

THE RELATIONSHIP BETWEEN PARK CHARACTERISTICS AND
HUMAN SOCIAL BEHAVIOR: LEARNING FROM
MAIN STREET GARDEN IN DALLAS, TEXAS

By

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Abstract

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The objective of this thesis is to study the relationship between park characteristics and human social behavior in Main Street Garden Park in Dallas. Whyte highlights several characteristics that promote the successful use of urban spaces: sitting space, nature, concessions, pathways, and triangulation (Whyte 1980). The ways in which these five characteristics influence human social behavior is the focus of this thesis. The aspects of human social behavior studied in this thesis are the proportions of couples, women, children, and pet-owners; usage times; self-congestion, meaning the amount and location of new interaction; and individualism. Using Main Street Garden in downtown Dallas as a case study, the thesis uses on-site observations and interviews with park users and landscape designers to analyze how park characteristics affect human social behavior.

Park environments are increasingly recognized as influential settings in the built environment that have potential to change human behavior. A great deal of research focuses on how park size, location, aesthetics, and conditions correlate with health benefits and economic benefits (Bedimo-Rung et al. 2011; Bruton 2013; Lynnette 2007).

In contrast, relatively little research has been conducted on the relationship between specific park features and human social behaviors. In response to these gaps in the literature, this research investigates characteristics of Main Street Garden to determine how these factors influence human social behavior. Main Street Garden has been chosen based on its function as a community gathering space for Dallas and its connectivity to the downtown area.

This research uses qualitative techniques (Taylor and Bogdan 1984) in the form of the researcher's passive on-site observations to analyze park characteristics. Visual design factors and park characteristics, including defined space, trees, sitting space, triangulation, water features, food concessions, pathways, and the relationship to the street, are recorded in photographs. This research also utilizes in-depth interviews with visitors to the park and designers to obtain a rich understanding of the users' experiences and perspectives (Taylor and Bogdan 1984). Also, the researcher uses the process of snowball sampling (Goodman 1961). After interviewing the first designer informant, the researcher asks for assistance to help identify other park designers and planners in the Dallas Fort Worth (DFW) area.

Data analysis and findings from this research illustrate how various park characteristics and design features play an important role in people's social behavior in Main Street Garden in Dallas. Key words are identified to describe the primary themes from the interview data. Themes are developed from both the observation and interview data from Main Street Garden. The themes in this research identify which park characteristics can affect human social behavior and discuss how they affect them. When designing and planning future urban parks, these characteristics and features can be implemented to enhance the aspects of human social behavior studied in this thesis.

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Chapter 1

INTRODUCTION

1.1 Introduction

This chapter presents the motivation for this research and introduces the research questions for this thesis. This chapter also discusses definitions of terms, research methods, and significance of and limitations in this research. The goal of this research is to examine the relationship between urban parks and human social behavior in Main Street Garden in Dallas.

Parks are considered important determinants in the quality of urban life. For example, according to Sideris (1995), urban parks are valued by the public for several reasons, especially for their ability to satisfy the recreational, leisure, and social needs of urban residents. Additionally, urban parks provide visual and psychological relief in high density urban areas. According to Cranz (1982), parks in the United States, for example Central Park in New York, are symbolic of a new attitude towards urban life. This new attitude is shaped by economic, political, and social factors, which in turn influence park type, location, function, size, and equipment (Low et al. 2009). In addition, urban parks influence park users' lifestyles by providing a venue for social communication, physical activity, and recovery from psychological stress.

1.2 Problem Statement

As the amount of green space in cities has grown, designers have begun to explore how public green spaces can promote the social well-being of users. According to Frederick Law Olmsted, urban parks offer an excellent way to promote the public value of tolerance, and they encourage social communication (as cited in Goldberger 1999). Urban parks are designed to provide an alternative to the busy lifestyles of city residents,

and as they provide a physical connection between urban buildings, such parks also foster social connections among their users.

Past studies have shown that people regard urban parks as important amenities in their social life (Goldberger 1999). Therefore, to promote understanding of how urban parks influence people's social behavior, researchers should evaluate the attitudes of city residents and park users.

1.3 Purpose of the Research

The purpose of this study is to understand how urban park characteristics and design features of Main Street Garden in Dallas contribute to people's social lives, and how they make cities more attractive places to live and work. In addition, this study on public parks in urban environments will provide further insights for future designers and developers interested in and working with urban parks.

To this end, this thesis examines Main Street Garden Park in downtown Dallas. As stated by Mastrangelo (2010), dedicated in 2009, Main Street Garden is the first of three new urban parks developed in downtown Dallas (Main Street Garden Park, Belo Garden, and Klyde Warren Park). Main Street Garden Park is the most centrally located of these three parks (Mastrangelo 2010), and is intended to serve as a common meeting area for nearby residents and business users, and for students and faculty at The Universities Center at Dallas.

This research has three aims. First, it describes the design features of Main Street Garden Park and identifies those with the potential to influence human social behavior. Second, it examines in what ways these park characteristics influence human social behavior. Third, because these findings can add to the existing knowledge base and contribute to understanding the relationship between park characteristics and human

social behavior, the results of this research can be a valuable asset to design professionals.

1.4 Research Questions

This research is informed by the following research questions.

1. What design characteristics of Main Street Garden in Dallas have an effect on human social behavior?
2. In what ways do these park characteristics influence human social behavior?
3. How can these park characteristics be used in future designs?

1.5 Definition of Terms

Behavior mapping: Behavior mapping is a form of systematic unobtrusive observation research that tracks people's behavior in relation to features of the physical environment (Cosco et al 2010).

Human behavior: Human behavior is the range of actions and mannerisms exhibited by humans in conjunction with their environment, responding to various stimuli or inputs, whether internal or external, conscious or subconscious, overt or covert, and voluntary or involuntary (Loehlin et al. 1988).

Human social behavior: Human social behavior is the behavior of how people influence and relate to one another (Myers 2007).

Park: A park is a green open space that can provide enjoyment to urban inhabitants. It can protect wildlife and natural habitats. A park has facilities for rest and recreation and is often owned and managed by a city, state, or nation (Weir 1928).

Park characteristics: For the purpose of this research, park characteristics are any visual, auditory, or tangible components added by design professionals to a park.

Qualitative technique: Qualitative techniques seek answers to broad questions and collect descriptive data from participants (Taylor and Bogdan 1998).

Self-congestion: Self-congestion is the amount and location of new interaction between people (Whyte 1980 p.19).

Triangulation: Triangulation means that “process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not” (Whyte 1980 p.94).

Urban park: An urban park is located in cities to provide an outdoor green space and a recreation space for residents and visitors. Common features of urban parks include walking trails, benches, picnic tables, playgrounds, and public restrooms. Some larger urban parks may have more recreation options, such as baseball fields, tennis courts, and soccer fields (Low et al. 2009).

1.6 Research Methods

This research uses qualitative techniques (Taylor and Bogdan 1998) to assess the park characteristics that influence human social behavior in urban parks. The design characteristics of Main Street Garden Park and the ways these characteristics influence human social behavior are identified by on-site observations and interviews with park users and professionals who are familiar with park planning and design. On-site observations help to understand the design characteristics of urban parks and how these characteristics affect human social behavior. The interviews with professionals employ the technique of snowball sampling (Castillo 2009). The first park designer is asked for assistance to identify other park planners and designers in the Dallas Fort Worth (DFW) area. Historic documents and background knowledge of Main Street Garden Park are collected as secondary information to help the researcher have a deeper understand of Main Street Garden.

Interview data from park users are analyzed using the grounded theory approach (Taylor and Bogdan 1998). Interview data are used to examine and define the

park users' opinions on the ways design characteristics of Main Street Garden Park influence human social behavior. Finally, the interview questions are open-ended so that the researcher can have in-depth discussions with each informant.

1.7 Significance and Limitations

This research offers valuable contributions to the field of park design and landscape architect. The data collected in this research can be used as a source for future study in urban park design in the DFW area. In addition, these findings help to define several park characteristics that can influence human social behavior and can be used to explore ways these characteristics can be implemented in future design.

The study also has some limitations. Park visitors chosen for on-site interviews may not be sufficiently familiar with Main Street Garden Park to provide useful perceptions. In addition, age, gender, education background, and cultural differences will influence the perceptions of the informants in this study. The final limitation has to do with the time of the study. As the observations and interviews for this thesis is from February and March, the cold weather and the short observations and interviews time may limit the number of park visitors and/or inhibit them from participating in outdoor activities or engaging with other visitors.

1.8 Summary

The purpose of this research is to identify design characteristics that can influence human social behavior in Main Street Garden. The site selected for this study, Main Street Garden Park in downtown Dallas, is chosen for this study for two reasons. First, the park is a community gathering place for downtown residents, workers, and visitors. Second, because the park is located in Dallas, the researcher can visit the site for on-site observations and have a deeper understanding of this park.

This research is organized into five chapters. The first chapter is the Introduction. It identifies the research objectives and describes the research methods. Chapter Two, the Literature Review, focuses on urban parks and reviews current research on park characteristics. Chapter Three, Research Methods, includes the research design and the significance and limitations of this research. Chapter Four, Analysis and Findings, provides results from on-site observations and interviews. Finally, Chapter Five, the Conclusion, is a discussion of the findings and suggestions for future research.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature and research on urban parks and their history, the relationship between urban parks and social behavior, and which park characteristics can influence human social behavior in urban parks. This chapter also covers the social value of urban parks and how this research is important for landscape architecture. In addition, there is a brief review of other urban park and human social behavior research. The review also focuses on several case studies from the United States to derive the characteristics of important urban parks. Finally, this chapter introduces background knowledge of Main Street Garden, including size, location, and surroundings.

2.2 The History of Urban Parks

Parks have a long history in the United States. By the end of the 19th century, most cities in the United States had set aside land for open space development (Loukaitou-Sideris 1995). Inspired by this, landscape architect and planner Frederick Law Olmsted began investigating how these public spaces could be used to relieve the stress of urban life on its residents and workforce (Loukaitou-Sideris 1995). In addition, urban parks were seen as a way to enhance morality, break the tension of city life, and revitalize inner-city areas. The evolution of urban parks in America can be divided into four eras: the pleasure ground, the reform park, the recreation facility, and the open space system (Cranz 1982).

The period from 1850 to 1900 is considered the era of pleasure grounds in the evolution of urban parks in the United States (Marcus and Francis 1997). At that time, the newly industrialized cities were overcrowded and highly polluted. Parks and green

spaces were built to ameliorate these problems and were characterized by large trees, big open lawns, meandering walks, undulating terrain, and naturalistic water features (Marcus and Francis 1997). In this era, workers participated in outdoor activities during the weekends in effort to stay healthy. In addition, it was hoped that “the norms of middle-class behavior would rub off on the poor, as all social groups shared this public facility” (Marcus and Francis 1997 p.85).

The period from 1930 to 1960 is considered the era of the reform parks in United States (Marcus and Francis 1997). During this period, parks were used to improve the living conditions of working people. Park designers focused on offering the space for recreational activities. Athletics was the main goal of the reform park (Cranz 1982). Many playgrounds and field houses were built to satisfy social and recreational needs during this time. Also, activity areas were laid out in symmetrical arrangements using straight lines and right angles (Marcus and Francis 1997).

The recreation facility started around 1930 and severed the ties between parks and the goals of social reform (Marcus and Francis 1997). Swimming pools, fields, and courts were built in lager parks in response to the increasing population. Physical exercise, especially team sports, was encouraged to promote health in working people and maintains morals in hard times (Marcus and Francis 1997).

The open space system started in the 1960s. Wide open spaces and natural area became important parts of park design. During the 1970s, park design moved from active to more passive uses. Designers focused on people's recreation experiences in parks (Cranz 1982). At the same time, the development of urban parks and squares became popular in many cities (Platt 1972) and continuous today.

2.3 Social Value of Urban Parks

Urban parks not only provide spaces for recreation and relaxation, but also create spaces for community development and social interactions (Annerstedt et al. 2013). Urban parks provide opportunities for people with different social and ethnic backgrounds to communicate and interact with each other. In order to develop local communities, people need to meet with others and establish relationships (Völker et al. 2007). Furthermore, communicating with others is important for people to integrate into society and create feelings of acceptance and compassion (Putnam 2000). Some literature also points out that urban parks play an important role in social cohesion (Coley et al. 1997; Kuo et al. 1998). For example, urban parks encourage people to gather together and “leave the isolation of their apartments, socialize with one another, and form lasting ties” (Walker 2004 p.3). In addition, according to Sampson et al. (1997) when people establish trusting connections with others, the crime and disorder in their communities will be reduced (Sampson et al. 1997).

Urban parks also provide spaces for public outdoor social events. Well-managed events can bring social and economic value to the city and increased opportunity for social interaction between friends, family, and even strangers. The New Year’s Eve “Ball Drop” in Times Square, New York, is a good example. Millions of people from all over the world gather together and take part in this event.

2.4 Literature on Urban Spaces and Human Social Behavior

2.4.1 *William H. Whyte (1980)*

In the book, *Social Life of Small Urban Spaces*, Whyte (1980) analyzes his research taken from “The Street Life Project.” This book includes studies about people’s social activities in urban public spaces. According to Whyte, a deep and broad understanding of the way people use spaces is necessary to create a successful urban

space (Whyte 1980). In his opinion, designers can learn much about people's social needs by passive observation of and discussions with users of public spaces. Therefore, he observed and recorded the daytime public life of open spaces using time-lapse photography to chart his findings (Whyte 1980). Whyte points out six characteristics that are important to create a successful urban park in his book.

The first characteristic is defined spaces. According to Whyte's (1980) findings, most people in public spaces tend to stay in a corner of the space, for example, near the steps or walls on the edges instead of the large open spaces in the center. People usually walk through the large open spaces and they tend to stop and talk in a more defined space (Whyte 1980). The second characteristic is sitting spaces. According to Whyte (1980 p.28), "people tend to sit most where there are places to sit." The seating arrangements can be of various forms, such as steps, ledges, fountains, planters, chairs, or walls. Sitting on a long step or wall, according to Whyte (1980), is a comfortable way to talk and people watch. In addition, moveable seating can let people choose where they want to sit and avoid eye contact with strangers (Whyte 1980). The third characteristic of successful urban spaces is water features. Water features are a design element that people like to watch, touch, and feel. Water feature can also create a sound of nature that drowns the noise of the city life (Whyte 1980). In Whyte's research, he recorded many instances of people using water features in different kinds of urban spaces to cool off. The fourth important characteristic is food concessions. According to Whyte (1980), food concessions are a vital way to attract people and create meeting points for people. Whyte (1980) noticed that people start greeting one another while sitting and eating together, and that people gather around concessions and stay there for long periods of time. The fifth characteristic is activities, such as art and music exhibits or routine performers, in urban parks (Whyte 1980). These activities attract people to urban parks and create a

unique atmosphere for social contact. The sixth characteristic of successful urban parks identified by Whyte (1980) is the relationship of the park to the street. According to Whyte (1980), a successful urban park is easily accessible from the street and can attract people on the street into the park. Furthermore, when a park sits beside a street, pedestrians on the street and people in the park can watch each other. According to Whyte (1980 p.19) “What attracts people most, it would appear, are other people.”

2.4.2 Jan Gehl (1987 and 2010)

Jan Gehl’s book, *Life Between Buildings*, was published in English in 1987. This book focuses on the relationship between the performance of urban spaces and the factors that influence their use (Gehl 1987). Gehl (1987) uses the human dimension to measure the success of an urban space by quantifying the amount of people and social contact, and by noting their preferred locations for sitting and standing. In Gehl’s opinion, successful spaces are designed based on the real behavior and preferences of the users of that space, not on their intended behaviors or perceived preferences.

In the last chapter of his book, Gehl (1987) focuses on human activities and design elements that can encourage people to spend more time in urban spaces. He presents a series of factors that can affect the flow of walking people in urban spaces: the height of buildings around the space, accessibility, visibility, the location and number of entrances, crowd density, and modes of transportation in and around the space (Gehl 1987). He also discusses where people usually choose to sit and stand and the types of social activities they participate in. According to Gehl, the edges are people’s first choice for sitting and standing. Indeed, it is not until all of the edges and borders are fully occupied that people tend to move inwards (Gehl 1987). This is called the edge effect, and it exists because users of public spaces enjoy facing the stream of people and

people watching. As a result, the edges of a public space are the best place for a good view of the surrounding activities.

Gehl published another book called *Cities for People* in 2010. This book is a more detailed version of *Life Between Buildings*. In this book, Gehl (2010) uses site observations as tools to study the characteristics that can make public spaces come alive. In addition, he introduces new descriptors useful to discuss successful cities: lively, sustainable, safe, and healthy. According to Gehl (2010), cities that are lively and sustainable foster social contact. For example, a lively city with many different groups of users is more welcoming to social contact. Gehl (2010 p.65) quotes a common Scandinavian saying: "People come where people are." This means that in urban spaces, people are usually attracted by and to other people's activities. He also presents the positive relationship between sustainability in a social sense and urban spaces. As Gehl discusses in his book, social sustainability is a large and broad topic, and it focuses on giving people from different social levels equal opportunities to access common city spaces. Cities with social sustainability also provide people equal access to meeting other people in public urban spaces (Gehl 2010).

2.4.3 Clare C. Marcus and Carolyn Francis (1997)

Published in 1997, *People Places* includes a great deal of resources on the subject of urban open space. In their book, Marcus and Francis (1997) discuss different types of urban spaces such as urban plazas, neighborhood parks, campus outdoor spaces, child care outdoor spaces, and many others. According to Marcus and Francis, social contact is as important to park visitors as nature contact. People usually decide whether to go to a park based on who else goes with them rather than the recreation facilities and/or nature space in the park (Marcus and Francis 1997). Therefore, ways to

provide opportunities for social contact is an important consideration in the design of an urban park.

One of the issues explored in their work is seating. The different styles, directions, and surface materials of the seating can have either a positive or negative effect on social contact. For example, seats arranged at right angles and at a proper distance can encourage social contact between people while seats arranged too close together or too far apart will discourage social contact (Marcus and Francis 1997). Furthermore, movable seats allow people to have some control over their own comfort and create a social environment by themselves to their liking. Marcus and Francis also suggest that pathways should be designed to connect attractive spaces and encourage group walks. These pathways should be wide enough to avoid bothering people who sit nearby. According to Marcus and Francis (1997), designing special spaces for regular groups of park visitors is also important to encouraging social contact. For example, a group of tables or seats arranged in a concave pattern can promote contact and create a sense of community.

2.5 Selected Urban Parks from Precedents

This section details several urban parks from precedents. These urban parks are selected based on their success as urban public parks. The selected projects incorporate different social values and design features relevant to this research.

2.5.1 *Defining Success*

Since 1975, the Project for Public Spaces (PPS) has expanded on the work of William H. Whyte, author of *The Social Life of Small Urban Spaces* (PPS 2015). According to their website, the PPS is “a nonprofit planning, design and educational organization dedicated to helping people create and sustain public spaces that build stronger communities” (PPS 2015 para. 1).

According to PPS, there are four indicators to measure successful public spaces.

The four indicators PPS covers include:

- Access and linkages
- Comfort and Image
- Uses and Activities
- Sociability

First, a successful public space has good connection with the surrounding neighborhood, both visually and physically. People like to be able to easily access the space and see the space from a distance (PPS 2015). In addition, accessibility means equal access for all people, including children, the elderly, and those with special needs, and walkability to other spaces using sidewalks. Finally, fences around the space have a potential impact on its accessibility. According to PPS (2015), visual access encourages activity by creating the feeling that there is connection between private yards and public spaces.

Second, people prefer spaces that are comfortable and beautiful. A comfortable park includes perceptions about cleanliness and having a variety of places to sit and relax (PPS 2015). Comfort also includes good maintenance and management as elements that increase the sense of security. For example, a lighting system designed to illuminate dark areas and information identifiers that help park users more easily navigate to their preferred locations increase the sense of security and therefore comfort.

Third, activities such as public concerts, free art shows, yoga courses, and outdoor sports can encourage people to continually visit urban spaces. When a space can provide athletic fields, playground equipment, swimming pools, and/or hiking trails, it promotes active use and provides reasons for people to meet other people (PPS 2015).

Indeed, even a simple open green lawn can attract people to visit and interact with their friends in a natural environment.

Finally, sociability is the fourth indicator of a successful public space. When people come to an urban space in groups and feel comfortable interacting with strangers, the space is viewed as community gathering place conducive to social interactions (PPS 2015). And these parks in the following sections have the same success factors with Main Street Garden.

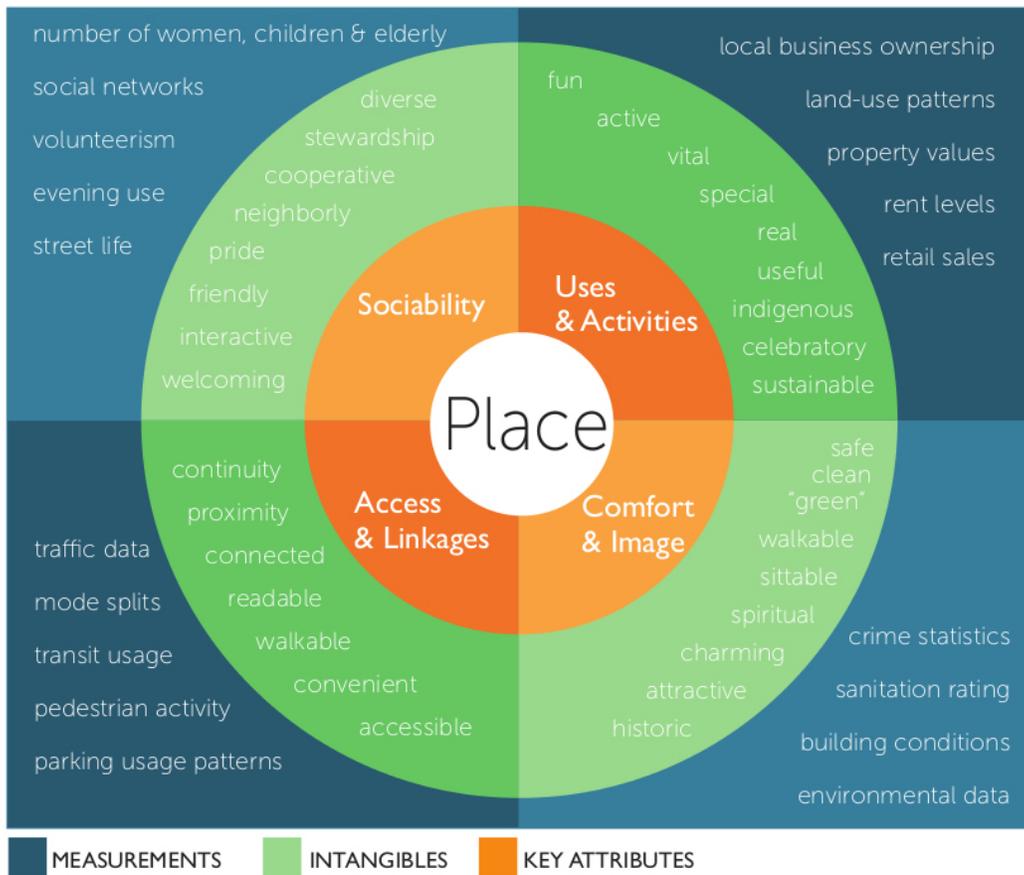


Figure 2-1 Indicators to measure successful public spaces (Source: Project for Public Spaces, 2015)

2.5.2 Bryant Park

Bryant Park is a 9.6 acre privately managed public park located in Midtown Manhattan, New York (Thompson 1997). According to Thompson, since its restoration in the 1980s, Bryant Park, originally built in 1874, has become one of the most successful urban parks in the United States. The park is heavily programmed year-round with activities that attract people who work, shop, or live nearby, as well as those who are just visiting. Kiosks at the corner offer coffee and light meals for park users. The availability and flexibility of seating is also a main reason for people to visit the park. This let people can choose wherever they want to sit except during the crowded lunchtime. Also, park users can rent chess and backgammon tables from the New York Chess and Backgammon Club (Goldberger 1992).

2.5.3 Golden Gate Park

Golden Gate Park is a 1,017 acre park located in San Francisco, California. This park attracts more than 13 million visitors from all over the world every year (Wirz 2015). According to Wirz, Golden Gate Park is a success for several reasons. First, the park is very easy to find and access. Since the park stretches over three miles long east to west, it is easy for the park to present itself to visitors and local residents. In addition, on Sundays and holidays, one of the main roads that run along the course of the park is closed to cars. This encourages bikers, walkers, and runners to use the park and increases their sense of safety. As the roads to the main attractions are also closed to cars during these times, people can more easily access them on foot (Wirz 2015).

Second, there are numerous historical buildings and unique structures in this park that attract visitors (Wirz 2015). The grounds and facilities in the park are clean and well-maintained. Third, there are many different types of activities provided at the park. People who like physical exercise can use the soccer fields, tennis courts, hiking paths,

and golf courses in the park. Two museums in the park offer visitors a cultural experience. People looking for a chance to experience nature can enjoy the natural environment and the nine lakes spread over the park. Finally, the park boasts a cordial and friendly atmosphere for social interactions, making it a preferred location for weekend family picnics and other rendezvous with family and friends (Wirz 2015).

2.5.4 Millennium Park

Millennium Park is a 24.5 acre public park located in Chicago's East Loop district (Gilfoyle 2006). According to Gilfoyle, it is one of the world's largest green roofs and is located on top of a commuter rail line and two multi-level parking garages. The park is a successful public urban space and attracts approximately 5 million visitors annually. The park is easily accessible by foot, bike, automobile, and public transportation. Local residents and visitors can conveniently visit the park. In addition, people of various ages, cultures, and backgrounds often meet in the park and participate in various activities, such as seeing concerts, taking pictures, and enjoying the gardens. Regular park maintenance and security are important to attracting visitors.

2.5.5 Paley Park

Paley Park is a pocket park of only 4,200 square feet located in Midtown Manhattan and surrounded by high-rises (PPS 2015). According to Whyte (1980), the park offers an escape from the sights and undesired sounds of urban living. In Whyte's view, Paley Park is a success for several reasons. The park is located directly on the street, meaning that it is easily accessible. In addition, a waterfall offers a point of triangulation and encourages people to enter and mingle with each other. The noise of the waterfall buffers the sounds of the street and creates a private and quiet space for visitors. The moveable chairs and tables let people sit wherever they choose and

increase their level of comfort. Finally, the trees help shade visitors and create a beautiful effect as light passes through (Whyte 1980).

2.6 Study Location: Main Street Garden in Dallas Overview

Main Street Garden Park is a new urban park located in downtown Dallas, Texas. According to Mastrangelo (2010), this 1.75-acre park is intended to encourage residential and commercial growth in the downtown area and has been designed as common ground for residents of the adjacent high-rise residential buildings, university students and faculty, and business and commercial users. It is also the most centrally located of the three new parks (Main Street Garden, Belo Garden, Klyde Warren Park) in downtown Dallas (Mastrangelo 2010).

Main Street Garden was initiated by the Mayor's Downtown Coordination Committee, including community leaders and city officials. According to Mastrangelo (2010), downtown residents, workers, and visitors are the major stakeholders in the active programming of the park. The park is designed to be a downtown destination, and it emphasizes the architectural history of the area while also creating new opportunities for public enjoyment. The design team of Thomas Balsley Associates integrated these various themes into the cohesive unit to create Main Street Garden (Mastrangelo 2010).

The park is organized around a large central lawn that serves as the main civic space and foreground for the historic City Hall Building. This large lawn provides park users a place to relax, communicate, and gather for public events. The key program elements such as fountain, urban dog run, playground, and the food concession, are located at the edges of the park and serves to activate the edges and draw people in, giving visitors a place to enjoy the sun or to stay cool when it is too hot. Large shade trees and ornamental plantings line all four sides of the park and reinforce its urban frame

and sidewalk streetscape (Mastrangelo 2010). Amenities of the park include a café and shade structure, fountain, playground, an urban dog run, and garden rooms.



Figure 2-2 Main Street Garden and surroundings (Source: City of Dallas Park and Recreation Department, 2013)

In summary, the design of the park is adapted to the unique location of Main Street Garden. The park creates a great civic space that accommodates special public gatherings and celebrates the events of everyday life of the residents in downtown Dallas (Mastrangelo 2010). Finally, the Main Street Garden overview helps the researcher have a deep understand of this park.

2.7 Summary

This chapter describes the evolution of urban parks and discusses the characteristics of urban parks from different periods. It also discusses the social value of

urban parks. The literature review provides the foundation for the research design through the works of Whyte (1980), Gehl (1987 and 2010), and Marcus and Francis (1990) on urban spaces and human social behavior. The Project for Public Spaces details several characteristics for successful urban parks that help to create a platform for urban park study. Secondary documents are also collected to describe the background knowledge of Main Street Garden. The following chapter details the method of the research and discusses how the data will be collected and analyzed.

Chapter 3

RESEARCH METHODS

3.1 Introduction

This chapter focuses on the research methods. The study uses quantitative techniques to study the association between certain design characteristics of urban parks and human social behavior. Chapter 3 discusses the research design, the collection of data, and the analysis of data. This chapter concludes with the limitations of the research.

3.2 Research Design

The research procedure for this thesis is as follows:

- Examine secondary documents to gather background knowledge of Main Street Garden, including size, location, surroundings, history, and design team
- Conduct passive on-site observations to record park characteristics of Main Street Garden through digital photos and the use of behavior mapping to record human social behavior in the park
- Conduct interviews with park users and park designers
- Interpret and compare the data from observations and interviews
- Develop themes from the data

3.3 Data Collection Methods

3.3.1 Passive Observation

The method of passive on-site observation is used in this research to better understand the design characteristics of urban parks and how these characteristics affect human social behavior. Passive observations have the advantage of minimizing possible influences the researcher may exert on park users during the observation process

(Spradely 1980). Passive observations help the researcher understand the current park characteristics of Main Street Garden in two ways. First, visual design characteristics of Main Street Garden are recorded in digital photographs (Gehl 2012), including:

- Sitting space in the park in terms of chairs, steps, planters, and so on
- The location and use of trees within the park
- The availability of food concessions
- Pathways in the park
- Defined spaces in the park
- Water features in the park
- Areas that serve as focal points and social interaction, such as for a dog-run, playground, concerts, movies, or other activities
- The park's relationship to the street



Figure 3-1 Main Street Garden plan view (Source: Thomas Balsley Associates 2007)

Second, behavior mapping is also used in this research to record what people do and which places they most frequent in Main Street Garden. Behavior mapping allows the researcher to directly observe phenomena in the study area, with little to no influence on the observed subjects (Cosco et al. 2010). Also, this method allows the researcher to evaluate the relationship between different park characteristics and human social behavior (Cosco et al. 2010).

3.3.2 In-depth Interviews

An open-ended interview is a way of gathering information that cannot be observed from people (Taylor and Bogdan 1984). The researcher asks questions of an informant, who then answers those questions. Some questions in these interviews gather basic data on informants such as age and background. However, most questions focus on the informants' feelings, experiences, thoughts, and preferences.

3.3.2.1 The Informants

Informants for this research are selected from Main Street Garden park users and from landscape architects and park designers with knowledge of Main Street Garden from the Dallas-Fort Worth area. Park users are selected from a random sampling of different Main Street Garden spaces to allow the research to obtain a diversity of experiences and feelings. Landscape architects and/or park designers are chosen based on their rich experiences with park design and park management, especially with Main Street Garden. The interviews in this research implement a process of snowball sampling, which is a sampling technique used to identify future informants based on the existing informants' responses (Castillo 2009). In this research, the first park designer interviewed helps to identify other park designers and/or landscape architects in the Dallas-Fort Worth area. This technique allows the researcher to find other informants who are

familiar with park design or park management in order to obtain complete and meaningful data about Main Street Garden.

In addition, an electronic recorder is used during the interview with the informants' permission; in this way, all of the conversations are digitally recorded. These digital audio files are used to make detailed notes by the researcher. To protect their anonymity, the informants' names and other identifiable information are edited out of the interview notes. After the interview, the tape will be transcribed, which means they will be typed exactly as they were recorded, word-for-word. The audio files are destroyed after the completion of the research.

3.3.2.2 Interview Questions

The following are interview questions for park users. These questions examine how park characteristics affect park users' social behaviors and analyze park users' perceptions of park characteristics. All of the questions are asked in conversation style with follow-up questions based on their responses.

- Which is your favorite area in this park? Why?
- What are your favorite features in the park? Why?
- What do you most enjoy doing in the park? Why?
- Have you ever brought your friends or family with you to this park?
- Have you ever planned to meet somebody here before? If yes, why did you choose this park?
- Do you usually meet new people at this park?
- Can you suggest any improvements to this park?
- Is there anything else you'd like to tell me about your experience of the park?

The following are interview questions for park designers and/or landscape architects. These questions examine the park designers' perceptions of how Main Street Garden's characteristics affect human social behavior.

- What kinds of park characteristics are important to affect human social behavior in urban parks?
- What characteristics did you consider to affect human social behavior in Main Street Garden?
- Can you tell me about how sitting space in Main Street Garden affects human social behavior?
- Can you tell me about how nature in Main Street Garden affects human social behavior?
- Can you tell me about how concessions in Main Street Garden affect human social behavior?
- Can you tell me about how pathways in Main Street Garden affect human social behavior?
- Can you tell me about how triangulation in Main Street Garden affects human social behavior?
- Is there anything else you'd like to add about the relationship of design and human social behavior in the park?

3.4 Data Analysis Methods

This section discusses the data analysis methods used in this research. This research significantly benefits from the grounded theory approach (Taylor and Bogdan 1984). Taylor and Bogdan (1998 p.137) state "The grounded theory approach is a method for discovering theories, concepts, hypotheses, and propositions directly from

data rather than from a priori assumptions, other research, or existing theoretical frameworks.”

This research categorizes the interview data using key words and then divides the data into sub-categories to further classify the data (Sommer 1991). Titles are created to describe the primary themes from the interview data. After this, the data from the passive observations are compared with the interview data in order to define the themes. The researcher explores the relationships between these data and integrates them into a coherent theory (Taylor and Bogdan 1998). Figure 3-2 describes the analysis methods followed in Chapter 4.

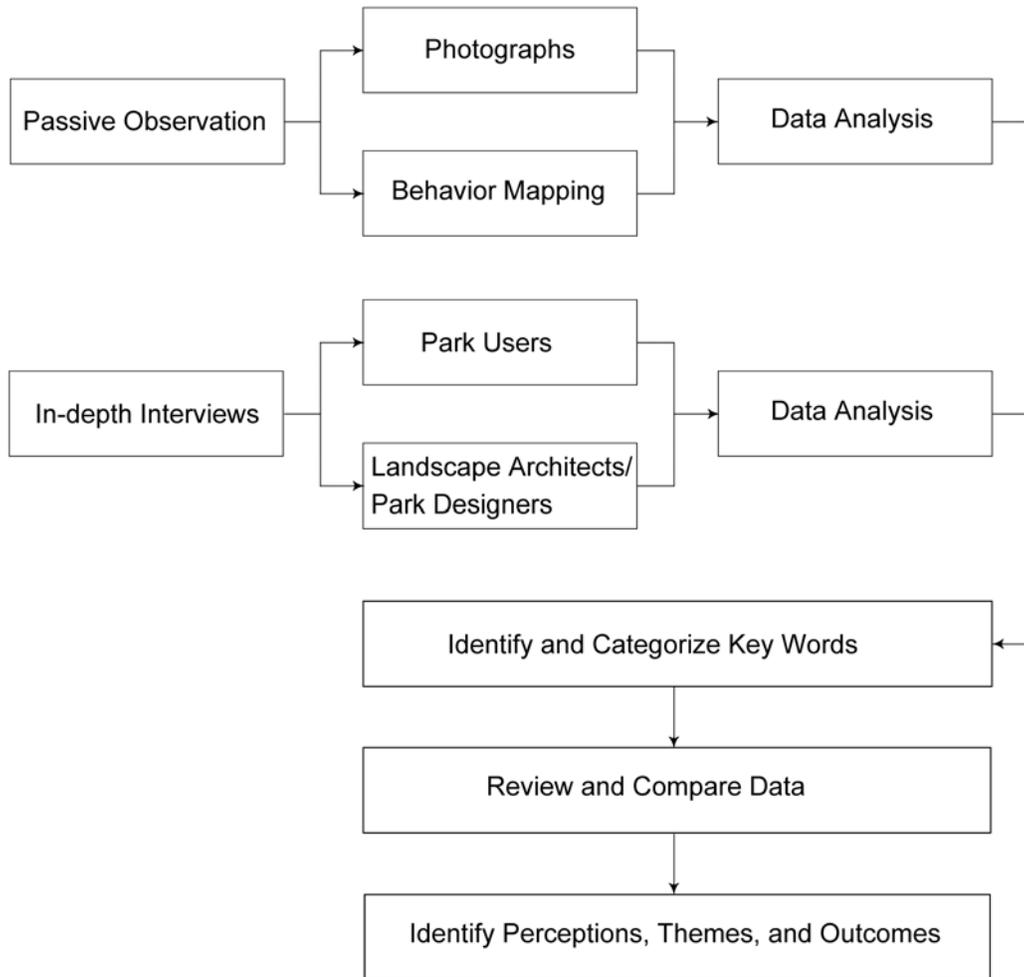


Figure 3-2 Data analysis process

3.5 Limitations

In this research, passive observations and interviews provide the greatest depth of understanding a diverse spectrum of settings and people (Taylor and Bogdan 1998). However, interviews have limitations primarily based on the difference between informants' words and actions. According to Taylor and Bogdan (1998), informants have fixed attitudes and respond in fixed ways in given situations. Another limitation is the potential lack of interview responses in this research. As noted by Taylor and Bogdan

(1998), a deep and broad range of participants is necessary to develop a comprehensive analysis. Finally, the park characteristics studied in this thesis that affect human social behavior are derived from this researcher's examination of the literature; however, this list of characteristics may not be complete.

3.6 Summary

This research uses quantitative methods to study the relationship between the design characteristics of urban parks and human social behavior. The research procedures utilize in-depth interviews and passive observations. This approach applies to the Main Street Garden in Dallas, Texas. Chapter 4 discusses the analysis and findings from the research methods applied in this chapter.

Chapter 4

ANALYSIS AND FINDINGS

4.1 Introduction

This chapter provides analysis and findings from on-site observation and interviews with Main Street Garden park visitors and landscape architects and/or park designers. The data from on-site observation help to understand park characteristics in Main Street Garden in Dallas. The interview analyses identify the relationship between park characteristics and human social behavior. Finally, themes are identified and developed. These themes focus on the characteristics that can affect human social behavior.

4.2 On-site Observation

On-site observation provides direct access to the design characteristics and social phenomena of the site. The observation process also helps the researcher of this thesis to gain a deeper understanding of the design characteristics in Main Street Garden and explore how these characteristics influence human social behavior. In addition, the observation process helps to clarify why some spaces in the park are used while others are not. The first step in this process is observing the design characteristics of Main Street Garden and people's behavior in or around these elements. The following design characteristics of Main Street Garden are discussed in sections 4.2.1.1 through 4.2.1.6:

- Sitting space
- Trees
- Food concession
- Pathways and defined spaces
- Triangulation

- Relationship to the street

The second step of this process is observing the social phenomena in the park. Findings and analysis from behavior mapping are discussed in section 4.2.2, including proportions of couples, individuals, women, children, and pet-owners; usage times; activities; and areas most frequented.

4.2.1 Park Characteristics

This section describes the results from on-site observation of the park characteristics of Main Street Garden. The observations were recorded at Main Street Garden on a sunny Saturday afternoon from 14:00 to 17:00 and a sunny Wednesday afternoon from 14:00 to 17:00. In addition to identifying these characteristics, the types of activities people do in or around these design elements are discussed.

4.2.1.1 Sitting Space

Sitting space is one of the most important design characteristics of an urban park. Main Street Garden provides different types of seating options for park visitors, such as benches, ledges, steps, seat walls, stone slabs, and movable tables and chairs. These sitting spaces are located in different areas of the park and provide people choices of where and how they would like to sit, such as in groups or alone; in the sun or in the shade; or close to or far from activities. They also provide different functions to meet the various needs of park visitors. Some seating is placed within the view of activities but out of the way of the flow of pedestrians. Some seating is placed beside the areas that attract people: the water fountain, children's playground, food concession, dog run, and shelters.



Figure 4-1 Seating placed out of the way of pedestrian flow

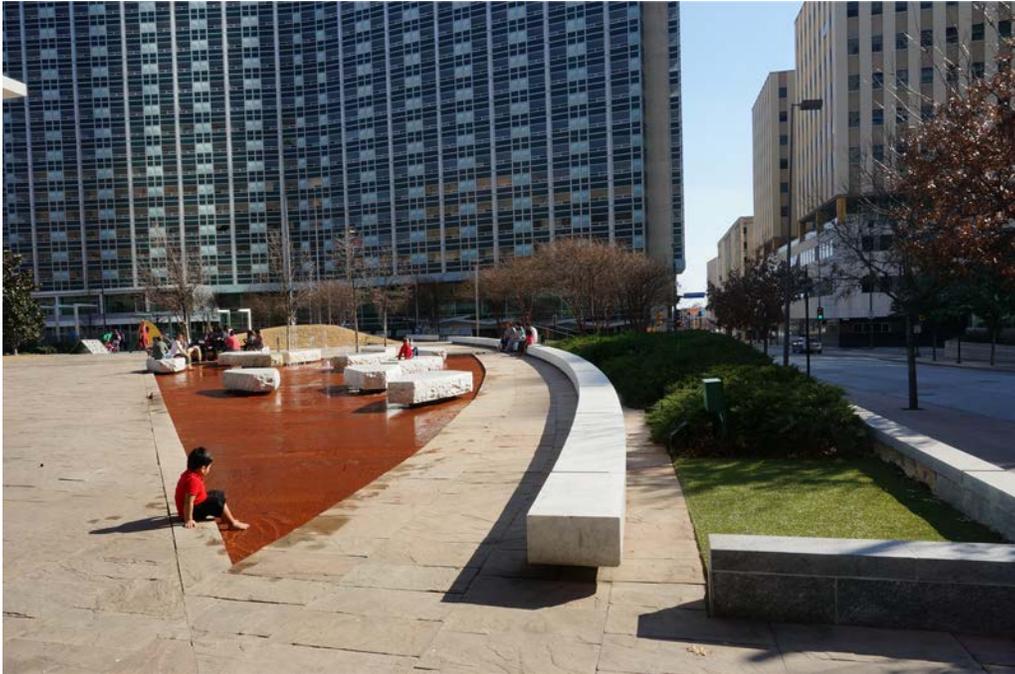


Figure 4-2 Seating placed beside water fountain

Seating in Main Street Garden also supports different ways in which people like to sit. For example, moveable chairs allow people to choose the direction they want to face, especially in places where several activities occur in different directions at the same time. Ledges and/or stone slabs allow people to sit on both sides at the same time. Some seating in the park is constructed with stronger materials and/or with larger backs. This allows people, especially kids and/or teenagers, to sit both on the seats and backs of benches. In addition, different types of materials are utilized for park seating, such as wood, stone, and metal, to provide multiple user experiences for people. From the observation, couples and groups of people usually sit under the shade structure of the food concession or beside the fountain, which is an open space in the park. On the other hand, single people usually sit in the sitting space along Main Street, which is separated by plants into several small spaces, and watch activities in the central lawn.

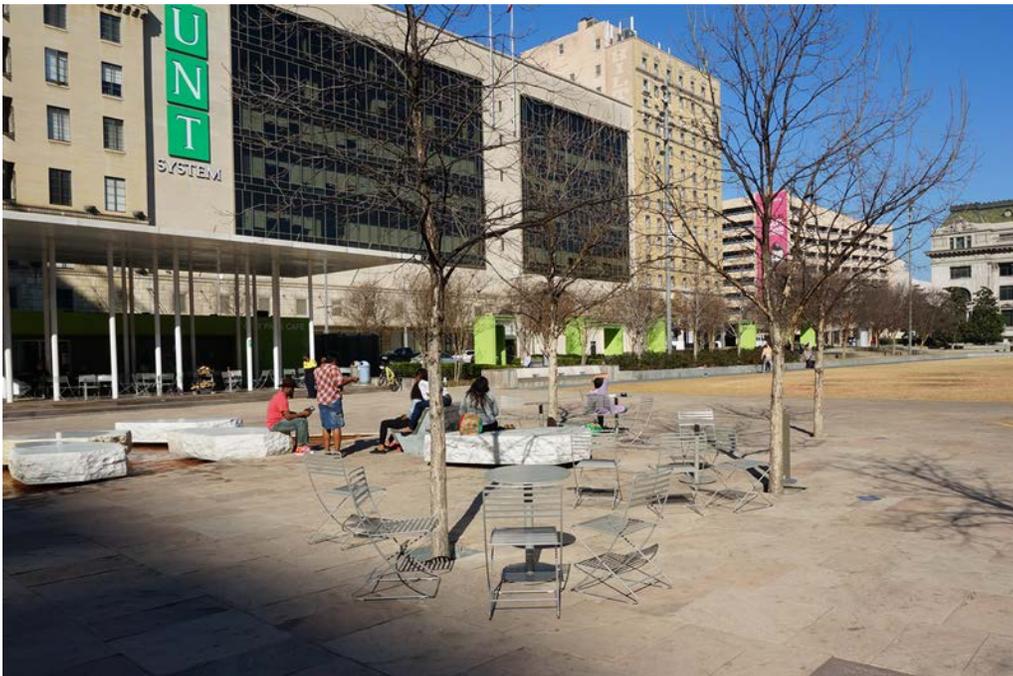


Figure 4-3 Movable chairs allow people to choose the direction they want to face

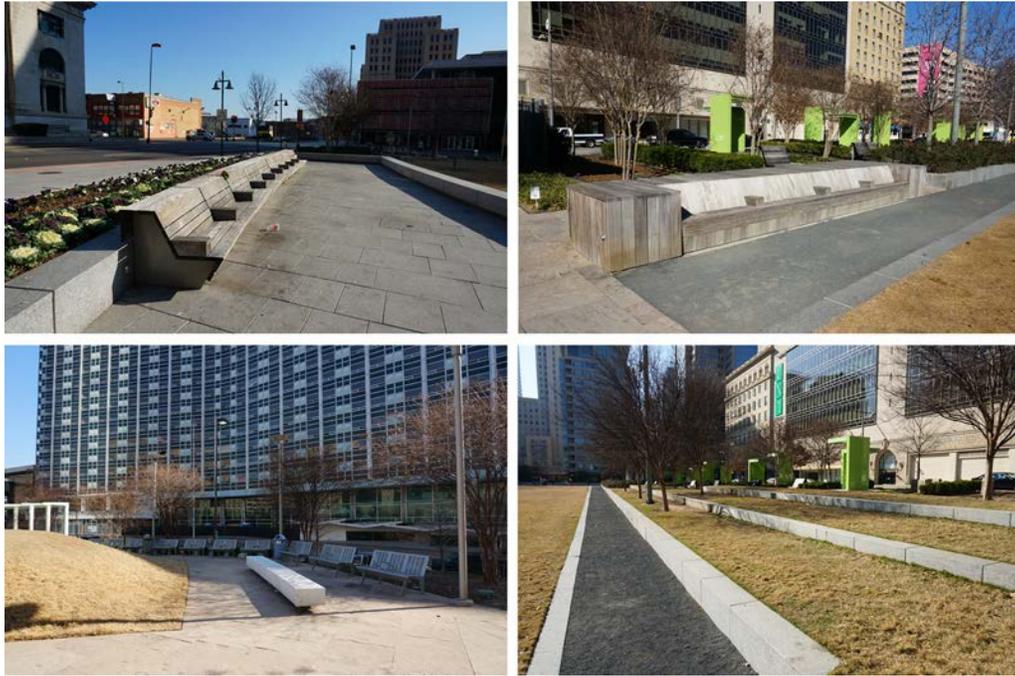


Figure 4-4 Different types of seating in Main Street Garden

4.2.1.2 Trees

Deciduous trees are planted along three edges of Main Street Garden, specifically the northern, the southern, and western edges, to provide shade in the summer and allow for sun in the winter. These trees also reduce glare and reflection, and mitigate the noise from nearby streets to help maintain a quiet space for people in the park. However, compared with the other edges, only four trees are planted on the eastern edge of the park, which is also the highest point in Main Street Garden and as such provides a good view of the whole park from the street.

Within the park, trees and other garden plants create smaller shade spaces for different user groups. For example, trees are planted beside the study shelters and lawn terraces. The trees here are planted about five meters apart so as to provide small, individual spaces under the trees for different users of park. In addition, evergreen trees are planted around the urban dog run to separate it from other spaces and minimize the

possibility of disturbing people outside of the dog run. Finally, ornamental trees on the southwest corner are designed to attract people entering the park, especially when these trees are blooming in spring.

4.2.1.3 Food Concession

The northwest corner of Main Street Garden works as the main entrance and commercial area. A food kiosk is located on a large wooden deck and an overhead structure provides comfort and shade to people. The raised deck not only provides a clean view of the nearby fountain but also works as a cozy place for people watching. The kiosk offers coffee and light meals and is designed to attract visitors and make the space lively. Lightweight chairs can be moved throughout the deck, and people can choose to sit alone or in groups. Visitors can also rent chess, backgammon tables, and building blocks from the manager. All of these elements combine to create a comfortable, accessible, and sociable space in this urban park. From the observation, during the week days, many people come to the park and eat their lunch together if the weather is nice. In addition, most people bring their own food to the park. The food concession works as a meeting point and a comfortable outdoor space suitable for taking short afternoon breaks.



Figure 4-5 Food concession in Main Street Garden

4.2.1.4 Pathways and Defined Spaces

The pathways in Main Street Garden help to connect different spaces and determine the boundaries of these spaces. Different paving materials are used in the park to separate areas with different functions; for example, most of the paths are made of stone pavers, the food kiosk is on a wooden deck, and the playground and dog run are on rubber cushion. Main Street Garden is organized around a large lawn in the center that provides a space for public events and/or group games. Other small spaces are designed around the central lawn and serve to activate the edges and meet the different needs of park users. Along the northern edge of the park and parallel to Main Street, a series of green study shelters surrounded by ornamental plantings create several separate small spaces for study or rest. Several pedestrian crosswalks cut across each garden and create a strong connection to Main Street. In this way, people are encouraged to enter the park from all points along the street. Along the western edge of

the park is a plaza that includes a fountain in center surrounded by different types of seating. Along the southern edge of the park and parallel to Commerce Street are an urban dog run, a playground, and a play mound. Shade trees and green-glass shade structures are placed in this area to provide shade for pet owners and parents who are watching and waiting for their children. Along the eastern edge of the park are lawn terraces. These lawn terraces have concrete edges to create different spaces with different elevations and provide sitting spaces for watching activities on the central lawn. At the north end is a large raised enclosed terrace with stone pavers and a long wooden bench that overlooks the whole park. A secondary path immediately north of this raised terrace connects South Harwood Street to the central lawn of Main Street Garden. Overall, the pathways in the Main Street Garden help to define different clear spaces for park visitors.

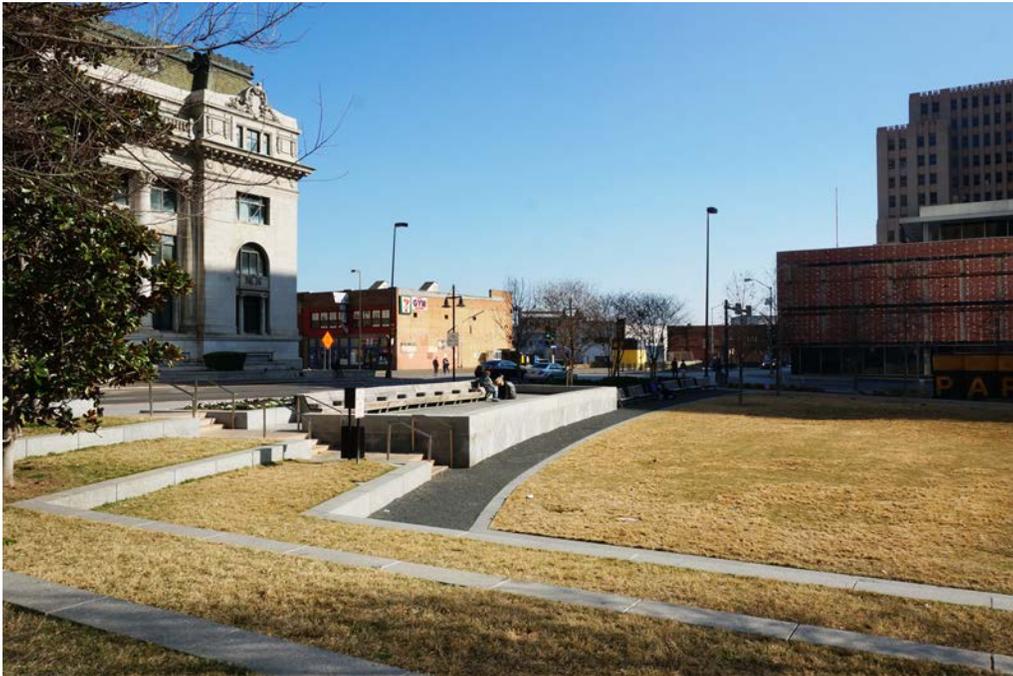


Figure 4-6 Lawn terraces in Main Street Garden



Figure 4-7 Green study shelters along the northern edge of Main Street Garden



Figure 4-8 Pedestrian crosswalks create a strong connection to Main Street.

4.2.1.5 Triangulation

Several areas in Main Street Garden serve as focal points that encourage strangers to interact with one another. These are points of triangulation and include the fountain, food kiosk, urban dog run, and playground. The fountain is located along the western edge of the park beside the northwest entrance. The 12-inch high fountain jets work in a wading pool with rushing water. Several giant slabs of marble are placed above the water and invite park visitors into the fountain. The noisy fountain creates a pleasant ambiance with seating beside it and attracts people to gather around it. From observation, people like to touch the water and stick their hands and/or feet in it. Some people, especially children, even splash and run in it. The fountain also serves as a sound buffer that blocks the noise from the street and other people's conversations. Even in this high density urban park with many others nearby, people can talk with their companions and maintain a feeling of privacy. In addition, since the fountain is close to the food kiosk, some people choose to sit beside the fountain while enjoying their food and/or drinks. When this happens, the food kiosk and fountain become meeting points and activity centers for people. In addition, the compressed seating at the food kiosk encourages people to sit close to each other, which prompt some to start greeting others while looking for a place to sit.

The playground provides classic playground facilities with soft rubber cushion paving to protect the children who play there. The playground draws children and their parents and other families together. People start to talk and greet with others when they play with their children. In addition, the sitting area beside the playground provides a convenient place to talk while people are waiting for and watching their kids. The urban dog run, located beside the playground, is surrounded by benches and shade structures

to provide pet owners comfortable places to sit and watch their dogs while socializing with others.



Figure 4-9 Fountain in Main Street Garden

4.2.1.6 Relationship to the Street

Main Street Garden is located on one block in the Dallas Central District. The park is surrounded by four streets: Main Street on the north side, Commerce Street on the south side, South Harwood Street on the east side, and South Saint Paul Street on the west side. There is metered on-street parking on both Main Street and Commerce Street, which provides convenient parking for Main Street Garden visitors. From observation, most of the visitors, especially those with children and/or pets, use the metered street parking. Main Street Garden provides bicycle racks beside the streets for people who visit the park by bike. In addition, sidewalks surround the park. Street trees

and street lights are placed along the sidewalks and provide shade in the daytime and lighting at night.

The main entrance of Main Street Garden is located at the northwest corner. People can also enter the park through secondary entrances at other corners and edges of the park. In addition, since the most attractive spaces are along the edges, they allow interaction between the park and the streets, which creates opportunities for pedestrians and motorists to experience green space. Overall, Main Street Garden is convenient to get to and get through and can be comfortably reached by foot, bike, and/or automobile.



Figure 4-10 Walks and on-street parking on Main Street



Figure 4-11 Walks and on-street parking on Commerce Street



Figure 4-12 Bicycle racks, street trees, and street lights in Main Street Garden

4.2.2 Behavior Mapping Analysis

In this research, the social phenomena in Main Street Garden are also recorded by behavior mapping and field notes (Whyte 1980). These methods help to study who

use the park, what people do at the park, and which areas in the park they most frequent. In addition, this process helps identify the park characteristics in Main Street Garden that people are most attracted to and how these characteristics affect human social behavior.

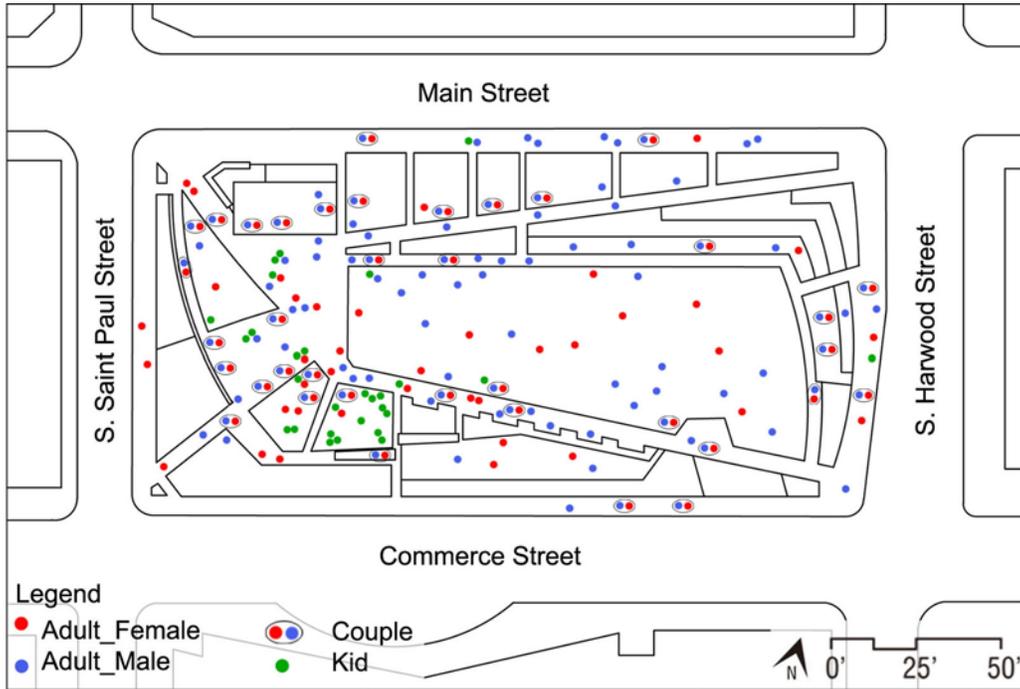


Figure 4-13 Behavior Mapping 1A

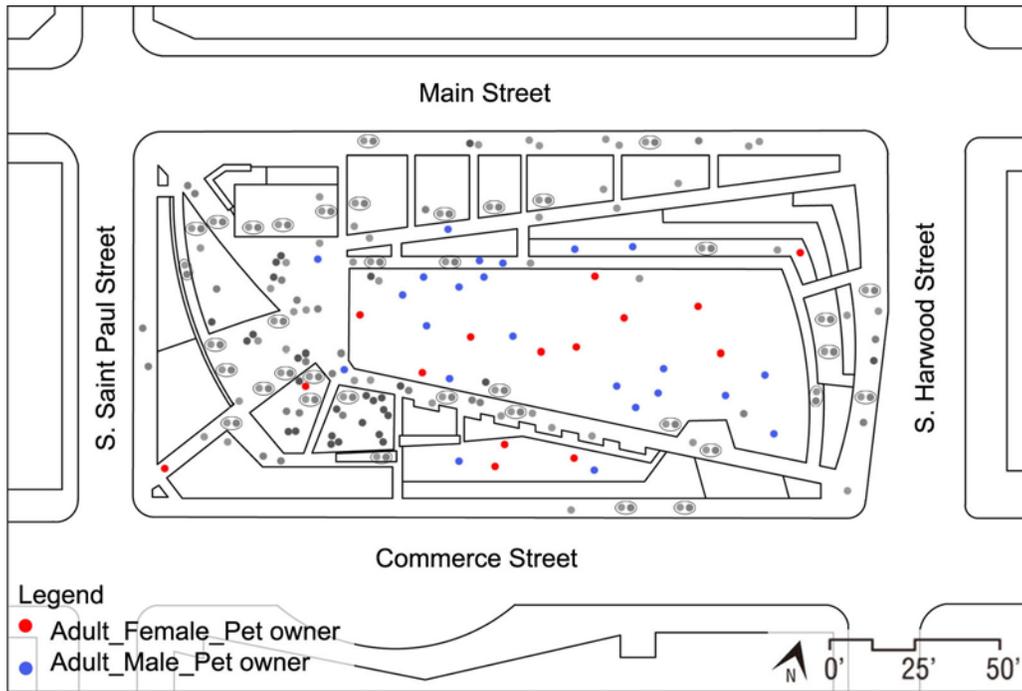


Figure 4-14 Behavior Mapping 1B

The behavior mapping analysis was conducted on a weekend day with good weather for staying outdoors, and a Saturday was selected as the specific study day since people were expected to go outside and visit park then. The social phenomena observations were recorded at Main Street Garden on a sunny Saturday afternoon from 15:30 to 17:30. The fountain in the northeast corner of the park was closed and on this day two park rangers were working at the park. During the observation time, 206 people visited and used Main Street Garden. From observation, 50% of the visitors were adult male, 37% of them were adult female, and the remaining 13% were children (Figure 4-12). The proportion of adult female and children at the park totaled 50%, indicating a sense of safety and comfort at Main Street Garden during the observation hours. In addition, during the observation window, the park rangers patrolled the park on bikes and talked with park visitors. This gives park visitors, especially women and children, a sense

of safety that creates a relaxing and welcoming urban space. In addition, from observation, 36% of the park visitors were couples, demonstrating that the park is understood as a safe space for interaction and socializing.

Most of the visitors chose to enter the park through the northeast or southeast entrances and stayed around the southern and western edges of the park. Because the fountain was closed, the playground was the most popular location for children to play at. The children seemed to be attracted by the facilities in the playground and by other playing children. The children's parents generally stayed in the sitting area between the play mound and the fountain watching and protecting their children. Some children and adults were sitting and playing on the play mound. A few people were sitting at the fountain and three couples and a single male adult were at the food kiosk. In addition, five adults were in the urban dog run with their pets. Finally, many people were seated under trees on the chairs immediately north of the urban dog run facing the central lawn. The people in these areas talked with their partners, ate and drank, played with their children, walked their dogs, and watched other people.

Whereas the southern and western edges were mostly populated by all groupings of people (couples, children, individuals), the northern and eastern edges were sparsely populated with couples sitting in areas that afforded them some privacy. Compared with other visitors who mostly stayed near the edges of the park, the majority of the pet owners (18% of all park visitors) congregated in the center lawn (Figure 4-13). Most of the pet owners visited the park alone to walk their dogs in and around the center lawn, or to let their dogs play in the urban dog run. They did not go into other areas of the park except when entering or leaving the park. Per the observation, visitors with dogs had more frequent and longer conversations with other visitors than those without dogs. Individuals who seemed to be interested in pets and/or playing with them sometimes

approached to have brief conversations with the pet owners. In addition, pet owners started talking with other pet owners when their pets played together. In this case, their pets provided a convenient way to start interacting with others.

Finally, it was observed that groups of people, people with kids, and couples spent more time at the park than individuals and/or pet owners. The former stayed on average for more than 30 minutes while the latter stayed for approximately 15 minutes in the park. This means that visitors to the park spent more time around the edges of Main Street Garden than in the central lawn.

4.3 Interview Analysis

The interviews help the researcher gather information that cannot be observed, such as informants' thoughts, feelings, and experiences in Main Street Garden. The interview data help the researcher to identify the most popular and effective elements in Main Street Garden and analyze the informants' thoughts and feelings about the park. In addition, the profiles of the participants' in this study are introduced to provide a clear understanding of the interview data.

4.3.1 Participants' Profiles

As discussed in Chapter 3, in-depth interviews were conducted with both park visitors and park rangers in Main Street Garden, and park designers and/or landscape architects with knowledge about and experience with this park in the Dallas-Fort Worth area. Visitors and rangers were randomly selected for interview from different areas in Main Street Garden. Park designers and/or landscape architects were contacted by email and invited to participate in the study. A recruitment email was sent to the first park designer to be interviewed, followed by a confirmation email. After the first interview, the first-interviewed park designer helped the researcher to identify other design

professionals who are knowledgeable about Main Street Garden and who might have an interest in this study.

A total of twelve informants were interviewed for analysis of their perceptions of the park characteristics and human social behavior at Main Street Garden. Informants in this research include six park visitors (V1-V6), two park rangers (R1-R2), and four park designers (D1-D4). Most park visitors and park rangers who are selected in this research have a deep impression of Main Street Garden since they live close to the park or work in the park. In addition, the park designers and/or landscape architects who are selected in this research have a deep understanding of Main Street Garden and urban park design.

4.3.2 Effective Elements in Main Street Garden

This section introduces the most effective elements in Main Street Garden and the park visitors' perceptions of and their feelings about the park. Most of the informants describe Main Street Garden as being a quiet, safe, and beautiful outdoor urban space. Many of the informants state that their favorite area is the west edge of the park, which includes the fountain, urban dog run, playground, food concession, and sitting spaces.

4.3.2.1 Fountain

In the interviews, informants claim that they like to watch, listen to, and play with the water. Informant (V-2) believes the fountain helps him relax, and he says he enjoys watching the children play in the fountain. Informant (V-3) says she likes to sit beside the fountain to read and write. According to her, "I like the variety, I like the fountain, the sound and the texture the water adds as well. And I like that kids can come over here and play." In addition, Informant (V-5), a mother with her baby son, says she appreciates the relaxed feeling the fountain provides. She also believes that it is important to let her son watch and listen to the water, and from that feel the great outdoors.

From the designers' perspective, according to the informant (D-1), "The fountain is very nice especially in this urban area. It helps cut down some of the noise." She believes the fountain offers a great design contrast with the surrounding concrete, and she notes that many visitors enjoy the fountain, sitting or running past it. Finally, informant (D-1) suggests that the fountain attracts visitors to enter the park, gather around the fountain, and engage in conversations with others while watching their children play in the water. The fountain helps people relax and creates opportunities to talk with and/or simply watch other visitors.

4.3.2.2 Urban Dog Run

Park visitors in Main Street Garden in Dallas also discuss the urban dog run. Informant (V-1) states that he met a woman at the dog run and they began discussing dogs when their dogs started playing together. According to informant (V-2), visiting the park with his dog and his young son, his favorite feature is the dog run "because my dog always playing and I can sit here and watch either the dog play or the children play." Informant (V-5) says that she likes to let her son stay outside the dog run and watch dogs.

From the designers' point of view, according to informant (D-1), the dog run "serves a dual purpose" by giving nearby residents a place to both exercise their dogs and socialize with others. According to her, "People like to get out and enjoying talking to other people with animals." In addition, informant (D-2) points out that the urban dog run is one of the elements of Main Street Garden that affects human interaction. As he says, the dog run is a space where people are almost forced to interact with others. According to him, "If you go to the dog run, there are other people in the dog run probably, so you begin the conversation about your dog or your day or whatever." The urban dog run works well as a conversation starter and provides a good reason to visit the park. In addition, visitors can relax by watching others' dogs run and play.

4.3.2.3 Playground

During the interviews, park visitors in Main Street Garden in Dallas claim that one of their favorite features is the playground. Informant (V-4) says that she likes to sit beside the playground and watch her kids play. Informant (V-5) likes to bring her baby son to the playground and give him a chance to watch other kids play. She also notes that she has met new people at the playground. During the interview, she pointed out another mother saying, "That lady is a mom with her daughter; she come to me and we start to talk about our kids."

According to informant (R-2), his main responsibility at Main Street Garden is the safety of the children in the playground. As he says, "I like that they have a playground for kids and they get the kids something to do in the park." Finally, informant (D-1) points out that the playground works as an area of triangulation in Main Street Garden as it engages people and provides them opportunities to interact with others. The playground is a great place for socialization. In this element, parents start conversations with other parents, and children enjoy meeting and playing with other children.

4.3.2.4 Food Concession

Some informants discuss their experiences with food concession during the interviews. These informants define the space as a good place to relax, watch others, and meet new people. According to informant (V-2), "I can sit here and drink a beer and watch my son play." He also suggests that a wide variety of foods should be provided in the park. Informant (V-4) says she brings her grandparents and friends to Main Street Garden to drink coffee. Informant (D-1) argues that, "I think it's nice to have a small kiosk thing, to have food or lunch or whatever. So that's a nice amenity to have in urban parks." According to informant (D-4), the food concession is important to draw people into the park, especially on nice days. He explains, "It is kind of a nice place that everybody

knows about and everybody knows how to get to it. And then to be able to grab a lunch or beer or something like that.” In addition, informant (D-3) believes the food concession provides people a place where they can sit and talk to each other as they eat. According to him, “We’ve had different meetings and stuff out there, we’ll meet at this café and just informally.” Finally, informant (D-2) thinks that food concession is a really good interaction point when the park is busy. According to him, “I think it’s very beneficial for the park because it gives you an immediate reason to be there even if you’re not coming to do something in the park, you might come to eat a taco or drink a beer or get a cup of coffee.” He also maintains that it is very important to provide a space in an urban environment for people to bring their food and have a comfortable place to eat. As he says, “People have the choice to go get a burger from across the street and eat in the park or bring their lunch down.” The food concession at this park provides a relaxing space for people to gather together and interact with one another.

4.3.2.5 Sitting Space

Both park visitors and park designers discuss their thoughts and experiences about the sitting spaces in Main Street Garden during the interviews. This park has different types of sitting space that allows human interaction. According to informant (D-1), “This park provides a wide variety of things and again, you can sit under this structure, and you can look back out to the space and sit watch everyone else interact.” She believes that the seating serves a multitude of purposes at the park. In addition, informant (D-3) says, “The types of activities that draw people together are important to affect human social behavior, like seating areas where people can sit and talk. I think it does a lot here because there are benches basically everywhere in the park.” Informant (V-3) states that the park provides a variety of seating choices to her. According to her, she likes to sit under the magnolia trees for shade in the summer and beside the fountain

while writing and reading. Informant (V-5) says she likes to have choices to sit in many places. Informant (V-6) points out that he likes to sit beside Main Street and take a break from working.

While most were positive experiences, informant (D-2) has a different perspective. According to him, "I think most of the benches in that park do not allow human interaction. Because all those benches are just put in a line for the most part. When we attach benches this way and put them in a line, we can't talk; and that hurts human interaction; and that hurts people wanting to be in the park in my opinion. So I think that's something that if I could change anything with this seating, I would change the bench configuration and the manner in which they're placed to allow people greater interaction." This park has multiple seating choices where visitors can sit together and talk. However, not all of the seating space in the park is arranged in a way that fully optimizes chances for human interaction.

4.3.2.6 Relationship to the Surroundings

All four park designers who are familiar with Main Street Garden in Dallas point out that the relationship between Main Street Garden and the surrounding roads affects not only human interaction but also the way that people interact with the park. According to informants (D-2) and (D-3), the northern and western edges of Main Street Garden are successful because of the way they interact with their surroundings, especially with Main Street. One reason is because there are many points to enter and exit the park on Main Street. Informant (D-2) states, "It's very permeable; it allows people in and out and to flow." In this way, people can watch activity in the park, which could cause them to decide to enter the park or return to the park at a later date. Informant (D-2) also points out that the interaction with the surroundings on the St. Paul Street edge and the Commerce

Street edge is weak because of the great elevation changes on both streets and the wall of the dog run along Commerce Street.

Another important point the park designers in this research discuss is the relationship between the park and the surrounding buildings, and between the park and the people in these buildings. Informant (D-3) believes Main Street Garden creates an interesting view from the high-rise buildings around it. According to informant (D-2), “The building uses have changed tremendously since the park was even envisioned and opened. The UNT Building had no windows. That was a completely concrete wall all the way up. All that glass has been added since the park opened. That's not a human interaction on the ground level, but how does that change people that work or go to class in that building? They put those windows in not just to get light, but also to get views into the park. So when you're in that building, you're looking out the window and you're probably going to talk to somebody about that park or what you're seeing.”

4.4 Themes from the Data

This research studies park characteristics and human social behavior in Main Street Garden based on the knowledge and experience of the participants and the researcher. This analysis combines the data from on-site observation and interviews, and key perceptions are divided into five themes: variety, visibility, permeability, safety, and conversation starters.

4.4.1 Variety

Variety is a main ingredient for Main Street Garden. In the interviews with park visitors and park designers, variety is mentioned as a key word to describe Main Street Garden, and provides people reasons to visit the park and affects human social behavior in the park. The park provides different types of spaces and facilities to attract various people. Pet-owners can walk their dogs in the urban dog run and the central lawn.

Children can play in the playground while their parents sit near and watch them. The fountain provides a space for sitting, talking, and relaxing. The food concession provides light meals and drinks, and a shade space to sit and meet. The sitting spaces on the north edge of the park are separated by shrubs and trees and provide several private spaces for couples. The central lawn and terraces provide a great space for all kinds of events and a diverse mix of activities. In addition, different types of spaces with different functions in the park create a very active and flexible urban space, which is important to encourage interaction between humans.

In conclusion, Main Street Garden provides different spaces to support numerous activities and attract many different people. This park is a place where people can visit to observe the passing scenes, meet friends and families, celebrate events, and interact with a wide range of people.

4.4.2 Visibility

According to the interviews from Main Street Garden, visibility is another important point for people in the park. Parents like to watch their children in the playground, pet-owners want to watch their pets to make sure they do not interfere with other visitors, park rangers monitor activities while patrolling in the park, and other park visitors like to see everything happening around them. Main Street Garden is a wide open space. It is easy to see other spaces and other people in the park. For example, according to informant (V-2), he likes to sit at the food concession and drink beer. From this vantage point, he can easily watch his son play on the playground and protect him at the same time.

However, the major element that decreases visibility at Main Street Garden is the grass mound beside the playground. The grass mound prevents additional interaction between the playground and the sitting spaces beside the fountain. As informant (D-2)

states, "If you are here, you don't know what's going on over the playground. If I'm a mom, I can't see here and I can't see if another person might be watching my child. So I think the most successful spaces are those that begin to triangulate with no obstructions."

In conclusion, Main Street Garden is a wide open urban space. The views in the park are clean and clear. People in the park can easily see activities around them, which can both attract more people to the park and increase its feeling of safety.

4.4.3 Permeability

Permeability is another key point in Main Street Garden and is highlighted by the park designers. And the word permeability is come from park designers during the interviews. According to observations and interviews, permeability includes equal access for people of all abilities, walkability to and from other spaces using sidewalks and pedestrian crosswalks, and visibility to and from the surrounding neighbors. Street trees and street lights around Main Street Garden help to create a pedestrian friendly environment by providing shade and light and separating vehicle traffic from pedestrian activity. In addition, Main Street Garden provides convenient parking and/or public transportation near the park entrances. The connection between the park and its surrounding areas also affects permeability. Fences between the park and its surroundings, and the grade change on the south and west edges of the park are elements that decrease the park visitors' movement in and out of Main Street Garden. Visual access is also considered in this research. Adequate visibility encourages activity in the park, reduces possible uncomfortable feelings about the park being obscured from the neighborhood, and creates a sense of continuity between the park and its surroundings. The north and east edges of Main Street Garden have a strong connection with the neighborhood. People can easily enter the park and enjoy watching the rich visual elements and activities in the park.

In conclusion, Main Street Garden is an urban space that is easy to see and enter into. People can easily find that there is something to do or something happening in the park, which can entice people to enter the park.

4.4.4 Safety

Many of the participants in this study cite safety as a critical element that affects human social behavior. According to the literature, a fear of crime and violence, especially against women, can cause well-designed public parks to go unused (Franck and Paxson 1989). From the interviews, many visitors state they feel safe in Main Street Garden. Informant (V-3) appreciates that the park rangers monitor the park very well, especially after dark. Informant (V-5) says she feels safe and comfortable bringing her baby son to the park. According to informant (R-2), his main responsibility is keeping watch over the children in the park and protecting them from harm. Finally, informant (R-1) states he patrols the park every day.

In conclusion, Main Street Garden is a controlled and patrolled urban space with restricted hours of operation. These approaches minimize opportunities for crime and help park visitors feel less vulnerable. The security of this space is one of the important elements that attracts people and creates a comfortable and friendly environment for all park visitors, especially for women, children, and the elderly. In addition, this sense of safety helps people feel relaxed and increases interaction among people.

4.4.5 Conversation Starters

There are three characteristics, the urban dog run, the playground, and the food concession, that work as conversation starters and affect human interaction in Main Street Garden. As several informants state, they begin conversations with others about their dogs when they go to the dog run if there are other dog owners there at that time. As informant (V-2) says, he usually meets with other dog owners who keep the same

schedule at the dog run. In addition, these types of conversations occur at the playground. The playground provides a space for kids to gather together and play. When they do, their parents start to talk with each other while waiting and watching their kids. Finally, the food concession also works as conversation starter. It provides shade and a comfortable space where people can sit and eat close to each other. According to informant (D-2), people are basically forced to interact with others in this type of space.

In conclusion, the conversation starters at Main Street Garden provide both the opportunities and topics for people to start discussions with others. In addition, these spaces not only work as an aesthetic appeal but also increase the neighborly feeling in the park. These spaces draw people into the park and give them chances to meet and know others who live nearby and enable them to relax with companionship.

4.5 Summary

The findings utilize data from on-site observation and interviews from park visitors, park rangers, and park designers to understand the relationship between park characteristics and human social behavior in Main Street Garden. The effective elements in Main Street Garden include the fountain, urban dog run, playground, food concession, sitting spaces, and the relationship to the surroundings. In addition, five themes are developed from the data: variety, visibility, permeability, safety, and conversation starters. It is important to note that these elements and themes are not independent from each other. They work together to create a socially friendly environment in an urban area. In these kinds of spaces, people can enjoy family time, meet friends, greet their neighbors, and feel safe and comfortable interacting with strangers. In addition, these spaces can help people attach to their community and create feelings of acceptance. Chapter 5 presents the conclusions of the research, implications for landscape architecture, and recommendations for further study.

Chapter 5

CONCLUSION

5.1 Introduction

This chapter summarizes the research findings and introduces their meaning for the landscape architecture profession. First, this discussion responds to the three research questions in the first chapter and shows how the analysis and findings engage these questions:

1. What design characteristics of Main Street Garden in Dallas have an effect on human social behavior?
2. In what ways do these park characteristics influence human social behavior?
3. How can these park characteristics be used in future designs?

Second, this discussion presents the relevance of this research to landscape architecture. Finally, this chapter introduces ideas that arose during the research process and concludes with future research opportunities that can be pursued on the basis of these findings.

5.2 Findings and Discussion

In Chapter 1, the researcher outlines three research questions that guide the scope of this research. The following section summarizes the findings based on the on-site observations and interviews, and shows how the final research analysis fits the research questions.

The first research question that guides this research concerns which design characteristics of urban parks that have an effect on human social behavior. From the analysis of observations and interview data, there are six types of design characteristics that have an effect on human social behavior at the study site. More specifically, these design characteristics create more opportunities for people to interact with others at Main

Street Garden. The effective design elements at Main Street Garden identified in this study are:

- Fountain

The fountain works as triangulation in Main Street Garden, acting as an “external stimulus that provides a linkage between people and prompts strangers to talk to each other as though they were not” (Whyte 1980 p.94). The fountain and the sitting space beside it provide a comfortable and open space for sitting, talking, and relaxing. The sound of water helps reduce the noise from nearby streets, and the water itself helps create a cool environment in the summer.

- Urban dog run

The urban dog run is one of the main reasons for people to visit the park, especially for pet-owners who live nearby. Also, the dog run provides a space for people to walk and play with their dogs and to converse with other pet owners. In addition, the dog run also works as triangulation in the park.

- Playground

The playground attracts children and their parents to the park and provides something to do at the park. Not only can children find somebody to play with on the playground, their parents can also interact with each other while watching and waiting for their kids.

- Food concession

The food concession provides light meals and drinks to people. More importantly, it provides a space with shade and movable tables and chairs, and people can bring their own foods. The food concession is a lunchtime meeting point for people who live or work nearby.

- Sitting space

Main Street Garden provides different types of sitting spaces for park visitors. People can choose to sit alone or in groups; close to or far away from activities; and in the sun or in the shade. The moveable tables and chairs under the trees and shade structures provide convenient and comfortable spaces for people to meet, greet, eat, and talk with each other. Wood benches located along the southern edge of the park provide spaces for people to sit alone and have private space.

- The relationship to the surroundings

Main Street Garden has a comfortable and useful connection with its surroundings. People who live or work nearby can easily walk to the park. The street trees beside the sidewalk provide shade in the daytime and the street lights provide light in the evening. The northern and eastern edges of the park have a better connection with the streets, and people can enter the park from all points along these edges. Compared with the northern and eastern edges of the park, the connections of the southern and western edges are weak because of the grade changes and the wall of the dog run.

The second research question concerns the ways in which these park characteristics influence human social behavior. There are five key points defined by themes. None of these themes exist independently from one another in Main Street Garden. They work together to create a comfortable and friendly urban environment for people to interact with others. The guiding design themes identified in this study are:

- Variety

A variety of choices provided at Main Street Garden attract various people and satisfy different needs. People can walk their dogs, play with their

children, meet their families and friends, celebrate events, people watch, eat, drink, sit, talk, and engage in a variety of other options at this park.

- Visibility

Most of the views at Main Street Garden are clean and clear. People in the park can see activities around them and in other areas, which attracts people to use the park by increasing their sense of safety. The major element that decreases visibility is the grass mound between the playground and the sitting spaces beside the fountain.

- Permeability

Main Street Garden is easy to access for people of all abilities. People can enter the park using sidewalks and pedestrian crosswalks, and they can easily see into the park and watch its activities. The permeability of the park encourages activities and reduces possible uncomfortable feelings.

- Safety

Main Street Garden is described as a safe urban space in the interviews of this study. The restricted hours of operation and patrolling park rangers help to create a sense of safety for all park visitors, especially for women, children, and the elderly. In addition, this sense of safety helps people feel relaxed and creates a comfortable and friendly downtown space.

- Conversation Starters

The urban dog run, the playground, and the food concession at Main Street Garden work as conversation starters. People in these spaces have much opportunity to talk with others. They gather together and discuss similar topics, such as their dogs, children, or the food in the park.

The third research question concerns how these park characteristics can be used in future design. From the observation and interview data, six effective design elements are identified at the study site. All of these design elements work together to create an urban space for celebrations, social exchanges, outdoor activities, and the mixing of cultures in Main Street Garden in Dallas. The design elements in urban parks should fit the needs of its intended and potential future users. Finally, future designs can incorporate some or all of these design elements as necessary to influence human social behavior.

5.3 Relevance to Landscape Architecture

Landscape architecture is a field that combines arts and sciences and has influence on architecture and urban planning. This field includes but is not limited to the design and planning of urban parks. Urban parks are significant to creating and maintaining livable urban areas, and the interactions in these places encourage citizen investment in the city. Therefore, it is important for landscape architects and urban planners to identify what types of park characteristics are necessary to create a social and friendly public urban park and understand how these characteristics work. In the long term, the findings and analyses from this research, especially the identified themes, can be used in future design projects.

5.4 Future Research Opportunities

The following recommendations for further study will enhance future research related to urban parks and human social behavior:

- Increase the number of participants for the interviews
- Conduct interviews at different times during one day and on different days in one week
- Examine the themes in other urban parks and/or urban spaces

- Compare at least three urban parks for more reliable findings

Main Street Garden is a good public environment for how design characteristics can be successfully used to influence human social behavior, which can help park designers and urban planners in the future parks development process for downtown Dallas. More specifically, the design elements of Main Street Garden that have positive effects on human social behavior can contribute to successful projects in the future.

Appendix A
IRB Approval Letter



UNIVERSITY OF
TEXAS
ARLINGTON

OFFICE OF RESEARCH ADMINISTRATION
REGULATORY SERVICES

**Institutional Review Board
Notification of Exemption**

March 2, 2015

Junjie He
Dr. James Richards
School of Architecture

Protocol Number: 2015-0484

Protocol Title: *The relationship between park characteristics and human social behavior: learning from Main Street Garden in Dallas, Texas*

EXEMPTION DETERMINATION

The UT Arlington Institutional Review Board (IRB) Chair, or designee, has reviewed the above referenced study and found that it qualified for exemption under the federal guidelines for the protection of human subjects as referenced at Title 45CFR Part 46.101(b)(2).

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, either directly or through identifiers linked to the subject; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

You are therefore authorized to begin the research as of **February 26, 2015**.

Pursuant to Title 45 CFR 46.103(b)(4)(iii), investigators are required to, "promptly report to the IRB any proposed changes in the research activity, and to ensure that such changes in approved research, during the period for which IRB approval has already been given, are **not initiated without prior IRB review and approval** except when necessary to eliminate apparent immediate hazards to the subject." Please be advised that as the principal investigator, you are required to report local adverse (unanticipated) events to the Office of Research Administration; Regulatory Services within 24 hours of the occurrence or upon acknowledgement of the occurrence. All investigators and key personnel identified in the protocol must have documented Human Subject Protection (HSP) Training on file with this office. Completion certificates are valid for 2 years from completion date.

The UT Arlington Office of Research Administration; Regulatory Services appreciates your continuing commitment to the protection of human subjects in research. Should you have questions, or need to report completion of study procedures, please contact Alyson Stearns at astearns@uta.edu. You may also contact Regulatory Services at 817-272-3723 or regulatoryservices@uta.edu.

**REGULATORY SERVICES
SERVICES**

The University of Texas at Arlington, Center for Innovation
202 E. Border Street, Ste. 201, Arlington, Texas 76010, Box#19188
(T) 817-272-3723 (F) 817-272-5808 (E) regulatoryservices@uta.edu (W) www.uta.edu/irs

**UT Arlington
Informed Consent Document**

PRINCIPAL INVESTIGATOR

Junjie He, Landscape Architecture Program, junjie.he@mavs.uta.edu

FACULTY ADVISOR

James Richards, Landscape Architecture Program, jrichard@uta.edu, 817-272-2801

TITLE OF PROJECT

The relationship between park characteristics and human social behavior: learning from Main Street Garden in Dallas, Texas

INTRODUCTION

You are being asked to participate in a research study about the relationship between park characteristics and human social behavior. Your participation is voluntary. Refusal to participate or discontinuing your participation at any time will involve no penalty or loss of benefits to which you are otherwise entitled. Please ask questions if there is anything you do not understand.

PURPOSE

The specific purpose of this research study is to understand how park characteristics and design features contribute to people's social lives, and how they make cities more attractive places to live and work. In addition, this study on public parks in urban environments will provide further insights for future designers and developers interested in and working with urban parks.

DURATION

Participation in this study will last approximately 30 minutes.

NUMBER OF PARTICIPANTS

The number of anticipated participants in this research study is 50.

PROCEDURES

The procedures which will involve you as a research participant include:

1. You will read and sign the UT Arlington Informed Consent Document
2. You will be asked interview questions which were prepared by the researcher. Questions will be about thoughts on design features in Main Street Garden.
3. Other comments mentioned by the participant about Main Street Garden will be recorded as well.

The interview will be audio recorded. After the interview, the tape will be transcribed, which means they will be typed exactly as they were recorded, word-for-word, by the researcher. The tape will be destroyed after transcription.

IRB Approval Date: **FEB 26 2015**

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**UT Arlington
Informed Consent Document**

POSSIBLE BENEFITS

The data conducted from the interview will be contributed to urban park design. When designing and planning future urban parks, these characteristics and features can be implemented to enhance the aspects of human social behavior studied in this thesis.

POSSIBLE RISKS/DISCOMFORTS

There are no perceived risks or discomforts for participating in this research study. Should you experience any discomfort please inform the researcher, you have the right to quit any study procedures at any time at no consequence.

COMPENSATION

No compensation will be offered for participation in this study.

ALTERNATIVE PROCEDURES

There are no alternative procedures offered for this study. However, you can elect not to participate in the study or quit at any time at no consequence.

VOLUNTARY PARTICIPATION

Participation in this research study is voluntary. You have the right to decline participation in any or all study procedures or quit at any time at no consequence.

CONFIDENTIALITY

Every attempt will be made to see that your study results are kept confidential. A copy of this signed consent form and all data collected including transcriptions/tapes from this study will be stored in ARCH 322 for at least three 3 years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a participant. Additional research studies could evolve from the information you have provided, but your information will not be linked to you in anyway; it will be anonymous. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA Institutional Review Board (IRB), and personnel particular to this research have access to the study records. Your records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above. The IRB at UTA has reviewed and approved this study and the information within this consent form. If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, the University of Texas at Arlington will protect the confidentiality of those records to the extent permitted by law.

CONTACT FOR QUESTIONS

Questions about this research study may be directed to James Richards at jrichard@uta.edu or 817-272-2801. Any questions you may have about your rights as a

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Informed Consent Document**

research participant or a research-related injury may be directed to the Office of Research Administration; Regulatory Services at 817-272-2105 or regulatoryservices@uta.edu.

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of principal investigator or person obtaining consent Date

CONSENT

By signing below, you confirm that you are 18 years of age or older and have read or had this document read to you. You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time.

You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits, to which you are otherwise entitled.

SIGNATURE OF VOLUNTEER DATE

IRB Approval Date: **FEB 26 2015**

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Appendix B
Sample Email for Recruitment

Dear Sir/Madam,

My name is Junjie He. I am completing my Master of Landscape Architecture degree at The University of Texas at Arlington. My thesis topic is "The relationship between park characteristics and human social behavior: learning from Main Street Garden in Dallas, Texas." This thesis topic deals with how park characteristics affect human social behavior in Main Street Garden.

I would like to request your participation in an interview on the topic that will take approximately 30 minutes of your time and is completely voluntary and confidential. You will be asked questions about your thoughts on how Main Street Garden's characteristics affect human social behavior. The data obtained from your interview will contribute to park design research and provide a reference for designers for future projects.

If you would like to participate, please contact me by either email or call the phone number. Your participation is very much appreciated.

Sincerely,

Junjie He

Graduate Student

Program in Landscape Architecture

The University of Texas at Arlington

Phone: (817) 673-9618

Email: junjie.he@mavs.uta.edu

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