glass jar and zinc cap plant in Muncie in 1900. Other factories were built to make window glass, bricks, strawboard, paper, nails, iron and steel bars, and corn planters. As the Muncie population increased rapidly from 1887 to 1900, numbers of new working class, and middle class were increased, and well-to-do neighborhoods were
Fig. 4-19 Muncie 1876 Historic Map
(Archive and Special Collections, Bracken Library, BSU)
developed during the period (Ravesloot 24). A Muncie 1901 historic map (Figure 4-20) shows city expansion from south of the White River to north of the White River in comparison with the 1876 map shown above. The commercial diversity increased during the period. Most of the retail businesses were located in urban core. It was a pedestrian age when most citizens would either travel by foot or by public transit, such as electric streetcars. To travel to other cities or towns, people would take the steam train (Ravesloot 28).

Unfortunately, most of the natural gas in East Central Indiana ran out in 1901. Many of the Muncie factories closed. But the town recovered with a new manufacturing industry: the automobile. Affordable for most citizens, automobiles were becoming more and more popular (Ravesloot 34). By the 1920s, the manufacture of automobiles began to dominate the
local economy (Ravesloot 36). The 1921 historic map shows the continued city expansion to the north of the White River (Figure 4-21). State Road 28 going to Chicago could be seen in this map. At this time, automobiles could be seen on the street of town as well as streetcars and horses on the street at the same time (Ravesloot 52).

October 29, 1929, the day known as “Black Friday,” led America to the Great Depression. The country experienced the hardest time during the period and the following World War II (Ravesloot 60). Comparing the 1946 historic map (Figure 4-22) with that of 1927, not much development has been made.

After World War II, from 1945 to about 1960, was the period of economic prosperity, and population growth. People were moving from cities to suburbs (Ravesloot 75). Construction of Interstate 69 began in 1959. The project was part of a new network of four-lane
superhighways crisscrossing the country and took ten years to finish. Due to the growth of Ball State University, McGalliard was reconstructed from a small two-lane road into a four-lane major road. The new Muncie Mall was opened on East McGalliard road in 1970. Later, retail stores and chain-restaurants lined the road as seen today.
Neighborhoods and Districts

Neighborhoods are the heart of the city. There are total 49 neighborhoods in eight zones in Muncie (Figure 4-23). The site of this creative project includes the heart of the city neighborhood, some part of the Gilbert neighborhood and a little bit from the old west neighborhood.

Fig 4-23 Muncie Neighborhoods and Districts
(Neighborhood Organization Workbook, Muncie Action Plan)
Demographic Profile

As a typical post-industrial city, Muncie doubled its population during the gas boom between 1887 to 1901. At its peak population in 1980, Muncie had 76,460 residents, this number fell to 70,085 by 2010 (United States Census Bureau, 1980 & 2010). Muncie still has significant population (Table 4-1).

More positive are the signs of population restoration. With two decades of population decline during the 1990s and the 2000s, Muncie has had a 3.9% increase in population growth from 2000 to 2010 (United States Census Bureau, 2000 & 2010). Most of this population growth has resulted from the increasing expansion of Ball State University. The 18 to 24-year-old population, which is mostly students, increased from 24.6% to 27.5% (U.S. Census Bureau, 2000 & 2010). Elders are the other significant and stable population in the city. In 2000, 13.2% of the residents, which equals 8,900 people, were over 65 years old. In 2010, 13% of the residents, 9,111 people, were over 65.

The 2010 Census data of Household

<table>
<thead>
<tr>
<th>Census</th>
<th>Population</th>
<th>Population Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>606</td>
<td>—</td>
</tr>
<tr>
<td>1860</td>
<td>1,782</td>
<td>194.10%</td>
</tr>
<tr>
<td>1870</td>
<td>2,992</td>
<td>67.90%</td>
</tr>
<tr>
<td>1880</td>
<td>5,219</td>
<td>74.40%</td>
</tr>
<tr>
<td>1890</td>
<td>11,345</td>
<td>117.40%</td>
</tr>
<tr>
<td>1900</td>
<td>20,942</td>
<td>84.60%</td>
</tr>
<tr>
<td>1910</td>
<td>24,005</td>
<td>14.60%</td>
</tr>
<tr>
<td>1920</td>
<td>36,524</td>
<td>52.20%</td>
</tr>
<tr>
<td>1930</td>
<td>46,548</td>
<td>27.40%</td>
</tr>
<tr>
<td>1940</td>
<td>49,720</td>
<td>6.80%</td>
</tr>
<tr>
<td>1950</td>
<td>58,479</td>
<td>17.60%</td>
</tr>
<tr>
<td>1960</td>
<td>68,603</td>
<td>17.30%</td>
</tr>
<tr>
<td>1970</td>
<td>69,082</td>
<td>0.70%</td>
</tr>
<tr>
<td>1980</td>
<td>76,460</td>
<td>10.70%</td>
</tr>
<tr>
<td>1990</td>
<td>71,035</td>
<td>-7.1%</td>
</tr>
<tr>
<td>2000</td>
<td>67,430</td>
<td>-5.1%</td>
</tr>
<tr>
<td>2010</td>
<td>70,085</td>
<td>3.90%</td>
</tr>
</tbody>
</table>

Table 4-1 Muncie Historic Population (U.S. Census Bureau)

<table>
<thead>
<tr>
<th>People QuickFacts</th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>67,430</td>
<td>70,085</td>
</tr>
<tr>
<td>Persons under 5 years, percent</td>
<td>5.80%</td>
<td>5.50%</td>
</tr>
<tr>
<td>Persons under 18 years, percent</td>
<td>19.80%</td>
<td>17.80%</td>
</tr>
<tr>
<td>Persons between 18 and 24 years, percent</td>
<td>24.60%</td>
<td>27.50%</td>
</tr>
<tr>
<td>Persons 65 years and over, percent</td>
<td>13.20%</td>
<td>13.00%</td>
</tr>
<tr>
<td>Female person, percent</td>
<td>52.60%</td>
<td>52.50%</td>
</tr>
</tbody>
</table>

Table 4-2 2000 and 2010 Muncie People Facts (U.S. Census Bureau)
Income shows that the areas around Ball State University where are mostly occupied by students have higher incomes than the urban core area (Figure 4-24). Attracting students to downtown means bringing more money and job opportunities to downtown.

Also, the elder population, which is more stable than other populations, could guarantee a stable vitality in downtown.

Fig.4-24 Muncie Household Income shown by Census Tract (U.S Census Bureau, Quick Facts)
Downtown Land Use Profile

The downtown Muncie land use survey (Figure 4-25) is based on a housing study made by the Muncie TWNTWN Organization during 2012. The housing study was done both by parcel, which assumes that one building is one parcel, and by footage, which includes both first floor and upper floor area.

Land Use by Parcel

The land uses by parcel is studied based on nine categories, shown below. About half of the downtown is in residential use. Most of these residential units are single-family houses.
of these houses. These residential units are low density and barely support living rather than original residents. There are 53 buildings in the downtown that are identified as offices. Many are underused. There are potentials to transform these buildings to mixed-use with upper-floor living units.

Table 4-3 Downtown land use by parcel

<table>
<thead>
<tr>
<th>Land use parcels</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governmental use</td>
<td>3</td>
</tr>
<tr>
<td>Services</td>
<td>14</td>
</tr>
<tr>
<td>Offices</td>
<td>53</td>
</tr>
<tr>
<td>Mixed-use</td>
<td>37</td>
</tr>
<tr>
<td>Cultural</td>
<td>10</td>
</tr>
<tr>
<td>Residential</td>
<td>113</td>
</tr>
<tr>
<td>Commercial</td>
<td>14</td>
</tr>
<tr>
<td>Academic</td>
<td>2</td>
</tr>
<tr>
<td>Industry</td>
<td>5</td>
</tr>
<tr>
<td>Total parcels</td>
<td>251</td>
</tr>
</tbody>
</table>
Land Use by Square Footage

The categories used for land use inventory by square footage are slightly different from the land use inventory by parcel. Governmental use is not included since there will not be changes to government buildings in the project. There is a new category, storage, which are storage space in the basements of the downtown buildings. Storage space occupies about 15% of the downtown built spaces and shows potential for redevelopment as urban grocery stores or nightclubs. The amount of office space is too high in downtown Muncie and most are on the upper floors. The percentage of residential is low when counted by area which means that the actual number of living units is not enough. So, it shows potential for redevelopment offices as living space.

<table>
<thead>
<tr>
<th>Land use by square feet</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>97,296</td>
</tr>
<tr>
<td>Offices</td>
<td>859,453</td>
</tr>
<tr>
<td>Cultural</td>
<td>199,759</td>
</tr>
<tr>
<td>Residential</td>
<td>173,820</td>
</tr>
<tr>
<td>Commercial</td>
<td>195,367</td>
</tr>
<tr>
<td>Academic</td>
<td>60,616</td>
</tr>
<tr>
<td>Industry</td>
<td>95,000</td>
</tr>
<tr>
<td>Storage</td>
<td>294,033</td>
</tr>
<tr>
<td><strong>Total square feet</strong></td>
<td><strong>1,975,344</strong></td>
</tr>
</tbody>
</table>

Table 4-4 Downtown land use by Square Feet
Downtown Assets Profile

As the central business district of Muncie, Downtown Muncie has most of the city assets which includes historic buildings, churches, local restaurants, local services, and public open spaces.

Fig. 4-26 Downtown Muncie Historic Districts (made by author based on information from www.historicmuncie.org)
**Historic Preservation Sites**

There are four districts (Figure 4-26) in the site that are preserved by Muncie Historic Preservation and Rehabilitation Commission. The major parts are the buildings on Walnut Street and the family houses in the Old West End District. The integrity of these sites should be considered. The surrounding landscape feeling of these sites could be maintained according to years of their best conditions. The façade of new development close to these sites should be carefully considered.

**Open Spaces**

There are six parks (Fig. 4-27) and several small open spaces, such as the plaza beside the county building and the green spaces beside Convention Center and Fisher Building in the site. The White River Park is the biggest park in the site and presents a opportunity to connect the riverside landscape to downtown. The Canan Commons Park on Walnut Street could be the major park in downtown for public activities. However, the green coverage in downtown is not sufficient. Charles Downing Lay, a landscape architect for the New York State Department of Parks, estimated the green space/park needs for a city of 100,000 population to be:

<table>
<thead>
<tr>
<th>Recreational Uses</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservations</td>
<td>700 acres</td>
</tr>
<tr>
<td>1 large city park</td>
<td>400 acres</td>
</tr>
<tr>
<td>10 neighborhood parks</td>
<td>250 acres</td>
</tr>
<tr>
<td>50 playgrounds</td>
<td>100 acres</td>
</tr>
<tr>
<td>Gardens and squares</td>
<td>50 acres</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,500 acres</strong></td>
</tr>
</tbody>
</table>

According to the US Census Bureau, the boundary of Delaware County, census tract 28, block group 1, is similar to the site boundary. Using the above proportions, and based on the existing population of tract 28, block group 1 (Figure 4-28), which is 858, there should be 3.4 acres of city parks, 2.1 acres of neighborhood parks, 0.86 acres of playgrounds, and 0.43 acres of gardens and plazas in the site. Since the aim of the project is to attract more resident downtown, there should be more open spaces downtown to support daily outdoor activities.
Fig. 4-27 Downtown Muncie parks
Trees

The dots in Figure 4-29 are trees. Trees are relatively scarce in the downtown area. There are no street trees in downtown. The government-owned blocks are where most of the trees are seen. Walnut Street, the area where most of the restaurants are located in downtown, does not have any street trees at all. Street trees could be planted along the east-west streets downtown.

Ivy Tech Foundation

There are two buildings in Downtown Muncie currently used by Ivy Tech. They are the John and the Janice Fisher Building in 345 South High Street, and the Patterson Building in 108 South Walnut Street. Ivy Tech Community College also owns the property at 218 West Jackson Street, now a parking lot. From the map of their Downtown Muncie locations (Fig. 4-30), it is evident that Ivy Tech is currently controlling many of the parking lots downtown. Regular
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp.
NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand),
TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.

Fig. 4. Downtown Trees
classes are offered in Downtown Muncie. However, Ivy Tech has many other campus sites. Ivy Tech parking lots are not being fully used. Some of these parking spaces could be transformed for public use.
Muncie Millennium Place

Muncie Millennium Place is part of a Muncie Housing Authority urban renewal effort. The project replaced the barrack-like apartments known as the Munsyanna Homes with mixed income housing. Munsyanna Homes was established in late 1930s to meet the needs of low-income residents in the south of central business district in Muncie. It was declined in 1970's and was declared by HUD as the most distress housing development in the state of Indiana. The Millennium Elder House project offers different property types including apartments, duplexes, affordable rental homes, and homes for sale. It also includes commercial facilities in the surrounding areas, including a 40,000 square feet grocery store, a community and child development center, and an indoor food court. The housing units the project offers are mostly single-family houses. Only 30 out of 244 housing units are apartments. This suggests that upper-floor apartments in Downtown Muncie have a market for elders who enjoy an urban living environment and smaller households. The Millennium Place project proposed a grocery store at the corner of Madison Street and Charles Street, which can be assumed to serve downtown residents.
Fig. 4-32 Muncie Millennium Place Master Plan. The project is mostly finished except for some public facilities such as the grocery store. (Muncie Millennium)
Courtyard at Marriott

There will be a new 150-room hotel located to the south of the site. The hotel will also be used as a hospitality institute for people with disabilities. It means that the hotel will be a teaching facility for people with disabilities, providing higher education in hospitality as well as the food service industry. So, the hotel would be another location with a daily population downtown. The hotel is a six-floor building, larger than the smaller scale buildings currently downtown. So, transitions such as trees are needed between these two kinds of buildings.

Fig. 4-33 Elevations of the new training hotel in downtown Muncie (City of Muncie)
Downtown Gateway Analysis

There are two typical access points to the downtown. One enters the city from south through state road 67 or 3, then go on south Madison Street (Figure 4-34). The intersection of Madison Street and the railway is thus an opportunity to locate downtown gateway. The railway bridge (Figure 4-35) and the green space that follows (Figure 4-36) could be designed collaborating with art to present a unique landmark. Moreover, the street environment along Madison Street could be improved to show transitions from the outer edges of the city to the central businesses district. A stronger commercial corridor along Madison Street would enhance the downtown boundary.

Another way to enter the city is from the north through state road 28 and North Wheeling Avenue, accessing the downtown through High Street (Figure 4-37). The river along Wheeling Avenue (Figure 4-38) and the intersection of High Street and Wysor Street (Figure 4-39) offer the best sites for downtown gateway. High Street Square, an abandoned shopping plaza has to be redesigned.

In addition, with state road 32 going through the site, the intersection of Main Street and Madison Street (Figure 4-40) and the intersection of Jackson Street and Kilgore Avenue (Figure 4-41) could be great places to begin to develop a sense of downtown. The plaza beside the intersection of Jackson Street and Kilgore Avenue, should be designed as an attraction point as well as being a part of a transition experience when entering downtown.
Fig. 4-35 The railway bridge on Madison Street is an opportunity to collaborate arts to give visitors a good first impression of Downtown Muncie.

Fig. 4-36 The green space north of the railway bridge also presents a design opportunity to welcome visitors.

Fig. 4-37 Enter Downtown Muncie through High Street.
Fig. 4-38 The bridge at High Street and Wheeling Street could be redesigned to increase human interactions with water.

Fig. 4-39 High Street Square on the right of the image is an underused shopping plaza. Riverbend Park on the left of the image offers green public space downtown.

Fig. 4-40 At the intersection of Madison Street and Main Street, the empty lot on the left and the retail space on the right are spaces that have good visual exposure, and with improvements, could mark a significant access point to downtown.
Fig. 4-41 At the intersection of Kilgore Street and Jackson Street, the abandoned retail space on the right and the green space on the left are spaces that have good visual exposure, and with improvements, could mark a significant access point to downtown.

Transportation Analysis

Average Daily Traffic

Based on the GIS map (Fig. 4-42), Madison Street has the highest average daily traffic in the downtown area, 10,745 vehicles per day, compared to other street in the site. More commerce along Madison Street would enhance downtown's commercial boundary. Also, this strong edge could improve visitor impressions and reasons to explore of the downtown. Main Street and Jackson Street also have high daily traffic volumes. It also shows opportunities to do businesses on these two streets, especially for Main Street. With the Civic Theater and some original shops along the street, Main Street could be developed as one of downtown's commercial focus streets. The average daily traffic on north Walnut Street from Wysor Street to Gilbert Street is 7641 vehicles. High Street and Mulberry Street traffic is 3376 vehicles per day and 3162 vehicles per day, respectively. When add these two traffic volume, it is almost the same as for Walnut Street. It could be assumed that people are separating into two trends at Gilbert and Walnut intersection onto High Street and Mulberry Street. The traffic volume on Walnut Street from Gilbert Street to Seymour Street section is low. A pedestrian friendly environment is appropriate for this part of Walnut Street. Also, this part of Walnut Street currently has most of the downtown historic buildings and restaurants, which supports the conclusion above.
Fig. 4.42 Average Daily Traffic Count

<table>
<thead>
<tr>
<th>Location</th>
<th>Traffic Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location 1</td>
<td>3070</td>
</tr>
<tr>
<td>Location 2</td>
<td>7550</td>
</tr>
<tr>
<td>Location 3</td>
<td>6690</td>
</tr>
<tr>
<td>Location 4</td>
<td>3376</td>
</tr>
<tr>
<td>Location 5</td>
<td>2057</td>
</tr>
<tr>
<td>Location 6</td>
<td>4897</td>
</tr>
<tr>
<td>Location 7</td>
<td>7674</td>
</tr>
<tr>
<td>Location 8</td>
<td>2980</td>
</tr>
<tr>
<td>Location 9</td>
<td>10745</td>
</tr>
<tr>
<td>Location 10</td>
<td>3111</td>
</tr>
<tr>
<td>Location 11</td>
<td>7490</td>
</tr>
<tr>
<td>Location 12</td>
<td>6730</td>
</tr>
<tr>
<td>Location 13</td>
<td>3457</td>
</tr>
<tr>
<td>Location 14</td>
<td>4714</td>
</tr>
<tr>
<td>Location 15</td>
<td>2811</td>
</tr>
<tr>
<td>Location 16</td>
<td>3815</td>
</tr>
<tr>
<td>Location 17</td>
<td>2719</td>
</tr>
<tr>
<td>Location 18</td>
<td>3162</td>
</tr>
<tr>
<td>Location 19</td>
<td>4392</td>
</tr>
<tr>
<td>Location 20</td>
<td>14330</td>
</tr>
</tbody>
</table>

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
Accident Locations

According to the GIS map (Fig. 4-43) traffic accidents usually happen at the intersections, especially the ones without signals. There should be more obvious signals or signs located at downtown intersections. Where more people cross the street, more pedestrian-friendly facilitations such as a different type of texture of pavement, or a safety island should be provided.

Figure 4-43 Accident spots in Downtown Muncie. Each dot in the map indicates an accident.
Parking Space Analysis

Existing Parking Conditions

According to the GIS map (Fig. 4-44), the site is mostly covered by parking lots. The total area of the existing parking is 2,071,050 square feet. If it is assumed that each parking space needs 400 square feet (driveways included), there are about 5,170 parking spaces downtown. As mentioned above, block group one of census tract 28 has a similar boundary with the site. Based on the population data, there are 858 persons in the block group, about 6 parking spaces for each downtown resident.

New Parking Facilities

A new parking facility will be constructed in Downtown Muncie, south of the convention center (Fig. 4-45, 4-46, 4-47). It would serve the new hotel and surrounding area. The new parking facility is a three-story garage offering about 300 parking spaces. It also offers bike storage spaces, an opportunity to create a bike friendly environment in downtown.

Parking Lots Usage Observations

Figures 4-48 and 49 show the observation of parking lot usage results data. Observations are taken at the hours of 10 am and 3 pm on multiple weekdays. 10 am and 3 pm are the times when most of the workers are at work and left cars in parking. The results are more accurate at those times. The numbers of occupied parking spaces are divided by the total space on each lot to calculate the percentage of use. It is assumed that parking lots with fewer than thirty percent occupancy could be reduced to fifth percent of its space. In the same way, parking lots with less than thirty percent to sixty percent use could be reduced to 3/4 of its space. The parking lots with higher than sixty percent use could remain or be relocated. The relocation of the parking lots would within two blocks of their original locations. So, it would not have a negative impact on the users but encourage more walking.
Fig. 4-44 Parking lots in Downtown Muncie. The numbers indicate the area of each lot.
Fig. 4-45 New parking facility in downtown Muncie. (City of Muncie)
Fig. 4-46 Elevation of the new parking facility in downtown Muncie. (City of Muncie)

Fig. 4-47 Perspective of the new parking facility in downtown Muncie. (City of Muncie)
Fig. 4-48 Parking usage observation results at 10 am
Fig. 4-49 Parking usage observation result at 3 pm
Walkability Analysis

Walk Score

Www.walkscore.com is a website that gives a score to pinpoint areas in the U.S. As a method, Walk Score has been discussed and valued in prior reviewed journals. It measures the walkability by analyzing hundreds of walking routes to nearby amenities. Points are awarded based on the distance to amenities: maximum points will give to the pinpoints within five minutes walk (0.25 miles) to the amenities, no points will given after a thirty minutes walk.

Walk Score has a system of evaluating pedestrian friendliness:

<table>
<thead>
<tr>
<th>Walk Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>90–100</td>
<td>Walker’s Paradise</td>
</tr>
<tr>
<td></td>
<td>Daily errands do not require a car.</td>
</tr>
<tr>
<td>70–89</td>
<td>Very Walkable</td>
</tr>
<tr>
<td></td>
<td>Most errands can be accomplished on foot.</td>
</tr>
<tr>
<td>50–69</td>
<td>Somewhat Walkable</td>
</tr>
<tr>
<td></td>
<td>Some errands can be accomplished on foot.</td>
</tr>
<tr>
<td>25–49</td>
<td>Car-Dependent</td>
</tr>
<tr>
<td></td>
<td>Most errands require a car.</td>
</tr>
<tr>
<td>0–24</td>
<td>Car-Dependent</td>
</tr>
<tr>
<td></td>
<td>Almost all errands require a car.</td>
</tr>
</tbody>
</table>

Many planners and designers use it as a resource in their research. Burayidi used this tool to evaluate downtown walkability in his book. He took four spots from north, south, east, and west edges of the site. The average score of the spots is used as the score for the site. By using the same method, the four spots are chosen at the edge of the site but also on the major streets, which are Main Street, Jackson Street, Walnut Street, and Wysor Street. The Walk Score for this project site is 70.5 (Figure 4-50). The site could be rated as very walkable. It is much higher than the overall score for Muncie, which is 35. Also, it is higher then the score for Ball State University, which is around 50. Downtown has better pedestrian friendly environment with amenities within walking distance than most of other neighborhoods in Muncie.
One of the project goals is to improve the site by making walking experience more appealing. Shopping and green spaces could be added; different types of land use could be intergraded to create a neighborhood with more pleasant walking experience.

Fig.4-50 Walk scores of north, south, west, and west of the site
Bike and Pedestrian System

Sidewalks were offered on most of the streets in downtown Muncie. The blue lines on figure 4-51 shows the bike and pedestrian systems generated from the GIS map. The bike and pedestrian system exists along the following streets: Washington, Jackson, Charles, Walnut, and Elm. There should be more pedestrian and bike friendly streets downtown. For example, with the Civic Theater and shops, Main Street should be developed to be more pedestrian-friendly and to create more comfortable storefronts.

Fig. 4-51 The downtown Muncie bike and pedestrian systems
Public Transportation

With the Muncie Indiana Transit System bus station located right in the downtown, it is possible to live comfortably to live downtown without a car. There are eight bus stops in the site (Fig. 4-52), mostly located along Walnut and Charles Streets. More stops are needed in other areas in order to ensure the rides’ convenience and to enhance more sustainable downtown living. The bus routes are rich enough to reach other parts of the city (Fig. 4-53). However few routes within the downtown are offered. Bus routes within this area are needed.

A loop route could be an efficient option for bus service downtown.
Street Scale Profile

Street scale profiles document existing street widths and building heights. They offer basic information for complete street section designs. There are four typical streets downtown Muncie. The first two are east-west: Main Street, which is part of the state road 32, needs to fill in more businesses, retail shops, and outdoor spaces; Charles Street, which a less busy street with some local businesses. The other two are south-north: Walnut Street, which connects the city from the south to the north where most of the downtown businesses are located; Mulberry Street, which has mostly the back or the service side of the buildings.
Main Street

Main Street is part of the State Road 32 passing through downtown Muncie. The opportunities exist to present downtown to pass-by visitors with comfortable storefront. (Fig. 4-54)
Charles Street

Charles Street is a typical east-west street. It has series of transitions form single-family houses to apartment buildings, to mixed use buildings with ground floor retail shops and commercial offices, to larger-scale structures. Sidewalks exist on both side of the street. Charles Street has potential for development as a pedestrian connector joining downtown from east to west (Fig. 4-55).

Fig. 4-56 Current Street Section of Walnut Street

Walnut Street

Walnut Street is special. It connects the city from the north to the south. It has retail shops, restaurants and sidewalks along both sides of the street, and the biggest public green space on the south. Based on the analysis of automobile daily traffic, the section of Walnut between Gilbert Street and Seymour Street does not have high vehicle volumes. However, the sidewalks are not wide enough to offer outside sitting areas for the restaurants. Any new buildings could be shifted to wider the sidewalks, and to create little pocket parks for outside sitting.
Mulberry Street

Mulberry Street is a typical street in downtown that has a high percentage of the service sides of the buildings and the parking lots. A better walking experience from parking into building entrances should be provided along this street. (Fig. 4-57)

The Downtown Density Profile

Density Standards

Density limits are intended to generate higher densities through adoption of minimum density levels, to ensure that new building densities are above a certain level. Higher densities relates to sustainability, reduced travel distance, more journeys can be made on foot or bicycle and public transportation. Terraced housing and apartments can make more economical use of energy than the detached houses. Planners use different means to measure density ("LANDCOM DENSITY GUIDE").
Urban residential density
‘the district’
The ratio of the number of dwellings to the area of land they occupy including all the land areas included in gross residential density, plus regional uses such as education (universities, TAFEs), open space (regional parks, environmental protection reserves), larger scale commercial uses (employment, shopping centres) and transport (railways, arterial roads).

SOURCE Based on Cardew (1996)

Gross residential density
‘the place’
The ratio of the number of dwellings to the area of land they occupy. The area includes internal public streets, all areas of local open space (including parks, sports fields, drainage reserves, landscape buffers, bushfire asset protection zones) local or neighbourhood shops, primary and secondary schools, local community services, local employment areas and half the width of adjoining arterial roads.

SOURCE AMCORD Practice Note 6 - with additions in italics, as shown

Net residential density
‘the built form’
The ratio of the number of dwellings to the area of land they occupy including internal public streets, plus half the width of adjoining access roads that provide vehicular access to dwellings.

SOURCE AMCORD Practice Note 6

Site density
‘the lots’
The ratio of the dwellings to the area of the site they occupy.

SOURCE AMCORD Practice Note 6

Fig.4-58 Four methods planners usually use to measure residential densities (Landcom)
Residential density could be measured in five ways: site, net, gross, urban and metropolitan. No matter the method of measure, the intent is to assess the number of dwellings or occupancy units per a certain area. Residential density equals to number of dwellings / land area (ha). Figure 4-58 shows four methods that planners usually use to measure residential density and the distinctions between them. (“DENSITY”)

Gross density is usually used for projects that are similar in scale with this creative project. This method better reflects the actual human experience of a place than the other methods. However, some aspects of land use and density could be hidden in this measurement. It cannot tell the differences between several small green spaces and one large green space when they have the same square footage. So, net residential density should be used as the way to reduce this shortcoming. In the measurement of net residential density, land area includes the area of land occupied including internal public streets, plus half the width of adjoining access roads that provide vehicular access to dwellings.

Residential Density Expectations

Three case studies were used to establish desirable levels of housing density (unit/acre) for downtown Muncie. These three case studies are Greenville, SC, Savannah, GA, and Auburn, AL. Greenville and Savannah have successful downtowns with good example of permanent residents. Auburn is a college town with its downtown offering living facilities and sources, which is similar with one of the goals of this creative project. The living units were counted based on Google Map and through Internet research. No matter how many bedrooms are included, one apartment is considered as one living unit. Single-family houses are considered as one living unit. Multi-family houses are identified as accurate as possible. The housing densities are calculated as gross density.
Greenville, SC

Downtown Greenville had several phases of development since the 1960s. It is now a successful downtown with activities throughout daytime and night. This density measures the existing living density in Greenville. Figure 4-59 shows the boundary for calculation, locations and living units, in terms of apartments in downtown Greenville, which has total 130 acres in area and 1080 dwelling units. The gross residential density of downtown Greenville, using the calculation methods above, is 8.3-units/acre.

Savannah, GA

With Savannah College of Art and Design occupying many historic buildings, downtown Savannah has single-family houses and small-scale apartment buildings as its major dwelling types. There are also several big-scale apartment buildings in downtown Savannah. Figure 4-60 shows the boundary for calculation, locations and living units, in terms of apartments in downtown Savannah. The gross residential density of downtown Savannah is about 10.8-units/acre.

Auburn, AL

As a typical college town, Auburn’s downtown developed with the development of the university. Downtown Auburn half encloses Auburn University in an “L” shape. Living units in downtown Auburn are mostly apartments (Fig. 4-61). The gross density of downtown Auburn is about 12.2-units/acre.
Fig. 4-59 Calculation boundary and apartments in downtown Greenville
Fig. 4-60 Calculation boundary and apartments in downtown Savannah
Urban Core Expansions Based on 2030 Comprehensive Plan

Fig. 4-61 Calculation boundary and apartments in downtown Auburn
Compared with the case studies, the housing density of downtown Muncie for the project is expected to be 10-units/acre. (Fig. 4-62)

**Downtown Muncie Housing Profile**

Based on the on-site inventory of downtown housing, the housing types within the project boundary have been categorized as single-family house, multi-family house, and apartment buildings are marked in figure 4-63. There are 590 living units in the downtown, including 79 single-family houses, 20 multi-family houses which include 81 living units, and 430 apartments. Since the area of the project site is 164 acres, the current gross density of the project site is 3.1-units/acre. Thus, for the purposes of this project, there expected to be 1050 more living units will be developed.
Fig. 4-63 Downtown Muncie Living units, the numbers show the dwelling units in each parcel.
Fig. 4-64 Development focus areas downtown Muncie

Excess parking areas for development
Abandoned structures
Empty lots
Small-scale buildings to be incorporated elsewhere in the plan
New building
Potential Development

Based on the analysis of abandoned and underused buildings and parking lots, the development focus area is mapped out in Figure 4-64. However, the development areas for the final plan could be shifted in minor ways. The small-scale buildings are also assumed moveable.

Downtown Commercial Counts and Expectations

Compared with downtown Auburn’s commercial core, downtown Muncie lacks life supplement (Table 4-5). There should more retail and shopping, restaurants, and stores to meet the needs of everyday life in the downtown. However, downtown Muncie has a healthy diversity of service options including insurance service, law services, property services, photo services, postal services, and medical services. Also, there should be more commercial options for the elder population.

<table>
<thead>
<tr>
<th>Area</th>
<th>downtown Auburn</th>
<th>downtown Muncie (Now)</th>
<th>downtown Muncie (Projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>174 acres</td>
<td>164 acres</td>
<td>164 acres</td>
</tr>
<tr>
<td>Retail</td>
<td>33</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>Dining-Fast Food</td>
<td>23</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Services</td>
<td>21</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Dining- Casual</td>
<td>15</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Nightlife/ Entertainment</td>
<td>8</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Bank</td>
<td>7</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Retail- Convenience</td>
<td>7</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Coffee Shop/ Snack Bar</td>
<td>5</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Dining- Fine</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>122</td>
<td>103</td>
<td>154</td>
</tr>
</tbody>
</table>

Table 4-5 Downtown business establishments, current and projection
References

   < http://quickfacts.census.gov/qfd/states/18/1851876.html >
      < http://www.historicmuncie.org/districts/>
Muncie Millennium Place Plan. Muncie Millennium.
Arc Hotel and Parking. City of Muncie.
       <http://www.cityofmuncie.com/ArcHotelandParkingGarage.htm >
       < https://www.walkscore.com/IN/Muncie >
CHAPTER FIVE: SITE DESIGN

Target Groups’ Preferences

The goal of this project is to revitalize downtown Muncie by attracting college students and elders to live downtown, increasing residential density, and providing shopping, and services to meet needs in ways that enhance quality of life. This section will profile the preferences of these two groups; illustrated in Figure 5-1. Preferences come from the literature reviews of students and elders housing guidelines. The following table lists goals and objectives for essential, convenient, and healthy downtown living environments for both populations.

Various gathering places
- Active space
- Quiet space
- Indoor gathering space

Various living choices
- Different mix of buildings
- Different sizes of living units

Outdoor activities
- Safe outdoor activity spaces
- Outdoor sports
- Community gardens

Sustainability education
- Rain water collecting
- Rain garden

Figure 5-1 Elements needed to offer better and healthier lives in the community
## Goals and Objectives

<table>
<thead>
<tr>
<th>Goals</th>
<th>Sub-goals</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revitalize downtown Muncie</td>
<td>Increase downtown living density</td>
<td>Transition underused upper-floor offices to use as living units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Add apartment infill of new, concentrated residential use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Add mixed-use buildings with upper-floor apartments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide various of apartment types, especially smaller households</td>
</tr>
<tr>
<td></td>
<td>Preserve the local historical and cultural context: maintain the sense of place</td>
<td>Preserve existing street scales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Preserve the existing building façades and use similar elements for new buildings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keep and reuse the existing historical and commercial buildings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Create landmarks to enhance the character of the downtown, and to contribute to easy orientation</td>
</tr>
<tr>
<td><strong>Encourage economic activities</strong></td>
<td>Provide shops and stores that meet the basic needs of everyday life</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide various retail and commercial choices, especially options for graduate students and elders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide spaces for informal businesses, such as street vendors and weekend markets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide more outdoor sitting areas in front of cafes, and other appropriate uses</td>
<td></td>
</tr>
<tr>
<td><strong>Provide healthy downtown living</strong></td>
<td>Provide accessible walking networks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide multi-functional outdoor spaces for relaxing, socializing, and recreation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promote community-produced food by providing community gardens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide the appropriate clinics and access to medical services</td>
<td></td>
</tr>
<tr>
<td><strong>Cultivating college students living downtown</strong></td>
<td>Provide quiet living and studying spaces</td>
<td></td>
</tr>
<tr>
<td><strong>Living</strong></td>
<td>Provide variety of living units</td>
<td></td>
</tr>
<tr>
<td>Cultivating elders living downtown</td>
<td>Social/entertainment</td>
<td>Provide inactive outdoor areas for meeting, performances, learning and relaxing</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide active outdoor areas for sports, group exercise, and other recreational activities</td>
</tr>
<tr>
<td></td>
<td>Living</td>
<td>Provide quiet living spaces, but close to active public areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide variety of living units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide accessible living spaces inside and outside of buildings</td>
</tr>
<tr>
<td></td>
<td>Social/entertainment</td>
<td>Provide an indoor community or communication center</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide outdoor activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provide opportunities for interaction with students</td>
</tr>
</tbody>
</table>
Development Framework

Based on analysis of the physical and market conditions of the project area, an overall framework for enhancing and future developing the downtown has been developed (Figure 5-2). The framework will concentrate the commercial areas. With retail stores, offices, and other local services already there, Walnut Street, High street, Main Street, and Charles Street could be developed as commercial focused streets. More commercial buildings and mixed-use buildings could be added along these streets to enhance the original urban core. In addition, this project aims to increase the residential density. Some of the living units are added through the development of mixed-use buildings with upper floor apartments. A lot more could be added by the development of residential buildings. There are four areas in the site that are separated by and adjacent to the commercial district. These four areas could be developed as residential focused districts. These four residential districts located on the edges of the site could enhance the daily activities in the commercial district. Also, they offer residents that are important to create neighborhoods in downtown.

Master Plan Strategies

Three strategies are developed for the project. Each of them is based on existing conditions, with the goals of increasing green spaces and interacts among the residents in different ways.
Figure 5-2 Development Framework

- **Residential Focus Area (Improve)**
- **Residential Focus Area (Enhance)**
- **Residential Focus Area (New)**
- **Expand commercial core**
- **Historic Urban Core**
Strategy One: Super Plazas

This strategy (Figure 5-3) aims to create outdoor spaces that are shared by several blocks. These spaces offer places for outdoor activities to bring different groups of downtown residents together. There is one bigger plaza beside the MITS bus station for the whole downtown community. To create the plaza, the planting space in front of the MITS station will be improved by offering more sitting space, the existing parking lots in the other three related blocks will be either paved with lawn bricks to create green parking lots or redeveloped as urban green spaces. The Four smaller plazas are located in four living focus areas. The new plazas are located at the existing parking lots or abandoned spaces. Smaller pocket parks and plazas are also provided along the streets offering more opportunities for outside activities.

Strategy Two: Green Corridors

This strategy (Figure 5-4) aims to create the green service sides for the buildings. These green corridors offer green parking lots and outdoor spaces. The corridors are located along the roads next to the main business focus streets. This parking system offers convenient parking spaces always within two blocks to the destinations. The parking lots connect to the commercial streets and the living spaces with green open spaces. It offers a comfortable walking experience to make sure that the walking distance from parking lots to the destinations will not be annoying. The new parking lots use the spaces of existing parking lots, but paved with lawn bricks. The green outdoor spaces are either exiting green spaces or to be transformed from parking lots or abandoned spaces.

Strategy Three: Green Pedestrian Connecting Loop

Downtown green connecting loop (Figure 5-5) goes around downtown with green spaces along with it. The green spaces are either existing green spaces or to be transformed from parking lots or abandoned spaces. The streets having major downtown green spaces located such as the riverside, Franklin Street, and Howard Street; having lots of downtown attractions
Figure 5-3 Scheme one: super courtyards
Figure 5-4 Scheme two: Green service stripes
located such as Charles Street, Main Street are selected as major streets of the loop. The loop weaves the downtown attractions, such as the Children’s Center, Civic Theater, Carnegie Library, Walnut Street, and riverfront, together. It could be used as a downtown tour loop for visitors. The loop also used as an outdoor recreation trail. It offers downtown residents easy access to green outdoor spaces and opportunities to work out.
Master Plan

Building Infill Strategies

Most of the time, overall urban forms are not possible to complete immediately. However, the position of the buildings should be considered carefully during the early stage of development to set the context for the future. For this creative project, buildings are located close to the street to create the feel of urban living. Parking lots are located to the rear of the building or on the undeveloped lands (Fig. 5-6). Since the parking lots are paved with grass-planting bricks, it will be easy to remove for future development.

Building Footprints

Building footprints used for new buildings in this project are directly quoted or generated from the existing buildings downtown. For example, the “L” shaped three-story apartment building located on West Adams Street (Figure 5-7) is used as a typical footprint for new mixed-use or residential buildings. The apartment building (Figure 5-8) located on West Charles Street is used as the example of apartments to fill into the districts where mostly single-family houses are located. Footprints of mixed-use buildings located along Walnut Street are used as examples for new development along commercial focus streets such as Charles Street, Main Street, Walnut Street, and High Street.
Figure 5-7 "L" shaped residential building located Adams Street could be used as an infill example.

Figure 5-8 Smaller scale residential building is used as an example to fill into single-family environment.
Master Plan

Master Plan (Figure 5-9) of this creative project aims to integrate the three strategies together. There are five community-shared plazas in the community, which are the same as mentioned in the “Super Plazas” strategy. The “Green Service Stripes” scheme is used to create the parking system for downtown. Green loop weaving downtown attractions together provides pedestrian loop for recreation and relaxation. The residential density is increased at the same time, with new residential buildings and mixed-use buildings with upper floor apartments.

Projected Land Use

Figure 5-10 shows the existing buildings and the original building land uses. Based on the site analysis, there are too many offices in downtown. Some under-used upper floor offices are transformed to upper floor living units (Figure 5-11). To increase the residential density to the goal mentioned in site analysis, which is 10-units/acre, new buildings are filled in the plan (Figure 5-12). Mixed-use buildings with upper floor living units are filled mostly along the four commercial streets. Apartment buildings are filled in the four residential focus areas. Retail shops are added along Madison Street to create an appealing commercial corridor on the edge of the site. Figure 5-13 shows the final projected land use of the site. In all of these land use plans mentioned above, mixed-use buildings have upper floor residential units and first floor commerce or offices.

Four Commercial Streets

Four streets, including Charles Street, Main Street, Walnut Street, and High Street, are commercial focused streets in downtown. They have most of the downtown commerce located along streets. Figure 5-14 shows the detail land use of the buildings along these streets.
Figure 5-9 Master Plan
Figure 5-20 Existing land use
Figure 5-11 Adjustments to existing land use, primarily commercial to mixed use
Figure 5-12 Land use of new infill buildings
Figure 5-13 Projected land use including both adjustments (bolder black outline) to land use as well as new infill (bolder green outline)
Figure 5-14 Building land uses along four commercial focus streets
Projected Residential Density

Living units were added in three ways: new living units in what were previously upper-floor offices; new mixed-use buildings with upper-floor living units; and new residential buildings. Figure 5-15 shows locations and numbers of units designed for this project. Numbers are shown on buildings with multiple units, either multi-family houses or apartments. Starting from a total of 590 existing living units and adding 1,212 new living units, there are a total of 1802 living units planned for the site. This results in a projected residential density of 10.9 units/ acre, versus the existing residential density of 3.1 units/ acre.

Circulation and Parking System

Downtown will keep the one-way automobile circulation system currently used. There will be four parking service streets downtown in this creative project: Liberty Street, Franklin Street, Elm Street, and Mulberry Street (Figure 5-16). Franklin Street and Elm Street provide parking lots mainly serving downtown residents. Mulberry Street provides parking lots mainly serving visitors. All of the parking lots downtown will be designed as green parking lots, which could also be used as outdoor green spaces when not occupied by cars (Figure 5-17). The walking experiences from parking lots to destinations are enriched with green spaces, plazas, and human scale features (Figure 5-18, 5-19). Furthermore, some of the alleys could be developed as shopping streets (Figure 5-20).

Green Space Accessibility

The pedestrian-friendly green loop ensures that each resident has easy accesses to outdoor green and recreational spaces (Figure 5-21). Different walking experiences could be enjoyed from the loop. The loop will go across the blocks, not only along the streets. There will be pocket parks beside the loop providing the relaxation environment (Figure 5-22).
Figure 5-15 Projected living units
Figure 5-16 Green parking system
Figure 5-17 Green parking lots could be used as outdoor green spaces when not occupied by cars.
Figure 5-18 People would walk through green alleys to commercial streets after parking
Figure 5-19 People will pass green outdoor spaces when going from parking lots to their destinations
Figure 5-20 Some of the downtown alleys could be transformed into shopping streets
Figure 5-21 Downtown green loop and adjacent green spaces
Figure 5-22 Green spaces offer feelings of relaxation downtown
Development Concepts

Commercial/ Mixed-use Development Concepts

The guidelines (Figure 5-24) aim to preserve and enhance the urban core as a thriving mixed-use destination for all kinds of activities such as living, working, dining, shopping, and entertainment in an urban storefront character.

The guidelines to develop these commercial focused districts are:

1. Building setbacks from streets should be minimized to create the urban environment. The setbacks are usually about 10 feet.
2. Provide on-street parking as much as possible to minimize the area of parking lots.
3. Locate parking lot in the rear of the building.
4. Provide ground floor storefront architecture. Increase some of the building setbacks to provide more relaxation space.
5. Provide shade for pedestrians.
6. Provide an amenity zone along sidewalks for street trees, lights, furniture, etc.
7. Share curb cuts with adjacent developments to save more spaces for street amenities.
8. Avoid long, blank walls.
9. Provide a more interesting architectural skyline with various building heights within a single block.
10. Provide a more interesting architectural façade within a single block.
Building setbacks from streets should be minimized to create the urban environment. The setbacks are usually about 10 feet.

Provide on-street parking as much as possible to minimize the area of parking lots. Locate parking lot in the rear of the building.

Provide ground floor storefront architecture. Increase some of the building setbacks to provide more relaxation space.

Avoid long, blank walls. Provide a more interesting architectural skyline with various building heights within a single block.

Provide shade for pedestrians. Provide an amenity zone along sidewalks for street trees, lights, furniture, etc.

The guidelines aim to preserve and enhance the urban core as a thriving mixed-use destination for all kinds of activities such as living, working, dining, shopping, and entertainment in an urban storefront character.

Figure 5-24 Conceptual model of commercial/mixed-use development
Residential Development Concepts

The concept (Figure 5-25) aims to enhance downtown’s neighborhood as a walkable urban community.

The guidelines to develop these residential focused districts are:

1. Building setbacks from the streets could be larger than commercial focused areas, about ten to twenty feet from public sidewalks.
2. Incorporate small landscape as front yards or courtyards.
3. Ground floor units should be raised about three to six feet above the public sidewalks to enhance the sense of safety and privacy.
4. Provide a landscape zone along public sidewalks for street trees, benches, lights, etc.
5. Locate parking and building services in rear of the buildings; front facing garages should be avoided.
6. Share parking lots with adjacent developments where possible.
7. Share curb cuts with adjacent developments to save more spaces for street amenities.
8. Avoid long, blank walls.
9. Small stoops or porches and individual front doors could be offered for ground floor units to create potentials to transform these units into commercial uses.
10. Offer various building façade designs.
11. Offer upper floor porches to indicate residential character.
Figure 5-25 Conceptual model of urban residential development

- Provide a landscape zone along public sidewalks for street trees, benches, lights, etc.
- Building setbacks from the streets could be larger than commercial focused areas, about ten to twenty feet from public sidewalks. Incorporate small landscape as front yards or courtyards.
- Small stoops or porches and individual front doors could be offered for ground floor units to create potentials to transform these units into commercial uses.
- Avoid long, blank walls. Offer various building façade designs.
- Offer upper floor porches to indicate residential character.
- Ground floor units should be raised about three to six feet above the public sidewalks to enhance the sense of safety and privacy.
- Locate parking and building services in rear of the buildings; front facing garages should be avoided. Share parking lots with adjacent developments where possible.

The guidelines aim to enhance downtown’s neighborhood as a walkable urban community.
Complete Street Sections

Storefront Street Section

This type of section (Figure 5-25) is applicable to streets with on street parking and commercial storefront, such as Walnut Street, Charles Street, and Main Street. Sidewalks are buffered from streets by landscaping and street furniture. The landscaping zone is also used to collect stormwater. Street parking could be removed in limited areas to create flexible spaces for outdoor dining and other activities. It will usually take three to four parking spaces for one seating area.

Figure 5-26 Storefront Street Section
Green Parking/Building Rear Street Section

This type of section (Figure 5-26) is applicable to the four parking service streets mentioned above (see page 131).
Urban Neighborhood Street Section

This type of section (Figure 5-27) is applicable to streets in urban residential areas.
Site Design

Two detail designs are provided to further illustrate the design concept: increase the living density in downtown to encourage downtown living; active downtown living by offering more outdoor spaces and interesting storefronts; connecting downtown to the BSU campus by a pedestrian corridor.

Urban Residence Detail Design

Figure 5-29 shows an urban residential block with residential buildings, mixed-use buildings with first-floor retails, and courtyard gardens. The green space in the block is expanded because of the green parking lots. Trees and shrubs are planted between the single-structure office and urban plaza to create quiet working environment, yet allow see-through connections between the two. Urban plazas are designed along the streets to activate streets. Smaller entrances are designed for upper-floor residents to create a private living experience in an urban environment. Courtyard gardens offer residents more outdoor gathering spaces.

Downtown- Campus Pedestrian Connection Detail Design

Figure 5-30 shows a block with part of downtown-campus pedestrian corridor. Bick racks are offered along the corridor, allow passages rest in the nearby urban parks. The urban park within the block offers outdoor activity opportunities for residents and downtown workers. The urban park offers open spaces such as the lawn and more private spaces to allow different activities.
Figure 5-29 Urban residence detail design.
Figure 5-30 Downtown- Campus pedestrian connection detail design
Conclusion

This creative project redesigns Downtown Muncie by increasing living density, providing spaces for activities especially outdoor activities, creating pedestrian-friendly streetscapes, promoting healthy lifestyles to attract students and elders living downtown. To complete the goals, this creative project is conducted in the following steps:

1. Theoretical research

   The first step of this creative project is to research the downtown revitalization theories. The literature review explores downtown revitalization strategies, distinguishes revitalization strategies between big-city downtowns and small-city downtowns, and determines the strategies for Downtown Muncie.

2. Site Investigation

   The second step of this creative project is to understand the history, existing conditions and future developments of the site. By reviewing the historic maps, the city growing trends of past decades are studied. In field trips in downtown Muncie, current living units are mapped, and living density is calculated. Planned future projects in downtown Muncie are merged into the final design of this creative project.

3. Design Concept Development

   Design strategies are developed through the two steps above. To increase the living density downtown Muncie, abandoned office buildings are transformed to residential or mixed-use buildings. Infill structures are added in the site. The living density of the site is increased from 3.1-units/acre to 10.9-units/acre. Outdoor green spaces and plazas are designed to enrich the urban life.

This creative project design is necessarily limited by time, ability and conditions. If given
future opportunities, further explorations would address the following aspects:

1. **Detail Land Use**

   Although the current project offers the development concept to address the focuses areas for different land uses. The detail land use of new buildings could be explored through the understanding of people’s daily life and preferable walking routes.

2. **Detail Street Section**

   The project offers street sections for streets with different uses. Detail street sections could be explored based on more detail existing street conditions such as existing big trees and utility lines.

3. **Vegetation**

   The project does not offer planting design for the site. Since green spaces are important to the project, leader planting design concept and plant species could be explored in the projects.
List of Figures
Fig. 1-1 Aerial view of Downtown Muncie, looking southeast
Fig. 1-2 Downtown Muncie Historic Photo
Fig. 1-3 Ball State University looking South on McKinly Avenue
Fig. 2-1 Friday afternoon traffic on McGalliard Road. Most of them are heading out of town or going to chain restaurants. The super-box shopping centers such as Target, Walmart, and Mall are also their destinations
Fig. 2-2 A teenager biking passing by IVY TECH’s facility in Downtown Muncie. The doors and windows of downtown buildings are human scale
Fig. 2-3 Looking west on Main Street in a Friday afternoon. Traffic congestion is not a problem confronting Downtown Muncie.
Fig. 2-4 Looking from Morgan Square to the south in Spartanburg, South Carolina. The downtown revitalization strategy of offering affordable housing and upper-floor housing brings back population to vibrant downtown.
Fig. 2-5 The concept of this project is to attract students and elders living downtown.
Fig. 2-6 Looking through the window into The Barn Brasserie. With years of promotion, Downtown Muncie had new restaurants and businesses. The Barn Brasserie is one of them opened in 2013.
Fig. 3-1 Urban Core Expansion Comprehensive Plan
Fig. 3-2 New Building Infills and pedestrian system were proposed in Auburn Downtown Master Plan
Fig. 3-3 Urban Core Expansion Comprehensive Plan
Fig. 3-4 Bird-eye View of Main Street, downtown Greenville
Fig. 3-5 SCAD’s facility master plan
Fig. 3-6 Mixed-use buildings in Savannah with retail on the first floor and apartments on upper floors
Fig. 3-7 Savannah Film Festival attracts hundreds of thousands of people downtown Savannah every year
Fig. 3-8 Downtown Denver Land Use Diagram
Fig. 3-9 The location and the nearby facilities of Nystrom Village
Fig. 3-10 Master Plan of Nystrom Village
Fig. 3-11 Perspective of low-rise buildings in Nystrom Village
Fig. 3-12 Perspective of high buildings in Nystrom Village
Fig. 3-13 Map of Rochdale Village, UC Berkeley
Fig. 3-14 Rochdale Village installed more efficient equipment to reduce utility bills
Fig. 4-1 Muncie location
Fig. 4-2 Site boundaries
Fig. 4-3 Context Map of Downtown Muncie
Fig. 4-4 Muncie Central High School is located to the north of downtown Muncie
Fig. 4-5 Muncie Field House, located to the north of the site, offers indoor recreation opportunities for downtown residents
Fig. 4-6 The Transformer Substation on Wysor Street is an industrial site, without positive contributions to a residential neighborhood
Fig. 4-7 The abandoned retail structures on Wysor Street need to be removed or reused
Fig. 4-8 Single-family houses on Wysor Street without deficient setback
Fig. 4-9 The abandoned structures and plazas to the south of the site have no positive contribution to downtown.

Fig. 4-10 The streetscape of single family houses on South Council Street lacks a sense of neighborhood.

Fig. 4-11 The abandoned houses on South Liberty Street show potential for reuse.

Fig. 4-12 The McDonald’s signage on South Madison Street is a distinctive sign to the east of Downtown Muncie.

Fig. 4-13 The abundant retail structures on Madison Street has no positive contribution to the neighborhood.

Fig. 4-14 The low-budget motel on South Madison Street offers low-cost living options close to downtown. However, the street design needs improvements.

Fig. 4-15 Local services support downtown living.

Fig. 4-16 CONERSTONE Center for the Arts located to the east of downtown is a strong attraction point.

Fig. 4-17 Grace Church Parish to the east of Downtown Muncie shows opportunities to celebrate diversity in downtown.

Fig. 4-18 The Hackley Reserve from an 1821 Survey.

Fig. 4-19 Muncie 1876 Historic Map.

Fig. 4-20 Muncie 1901 Historic Map.

Fig. 4-21 Muncie 1921 Historic Map.

Fig. 4-22 Muncie 1946 Historic Map.

Fig. 4-23 Muncie Neighborhoods and Districts.

Fig. 4-24 Muncie Household Income shown by Census Tract.

Fig. 4-25 Downtown Muncie Land Uses.

Fig. 4-26 Downtown Muncie Historic Districts.

Fig. 4-27 Downtown Muncie parks.

Fig. 4-28 Delaware County Census tract 28, Group 1 Population Data.

Fig. 4-29 Downtown Trees.

Fig. 4-30 Ivy Tech Downtown Muncie Locations.

Fig. 4-31 Houses in Muncie Millennium Place.

Fig. 4-32 Muncie Millennium Place Master Plan. The project is mostly finished except for some public facilities such as the grocery store.

Fig. 4-33 Elevations of the new training hotel in downtown Muncie.

Fig. 4-34 Enter Downtown Muncie through Madison Street.

Fig. 4-35 The railway bridge on Madison Street is an opportunity to collaborate arts to give visitors a good first impression of Downtown Muncie.

Fig. 4-36 The green space north of the railway bridge also presents a design opportunity to welcome visitors.

Fig. 4-37 Enter Downtown Muncie through High Street.

Fig. 4-38 The bridge at High Street and Wheeling Street could be redesigned to increase human interactions with water.

Fig. 4-39 High Street Square on the right of the image is an underused shopping plaza. Riverbend Park on the left of the image offers green public space downtown.

Fig. 4-40 At the intersection of Madison Street and Main Street, the empty lot on the left and the retail space on the right are spaces that have good visual exposure,
Fig. 4-41 At the intersection of Kilgore Street and Jackson Street, the abandoned retail space on the right and the green space on the left are spaces that have good visual exposure, and with improvements, could mark a significant access point to downtown.

Fig. 4-42 Average Daily Traffic Count

Fig. 4-43 Accident spots in Downtown Muncie. Each dot in the map indicates an accident.

Fig. 4-44 Parking lots in Downtown Muncie. The numbers indicate the area of each lot.

Fig. 4-45 New parking facility in downtown Muncie.

Fig. 4-46 Elevation of the new parking facility in downtown Muncie.

Fig. 4-47 Perspective of the new parking facility in downtown Muncie.

Fig. 4-48 Parking usage observation results at 10 am.

Fig. 4-49 Parking usage observation result at 3 pm.

Fig. 4-50 Walk scores of north, south, west, and west of the site.

Fig. 4-51 The downtown Muncie bike and pedestrian systems.

Fig. 4-52 Downtown Muncie bus shelter locations.

Fig. 4-53 MITS bus routes downtown Muncie.

Fig. 4-54 Current Street Section across Main Street.

Fig. 4-55 Current Street Section across Charles Street between High Street and Walnut Street.

Fig. 4-56 Current Street Section of Walnut Street.

Fig. 4-57 Current Street Section of Mulberry Street.

Fig. 4-58 Four methods planners usually use to measure residential densities.

Fig. 4-59 Calculation boundary and apartments in downtown Greenville.

Fig. 4-60 Calculation boundary and apartments in downtown Savannah.

Fig. 4-61 Calculation boundary and apartments in downtown Auburn.

Fig. 4-62 Case study comparison and downtown Muncie projection.

Fig. 4-63 Downtown Muncie Living units, the numbers show the dwelling units in each parcel.

Fig. 4-64 Development focus areas downtown Muncie.

Fig. 5-1 Elements needed to offer better and healthier lives in the community.

Fig. 5-2 Development Framework.

Fig. 5-3 Scheme one: super courtyards.

Fig. 5-4 Scheme two: Green service stripes.

Fig. 5-5 Scheme three: Green loop.

Fig. 5-6 Building infill diagram.

Fig. 5-7 “L” shaped residential building located Adams Street could be used as an infill example.

Fig. 5-8 Smaller scale residential building is used as an example to fill into single-family environment.

Fig. 5-9 Master Plan.

Fig. 5-10 Existing land use.

Fig. 5-11 Adjustments to existing land use, primarily commercial to mixed use.

Fig. 5-12 Land use of new infill buildings.
Fig. 5-13 Projected land use including both adjustments (bolder black outline) to land use as well as new infill (bolder green outline)
Fig. 5-14 Building land uses along four commercial focus streets
Fig. 5-15 Projected living units
Fig. 5-16 Green parking system
Fig. 5-17 Green parking lots could be used as outdoor green spaces when not occupied by cars
Fig. 5-18 People would walk through green alleies to commercial streets after parking
Fig. 5-19 People will pass green outdoor spaces when going from parking lots to their destinations
Fig. 5-20 Some of the downtown alleys could be transformed into shopping streets
Fig. 5-21 Downtown green loop and adjacent green spaces
Fig. 5-22 Green spaces offer feelings of relaxation downtown
Fig. 5-23 Project cross-section
Fig. 5-24 Conceptual model of commercial/ mixed-use development
Fig. 5-25 Conceptual model of urban residential development
Fig. 5-26 Storefront Street Section
Fig. 5-27 Green Parking Street Section
Fig. 5-28 Residential area street section
Fig. 5-29 Urban residence detail design
Fig. 5-30 Downtown- Campus pedestrian connection detail design
List of Tables
Table 2-1 Small-city downtown development strategy utilization
Table 2-2 Small-city downtown development strategy success rating
Table 2-3 Walk Score for cities
Table 2-4 Small-city downtown assets
Table 2-5 Fort Collins downtown development organizations
Table 2-6 Ten Great Retirement Cities in the U.S.
Table 2-7 Unit Types and Sizes for Senior Living
Table 2-8 Ball State Fact Book shows that Ball State has stable graduate enrollment since 2008
Table 2-9 Floor area standards for student housing
Table 3-1 Potential Space Requirement Analysis
Table 4-1 Muncie Historic Population
Table 4-2 2000 and 2010 Muncie People Facts
Table 4-3 Downtown land use by parcel
Table 4-4 Downtown land use by Square Feet
Table 4-5 Downtown business establishments, current and projection
Bibliography


“Auraria Campus Design Guidelines”


Downtown Greenville, City of Greenville, South Carolina, <http://www.greenvillesc.gov/424/Explore-Downtown>


Nystrom United Revitalization Effort, "Examining the power of transforming the built environment through collaborative housing, land use, and educational policies". (2009)


United States Census Bureau. 1980 to 2010


Robertson, Kent A. "Downtown Development Principles for Small Cities" *Downtowns: revitalizing the centers of small urban communities.* (2013): 9-22


Urban Collage, Auburn Downtown Master Plan, 2014

