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AN EVALUATION OF PUBLIC OPEN SPACE IN DOWNTOWN
LINCOLN, NEBRASKA

By

Karl Dietrich

A THESIS

Presented to the Faculty of
The Graduate College at the University of Nebraska
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AN EVALUATION OF PUBLIC OPEN SPACE IN DOWNTOWN

LINCOLN, NEBRASKA

Karl Dietrich, MCRP

University of Nebraska, 2018

Advisor: Daniel Piatkowski

Public open space provides many benefits to a downtown area. Among the benefits are economic growth, social connectivity, health, and helping to create an identity for a city. As many cities continue to sprawl outwards, it is important that their downtown areas create a sense of place so that businesses and people stay and visit. Public open spaces can help provide that much needed sense of place. This study examines whether the “public space index” designed by Vikas Mehta (2014) is effective at evaluating public open spaces. This was done by using four public open spaces (Foundation Garden, Tower Square, The Railyard, and Government Square Park) in downtown Lincoln, Nebraska, as a case study to test the public space index. Results show that The Railyard was the highest scoring space at 75 out of 100 followed by Foundation Garden with a score of 72 out of 100. Tower Square scored 65 out of 100 and Government Square Park scored the lowest, according to the index, at 61 out of 100. The individual scores were then analyzed and broken down into five aspects: inclusiveness, comfort, safety, meaningful activities, and pleasurability. Finally, individual recommendations were given in order to better enhance these public spaces. By evaluating the spaces in downtown Lincoln, city officials will better understand which spaces are successful and which ones are not. This study will also help urban designers know what aspects are important when designing or redesigning public open space.

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TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION.....	1
Defining Public Open Space.....	2
History and Evolution of Public Open Space.....	4
Importance of Public Open Space.....	10
Importance of Evaluation.....	13
Evaluation Tools.....	14
Case Study: Downtown Lincoln, Nebraska.....	17
CHAPTER 2: METHODOLOGY.....	18
Site Selection.....	18
Foundation Garden.....	20
Tower Square.....	22
The Railyard.....	24
Government Square Park.....	26
Case Study Evaluation Methods.....	28
CHAPTER 3: RESULTS.....	37
Foundation Garden.....	38
Tower Square.....	39
The Railyard.....	40
Government Square Park.....	41
CHAPTER 4: DISCUSSION.....	43
Foundation Garden.....	43
Tower Square.....	47
The Railyard.....	51
Government Square Park.....	54
Macro-Scale Discussion.....	57
Significance to Planning and Urban Design.....	63
Challenges and Limitations.....	66
Research Questions Findings.....	69
CHAPTER 5: CONCLUSION.....	71
References.....	73

Appendix A: Public Space Index.....	77
Appendix B: Researcher Survey Attached Plaza/Park.....	85
Appendix C: Researcher Survey Detached Plaza/Park.....	93
Appendix D: User Survey Attached Plaza/Park.....	100
Appendix E: User Survey Detached Plaza/Park.....	104
Appendix F: IRB Approval Letter.....	108
Appendix G: Foundation Garden Public Space Index Breakdown.....	109
Appendix H: Tower Square Public Space Index Breakdown.....	111
Appendix I: The Railyard Public Space Index Breakdown.....	113
Appendix J: Government Square Park Public Index Score Breakdown.....	115

LISTS OF MULTIMEDIA OBJECTS

Figure 1: The Place Diagram.....	15
Figure 2: Aspect Scoring Examples.....	34
Figure 3: Foundation Garden Results & Pictures.....	39
Figure 4: Tower Square Results & Pictures.....	40
Figure 5: The Railyard Results & Pictures.....	41
Figure 6: Government Square Park Results & Pictures.....	42
Image 1: Public Open Space Locations.....	19
Image 2: Foundation Garden.....	21
Image 3: Foundation Garden Surrounding Businesses.....	21
Image 4: Tower Square.....	23
Image 5: Tower Square Surrounding Businesses.....	23

Image 6: The Railyard.....25

Image 7: The Railyard Surrounding Businesses.....26

Image 8: Government Square Park.....27

Image 9: Government Square Park Surrounding Businesses.....28

Image 10: Government Square Park Pre-2004 Renovation.....61

Table 1: Observation Information.....32

Table 2: Public Space Index Results.....37

Table 3: Public Space User Counts.....38

CHAPTER 1: INTRODUCTION

Public open spaces have been part of the urban fabric since the first cities were created. Historically, they served as places for communication, entertainment, religious gatherings, political functions, and commerce (Mehta, 2014). These spaces were traditionally market places or town squares owned by the government but accessible to certain groups and individuals. More recently, public spaces have expanded to include parks, courtyards, sidewalks, promenades, and memorials, to name a few. They also no longer need to be government owned, as many private entities have started creating public open spaces.

Modern public spaces have also expanded their role to become economic drivers, places for relaxation, and areas for social interaction. Unfortunately, not every public open space is designed and located in such a way that it can fulfill these roles. Some public open spaces are empty for all or most of the day. This can lead to higher crime rates because criminals see empty spaces as places where they can perform criminal activities (McKay, 1998). It can also lead to surrounding businesses moving away due to a lack of patrons. In order to prevent this from happening, cities need to evaluate their public open spaces. Evaluation of public spaces can lead to possible prevention of these problems. Once the issues are resolved, the sites can become more desirable places to visit. This is especially important in downtown areas that may already be facing concerns of population and business loss due to suburban sprawl. Successful public open spaces can be a key factor in a downtown revitalization project. Alternatively, public spaces are important for cities where downtown living is increasing. Effective public open spaces

can help provide missing amenities, such as a place to walk a dog or a playground for young children.

This thesis project will use downtown Lincoln, Nebraska, as a case study in order to determine if Mehta's (2014) public space index is an effective way to evaluate public open spaces. The evaluation uses on-site observations, user counts, and user surveys in order to give a score to each public open space. This project will also research whether or not four selected public open spaces in downtown Lincoln score highly using the public space index. This will help the city officials of Lincoln know which of these spaces are performing well and which spaces are not. Finally, suggestions will be made on how to fix potential issues at these spaces. The methodology presented in this thesis will help cities and private entities learn more about the importance of public space evaluation and will show that there is an effective way to evaluate their spaces.

Defining Public Open Space

In order to evaluate public open spaces, a definition needs to be established. This can be quite difficult due to the vast number of different definitions given by researchers and governmental agencies. One of the largest divisions within these definitions comes from the issue of ownership. The United States Supreme Court has ruled on several cases (Lloyd Corp v. Tanner and Marsh v. Alabama) referring to free speech on private and public property. In those cases, the Supreme Court has ruled that public spaces are "those spaces in cities (and elsewhere) that are publicly owned and have always been used by citizens to gather and communicate political ideas" (Mitchell, 1996). Essentially, the courts are arguing that public spaces are public forums where public speech can take

place. Many researchers agree with the Supreme Court and have similar definitions. Madanipour (1996) states that public open space is “space that is not controlled by private individuals or organizations, and hence is open to the public.” The issue with defining public spaces in this way is that it focuses too much on the issue of free speech. Historically this might have been fine, as public spaces were primarily meant to serve as public forums (Carmona, 2008). But modern public spaces have evolved to be much more. Physical public forums are becoming less prevalent and necessary because of free speech allowed on the internet and through social media sites such as Facebook and Twitter. Modern public open spaces have increasingly turned into places for commerce, leisure, and entertainment (Carmona, 2008). That is not to say that public open spaces do not play important political roles, but that over time with the advances of technology that role has been greatly diminished.

Definitions of public space that do not focus on ownership tend to focus on access and use. Carr (1992) defines public open space as “publicly accessible spaces where people go for group or individual activities.” Similar to the discussion of ownership, this type of definition can also be very tricky when defining what it means to be “publicly accessible.” Many privately-owned public spaces have restrictions on certain activities and clothing allowed in the space. Even traditional government-owned spaces have restrictions on them. For example, parks can have restrictions on smoking, and downtown squares can have laws against biking or skateboarding inside of them. However, restrictions on activities do not necessarily mean the space is not accessible; it just limits what can be done once inside. Defining what is and is not a public space will always be

difficult due to the vast array of different spaces and broad use of terms within the definition. By no means does any definition perfectly capture the essence of every public space. What is most important is that the definition covers the important dimensions of public open space.

For this research project, public open space will follow Carr's (1992) definition as "publicly accessible spaces where people go for group or individual activities." As noted earlier, this definition places no restrictions on ownership. Public spaces can be both privately-owned or publicly-owned, as long as they are publicly accessible and people go there to perform some sort of activity. The reason for choosing this definition is because many privately-owned and publicly-owned spaces act and perform in the same manner. In many cases, the spaces act so similarly that the users do not even know if they are privately- or publicly-owned. This definition also covers the more important dimensions of public space: access and use. Within this definition there are several types of public spaces that meet the qualifications, including: parks, sidewalks, memorials, plazas, and squares to name a few. This project will focus on certain aspects and uses, specifically what keeps individuals at public spaces. For this reason, transportation use and public spaces designed for transportation (sidewalks and streets) will not be examined.

History and Evolution of Public Open Spaces

Public open spaces have been around for as long as there have been cities. Some of the first formal public spaces occurred in Ancient Greece and Ancient Rome. The primary public open space in most Greek and Roman cities was the agora. The agora was a market and meeting place that served as a space for daily communication and assembly

(Mumford, 1961). The Greeks and Romans also had marketplaces and theaters which acted as public spaces. Although the Greeks lacked a cohesive street system, many of the cities in the Roman Empire were laid out on a grid system (Carr, 1992). Along with providing transportation routes, these streets acted as a public space where people could buy and sell goods.

By the tenth century, the Roman Empire had fallen and cities no longer played a significant role in production and trade (Mumford 1961). This was due to individuals leaving the city to build defensible castles in the country. Over time, the castles started to expand their walls around the homes and shops outside, creating a walled town. This walled town provided the safety to revive the marketplace (Carr, 1992). These marketplaces once again served as public spaces where commerce, communication, and entertainment took place. Along with marketplaces, many medieval cities contained squares and piazzas near the town halls. These squares and piazzas were not meant for commerce but for “civic dignity” and discussion (Carr, 1992). Streets in medieval cities were typically narrow and heavily used. Because of this, many did not serve as public spaces but only as transportation corridors.

During the Renaissance period, public open spaces became more planned and formal with the creation of great plazas (Carr, 1992). These plazas were often designed to be completely symmetrical and were meant to be sources of civic and religious pride. Across Europe, squares and plazas were seen as a necessity for public assembly. During this time period the first completely residential square was constructed in Paris, France (Girouard, 1985). After that, more and more residential squares were constructed in many

other countries. These squares were especially popular in England because the homes surrounding the space had the ability to restrict access to certain people (Carr, 1992). During this time, streets also saw a revival as public spaces. Many European cities started building wider roads and boulevards to provide transportation, as well as public gathering points (Mumford, 1961).

In the New World, most large settlements were centered around a main plaza or green square that could be used as a marketplace and a variety of other uses (Girouard, 1985; Mumford 1961). Cities such as Boston, Philadelphia, and New Orleans have retained these original squares and they still serve as public spaces today. Streets in the New World never became great public spaces like they did in Europe (Carr, 1992). Many cities tried to implement boulevards and wide streets; however, rapid population growth and economic trade made it difficult for them to serve any purpose other than transportation (Carr, 1992).

In the nineteenth century, cities saw the emergence of the parks movement (Carr, 1992). Before this, public open space in urban areas were primarily squares, plazas, marketplaces, and streets. Cities in the middle ages did have areas on the edges of towns for sports and games, but they were never located in the middle of town (Girouard, 1985; Jackson, 1981). European cities were the first to specifically set aside parks for public use and it was not until the second half of the nineteenth century that American cities created large central parks in their urban areas (Olmsted & Kimball, 1973). Influenced by German parks, Fredrick Law Olmsted designed many parks during this time, including New York's Central Park. These urban parks were heavily used by the low-income

working class which lived in the downtown areas. This created a lot of controversy as street life spill into the parks. Because of this, many parks developed restrictions on certain uses and activities (Olmsted & Kimball, 1973).

In the late nineteenth and early twentieth centuries, slum districts and settlement houses were prevalent in many urban areas. In order to try and fix poor living conditions, settlement houses and cities built small active play spaces for children (Cranz, 1982). Cities saw the lack of recreation space as one of the causes of crime and poverty in the slums. Before this time, parks did not typically have playground structures. Built primarily in immigrant neighborhoods, these play areas “shaped rather than reflected the needs of the users” in order to further Americanize the immigrant population (Carr, 1992). During this time, designated ball fields and courts were also introduced into the urban environment. Between 1907 and 1913, twenty-eight baseball fields were constructed in one park in New York City (City of New York, 1914).

When much of the population started moving to the suburbs after World War II, urban outdoor public spaces became less used. Families now had their own personal outdoor space, so public outdoor space was not as necessary. The rise of the automobile and the need for better traffic flow reduced the previous life on the street (Carr, 1992). Strip malls, indoor shopping malls, and box stores became the new public spaces for social interaction, and back yards became the new spaces for relaxation. The downtown public spaces were left underutilized and started to become spaces for criminal activities and violence. This further pushed people indoors and off of the streets (Carr, 1992).

In response to this issue, cities tried to revitalize downtown public spaces through redevelopment and incentives, like New York's zoning incentive program which used plaza creation as a requirement in exchange for additional building height in 1961. Many of these public spaces became what Mitchell (1995) refers to as "dead public spaces" and "festive" spaces. The first represent the plazas that surround office spaces. They tended to have relatively little accommodations and, as such, had very few users. The latter are public spaces which were designed to encourage consumption. They were built in redevelopment areas or shopping districts to help further enhance the area. These plazas around office spaces and festive spaces led to a new dimension within public spaces: ownership. Many of these spaces were privately-owned public spaces. The issue with these early types of privately-owned public spaces was that they were built around a need for order and control of behavior rather than designed to be user-friendly (Mitchell, 1995). That is not to say that some did not become successful. William Whyte showed that Seagram's Plaza in New York City was a very successful privately-owned public plaza. During this time, many cities like Boston, Seattle, and Philadelphia were also able to reclaim abandoned waterfronts and turn them into waterfront esplanades (Carr, 1992). Although not all of the public open spaces were successful, evidence showed that people were starting to use downtown public spaces in increasing numbers (Carr, 1992).

Since this time, there have been various movements within the public space arena. In the 1970's community self-help became a trend with public open spaces (Carr, 1992). Community gardens regained prominence during this time. Many buildings were being abandoned and demolished, which led to vegetable and flower gardens being planted on

these empty lots. These gardens helped serve as informal gathering places for many neighborhoods. Farmers markets also become popular. These markets host independent food producers and could be located in parking lots, closed-off streets, or empty lots. Also, during the 1970's and 1980's, developers tried to bring the indoor shopping mall to the downtown environment. These mega shopping structures spanned multiple city blocks and incorporated existing department stores while adding additional stores inside. Although these malls could be entered from the sidewalk, most of the activity occurred inside like a typical suburban shopping mall. Finally, natural open space systems gained popularity after the environmental movement in the 1960's. Cities acquired wetlands and wildlife habitat in order to keep them from being developed. In the 1980's many cities created greenways, which were connected systems of natural open space (Carr, 1992). These natural systems help with stormwater runoff and can be used as parks or wildlife habitats.

Today, public open space can take many forms, such as parks, commons, squares, sidewalks, plazas, memorials, markets, playgrounds, community gardens, shopping centers, and waterfronts. Many public open spaces are very successful and are vital parts of the city. However, there are still many public spaces, typically older spaces, which are underutilized. Recently, there has been a revival of the importance of placemaking within public spaces. According to the Project for Public Spaces (2018), placemaking “inspires people to collectively reimagine and reinvent public spaces as the heart of every community.” Placemaking uses community-based participation and local assets in order to create quality public spaces (Project for Public Spaces, 2018). Instead of designing

cites for cars, placemaking calls for designing places for people. Placemaking gives a voice to the people living in the area, rather than having the government or private companies decide what public space should look like. In this way, people feel more of a connection to the space and area around it. Examples of placemaking include Campus Martius Park in Detroit, Michigan, which helped revitalize its downtown core, and Houston's public library plaza, which created a more user-friendly outdoor site (Project for Public Spaces, n.d.).

Importance of Public Open Space

As cities continue to grow and develop, it is important to remember why public spaces are important. Public open spaces can impact a city in five broad categories: economic, political, social, health, and city identity. Ex-New York City planning commissioner Amanda Burden (2014) emphasized that public spaces can have power by the mere fact of people just knowing that they exist, saying: "Public space can change how you live in a city, how you feel about a city, whether you choose one city over another, and public space is one of the most important reasons why you stay in a city."

The economic impact public spaces can have on an area is a relatively new idea, but one that is gaining importance. Public spaces can help revitalize a neighborhood by jumpstarting economic development (Project for Public Spaces, 2012). This idea has been implemented in many cities and downtown areas. In Detroit, Michigan, a new public space was created in the center of downtown. The cost of the space totaled \$50 million, but since its creation there has been more than \$500 million in redevelopment in the area and 6.5 million square feet of mixed-use space adjacent to the space (Bowen,

2017). In Indianapolis, Indiana, a linear park that was added to the downtown area using a \$63 million investment, has increased the nearby collective property values by \$1 billion (Bowen, 2017).

Unlike the economic impact, the political impact of public open spaces has been known for centuries. Arendt (1958) said that public space is critical for democracy, as it allows citizens a space to come together and discuss issues. Public squares and plazas often become a rallying point for political demonstrations, as there are typically not any laws against large groups meeting in these places. Cassegard (2013) echoes this sentiment, saying that occupying physical public space has been significant to protests. Recent major examples of this include the 2017- and 2018-Women's Marches, Occupy Wall Street, and the 2017 Charlottesville Protests.

Public spaces also provide a location and opportunity for social activities. Roy Oldenburg (1991) originally came up the idea of the three realms of social life: home, work, and "third places," which are social environments outside the home and work. However, an argument can be made that public spaces differ enough from conventional third places in that they create a fourth realm of social life. Aelbrecht (2016) calls these types of public spaces "fourth places" because of the similar social characteristics of third places, but different users and activities performed in them. Public space promotes social life by acting as a meeting point for friends (Mehta, 2014), but can also promote interactions between strangers. Regular encounters between strangers in public spaces may help increase sociability between different groups of people who may never have

had the opportunity to interact before (Aelbrecht, 2016). This social interaction between different groups is typically not found in many other private or public areas.

Downtown public open spaces are typically smaller spaces, but they can still provide many health benefits to the people working in and visiting the area. Small parks, green spaces, and gardens offer the sanctuary and solace of an intimate setting (Wolf, 2016). While most downtown public spaces might not be able to provide many physical health benefits due to their size, the sanctuary and solace provide psychological benefits. Public spaces can act as reprieve from the busy downtown environment and help workers relax and relieve stress (Project for Public Spaces, 2012). Vegetated public spaces can lower frustration, increase brain activity, reduce fatigue, and help focus attention (Wolf, 2017). Some spaces are even including small play structures and jungle gyms for children. This helps the downtown area become a more family friendly environment.

As mentioned by Burden (2014), public open space can help create an identity for a city. One of Kevin Lynch's (1960) aspects of imageability for a city is the need for landmarks. In many cities across the country public spaces act as landmarks, which help people create a mental picture of the city. Public space can also become a vital ingredient to the success, revitalization, and character of a city (Project for Public Spaces, 2012). Burden (2014) might have said it best: "I believe that lively, enjoyable public spaces are the key to planning a great city. They are what make it come alive."

Importance of Evaluation

Although public open spaces can have a major positive effect on cities, it is not guaranteed that they will automatically have this impact. The Project for Public Spaces (2012) describes this danger:

A great urban park is a safety valve for the city, where people living in high density can find breathing room. A bad park is a place for fear and danger. A great square can be a focal point of civic pride and help to make citizens feel connected to their cultural and political institutions. A bad square repels people, business, and investment.

Jane Jacobs (1961) also believed in this idea, saying for every beloved space there are dozens creating vacuums of decay around them, seldom used, and never loved. People will not use public open spaces just because they are there; spaces must give people a reason to visit (Jacobs, 1961). These sentiments stress the importance of why public open space needs to be designed and located correctly.

The location of public open space also has a large effect on its success. Jacobs (1961) mentions that the surrounding neighborhood can drastically influence the quality of nearby public spaces. She uses Washington Square in Philadelphia as an example. When the square was originally built it had many users, but when the surrounding neighborhood changed to single use office buildings, the users were no longer there and the square became empty and underutilized (Jacobs, 1961). A public space's location relative to transit stops is also very important. The Project for Public Spaces (2009a) has lack of transit stops on their list of reasons why public spaces fail. When examining a

potential site for a new public open space, it is important for cities to evaluate the surrounding uses and connectivity.

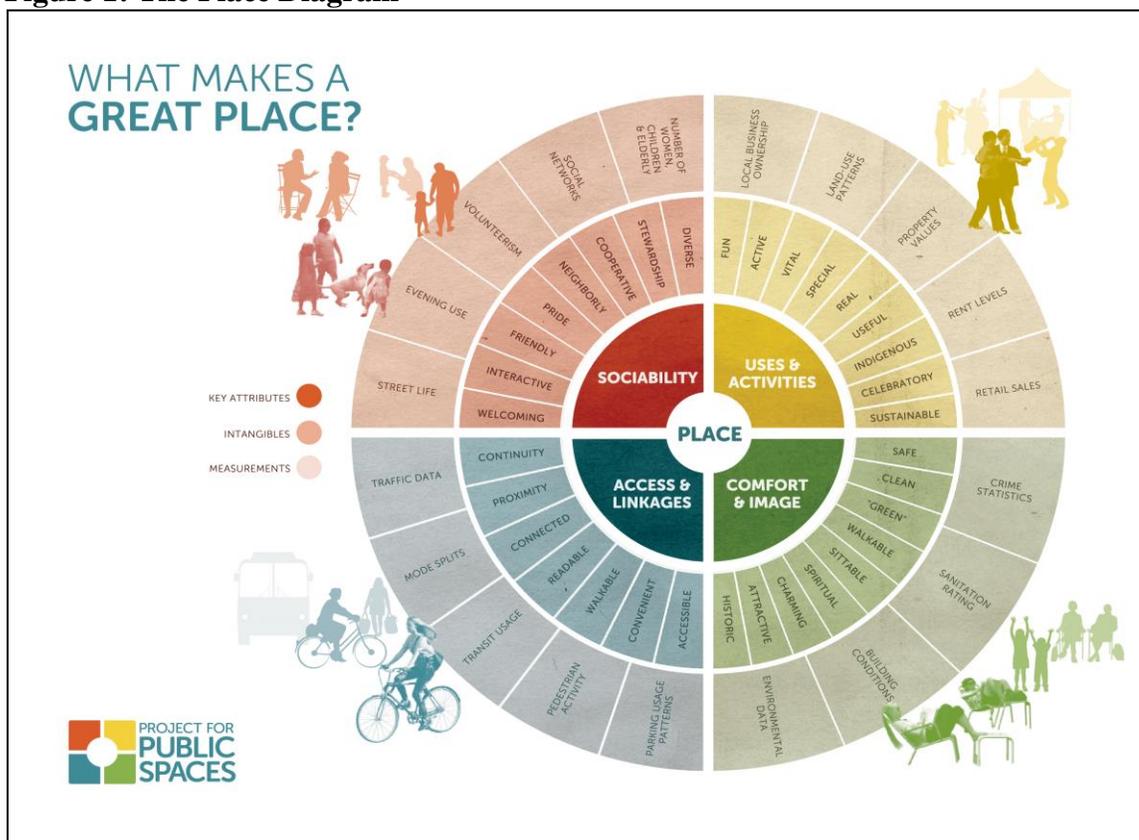
Public spaces are complex and need to evolve over time through improvements and refinements (Project for Public Spaces, 2012). Too often spaces are created and then forgotten, potentially causing major issues. William Whyte (1988a) found this to be the case in New York City. This led him to study New York's zoning incentive program, where he found that the program was creating unintended problems. For example, developers created large, mostly empty, plazas in order to attain extra building height. Although they were providing the space, nobody was using them because they were not designed properly. Without Whyte's evaluation of this incentive program, it would have continued to create negative effects for years. Many planning theorists also place an importance on evaluation for the creation of future public spaces. Evaluation can provide the analytical and political information that is important when making future decisions (Brooks, 2002). Without evaluation of current public spaces, how will planners and politicians know what is or is not successful?

Evaluation Tools

There has been extensive research looking into the qualities that make a successful public space, from Jane Jacobs' (1960) *The Death and Life of Great American Cities*, to William Whyte's (1988b) *The Social Life of Small Urban Spaces*, to more recent works by the Project for Public Spaces. However, there has been relatively little research into evaluating and scoring public spaces in order to determine how well they are working, thus putting cities in a difficult situation. How do officials determine how

well a public space is doing? Do they use economic analysis of businesses around it, or do they use counts to see how many people interact with or use the space? Both can be inadequate, causing incorrect conclusions to be drawn. As seen in Figure 1, the Project for Public Spaces created *The Place Diagram* to look at what makes a place successful (Project for Public Spaces, 2009b). Although the diagram does identify four qualities found at successful places and measurements for these qualities, it does not provide a way to score the measurements. Do all of the variables have the same weight or importance? On what type of scale are the variables measured? Without a way to score each variable, there is no systematic way to measure and compare different public open spaces within a city.

Figure 1: The Place Diagram



Project for Public Spaces, 2009b

One thorough public space evaluation tool, called the public space index, was designed by Vikas Mehta (2014). The public space index, as shown in Appendix A, follows a similar format to *The Place Diagram* but goes a step further by creating a scoring table and a weighting system. This way, the different variables can be compared to each other. In creating the public space index, Mehta (2014) used extensive empirical research and onsite observations to analyze and weigh all of the different variables that make up the index. Previous studies have commonly focused on one or two aspects of a public space. For example, Grover (2017) examined the physical components of urban parks that affect the user's perceived safety, while Kariminia (2016) examined thermal comfort in public spaces. The public space index evaluates five different aspects in order to create a more comprehensive analysis of a public space. The index also focuses directly on the user's experience. By focusing on inclusivity, comfort, safety, meaningful activities, and pleasurability, the index directly measures the many social needs of the user. These qualities identified by Mehta are what makes the public space index a more comprehensive and, therefore, better way to evaluate public open spaces. Although the public space index is the most well-rounded evaluation tool, it has not been extensively used to evaluate public open spaces. Mehta (2014) tested the index by evaluating four public spaces in downtown Tampa, Florida, but this was the only instance found in this research of the public space index being tested or used. The index needs to be further tested in order to determine if it can be applied to other public open spaces, cities, and situations.

Case Study: Downtown Lincoln, Nebraska

In order to test Mehta's (2014) public space index, this thesis study uses Downtown Lincoln, Nebraska, as a case study to evaluate four public open spaces. The case study in this thesis further tests whether the public space index can be usefully applied to other cities and spaces. Testing the public space index is important because it will help other cities and private entities feel more comfortable using the index to evaluate their own public open spaces. Use of this evaluation tool will help ensure that public open spaces are providing positive impacts on their communities.

The City of Lincoln provides a great location to perform a case study. Downtown Lincoln has seen a major revitalization effort since the implementation of its 2005 Downtown Master Plan and the 2012 plan update, such as the addition of Pinnacle Bank Arena, the P Street District, and the expansion of the Haymarket District. The City of Lincoln contains at least eight public open spaces within its downtown area. This does not include public spaces on the University of Nebraska-Lincoln campus such as the Nebraska Union's plaza and Sheldon Art Gallery's sculpture garden. Some of these downtown public spaces are the prototypical government owned and operated spaces, like parks, squares, and memorials. Others are less conventional, such as privately owned and operated gardens, courtyards, and plazas.

In this thesis project, the City of Lincoln serves as a case study in order to answer the following two research questions: (1) Is Vikas Mehta's (2014) public space index an effective way to evaluate public open spaces? and (2) Do four public open spaces in downtown Lincoln, Nebraska receive high scores using this public space index?

CHAPTER 2: METHODOLOGY

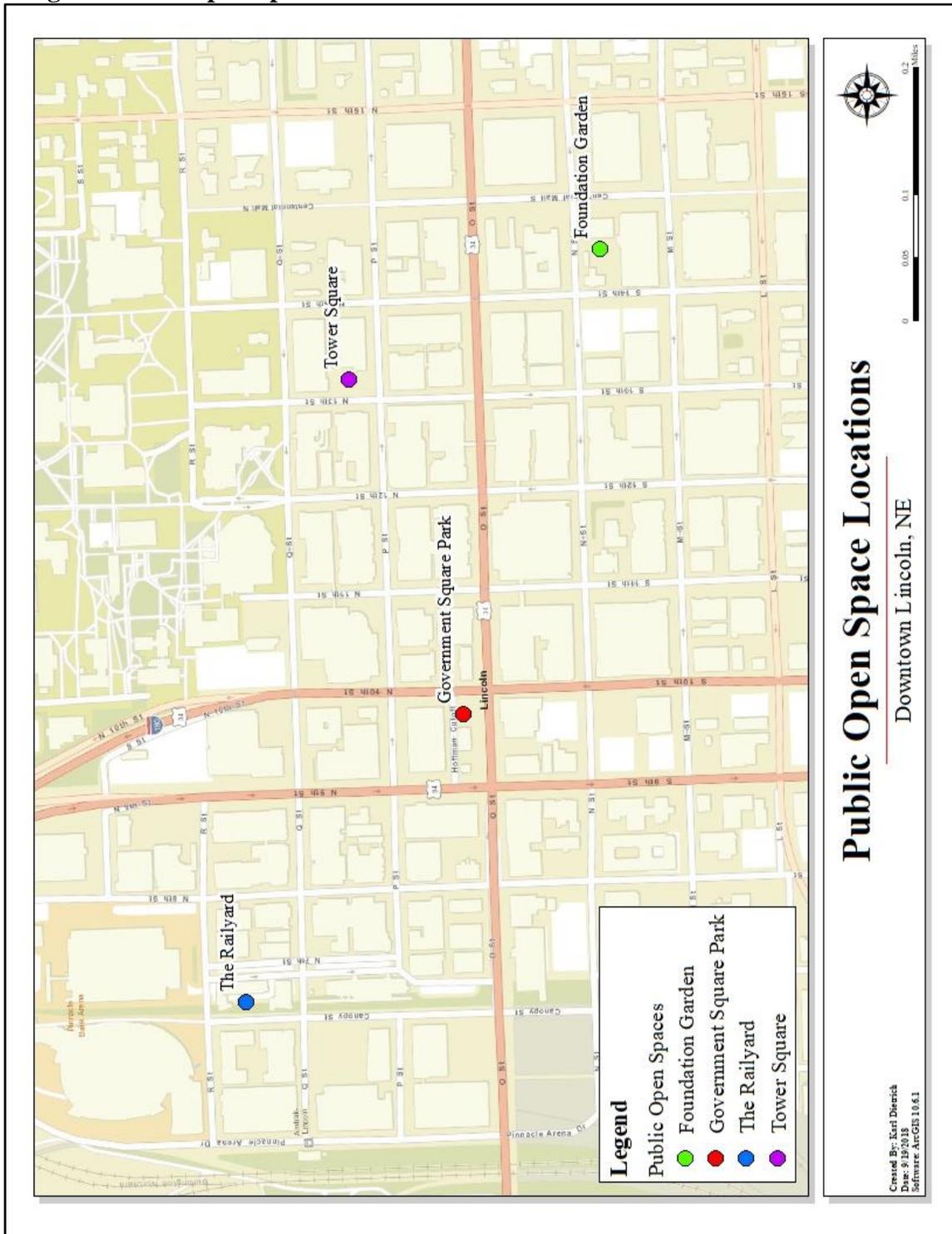
Site Selection

In order to answer the research questions, the methodology for the case study consists of an individual evaluation of four public open spaces in downtown Lincoln, Nebraska, using Mehta's (2014) public space index. The public open spaces that are evaluated are:

- Foundation Garden,
- Tower Square,
- The Railyard, and
- Government Square Park.

These sites were chosen for several different reasons. First, they represent a mixture of different types of public spaces- a park, garden, plaza, and square. The second reason is the location of the public spaces. The sites are located in different areas of downtown, which can affect how well they are performing. Image 1 shows where each space is located in downtown Lincoln. The third reason is that the four public open spaces attract people into their space in vastly different ways. Foundation Garden uses nature, Tower Square uses artwork and openness, The Railyard uses entertainment, and Government Square Park uses historical significance. The final reason these sites were chosen is because they represent an even mix of government-owned and privately-owned spaces. Below is a short description and history of each location.

Image 1: Public Open Space Locations



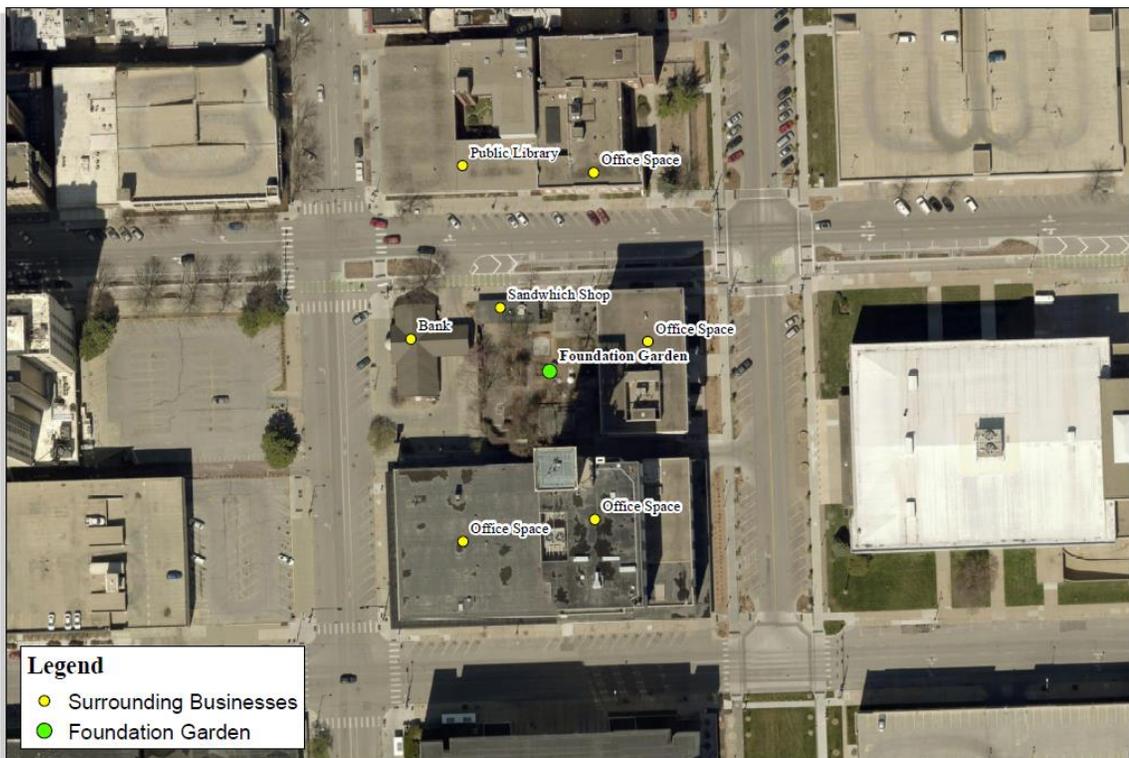
Foundation Garden

Foundation Garden shown in Image 2 is owned by Lincoln Foundation Inc. and is located on N Street between 14th Street and Centennial Mall South. Surrounding businesses include: a bank, office buildings, a small sandwich shop, and a public library (Image 3). The 15,000 square foot space opened in 1973 at a cost of \$200,000, and in 1996 the garden was renovated at a cost of \$700,000 (McMaster, personal communication, 2017). The goal of the redesign was to create outdoor rooms of different sizes that would all be connected by a contiguous water feature (The Clark Enersen Partners, n.d.). According to the owners, Foundation Garden was designed to be “a mid-city oasis for everyone to enjoy, offering a scenic respite for relaxation, contemplation and brown-bag lunching” (Lincoln Community Foundation, n.d.). Lincoln Foundation Garden is typically open from 8:00 A.M. to 5:00 P.M. Monday through Friday during the spring, summer, and fall months. Events held here include free weekly noon hour music performances from May to August.

Image 2: Foundation Garden



Image 3: Foundation Garden Surrounding Businesses



Surrounding Businesses
Foundation Garden

Created By: Karl Dierich
Date: 11/12/2015
Software: ArcGIS 10.6.1

0 50 100 200 Feet

Tower Square

Tower Square shown in Image 4 is a City of Lincoln-owned plaza on the northeast corner of 13th and P Streets. Nearby businesses shown in Image 5 include: several restaurants, a coffee house, a workout facility, office space, housing, a bar, and parking garages. The 18,000 square foot space was finished in December of 2014 and is highlighted by a 57-foot tall colorful illuminated column known as Ascent Tower (DowntownLincoln, n.d.). Ascent Tower and the square were designed by artist Jun Kaneko (Hicks, 2014). The tower and square cost \$2.95 million and were funded by a combination of donations, tax increment financing, and Keno revenue. The Lincoln Community Foundation also created a \$600,000 endowment for upkeep and repair of Ascent Tower (Hicks, 2014). Tower Square hosts a free summer concert series, yoga sessions, a wide variety of community events, and has been a central location for demonstrations. During the initial lighting ceremony, Mayor Chris Beutler stated, “This tower will be a beacon that welcomes all to the heart of Lincoln’s downtown” (Konnath, 2014). According to the City of Lincoln Downtown Master Plan (2005) and the Lincoln Downtown Master Plan Update (2012), Tower Square is meant to serve as a safe and inviting civic assembly space in downtown, as well as accommodate a variety of public gatherings and seasonal events year-round.

Image 4: Tower Square



Image 5: Tower Square Surrounding Businesses



Surrounding Businesses

Tower Square

Created By: Karl Dietrich
Date: 11/15/2018
Software: ArcGIS 10.6.1



0 25 50 100 Feet

The Railyard

The Railyard, shown in Image 6, is owned by TDP Phase One LLC and is located at 350 Canopy Street across from Pinnacle Bank Arena. Businesses within and around The Railyard include a hotel, several restaurants, retail shops, housing, office space, and several bars (Image 7). This 13,000 square foot plaza was built in 2013 at a cost of around \$4.5 million (Hicks, 2018). However, that cost is for the plaza and surrounding buildings so the actual cost of the plaza itself is not known. It is the state's first "entertainment district," which allows patrons to carry alcoholic beverages throughout the outdoor plaza (Duggan, 2013). This space is designed so that people can be in an entertaining outdoor environment. To help further this use, many of the bars attached to The Railyard have windows where drinks can be ordered so patrons can remain in the plaza while ordering. Located within The Railyard is a large video screen nicknamed "the cube" that displays digital art and occasionally sporting events and movies (Canopy St., 2017). During the winter months, the plaza is converted into an outdoor ice rink for the public to use with the only charge being for ice skate rentals. A number of private and public events are held at the space, including movie nights, Nebraska football gameday watch parties, and live musical performances.

Image 6: The Railyard



Image 7: The Railyard Surrounding Businesses



Government Square Park

Government Square Park (Image 8) is located on the northwest corner of 10th Street and O Street. This 7,000 square foot park is owned by the City of Lincoln. Government Square Park was built in 1875 when an old artesian well was converted into a fountain that served as the centerpiece for the park (Canney, personal communication, 2018). Originally the park spanned the entire city block, but over time the site was reduced in size so that it took up only the corner of the city block and was converted to an open green space. In 2004, the City of Lincoln Parks and Recreation Department redesigned the park at a cost of \$360,000. The current design of Government Square Park

and the fountain within are meant to serve as an ode to the earlier park and fountain. The park features ornamental replicas from the historic Cornhusker Hotel and oak leaf medallions from the old courthouse building. The layout of the park also mimics the layout of the original park (Canney, personal communication, 2018). The park was designed for users to have a space where they can sit and relax while also giving a glimpse into the past. Businesses surrounding the park shown in Image 9 include: several office buildings, restaurants, housing, and a historic building. Currently, there are no known community events or activities that are held at Government Square Park.

Image 8: Government Square Park



Image 9: Government Square Park Surrounding Businesses



Case Study Evaluation Methods

The public space index is designed to evaluate public spaces based on their inclusiveness, meaningful activities, safety, comfort, and pleurability. These five aspects comprise the main breakdown of the index. The aspect of inclusiveness measures access and looks at a person's ability to be in and use the public space (Mehta, 2014). Meaningful activities evaluates the space's ability to support activity and sociability. It is not the number of activities or social events that is important, but rather the ability to support these events. Safety can be broken down into two types: real and perceived safety. For the index, the aspect of safety analyzes perceived safety, or ability to feel safe

from social and physical factors. This type of safety was chosen to be analyzed by Mehta because perceived safety affects whether or not people go to the space. The aspect of comfort in the context of this index refers to physical and environmental comfort. Physical comfort measures suitable seating options, while environmental comfort measures temperature, shade, sunlight, and shelter in a space. Finally, the aspect of pleasurability analyzes the image of a space and how it creates a pleasurable experience. Specifically, pleasurability is the spatial quality and sensory complexity that a public space has (Mehta, 2014).

The public space index is made up of 42 or 45 variables (depending on the type of public space) that are used to evaluate the five previously discussed aspects of public spaces. In order to perform an evaluation following the public space index, each variable shown, in Appendix A, is scored on a scale ranging from 0 to 3. Scoring is performed by using either observations, user counts, and user surveys. Variables in Appendix A which have a measuring criterion of “User’s subjective rating” are scored only by the users of the space. The rest of the variables in Appendix A are scored by the researcher using user counts, observations, or a mixture of both. Appendix B: Researcher Survey Attached Plaza/Park and Appendix C: Researcher Survey Detached Plaza/Park are filled out by the researcher in order to score the observation and user count variables. Appendix D: User Survey Attached Plaza/Park and Appendix E: User Survey Detached Plaza/Park shows the surveys that are filled out by users of the public spaces in order to score the variables where subjective ratings are needed. There are two types of researcher and user surveys to be used, for either attached plazas or detached plazas. For Foundation Garden, The

Railyard, and Tower Square, the attached plaza surveys were used, as they are attached to surrounding businesses. For Government Square Park, the detached surveys were used, as it is detached from surrounding businesses. Users that were surveyed consisted of anyone sitting within the area of the public space that was age 19 or older, as that is the age of majority in Nebraska. This study did receive IRB approval prior to conducting any user surveys. The IRB approval letter can be found in Appendix F.

In order to perform the scoring of the index, the researcher observed each space four times: three completed during a weekday and one during the weekend. For the weekday observations, one observation was conducted during a typical lunchtime (11:30 A.M.-1:00 P.M.), one in the afternoon (1:30-4:30 P.M.), and one in the evening (6:30-8:30 P.M.). The observation conducted on the weekend was during the afternoon (1:30-4:30 P.M.). The only public space that was unable to follow this timeline is Foundation Garden. Foundation Garden is not open to the public after 5:00 P.M. and on the weekends. For those two observations, an additional weekday lunch and weekday afternoon observation was performed. These specific times were chosen because they are times when people are typically available to go to the spaces. During the weekday, the working population typically takes breaks during lunch and in the afternoon when the weather is nicer. Weekday evenings were chosen because most individuals are off of work and have more free time to visit the spaces. The weekend afternoon time was chosen over weekend evening because there would be fewer competing activities. For example, many individuals go to movies, shows, or events in the evening, so there may not be as many users in the public spaces during the weekend evening hours. Having a

broad range of observation times provided an opportunity to see and score each space at different times, as individual spaces may be busier or have different activities at different times or days of the week. The multiple observations also allowed the researcher's scores to be more accurate, since it provided more variability and would not include only one day, time, or potential population of users. For example, the comfort scoring could be influenced by time of day or weather. Having four different observations allowed the scoring to be an average number rather than just a one-time snapshot of each location. The researcher only observed the spaces when the temperature was between 70°F and 90°F and when there was no rain. This was done so that weather played less of a role when evaluating each space. Table 1, shows additional observation information for each space including weather, temperature, date, and times that the observations were performed. Finally, the spaces were not observed during programmed events, as the event would likely distort the user counts and the scoring of the space. Each observation of a space lasted for 30 minutes. During this time, the researcher filled out either Appendix B or Appendix C, depending on the space being observed. User surveys were conducted prior, during, or after the observation periods. Additional visits to each public space were performed in order to increase the number of user surveys that were completed but did not include a researcher observation.

Table 1: Observation Information

<i>Name</i>	<i>Date</i>	<i>Time</i>	<i>Temperature</i>	<i>Weather</i>
<i>Foundation Garden</i>	5/4/18	1:45 – 2:15 P.M.	72°F	Mostly Sunny
	5/25/18	11:50 A.M. – 12:20 P.M.	85°F	Sunny
	6/19/18	2:25 – 2:55 P.M.	83°F	Partly Cloudy
	6/26/18	11:45 A.M. – 12:15 P.M.	74°F	Partly Cloudy
<i>Tower Square</i>	5/29/18	11:50 A.M. – 12:20 P.M.	79°F	Mostly Sunny
	6/12/18	2:15 – 2:45 P.M.	83°F	Sunny
	6/13/18	7:05 – 7:35 P.M.	80°F	Mostly Sunny
	6/23/18	2:50 – 3:20 P.M.	79°F	Mostly Sunny
<i>The Railyard</i>	5/15/18	2:30 – 3:00 P.M.	76°F	Partly Cloudy
	6/7/18	7:35 – 8:05 P.M.	81°F	Partly Cloudy
	6/8/18	12:00 – 12:30 P.M.	81°F	Mostly Sunny
	7/1/18	3:35 – 4:05 P.M.	81°F	Mostly Sunny
<i>Government Square Park</i>	5/8/18	11:55 A.M. – 12:25 P.M.	78°F	Partly Cloudy
	5/22/18	2:40 – 3:10 P.M.	83°F	Partly Cloudy
	6/3/18	2:00 – 2:30 P.M.	80°F	Sunny
	7/18/18	7:20 – 7:50 P.M.	83°F	Partly Cloudy

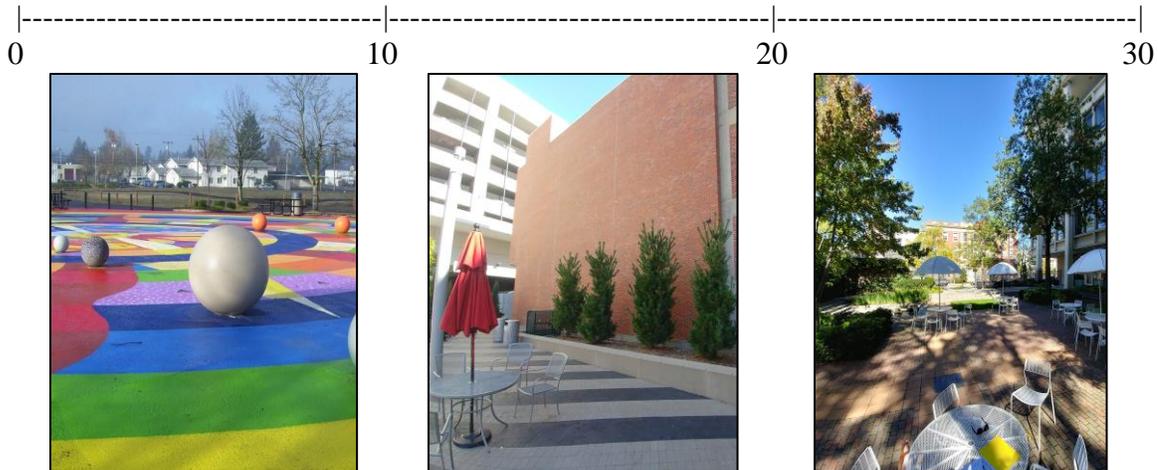
For each space, the variable ratings from each observation and survey were combined and averaged. This thesis project did not create new weighting values; rather, the weighting outlined by Mehta in the public space index was used. The maximum score for each aspect is 30 points. This means the maximum total score any public open space can have is 150 points. All scores are then turned into a percentage to get a final public space index score out of 100. Mehta (2014) did not indicate what a high score is using the public space index, as such, this had to be created by the researcher of this study. A high score using the public space index, is decided to be a final public space index score of 67 out of 100 or higher. This means that each aspect will need to be scored at an average of 20 points or higher out of a possible 30 points, and each variable will need to be scored an average of 2 or higher out of a possible 3 points. These scores were chosen by the

researcher to be high-scoring, because they represent positive response scores for each variable.

Figure 2 shows visual examples of why aspects might receive certain scores. For example, a public open space which receives an inclusiveness score between 0 and 10 may have similar qualities as the image shown on the far left; whereas, a space which receives an inclusiveness score between 20 and 30 may have similar qualities to the image on the far right. Note that the images used in Figure 2 are examples of specific variables used in the calculations for each aspect's score. Actual spaces receiving these scores may look different as each aspect is made up of several variables which are combined to form the final aspect score.

Another important piece to consider when analyzing public spaces is user counts, or the number of people that use the space. For scoring purposes, user counts were taken during each space's four 30-minute observation periods. Individuals who were sitting for any length of time or standing for a period of time were counted as users of the public space. Individuals who just walked through the public space were not counted. These individuals were not counted because this research project focuses on individuals that stay in a public space as opposed to users who walk through a public space and only use it as a means of transportation. Although this can be an important aspect to public spaces, it would be better addressed in another study.

Comfort



Source: Evergreen Property Mgmt.

Images: (Left: 0-9) Very little seating and shade within the space. (Center: 10-19) Some seating but lacking variety and some shelter from the elements. (Right: 20-30) Multiple seating and shade options with shelter from the elements.

Safety

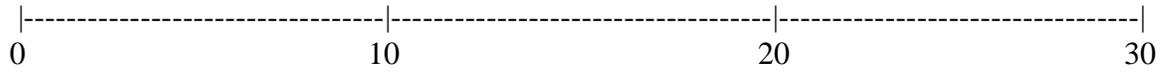


Source: Hecho Ayer

Source: Twitter, Bluebird Chelsea

Images: (Left: 0-9) Very poor maintenance and upkeep with high perceived crime during the day and at night. (Center: 10-19) Limited lighting quality after dark and limited visual connection to the street and sidewalk. (Right: 20-30) Very well-maintained space with high safety from traffic.

Pleasurability



Source: *Kansas Historical Society*



Source: *Visit Rapid City*

Images: (Left: 0-9) A lack of memorable features, low density of elements, and a low variety of elements. (Center: 10-19) Some memorable features and focal points but a low sense of enclosure. (Right: 20-30) Many different features and sub spaces with a high variety and density of elements.

CHAPTER 3: RESULTS

Once all of the observations, researcher surveys, and user surveys were completed, the public space index score was calculated for the four public open spaces in downtown Lincoln. Forty surveys each were completed at Foundation Garden, Tower Square, and The Railyard while nine surveys were completed at Government Square Park. Table 1 shows the results for the public space index resulting from observations by the researcher. Note that the final score column is not a sum of the five different aspects; rather, it is a percentage score. The highest rated public open space was The Railyard at 75 followed by Foundation Garden at 72. Next was Tower Square with a score of 65 and the lowest scoring public space was Government Square Park at 61. Down below in this chapter, each space's individual results are discussed in further detail.

Table 2: Public Space Index Results

Name	Inclusiveness (Max. 30)	Meaningful Activities (Max. 30)	Comfort (Max. 30)	Safety (Max. 30)	Pleasurability (Max. 30)	Final Score (Max. 100)
<i>Foundation Garden</i>	16	18	28	22	23	72
<i>Tower Square</i>	23	21	15	22	16	65
<i>The Railyard</i>	22	24	22	26	20	75
<i>Government Square Park</i>	21	15	16	21	18	61

As Table 2 shows, The Railyard had the highest total number of users over the four observations at 99 individuals. It also had the largest single observation count at 45 people. The next highest total count was Tower Square at 65 individuals, closely followed by Foundation Garden with 57 individuals. Government Square Park had by far

the lowest count with 13 individuals over the four observations. It also had the lowest single observation count at one person.

Table 3: Public Space User Counts

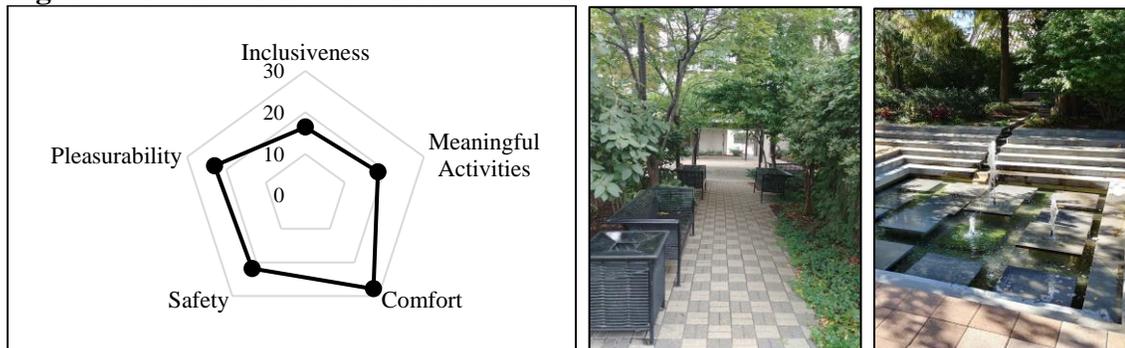
Name	Weekday Lunch	Weekday Afternoon	Weekday Evening	Weekend Afternoon	Total
<i>Foundation Garden</i>	13	4	31*	9**	57
<i>Tower Square</i>	25	18	17	5	65
<i>The Railyard</i>	5	9	45	40	99
<i>Government Square Park</i>	2	3	7	1	13

*Foundation Garden is not open at this time. Count was performed during a weekday lunch.

**Foundation Garden is not open at this time. Count was performed during a weekday afternoon.

Foundation Garden

Foundation Garden had the second highest score of the four public open spaces in downtown Lincoln at 72 out of 100, which means that it is a high scoring public space. Figure 3 visually shows how the score was broken down among the five aspects of inclusiveness, meaningful activities, comfort, safety, and pleasurability. The images show some of the reasons why Foundation Garden scored highly in both comfort and pleasurability, such as having visual features throughout the garden and seating options in shaded areas. The space scored very high in comfort and high in both safety and pleasurability, which can be seen visually in the radar graph. The space did not score highly in the aspects of inclusiveness and meaningful activities. User counts showed that Foundation Garden is more popular during the lunchtime hour; however, it still gets some visitors in the afternoon. Appendix G shows the full public space index score broken down by variable for Foundation Garden.

Figure 3: Foundation Garden Results & Pictures

Tower Square

Tower Square received the second lowest score, using the public space index, out of the four public open spaces with 65 out of 100, which means that it is not a high scoring space using the parameters discussed above. The radar graph in Figure 4 visually shows that the aspects of inclusiveness, meaningful activities, and safety all scored highly. The images in Figure 4 show some of the reasons why Tower Square received lower aspect scores for pleasurability and comfort, such as a lack of shade and visual features, with both scoring under 20 out of 30. The fairly balanced aspect results do provide a good base for any changes that may potentially occur. The user counts for Tower Square were very good, considering the lower index score that it received. Lunchtime was most popular, but the weekday afternoon and weekday evening were not far behind. The least populous time for the space was during the weekend afternoon. Appendix H shows the full public space index score broken down by variable for Tower Square.

Figure 4: Tower Square Results & Pictures***The Railyard***

The Railyard had the highest public space index score out of the four locations, at 75 out of 100, which means that it is a high scoring space. This is due to the fact that it did not have any aspects that scored below 20 out of 30. This is visually shown by the radar graph in Figure 5. The other three locations had at least two out of the five aspects below 20. The images in Figure 5 show some of the reasons why The Railyard scored highly in both comfort and meaningful activities, such as meaningful nearby businesses and shaded seating options. Safety was the highest rated aspect out of the five, and pleasurability was the lowest rated aspect out of the five. The user counts were very interesting for this location. It had the highest number of users, but the spread was heavily skewed towards the weekend afternoon and weekday evening. Both of those times had a very high number of users and accounted for 85% of all the users that visited the space during the observation periods. Appendix I shows the full public space index score broken down by variable for The Railyard.

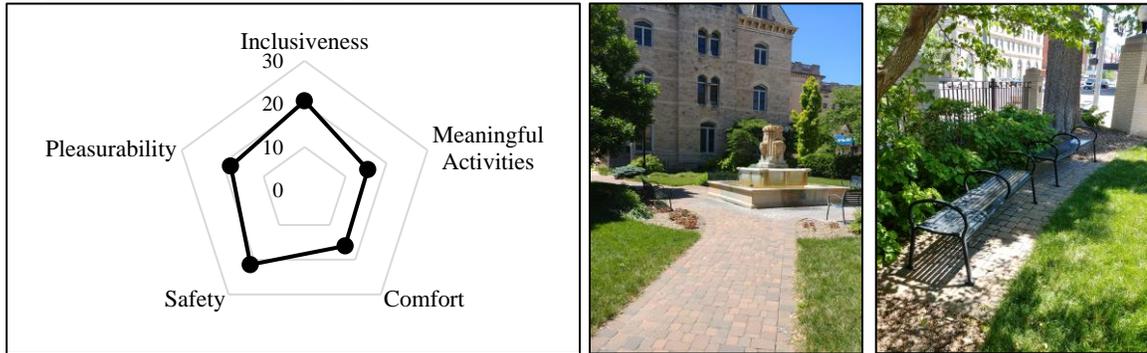
Figure 5: The Railyard Results & Pictures



Government Square Park

Government Square Park was the lowest scoring public open space in downtown Lincoln, using the public space index, with a score of 61, which means that it is not a high scoring space. As shown by the radar graph in Figure 6, it had three aspects (meaningful activities, comfort, and pleasurability) receiving scores lower than 20 out of 30, with meaningful activities scoring the lowest at 15. The images shown in Figure 6, show some of the reasons why this public open space did not score very well in comfort, such as uncomfortable seating and lack of shade. Government Square Park also had limited users of the space, as shown by the user count of 13 in total, which is 44 fewer users than the next highest used space of Foundation Garden. The weekday evening had the highest number of users at 7, which may show that it is more popular after work hours. Appendix J shows the full public space index score broken down by variable for Government Square Park.

Figure 6: Government Square Park Results & Pictures



CHAPTER 4: DISCUSSION AND RECOMMENDATIONS

This chapter includes discussions of each of the four public open spaces that were observed and scored. Possible reasons for the scores are discussed, as well as possible changes that could be made to the space in order to increase its public space index score. Also included in this chapter is a macro-level discussion on issues pertaining to ownership, how a site's designed purpose works with the public space index to determine success, and how surrounding uses affect public open spaces. This chapter also discusses how this study affects planning in Lincoln and the planning discipline as a whole. Finally, the chapter ends with a look at the limitations and valuable aspects of the public space index, as well as suggestions for future studies to further enhance the research project.

Foundation Garden

Foundation Garden has one of the more interesting aspect scoring breakdowns of any location. It has the highest individual aspect score (comfort) of any location. It also has one of the lowest individual aspect score (inclusiveness) of any location. This suggests that Foundation Garden is satisfying some aspects really well, but at the same time falling short in other areas.

Foundation Garden's lowest scoring aspect is inclusiveness, receiving only 16 points out of a possible 30 points. One of the major reasons for the low score in inclusiveness is the opening hours of the space. Foundation Garden is only open Monday through Friday from 8:00 A.M. to 5:00 P.M. The garden is also closed during the winter months when the temperature is consistently below 60 degrees Fahrenheit (McMaster, personal communication, 2018). The limited open hours make it very difficult for

working adults and children to experience what the space has to offer. Unless an individual works nearby or works non-traditional hours, it is very difficult to visit, due to work and school hours that overlap with these times. Several users of the space commented that they would have liked the garden to be open during the evenings, weekends, and during the winter time so they could experience it at different times of day and throughout the year. The other reason for the low inclusiveness score is the presence of the many posted signs outlining what cannot be done on the property, such as “no wading,” “no smoking,” “no loud music,” and “no skateboarding.” These signs can help provide a sense of security because it implies that the space is being watched, and the high safety score that the space received shows that this is the case. However, the signs come off as exclusionary towards certain individuals. Although these items do hurt the location’s inclusiveness, it is insinuated that the owners of the space provide these signs to increase the probability of fulfilling the intended purpose of having Foundation Garden be a relaxing environment where people can sit and have a quiet conversation or read a book. Having people wading in the fountain or playing loud music can be very disruptive to this purpose. In fact, many of the users mentioned that they liked the privacy and peacefulness that the area provided.

The other low scoring aspect for Foundation Garden is meaningful activities, scored at 18 out of 30. As mentioned earlier, the space does offer a once-a-week free summer concert series. However, this is the only consistently offered event unless a private event is occurring. Most likely, this lack of activities is due to the minimal hours that the space is open. If hours were extended into the evening, then more events could

occur. Many of the individuals surveyed mentioned that they really enjoyed the live music, but wished that there was additional live music or other events that occurred. Several individuals also mentioned the need to raise awareness for the activities, offering suggestions such as providing a schedule board listing the weekly or monthly events. There is also only one food option in the area. It is very convenient that the one food option is located inside the space, but a larger nearby variety could increase usage or meaningful activities as well. There is food located on the street one block north, however, most of the lunch clientele are from the State Office Building, which is located on the opposite side of the space to the south. Ideally, there would be additional food options between the State Office Building and Foundation Garden so that people would not have to go out of their way for lunch. Unfortunately for the owners, they cannot control the businesses surrounding the space, so having more food options is out of their control.

On the positive side, Foundation Garden has an extremely high score in the aspect of comfort at 28 out of 30. In fact, Foundation Garden should be an example for the other locations on how to provide user comfort. There is a wide variety of seating options from chairs to benches to ledges, located throughout the space. With many large trees located within the space and parasols at many of the tables, finding shade is very easy. The trees are spaced in a such a manner that even on cool days there are plenty of patches of sunshine where individuals can sit. There is also a small covered structure within the space, which makes the space usable even when raining. One of the nicest aspects of Foundation Garden is the buffering of outside noise when inside the space. The fountain

and vegetation help to mask any construction or traffic noise in the area. When sitting in the space, it is easy to forget that it is located in the middle of downtown. Most of the individuals surveyed mentioned how much they enjoyed the shade, seating, and quietness that the area provides.

The other highest scoring aspect for Foundation Garden is pleurability which received a total of 23 points. Not surprisingly, a lot of what makes the site comfortable also makes it pleasing to be in. For example, the landscaping and vegetation provides a wide variety of items to look at. The fountain system, which all of the users enjoyed, is a very memorable feature of this space. There are also pieces of artwork that create additional interests in the space. One of the great design qualities of Foundation Garden is the different subspaces that are created. There are secluded areas that are great for reading a book, an area with large tables for groups eating lunch, and an area with small tables for one-on-one meetings or eating by yourself. Each of these subspaces is different but still similar enough to create the feeling of a cohesive whole.

In order to increase its public space index score, a few simple changes to the site could be made. The most important would be to expand the hours that the space is open to the public. By being open on the weekends, evenings, and winter months, more people would be able to experience the space. Expanding the hours and days of operation would also allow the space to increase the number of events it can host. Additional concerts or speakers could be added in the evening time or weekends. From the user surveys, there were several individuals who thought it would be nice to have a food truck day. During a food truck day, different food trucks would be allowed to park outside the space for

people to purchase food and then eat inside the garden. In the winter time, holiday lights and decorations could be added for families and visitors to walk through. A more drastic change that would require additional permitting and approval from the city, would be to serve wine and craft beer in the space on the weekends and evenings. This would help increase attendance and would make the space more of a third place where people go to meet with friends. By implementing these or similar changes, Foundation Garden can become a more well-rounded space where everybody can experience what it has to offer. By increasing inclusiveness and meaningful activities, Foundation Garden has the potential to become an even better attraction for the residents and visitors of downtown Lincoln.

Tower Square

Tower Square is one of the most polarizing spaces in downtown Lincoln. One of the reasons that it is very polarizing is because of its visibility. It is located in a high pedestrian traffic area between the University of Nebraska-Lincoln and many of the downtown office spaces, and the sculpture Ascent Tower also makes the space stand out from the buildings around it. Another reason for the polarizing nature is that it cost a lot of money to create. The Downtown Master Plan (2005) and Plan Update (2012) call for Tower Square to be “the heart of Lincoln’s Public realm.” For this reason, the city of Lincoln would want Tower Square to score highly using the public space index. Unfortunately, this was not the case, as it scored 65 out 100 using the public space index. However, the space is very close to being considered high scoring, and with a few modifications it can easily reach that mark.

It was interesting that Tower Square had more total individual users (65) than Foundation Garden (57), but it had a lower public index score (65 compared to 71). However, there could be many reasons why Tower Square had more individuals using the space, such as major employers within walking distance, surrounding food options, and weather. The inclusiveness scores might also indicate why Tower Square had more users. Tower Square received a much higher inclusiveness aspect score than did Foundation Garden (23 compared to 16). Overall, it is important to keep in mind that the number of users is significant; however, that is not always a reliable indicator of how successful a public space is. These user counts are also a very short snapshot of time. If these spaces were observed throughout the year, the number of users ranking may be different.

The space's lowest scoring aspect is comfort at 15 out of 30. One of the items of comfort missing from Tower Square is shade throughout the day, with minimal opportunities for patrons to get out of the sun. The trees that have been planted are not yet large enough to provide consistent shade, but hopefully in the future they become large enough to provide areas of shade. The surrounding buildings do provide shade; however, this is only during certain times of the day. The number one user comment on what they would change about the space was the amount of shade. In conjunction with the lack of shade is the lack of shelter from the rain and wind. There are no covered structures within Tower Square, which means that during rainy weather, the space becomes difficult to use without an umbrella. When sitting in the square, the wind seems to be amplified compared to the areas around it, due to the neighboring parking structure creating a tunnel. This wind tunnel effect can make it difficult to read or have any loose items, such

as food or drink, which may be blown away. Finally, many users commented on the limited variety of seating that was provided. There are several tables and chairs within the space, but that is the only type of seating available. There are planter box ledges; however, the tops are not flat, making them uncomfortable to sit on.

The other low scoring aspect using the public space index; is pleasurability, which received a score of 16 out of 30. There were several comments from users that Tower Square needed additional vegetation and visual features. Currently, there are three main features (Ascent Tower, the blue wall, and the colorful structure) in this space; however, the user comments show that they do not provide enough visual excitement. This could be because of the large amount of square footage the space has. Even with three features, parts may feel a little empty. The chairs and tables, although moveable, seem to be clustered in one section of Tower Square, which increase the empty feeling some parts have. This was also noticeable in the way people walked through the space. For the most part, people walking through stayed along the edges, rather than walking by Ascent Tower, where it tends to be emptier. Finally, some of the buildings at the very edge of the space lack personalization. For example, the wall on the northeast side of the square is a plain brick wall with no windows or ornamental features. Unfortunately, changing or adding to the buildings may be difficult, as they are not owned by the City of Lincoln.

Although Tower Square does have two low scoring aspects using the public space index, the other three aspects scored high, with all receiving scores above 20 out of 30. The highest scoring aspect is inclusiveness with 23 out of 30 points. The reason it scored highly is due to several different factors. Tower Square is open to the public until very

late at night and there are no signs excluding certain behaviors or activities. There are no gates or fences to keep individuals out, and little to no security measures infringing on privacy. The high level of inclusiveness did lead to some comments regarding homeless individuals using the space. Interestingly, the homeless individuals did not appear to negatively impact the safety score, although many people perceive homeless individuals as a safety risk. This could be because of the number of eyes on the space. Tower Square has a high number of people walking by and walking through. The number of eyes on the space allows people to feel more safe and secure, even if they are sitting by themselves.

In order to increase the score Tower Square receives using the public space index, a few changes can be made, which would affect the aspects of comfort and pleurability. One potential change could be the addition of a water feature. A water feature could help attract families, create a memorable visual element, and help mask the noise from construction and traffic. Spray fountains, which have helped to improve other downtown Lincoln areas spaces, could be added around Ascent Tower to help increase the number of visual elements. Steps which lead up to Ascent Tower along with benches by the blue wall would help provide additional seating variety. The issue of shade will hopefully be fixed over time as the trees grow, but in the meantime, umbrellas could be added to all of the tables. To further increase meaningful activities, the square could provide lawn games, such as a large chessboard, giant Jenga, or concrete ping pong tables which would add another gathering and activity element. Finally, the brick wall on the northeast side of the space could be enhanced through discussion with the building's ownership. Adding a community mural or large television screen similar to The Railyard might attract more

people and add another memorable physical feature. However, features like these need to be designed and implemented correctly. If not, they can often create an unpleasant and distracting atmosphere. These or other similar types of changes would help Tower Square fulfill its potential, and help accentuate its present strengths, such as its great central location and the Ascent Tower sculpture.

The Railyard

The Railyard is the highest scoring public open space in downtown Lincoln, using the public space index at 75 out of 100. The Railyard is built in the West Haymarket, which is one of the busiest areas in downtown Lincoln. This area is one of the largest entertainment hubs in the City of Lincoln, containing several bars, restaurants, and Pinnacle Bank Arena. It is also a growing business district with companies like Hudl, Chief Industries and Olsson & Associates nearby. The Railyard reflects and builds upon this entertainment feel by having bars, restaurants, and a large screen TV connected to the space. Many citizens of Lincoln wanted a livelier downtown environment, and the Railyard is helping to create that atmosphere.

Overall, the lowest scoring aspect of The Railyard was pleasurability, which scored 20 out of 30. This score could be due to the fact that the space is lacking in landscaping features, which would make the area more memorable to a visitor. Currently, there is no greenery or trees located within The Railyard, giving it an industrial feel. Several individuals surveyed said they would have liked there to be more plants and other vegetation. The site could also increase the number of design elements providing focal points. Currently, the cube (TV) is the only feature that is memorable and provides a

focal point in the space. Comments on the surveys also mentioned that users would like additional art or other features to provide visual appeal.

The highest scoring aspect for the Railyard is safety, at 26 out of 30. The variables of perceived safety from traffic, daytime crime, and nighttime crime all scored very high from the users of the space. For safety from traffic, this could be because there are three layers of protection: on-street parked cars, a fence, and posts between the street and the space. When coupled with slow driving speeds in the area, perceived traffic safety is very high for users inside the space. Eyes on the space most likely played a large role in the daytime and nighttime perception of safety from crime. There are constantly people walking by The Railyard, and many of the bars, restaurants, and nearby businesses have windows facing the plaza. With so many people inside and around the space, if something undesirable or dangerous were to happen, somebody would likely notice. One thing that was different about The Railyard that no other analyzed space has is security guards. In the evening there are paid security guards monitoring the entrances and walking around the plaza, which most likely helped users feel safer in the space.

The other highest scoring aspect for The Railyard is meaningful activities, which received a score of 24 points. Of all the spaces in downtown Lincoln, The Railyard does the best job creating a third space environment. Many of the users that were surveyed mentioned that this was a great socializing place to go out with friends. In addition to having many places to eat and drink, the Railyard also hosts a large variety of events, such as basketball tournaments, movie nights, gameday watch parties, and live concerts. These events help draw in a large variety of users from all different age groups. While

hosting a variety of events is great, too many events can reduce the number of everyday users. Events are designed to attract certain individuals, but also may deter others from going there. If a space is having contestant events, then it can detract from the use it was originally designed for. Currently, The Railyard is doing a great job of balancing this potential issue. The Railyard is also the only space which continues to function effectively during the winter months. This can be difficult for any outdoor space because of the harsh Nebraska weather. However, The Railyard is large enough that the owners are able to put in a small ice-skating rink. This helps make The Railyard a viable year-round outdoor public space.

One thing that is interesting about The Railyard is the user counts. It had a very high number of users in the evening and weekend, but a very low number of users around lunch and during the afternoon. This could be due to two potential factors. The first is that The Railyard is a place where people like to meet with friends and have a drink. During weekdays, people are less likely to be drinking and meeting with friends because they have to work. The second potential reason is that the space does not have much shade and is not the most relaxing environment. The space can get very hot in the afternoon and does not seem like a place where people would want to spend their breaks. To increase users in the afternoon, The Railyard could add more greenery or shade. Shade does not always have to come from trees or buildings, but could come from umbrellas added to tables or sun sails added to the second story. Greenery also doesn't always have to mean living plants. Many public spaces like Rapid City's Main Street Square are adding artificial turf to recreate a grassy area. The initial cost might be higher,

but the upkeep and maintenance are very low. That being said, bushes and planters should also be added to liven up the space. Many users also noted that the cube was a nice amenity, but it was not always showing something people wanted to watch. Rather than showing art and commercials, the cube should primarily be showing movies or sporting events. If those are not on, then the cube could be turned off so that it is less distracting to the users. Finally, some sort of additional artistic feature should be added. This could be in the form of a sculpture, rotating local artwork, or even a ground mural. Making a few modifications would help The Railyard become an even more desirable location than it already is.

Government Square Park

The final individual public space that is discussed is also the lowest scoring evaluated space using the public space index, at 61 out of 100. Government Square Park is a very interesting space because aesthetically it looks like it should be very successful. However, the low user count numbers and the public space index score show that there are some aspects which could be increased. Where the space is located could have a lot to do with some of the issues, as well as the size of the space. Government Square Park is by far the smallest of the public spaces, and that limits what could be added or changed.

The lowest scoring aspect for the park is meaningful activities at 15 out of 30 possible points. Part of the reason for the lower score is the fact that there are no known community events or activities that are held at Government Square Park. This is most likely due to the small size of the park, as it would not be able to hold a large number of people. The observed behaviors and activities of the users was also limited. The space has

plenty of benches; however, there are no tables and the open areas are smaller. This means the only activities that can be accommodated in the space are suited mostly for individuals or small groups. Users that were surveyed also gave low scores for the variable “perceived usefulness of surrounding businesses and other uses”. There are some restaurants in the vicinity of the park; however, the rest of the surrounding buildings tend to be offices rather than retail, which means visitors do not have other attractions to draw them to where the park is located.

The next lowest scoring variable for Government Square Park is comfort, which received a score of 16 out of 30 using the public space index. As mentioned before, this score was surprising because of the beautiful aesthetic quality of the park. However, the aesthetics are not providing a lot of comfort once inside the park. There is plenty of seating for the size of the space; however, there is no variety in the type of seating. There are only benches, and many do not have backs to them, making for an uncomfortable sitting position. There are plenty of trees within the park, but they are all located on the edge of the site. With most of the seating located in the middle, surrounding the fountain, the seating areas do not get a lot of shade during the middle of the day when the sun is directly above. The lack of covering also makes the space difficult to use when it is raining. One of the variables within the comfort aspect which received a low score was noise from traffic or otherwise. At times the traffic noise was very loud and made it difficult to hold conversations. The reason for this is because of the location of the park. It is situated on the corner of O Street and 10th Street, two streets which have a high volume of car and heavy truck traffic. O Street is the main street through downtown, and

10th Street directly connects to Interstate 180, so many shipping trucks use it to leave town. Even with a vegetated buffer wall between both streets and a fountain, the noise can be very distracting.

One of the aspects which scored highly is inclusiveness. Government Square Park scored well in inclusiveness because it is open 24 hours a day and has no signs excluding certain people or behaviors. It also does not have any security features or personnel that infringe upon the individuals using the space. Surveyed users of the space also perceived the area as being very open and accessible to them. However, like Tower Square, this high level of inclusiveness also lead to user comments regarding homeless individuals using the space. This perceived safety risk did not appear to affect the safety aspect score during the day, but may have affected it during the night when there was less vehicular and foot traffic.

Finding potential changes to make within Government Square Park is tricky due to its location and size, since those are very difficult or impossible to change. One of the best and most enjoyable aspects about Government Square Park is the historic nature of the space. This makes it difficult to move locations because it would ruin this aspect of the park. Expanding the space is possible, but not probable. There is a small parking lot and alleyway to the north of the park, but ownership is split between the city and a private owner. Expanding the space would also cause the rest of the alley to become a dead end. This could be an option, but the cost of doing so may not out-weigh the benefits of expanding the park by only a couple of hundred square feet. One of the user comments mentioned that the space needed larger historical signs and a larger sign

signaling that it is a public park. This would certainly help draw more attention to the space, as many people walking by might assume that it is a private area to one of the nearby buildings. Simple additions to the space in order to make it more comfortable should also be added. Shade could be increased by either umbrellas or additional trees. Tables could be added to allow for people to sit and eat. The tables could also have built-in chess and checker boards to give a possible additional activity. The City of Lincoln should also help promote the park by holding small events or by having a historical tour with Government Square Park as a stop. The city could also host a food truck day in the small parking lot in order to increase the number of users. These changes will certainly help Government Square Park be more successful, but the space will probably never become an area where a large number of people go to gather. Despite this fact, the space is still providing a benefit to the downtown area with its historical significance.

Macro-Scale Discussion

As a group, the two privately-owned public open spaces are the two highest scoring locations using the public space index, while the two city-owned spaces are the two lowest scoring locations using the public space index. This might be surprising to some people; however, there are several potential reasons that this can typically be the norm when it comes to public open spaces. In his research, Carr (1992) discussed what makes it easier for privately-owned entities to design and build public open spaces.

The first possible reason is related to the funding to build and repair the spaces. Typically, private companies wanting to build a public space have the capacity to put more money towards building their public spaces, along with providing maintenance and

additions over time. City departments typically have a harder time finding funding due to very limited and rigid budgets that are to be used across several different locations. This means that if a lot of money is put into one public space, then other spaces around the city are probably going to get less money put into them. This causes the design of many publicly-owned open spaces to be “vandal proof” (Carr, 1992), meaning that everything is bolted down or immovable in order to reduce maintenance and replacement costs. Carr (1992) also found that funds to create a space are typically much easier for cities to secure than maintenance and operating funds. Because of these potential funding issues, it can be harder for cities to design public open spaces which would score highly using the public space index.

Another potential reason that building and maintaining city-owned public open space is more difficult, is because they are subject to a lot more political decision-making. Being owned by the city, makes the spaces inherently more scrutinized by its’ citizens. People typically feel more invested in city projects than they do in private projects, because they usually involve taxpayer dollars. Because city-owned public spaces tend to be more highly scrutinized, many are often designed in a constrained manner (Carr, 1992). Decisions about public spaces can also be influenced by funding opportunities, elections, and major corporations. For example, a large corporation may threaten to move if a public space near them is not to their liking. Changes to privately-owned public spaces can be much easier because they do not have as many outside influences. However, privately-owned spaces should still receive input from their major stakeholders, including the cities they are a part of.

The final potential reason for the disconnect between privately-owned public spaces and the city-owned public spaces, are their locations. Downtown areas have a lot of prime real estate, which can be very expensive to purchase. This makes it difficult to find locations for city-owned public spaces due to constrained budgets. Cities also face the difficult dilemma of determining what is the best use for a space. If they build a public open space, then it is taking away valuable real estate, which could be used for another use, like additional retail or office space. This leads many cities to find an underutilized building or lot to turn into a public space. This can be a positive or negative depending on location. For example, both Tower Square in Lincoln, Nebraska, and Main Street Square in Rapid City, South Dakota, were originally underused lots before being converted into public open spaces. These conversions worked out well because they were located in high foot traffic areas. However, if the location was in a low foot traffic area, then the newly created public space may not be adequately utilized. This is why it is important for cities to research a location prior to converting it to public open space. Private companies do not typically face this same kind of issue. As long as the private entity has the money, they can locate the public open space wherever they want (assuming correct zoning).

One area that is not always able to be measured by the public space index was whether or not the spaces are meeting their design goal. This can be a very important factor when determining the success of a space. This paper would argue that the successfulness of a space is determined by whether or not it meets its design goal and by the overall public space index score that it receives. Typically, the public space index can

help determine whether or not a space's design goal is being met. For example, Tower Square's design goal was to be a safe and inviting place where people would be able to gather. Tower Square was able to accomplish these goals, as shown by the high scores it received in the aspects of accessibility, safety, and meaningful activities. However overall, it did not score highly using the public space index because of lower scores in the aspects of comfort and pleurability. This shows that Tower Square is not as successful as it could be. Although the public space index can typically help determine whether a space's design goal is being met, that is not always the case. Government Square Park was primarily designed to be an ode to the past, but none of the aspects in the public space index address historical preservation. However, in-person visits to the space and additional visits were able to determine that it is meeting the design goal. This type of analysis can also be used on the other two analyzed spaces. The owners of Foundation Garden wanted it to be a relaxing and contemplative environment, which means the aspects comfort and pleurability should score highly. Using the public space index, Foundation Garden received high scores for both of those aspects. The Railyard was designed to be an entertainment hub, which means that accessibility and meaningful activities should score highly. This study found that both of those aspects did score highly according to the public space index. Although the index cannot always be used to determine whether or not a space is meeting its design goal, it can still be helpful in identifying aspects which could be improved upon.

It is also important to remember what the spaces were like prior to development or redevelopment. In the case of Government Square Park, Image 10 shows what the

space looked like after it had been reduced in size and prior to the 2004 redevelopment. As is seen in the image, the site was an open green space with a few trees and a couple of rock sculptures. Before being built, Tower Square was an old movie theater, and The Railyard was a functioning railyard. The public spaces that are there now are all massive improvements to what was there before. As mentioned earlier, even if the public open spaces did not score as well as hoped, that does not mean that they, overall, fail as a public space. It just means the spaces could be updated to enhance what is already there.

Image 10: Government Square Park Pre-2004 Renovation



(Canney, Personal Communication, 2018)

The neighborhood and surrounding uses have a large impact on public open spaces. This is particularly important when it comes to the number of users throughout the day. Certain surrounding uses attract people at different times of day. Nearby housing

typically means that people will be gone during the day for work, but will be around in the evening and night times. Nearby office space attracts people during the day for work, but not during the evening. Restaurants, bars, and retail will attract most people during the lunch hour, evening, and night time. Most public open spaces need users throughout the day to be successful, which means they need a mixture of different surrounding uses. Jane Jacobs found this to be true in her study of Philadelphia's public squares. Jacobs (1961) found that public squares surrounded by a variety of uses, were typically full throughout the day. However, public squares surrounded by one single use, were empty most of the day and became areas for crime (Jacobs, 1961). By looking at the surrounding neighborhoods and uses of the four public open spaces in downtown Lincoln, additional planning policy recommendations can be made.

The surrounding uses for Foundation Garden (Image 3), shows mainly office space, with no housing, and very little retail, restaurants, or bars. This may seem like an issue, because there are very few surrounding uses attracting people to the area during the evening. However, Foundation Garden is only open during the daytime hours, so this becomes a nonissue. If Foundation Garden were to extend its hours, then additional housing, retail, or restaurants would need to be added to the neighborhood. The surrounding uses for Tower Square (Image 5), shows a very diverse mixture of uses. These uses help keep Tower Square busy throughout the day and evening. The surrounding uses for The Railyard (Image 7), shows that there is a high number of housing, restaurants, and bars, but low amounts of surrounding office space. If there was more office space nearby, then the user counts during the day might go up. Finally, the

surrounding uses for Government Square Park (Image 9), shows mainly office space, with no bars or retail, and low amounts of housing. This means that the space may lack a significant number of users during the evening.

Using this information, the City of Lincoln could implement planning changes for downtown areas surrounding public open spaces. The city could rezone areas surrounding public open spaces, so that all different types of uses were found. They could also prioritize funding options for redevelopments that call for a mixture of different uses. The city could also implement more individualized changes. For example, knowing that The Railyard does not have enough surrounding office space, the city could try and promote additional office space nearby. These types of changes would help the four public open spaces have users throughout the day and would help increase their public space index score.

Significance to Planning and Urban Design

From an urban design and planning perspective, the public space index can be very helpful when designing new public open spaces. Initially, the purpose and goals of the space need to be identified. This will help determine which aspects, identified in the public space index, can be enhanced in order to facilitate what the space was designed to do. For example, if the public open space is meant to be a family friendly area where children can play, then certain aspects that would be the most important to families and children should be increased, such as the aspect of safety and pleasurability. If the space is meant to be an entertainment hub, then other aspects like inclusiveness and meaningful activities would need to be increased. Doing this will help increase the likelihood that the

space is successful. To further enhance the public space, the other aspects in public space index should score highly (above 20 out of 30). This will help eliminate design features which might turn away individuals.

Across the county there has been a renewed interest in public open spaces and placemaking. Planners and city officials have begun to realize that downtown environments need outdoor public spaces where individuals can relax, eat, and meet with friends. With more and more public spaces being built, but with the constraint of limited downtown space, it is important that public spaces are functioning effectively. This research project shows that by using the public space index, it is possible to evaluate public spaces in an effective and efficient way. An entire city planning department could perform this type of evaluation in a couple of months with minimal cost. Including a user surveys component also allows cities to add additional questions and requests for comments that are specific to each area and thereby valuable public input. It is also a great way to get the public excited about planning projects. Public spaces are very important to people, and everybody seems to have an opinion. Many times, the public will come up with ideas that were never thought of, and those ideas can really help elevate the significance and effective public use of a site.

This research study could also be very impactful to the City of Lincoln because a new downtown master plan is currently being created. By using the public space index, the City of Lincoln could evaluate all of the public open spaces in downtown Lincoln. This way, city officials and planners would know which spaces are performing well and which spaces need strengthening in certain areas. The planning department would then be

able to provide results-based recommendations for public open spaces within the new plan. This study can also help when creating a budget and prioritizing funding to different spaces. Rather than just saying a space needs to be updated, a systematic evaluation would give concrete data to specify how it needs to be updated. Breaking down the scores into different aspects is very helpful when coming up with ideas for potential changes. For example, by looking at the aspect scores of Tower Square, it is easy to tell that future updates should be towards increasing comfort and pleasurability. Knowing this will help to prioritize and ultimately choose updates in the future.

Using the public space index could also lead to overall policy changes for the city. The City of Lincoln could create a public open spaces master plan, which could be a stand-alone document or be part of a downtown master plan. Within that plan, the city could evaluate all the public open spaces, provide updated recommendations, establish funding opportunities, and evaluate potential spots for additional spaces. A plan like this could then be updated as needed. Creating a public open spaces master plan would help ensure that every public open space is operating in a highly successful manner.

The public space index could also be used when designing and locating future public open spaces. One of the major aspects that will be included in the new downtown master plan is deciding what should be done with the old Pershing Auditorium site. Currently, there are several different ideas for what should be done. Ideas range from an office building, a mixed-used building, or even a public open space with a playground. In order to see if a public open space would work in this location, city planners could use

the index to estimate a score. If it scored well, then the plan could recommend it become a public open space. If it does not score well, then another use could be recommended.

The results of this study do not have to be used for only large-scale projects or master plans, but it can also help when planning events at these public spaces. For example, knowing that Government Square Park is lacking in meaningful activities could bring attention to the issue, and the city could start to host smaller events there. This type of programming may seem like a quick fix; however, most spaces need events held there in order to attract individuals who normally would not go downtown. It would also allow more people to learn about the space and the historical significance it has, potentially increasing the number of everyday users. Evaluating spaces can even be helpful to event planners. For example, knowing that Tower Square might not be the most comfortable place is important because short term changes can be made. If event planners are aware of this ahead of time, they can bring easy to set up and tear down comfort items like umbrellas, shade tents, and tables. This type of situation is not ideal, because it is only a temporary fix. However, if changes are slow in being made, this will help events become more popular and increase the number of users to the public space.

Challenges and Limitations

There were several challenges when conducting the research, observations, and surveys for this project. In order to minimize these challenges and improve results, there are several improvements that future studies should consider. The first is to have multiple researchers observe and rate the space. As this was an individual thesis project, only one researcher was conducting the fieldwork. With over 75% of the variables scored by the

researcher, bias and subjectivity could have played a factor in the scores. Having multiple researchers scoring the observations would help reduce the potential bias and subjectivity creating a more accurate scoring approach, thereby increasing reliability. Having one researcher also meant that statistical analysis could not be done. Because the vast majority of the variables were scored by one researcher, it is not possible to say if the results are significant or not. This research study was also under time constraints, which reduced the number of spaces analyzed, observations, and time spent during an observation. To get a more thorough analysis, future research projects should try to evaluate all of the public open spaces in an area, increase the number of observations, and increase the length of time for an observation period. Another way to reduce researcher subjectivity is to have better defined variable option definitions that would be researched and backed by data. For example, on the researcher survey there is a question regarding access to people of diverse ages. The options for scoring are: 0 = very limited, 1 = low, 2 = medium, and 3 = high. Those types of options can mean different things to different researchers, since there is no provided exact range. Having definitions would help eliminate this ambiguity. A possible change could be: 0 = very limited (1 to 2 age groups), 1 = low (3 to 4 age groups), 2 = medium (5 age groups), and 3 = high (6+ age groups). Although it is not possible for every variable to have explicitly defined answer options, having more definitions like this would help reduce subjectivity and would help create more clearly-defined and consistently applied scores.

Users of the survey in the future may also want to look at and potentially change some of the wording used in the user surveys. Some of the terms used in the user surveys

are understandable for planners and urban designers but may not be completely understandable by the public. The survey uses terms like “open and accessible” and “useful and meaningful” which may need to be defined so the public knows what exactly they mean. Doing this would help ensure that surveys are filled out accurately and consistently. Finally, the public space index does not define how ranges of scores might be considered high, middle, or low. For example, if a space receives a score of 75, is it considered to be a high, middle, or low performing space? The researcher or city department has to make this determination. Future studies may want to use averages or perform research for which score ranges are considered to be high, middle, and low performing spaces.

Finally, the public space index has some limitations because of the inherent biases built in. The public space index works very well for conventional downtown public open spaces whose primary objective is geared towards people using the space. This is because many of the variables in the index are scored using user counts or user observations. However, not all public open spaces were primarily designed for people to use, such as creating public open space for historic preservation, framing an important feature or building, floodwater storage, and the preservation of natural open space. For these types of spaces, the public index score they receive might be lower because of the bias towards low user counts. The public space index might also be difficult to apply to spaces with extremely large areas or unconventional layouts. It might be difficult to score these variables if the users are not within sight of the researcher, which may be the case in extremely large areas or unconventional layouts.

Research Question Findings

Although the index is not perfect, and changes can be made, the public space index is still a valuable tool for evaluating public open spaces. The area where the index is most valuable is in public space design. The public space index is excellent at identifying variables or aspects where a space is excelling and where it is coming up short. This is due to the aspect breakdown scores. Using the public space index will help cities and organizations better understand which changes to a space will have the biggest impact. The public space index is also very valuable because it allows public open spaces to be evaluated. Before the creation of this index, that was a very difficult task to do. As mentioned earlier, many cities or organizations had to guess or use narrow metrics, like user counts, to determine if a space was successful. By having the public space index as part of the evaluation process, it is now much easier for cities and organizations to determine the success of a space. Along with giving an overall score, the time spent in the public space, performing the analysis, allows the researcher to know the space very well. Every public open space is different, and what is successful in one space, may not be successful in another. By spending time in these spaces, researchers will have a much better understanding which changes will work and which will not.

Due to these points, this study would argue that the public space index is an effective way at evaluate public open spaces. This study showed that the public space index can be used to easily evaluate four public spaces in downtown Lincoln, Nebraska, with minimal time and costs. The public space index made it possible to compare the four different spaces to one another and provided breakdowns, so that each space could be

analyzed using five different aspects. Results from the evaluation show that two out of the four public spaces received high scores (above 67) using the public space index. The two high scoring public open spaces are Foundation Garden and The Railyard. The two public open spaces which did not receive high scores, are Tower Square and Government Square Park.

CHAPTER 5: CONCLUSION

Public open spaces can have a huge impact on a city, and nowhere is that seen more than in a downtown environment. If designed, located, and maintained correctly, public spaces can have a positive impact on social activities, political events, the economy, an individual's health, and help create an identity for a city. However, many public spaces are not designed, located, and maintained correctly, reducing these positive impacts. That is why it is so important for cities and businesses to evaluate their public open spaces.

This research project used the City of Lincoln, Nebraska, as a case study in order to answer the following questions: (1) Is Vikas Mehta's (2014) public space index an effective way to evaluate public open spaces? And (2) Do four public open spaces in downtown Lincoln, Nebraska receive high scores using this public space index? The results show that The Railyard is the highest scoring public space at 75 out of 100. The second highest scoring public space is Foundation Garden at 72 out of 100. Next, with a score of 65 out of 100 is Tower Square. The lowest scoring public space that is researched is Government Square Park with a score of 61 out of 100. Mehta's public space index provided an effective way to evaluate these public open spaces to help pinpoint their strengths and weaknesses. On an individual level, The Railyard and Foundation Garden received high scores; whereas, Government Square Park and Tower Square did not receive high scores.

This research project demonstrates that evaluating public spaces can be done effectively using the public space index. In doing so, it will provide an example for other

cities to use when evaluating their own public open spaces. This will help planners and government officials renovate current public spaces, as well as create better public open spaces in the future. For the City of Lincoln, this research has the potential to be especially enlightening, such as helping city officials know which public open spaces are flourishing and which public spaces may need to be updated. Public open spaces can be a great asset to a city, but too often they are built and left unattended for years. In order for cities and organizations to know if their public open spaces are truly successful, they need to be evaluated before and after they are built. In this way, public spaces all over the world will be able to reach their full potential and serve the needs of their users and help their communities thrive.

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APPENDIX A: PUBLIC SPACE INDEX

<u>Aspect of Public Space</u>	<u>Variables</u>	<u>Weighting</u>	<u>Scoring Criteria</u>	<u>Measuring Criteria</u>
<i>Inclusiveness</i>	1: Presence of people of diverse ages	0.4	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	2: Presence of people of different genders	0.4	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	3: Presence of people of diverse classes	0.4	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	4: Presence of people of diverse races	0.4	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	5: Presence of people with diverse physical abilities	0.4	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	6: Control of entrance to public space: presence of lockable gates, fences, etc.	1.0	3 = none 2 = low 1 = medium 0 = high	Determined by observations
	7: Range of activities and behaviors	1.0	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures
	8: Opening hours of public space	1.0	0 = very limited <10 hrs 1 = open at least 10 hrs 2 = open most hours 3 = no restrictions	Determined by signs indicating such and/or security guards, guides, etc. asking people to leave

	9: Presence of posted signs to exclude certain people or behaviors	1.0	3 = none 2 = somewhat 1 = moderately 0 = very much	Determined by number of signs, their location, size and the verbiage
	10: Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	1.0	3 = not at all 2 = somewhat 1 = moderately 0 = very much	User's subjective rating
	11: Perceived openness and accessibility	2.0	0 = not at all 1 = some parts/at some time 2 = mostly 3 = completely	User's subjective rating
	12: Perceived ability to conduct and participate in activities and events in space	1.0	0 = cannot in most 1 = only in some/at some time 2 = in many 3 = in almost all/all	User's subjective rating
		10	30 (maximum)	
Meaningful Activities	13: Presence of community-gathering third places	2.0	0 = none 1 = one 2 = two 3 = few	Determined by observations of businesses or other specific places that act as community gathering places
	14: Range of activities and behaviors	1.0	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures
	15: Space flexibility to suit user needs	1.0	0 = none 1 = somewhat flexible	Determined by observing any modifications

			2 = moderately flexible 3 = very flexible	made by users over time
	16: Availability of food within or at the edges of the space	2.0	0 = none 1 = one 2 = two 3 = several	Determined by observations using counts
	17: Variety of businesses and other uses at the edges of the space	1.0	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts
	18: Perceived suitability of space layout and design to activities and behavior	2.0	0 = not suitable at all 1 = somewhat suitable 2 = moderately suitable 3 = very suitable	User's subjective rating
	19: Perceived usefulness of businesses and other uses	1.0	0 = not at all 1 = somewhat 2 = moderately 3 = very much	User's subjective rating
		10	30 (maximum)	
<i>Comfort</i>	20: Places to sit without paying for goods and services	2.0	0 = none 1 = few 2 = several in some parts of space 3 = several in many parts of space	Determined by observations using counts
	21: Seating provided by businesses	1.0	0 = none 1 = few 2 = several in some parts of space 3 = several in many parts of space	Determined by observations using counts
	22: Other furniture and artifacts in the space	1.0	0 = none 1 = few	Determined by observations using counts

			2 = several in some parts of space 3 = several in many parts of space	
	23: Climatic comfort of the space – shade and shelter	2.0	0 = not comfortable 1 = somewhat comfortable in some parts of space 2 = comfortable in some parts of space 3 = comfortable in most of the space	Determined by observations
	24: Design elements discourage use of space	1.0	3 = none 2 = one or two 1 = few 0 = several	Determined by observations
	25: Perceived physical condition and maintenance	2.0	0 = not at all 1 = somewhat 2 = mostly 3 = very much	User's subjective rating
	26: Perceived nuisance noise from traffic or otherwise	1.0	3 = none 2 = very little 1 = moderate 0 = high	User's subjective rating
		10	30 (maximum)	
<i>Safety</i>	27: Visual and physical connection and openness to adjacent street/s or spaces	1.0	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations
	28: Physical condition and maintenance appropriate for the space	1.0	0 = not at all 1 = somewhat 2 = mostly 3 = very much	Determined by observations

	29: Lighting quality in space after dark	1.0	0 = very poor 1 = many parts not well lit 2 = mostly well lit 3 = very well lit	Determined by observations
	30: Perceived safety from presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	1.0	3 = very much provide a sense of safety 2 = provide some sense of safety 1 = not at all 0 = make me feel unsafe	User's subjective rating
	31: Perceived safety from crime during daytime	2.0	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	User's subjective rating
	32: Perceived safety from crime after dark	2.0	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	User's subjective rating
	33: Perceived safety from traffic	2.0	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	User's subjective rating
		10	30 (maximum)	
<i>Pleasurability</i> For detached plaza, square, park	34: Presence of memorable architectural or landscape features (imageability)	1.0	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations
	35: Sense of enclosure	1.0	0 = very poor sense of enclosure	Determined by observations

			1 = moderately well enclosed 2 = good sense of enclosure 3 = very good sense of enclosure	
	36: Variety of subspaces	1.0	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations using counts
	37: Density of elements in space providing sensory complexity	1.0	0 = none or very few 1 = few 2 = moderate 3 = high	Determined by observations using counts
	38: Variety of elements in space providing sensory complexity	1.0	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts
	39: Design elements providing focal points	1.0	0 = none 1 = one 2 = two 3 = several	Determined by observations using counts
	40: Visual and physical connection and openness to adjacent street/s or spaces	1.0	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations
	41: Perceived attractiveness of space	2.0	0 = not at all 1 = somewhat 2 = moderate 3 = very much	User's subjective rating
	42: Perceived interestingness of space	1.0	0 = not at all 1 = somewhat 2 = moderate 3 = very much	User's subjective rating
		10	30 (maximum)	
Pleasurability	34: Presence of memorable	0.7	0 = none 1 = very few	Determined by observations

For attached plaza, square, park	architectural or landscape features (imageability)		2 = moderate 3 = several	
	35: Sense of enclosure	0.7	0 = very poor sense of enclosure 1 = moderately well enclosed 2 = good sense of enclosure 3 = very good sense of enclosure	Determined by observations
	36: Variety of subspaces	0.7	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations using counts
	37: Density of elements in space providing sensory complexity	0.7	0 = none or very few 1 = few 2 = moderate 3 = high	Determined by observations using counts
	38: Variety of elements in space providing sensory complexity	0.7	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts
	39: Design elements providing focal points	0.7	0 = none 1 = one 2 = tow 3 = several	Determined by observations using counts
	40: Visual and physical connection and openness to adjacent street/s or spaces	0.7	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations
	41: Permeability of building facades on the street front	0.7	0 = not at all 1 = some parts somewhat permeable	Determined by observations

			2 = moderate permeability 3 = very permeable all along	
	42: Personalization of the buildings on the street front	0.7	0 = not at all 1 = some parts somewhat personalized 2 = moderate personalization 3 = very personalized all along	Determined by observations
	43: Articulation and variety in architectural features of building facades on the street front	0.7	0 = poor articulation and variety 1 = somewhat articulated 2 = moderate articulation 3 = very well articulated	Determined by observations
	44: Perceived attractiveness of space	2.0	0 = not at all 1 = somewhat 2 = moderate 3 = very much	User's subjective rating
	45: Perceived interestingness of space	1.0	0 = not at all 1 = somewhat 2 = moderate 3 = very much	User's subjective rating
		10	30 (maximum)	

Source: Mehta, 2014

APPENDIX B: RESEARCHER SURVEY ATTACHED PLAZA/PARK

Site and Other Details

- Name of Public Space _____
- Date: _____ Time of Day: Daytime After Dark
- Temperature _____
- Weather: Sunny Mostly Sunny Partly Cloudy Cloudy Raining
 Other _____

Researcher Information

- Name of Student Researcher _____
- Age: 18-24 25-34 35-44 45-54 55-64 65-74
- Sex: Male Female
- Race: White Black or African-American American Indian Hispanic
 Asian or Pacific Islander Other _____

Observations of People using the public space

- Age - Enter a count of people who fit each category:
 Infants Children Teens Young Adults 18-30 Adults 30-45
 46-54 55-65 65 & Older
- Sex - Enter a count of people who fit each category:
 Male Female Other (explain) _____
- Class - Enter the count of people who fit each category:
 Homeless Poor Middleclass Wealthy
 Other (explain) _____
- Race - Enter the count of people who fit each category:
 White Black or African-American American Indian Hispanic
 Asian or Pacific Islander Other _____
- Physical Ability - Enter a count of people who fit each category:
 Able bodied Somewhat disabled Disabled

____ other (explain) _____

Aspect of Public Space	Variables	Scoring (circle only one)	Measuring criteria
A. Inclusiveness			
	1. Access to people of diverse ages	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	2. Access to people of different sex	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	3. Access to people of diverse classes	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	4. Access to people of diverse races	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	5. Access to people with diverse physical abilities	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	6. Control of entrance to public space - presence of lockable gates, fences, etc.	3 = none 2 = low 1 = medium 0 = high	Determined by observations
	7. Range of activities and behaviors	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures

8.	Opening hours of public space	0 = very limited <10 hrs 1 = open at least 10 hrs 2 = open most hours 3 = no restrictions	Determined by signs indicating such and/or security guards, guides, etc. asking people to leave
9.	Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	3 = not at all 2 = somewhat 1 = moderately 0 = very much	Researcher's subjective rating
10.	Presence of posted signs to exclude certain people or behaviors	3 = none 2 = somewhat 1 = moderately 0 = very much	Determined by number of signs, their location, size and the verbiage

B. *Meaningfulness*

11.	Presence of community-gathering third places	0 = none 1 = one - suitable for one group 2 = two - suitable for some groups 3 = few - suitable to several groups	Determined by observations
12.	Range of activities and behaviors	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures
13.	Space layout and design suitability to activities and behaviors	0 = not suitable at all 1 = somewhat suitable 2 = moderately suitable 3 = very suitable	Determined by observing the congruence between space and activities

-
- | | | | |
|-----|--|--|---|
| 14. | Space flexibility to suit user needs | 0 = none
1 = somewhat limited
2 = moderately flexible
3 = very flexible | Determined by observing any modifications made by users over time |
| 15. | Availability of food within or at the edges of the space | 0 = none
1 = one
2 = two
3 = several | Determined by observations using counts |
| 16. | Variety of businesses and other uses at the edges of the space | 0 = none
1 = very little
2 = moderate
3 = high | Determined by observations using counts |

C. *Comfort*

- | | | | |
|-----|--|---|---|
| 17. | Seating provided by businesses | 0 = none
1 = few
2 = several in some parts of space
3 = several in many parts of space | Determined by observations using counts |
| 18. | Places to sit without paying for good and services | 0 = none
1 = few
2 = several in some parts of space
3 = several in many parts of space | Determined by observations using counts |
| 19. | Other furniture and artifacts in the space | 0 = none
1 = few
2 = several in some parts of space | Determined by observations using counts |
-

		3 = several in many parts of space	
20.	Climatic comfort of the space – shade and shelter	0 = not comfortable 1 = somewhat comfortable in some parts of space 2 = comfortable in some parts of space 3 = comfortable in most of the space	Determined by observations using counts
21.	Physical condition and maintenance appropriate for the space	0 = not at all 1 = somewhat 2 = mostly 3 = very much	Determined by observations
22.	Design elements discouraging use of space	3 = none 2 = one or two 1 = few 0 = several	Determined by observations
23.	Nuisance noise from traffic or otherwise	3 = none 2 = very little 1 = moderate 0 = high	Determined by listening

D. Safety

24.	Perceived safety from crime during daytime	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	Researcher's subjective rating
25.	Perceived safety from crime after dark	0 = not safe at all 1 = somewhat unsafe	Researcher's subjective rating

		2 = mostly safe 3 = very safe	
26.	Perceived safety from traffic	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	Researcher's subjective rating
27.	Visual and physical connection and openness to adjacent street/s or spaces	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations
28.	Physical condition and maintenance appropriate for the space	0 = not at all 1 = somewhat 2 = mostly 3 = very much	Determined by observations
29.	Lighting quality in space after dark	0 = very poor 1 = many parts not well lit 2 = mostly well lit 3 = very well lit	Determined by observations
30.	Presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	3 = very much provide a sense of safety 2 = provide some sense of safety 1 = not at all 0 = make me feel unsafe	Researcher's subjective rating

E. *Pleasurability*

For Attached Plaza, Square, Park	31.	Presence of memorable architectural or landscape features (imageability)	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations. Researcher's subjective rating
	32.	Sense of enclosure	0 = very poor sense of enclosure 1 = moderately well enclosed 2 = good sense of enclosure 3 = very good sense of enclosure	Determined by observations. Researcher's subjective rating
	33.	Variety of sub-spaces	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations using counts
	34.	Density of elements in space providing sensory complexity	0 = none or very few 1 = few 2 = moderate 3 = high	Determined by observations using counts
	35.	Variety of elements in space providing sensory complexity	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts
	36.	Design elements providing focal points	0 = none 1 = one 2 = two 3 = several	Determined by observations using counts
	37.	Visual and physical connection and openness to adjacent street/s or spaces	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = well connected	Determined by observations

		3 = very well connected	
38.	Permeability of building facades on the street front	0 = not at all 1 = some parts somewhat permeable 2 = moderate permeability 3 = very permeable all along	Determined by observations. Researcher's subjective rating
39.	Personalization of the buildings on the street front	0 = not at all 1 = some parts somewhat personalized 2 = moderate personalization 3 = very personalized all along	Determined by observations. Researcher's subjective rating
40.	Articulation and variety in architectural features of building facades on the street front	0 = poor articulation and variety 1 = somewhat articulated 2 = moderate articulation 3 = very well articulated	Determined by observations. Researcher's subjective rating

APPENDIX C: RESEARCHER SURVEY DETACHED PLAZA/PARK

Site and Other Details

- Name of Public Space _____
- Date: _____ Time of Day: Daytime After Dark
- Temperature _____
- Weather: Sunny Mostly Sunny Partly Cloudy Cloudy Raining
 Other _____

Researcher Information

- Name of Student Researcher _____
- Age: 18-24 25-34 35-44 45-54 55-64 65-74
- Sex: Male Female
- Race: White Black or African-American American Indian Hispanic
 Asian or Pacific Islander Other _____

Observations of People using the public space

- Age - Enter a count of people who fit each category:
 ___ Infants ___ Children ___ Teens ___ Young Adults 18-30 ___ Adults 30-45
 ___ 46-54 ___ 55-65 ___ 65 & Older
- Sex - Enter a count of people who fit each category:
 ___ Male ___ Female ___ Other (explain) _____
- Class - Enter the count of people who fit each category:
 ___ Homeless ___ Poor ___ Middleclass ___ Wealthy
 ___ Other (explain) _____
- Race - Enter the count of people who fit each category:
 ___ White ___ Black or African-American ___ American Indian ___ Hispanic
 ___ Asian or Pacific Islander ___ Other _____
- Physical Ability - Enter a count of people who fit each category:
 ___ Able bodied ___ Somewhat disabled ___ Disabled
 ___ Other (explain) _____

Aspect of Public Space	Variables	Scoring (circle only one)	Measuring criteria
A. Inclusiveness			
	1. Access to people of diverse ages	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	2. Access to people of different sex	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	3. Access to people of diverse classes	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	4. Access to people of diverse races	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	5. Access to people with diverse physical abilities	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using counts
	6. Control of entrance to public space - presence of lockable gates, fences, etc.	3 = none 2 = low 1 = medium 0 = high	Determined by observations
	7. Range of activities and behaviors	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures

8.	Opening hours of public space	0 = very limited <10 hrs 1 = open at least 10 hrs 2 = open most hours 3 = no restrictions	Determined by signs indicating such and/or security guards, guides, etc. asking people to leave
9.	Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	3 = not at all 2 = somewhat 1 = moderately 0 = very much	Researcher's subjective rating
10.	Presence of posted signs to exclude certain people or behaviors	3 = none 2 = somewhat 1 = moderately 0 = very much	Determined by number of signs, their location, size and the verbiage

B. *Meaningfulness*

11.	Presence of community-gathering third places	0 = none 1 = one - suitable for one group 2 = two - suitable for some groups 3 = few - suitable to several groups	Determined by observations
12.	Range of activities and behaviors	0 = very limited 1 = low 2 = medium 3 = high	Determined by observations using count of activities, behaviors, postures
13.	Space layout and design suitability to activities and behaviors	0 = not suitable at all 1 = somewhat suitable 2 = moderately suitable 3 = very suitable	Determined by observing the congruence between space and activities
14.	Space flexibility to suit user needs	0 = none 1 = somewhat limited	Determined by observing any

		2 = moderately flexible 3 = very flexible	modifications made by users over time
15.	Availability of food within or at the edges of the space	0 = none 1 = one 2 = two 3 = several	Determined by observations using counts
16.	Variety of businesses and other uses at the edges of the space	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts

C. *Comfort*

17.	Seating provided by businesses	0 = none 1 = few 2 = several in some parts of space 3 = several in many parts of space	Determined by observations using counts
18.	Places to sit without paying for good and services	0 = none 1 = few 2 = several in some parts of space 3 = several in many parts of space	Determined by observations using counts
19.	Other furniture and artifacts in the space	0 = none 1 = few 2 = several in some parts of space 3 = several in many parts of space	Determined by observations using counts
20.	Climatic comfort of the space – shade and shelter	0 = not comfortable 1 = somewhat comfortable in some parts of space 2 = comfortable in some parts of space	Determined by observations using counts

		3 = comfortable in most of the space	
21.	Physical condition and maintenance appropriate for the space	0 = not at all 1 = somewhat 2 = mostly 3 = very much	Determined by observations
22.	Design elements discouraging use of space	3 = none 2 = one or two 1 = few 0 = several	Determined by observations
23.	Nuisance noise from traffic or otherwise	3 = none 2 = very little 1 = moderate 0 = high	Determined by listening

D. *Safety*

24.	Perceived safety from crime during daytime	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	Researcher's subjective rating
25.	Perceived safety from crime after dark	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	Researcher's subjective rating
26.	Perceived safety from traffic	0 = not safe at all 1 = somewhat unsafe 2 = mostly safe 3 = very safe	Researcher's subjective rating
27.	Visual and physical connection and openness to adjacent street/s or spaces	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations

	28.	Physical condition and maintenance appropriate for the space	0 = not at all 1 = somewhat 2 = mostly 3 = very much	Determined by observations
	29.	Lighting quality in space after dark	0 = very poor 1 = many parts not well lit 2 = mostly well lit 3 = very well lit	Determined by observations
	30.	Presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	3 = very much provide a sense of safety 2 = provide some sense of safety 1 = not at all 0 = make me feel unsafe	Researcher's subjective rating
E.	<i>Pleasurability</i>			
For Detached Plaza, Square, Park	31.	Presence of memorable architectural or landscape features (imageability)	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations. Researcher's subjective rating
	32.	Sense of enclosure	0 = very poor sense of enclosure 1 = moderately well enclosed 2 = good sense of enclosure 3 = very good sense of enclosure	Determined by observations. Researcher's subjective rating
	33.	Variety of sub-spaces	0 = none 1 = very few 2 = moderate 3 = several	Determined by observations using counts

34.	Density of elements in space providing sensory complexity	0 = none or very few 1 = few 2 = moderate 3 = high	Determined by observations using counts
35.	Variety of elements in space providing sensory complexity	0 = none 1 = very little 2 = moderate 3 = high	Determined by observations using counts
36.	Design elements providing focal points	0 = none 1 = one 2 = two 3 = several	Determined by observations using counts
37.	Visual and physical connection and openness to adjacent street/s or spaces	0 = almost none or very poor 1 = somewhat tentative 2 = moderately well connected 3 = very well connected	Determined by observations

APPENDIX D: USER SURVEY ATTACHED PLAZA/PARK**Site and Other Details**

Name of Public Space:

Date: _____ Time of Day: _____

Temperature _____

Weather: Sunny Mostly Sunny Partly Cloudy Cloudy Raining Clear Other _____**Respondent Information**Age: 18-24 25-34 35-44 45-54 55-64 65-74 over 75Sex: Male FemaleRace: White Black or African-American American Indian Hispanic Asian or Pacific Islander
 Other _____ Choose not to respondFamily Income: Less than \$20,000 \$20,000 - \$49,999 \$50,000 - \$74,999 \$75,000 - \$99,999
 \$100,000 - \$150,000 More than \$150,000 Choose not to respond

Occupation: _____

General**Do you live or work in Downtown Lincoln?** Live Work Live and work Only visit Other (explain): _____**How frequently do you visit this public space?** Once a day or more Few times a week Few times a month Only occasionally
 Other (explain): _____**Again, there is no right or wrong answers to these questions. I am interested in your opinions.
I would like to know your ideas about [INSERT PUBLIC SPACE].****A. INCLUSIVENESS****Do you feel [INSERT PUBLIC SPACE], is open and accessible to you?** 0 = Not accessible to me at all 1 = Only some parts are accessible to me
 2 = Most of the space is accessible to me 3 = The space is completely accessible to me

Any additional comments: _____

Are you able to participate in the regular activities and events in this public space?

- 0 = I cannot participate in most activities 1 = I can only participate in some activities
 2 = I can participate in many activities 3 = I can participate in almost all activities

Any additional comments: _____

Is the presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and you feel that your privacy is infringed upon?

- 3 = not at all 2 = somewhat 1 = moderately 0 = very much

Any additional comments: _____

B. MEANINGFULNESS

Are the regular activities and events in [INSERT PUBLIC SPACE] meaningful to you?

- 0 = Not meaningful at all 1 = Somewhat meaningful (or in some parts)
 2 = Moderately meaningful 3 = Very meaningful

Any additional comments: _____

Does the design and layout of this public space support your activities and things you may want to do here?

- 0 = Not at all 1 = Somewhat 2 = Moderately 3 = Very well

Any additional comments: _____

Are the businesses and stores at the edges of [INSERT PUBLIC SPACE] useful and meaningful to you?

- 0 = Not at all 1 = Somewhat 2 = Moderately 3 = Very much

Any additional comments: _____

Do you come to hang out and meet your friends at any businesses or places in [INSERT PUBLIC SPACE]?

- 0 = never 1 = very rarely 2 = sometimes 3 = all the time

Any additional comments: _____

C. SAFETY

How safe (crime related) do you feel in [INSERT PUBLIC SPACE] during the daytime?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

How safe (crime related) do you feel in [INSERT PUBLIC SPACE] after dark?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

How safe (traffic related) do you feel in [INSERT PUBLIC SPACE]?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

Does the presence of surveillance cameras, security guards, guides, ushers, etc. make you feel safe here?

3 = Very much provides a sense of safety 2 = Provides some sense of safety
 1 = Does not provide any sense of safety 0 = Makes me feel unsafe

Any additional comments: _____

D. COMFORT

Is the physical condition of the space appropriate to its use and purpose?

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Is the maintenance of the space appropriate to its use and purpose?

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Is this space comfortable for you to be in (place to sit, stand, etc.)?

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Does this space feel climatically comfortable (sunlight, shade, shelter)?

0 = Not comfortable 1 = Somewhat comfortable (or in some parts)
 2 = Comfortable in some parts 3 = Comfortable in most of the space

Any additional comments: _____

E. PLEASURABILITY

Do you find this public space interesting?

0 = Not at all 1 = Somewhat 2 = Moderately 3 = Very much

Why or why not?: _____

Do you find this public space attractive?

0 = Not at all 1 = Somewhat 2 = Moderately 3 = Very much

Why or why not?: _____

What encourages you to use this public space?

What discourages you to use this public space?

What are the three most important things about this public space that you would NOT want to change?

- 1. _____
- 2. _____
- 3. _____

What are the three most important things that you would like to CHANGE or ADD in this public space?

- 1. _____
- 2. _____
- 3. _____

Thank You!!

APPENDIX E: USER SURVEY DETACHED PLAZA/PARK

Site and Other Details

Name of Public Space:

Date: _____ Time of Day: _____

Temperature _____

Weather: Sunny Mostly Sunny Partly Cloudy Cloudy Raining Clear Other _____

Respondent Information

Age: 18-24 25-34 35-44 45-54 55-64 65-74 over 75

Sex: Male Female

Race: White Black or African-American American Indian Hispanic Asian or Pacific Islander
 Other _____ Choose not to respond

Family Income: Less than \$20,000 \$20,000 - \$49,999 \$50,000 - \$74,999 \$75,000 - \$99,999
 \$100,000 - \$150,000 More than \$150,000 Choose not to respond

Occupation: _____

General

Do you live or work in Downtown Lincoln?

Live Work Live and work Only visit Other (explain) _____

How frequently do you visit this public space?

Once a day or more Few times a week Few times a month Only occasionally
 Other (explain): _____

Again, there is no right or wrong answers to these questions. I am interested in your opinions. I would like to your ideas about [INSERT PUBLIC SPACE].

A. INCLUSIVENESS

Do you feel [INSERT PUBLIC SPACE], is open and accessible to you?

0 = Not accessible to me at all 1 = Only some parts are accessible to me

2 = Most of the space is accessible to me 3 = The space is completely accessible to me

Any additional comments: _____

Are you able to participate in the regular activities and events in this public space?

0 = I cannot participate in most activities 1 = I can only participate in some activities
 2 = I can participate in many activities 3 = I can participate in almost all activities

Any additional comments: _____

Is the presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and you feel that your privacy is infringed upon?

3 = not at all 2 = somewhat 1 = moderately 0 = very much

Any additional comments: _____

B. MEANINGFULNESS

Are the regular activities and events in [INSERT PUBLIC SPACE] meaningful to you?

0 = Not meaningful at all 1 = Somewhat meaningful (or in some parts)
 2 = Moderately meaningful 3 = Very meaningful

Any additional comments: _____

Does the design and layout of this public space support your activities and things you may want to do here?

0 = Not at all 1 = Somewhat 2 = Moderately 3 = Very well

Any additional comments: _____

Do you come to hang out and meet your friends in [INSERT PUBLIC SPACE]?

0 = never 1 = very rarely 2 = sometimes 3 = all the time

Any additional comments: _____

C. SAFETY

How safe (crime related) do you feel in [INSERT PUBLIC SPACE] during the daytime?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

How safe (crime related) do you feel in [INSERT PUBLIC SPACE] after dark?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

How safe (traffic related) do you feel in [INSERT PUBLIC SPACE]?

0 = Not safe at all 1 = Somewhat unsafe (or in some parts) 2 = Mostly safe 3 = Very safe

Any additional comments: _____

Does the presence of surveillance cameras, security guards, guides, ushers, etc. make you feel safe here?

3 = Very much provides a sense of safety 2 = Provides some sense of safety
 1 = Does not provide any sense of safety 0 = Makes me feel unsafe

Any additional comments: _____

D. COMFORT**Is the physical condition of the space appropriate to its use and purpose?**

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Is the maintenance of the space appropriate to its use and purpose?

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Is this space comfortable for you to be in (place to sit, stand, etc.)?

0 = Not at all 1 = Somewhat 2 = Mostly 3 = Very much

Any additional comments: _____

Does this space feel climatically comfortable (sunlight, shade, shelter)?

0 = Not comfortable 1 = Somewhat comfortable (or in some parts)
 2 = Comfortable in some parts 3 = Comfortable in most of the space

Any additional comments: _____

E. PLEASURABILITY

Do you find this public space interesting?

[] 0 = Not at all [] 1 = Somewhat [] 2 = Moderately [] 3 = Very much

Why or why not?: _____

Do you find this public space attractive?

[] 0 = Not at all [] 1 = Somewhat [] 2 = Moderately [] 3 = Very much

Why or why not?: _____

What encourages you to use this public space?

What discourages you to use this public space?

What are the three most important things about this public space that you would NOT want to change?

- 4. _____
- 5. _____
- 6. _____

What are the three most important things that you would like to CHANGE or ADD in this public space?

- 1. _____
- 2. _____
- 3. _____

Thank You!!

APPENDIX F: IRB APPROVAL LETTER

March 12, 2018 - official approval letter

Karl Dietrich
Community and Regional Planning Program

Dan Piatkowski
Community and Regional Planning Program
ARCH 241, UNL, 685880106

IRB Number: 20180318010EX
Project ID: 18010
Project Title: An Evaluation of Public Open Space in Downtown Lincoln, Nebraska

Dear Karl:

This letter is to officially notify you of the certification of exemption of your project for the Protection of Human Subjects. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as exempt. Exempt categories are listed within HRPP Policy #4.001: Exempt Research available at: <http://research.unl.edu/researchcompliance/policies-procedures/>.

You are authorized to implement this study as of the Date of Final Exemption: 3/12/2018

- o Review conducted using exempt category 2 at 45 CFR 46.101
- o Funding: N/A

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- * Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- * Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- * Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- * Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- * Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 402-472-6965.

APPENDIX G: FOUNDATION GARDEN PUBLIC SPACE INDEX BREAKDOWN

Aspect of Public Space	Variables	Weighting	Average Score	Final Score
Inclusiveness	1: Presence of people of diverse ages	0.4	2	0.8
	2: Presence of people of different genders	0.4	1.75	0.7
	3: Presence of people of diverse classes	0.4	1.5	0.6
	4: Presence of people of diverse races	0.4	0.25	0.1
	5: Presence of people with diverse physical abilities	0.4	0	0
	6: Control of entrance to public space: presence of lockable gates, fences, etc.	1	1	1
	7: Range of activities and behaviors	1	1.25	1.25
	8: Opening hours of public space	1	0	0
	9: Presence of posted signs to exclude certain people or behaviors	1	1.25	1.25
	10: Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	1	2.67	2.67
	11: Perceived openness and accessibility	2	2.9	5.8
	12: Perceived ability to conduct and participate in activities and events in space	1	2.26	2.26
	Total			
Meaningful Activities	13: Presence of community-gathering third places	2	2.5	5
	14: Range of activities and behaviors	1	1.25	1.25
	15: Space flexibility to suit user needs	1	1.75	1.75
	16: Availability of food within or at the edges of the space	2	1	2
	17: Variety of businesses and other uses at the edges of the space	1	1.75	1.75
	18: Perceived suitability of space layout and design to activities and behavior	2	2.53	5.06
	19: Perceived usefulness of businesses and other uses	1	1.55	1.55
	Total			
Comfort	20: Places to sit without paying for goods and services	2	3	6
	21: Seating provided by businesses	1	3	3
	22: Other furniture and artifacts in the space	1	3	3
	23: Climatic comfort of the space – shade and shelter	2	2.75	5.5
	24: Design elements discourage use of space	1	2	2
	25: Perceived physical condition and maintenance	2	2.69	5.38

	26: Perceived nuisance noise from traffic or otherwise	1	3	3
	Total			28
Safety	27: Visual and physical connection and openness to adjacent street/s or spaces	1	0.75	0.75
	28: Physical condition and maintenance appropriate for the space	1	3	3
	29: Lighting quality in space after dark	1	2	2
	30: Perceived safety from presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	1	1.85	1.85
	31: Perceived safety from crime during daytime	2	2.83	5.66
	32: Perceived safety from crime after dark	2	1.56	3.12
	33: Perceived safety from traffic	2	2.73	5.46
	Total			22
Pleasurability (Attached)	34: Presence of memorable architectural or landscape features (imageability)	0.7	3	2.1
	35: Sense of enclosure	0.7	3	2.1
	36: Variety of subspaces	0.7	3	2.1
	37: Density of elements in space providing sensory complexity	0.7	3	2.1
	38: Variety of elements in space providing sensory complexity	0.7	3	2.1
	39: Design elements providing focal points	0.7	3	2.1
	40: Visual and physical connection and openness to adjacent street/s or spaces	0.7	1	0.7
	41: Permeability of building facades on the street front	0.7	1	0.7
	42: Personalization of the buildings on the street front	0.7	0.75	0.525
	43: Articulation and variety in architectural features of building facades on the street front	0.7	1	0.7
	44: Perceived attractiveness of space	2	2.63	5.26
	45: Perceived interestingness of space	1	2.53	2.53
	Total			23
	Overall Score			
Public Index Score				72

 = Scored by Users

APPENDIX H: TOWER SQUARE PUBLIC SPACE INDEX BREAKDOWN

Aspect of Public Space	Variables	Weighting	Average Score	Final Score
Inclusiveness	1: Presence of people of diverse ages	0.4	1.5	0.6
	2: Presence of people of different genders	0.4	2.5	1
	3: Presence of people of diverse classes	0.4	1.25	0.5
	4: Presence of people of diverse races	0.4	1	0.4
	5: Presence of people with diverse physical abilities	0.4	0	0
	6: Control of entrance to public space: presence of lockable gates, fences, etc.	1	2.75	2.75
	7: Range of activities and behaviors	1	1.5	1.5
	8: Opening hours of public space	1	2	2
	9: Presence of posted signs to exclude certain people or behaviors	1	3	3
	10: Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	1	2.66	2.66
	11: Perceived openness and accessibility	2	2.9	5.8
	12: Perceived ability to conduct and participate in activities and events in space	1	2.33	2.33
	Total			
Meaningful Activities	13: Presence of community-gathering third places	2	1.5	3
	14: Range of activities and behaviors	1	1.5	1.5
	15: Space flexibility to suit user needs	1	2	2
	16: Availability of food within or at the edges of the space	2	3	6
	17: Variety of businesses and other uses at the edges of the space	1	2.75	2.75
	18: Perceived suitability of space layout and design to activities and behavior	2	2.2	4.4
	19: Perceived usefulness of businesses and other uses	1	1.67	1.67
Total				21
Comfort	20: Places to sit without paying for goods and services	2	2	4
	21: Seating provided by businesses	1	2	2
	22: Other furniture and artifacts in the space	1	1	1
	23: Climatic comfort of the space – shade and shelter	2	0.75	1.5
	24: Design elements discourage use of space	1	0.5	0.5
	25: Perceived physical condition and maintenance	2	2.45	4.9

	26: Perceived nuisance noise from traffic or otherwise	1	0.75	0.75
	Total			15
Safety	27: Visual and physical connection and openness to adjacent street/s or spaces	1	2.25	2.25
	28: Physical condition and maintenance appropriate for the space	1	2.25	2.25
	29: Lighting quality in space after dark	1	2	2
	30: Perceived safety from presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	1	1.92	1.92
	31: Perceived safety from crime during daytime	2	2.45	4.9
	32: Perceived safety from crime after dark	2	1.95	3.9
	33: Perceived safety from traffic	2	2.33	4.66
	Total			22
Pleasurability (Attached)	34: Presence of memorable architectural or landscape features (imageability)	0.7	1	0.7
	35: Sense of enclosure	0.7	1	0.7
	36: Variety of subspaces	0.7	1.25	0.875
	37: Density of elements in space providing sensory complexity	0.7	1.75	1.225
	38: Variety of elements in space providing sensory complexity	0.7	1	0.7
	39: Design elements providing focal points	0.7	2	1.4
	40: Visual and physical connection and openness to adjacent street/s or spaces	0.7	2.5	1.75
	41: Permeability of building facades on the street front	0.7	1.25	0.875
	42: Personalization of the buildings on the street front	0.7	1	0.7
	43: Articulation and variety in architectural features of building facades on the street front	0.7	1.25	0.875
	44: Perceived attractiveness of space	2	2.28	4.56
	45: Perceived interestingness of space	1	2.05	2.05
	Total			16
	Overall Score			
Public Index Score				65

 = Scored by Users

APPENDIX I: THE RAILYARD PUBLIC SPACE INDEX BREAKDOWN

Aspect of Public Space	Variables	Weighting	Average Score	Final Score
Inclusiveness	1: Presence of people of diverse ages	0.4	2	0.8
	2: Presence of people of different genders	0.4	2	0.8
	3: Presence of people of diverse classes	0.4	2	0.8
	4: Presence of people of diverse races	0.4	1	0.4
	5: Presence of people with diverse physical abilities	0.4	0.5	0.2
	6: Control of entrance to public space: presence of lockable gates, fences, etc.	1	2	2
	7: Range of activities and behaviors	1	1.75	1.75
	8: Opening hours of public space	1	3	3
	9: Presence of posted signs to exclude certain people or behaviors	1	1.25	1.25
	10: Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	1	2.79	2.79
	11: Perceived openness and accessibility	2	2.73	5.46
	12: Perceived ability to conduct and participate in activities and events in space	1	2.45	2.45
	Total			
Meaningful Activities	13: Presence of community-gathering third places	2	2.75	5.5
	14: Range of activities and behaviors	1	1.75	1.75
	15: Space flexibility to suit user needs	1	1.5	1.5
	16: Availability of food within or at the edges of the space	2	3	6
	17: Variety of businesses and other uses at the edges of the space	1	2.5	2.5
	18: Perceived suitability of space layout and design to activities and behavior	2	2.26	4.52
	19: Perceived usefulness of businesses and other uses	1	1.76	1.76
	Total			
Comfort	20: Places to sit without paying for goods and services	2	3	6
	21: Seating provided by businesses	1	3	3
	22: Other furniture and artifacts in the space	1	1.25	1.25
	23: Climatic comfort of the space – shade and shelter	2	1.75	3.5
	24: Design elements discourage use of space	1	1.75	1.75
	25: Perceived physical condition and maintenance	2	2.45	4.9

	26: Perceived nuisance noise from traffic or otherwise	1	1.75	1.75
	Total			22
Safety	27: Visual and physical connection and openness to adjacent street/s or spaces	1	2.75	2.75
	28: Physical condition and maintenance appropriate for the space	1	2.5	2.5
	29: Lighting quality in space after dark	1	3	3
	30: Perceived safety from presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	1	2.44	2.44
	31: Perceived safety from crime during daytime	2	2.68	5.36
	32: Perceived safety from crime after dark	2	2.28	4.56
	33: Perceived safety from traffic	2	2.45	4.9
	Total			26
Pleasurability (Attached)	34: Presence of memorable architectural or landscape features (imageability)	0.7	1.25	0.875
	35: Sense of enclosure	0.7	2	1.4
	36: Variety of subspaces	0.7	2.5	1.75
	37: Density of elements in space providing sensory complexity	0.7	2	1.4
	38: Variety of elements in space providing sensory complexity	0.7	1.25	0.875
	39: Design elements providing focal points	0.7	1	0.7
	40: Visual and physical connection and openness to adjacent street/s or spaces	0.7	2.5	1.75
	41: Permeability of building facades on the street front	0.7	2.5	1.75
	42: Personalization of the buildings on the street front	0.7	2.75	1.925
	43: Articulation and variety in architectural features of building facades on the street front	0.7	1.75	1.225
	44: Perceived attractiveness of space	2	2.08	4.16
	45: Perceived interestingness of space	1	1.97	1.97
	Total			20
Overall Score				112
Public Index Score				75

 = Scored by Users

APPENDIX J: GOVERNMENT SQUARE PARK PUBLIC INDEX SCORE BREAKDOWN

Aspect of Public Space	Variables	Weighting	Average Score	Final Score
Inclusiveness	1: Presence of people of diverse ages	0.4	0.5	0.2
	2: Presence of people of different genders	0.4	0.75	0.3
	3: Presence of people of diverse classes	0.4	1	0.4
	4: Presence of people of diverse races	0.4	0.5	0.2
	5: Presence of people with diverse physical abilities	0.4	0	0.0
	6: Control of entrance to public space: presence of lockable gates, fences, etc.	1	2	2.0
	7: Range of activities and behaviors	1	0.5	0.5
	8: Opening hours of public space	1	3	3.0
	9: Presence of posted signs to exclude certain people or behaviors	1	3	3.0
	10: Presence of surveillance cameras, security guards, guides, ushers, etc. intimidating and privacy is infringed upon	1	2.38	2.4
	11: Perceived openness and accessibility	2	3	6.0
	12: Perceived ability to conduct and participate in activities and events in space	1	2.67	2.7
	Total			
Meaningful Activities	13: Presence of community-gathering third places	2	0.75	1.5
	14: Range of activities and behaviors	1	0.25	0.25
	15: Space flexibility to suit user needs	1	0.75	0.75
	16: Availability of food within or at the edges of the space	2	2.5	5
	17: Variety of businesses and other uses at the edges of the space	1	1.5	1.5
	18: Perceived suitability of space layout and design to activities and behavior	2	2.56	5.12
	19: Perceived usefulness of businesses and other uses	1	1.31	1.31
	Total			
Comfort	20: Places to sit without paying for goods and services	2	1.75	3.5
	21: Seating provided by businesses	1	2	2
	22: Other furniture and artifacts in the space	1	0.75	0.75
	23: Climatic comfort of the space – shade and shelter	2	1.25	2.5
	24: Design elements discourage use of space	1	1.5	1.5
	25: Perceived physical condition and maintenance	2	2.89	5.78
	26: Perceived nuisance noise from traffic or otherwise	1	0	0

	Total			16
Safety	27: Visual and physical connection and openness to adjacent street/s or spaces	1	1.75	1.75
	28: Physical condition and maintenance appropriate for the space	1	3	3
	29: Lighting quality in space after dark	1	2	2
	30: Perceived safety from presence of surveillance cameras, security guards, guides, ushers, etc. providing safety	1	1.5	1.5
	31: Perceived safety from crime during daytime	2	2.44	4.88
	32: Perceived safety from crime after dark	2	1.71	3.42
	33: Perceived safety from traffic	2	2.44	4.88
	Total			21
Pleasurability (Detached)	34: Presence of memorable architectural or landscape features (imageability)	1	1.75	1.75
	35: Sense of enclosure	1	2	2
	36: Variety of subspaces	1	0.75	0.75
	37: Density of elements in space providing sensory complexity	1	1.5	1.5
	38: Variety of elements in space providing sensory complexity	1	1.5	1.5
	39: Design elements providing focal points	1	1	1
	40: Visual and physical connection and openness to adjacent street/s or spaces	1	1.75	1.75
	41: Perceived attractiveness of space	2	2.67	5.34
	42: Perceived interestingness of space	1	2.44	2.44
	Total			18
Overall Score				92
Public Index Score				61

 = Scored by Users