

# Sustainability Guidelines For The Urban Landscape

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## **Abstract**

Sustainability is an area of research that combines ecological health, social justice, and economic prosperity. Since people are considered the most critical factor in the success of a city and urban design, social needs are critical for urban sustainability. The goal of this thesis project is to explore social sustainability and ways to create design guidelines for public spaces that take into account the significance of the social and cultural aspects of a city as a core principle for urban sustainability.

This thesis uses a qualitative research strategy that incorporates mixed-methods.

Primary and secondary research tasks are utilized in this research. My research goal explores the social aspects of urban sustainability and is based on the research question: how can I incorporate social factors to achieve urban sustainability? This thesis project seeks to answer this question by using the following research methodology: 1) secondary research- the literature review, and 2) primary research tasks: case study method, field research and informal interviews. The literature review studies precedents for design guidelines that focus on social sustainability. While the case studies located in San Antonio, Texas and Boston, Massachusetts, focus on existing conditions. Both are considered economically sustainable, functional, and have successful downtowns. Downtown Jacksonville is used as the testing ground for the application of the research. The final products of this thesis are: 1) sustainable urban design guidelines, that can be applied to any City, and 2) the application of these

guidelines and formulation of a conceptual master plan for downtown Jacksonville. This research project demonstrates the importance of social sustainability and demonstrates ways to achieve it: 1) provide places to live and work downtown that will bring people back to urban core; 2) create diverse and compact development that will increase the city's overall vitality; 3) generate people-friendly social center and accessible open space linkage; 4) and enhance the natural, cultural, or historical features to help build a unique sense of place.

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## Chapter 1: Introduction

### Introduction

Sustainability is defined as meeting the needs of present, without compromising the ability of future generations to meet their own needs. (WCED, 1987) However, sustainability is often interpreted as only eco-technology. (Meyer, 2008:13) Actually sustainable landscape design is more complex than ecological performance. Social and cultural factors are as important as ecologically and physical environment, especially in an urban context. (Meyer, 2008:16) Landscape architects often factor “people” into urban design which becomes a crucial factor for sustainable landscape design. This research project takes into account the importance of human ecology as a social factor for sustainable landscape design in urban places.

The makeup of the city is not just the physical form, but also includes the social environment and places where people live. Urban sustainability considers people and the social environment, not solely the environment and ecology. (Hancock, 2011) According to Jacobs, planners and designers should learn how to promote vitality in social and economic aspect from practice. Jacobs claims that is how the city works. (Jacobs, 1961:4)

## Research Background



Figure 1.1: Downtown Jacksonville Skyline.

Image Source: [http://upload.wikimedia.org/wikipedia/commons/f/fa/Jacksonville\\_Skyline\\_Panorama\\_5.jpg](http://upload.wikimedia.org/wikipedia/commons/f/fa/Jacksonville_Skyline_Panorama_5.jpg)

A sustainable city should be as functional as a natural ecosystem. (Beatley & Manning, 1997:87) Creating a functional and successful urban space is an important factor for urban sustainability. Jacksonville (one of the large cities in Florida) was chosen as the focus for the application of sustainable urban design guidelines for several reasons. It is one of the largest cities in the state of Florida and as Jacksonville's motto ("Where Florida Begins") suggests, it is an important city. However, downtown Jacksonville currently is just a place to work. According to Jenks, Burton, and Williams (1996), downtown Jacksonville is not livable; it lacks the original function of downtown that should be mixed-use in a compact development form. Daily activities for Jacksonville residents occur primarily at suburban areas and do not contribute to downtown Jacksonville's urban sustainability. For this research project, the under-utilized and defunct downtown serves as the perfect laboratory to explore urban sustainability and the potential of design guidelines for public spaces and space-making. Additionally, the goal of Downtown Vision, Inc., a non-profit downtown development association operates with the goal to make Downtown Jacksonville a nice place to work, live, play, and visit. (<http://downtownjacksonville.org/DowntownVisionInc/WhoWeAre.aspx>) Since the community has demonstrated their interest and is engaged in thinking about urban

sustainability, downtown Jacksonville was selected to explore social consideration in urban sustainability for this thesis. Also, it appears that the city should consider sustainable alternatives.

In conclusion downtown Jacksonville is selected for the following reasons: 1) Jacksonville is an important city in the State of Florida; 2) because the existing downtown is under-utilized, it will serve as a good opportunity to apply the principles of urban sustainability; 3) the downtown community already has a vision to make it a more sustainable place to live, work, play, and visit.

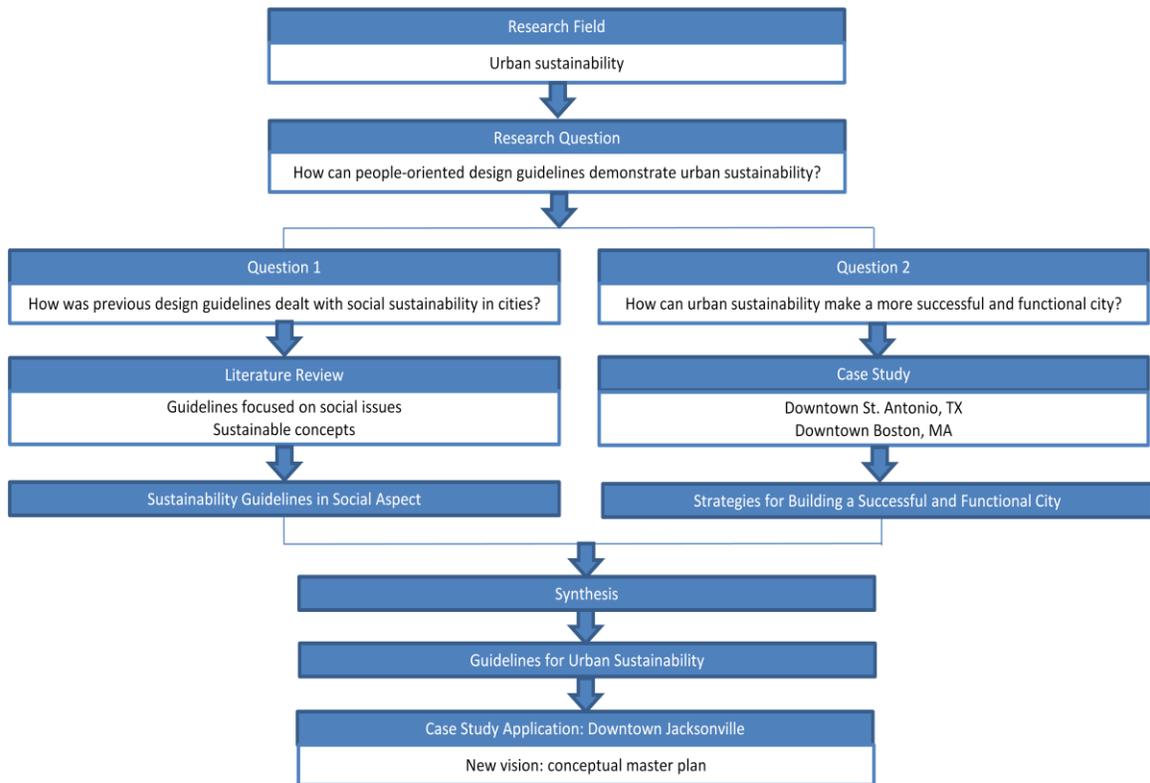
### **Goals and Research Questions**

The goal of this thesis project is to focus on the social aspects of urban sustainability. To build a foundation for this thesis project, research was undertaken that examined other design guidelines with similar characters urban sustainability. This research would in turn help to derive sustainable design guidelines that could help revitalize downtown Jacksonville, an important research goal for this project. This thesis project looks to answer the research question, how can people-oriented design guidelines demonstrate urban sustainability? Jacobs (1961) contends that the major principals of a useful great city are generated by social behavior of people and the economic behavior of a city. (Jacobs, 1961:14) Inspired by this statement, this thesis will take into account the social

and economic behavior at work in the city. The following are the sub-questions of this thesis project:

- 1) What were the previous design guidelines that focused on the social aspects of urban sustainability?
- 2) How can urban sustainability make a more successful and functional city?

### Research Map



**Table 1.1:** Research Structure

## **Research Strategy**

This thesis project uses a qualitative approach and uses mixed methods. Secondary and primary research tasks were involved in the mixed methods. Secondary research involved a literature review on urban sustainability that deals with social factors, as well as precedents for design guidelines. The primary research methods involved field observation, archival research, expert interview, and case studies.

The literature review examines the first sub-question: how has previous design guidelines dealt with the social aspects of urban sustainability? The socially based design guidelines were generated from the works of Whyte (1980) and Marcus & Francis (1997). The behavioral design guidelines were drawn from Newman (1976) and Whyte (1980). Safety and security guidelines were based on work by Richards, Thompsons, and Orski (1974) and Appleyard (1981).

The second sub-question searches for strategies and solutions for revitalizing urban spaces, like downtown Jacksonville. By exploring the successful and popular downtowns, Boston, Massachusetts and San Antonio, Texas, this research identifies practical place-making design strategies for successful and functional downtown. The case studies also aid in understanding how various social and economic behavior can create a more diverse, mixed-use city.

The final product involves integrating proposed design guidelines and the formulation of a conceptual master plan for downtown Jacksonville. The goal of the proposed guidelines is to make Jacksonville a more functional and socially sustainable city. Due to time constraints for this project, the thesis does not include advocacy planning, a type of planning process that engages with community stakeholders and involves community workshops.

## Chapter 2: Literature Review

### Sociability and Urbanism

There are three important urban design theories: figure-ground, linkage, and place theory. (Trancik, 1986:97) The figure-ground theory suggests understanding the relationship between the structure and order of space in a two-dimensional pattern. The linkage theory connects elements together as part of city. Sitte (1945) likes the linkage system in the ancient European city linking the social and physical space in a city. Place theory discusses the additional richness in urban form that comes from the inherent culture, history, and natural context. In describing place theory, Lynch (1960) offers specific design principles within urban space such as legibility, structure and identity, and imageability. That is why the designer should enhance the identity and the sense of place. Moreover, the function that people experience a place is as important as structure in urban space.

Today there are many urban design issues within the city, such as large amounts of vacant and unused spaces in the downtown core, and an awkward fusion between the architecture of urban buildings and urban landscape. (Trancik, 1986:1) Although there are many reasons that create these problems, the lack of understanding of human behavior in these urban conditions is a primary reason. (Trancik, 1986:1) The incorporation of behavioral design into the design process is an important aspect to

consider in order to avoid creating an additional undesirable urban area that makes no positive contribution to the surrounding or users. (Trancik, 1986:4-5)

In the urban fabric, the designer should deal with space using an integrated approach. (Trancik, 1986:219) The objective is to arrange the lost spaces into a meaningful and cohesive fabric and provide a meaningful social and physical place. (Trancik, 1986:20)

## **Part I: Interpretation of People, Place, and Sustainability**

Part I summarizes my interpretation strategies for sustainability in terms of social aspects in urban context. The term sustainability will be defined first and then an investigation of the concepts inherent in both sustainability and urban ecology will be examined. With regards to the social aspect of urban fabric, there are previous design guidelines for plazas and streets. Whyte (1980) and Marcus & Francis (1997) provide design guidelines for designers to understand how people will use a given public place. The relationship between people and the street is summarized in the design guidelines from *Livable Streets* (Appleyard, 1981) and *Streets for People* (Richards & Thompson & Orski, 1974).

## **Sustainable Landscape Design: Defining Sustainability**

Many designers misunderstand the definition of sustainable landscape design. In many common theories of sustainable landscape design, the sustainability aspect is only associated with eco-technology methods and materials in design. (Meyer, 2008:13) It is believed that minimal design is the key to sustainable landscape design, avoiding human impact. (Meyer, 2008:13) However, in *Sustaining Beauty* (Meyer, 2008), Meyer addresses these concepts of sustainable landscape design. Generally, “sustainable landscape design is the combination of ecological health, social justice, and economic prosperity.” (Meyer, 2008) Meyer addresses “attitudes, feelings, images, and narratives” in landscape design by providing the following key principles in sustainable design:

- Sustaining culture through landscapes. (Meyer, 2008:15)
  - Sustainable landscape design is not the same as sustainable development, ecological design, restoration ecology, or conservation biology.
  - Design is a cultural act, a product of culture made with the materials of nature, and embedded within and reflected by particular social formation, while employed principles of ecology.
- Sustainable landscape design must perform socially and culturally. (Meyer, 2008:16)
  - Nature is not out there but in there, interwoven in human urban condition.

- Hydrology, ecology, and human life are intertwined.
- The mimicry of natural process is more important than the mimicry of natural forms. (Meyer, 2008:16)
- Sustainable beauty is dynamic not static, It changes over time. (Meyer, 2008:19)
- Designed landscapes need to be constructed human experiences as much as constructed ecosystems: they need to move citizens to action. (Meyer, 2008:21)

The *2009 Sustainable Site Initiative (SSI)* (LEED, 2009) establishes and encourages sustainable practice in landscape design, construction, operation, and maintenance. In this case, the definition of sustainability comes from *Our Common Future* (WCED, 1987) and is defined as the “meeting the needs of present, without compromising the ability of future generation to meet their own needs.” Additionally, SSI defines addresses human health and well-being. The emphasis of sustainability is not only about the natural ecosystems but also about the human aspect. It should address the human biosphere that includes human and nonhuman impact according to these principles:

- Provide the economic or social benefits to the local community. (LEED, 2009:142-145)
- Promote sustainability awareness and education. (LEED, 2009:146-148)
- Protect and maintain unique cultural and historic places. (LEED, 2009:149-151)
- Provide for site optimum accessibility, safety, and wayfinding. (LEED, 2009:152-155)
- Provide opportunities for outdoor physical activities. (LEED, 2009:156-160)

- Provide views of vegetation and quiet outdoor space for mental restoration. (LEED, 2009:161-164)
- Provide outdoor space for social interaction. (LEED, 2009:165-167)

## **Urban Ecology**

In *Cities and Natural Process* (Hough, 1995), Hough addresses the situations and problems of urban ecology in a modern city and he suggests some principles for urban ecology. Hough (1995) provides the sustainability principles as follows:

- The form of the place reveals its natural and human history and the continuing cycle of natural process. (Hough, 1995:18)
- Set a goal to minimize resources and energy consumption, and maximize the environmental, economic, and social values. (Hough, 1995:20-21)
- Providing diversity in urban places is as essential as biodiversity. (Hough, 1995:23)
- Connections in urban places are as essential as they are in nature. (Hough, 1995:24)

The topic of urban ecology is also addressed in *The Ecology of Place* (Beatley & Manning, 1997). Beatley and Manning discuss visions and thoughts of a sustainable community or place. A sustainability community should focus on the environment, quality of life, and social and economic opportunities. The goal for a sustainable community is living well within limited resources and also seeks for high quality of life and the identity of each

place. In order to minimize human consumption of the land, compact development and high density are the main principles in creating sustainable community. Additionally, the new development should avoid the ecologically sensitive land and the natural hazard areas. Ecology issues are equally as important as human issues as it relates to a sustainable community. Crucial to being a sustainable community is creating strategies for controlling the urban growth boundary and making the city more compact. Because of the focus on these strategies, the city core plays an important role for achieving the goal of a sustainable community. Key strategies by Beatley and Manning (1997) for creating sustainable communities especially for the city core include:

- Creating compact development. (Beatley & Manning, 1997:156)
- Focusing population and commerce activities in higher densities. (Beatley & Manning, 1997:32)
- Creating more land-efficient projects and mixed-use opportunities. (Beatley & Manning, 1997:29)
- Balancing transportation systems and walkability. (Beatley & Manning, 1997:29)
- Reusing existing buildings and focusing on re-urbanization. (Beatley & Manning, 1997:29)
- Providing affordable housing. (Beatley & Manning, 1997:193)
- Allowing diverse activities that create a “twenty-four-hour city.” (Beatley & Manning, 1997:166)
- Designing for a sense of place. (Beatley & Manning, 1997:32)

In conclusion, sustainability is not only about natural environment but also about the economic, social, and cultural values. Both humans and natural environment need to be considered when defining sustainability. The strategies and principles discussed above are making urban environments more livable for people. Additionally, the designer should provide more social opportunities for people as a part of the regular daily life. Natural features, historical features, or man-made features all help to establish the sense of place. Creating and enhancing these physical and social opportunities helps to establish a sense of place which reinforces the belonging between people and place.

### **People and Place in Urban Space: Behavioral Design**

In this part, the research will compare two series of design guidelines for urban design and plazas: *The Social Life of Small Urban Space* (Whyte, 1980) and *People Place* (Marcus & Francis, 1997). These guidelines were created primarily for landscape architects, land developers, architects, urban designers, and related fields. Consequently these guidelines have become very popular and quantify the typical understanding of social behavior in urban design. The two authors formed their guidelines using a qualitative research methodology: Observing urban space users from plazas and using their habits and actions to form guidelines. The following is a table summarizing the findings of their research:

	<b>Social Life of Small Urban Space</b>	<b>People Place</b>
<b>Context</b>  <b>Location</b>  <b>Service Area</b>  <b>Streets</b>	<ul style="list-style-type: none"> <li>• The influence zone of an urban space is about 3 blocks. (Whyte, 1980:16)</li> <li>• A plaza must address the street. (Whyte, 1980:54)</li> <li>• A good plaza starts at the street corner. (Whyte, 1980:54)</li> <li>• Sightlines and visibility are important. If people cannot see and sense a place, they will not use it. (Whyte, 1980:58)</li> </ul>	<ul style="list-style-type: none"> <li>• On average, people are willing to travel 2 blocks or 4 minutes walk to go to a plaza. (Marcus &amp; Francis, 1997:32)</li> <li>• When considering a location, it should try to attract a variety of users. (Marcus &amp; Francis, 1997:23)</li> <li>• Location of plazas should be at the intersection of different land uses. (Marcus &amp; Francis, 1997:23)</li> <li>• A corner location, a place to pass through, a place to watch passerby will provide highest use. (Marcus &amp; Francis, 1997:24)</li> <li>• A plaza with high visibility tends to have a much larger attraction area. (Marcus &amp; Francis, 1997:25)</li> </ul>
<b>Size</b>  <b>Capacity</b>	<ul style="list-style-type: none"> <li>• Clustering patterns: people would locate themselves about one or two spaces removed from other people or groups. (Whyte, 1980:68)</li> </ul>	<ul style="list-style-type: none"> <li>• Function, structure, and context of space and plaza should determine their size. (Marcus &amp; Francis, 1997:25)</li> <li>• Visual dimension or personal space may determine the size of space.</li> </ul>
<b>Space Setting</b>	<ul style="list-style-type: none"> <li>• A front-row position is prime space. (Whyte, 1980:57)</li> <li>• An appropriate elevation or steps can make a nice ambiguity to your movement. (Whyte, 1980:57-58)</li> </ul>	<ul style="list-style-type: none"> <li>• Large plaza may want be divided into subspaces to encourage use. (Marcus &amp; Francis, 1997:36)</li> <li>• The size of space should not be so small that one feels one is entering a private room and intruding on the privacy of someone who may already be there. (Marcus &amp; Francis, 1997:37)</li> <li>• The transition from street to plaza is a crucial part of plaza design: create a sense of entering. (Marcus &amp; Francis, 1997:34)</li> <li>• Because people prefer to sit on the edge of spaces rather than in the middle of them, the edges or boundaries of a plaza should be planned for seating and viewing. (Marcus &amp; Francis, 1997:36)</li> </ul>

	Social Life of Small Urban Space	People Place
		<ul style="list-style-type: none"> <li>It is important to maintain a visual connection between levels to enhance a specific experience. (Marcus &amp; Francis, 1997:47)</li> </ul>
<b>Users</b>	<ul style="list-style-type: none"> <li>Main users are groups. (Whyte, 1980:17)</li> </ul>	<ul style="list-style-type: none"> <li>Women seek “back yard” experiences (comfort, relief, security, control, and relaxation) whereas men seek “front yard” experiences (public, social interaction, and involvement). (Marcus &amp; Francis, 1997:27)</li> </ul>
<b>Sitting</b>	<ul style="list-style-type: none"> <li>33 to 38 people per hundred feet occupy sitting space in high use areas. (Whyte, 1980:66)</li> <li>People tend to sit where there are places to sit. (Whyte, 1980:28)</li> <li>Ledges and steps are also a kind of sitting. (Whyte, 1980:28-29)</li> <li>Sitting height: optimum: 17 inches; range-1 to 3 ft; both side, minimum-depth ledge is 30 inches. (Whyte, 1980:30-31)</li> <li>Sitting Width: 30 inches. (Whyte, 1980:36)</li> <li>Corner can be face-to-face sitting and is often preferred. (Whyte, 1980:32)</li> <li>Movable chairs are often the big asset. (Whyte, 1980:34)</li> <li>Sitting space: 6% to 10% of the total open space.</li> </ul>	<ul style="list-style-type: none"> <li>Secondary seating: mounds of grass, steps with a view, seating walls, and retaining walls that allow seating. (Marcus &amp; Francis, 1997:42)</li> <li>Height of secondary seating: 16 to 30 inches; bulk of secondary seating: 16 to 18 inches. (Marcus &amp; Francis, 1997:42)</li> <li>Movable chairs are the most popular type of sitting. (Marcus &amp; Francis, 1997:42)</li> <li>Wood is a warm and comfortable material for public seating. (Marcus &amp; Francis, 1997:44)</li> <li>One linear foot of seating for each 30 square foot of plaza space. (Marcus &amp; Francis, 1997:44)</li> <li>A wide seat bench (no back) is preferred because two people can sit back to back and be comfortable in tight space. (Marcus &amp; Francis, 1997:42)</li> </ul>

	<b>Social Life of Small Urban Space</b>	<b>People Place</b>
	(Whyte, 1980:39)	
<b>Micro-climate</b>	<ul style="list-style-type: none"> <li>• Relative warmth is important. (Whyte, 1980:44)</li> <li>• People will actively seek the sun and suntraps especially in cold winter. (Whyte, 1980:44)</li> </ul>	<ul style="list-style-type: none"> <li>• The principal factors affecting outdoor comfort are temperature, sun, humidity, and wind. (Marcus &amp; Francis, 1997:32)</li> <li>• A plaza should be located so as to receive as much sunlight as its surrounding environment will permit. (Marcus &amp; Francis, 1997:32)</li> <li>• In very hot summer, a plaza should provide some shade by trees, buildings or site structure. (Marcus &amp; Francis, 1997:32)</li> <li>• Designers should consider using “borrowed” sunlight reflected from building windows to brighten or warm a plaza space. (Marcus &amp; Francis, 1997:33)</li> <li>• Glare that comes from the highly reflective building surface on sunny days can be a serious problem. (Marcus &amp; Francis, 1997:33)</li> </ul>
<b>Planting</b>	<ul style="list-style-type: none"> <li>• Trees ought to be related closely to sitting spaces. (Whyte, 1980:46)</li> </ul>	<ul style="list-style-type: none"> <li>• Joardar and Neil (1978): People were attached to plazas that offered visual variety and complexity with trees, uncommon shrubs, and colorful annuals being especially important. (Marcus &amp; Francis, 1997:45)</li> <li>• The smaller or sunken plaza is, the more feathery-leafed, quasi-open trees should be selected. (Marcus &amp; Francis, 1997:45)</li> <li>• If one or more sides of a plaza is bounded by buildings that cannot be accessed from the plaza, their walls might be screened by trees. (Marcus &amp; Francis, 1997:45)</li> <li>• Wind conditions known as cornerflows, downwashes, and wakes are the strongest and most problematic wind effects, with the most effective mitigating strategy being to redesign</li> </ul>

	Social Life of Small Urban Space	People Place
		<p>the building envelope itself or, when possible, to orchestrate the relationship of sizes and shapes of the buildings near the affected area. (Marcus &amp; Francis, 1997:33)</p> <ul style="list-style-type: none"> <li>• Designers should prepare a solar access analysis of the site before designing. (Marcus &amp; Francis, 1997:34)</li> </ul>
<p><b>Food</b></p> <p><b>Vending</b></p>	<ul style="list-style-type: none"> <li>• Food attracts people who in turn attract more people. (Whyte, 1980:52)</li> </ul>	<ul style="list-style-type: none"> <li>• A plaza with a food kiosk or outdoor restaurant is much more likely to attract users than is one without. (Marcus &amp; Francis, 1997:51)</li> </ul>
<p><b>Programs</b></p> <p><b>Triangulation</b></p>	<ul style="list-style-type: none"> <li>• Sculpture can have strong social effects. (Whyte, 1980:96)</li> <li>• Musicians and entertainers draw people together. (Whyte, 1980:96)</li> </ul>	<ul style="list-style-type: none"> <li>• Art in a public place should provide a sense of joy, promote contact and communication, provide sensory experience and encourage the interaction. (Marcus &amp; Francis, 1997:48)</li> <li>• A noisy fountain located close to seating may successfully screen out surrounding traffic noise. (Marcus &amp; Francis, 1997:50)</li> <li>• Programs and activities can be crucial elements in a plaza's success. (Marcus &amp; Francis, 1997:52)</li> </ul>

**Table 2.1:** Guidelines summarized from *The Social Life of Small Urban Space* (Whyte, 1980) and *People Place* (Marcus & Francis, 1997)

In conclusion, the main concerns of these authors regarding social space deal with: provide a variety of opportunities for social interaction; provide for diverse users; provide a visual and physical comfort. The function of an urban place for social sustainability deals with people-gathering; but it is also a place for physical and mental restoration. Therefore, the designer should think about how to make space more attractive and physically comfortable for social diversity. This creates a more inviting place that understands their needs. They also believe that the focus should be on how those users will feel comfortable within the space as it relates to size, capacity,

microclimate, and program. Using food, street entertainment or sculpture as triangulation provides a linkage to create more social opportunities.

### **People and Place in Urban Space: Safety and Security**

The issue of safety and security is also an important issue in behavioral design. A safe urban space is the basic factor in creating a people friendly space because it helps to create comfort and peace of mind for the user. In *Design Guidelines for Creating Defensible Space* (Newman, 1976), Newman believes that the defensible space can be built by physical design.

According to Newman's definition, "defensible space is a term used to describe a residential environment whose physical characteristics – building layout and site plan – function to allow inhabitants themselves to become the key agents in ensuring their own security." (Newman, 1976:4) In this research, I will focus on the guidelines for site planning. A basic concept of creating defensible space, according to Newman, is to increase the "eyes on the street" by encouraging residents to be more aware of their neighborhood and surroundings. An example of "keeping an eye on the neighborhood" would be to use a doorman at multi-family dwellings. (Newman, 1976:69) In *Social Life of Small Urban Space*, Whyte discusses that the "plaza mayors" – building guards, newsstand operators, and/or food vendors – are the communication center of outdoor

urban space. (Whyte, 1980:64) These urban role players help to keep an eye on various “undesirables” which helps to make the place feel safer to users. (Whyte, 1980:63) In short, there are three basic principles for creating defensible space: (1) building the environmental recognition for users; (2) making the space visible to enhance the safety and encouraging “people watching;” and (3) hiring a doorman or a plaza mayor to secure the space. Using those principles makes the environment more livable and safer.

In the residential site plan, there are two ways to create the defensible space: (1) creating zones of influence and (2) incorporating the city street into the zone of influence of residents. The concept of recognition of property builds the zone of influence. (Newman, 1976:111-116) Real, symbolic barriers and placement of amenities are all ways to define the zone of influence. (Newman, 1976:108) For example, changes in the walls and/or hedges are both boundary typologies that help to let residents, and strangers, know they are moving from property to property. The placement of playing areas and parking spaces also further identify the zone of influence spaces. Additionally, the transition from private space to the public space plays an important role in the zones of influence. Symbolic barriers help to shape the hierarchy from private to semi-private to semi-public to public space. (Newman, 1976:109) The concept of creating zones of influence can be applied on the adjacent streets. Newman (1976) says if the building and street can be designed well, the adjacent street would be seen as the extension of their homes by residents. In conclusion, there are five design guidelines

from *Design Guidelines for Creating Defensible Space* (Newman, 1976) that can be used for sustainable urban design guidelines:

- The choice of building types and the subdivision of the properties within a development should be set so that as few families as possible share a common entry. (Newman, 1976:121)
- Position buildings, shrubs, and fences as to clearly define particular areas of a site for the use of specific families. (Newman, 1976:121)
- The choice of building types and their positioning as to develop close physical associations between the interior areas of buildings and the adjacent grounds. (Newman, 1976:121)
- The placement of amenities – recreation, parking, planting – within the areas defined for the use of particular inhabitants. (Newman, 1976:121)
- The positioning of buildings and their entries as to incorporate the city streets into the sphere of influence of adjacent inhabitants. (Newman, 1976:121)

### **People and the Streets**

Outside of the home, streets are the most important part of our urban environment (Appleyard, 1981:243). People living and working in urban settings experience it every day. Streets and walks are at the core of the urban experience. In *Streets for People*, (Richards & Thompson & Orski, 1974) discusses the ways of improving pedestrian movement, especially in the city center. Additionally, in *Livable Streets*, (Appleyard,

1981) addresses various strategies for making people-friendly streets using traffic management, especially in residential areas. The theories of the two books stem from case studies and experiential research based in pedestrian area and street improvement. Therefore, combining the findings of these two books creates a series of guidelines for a people-friendly urban environment.

Richards (1974) says that people might be encouraged to walk 30%-50% more if the conflict from traffic problems is minimized. Reduced, restricted or removed traffic will be good choice, and it will also reduce air pollution at street level, reduce noise problem, and reduce car accidents. (Richards, 1974:19-20) Additionally, people are more encouraged to walk further if the streetscape environment is more "people-friendly." A pedestrian-friendly street may also benefit the commercial activities, too. (Orski, 1974:43)

When planning for people and the streets, the designer or planner should address the whole circulation system including such factors as: emergency vehicles, accessibility, goods delivering, public transportation, parking, and circulation. (Richards, 1974:17) Many issues and questions need to be addressed. Moreover, they should consider the existing and future pedestrian movement at different times, such as lunch time trips and home to working trips. What's more, before a pedestrian improvement policy is decided, planners can "test" the policy as a specific time only or a short-term

experiment. Using the experimental stages, the planner can see the effects or response from pedestrian and drivers.

In *Livable Streets* (Appleyard, 1981), Appleyard mentions the problems of the street environment, such as danger, noise, and air pollution, and suggests strategies for creating livable streets, such as traffic management. What are improving methods for creating a livable street? First, general reduction of traffic is the common way to deal with the conflict between people and automobiles. In addition, traffic control devices, such as adjusting the speed limit, stop signs, traffic signals, and street bumps, are also a way to make drivers pay attention. For pedestrian safety, the crosswalk is very effective as a pedestrian safety device. In terms of maintenance and policy, street cleaning can help to make the street environment better. Greenery and play space are also extra amenities for community. (Appleyard, 1981:99)

In conclusion, when the designer or planner deals with the issues of people and the streets, the goal is providing people an enjoyable urban experience, comfortable and walkable environment. In addition, those pedestrian streets should connect well with the public transportation system. In short, high accessibility and safety are main concerns for issues of people and the street.

## **Part II: Synthesis for Building Sustainable Human Environments in Urban**

### **Places**

In Part II, the aforementioned principles and strategies for understanding people, place, and sustainability are combined to establish a theory for the sustainable urban landscape. According to the principles of sustainability, sustainability is not only about the natural environment, but also the human environment, especially within urban spaces. The following elements, therefore, are critical in defining a common set of principles regarding sustainability in urban environments:

- Social values
- Economic values
- Cultural or historical values
- Identity of place
- Diversity
- Quality of life
- Education
- Environmental values

In the sustainability guidelines evaluation table (Appendices A), the X-axis is based on sustainability principles mentioned above, and the Y-axis is based on the guidelines of social and behavioral design, safety and security, street and people, and urban ecology.

The stars in the shaded areas within the table show where there are relationships between sustainability and the social and behavioral design guidelines.

The matrix findings under behavior design guidelines show the relationships between the common set of principles and intended guidelines. In particular are the following guidelines:

- Providing seating and creating programming in urban spaces are of particular importance. The principle guidelines of behavior design in urban landscape are to provide places for people to sit and socialize.
- In concert with adequate seating areas, the designer must also create appropriate programming that will not only attract more users, but also make users want to return to the space.
- Providing food is a sustainable way to attract people and make the urban place different.
- A plaza must address the street.
- Addressing the quality of the visual aspect, especially as it relates to clear sightlines through the space and the overall visibility within the space.
- Integrating accessibility into the urban space is a crucial aspect to lead all people into the place.
- As the space setting, the concept of subspace is a sustainable way to create more social space.

- Utilizing sun and shade aspects within an urban space aids in the reduced consumption of energy.

Important “safety and security” issues that are included in the merged guidelines are:

- Building users environmental recognition in order to increase user awareness of the surrounding environment.
- Making the space visible helps to enhance safety.
- Hiring a doorman or “plaza mayor” help to make the space safer and more secure.
- Creating zones of influence by real or symbolic barriers create more defensible and therefore more comfortable space.
- Defining a particular area to a specific group of people increases the identification by physical association.

Important “street and people” issues that are included in the merged guidelines are:

- Creating pedestrian oriented streets create more social opportunities, reduce air pollution, reduce noise problems, and enhance the overall quality of life.
- Enhancing pedestrian safety makes the urban space feel more comfortable and encourages users to return to the space.

- Maintaining and cleaning the network of streets enhances the overall draw to the urban spaces.
- Creating greenery and play spaces increase the quality of life within the urban space.
- Creating an organized transportation system allows many users from many different places to get to the urban space in an efficient manner.

The “urban ecology” portion of the matrix includes the sustainable strategies featured in *Ecology of Place*. Nearly all of the strategies encourage compact development, attracting a high density of population and commerce, building mix-use, allowing for diversity activities, and creating a “twenty-four hour city.” Specifically, guidelines as they relate to the matrix include:

- Encouraging compact development reduces the energy consumption and provides more social and economic opportunities.
- Creating a “twenty-four” city increases livability and increases attraction of many different users and user types.
- Encouraging affordable housing also helps to attract a diverse population, both socially and economically.
- Organizing a balanced transportation system and walkability also encourage the connection and circulation in urban space.

In dealing with the issues regarding social sustainability in urban context, creating a people-friendly environment is the primary goal. Providing more social opportunities, diverse and exciting activities, an organized transportation system, and highly accessible and walkable areas are the major principles for creating a sustainable city. This gives a stronger sense of a sustainable and revitalized urban context as a place to live, work, and play.

### **Chapter 3: Case Studies**

Since the St. Johns River is an important water feature in downtown Jacksonville, this thesis examines two downtowns which have similar waterfront features: San Antonio, Texas and Boston, Massachusetts. These case studies provide examples for building popular and sustainable places. San Antonio is a historic city which is famous for its River Walk among other things. The mix of uses along San Antonio River Walk and the historic features help to build the River Walk's sense of place. Although the scale of San Antonio River is not as same as St. Johns River, these ways of building the sense of place serves as a powerful example for Jacksonville.

Similarly, Boston is an older city surrounded by the Charles River and Boston Harbor. The open space and public transportation connects the entire city together. Additionally, the compact development of Boston makes the urban space vital and livable. Thus, these two case studies will show appropriate strategies for revitalizing under-utilized downtowns like Jacksonville.

## Downtown San Antonio, TX

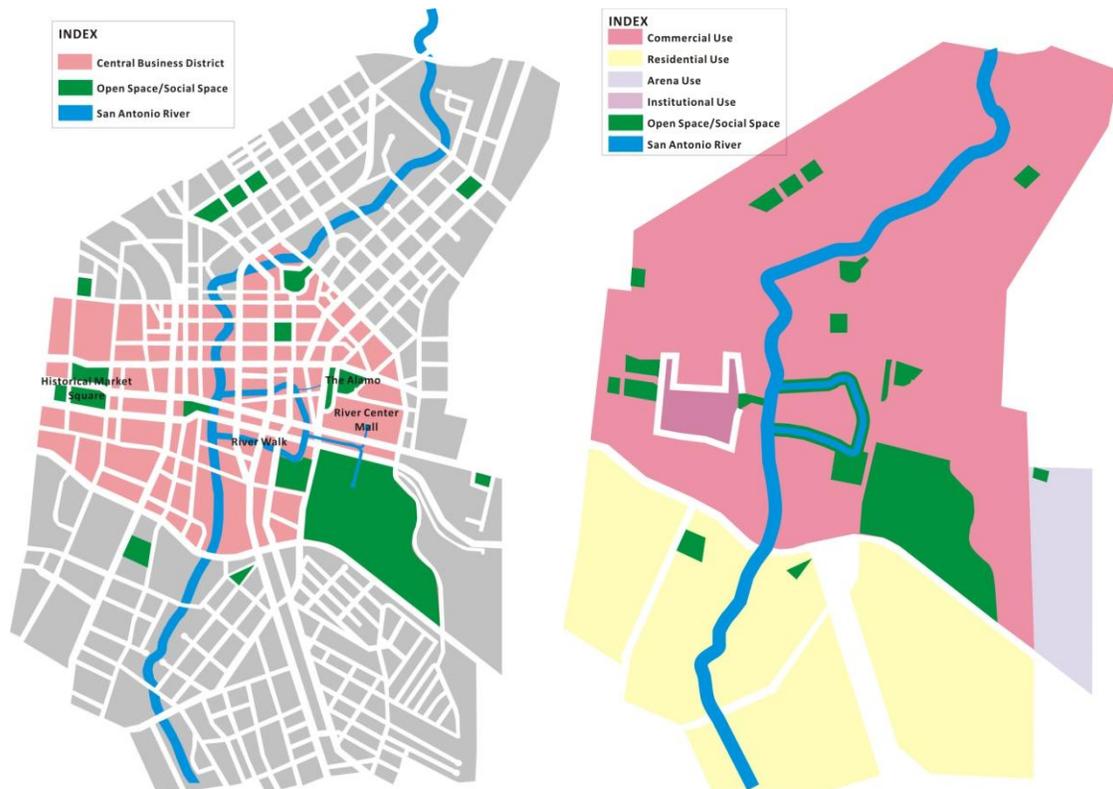


Figure 3.1: (L) Downtown San Antonio Street Map; (R) Downtown San Antonio Land Use Map.

As (Figure 3.1) shows, the San Antonio River flows into the central downtown area. The Riverwalk is located at the center of central business district. The central business district is primarily made up of commercial and institutional use. Additionally, the central business is made up of San Antonio's most popular sightseeing district which includes the historic Alamo, the Riverwalk, and the historic Market Square. The business activities and tourism makes downtown San Antonio vital every day. South of downtown San Antonio is primarily residential use. In the residential area, the two sides of major roads are commercial use, which makes the environment more livable.

The San Antonio River is an important feature here and connects the city together. What's more, the Riverwalk brings tourists from the Alamo to the river. Along the River Walk, which is at a lower level than the City streets, there are many retail businesses and restaurants. Those restaurants provide outdoor dining areas along River Walk that provides purpose and physical space to make people stay, while at the same time creates a relationship between people and water. Up at the street level, there are hotels and some traditional retail businesses, which are good examples of multi-use development. Those retail businesses at street level are easy to access by residents, helping permanent residents avoid more of the tourist-based sites on a daily basis.



**Figure 3.2:** (L) San Antonio Riverwalk; (R) San Antonio Riverwalk. **Image Source:** Author.

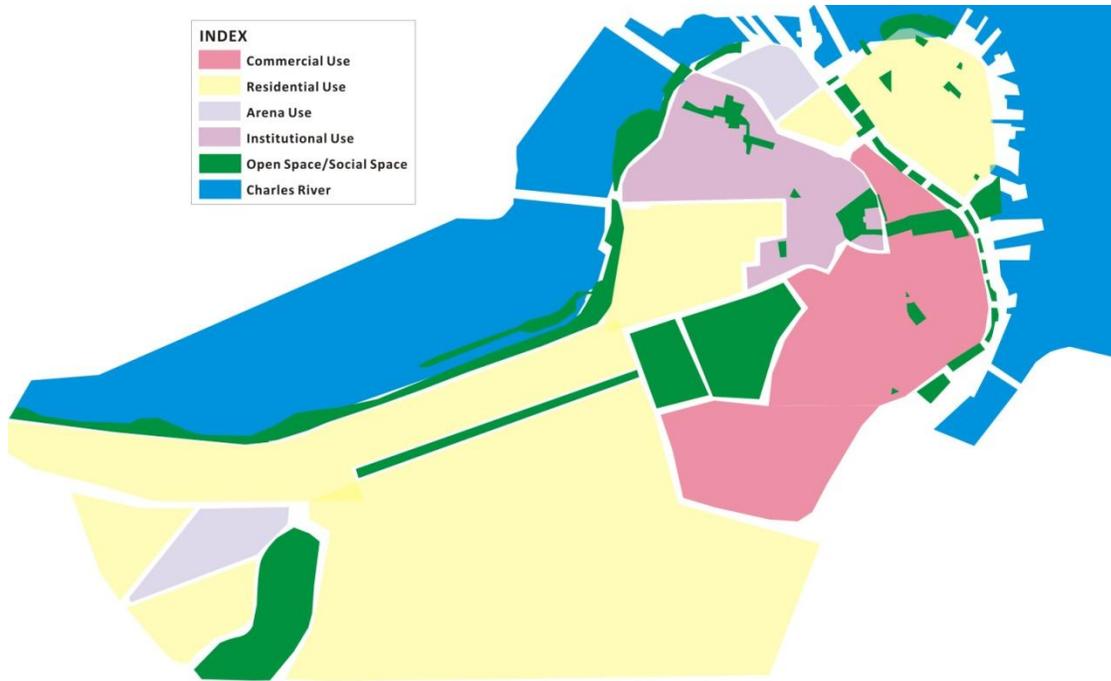
Because San Antonio is a popular tourism destination, the public transportation system has been effective for many years. Although there is no subway system, the bus system is still effective in travelling around the downtown. In addition, the River Walk is the pedestrian street. Although it is not too wide, people still can walk comfortably and enjoy the place. The River Walk builds the sense of the place successfully.

There are two major commercial areas, the historic Market Square and River Center Mall in downtown San Antonio. The historic Market Square is a festival market and famous for the celebration of Hispanic culture. The River Center Mall is the downtown shopping mall that serves many diverse commercial activities, including the IMAX Theater. Because the mall is within walking distance of most of downtown, local residents do not need to go to the suburban mall for shopping which makes the city more livable.

### Downtown Boston, MA



Figure 3.3: Downtown Boston Street Map



**Figure 3.4:** Downtown Boston Land Use Map

Shown in Figure 3.4, the Charles River and Boston Harbor separate Boston into different parts. However, the open space along the water body links the whole city together. The Commonwealth Avenue Mall, the linear green space shown in the middle of Boston land use map, connects the west side residential district with downtown commercial use. This linear greenery provides citizens a space to do exercise and relieve stress. Additionally, this green space helps to preserve and provide natural features for the people of Boston. Since it is an old city, there are cultural and historic features in the city that help to define quality and uniqueness of place.

Since Boston has a large resident population, there are numerous activities in the city from day to night. The high amount of mixed-use properties also makes the city

interesting, livable, and convenient. For example, in some buildings, the ground floor may be either a restaurant use or retail shopping use, the mid-level floor can be school or institutional use, and the upper level is usually an office use or residential use. Downtown Crossing, which is the major shopping district in downtown Boston, emerges from within the central business district. The central business district provides not only business activities but also shopping activities which is the main reason that makes downtown Boston vital even at night and on the weekend. Additionally, there are many commercial uses and mixed use in the residential areas. This allows the City of Boston to have a more compact development pattern which is a primary sustainability goal. Furthermore, there are many historic buildings that create the overall character of Boston. The reusing historic buildings helps to create a positive sense of the place for users, while also preserving the core historic values of the City and helping to solve the problem of vacant space.

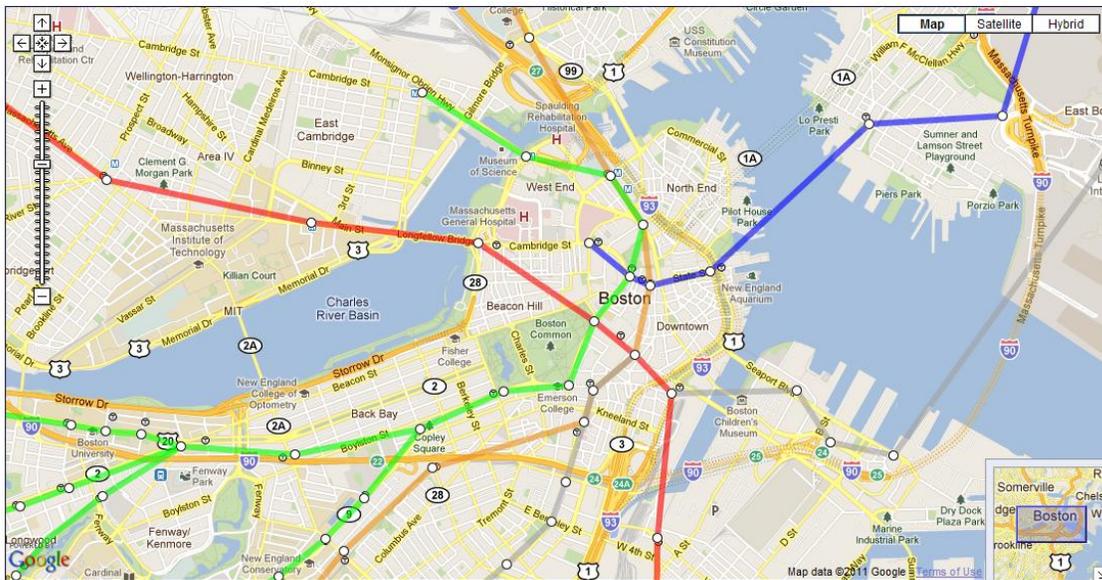


Figure 3.5: Boston Subway System Map. Image Source: <http://www.gnik.com/mbta/mbta.html>

In Boston, subway is a major part of the public transportation system. As shown in Figure 3.5, the subway system comes from the downtown Boston and goes to different parts of Boston which covers many of the urban areas. The subway system links the entire city together which is separated by the Charles River and Boston Harbor.

Boston is a pedestrian friendly city. The central shopping district, Downtown Crossing, is composed by pedestrian streets. People walk and cross the streets to enjoy the shopping without interruption from automobiles. There are also many street vendors in this area. Linking the historic attractions is the “Freedom Trail,” a brick path that goes through the whole downtown. Along the Freedom Trail, there are many small urban spaces, such as seating space or small corner plaza. The commercial activities on the ground floor, historical feature/buildings, street vendors/performers, and small urban space make the walking experience interesting. Finally, the subway runs under the entire city creating walking distances no longer than 10 minutes between each attraction and subway station. It is definitely walkable in downtown Boston.



**Figure 3.6:** (L) Part of Freedom Trail; (M+R) Downtown Crossing.  
**Image Source:**

(L) <http://www.facebook.com/photo.php?fbid=282874419664&set=a.282830429664.175823.630519664&type=1&theater>

(M) [http://www.everestuncensored.org/archives/photo\\_blog/000575.html](http://www.everestuncensored.org/archives/photo_blog/000575.html)

(R) <http://picasaweb.google.com/lh/photo/viaHAisyunpiITxAgQQwDw>

Quincy Market was historically an important grocery market for the residents of Boston and the location before is near the waterfront. However, over time, the market lost importance and value as the grocery market use moved outside of the City center. The remaining site was unused and became neglected. In the late 1970's, Quincy Market was redeveloped into a festival market. Today, there are many restaurants, food vendors, bars, gift shops, special stores, and offices as well as many street performers actively engaging the space. This public space provides diverse shopping activities as well as indoor, semi-outdoor, and outdoor shopping spaces. It is a popular lunch time place for downtown workers because of the location. Therefore, the Quincy Market is a successful redevelopment project that preserves the historic buildings and place as well as provides appropriate modern uses at the same time. It makes Quincy Market a popular place for citizens and tourists.



**Figure 3.7:** Quincy Market. **Image Source:** Author.

## Summary

The size of downtown San Antonio and downtown Boston is around 1505 acres and 930 acres. The entire downtown Jacksonville is around 1515 acres which is similar to the size of San Antonio, but North Bank Core which is the main area that I focus on in this thesis is only 200 acres which is similar to the size of central business district in Boston. The central business district in Boston includes Downtown Crossing, the major shopping area in downtown Boston, and other business activities. Boston and Jacksonville have similar size of central business district, but the livability and vitality of Boston are much better than Jacksonville.

San Antonio and Boston are definitely successful people places that provide mix-use and diverse activities to make the city compact, livable, and vibrant. Providing commercial activities, substantial office spaces, and affordable housing in the downtown core are the first steps to make it sustainable and successful. Additionally, San Antonio and Boston both reuse historical buildings with commercial mixed-use or tourism-based use. This helps to protect the historic value, creates new opportunities, and enhances the sense of place. The linkage of San Antonio and Boston are very strong in terms of open space linkage, balanced public transportation system, and walkability. In conclusion a people-friendly environment, in terms of people-friendly social spaces and streets, is critical in making San Antonio and Boston both successful and sustainable cities. The

following table (Table 3.1) summarizes the various approaches that make San Antonio and Boston successful urban places.

		<b>San Antonio, TX</b>	<b>Boston, MA</b>
<b>People Place</b>	<b>Land Use and Activities</b>	<ul style="list-style-type: none"> <li>• Mix retail, hotel, office, and entertainment use.</li> <li>• In residential district, commercial uses are still provided at two sides of major roads.</li> <li>• The mixed use zoning creates more job opportunities while also benefiting the residents of local community and the local economy through sales and/or increased property tax.</li> </ul>	<ul style="list-style-type: none"> <li>• Mix-Use in different buildings level, such as ground floor, mid-level floors, and upper floors.</li> <li>• Provide lots of residential use in downtown area.</li> <li>• Provides mixed-use in the residential districts.</li> <li>• Central business district provide not only business activities but also shopping activities.</li> <li>• Diverse activities in the city, including night life.</li> <li>• Street performers make the place active.</li> <li>• Reuse and renovate historic buildings or vacant spaces.</li> </ul>
	<b>Marketplace</b>	<ul style="list-style-type: none"> <li>• Historic market square is the largest Hispanic festival market.</li> <li>• Provides indoor and outdoor space.</li> <li>• Provides diverse stores, such as fashion stores, gift shops, imported good, hand-crafted furniture, restaurants, bars, and art galleries.</li> </ul>	<ul style="list-style-type: none"> <li>• Quincy Market is a successful revitalization project.</li> <li>• Provides indoor, semi-outdoor, and outdoor spaces.</li> <li>• Provides diverse uses, such as food vendors, restaurants, clubs, bars, gift shops, special shops, and office.</li> <li>• Popular lunch venues and after work for downtown workers.</li> </ul>

		San Antonio, TX	Boston, MA
Linkage	Transportation and Walkability	<ul style="list-style-type: none"> <li>• Pedestrian-orientated.</li> <li>• Public transportation is convenient.</li> <li>• Currently working on bike lane system and providing bike share services.</li> </ul>	<ul style="list-style-type: none"> <li>• Public transit is convenient to commute.</li> <li>• The walking distance is less than 10 minutes from each destination to the subway station.</li> <li>• Downtown Crossing contains a few pedestrian street areas for shopping.</li> <li>• The “Freedom Trail” provides tourists a walking area experience the culture and history of the city.</li> <li>• Small urban spaces play an important role in walkability such as seating or social space.</li> <li>• The commercial activities, street vendors/performers, and historic features/buildings rich the walking experience.</li> </ul>
	Waterfront and Open Space	<ul style="list-style-type: none"> <li>• Bring people to the river walk.</li> <li>• Riverwalk is the major and popular open space in the heart of downtown for all workers, residents, and tourists.</li> <li>• Good example of multi-use that put tourist-oriented restaurant, shop and services at the river level and the traditional retail, shopping and office on the street level.</li> </ul>	<ul style="list-style-type: none"> <li>• The river provides a linear greenway system for diverse user groups</li> <li>• The goal of the river area is providing citizens an isolation place from city to release the stress and enjoy the natural feature.</li> <li>• Linear green spaces link the entire city together, especially for the residential district and central business district.</li> </ul>

		<b>San Antonio, TX</b>	<b>Boston, MA</b>
<b>Sense of Place</b>	<b>Sense of Place</b>	<ul style="list-style-type: none"> <li>• Urban development integrated with cultural and historic elements.</li> <li>• Activities and tourism along the Riverwalk build the sense of place.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain the historic and cultural values and make the new development/building to compatible with the historic features and context.</li> </ul>

**Table 3.1:** Summary of successful aspects of downtown San Antonio and Boston.

As Table 3.1 shows, a successful urban space should integrate the local features as well as cultural resources and historic places. San Antonio and Boston built the sense of place by emphasizing both cultural and historic features along or adjacent to the waterfront. San Antonio develops the commercial activities along the Riverwalk and Boston develops the series of linear green connections both along the river and within the core of the city pulling the value of the waterfront into the city core. The waterfront is not only a good opportunity to build the sense of place but also provide different social space for the city.

According to the examples of San Antonio and Boston, a successful market place should provide diverse activities and have its own character built from the inherent qualities of the place such as Hispanic-style Market Square, which pays tribute to San Antonio's large Hispanic population. The downtown market place should be distinguished from the typical suburban malls and satisfy demands of downtown residents at the same time. Moreover, programming and street performers can make the place better.

Another important feature for creating a successful downtown is to provide a pedestrian-oriented environment. The pedestrian should be the primary user group in downtown area. In addition, the pedestrian-oriented environment should be connected with the public transportation system whether a subway, bus, or trolley system to complete the linkages within the city system.

Finally, a successful downtown utilizes a mix of uses, both horizontally and vertically, to provide diverse activities day and night, which in turn, provides attracts many different user groups. For instance, the commercial use in ground floor and residential use in higher level makes the space vital all the time. Even a restaurant space can provide meals in the daytime and becomes a bar in the night to enhance the diversity and utilize a space better. Mixed-use and multi-use are efficient ways to make the city compact which is a principle of building a sustainable urban landscape. Boston is a good example that provides lots of residential use and commercial use at the same time.

The waterfront and the historic features are good resources to build the sense of place for Jacksonville. As in the cases of San Antonio and Boston, there are some similar features within Jacksonville. As an older city in the State of Florida, Jacksonville has an important historic value. Another good opportunity for Jacksonville is the Riverwalk which provides the open space for city. Similar to Boston, Jacksonville utilizes the waterfront to provide outdoor places for people to walk around, especially for downtown workers. Like Downtown Crossing and the San Antonio Mall, Jacksonville

Landing, the only shopping mall in downtown, provides some outdoor dining space along the Riverwalk as well as limited shopping opportunities. However, different than Boston or San Antonio, Jacksonville lacks adequate mix of uses and a pedestrian-friendly environment. Creating this walkable environment, building a sense of place unique to Jacksonville, and leveraging the existing vacant space in downtown will be critical to the successful, sustainable urban landscape.

## **Chapter 4: Synthesis of Guidelines for Urban Sustainability**

The main principle of sustainability in an urban landscape is making an efficient, viable and vital environment for people. (Beatley & Manning, 1997) Creating livable environments helps to counteract the current function of many downtowns in America as a business-only workplace and increases the potential for creating people places. The two major goals in achieving these principles are to make a livable environment in a city and creating special places to attract more people to denser, more urban areas. This thesis researches guidelines in sustainability from three different angles: background information of urban design and place-making, literature review, and case studies. The literature review includes sustainability design guidelines for creating a successful people places, safety and security, and theories of creating a balanced relationship between people and street. In the case studies of San Antonio and Boston, it is evident that integrating and a mix of spaces are successful strategies for creating a popular downtown space.

For a successful social place, the city needs a critical mass of people. The primary goal in achieving urban sustainability is to bring people back into city. The first step in creating this urban sustainability is increasing residential space.

A sustainable urban landscape can be achieved by three components: 1) the people places; 2) linkages; and 3) sense of place. People places are where people gather, regardless of whether it is an indoor or outdoor space. For instance, the market place is a component of the social space in the city. Creating or providing a friendly, social space, especially through reusing existing vacant space, is critical to a sustainable urban landscape. A network of strong linkages within the circulation system is also part of a sustainable urban landscape. The high interconnectivity and more connection choices that are provided in a city provide more walkable space, which increases the usage of social and commercial spaces. Finally, building and maintaining a sense of identity or place is overall goal in creating a sustainable urban landscape.

This research focuses on guidelines for creating a people friendly urban environment in a sustainable manner. As the existing situation of downtown Jacksonville is very complicated, this research primarily focuses on opportunities to increase the livable and vital environment of downtown. Other strategies for creating a successful downtown, such as creating effective stormwater, runoff, conservation area, and the use of sustainable materials, are also important. However, for clarity in this research project, it is not included in this research focus. The following are guidelines for creating a people-friendly, sustainable, urban environment.

## Strategies/Guidelines

**Primary goal for urban sustainability:** A critical mass of people builds a sustainable urban space for work, live, and play.

- Significantly increase affordable housing, which is especially important in a business-only workplace city.
- Encouraging affordable housing helps to attract a diverse population and different income levels.
- Provide substantial office space for work.
- Creating sense of place by managing the characters of a place can attract more tourists.

### A. People Place

**Goal:** Creating or providing a friendly people space, especially through reusing existing vacant space, is critical to a sustainable urban landscape.

**Objective 1:** Create a livable and vibrant downtown by encouraging mix-use development and allowing for diverse activities.

- The downtown area should provide different uses and stores to make the place livable and attract a variety of uses especially for daily activities, such

as restaurants, groceries, entertainments, cultural and arts, bookstores, etc.

- Mixed-use strategies should be implemented both vertically and horizontally. Commercial activities on ground floor and residential use in upper floor are economic ways to mix uses for making a compact and vital downtown. Additionally, affordable housing is the key issue to make it happen.
- Multi-use zoning is a good strategy for creating an efficient and compact downtown. A space can have different uses over the course of the day. For instance, a restaurant can be shared at different times, such as breakfast, lunch, dinner, and bar in the night.
- Providing commercial activities into central business area can attract people -- otherwise the central business area would become silent city at night and on the weekend.
- A compact and efficient development function and structure is critical for the creation of a sustainable urban landscape.
- Events and programs are good strategies for gathering people.
- The market place should provide different types of shops to attract diverse group customers including both indoor and outdoor shopping spaces.
- Food can be a good additional and effective value for a place. For instance, a food kiosk (hot dog stand) brings more people to an urban open space.

**Objective 2:** Encourage adaptive reuse.

- Vacant spaces and underutilized buildings should be reused for mix use, multi-use, or small urban spaces.
- Historic buildings are also good opportunities to reuse as restaurants, studios, shops, offices, and other uses that create pedestrian activities, etc. This preserves the historic values of place, provides an appropriate use for city, and creates a pedestrian-oriented environment.
- Infill with new architecture that addresses the historic qualities of the city.
- Vacant lots should be converted to open spaces to better utilize all the outdoor spaces and provide green connections.

**Objective 3:** Establish design guidelines for social spaces.

- The small urban spaces provided by the private buildings are important for people to use the downtown space, such as the seating spaces around building entrances.
- Visibility and accessibility are key factors for creating a successful social space and enhancing the overall safety.
- The primary users of social space are groups, usually small groups of two or three.
- Provide diverse seating place, such as movable chairs, wide seat bench (no back), seating wall, mounds of grass, step with a view, ledge, etc.

- If the front row position in plaza can be seated, it can attract more people. “People watching” is very popular in attracting more people into any given public space.
- Attractive and plentiful landscape helps to make outdoor space feel more welcoming and safe for users.
- Street performance and outdoor art exhibition have strong social effects and draw people together.
- Creating subspace and sense of enclosure makes higher and better usage of space.
- Human comfort is an important part in creating a successful urban space especially in the hot climate of Florida. For instance, utilizing sun and shade microclimates can benefit the level of human comfort as well as create opportunities for more efficient energy consumption.
- The building use and environmental recognition is the first step for defensible space, and then using real or symbolic barriers create zones of influences.
- Hiring a “plaza mayor” or setting a food kiosk in the plaza can strengthen the safety.

## **B. Linkage**

**Goal:** Provide a well-managed linkage system in terms of open space, circulation, and walkability.

**Objective 1:** Create open space linkages.

- Connecting the open spaces within the city will create a successful social network. Using parks, greenery, etc. can enforce the connection, especially between residential and commercial areas.
- Utilizing the waterfront is a good opportunity for connecting a series of open spaces.
- Underutilized spaces should be converted into open space to help with the overall connection of green spaces such as utility corridor and unused industrial area.

**Objective 2:** Focus on circulation, linkages, and walkability.

- The city should provide an integrated transportation circulation system, such as subway, trolley, bus, ferry, etc.
- Increased walkability, especially the commercial area, is important. A balance between pedestrian and traffic must be struck.
- Pedestrian streets not only let pedestrians feel comfortable but also benefit the commercial activities as well as reduce local air and noise pollutions.
- Increased nodes or pedestrian intersections can also enhance the walkability, such as small urban plaza or seating space.
- Nice streetscape, which includes elements like well-lit spaces, enough shade in summer, and beautiful landscape, makes the overall walkability

better. Additionally, street vendors/performers, commercial activities on ground floor, and historical features/buildings can make the walking experience interesting.

- Street cleaning and enforcing policies improve the street environment.

### **C. Sense of Place**

**Goal:** Integrate different characters to build the identity for the place.

- Managing historical and cultural characters to enforce the sense of place such as historical building, events, evolution of places. Those features can be mixed with tourism, art, or commercial uses.
- Creating a linear green space helps to build a sense of place especially when the local natural phenomenon, such as the river or lake, is utilized. People love a bit of nature, especially in heavily developed urban places.
- Human scale and comfort are critical concerns for establishing identity of place.
- Enhance the existing sense of place.
- Restore or restructure preexisting sense of place.
- Creating new sense of place by tying to history through materials or architecture style establishes strong theme to unify the whole identity.

## Chapter 5: Design Application: Site Analysis

### Context

The City of Jacksonville is located in north Florida and it is situated on the banks of St. Johns River. As the city motto suggests, Jacksonville is “where Florida begins.” However, downtown Jacksonville faces the same issue as many other cities in the United States. Because much of the development is not in the downtown, the downtown now lacks many of the traditional features of other more successful downtowns. In short, the downtown Jacksonville is only a place for business work, not for living.

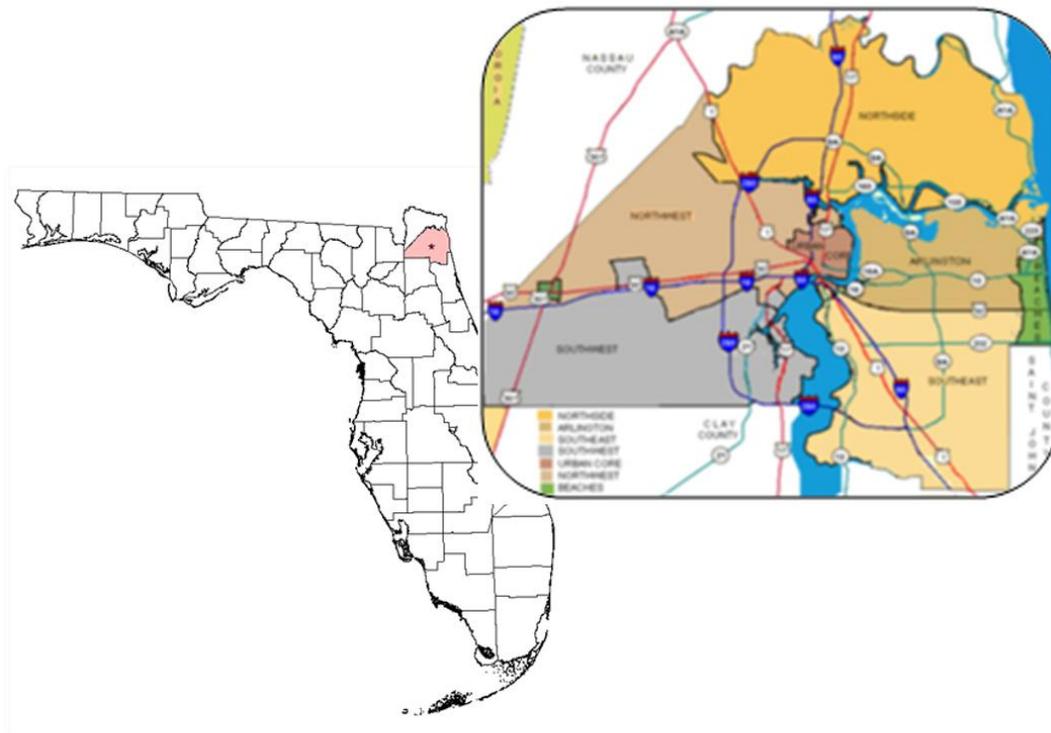


Figure 5.1: Context. Image Source: <http://en.wikipedia.org/wiki/File:Jaxhoods2.PNG>

The boundary of the study area is identified as North Bank Core according to the Downtown Vision, Inc. The site is bounded by Broad Street to the west, Church Street to the north, North Market Street to the east, and St. Johns River to the south. This area is a major business district including many large employers such as Bank of America, AT&T, and Sun Trust Bank. Also within the North Bank Core are Jacksonville City Hall, the Federal and County Courthouse, Main Library, and the Jacksonville Museum of Contemporary Art.

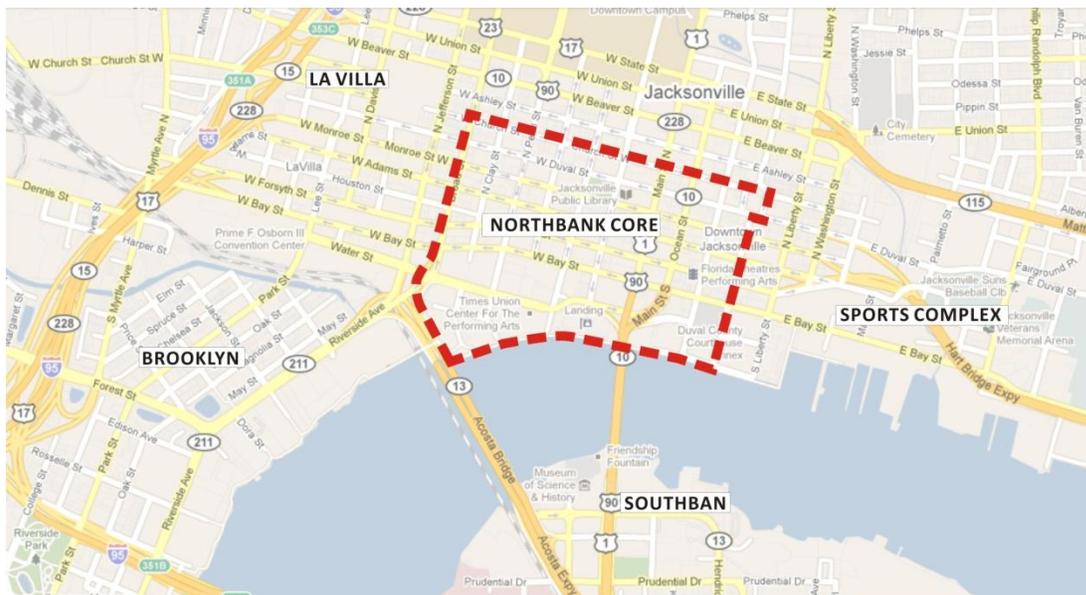


Figure 5.2: North Bank Core Boundary. Image Source: Google Map.

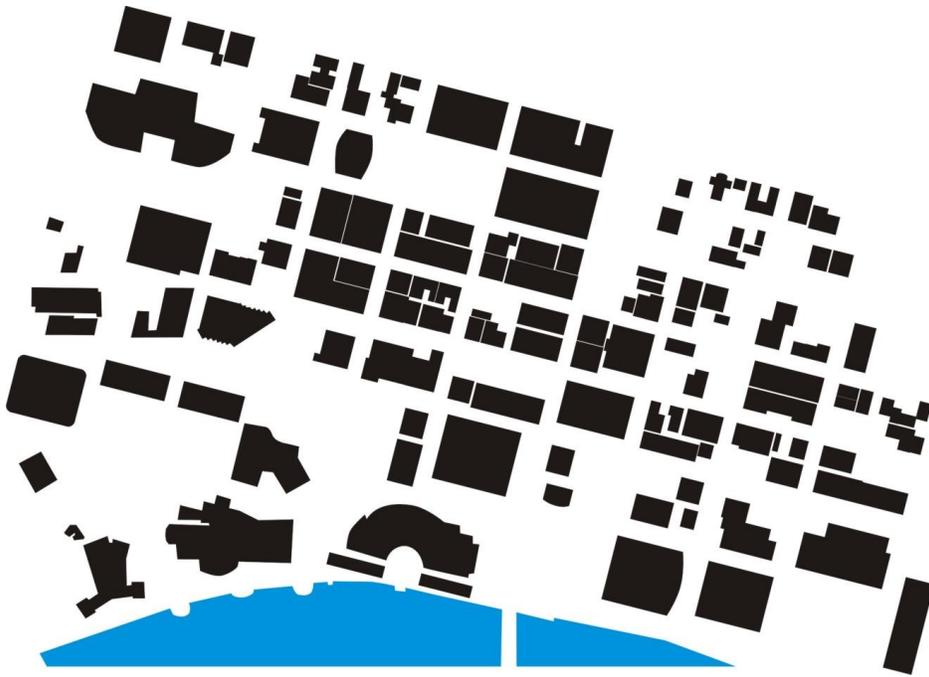


Figure 5.3: Downtown Jacksonville figure-ground.

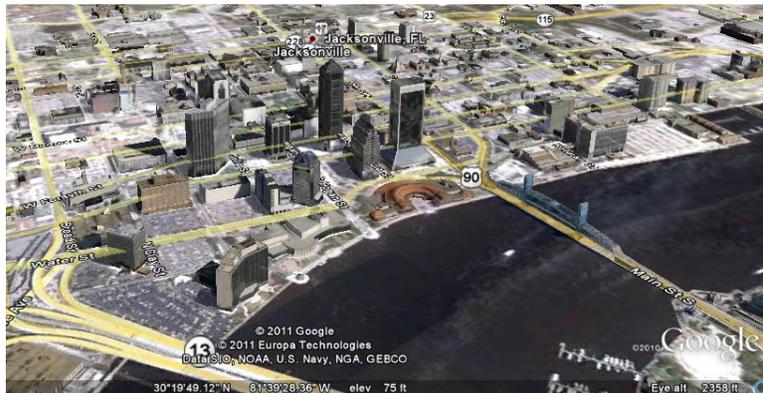
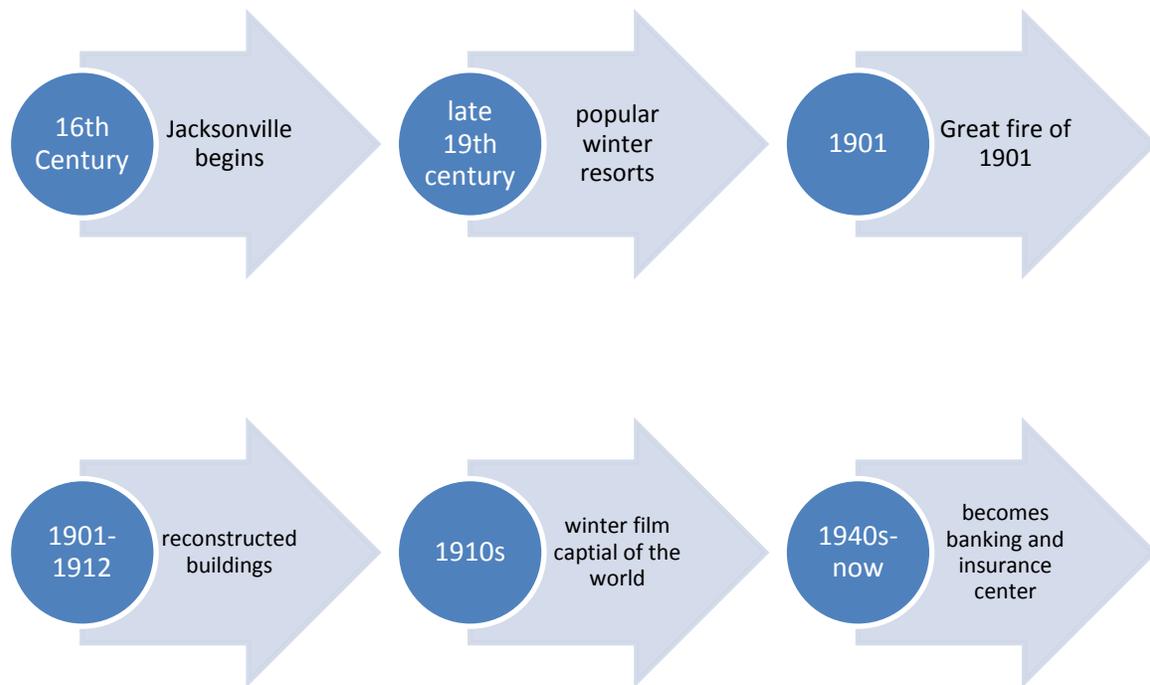


Figure 5.4: Downtown Jacksonville 3D Map. Image Source: Google Earth

As shown in Figure 5.3 and 5.4, the middle of North Bank Core is the more dense area in terms of building footprints. Many of these footprints comprise tall buildings or which in turn create a “vertical density.” However the remaining area within the North Bank Core is not really high density in terms of buildings and block footprints. There are many open blocks with no buildings, rather they contain parking lots. Indeed, Jacksonville does not

need so many open parking lots. Those parking spaces have negative visual impact on urban landscape and it makes the downtown empty during the weekend. Because of these open lots, Jacksonville has the potential to develop more of these spaces. Additionally, Jacksonville has a typical grid system which is good for block organization.

### Historical and Cultural Resources



**Table 5.1:** Jacksonville History

The City of Jacksonville can trace its history to the 16<sup>th</sup> century. As the town grew, it was a popular winter resort for the famous and the rich. In 1901, there was a great fire that consumed much of downtown. The fire destroyed almost all the business district as well as much of the residential neighborhoods, making many people homeless. Subsequently

over the next ten years, numerous new buildings were constructed which began a period of major development. In the 1910's, because of the warmer climate and greater rail access, many silent film studios relocated to Jacksonville. However, Hollywood, California eventually attracted many of those studios and ended Jacksonville's reputation as the "Winter Film Capital." In the 1940s, Jacksonville became a banking and insurance center. After World War II, Jacksonville had grown to be like other major cities in the United States. However, the urban sprawl that followed pulled growth out of the city. Because of this, the city began to lose its importance and function as center.

Figure 5.5 shows the location of historic buildings and structures, such as the Florida Theater. The Florida Theater is the high-style movie theater and was built in the 1920s. Despite its age, the Theater still holds many cultural and entertainment events, remaining a popular destination in downtown Jacksonville.

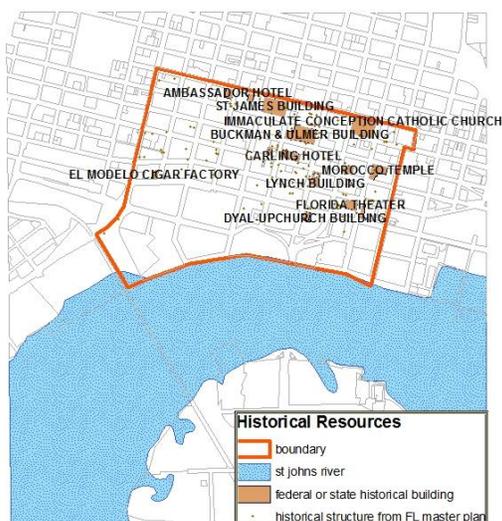


Figure 5.5: Historical Resources

Each month, the city hosts concerts, or art walk, or some other popular cultural event in the urban core. These are good cultural activities that combine art galleries, museums, bars, and restaurants. People can walk from place to place and experience the downtown core. Additionally, a farmers market is held each week at Jacksonville Landing – the only mall in Jacksonville. However, most of the activities such as events at the Times-Union Center for Performing Arts are indoor activities. The city should have more outdoor events to let the people experience the urban space.

### Circulation

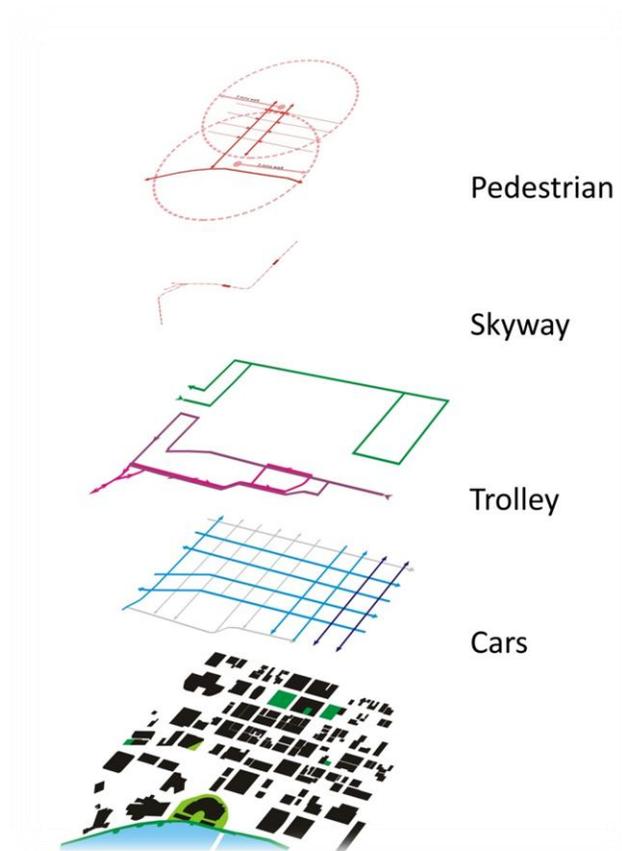


Figure 5.6: Circulation Mapping.

As shown in Figure 5.6, the circulation in North Bank Core is composed of automobile, trolley, skyway, and pedestrian movement. Most people arrive in the downtown automobile. The public transportation system is not very effective in North Bank Core. The skyway is not popular and it is closed on the weekends. The trolley routes only run in a portion of North Bank Core area. However, the overall district is fairly walkable. On average, a person can walk from Jacksonville Landing to Hemming Plaza within five minutes. A ten minute walk radius covers nearly the entire North Bank Core. Therefore, the walking environment is an important issue in regarding circulation. However, most of streets are directionally one-way which causes faster automobile speeds and therefore reduces the overall walkable experience for pedestrians. Additionally, the lack of street trees makes the walking environment especially bad in Florida’s hot climate. Many of the street trees in Jacksonville are palm trees, which offer little shade at their current spacing. The overall walkability of the urban environment needs to be improved in order to make the pedestrian circulation more effective.



**Figure 5.7:** Downtown Jacksonville Streetscape. **Image Source:** Author.

## Land Use and Activities

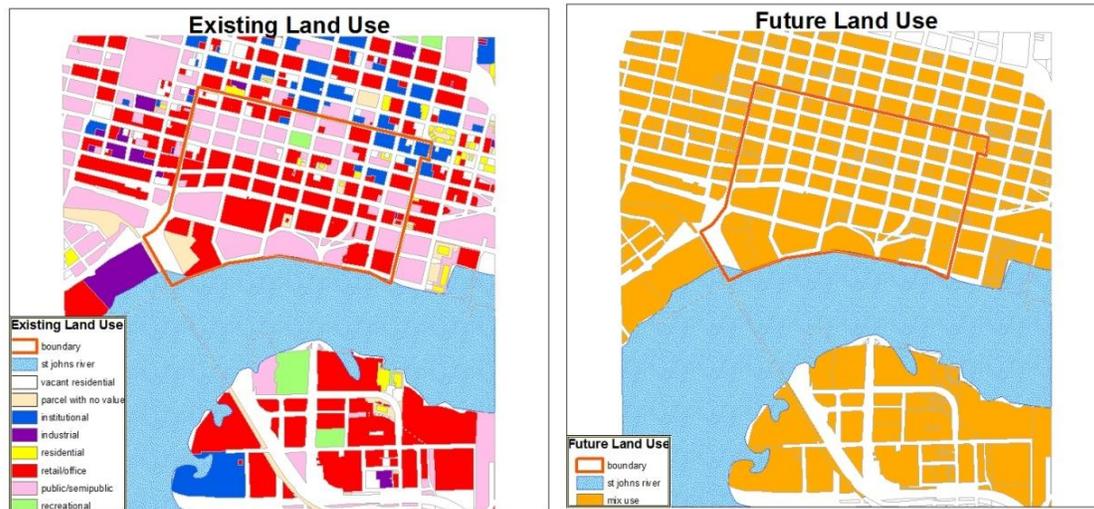


Figure 5.8: (L) Existing Land Use; (R) Future Land Use

In the North Bank Core, the primary existing land uses are retail, office, and institutional uses. There are only few places for residential use in North Bank Core. In the South Bank and areas around the edge of North Bank Core, there are few more residential uses, but still not many. However, the future land use is all mixed use, which will allow more opportunities to provide residential use. Providing that opportunity for future residential use is fundamental to making downtown Jacksonville more livable.

As the report from Downtown Vision Inc. concludes, there are still available spaces for office use in the downtown core. There are some advantages to locating more office use in the downtown core, such as great location, diverse business, cheap parking, safe neighborhood, etc. Additionally, Downtown Vision and JEDC (Jacksonville Economic Development Commission) provide a great support structure for new businesses to get

settled within in downtown Jacksonville.

([http://downtownjacksonville.org/DoingBusinessDowntownJacksonville/Why\\_Downtown.aspx](http://downtownjacksonville.org/DoingBusinessDowntownJacksonville/Why_Downtown.aspx))

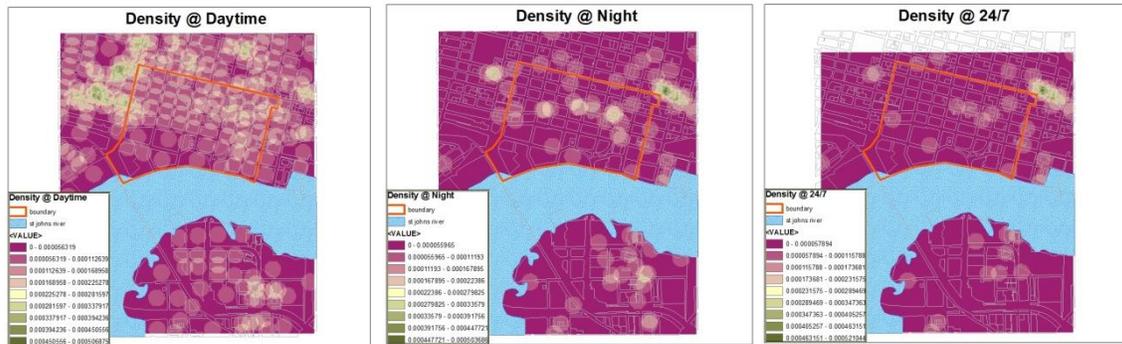


Figure 5.9: Activity Density (L) @ Daytime; (M) @ Night; (R) @ 24/7

As the activities density showed above, the highly use time is the daytime in weekdays. It also shows that people come here mainly for work because it lacks diverse activities especially the daily activities. Based on field research, there is only one small grocery store in the district. Additionally, there are only few bars, and many of the retail zoned properties are vacant, especially in the Jacksonville Landing, the primary mall in downtown. The stores that are still open offer boutique retail, a shoe store, a jewelry shop, a sports store, toy stores, and few art galleries. But the primary function of the Landing is dining. Restaurants in the North Bank Core are located around Hemming Plaza, Florida Theater and the Jacksonville Landing. Based on field research, there could still be more restaurants like some special style restaurants. In conclusion, because the existing activities of North Bank Core are only working and dining, it becomes silent city at weekend void of the daily activity during the work week. Lack of residential use in

downtown is the main reason of this void of daily activity. Providing affordable housing and more daily activity are the first two steps to solve this problem.

### **User Analysis and Social Space**

Qualitative research was conducted in the form of field observation to better understand downtown Jacksonville, users, and usage of open space. This research included general observations, roughly counts of users, and brief conversations with the downtown users. The research was undertaken in January and February. The observation time included both weekdays and the weekend in order to understand the usage of open space over the course of the week. The research was conducted over five different periods during the day including: morning (around 10am), lunchtime (11am-1pm), afternoon (around 3pm), evening (around 6pm), and night (after 8pm).

Brief conversations with downtown users were conducted in order to understand their thoughts about open space and livable environment in downtown Jacksonville. The purpose of the conversation was to answer the following three questions:

- Are the existing open spaces enough for people to use?
- Where do you live?
- How do you come to work?

Based on field observation, the majority of the open space users in downtown Jacksonville are business and professional employees. Based on various conversations with these users, most do not live in downtown Jacksonville; rather they live in the outlying suburban areas. They may commute up to thirty or forty minutes from their suburban homes. When asked about the reasons why they did not chose to reside in downtown, the answers often included high cost of living, unlivable physical environment, and no schools for children. Based on these conclusions, the lack of residential use and low daily activity are major concerns in downtown Jacksonville. Many of the users, including the downtown workers, think the existing open space in Jacksonville are adequate in terms of physical space during the workday; however, the high population of homeless in the public spaces make that open space very undesirable. Because of this, finding solutions to help solve the homeless issue will encourage more usage of the public spaces in downtown Jacksonville.

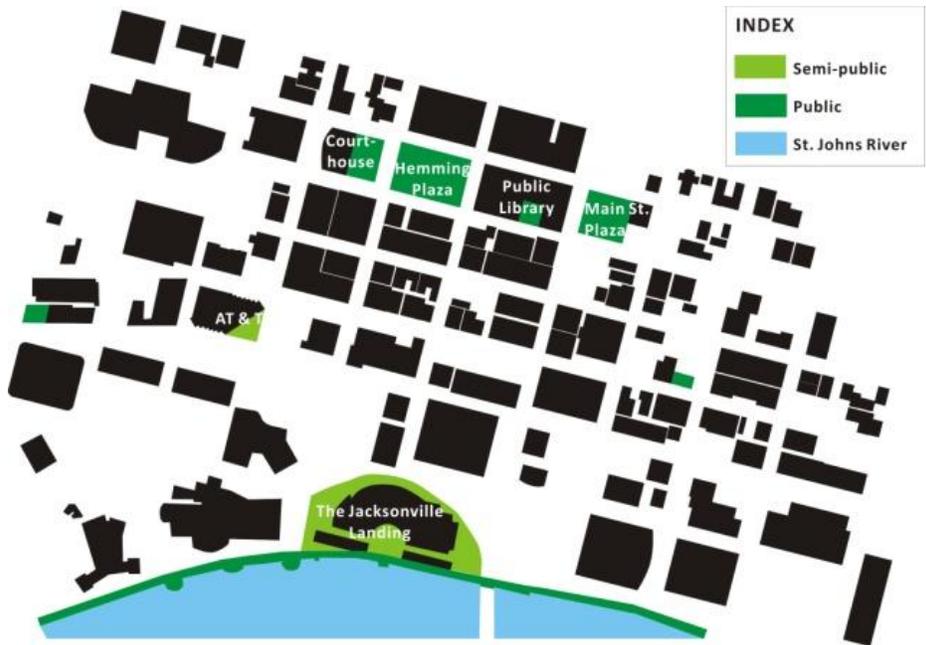


Figure 5.10: Open Space



Figure 5.11: Usage Situation of Open Space.

Most of the users of downtown Jacksonville are the employees of the numerous businesses. Based on field research, the most popular open spaces are Hemming Plaza and the Riverwalk. However, as shown in Figure 5.11, most of outdoor spaces in downtown Jacksonville are facing some usage problems, such as misuse and underutilization. Figure 5.12 shows that Hemming Plaza and Main Street Park are occupied by the undesirable homeless. There are only a few users beyond the homeless that would use that space. In this situation, people may avoid using this most important open space in downtown Jacksonville. However, there is no one, including the homeless that use the Courthouse Plaza adjacent to Hemming Plaza. This lack of use may be caused by the disconnection between the plaza and the street, or the character of Courthouse. The trees in Courthouse plaza do not provide enough shade. Users avoid staying in the plaza too long and just walk directly into the building. The Public Library Plaza which is located on the second floor of Public Library is a newly constructed plaza, but it is also underutilized. Because of the location, there are only a few people that come to enjoy the space during lunch time.



**Figure 5.12:** (L) Hemming Plaza; (M) Courthouse Plaza; (R) Public Library Plaza. **Image Source:** Author.

The Riverwalk, Jacksonville's most popular open space, is well used, but there are some aspects that can be improved. For instance, there is a high amount of undefined hardscape which encourages users to walk through the space as opposed to stopping and helping to create a sense of permanence. This lack of permanence contributes to the weak character of the Riverwalk and ultimately disconnects the St. Johns River from downtown Jacksonville.

Since the primary population of the downtown during the day is the business and professional workers, the lunch hour is the important peak time in downtown Jacksonville in terms of public open space. Based on field counts, most of users in the Riverwalk during lunch time are workers. The Riverwalk is an important outdoor space for downtown workers. There were both active and passive users including walking, jogging, and dining out. During the lunch time period, approximately half of the users are walking towards various destinations, and the other half of users are running or jogging. Almost half of those joggers are downtown workers exercising within the Riverwalk during lunch time. However, there are only a few users that would sit and stay within the Riverwalk. Although there are a few pavilions and small open spaces provided, the users are not attracted to the spaces because of poor design and therefore those spaces lack any real function for attracting people to stay.

The other major social space in the North Bank Core is the AT&T Plaza. Users utilize the space in both groups or by themselves. Users were observed chatting, smoking, or talking on the phone. The peak hour for usage of the plaza is the lunch hour; however, users were observed staying in the plaza after lunch and returning later in the afternoon during breaks. The AT&T Plaza is the only semi-public space and in the best usage condition in the North Bank Core.



**Figure 5.13:** (L) AT&T Plaza; (R) Riverwalk. **Image Source:** Author.

### **Informal Interview**

In addition of the user group field observation and brief conversations with users, an informal interview with Christopher D. Flagg was also conducted. Mr. Flagg is the president of FLAGG Design Studio LLC, and vice-chair of Downtown Vision, Inc. His landscape architectural studio portfolio includes many urban design projects and community advocacy planning in and around downtown Jacksonville.

Mr. Flagg noted that street life is the major issue in downtown Jacksonville. The street environment and overall system should be improved. Because of the inconvenience and lack of public transportation, people rely primarily on the private cars. Mr. Flagg noted that the one-way system tends to make pedestrians feel uncomfortable because the drivers travel at high speeds. Additionally, the one-way system is complicated and ironically, not convenient for drivers. Although people rely primarily on private cars, Mr. Flagg believes the amount of open space dedicated to the existing surface parking lots in downtown Jacksonville are still too much.

Skyway and trolley system are the major public transportation system in downtown Jacksonville, but the service areas covered do not meet the demands of the users. Mr. Flagg noted that if the public transportation system could reach and connect to major residential areas, the usage of public transportation will increase. Additionally, the above-ground skyway makes the urban landscape unattractive.

In conclusion, the whole circulation system needs to be modified to increase the usage. The streetscape is also an important concern especially for pedestrian experience. Mr. Flagg believes that the whole downtown circulation should be convenient for users. Users can go wherever they want to go easily by the circulation system and walkability is definitely as important as others. Finally, he also noted that the connection between the

North and South Bank is an interesting issue and good opportunity for downtown Jacksonville.

Mr. Flagg said the residential usage within the existing downtown district housing is low. Residential use is primarily outside of the urban areas because of cheaper land outside of the downtown, combined with the high cost for living in the downtown. In order to attract people to come here, downtown Jacksonville needs to provide not only for daily life use, but also more and diverse activities and events.

The existing condition of the Jacksonville Landing needs to be improved as well, Mr. Flagg noted. While the location of the Landing is great, it does not function well. Jacksonville Landing is a good opportunity to become a popular landmark and an important social place. Besides those mentioned above, the homeless issue is also an important issue concerning Mr. Flagg. He believes solving the problem of homeless occupying the urban plazas will help to make the urban spaces downtown more livable and popular.

Finally, Mr. Flagg lauded the opportunities afforded by the St. Johns River. The St. Johns River is a great feature in downtown Jacksonville, and should be the focus of efforts to

help create a sense of place unique to downtown Jacksonville. This above all, is most important to the success of a sustainable urban downtown.

### **Problems and Opportunities**

According to the guidelines from Chapter 4, the most serious problem in downtown Jacksonville is that it is not a livable urban space because it lacks residential use, daily or diverse activities, and people. Defunct public transportation system and low walkable environment make downtown Jacksonville unsustainable. Downtown Jacksonville also lacks a sense of place. The only thing that seems to attract people to the downtown core is their work. Thus, downtown Jacksonville is not sustainable in terms of the failure of people place, linkage, and sense of place.

The existing vacant spaces in downtown Jacksonville are great opportunities for office, commercial, hotel, and residential use. The greatest opportunity for downtown Jacksonville is the St. Johns River. It is a good resource to begin to build the sense of place and the Riverwalk provides the opportunity for connect the urban landscape. Additionally, the Jacksonville Landing which is located at the middle point of Riverwalk is another good opportunity. It should be improved as a popular and function social space and a great node of Riverwalk. Beginning to affect these areas will begin to make downtown Jacksonville more of a 24/7 activity center while still working within the sustainable urban design concepts.

Based on the field research and the synthesis guidelines from chapter 4, the following are problems evident in the downtown:

- Jacksonville is not livable because it lacks residential development, people, activities, and sense of place.
- The existing housing in downtown Jacksonville is not affordable.
- After working weekday hours, downtown Jacksonville is mostly deserted of users.
- North Bank Core lacks commercial use. The only use in NBD is business use and it only provides daytime activities.
- There are many vacant spaces and buildings.
- Many of the existing open spaces are occupied by the homeless.
- Some plazas are under-used because of low visibility or accessibility.
- Some plazas and the Riverwalk lack subspaces for efficient use.
- The downtown open spaces and streets need more seating and diverse spaces.
- Food can be huge attraction for people, but there are only few temporary food stands in downtown Jacksonville.
- Jacksonville lacks diverse small urban spaces, such as AT&T Plaza.
- The identity of Jacksonville does not read strong enough within the urban landscape.
- While the location of Jacksonville Landing is good, it is under-utilized as a dining only venue. The Landing only provides indoor shopping.

- The one-way street system presents safety and functional problems for a quality walkable place.
- There are not many outdoor activities in downtown, such as outdoor events, programs, or street performers.
- The Riverwalk lacks spaces for people to stay and functional softscape such as planting.
- The public transportation system is not extensive enough to effectively move users in or out the downtown area.
- Too much land is dedicated to surface parking lots and garages in the downtown core.
- The overall walkability in downtown Jacksonville is not good enough and boring, because the pedestrian is not the primary concern.
- The existing streetscape is not nice and is unattractive because of the lack of street trees.

## Chapter 6: Design Application: New Vision

### Concept Diagram

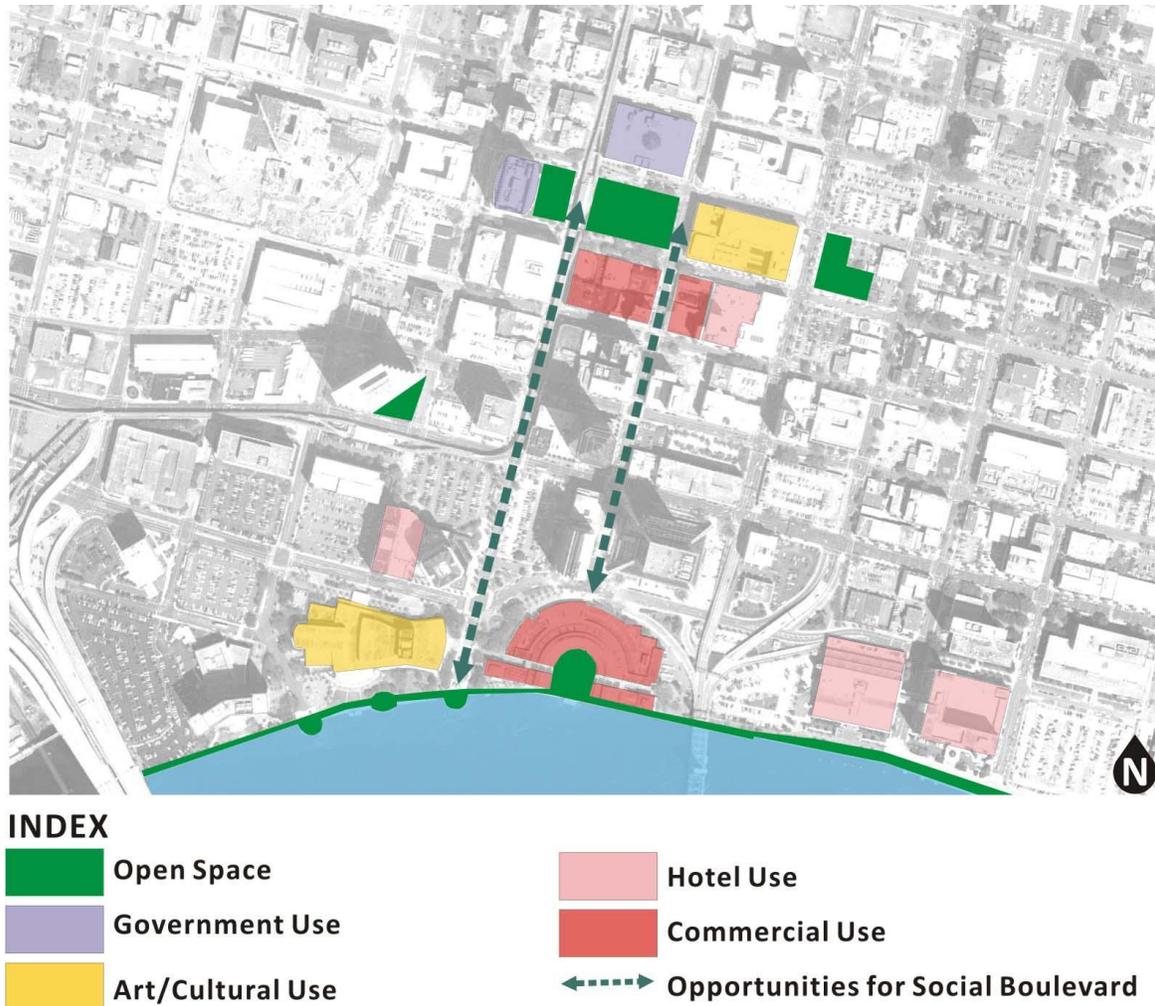


Figure 6.1: Concept Diagram.

As the concept diagram showed, there are two major social spaces in downtown Jacksonville: Social Plaza Areas (See Appendix B) which is a series of open spaces that surrounded by governmental use and art/cultural use, and the Riverwalk (See Appendix B). In order to achieve the guidelines from Chapter 4 (Connecting the open space within the city will create a successful social network (Guideline B. Objective 1), Hogan Street

and Laura Street are great opportunities for connecting the city by creating a “Social Boulevard.” Social Boulevards play several roles in downtown Jacksonville: 1) they connect the Social Plaza Areas and the Riverwalk together; 2) they serve as pedestrian friendly streets; 3) they provide commercial activities to help animate the urban core; 4) they provide more social opportunities for users. The vacant spaces, such as parking lots, are also great opportunities for adaptive reuse (Guidelines A. Objective 2, p.54) and effective use. (Guideline A. Objective 2, p.54)

### Conceptual Master Plan

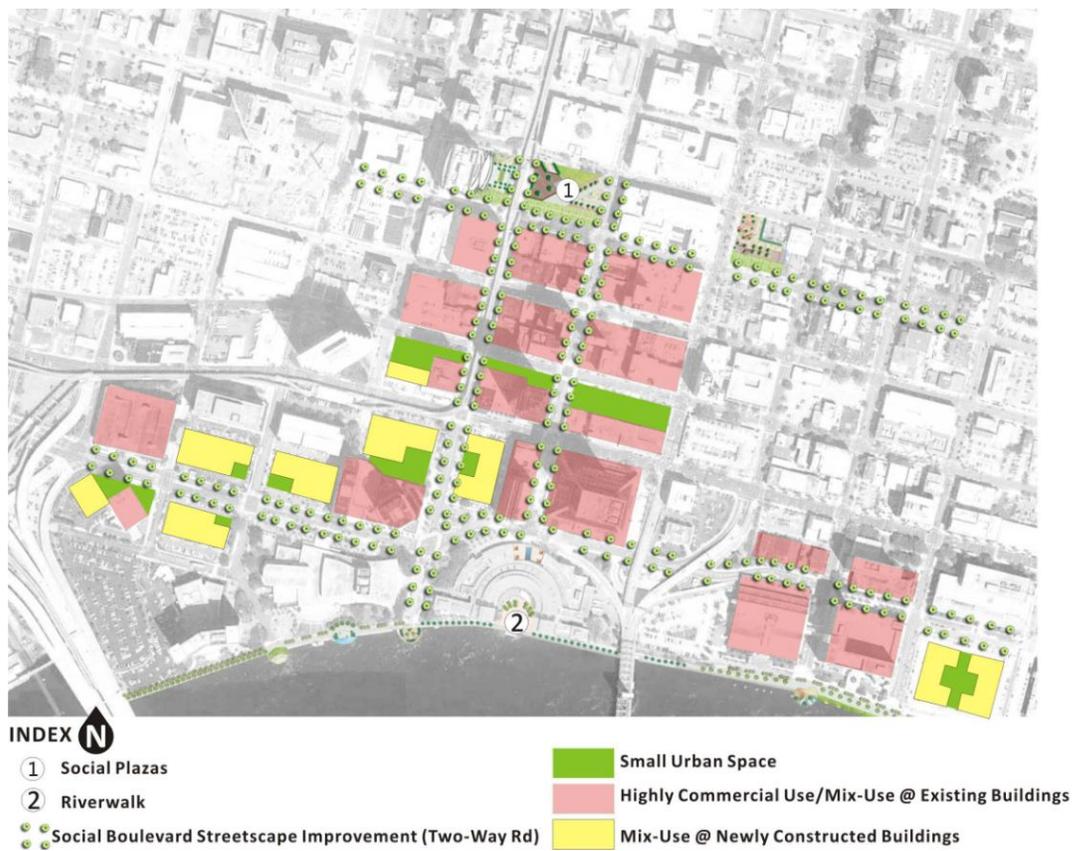


Figure 6.2: Conceptual Master Plan.

According to the premise of urban sustainability, which is to bring people back to the urban space, the conceptual master plan transforms downtown Jacksonville into a place for work, live, and play by increasing residential and office use. The major improvements in North Bank Core include two major social space improvements, a series of streetscape improvements, and creating more commercial use/mix-use areas. Along these commercial use/mix-use areas, the automobile circulation system returns to a two-way traffic system, instead of the original one-way system. The two-way system allows the traffic to move slower, which in turn allows the pedestrian to feel safer and more comfortable. (Guideline B. Objective 2, p.57)

According to the Guideline A, Objective 1 (p. 53), a livable and vibrant downtown is achieved by providing mix use and diverse activities. The existing office and hotel buildings should be encouraged to develop more of the commercial uses missing in downtown at the ground level, such as cafés, restaurants, bookstands, and galleries. (Guideline A. Objective 1, p.53) The commercial use should also include adding retail use at ground level of existing office/hotel buildings. Other vacant buildings and spaces downtown should be designed to allow for residential spaces on the upper floors to create more affordable residential units for downtown workers. (Guideline A. Objective 2, p.54) Commercial uses, such as retail and restaurants, should be located on the ground floor and the upper-floors should be for residential use. Example retail uses that

are lacking in downtown Jacksonville include: grocery stores, pharmacy, department stores, cinema, bookstores, fitting center, special restaurants, and bars.

The location of commercial use/mixed-use areas are chosen for two reasons. The first reason is to connect the two major social spaces (Guideline B. Objective 1, p.56) – the social plaza areas and the Riverwalk. This is also the primary pedestrian circulation. The second reason is to take advantage of the Riverwalk frontage. The commercial activities along Water Street, which is the street in front of the Jacksonville Landing, is also part of the Riverwalk experience with commercial activities on one side and open space on the other. Combining the commercial activities and the Riverwalk experience will help to build the sense of place by integrating these different open space characteristics. (Guideline C., p.58) The newly constructed buildings for mix-use will also provide waterfront view for residents – achieving the goal creating diverse areas along the St. Johns River.

As the streetscape improvement is implemented, the planting of additional trees for walking comfort will greatly enhance the pedestrian experience. In addition to planting trees, part of the streetscape improvement should include providing small social spaces, such as seating spaces. These small urban spaces, within the commercial areas located between the social plaza areas and the Riverwalk, are important for created social opportunities and higher walkability. (Guideline B. Objective 2, p.57)

## People Place

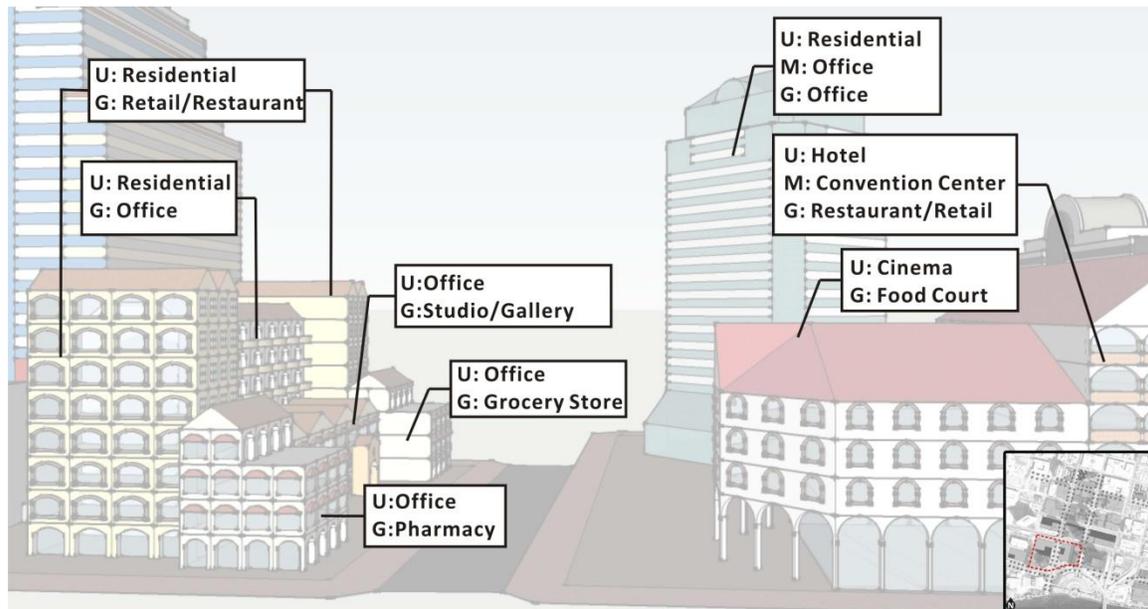


Figure 6.3: Mixed-Use Diagram (U: Upper Floor; M: Middle Floor; G: Ground Floor).

Figure 6.3 shows a diagram of how mixed-use development works within the context of diverse activities. Providing certain uses, such as hotels and/or convention center uses attract more people to stay in the urban core. Based on the “people watching” concept, these uses will attract more people to stay in the downtown core. In addition, the downtown core should provide more activities for daily needs such as pharmacies, grocery stores, restaurants, or cinemas.



**Figure 6.4:** Existing Building. **Image Source:** Google Map.



**Figure 6.5** Ground Floor Improvement @ Existing Building. **Image Source:** Author.

In existing buildings, the architecture can be restructured at ground level, providing retail uses or restaurants (See Figure 6.4). These uses are good opportunities for compact development. For buildings that cannot be reconstructed at ground level, residential use provided at the upper levels is another approach for mixing office and residential use.

## Linkage



Figure 6.6: Skyway Extending Plan.

Water Street, Laura Street, and Hogan Street are intended to be “experiments” of converting to the two-way street systems in downtown Jacksonville. If these two-way street systems work well, then the whole downtown should be converted to a two-way system which ultimately will enhance safety for drivers and pedestrians alike. The transportation improvement for North Bank Core is not only the two-way street system that was shown in the master plan, but also the expanding the existing skyway system. (Guideline B. Objective 2, p.57) Currently, the existing skyway is not popular, therefore leading to very low usage. In order to increase usage, and increase the overall sustainability of the transit system, the skyway should be extended to the major residential areas outside of downtown. This could potentially lead to more people

commuting from their neighborhoods to downtown by skyway instead of private cars. In order to preserve the downtown and residential aesthetic, the new skyway should be built underground to avoid the ugly structure above ground as well as disruptions to the viewshed and existing streets and sidewalks.

In order to enhance the overall walkability, there are three strategies: 1) create an aesthetically pleasing landscaped environment so people will feel welcome and comfortable; 2) provide food/restaurant or retail use on the ground floor to make the walking experience interesting and animate the space; 3) provide small urban spaces to encourage interaction and enhance the walkability. The streetscape could be improved to create a Social Boulevard, where the pedestrian environment is enhanced along with new uses on the ground floor. The following are design options for the Social Boulevard streetscape improvements:

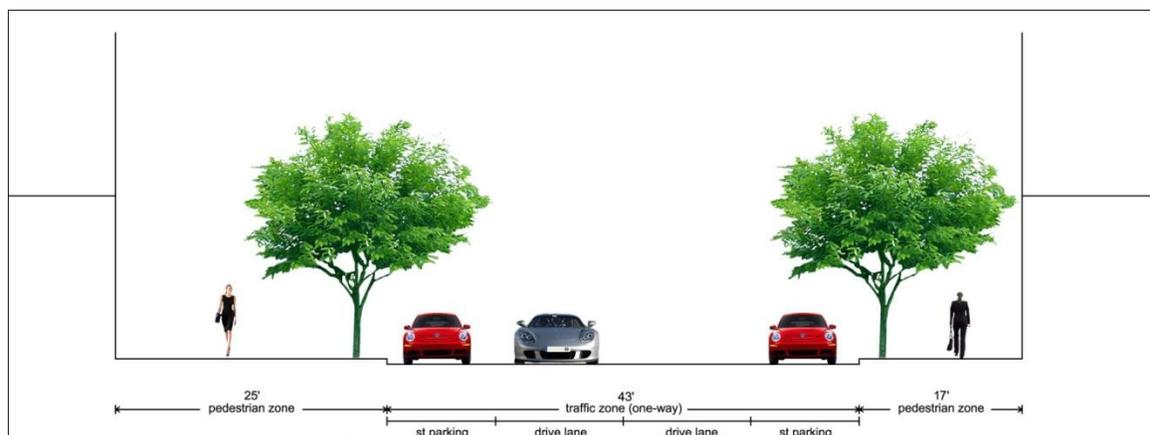
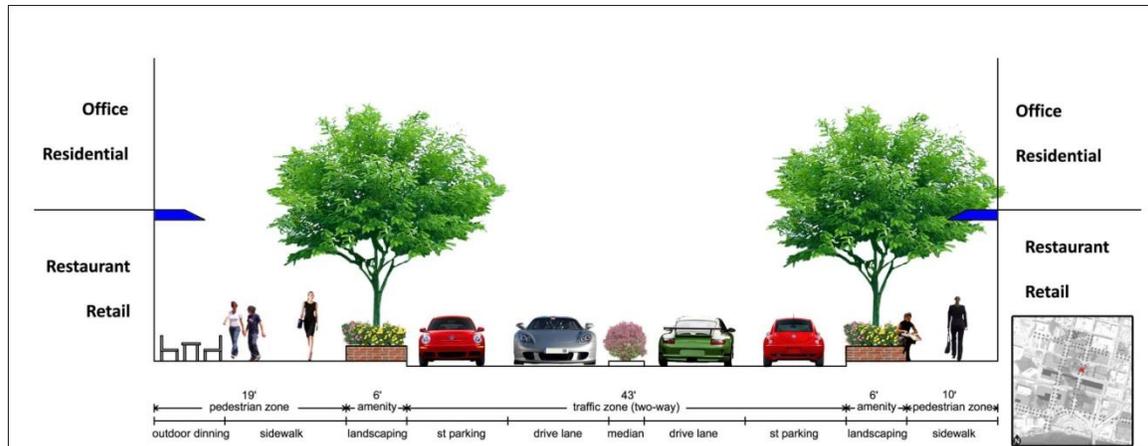


Figure 6.7: Existing South Laura Street.



**Figure 6.8:** The Improvement of South Laura Street (Social Boulevard).

Existing South Laura Street is a one-way street that provides on-street parking on both sides of the street. The vehicular traffic on the one-way street is typically faster than the traffic on a two-way street which creates an unsafe environment for pedestrians. There are only street trees in the pedestrian zone. Because the streetscape lacks certain social opportunities for users, the overall walkability is reduced.

- Commercial use such as a restaurant or a retail space is designed at the ground level in existing office building – this activates the streetscape and provides diverse activities while offering the passing pedestrians opportunities to window shopping at the same time.
- Provides outdoor dining space in front of the restaurant.
- Utilizes on-street parking and landscaping to create a buffer between the pedestrian and passing traffic.
- Adding more softscape, such as planting, provides the pedestrian a better walking experience.

- The proposed two-way street circulation system can make traffic slower than the original one-way system which leads to a safer environment.
- Adding on-street parking narrows down the drive lane which forces automobile traffic to drive slower.
- Provides seating space in the form of large landscape planters.



**Figure 6.9:** Existing South Hogan Street. **Image Source:** Author.



**Figure 6.10:** The Improvement of South Hogan Street (Social Boulevard). **Image Source:** Author.

Existing South Hogan Street is a wide pedestrian-only sidewalk under the skyway. The overall quality of place is hindered because of the ugly concrete structure of the skyway.

Additionally, there are only street trees and limited shrubs provided adjacent to the sidewalk. There is no sub-space for people to use.

- Potential for green walls, lighting or other amenities under the monorail structure.
- More planting is provided in the form of shrubs and trees in planters.
- Seating Areas are included – both permanent benches and moveable tables and chairs.
- The smaller vacant “sub-spaces” have been activated.
- The ground floor of the buildings provides food stands, restaurants, or other retail.



**Figure 6.11:** Small Urban Space in front of new buildings @ Social Boulevard.

The existing condition of this space, and others like it, is a vacant space on the Social Boulevard. The vision of this space is to reuse this vacant space by providing retail or

restaurants on the ground floor of the new buildings and creating small urban spaces in front of the building.

- Create sub-space for efficient use and social opportunities.
- Provide diverse and flexible seating, such as seating for one and two people, movable chair, and wide wood bench (no back).
- Use water feature as focal point.
- Soften the harsh existing pedestrian environment with landscape design elements, such as water features and planting.
- Provide not only ordinary outdoor dining tables, but also bar tables to create more social opportunities and flexibility.

### **Sense of Place**

According to the Guidelines C, from Chapter 4 (p.58), the sense of place can be created by tying to history through materials to establish a strong theme of place. Jacksonville was a popular winter resort at the end of 19<sup>th</sup> century (<http://downtownjacksonville.org/DowntownVisionInc/HistoryofDowntown.aspx>). The architectural style popular during this time period was Mediterranean Revival. Because this style is directly connected to Jacksonville's history, this style is a good theme to build the sense of place for Jacksonville. The structure and characters of Mediterranean Revival-style are as follows:

Structure:

- U-shaped or L-shaped plan, designed around a central courtyard (Spain, 1987: 79)
- Symmetrical primary facades (Spain, 1987: 39)

Characters/Materials:

- Stuccoed wall surface (Spain, 1987: 130)
- Wall colors: pastel tones (Spain, 1987: 130)
- Flat or low-pitched terra-cotta and tile roof (Spain, 1987: 39)
- Arches (Spain, 1987: 39)
- Scrolled or tile-capped parapet walls (Spain, 1987: 39)
- Articulated door surrounds (Spain, 1987: 106)
- Wrought iron or wood balconies and windows (Spain, 1987: 114)
- Lush vegetation (Spain, 1987: 90)
- Tiled fountain or pool (Spain, 1987: 90)

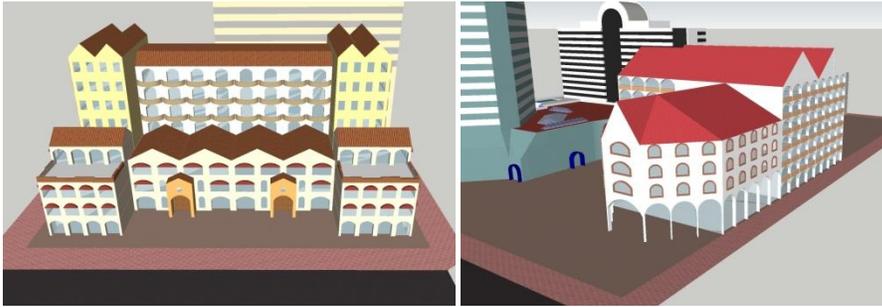


Figure 6.12: Mediterranean Revival-Style.

Image Sources: (L) [http://en.wikipedia.org/wiki/File:Breakers\\_CIMG0089.JPG](http://en.wikipedia.org/wiki/File:Breakers_CIMG0089.JPG)

(M) <http://www.dreamhomedesignusa.com/Luxury%20home%20plans.htm>

(R) <http://www.house-arch.com/a-mediterranean-style-house.html>



**Figure 6.13:** Proposed Architecture Image.

Figure 6.12 shows examples the Mediterranean Revival-style. Using those stylistic characters previously mentioned, as well as large amounts of glass, help to create the new sense of place for downtown Jacksonville. Utilizing large amounts of glass, especially at the ground level, enhances walkability through more opportunities for window shopping. Additionally, the streetscape images are showed under “Linkage” (Figure 6.8, Figure 6.10, Figure 6.11). Using water features, lush vegetation, and some palm trees build the identity of Mediterranean Revival-style.

In conclusion, the new vision of downtown Jacksonville should include revitalization strategies that include: 1) generating downtown user groups by providing commercial office, retail, entertainment/cultural, hotel, office, residential and other residential-related uses; 2) creating places where diverse activities and social networking can occur; 3) re-designing the streetscape to include plentiful greenery, small urban spaces, building façade improvements, modified pedestrian path widths, and modified alignments; 4) establishing a design theme like Mediterranean Revival-style

architecture that harkens back to a historical moment in Jacksonville's history. All of these revitalization strategies will help to create a critical mass of people and an active pedestrian environment that will help to create a stronger sense of place for downtown Jacksonville. It will also improve the identity for downtown and the increased, "after hour" pedestrian activities will help to create a greater sense of security.

## **Chapter 7: Conclusion**

### **Major Findings and Contribution**

Many American cities have same or similar problems with downtown Jacksonville in that those cities are only a place for work and not a very people-friendly environment. This thesis project establishes specific strategies for fixing these defunct, under-utilized and unsustainable downtowns. The contribution of this thesis is the formulation of a set of strategies and principles that can help direct designers to transform these defunct downtowns into sustainable urban cores for people to live, work, play, and visit.

My research for this thesis, demonstrated that the first goal is to bring people and related user groups back to the city by significantly increasing hotel, affordable residential and office use. Wasted or under-utilized spaces in a city are major problems but also provide opportunities for viable infill. Reducing and managing the amount of wasted space in a city will increase the overall vitality.

Encouraging compact development is a key strategy to achieve urban sustainability. In order to make a city more livable, diverse activities, especially for daily use, should be provided. This can be achieved by increasing commercial and/or mix-use. At the same time, designers and planners should provide more social opportunities for a diversity of

users, connect open space, provide for the human scale and follow the behavioral design guidelines provided in the text. In conclusion, creating an urban sustainable landscape has four components: 1) provide attractive working and living spaces; 2) develop with an efficient use of space utilizing multi-use concepts for diverse activities that appeal to diverse user groups; 3) create people-friendly social spaces and appropriate linkages; and 4) establish an identity of place by leveraging the existing values inherent in the city's natural, cultural, and/or historical resources.

### **What I learned**

Before starting this research, my understanding of sustainability was very narrow. The idea I had about sustainability was related to the ecological and natural aspects, such as strategies for reducing the impact of pollution on the natural environment. However, through this research process, it became clear that human and non-human issues are both critical factors in sustainability. Subsequently I discovered that people are a critical factor in healthy cities; those social human issues are a crucial concern in urban sustainability.

During my travel experiences in the United States, I was surprised by the various defunct, under-utilized, vacant and "boring" downtowns. Most cities in Taiwan and Asia, where I am from, are built in a compact development form that provides both higher density residential and commercial uses. Downtowns in Asia are typically the most popular and

vigorous places, in some cases even including 24-hour a day activities. Comparatively, this seems to be the complete opposite of the typical American downtown. In this thesis project, I learned ways to revitalize the defunct downtown, specifically the major Florida city, Jacksonville. During the research process, it became evident that “people” are the primary concern in revitalizing defunct downtowns. The primary goal in revitalizing these downtowns is to bring people back to the urban core for me, as well for the stakeholders and local politicians. If there are no people in the urban core, then the people-friendly environments are non-existent.

#### **Limitation of this Research Project and Suggestions for Future Research**

Due to time limits, the advocacy planning was not included in this thesis project. Since people were determined to be a crucial factor in social sustainability, future research should include advocacy planning. Advocacy planning can further help to illuminate the needs of the users and thereby making the overall social sustainability more effective.

Additional future research should also focus on the human scale and the design of pedestrian-oriented environments for downtowns. Many existing skyscrapers in American downtowns ignore human scale, especially within the streetscape environment, which ultimately leads to an unfriendly pedestrian environment. I believe both landscape architecture and architecture students should focus their designs to explore the human scale in both the vertical and horizontal planes in these urban

contexts. Ultimately this kind of collaboration and acknowledgement of the human scale will create more people-friendly environments within the downtown core.

## Appendix A

		Sustainable Principles							
		Social Values	Economic values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values
Behavioral Design Guidelines	Context and Location	street is key space for a plaza	*						
		a corner location, a place to pass through, and a place to watch passerby will provide highest use	*						
		sightline and visibility are ways to attract more people	*						
	Size and Capacity	clustering patterns: people would located themselves about one or two spaces removed from the other space							
	Space Setting	a front-row position and edges or boundaries of plaza are prime space for seating; if it can be sat, it draws more people	*						
		the transition from street to a plaza is a crucial part of plaza design; it can be appropriate elevation or steps to make a nice ambiguity to the movement							
		a plaza must be visible and accessible by people	*						
		large plaza may want to be divided into subspaces to encourage their use	*						
		the space provided should keep the personal privacy							
	Users	main users are groups	*						
		women are more sensitive to where they sit and environment							
		men show a tendency to take the front row seats; woman seek back yard experience that tend to favor places slightly secluded							
	Sitting	corner can be face to face sitting and is often preferred	*						
		movable chairs are the most popular type of sitting	*						
		a wide seat bench (no back) is preferred because two people can sit back to back and be comfortable in tight space	*	*					

		Sustainable Principles								
		Social Values	Economic values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values	
Behavioral design guidelines	Sitting	secondary seating: mounds of grass, step with a view, seating walls, retaining walls allows seating, and ledge	*				*			
		wood is warm and comfortable material for public seating								
	Micro climate	relative warmth is important								
		people will actively seek the sun and suntraps especially in cold winter								
		the principle factors affecting outdoor comfort are temperature, sun, humidity, and wind								
		a plaza should be located so as to receive as much sunlight as its surrounding environment will permit								*
		in very hot summer, a plaza should provide some shade by trees, buildings, or site structure								
		designers should consider using the borrowed sunlight reflected from building windows to brighten or warm a plaza space								*
	Planting	glare that comes from the highly reflective building surface on sunny days can be serious problems								
		trees ought to be related closely to sitting spaces								*
		people were attached to plazas that offer visual variety and complexity with trees, uncommon shrubs, colorful annuals being especially important						*		
		the smaller or sunken plazas should contain more feather-leafed trees								
		if one or more sides of a plaza is bounded by buildings that cannot be accessed from the plaza, their wall might be screened by trees								

		Sustainable Principles								
		Social Values	Economic values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values	
Behavioral Design Guidelines	Planting	wind conditions are known as corner flows, downwashes, and wakes are the strongest and most problematic wind effects, with the most effective mitigating strategy being to redesign the building envelop itself or, when possible, to orchestrate the relationship of sizes and shapes of the buildings near the affected area								
		designers should prepare a solar access analysis of site before designing								
	Food and Vending	food attract people who attract more people	*							
		a plaza with a food kiosk or outdoor restaurant is much more likely to attract users than is one without such features	*							
	Programs	sculpture can have strong social effects	*		*					
		musicians and entertainers draw people together	*		*					
		art in a public place should provide a sense of joy, promote contact and communication, provide sensory experience and encourage the interaction	*		*					
		a noisy fountain located close to seating may successfully screen out surrounding traffic noise								
		programs and activities can be crucial elements in a plaza success	*				*			

Appendix A.1: Sustainability Evaluation Table: Behavioral Design Guidelines

		Sustainable Principles								
		Social Values	Economic Values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values	
Behavioral design	Safety and security	build user's environmental recognition				*		*		
		Make the space visible	*					*		
		hire a doorman or plaza mayor						*		
		create zones of influence				*		*		
		incorporate the city street into the zone of influence				*		*		
		as few families as possible share a common entry								
		define particular area to a specific group of people				*				

Appendix A.2: Sustainability Evaluation Table: Safety and Security

		Sustainable Principles								
		Social Values	Economic Values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values	
Street and People	Walk Ability	create a pedestrian oriented street	*	*				*		*
		enhance pedestrian safety						*		
	Additional Service and Amenities	street cleaning and policy						*		
		Greenery	*					*		*
		play space	*					*		

			Sustainable Principles							
			Social Values	Economic Values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values
		organized transportation system						*		*

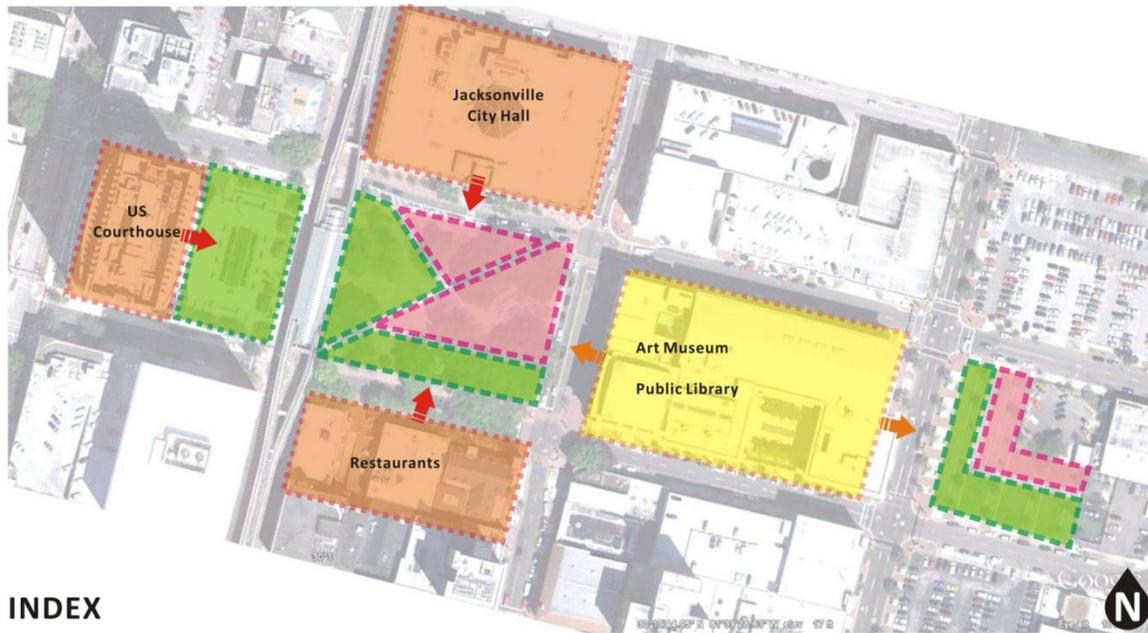
Appendix A.3: Sustainability Evaluation Table: Street and People

			Sustainable Principles							
			Social Values	Economic Values	Cultural or Historical Values	Identity of Place	Diversity	Quality of Life	Education	Environment Values
Urban Ecology	Sustainable Community	compact development	*	*			*			*
		high density of population and commerce activities	*	*			*			
		land-efficient project and mix use	*	*			*	*		
		balanced transportation system and walkability						*		*
		reuse of building and re-urbanization	*	*	*			*		*
		affordable housing						*		
		diversity activities and 24 hour city	*	*				*	*	
		sense of place			*	*				

Appendix A.4: Sustainability Evaluation Table: Urban Ecology

# Appendix B

## Social Plaza Areas



### INDEX

#### Main Users

- Workers/Downtown Workers
- Citizens/Tourists/Student Groups

#### Space Character

- Active & Passive
- Passive

Figure B.1: User and Space Character Analysis.



**Courthouse Plaza**

- 1. Water Fountain & Sculpture Entrance Area
- 2. Transition Garden/Plaza
- 3. Quiet Resting Zone

**Hemming Plaza**

- 4. Outdoor Cafeteria Deck
- 5. Lawn Area
- 6. Original Monument Pool
- 7. Fountain Plaza
- 8. Quiet Resting Zone

**Main St. Plaza**

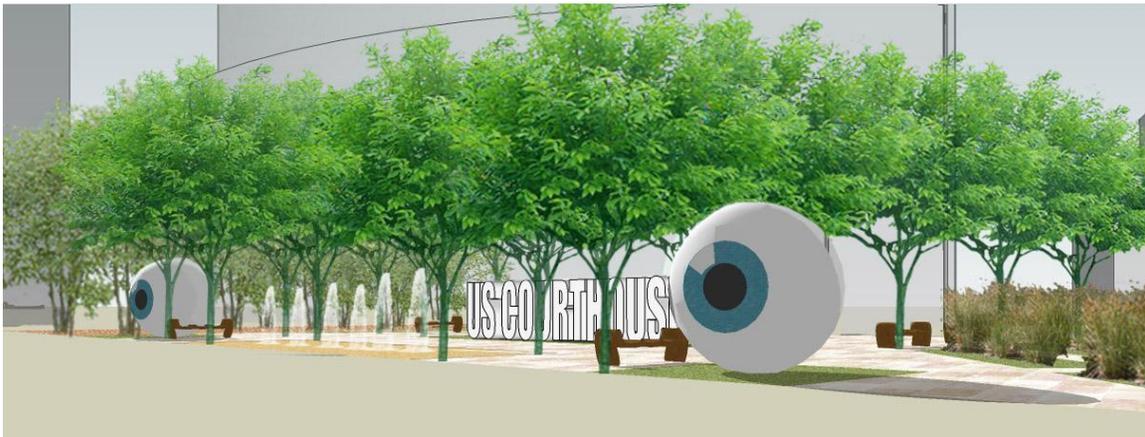
- 9. Garden Area
- 10. Fountain/Waterfall Area
- 11. Outdoor Dining & Performance Area
- 12. Quiet Resting Zone

Figure B.2: Detail Plan: Social Plaza Areas.

The social plaza areas are made up of the three individual spaces: US Courthouse Plaza, Hemming Plaza, and Main Street Plaza. This area is one of the major social spaces in downtown Jacksonville. These spaces should be redesigned using Quiet Resting Zones that will connect the spaces together as a more powerful social space corridor.

According to the behaviors of different users, the social space corridor provides different spaces/activities, such as outdoor cafés, fountain plazas, or gardens. These different activities meet the active or passive needs of the different downtown users. The passive use includes sitting, gathering, or dining. The active use includes children playing. For example, some users can just sit and rest to enjoy the space, while their children can run or play within the same place lawn area and fountain plaza. These detail designs follow the design guidelines for social space previously established.

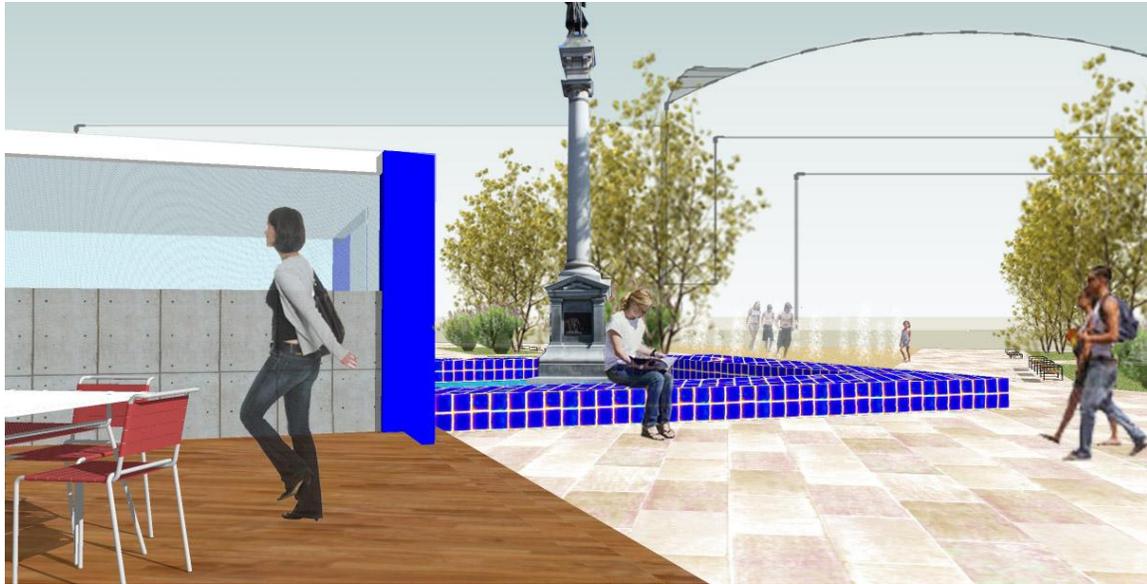
(Guideline A. Objective 3)



**Figure B.3:** Water Fountain & Sculpture Entrance Area of Courthouse Plaza.

- Provide more trees to make the space more comfortable especially in the hot summer.

- The noise of the fountain can reduce the overall noise of vehicular traffic.
- Use sculpture at the entrance area to attract people to the space.
- The sculpture can make the courthouse space more relaxing and interesting.



**Figure B.4:** Hemming Plaza.

- The café kiosk is a version of William Whyte’s “plaza manager” that can keep an eye on the plaza safety and also provide eating options.
- The Hemming Plaza provides a different level of shadow spaces. The lawn area can enjoy the sunshine totally, and the quiet resting area is all covered by trees. Other spaces are in between.
- The seating areas are provided by using movable chairs at the outdoor café deck and permanent benches at the fountain plaza as well as quiet resting zones. The edge of monument pool is another seating option.

- The fountain plaza is can also be used as a playground for children.



**Figure B.5:** Main Street Plaza.

- Main Street Plaza is the “backyard” of the art museum and the Public Library, like a minor plaza.
- Movable seating is provided at the outdoor dining plaza.
- The outdoor dining area can also be used as a flexible open space including a performance space for special events.
- The fountain and waterfall will help to reduce the traffic noise.
- The fountain can be playground for children.

# Riverwalk

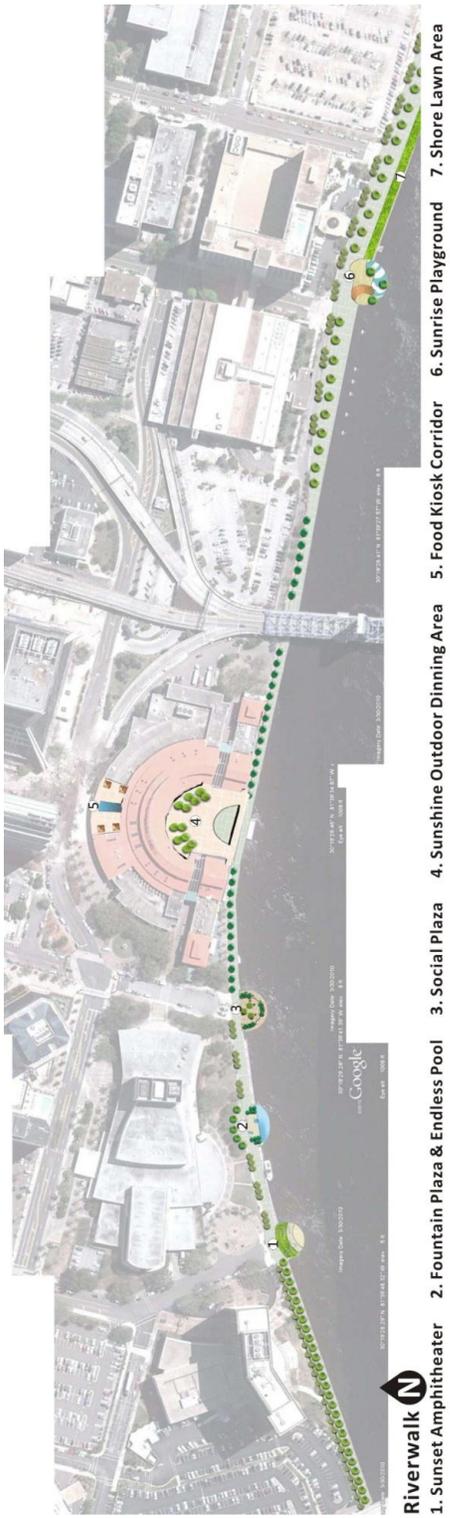


Figure B.6: Detail Plan: Riverwalk.

The Riverwalk is another popular social space in downtown Jacksonville. Downtown workers use the Riverwalk often especially during the lunch hour. The primary concept of the Riverwalk improvement is to make it a more complete green corridor by providing additional planting. This additional planting will create a more plentiful landscape which in turn will make people feel safer and more welcome. Inspired by the City of Jacksonville logo, the Riverwalk uses a series of sun sculptures to connect each space. The sun sculptures are used for two reasons. Firstly, the sculptures establish the identity for place by reinforce the city image. (Guideline C. Objective 1) Secondly, the use of sculpture increases the social and cultural value within the open space. (Guideline A. Objective 3)

The plan provides more opportunities to access the river from the downtown, thereby enforcing the uniqueness and importance of St. Johns River. The Jacksonville Landing retail area is currently designed to open to the water, but its back is facing the downtown. In order to alleviate some of this awkward urban design, the plan proposes adding additional food kiosks, potentially from the existing restaurants within Jacksonville Landing along the corridors that connect the Landing to the Riverwalk and downtown.



**Figure B.7:** Sunset Amphitheater: (L) Plan; (R) Perspective.

- Sunset Amphitheater provides more seating space and softscape for people.
- Sunset Amphitheater provides a performance area for special events.
- Provides sculpture to enhance more cultural and social values.



**Figure B.8:** Fountain Plaza and Endless Pool: (L) Plan; (R) Perspective.

- Fountain Plaza provides more water features to enforce the waterfront character of Riverwalk.
- The endless pool is inspired by the St. Johns River further connecting the plaza to the River.
- The fountain plaza can be used as a playground for children.

- The fountain plaza is a flexible use; it also acts as a performing space when there are special events.
- Provides more softscape, such as water feature and planting.



Figure B.9: Social Plaza: (L) Plan; (R) Perspective.

- The Social Plaza provides group seating in the middle and individual seating around the outside and lower area.
- Personal seating area provides seats facing St. Johns River for users to relax.



Figure B.10: Sunrise Playground: (L) Plan; (R) Perspective.

- The sunset sculpture is also serves as play equipment for children.

- The seesaw chairs are interesting seats for adults. When they keep an eye on children, they can have fun at the same time.
- The sand area is not only a playground but also a softscape area to replace the existing hard paving.



**Figure B.11:** West Section of Riverwalk.

- Makes the Riverwalk a “green” corridor.
- Provides more seating space, such as benches that surround the new trees and planter walls at 18” heights for easy seating.



**Figure B.12:** Middle Section of Riverwalk (adjacent to Jacksonville Landing)

- Makes the Riverwalk as a “green” corridor.



**Figure B.13:** East Section of the Riverwalk.

- Makes the Riverwalk as a “green” corridor.
- Provides more seating space, such as benches that surround the new trees and planter walls at 18” heights for easy seating.
- Provides some lawn areas for different users as well as allowing users to get closer to the St. Johns River.

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