Enhancing an urban neighborhood's collective efficacy through community garden design

by

Mackenzie Yeager

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Approved by:

Major Professor

Hyung Jin Kim

Abstract

Collective efficacy, which can be broken down to social cohesion and informal social control, is a crucial component in the healthy social life of urban neighborhoods. On a neighborhood level, collective efficacy correlates with shared community trust and the ability to speak out about crime or disorderly physical characteristics. Community gardens have been acknowledged for their collective efficacy building potential because they specifically promote collaboration and active participation, both of which are necessary for social cohesion and informal social control. Community gardens can vary greatly in size, function, location, and involvement making it unclear whether a community garden by itself is sufficient to enhance the surrounding residents' collective efficacy or whether specific programming is needed. This project explores how a community garden can enhance collective efficacy in an urban neighborhood. Through community collaboration in a garden design process, the project examines the community garden environmental factors that can contribute to neighborhood-wide collective efficacy. It also analyzes the community's ability to create their own collective efficacy through active design processes. The result is a projective community garden design that is intended to enhance collective efficacy in surrounding neighborhoods.

Data from paper surveys, online surveys, and focus group sessions was collected over several weeks in the target area. Participants' current collective efficacy levels were assessed as well as their opinions about the importance of certain community garden elements and ideas for future garden design. While community garden presence in a neighborhood was not always associated with higher collective efficacy, gardens that were multi-functional and met social needs were more likely to be associated with higher levels. Respondents that participate in community gardening for job training and inter-cultural communication reported the highest levels of collective efficacy, suggesting that the reason behind garden participation is significant. The data suggests that gardens with a diverse range of functions and participants are the most conducive to fostering neighborhood collective efficacy.

Enhancing an urban neighborhood's collective-efficacy through community garden design

Landscape Architecture Master's Report
Mackenzie Yeager

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When I began this project in the fall of 2019, I could not have anticipated the challenges that would present themselves. It seemed like everywhere I turned, there were impossible obstacles blocking the way-a global pandemic being one of them! However, any time I wavered, my committee was always there to offer encouragement and guidance and I can not thank them enough. The biggest thank you goes to my major professor, Associate Professor Hyung Jin Kim for his unending patience and assistance throughout the journey. His unwavering confidence in me was a crucial factor in the success of this project. I'd also like to thank Associate Professor La Barbara James Wigfall (Department of Landscape Architecture and Regional & Community Planning) for providing crucial advice on how to reach out to the community. I never fail to leave her office feeling more inspired than when I entered. Another huge thank you to Associate Professor Eleni D. Pliakoni (Urban Food Production and Postharvest Handling) for opening my eyes to the world of urban agriculture and helping me get connected with the non-profit organization CultivateKC. Finishing this project amidst the isolation and uncertainty of the COVID-19 pandemic has not been easy and I am so grateful to have a committee that took it in stride and didn't miss a beat.

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1.INTRODUCTION

The neighborhood someone lives in determines so much about what they perceive about the world. Environment influences what one sees, who they speak to, what they hear and how they feel (Aneshensel et al 1996, Cohen 2008). These exposures can be hindrances or initiators to success, well-being, and relationships (Cohen 2008). The social implications of a neighborhood's makeup take many different forms, but one important concept is the trust residents feel towards each other. One facet of this concept is called collective efficacy.

Collective efficacy is defined as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" (Sampson et al 1997, 1; Teig 2007; Ohmer 2007). Social cohesion is bred by a sense of mutual trust among individuals who know that if they speak out about a concern, their neighbors will support them. Studies have shown that lack of collective efficacy leads to increased violence, crime, gang affiliation, fear and distrust. On the other hand, collective efficacy promotes neighborhood reliability (Sampson, Raudenbush 1999; Sampson, Raudenbush, & Earls 1997; Comstock 2010). Collective efficacy is especially important in neighborhoods where disinvestment and a lack of resources have created a breeding ground for crime and further deterioration. With a lack of adequate police patrols, residents can take over to make sure the entire neighborhood is safe (Teig 2007). Existing literature gives examples of several ways to measure collective efficacy in a neighborhood, like surveys (Collins 2014, Ohmer 2007, Sampson et al 1997), reporting on census data (Carbone 2018), analyzing previous studies (Cohen 2008), and semi-structured interviews (Teig 2009). Collective efficacy in urban neighborhoods is strongly correlated to neighborhood attachment (Comstock 2010). Having an emotional tie with the neighborhood leads to increased investment and willingness to see success. Residents that are close with their neighbors and willing to participate in local community-developing organizations often report higher levels of neighborhood attachment (Comstock 2010). Similarly, neighborhood attachment can be built through an enhanced physical environment such as added green space.

Community gardens have been particularly lauded since they draw more active participation than parks or planting design (Glover 2004). Community gardens can be social catalysts for building collective efficacy because they are locally centered, action-oriented, recreational spaces that encourage connection with the physical environment and others (Teig 2007; Comstock 2010; Glover 2004). These characteristics give community gardens the power to promote neighborhood attachment, engagement, action and responsibility. Furthermore, community gardens can have special meaning for gardeners which contributes to neighborhood satisfaction, their sense of belonging in the community, and the quality of social contacts with other people in the neighborhood (Comstock 2010).

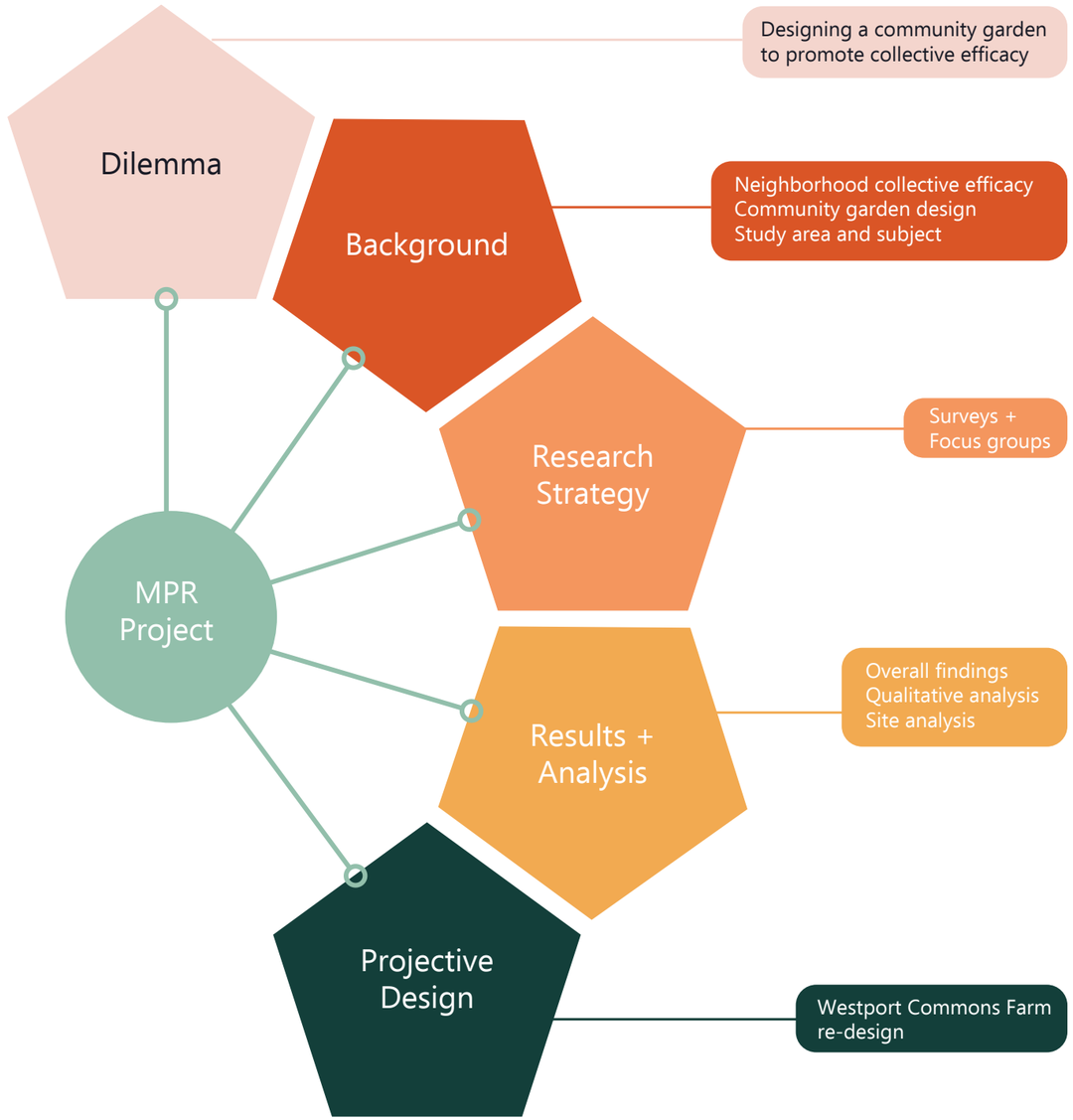


Figure 1.1 Research framework plan (Yeager 2020)

Figure 1.2 Collective efficacy and community gardens are positively associated in the literature. Community gardens promote neighborhood attachment, social cohesion, informal social control, and reduced physical incivilities (Yeager 2020)

The impact of creating robust neighborhood attachment and community pride through garden projects is increased collective efficacy (Ohmer 2007, Teig 2009). Community gardens are also collective ventures that pool neighbors' resources and fuel collective efficacy to address concerns like urban decline and criminal activity. Gardens also provide a space for the community to participate in neighborhood decisions (Glover 2004). Even more important is the community's involvement in creating those community gardens. While collective efficacy is said to be improved by the presence of community gardens, more research is needed into the specific factors.

RESEARCH QUESTION

The following research question will be explored in this study:

How can community garden design enhance neighborhood collective efficacy in urban Kansas City neighborhoods?

To answer this question, the research formulates two specific sub questions, including:

1. What characteristics of community gardens are associated with neighborhood-wide collective efficacy in urban Kansas City neighborhoods?

2. How can community involvement in the garden design-making process reveal a neighborhood's collective efficacy potential?

To address these research questions, this study establishes the following research objectives:

Objective 1: Examining the community garden environmental factors that can contribute to neighborhood collective efficacy.

Objective 2: Analyzing a community's ability to enhance their own collective efficacy through a community-engaged design process.

Objective 3: Developing a design proposal that synthesizes the research to develop a community garden strategy intended to foster collective efficacy.

Figure 1.3 The target area is located in urban Kanasas City (Yeager 2020)

PROJECT GOALS

To begin to explore these questions, this project conducted a mixed-methods study of residents in an urban neighborhood in Kansas City, Missouri. The study presents the findings from survey questionnaires and in-depth focus groups conducted with neighborhood residents (regardless of whether they participate in community gardening or not) to explore how neighborhood collective efficacy is associated with the presence of a community garden. While several studies have drawn a connection between collective efficacy and community gardening (Alaimo et al 2010, Carbone 2008, Comstock 2010, Draper 2010, Teig 2009), there are few that explain which characteristics of community gardens best achieve this and whether community involvement is necessary. While inferring the connection between neighborhood collective efficacy and community gardening is simple, there is a lack of literature explaining how to design a garden to promote collective efficacy.

2. BACKGROUND

A literature review was constructed using the Kansas State Library databases and Google Scholar. Peer reviewed articles, books, websites and videos were used to construct a comprehensive overview of the literature. Certain keywords like collective efficacy, social capital, community garden, neighborhood attachment, and urban gardening were typed into the databases to find information. Major themes of the review are neighborhood collective efficacy, neighborhood attachment, physical incivilities and community gardens as third places. This review focuses on studies conducted in the continental United States. It does not address literature from other parts of the world due to the unique social, political and economic circumstances of the United States and the Midwest.

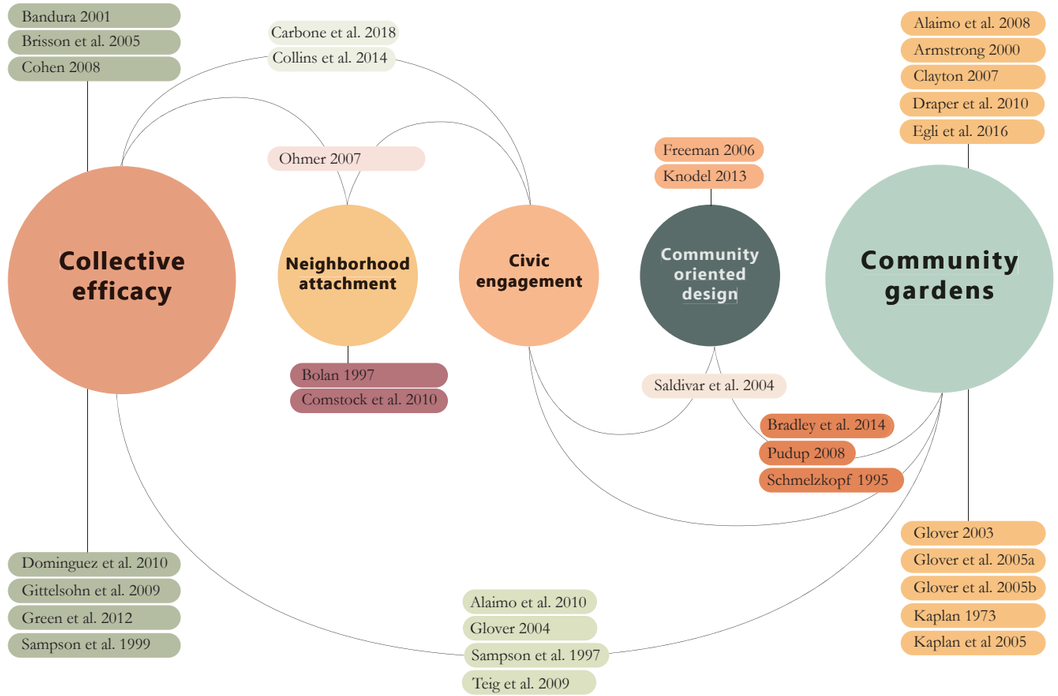


Figure 2.1 Literature map showing the relationship between various researched concepts (Yeager 2019)

LITERATURE REVIEW

Collective Efficacy

A more specific definition of collective efficacy is "group members' belief in or judgment about their capability to intervene in neighborhood issues to maintain social control and solve problems" (Ohmer 2007, 110). At the neighborhood level, this means residents have formed social connections, recognize common values, and are willing to maintain them (Carbone, 2018; Sampson et al 1997). It is crucial that individuals feel their neighbors are trustworthy and supportive (Domínguez 2003, Bandura 2001). While collective efficacy is essentially reliant on group behavior, it is really the belief of an individual in a group's actions (Sampson et al 1997). Therefore, it is often referred to as perceived collective efficacy (Carbone 2018). There are several components necessary to build and maintain neighborhood collective efficacy including shared values, bonding social capital (Collins 2014), civic engagement (Collins 2014, Carbone 2018), the quality and quantity of relationships (Comstock 2010), and a certain built environment (Cohen, 2008). Collective efficacy is a complicated concept, but most researchers agree on two required components: social cohesion and social control (Sampson; Domínguez 2003; Teig et al. 2009; Carbone 2018). These terms are closely related and sometimes used interchangeably but have different implications when it comes to neighborhood social dynamics.

Social cohesion + social control

Social cohesion is the connection between community members based on underlying trust and solidarity. This emotional link between individuals aids their ability to act as a group (Carbone 2018; Teig et al 2009). Social control (also called informal social control by Sampson (1997)) is a group's ability to regulate member behavior according to shared values and collective goals (Carbone 2018, Sampson 1997, Teig et al. 2009). For example, a common shared value among neighborhood residents is the desire to live in a safe and regulated environment without fear of crime or violence. Examples of informal social control include residents keeping an eye on unplanned children's playgroups, intervening to prevent petty crime or loitering, and willingness to confront people who are disturbing the peace (Sampson et al 1997). It's a collective effort, rather than a forced action.

Both social cohesion and social control must interact to establish and maintain collective efficacy and having one without the other is unlikely to produce the same effect. For example, a study performed with immigrant communities in Chicago found that the residents had high levels of friendship (i.e. social cohesion) but struggled to regulate the group's behavior (i.e. social control). The result was a community that lacked collective efficacy and suffered from an abundance of crime (Carbone 2018).

Collective efficacy becomes especially important for low-income, minority, single-parent, urban populations (Sampson et al. 1997). These neighborhoods have compounding layers of disadvantage that often translate to a lack of sufficient public services such as police patrols, fire stations or garbage collection (Pudup 2008). Without these services, a neighborhood can fall into physical and visual decline which is often associated with an increase in serious crime (Sampson 1996). In neighborhoods with high collective efficacy, informal social control takes the place of these institutions and alleviates some of the negative effects. However, this is not always the case as resource deprivation and economic stratification among low-income communities can cause alienation, exploitation, and dependency among residents and can foster a sense of perceived powerless (Sampson et al. 1997). This makes collective efficacy building more difficult. Even if neighbors are close with each other in such scenarios, they may not be motivated for collective action (Sampson 1996; Sampson et al. 1997).

Dangers of low collective efficacy

A lack of neighborhood collective efficacy has been linked to several negative outcomes. Among others, these include health risks in children and adults like higher rates of obesity and unhealthy body weight (Cohen et al., 2006), increased mental health issues, heart disease and mortality (Cohen 2008). A lack of social cohesion and informal social control also leads to higher rates of crime and homicide (Sampson et al., 1997; Carbone 2018), intimate partner violence, adolescent substance use (Carbone 2018), adult drug use, and prostitution (Sampson et al. 1997).

Benefits of collective efficacy

On the other hand, high levels of collective efficacy are associated with good physical health, disclosure of domestic violence, and reduced crime-related anxiety (Collins 2014). According to Albert Bandura's Social Cognitive Theory, "the stronger the perceived collective efficacy, the higher the groups' aspirations and motivational investment in their undertakings, the stronger their staying power in the face of impediments and setbacks, the higher their morale and resilience to stressors, and the greater their performance accomplishments" (Bandura 2001, 14). The results of survey data taken in Chicago neighborhoods showed that areas with slightly higher collective efficacy levels were associated with decreased crime and increased good heath (Cohen et al. 2008).

How to foster collective efficacy

Researchers have conducted several studies to determine why certain neighborhoods are more likely to have high levels of collective efficacy and how to foster it in urban areas (Cohen et al. 2008, Collins 2014, Ohmer 2007, Sampson et al. 1997, Teig 2009). While each place is unique and there is no one-size-fits-all approach to neighborhood development, there are certain factors that encourage or stunt the growth of collective efficacy. A culture that was brought up to value social behavior, the physical environment, civic engagement, and neighborhood attachment is likely to have a strong sense of collective efficacy (Cohen 2008, Sampson et al. 1997, Bandura 2001).

Social behavior

If a culture celebrates social behavior it is more likely to be conducive to strong collective efficacy (Bandura 2001). Recent changes in technology have changed the way neighbors interact with each other and replaced face-to-face relationships with virtual ones (Bandura 2001). This has caused a social fracturing of society, with people becoming invested in distinctly separate groups. Because of these diverse interests, it is now more difficult to unite people around shared social purposes (Bandura 2001).

Physical Environment

Physical environment plays a central role in neighborhood social cohesion and social control (Cohen 2008, Sampson et al 1997). The neighborhood setting is where people live, play, work, relax, commute, and interact with each other. It makes sense that the design of this environment would influence neighborhood relationships. In fact, collective efficacy has been theorized to be present due to environmental features of a neighborhood regardless of the characteristics of the people living in the neighborhood (Cohen 2008; Sampson et al. 1997). In a safe, clean, open, and friendly environment, one might be more likely to spend time outside, socializing with neighbors (Cohen et al., 2008). Dense neighborhoods and parks are also conducive to collective efficacy because they provide residents with opportunities for relationship building through face-to-face interaction (Brisson 2005). Furthermore, residents can witness others interacting with each other in such spaces. Even if the observer does not consciously register the social processes they are witnessing in the outside environment, they are more likely to subconsciously perceive it and perform the same behavior. Collective efficacy can develop through this process (Cohen et al., 2008). On the other hand, a neighborhood that is dirty, dark and

unsafe will create an environment that feels withdrawn and untrustworthy. Public signs of disarray like vacant lots, litter, graffiti, vandalism, and burned out buildings have been directly linked to more serious crime (Sampson et al. 1997). Stores selling alcohol in the area are negatively associated with collective efficacy as well (Cohen et al., 2008). Unfortunately, these environmental factors are often the result of neighborhood disadvantage. However, an imperfect environment can be overcome with other methods of meeting like-minded individuals and developing relationships such as civic engagement activities.

Civic Engagement

Civic engagement is a broad term that loosely encompasses involvement in the community, local organizations or local government. This can include voting, signing petitions, volunteering for an organization, attending neighborhood meetings, or being part of a civic group (Carbone 2018). Participating in civic engagement promotes the formation of relationships based on shared interests which paves the way for mutual trust and reciprocity (Collins, 2014). While individual civic engagement is valuable, it is not potent enough to affect collective efficacy. A neighborhood that is not actively involved in civic engagement will not transform overnight. It requires a catalyst to inspire participation (Sampson 1996). This catalyst can take the form of an organization like a community center or community garden.

Having citizens participate in activities and organizations increases their opportunity to build trust with others and therefore increase collective neighborhood efficacy (Ohmer 2007, Collins 2014). These organizational settings allow participants to align their shared values and interests with one another resulting in stronger social cohesion and social control. Both the physical environment and civic engagement contribute to neighborhood attachment.

Neighborhood attachment

While the built environment and civic engagement are important for the establishment of neighborhood collective efficacy, it is impossible to maintain if the neighborhood is unstable. Blocks that are consistently turning over new residents are stuck in a disrupted state. Building social networks of trust and shared values takes time and can be impossible to accomplish if the community is frequently changing (Ohmer 2007). Similarly, if residents do not have a vested financial interest in the neighborhood, they will be less likely to develop collective efficacy with their neighbors (Sampson et al. 1997). This is common in urban neighborhoods where most inhabitants are renters. These tenants don't own the property and are therefore less interested in the overall property value of the block. Owning a home in the neighborhood gives residents automatic interest in having social control over what goes on outside (Sampson et al. 1997). This involves being vigilant about preventing crime and physical incivilities like litter, graffiti, disrepair and vacant lots. A low-income neighborhood that works to prevent physical incivilities has a greater residential retention rate and is more likely to have residents that want to be involved in the community. Studies show that the promotion of social networks in place-based projects like community gardens contributes to stronger neighborhood attachment and collective efficacy (Comstock 2010). Neighborhood attachment refers to an individual's emotional connection to social or physical surroundings (Comstock 2010). This feeling promotes stability (socially and physically), involvement, and investment in the neighborhood. The concept is positively correlated with collective efficacy as individuals with a higher attachment to their surroundings are more likely to intervene when they see a problem in the neighborhood out of the desire to protect or maintain their community to a certain standard (Comstock 2010). Home ownership and raising children has been shown to increase neighborhood attachment and the emotional attachment tends to increase over time (Bolan 1997).

Community gardens

A community garden is defined as any land in an urban, suburban or rural setting gardened by a group of people and differs from home gardening due to its added social component (ACGA; Teig et al. 2009). Community gardens are a "place-based" concept that connect residents to their neighborhood (Comstock 2010, Kaplan and Kaplan 2005, Teig et al. 2009). There are many direct and indirect benefits of community gardening in an urban setting. An immediate benefit is increased consumption of fruits and vegetables (Alaimo et al. 2008) and increased physical exercise (Horst 2017) which is associated with reduced risk of heart disease, cancer, strokes and obesity (Alaimo et al. 2008, Pudup 2008, Armstrong 2000). Other benefits include increased food access and production (Teig et al. 2009, Armstrong 2000, Schmelzkopf 1995, Alaimo et al. 2010, Alaimo et al. 2008), reduced stress and mental well-being (especially for those who have mental illnesses or have been incarcerated) (Teig et al. 2009, Horst 2017, Ohmer 2007, Pudup 2008), and community building (Glover et al. 2005, Teig et al. 2009). More recently, gardening has been studied for its psychological transformative properties in different types of people from prison inmates to hospitalized patients to low-income urban communities (Pudup 2008). Finally, for many Americans, gardening is the main way they experience nature (Clayton 2007).

Historically, community gardens have increased in response to an insufficient food environment. These gardens serve as cultural buffers between a population and economic or social stress (Pudup 2008). In the last century, the United States experienced a noticeable degradation in universal food environment during World War I, the Great Depression & World War II. These events spurred the creation of thousands of home and community gardens across the country that supplemented insufficient food selection in supermarkets (Egli 2016, Draper 2010). Since the 1970s, community gardens have primarily been implemented for urban social movements like urban greening and solutions to urban blight (Pudup 2008, Schmelzkopf 1995). Similarly, community gardens today are often begun with the goal of substituting a shortcoming of the current food environment and creating more self-sufficiency (Egli 2016, Draper 2010). Food environments include physical aspects (geographic limits, types of food sources), consumer aspects (availability of fresh produce, pricing, acceptance of food stamps) and social aspects (local food in stores, inter-household food sharing, language and cultural barriers). A poor food environment is more likely to occur in low-income communities and populations of color (Gittelsohn 2009). Because of the impact of food environment on neighborhoods, community gardens have been prescribed as a valuable method of neighborhood revitalization.

Types of community gardens include leisure gardens, child and school gardens, entrepreneurial gardens, crime diversion gardens, work and training gardens, healing and therapy gardens, quiet gardens, neighborhood pocket parks, ecological restoration gardens, and demonstration Gardens (Draper 2010, Egli 2016). They differ

from personal home gardens in that they involve a community, or the coming together of several individuals. These individuals can come from any generational, ethnic, racial or socioeconomic background making community gardens a great way to expand social networks to include people of diverse experiences (Draper 2010).

How gardens foster collective efficacy

Community gardening's position within the broader social movements of food security and sustainable food production give it the power to be an inlet for social connections, information flows, new ideas and policies which increase the diversity and value of social networks (Teig et al. 2009). Gardens also strengthen bonds between neighbors, increase civic pride, and are a catalyst for neighborhood improvement (Comstock 2010; Glover 2004). Other activities that are outwardly connected to community gardening include grant-seeking, fundraising, and community recreational events. Community gardens are "third places" where residents can hang out, expand their social network, and enjoy the benefits of having connections in the neighborhood. A certain ownership and pride come with taking care of a garden. All these activities encourage reciprocity and trust which are crucial to building collective efficacy (Egli 2016).

Community garden design

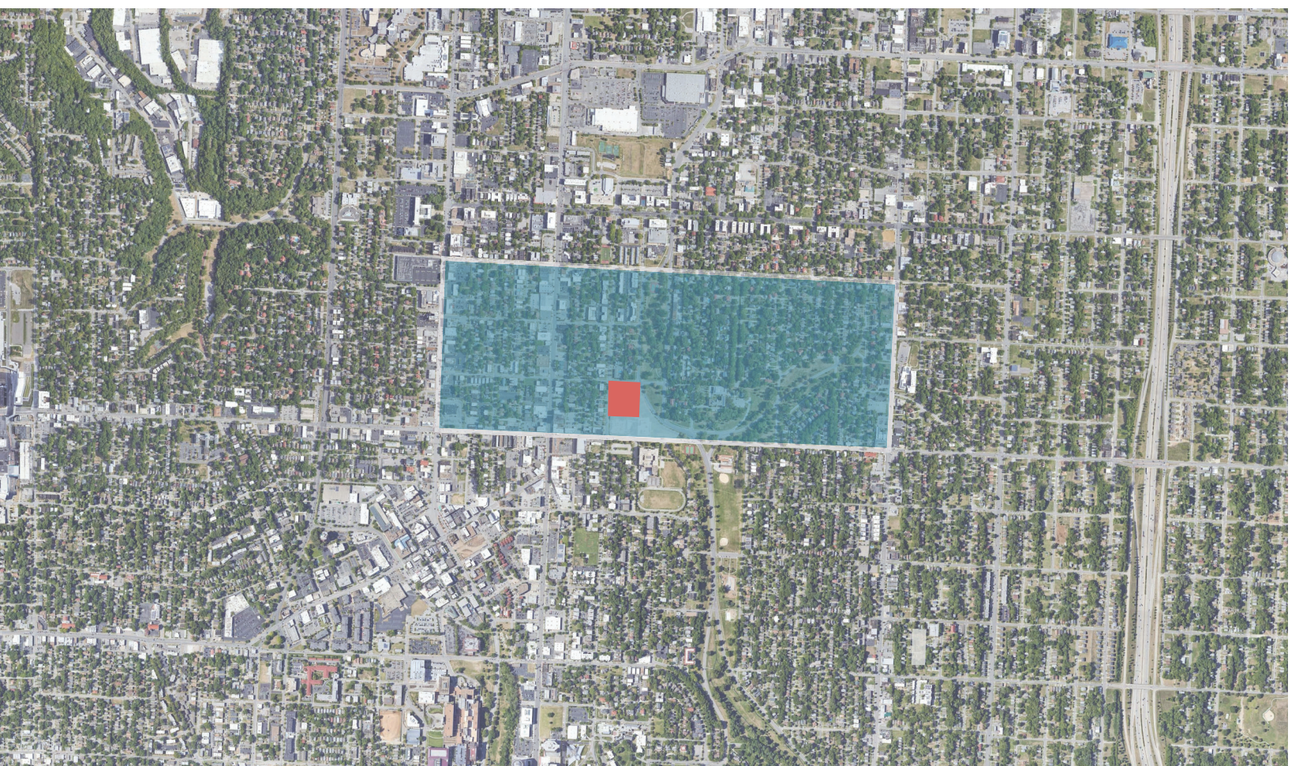
Much of the literature covers invisible processes behind community garden design such as land tenure, funding, manpower, garden rules, policing and communication. However, there are few peer-reviewed articles that examine the design of community gardens (Bauermeister 2013, Bradley 2014, Draper 2010). Since they are mostly a community endeavor, gardens tend to develop with needs and ideas of communities over the years. This study acknowledges that many aspects affect the successful growth of plants including sun exposure, water access, pests, soil quality, seed quality, site selection, and preparation for growing. However, this review purposely focuses on the social and spatial aspects of community garden design and assumes that the site is conducive to growing plant material.

Understanding why people participate in community gardening is crucial for designing gardens that foster collective efficacy. Many users participate in community gardening for the social and cultural benefits rather than food production (Saldivar-Tanaka 2004, Alaimo et al. 2010). According to Michael Buchenau, executive director of the Denver Urban Gardens, community gardens should be designed with permanence in mind. Efficient flow patterns, correct spatial dimensioning, robust program development, and response to stakeholder inputs are elements that should always be considered (Bradley et al. 2014). Paths should be able to fit pedestrians and small equipment easily, and plots should be designed for those with limited mobility in mind. Other plantings like flower gardens, fruit trees and children's gardens can provide added interest to the community garden aesthetic as well as shade. Play areas for children, gathering spaces (main and secondary), lawn/multipurpose space, shade structures, seating, storage spaces, bathrooms and adequate parking can all add to the garden's functionality.

Community gardens can also take on a variety of different spatial forms including a radial layout, grid layout, and a combination of the two. Spatial relationships (i.e. how close elements are to each other) are important for ensured accessibility and proper sun exposure (Bradley et al 2014). This list is a part of the many factors that go into the successful design of community gardens.

Due to gardening's rehabilitative properties, it is important that people with limited mobility can participate. The easiest way to increase accessibility in a community garden is to raise the soil level to a comfortable level. This can be done by using raised beds, containers, and adaptive tools. It is also important that the garden is laid out in a way that is easy to navigate. Ramps should be at an accessible slope of 8.33% and path materials should be easily walkable with canes, walkers or wheelchairs. Tool sheds should also be connected to the path and easy to navigate. Tools should be lightweight and easy to reach. The pavement should also not be too slippery when wet. It is important for community gardens to be flexible for the needs of their users as well. Tools can be adapted for those with lesser mobility by adding a handle attachment. Yellow paint or tape can also be applied to tool handles for those with limited sight (ACGA).

Figure 2.2 The Westport Commons Farm (shown with red marker) and surrounding neighborhoods (Yeager 2020)



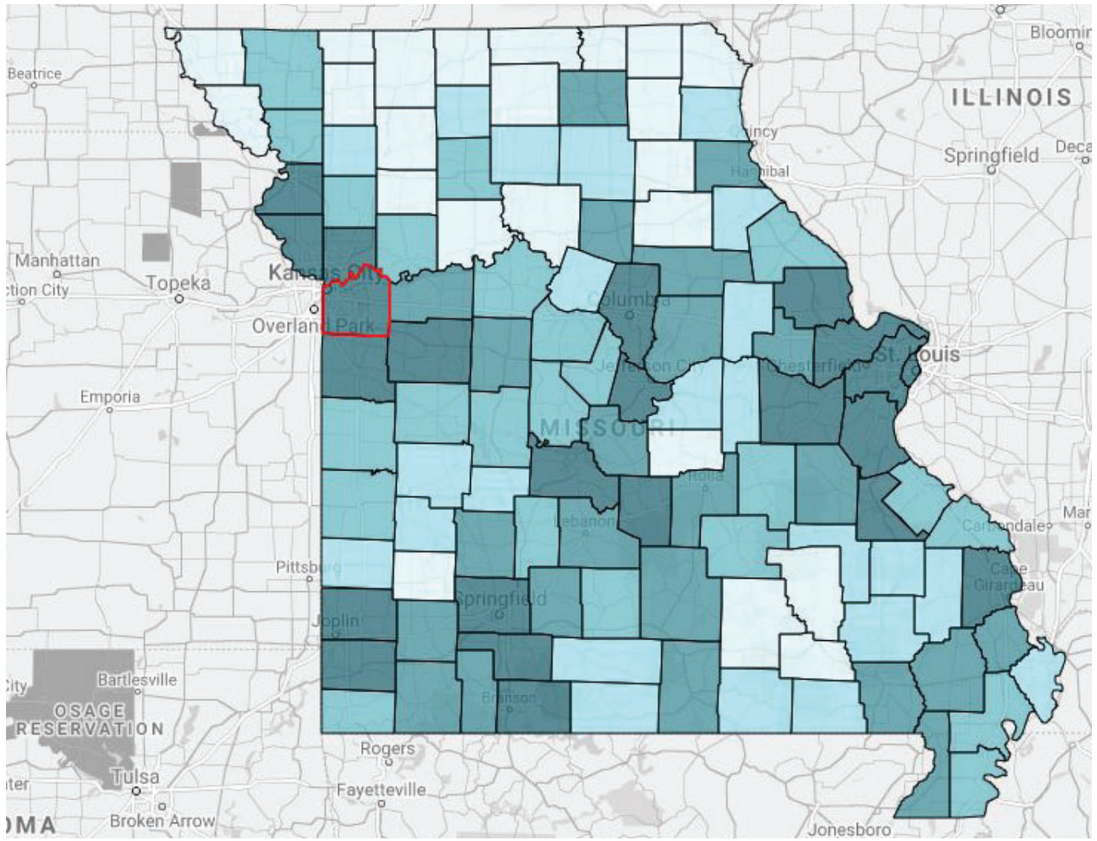


Figure 2.3 Jackson County MO, (outlined in red) is home to several Kansas City attractions including the Nelson-Atkins Museum of Art, Kansas City Plaza, Kansas City Zoo, National WWI Museum and Memorial, Crown Center, and Union Station Kansas City (U.S. Census Bureau 2019)

STUDY AREA & SUBJECT

To test the concepts of collective efficacy and community gardening in an existing urban neighborhood, the study focuses on the Westport Commons Farm located in, Jackson County Missouri. The 2019 estimated population for the county was 703,011 (U.S. Census Bureau 2019). The farm is located in Tract 51. According to the 2018 census information, this tract consists of 1,478 people in a 0.3 square mile radius. The median age is 36.2. 77% of inhabitants are white and the median household income is $72,788. On average, there are 1.9 people per household (U.S. Census Bureau 2019). The Westport Commons Farm is located within the Hyde Park neighborhood.

Figure 2.4 Census Tract 51, Jackson MO shown in blue. Westport Commons Farm shown in red (Yeager 2020)

3,000 ft

Figure 2.5 The soil at the Westport Commons Farm is currently being ammended with cover crops and livestock rotation (Yeager 2020)

Figure 2.6 The Plexpod Westport Commons is home to many activities (Yeager 2020)

Figure 2.7 Westport Commons Farm and the surrounding streets (Yeager 2020)

The Westport Commons Farm is a 1.2-acre field being revitalized from its former function as a middle school track and field. The farm is owned by the non-profit organization CultivateKC ("about" 2020) and is located adjacent to the Plexpod Westport Commons.

The Plexpod is currently the largest co-working space in the United States. Being located next to the Plexpod where hundreds of diverse activities happen every day gives the Westport Commons Farm a unique opportunity to provide an outdoor garden/ socializing space to many. It will combine the business and social activities of the co-working space with the benefits of community gardening.

Currently, the farm's soil is being amended with cover crops and livestock rotation but CultivateKC has tentative plans to transform the farm into a productive community agriculture space. Their vision is to create a place that brings vitality to the neighborhood through residents connecting with each other and growing healthy food ("Westport 2020). The current plan includes productive agriculture space and social spaces as well as utility spaces. This research will provide community input on how the farm can be designed to enhance collective efficacy.

There is a currnet working plan for the farm. It includes an office building, building for washing produce, storage shed, woodchip + compost pile, chicken coop, bee hives, productive agriculture space, a cut flower/herb garden, and picnic tables covered by a pergola.

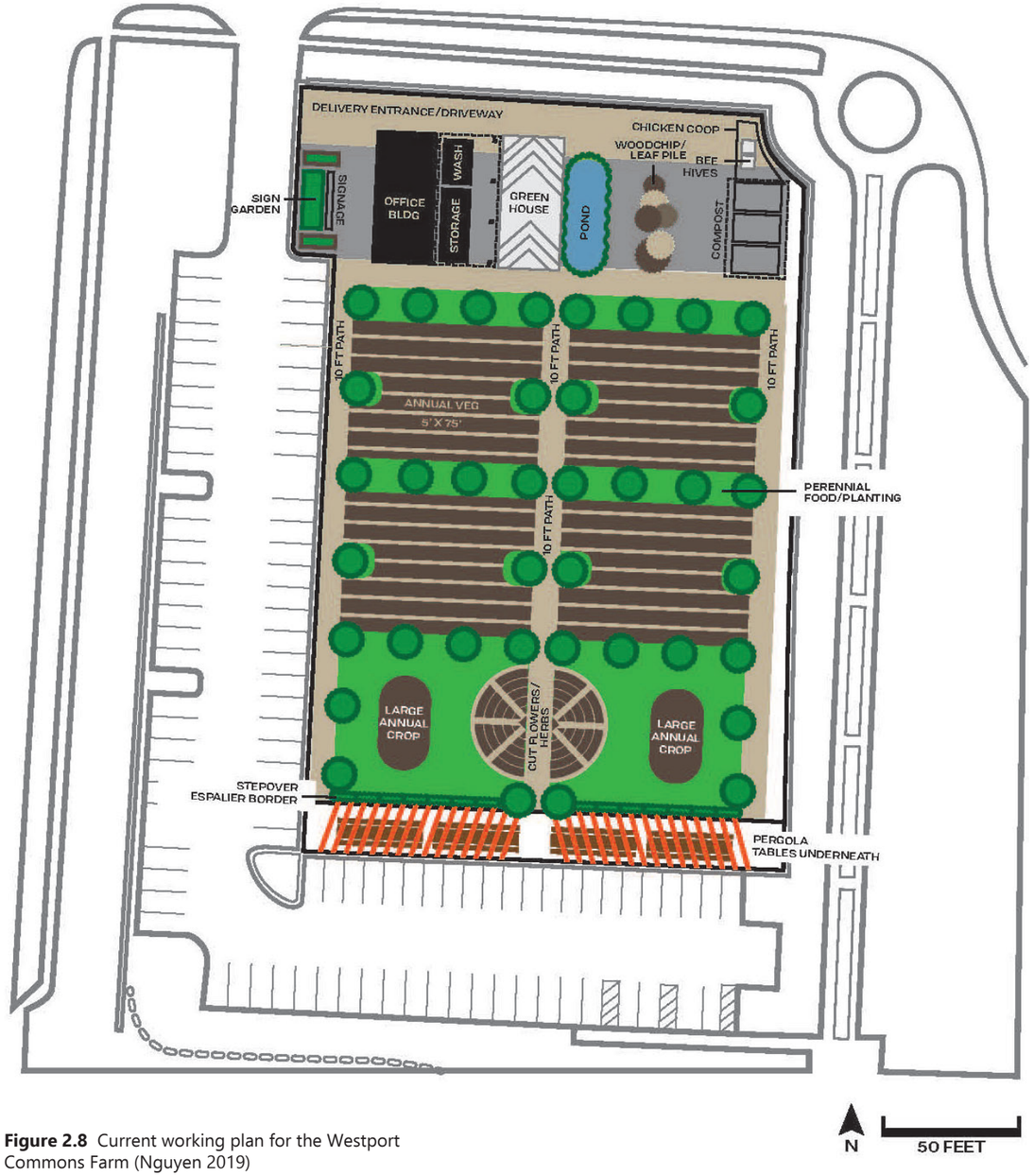


Figure 2.8 Current working plan for the Westport Commons Farm (Nguyen 2019)

Figure 2.9 Illustration of the row crops, fruit trees and greenhouses from the current working plan for the Westport Commons Farm (Fourt 2019)

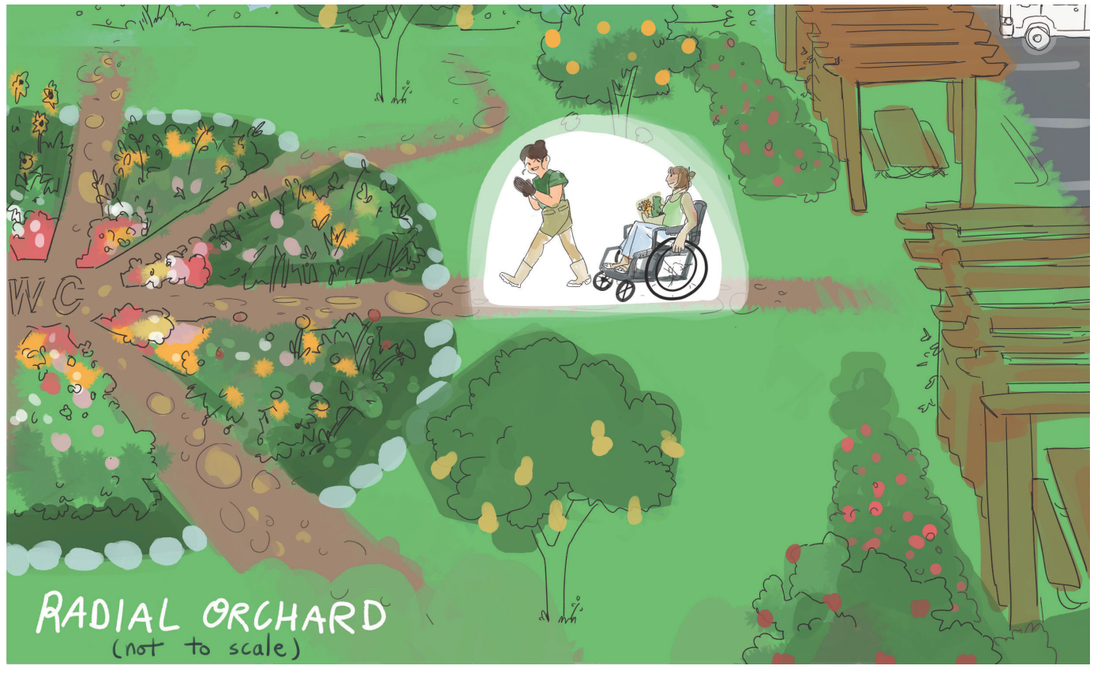


Figure 2.10 Illustration of the herb/flower garden, pergolas and tables from the current working plan for the Westport Commons Farm (Fourt 2019)

Figure 2.11 Current state of the Westport Commons Farm looking North (Yeager 2020)

Figure 2.12 Current state of the Westport Commons Farm looking West (Yeager 2020)

Figure 2.13 Existing approach to the Plexpod Westport Commons from the North (Yeager 2020)

3. RESEARCH STRATEGY

The research explores three objectives related to collective efficacy and community garden design. First, it examines the community's existing collective efficacy levels and any correlation with community garden presence. Second, it analyzes the community's ability to foster their own collective efficacy through design processes. Finally, it develops a design proposal for the Westport Commons Farm that synthesizes the research to develop a community garden strategy intended to foster collective efficacy.

Materials and Methods

This study uses a community-based participatory research approach for the environmental design of community gardens. The methods used for the study include surveys, focus groups and a projective final design.

SURVEYS

In order to address the first objective, a short survey asking residents about their neighborhood environment and community garden experience was devised. The 8-minute face-to-face surveys were distributed at a garden conservancy board meeting, a church food pantry and two neighborhood association meetings.

Online surveys were distributed via email to neighborhood associations in the area as well as local churches, non-profits and businesses. The surveys were adapted from those used in existing studies on collective efficacy, neighborhood attachment and community gardening. Pertinent questions were asked on individual collective efficacy, neighborhood attachment, (Sampson et al. 1997, Comstock et al 2010) and physical incivilities (Comstock 2010). Respondents rated the items on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scores for some questions were reverse coded so that higher scores represented higher levels of collective efficacy. To minimize survey fatigue, the questions only ask about social cohesion and eliminate questions about informal social control.

Questions related to collective efficacy were asked as Likert scale questions (Likert 1932) in three parts: individual social cohesion items, individual physical incivility items, and individual neighborhood attachment items.

Social cohesion

Eight questions were used to test social cohesion: 1. this is a close-knit neighborhood, 2. there are adults in this neighborhood that children can look up to, 3. people around here are willing to help their neighbors, 4. people in this neighborhood generally do not get along with each other, 5. you can count on adults in this neighborhood to watch out that children are safe and don't get into trouble, 6. people in this neighborhood do not share the same values, 7. parents in this neighborhood know their children's friends, 8. adults in this neighborhood know who the local children are (Comstock et al. 2010, Sampson et al. 1997).

Table 3.1 Social cohesion items

Composite measures used in analysis	Scale
Individual social cohesion (Comstock et al. 2010, Sampson et al. 1997)	
1. This is a close-knit neighborhood	5-point scale (strongly disagree to strongly agree)
2. There are adults in this neighborhood that children can look up to	
3. People around here are willing to help their neighbors	
4. People in this neighborhood generally do not get along with each other	
5. You can count on adults in this neighborhood to watch out that children are safe and don't get into trouble	
6. People in this neighborhood do not share the same values*	
7. Parents in this neighborhood know their children's friends	
8. Adults in this neighborhood know who the local children are	
*=the response was reverse coded	

Physical incivilities

Four Likert scale questions were used to determine how participants felt about physical incivilities: 1. litter, broken glass or trash on the sidewalks and streets is a problem, 2. there are many vacant or deserted houses or storefronts, 3. people commonly use drugs or drink in public, 4. groups of teenagers or adults often hang out in the neighborhood and cause trouble (Comstock et al. 2010). These questions were reverse coded so that higher scores are associated with less physical incivilities and lower scores are associated with more physical incivilities.

Table 3.2 Physical incivility statements

Composite measures used in analysis	Scale
Individual percieved incivilities (Comstock et al. 2010)	
1. Litter, broken glass or trash on the sidewalks and streets is a problem*	5-point scale (strongly disagree to strongly agree)
2. There are many vacant or deserted houses or storefronts*	
3. People commonly use drugs or drink in public*	
4. Groups of teenagers or adults often hang out in the neighborhood and cause trouble	
*=the response was reverse coded	

Neighborhood attachment

Six Likert scale questions were asked about neighborhood attachment including: 1. This is the ideal neighborhood to live in, 2. Now this neighborhood is a part of me, 3. There are places in the neighborhood to which I am very emotionally attached, 4. It would be very hard for me to leave this neighborhood, 5. I would willingly leave this neighborhood, 6. I would not willingly leave this neighborhood for another (Comstock et al. 2010).

Table 3.3 Neighborhood attachment statements

Composite measures used in analysis	Scale
Individual neighborhood attachment (Comstock et al. 2010)	
1. This is the ideal neighborhood to live in	5-point scale (strongly disagree to strongly agree)
2. Now this neighborhood is a part of me	
3. There are places in the neighborhood to which I am emotionally attached	
4. It would be very hard for me to leave this neighborhood	
5. I would willingly leave this neighborhood*	
6. I would not willingly leave this neighborhood for another	
*=the response was reverse coded	

Total collective efficacy scores

Each respondent's answers to the social cohesion, neighborhood attachment and physical incivilities items were calculated into a total collective efficacy score. Answers to each statement were given a value from 1-5, with 5 being the most linked with collective efficacy. Some answers were reverse coded (shown with an *) so that a respondent rating them lower would result in a higher collective efficacy score. The response to each statement was added to calculate a total sum of the items. This is called the "individual collective efficacy score". The lowest collective efficacy score (i.e. marking each answer as strongly disagree unless reverse coded) would result in a score of 18. A perfect score (labeling each answer as strongly agree unless reverse coded) would result in a score of 90. The median score is 54 so answers from 54-90 were taken as above average collective efficacy and 18-54 were taken as below average collective efficacy.

Table 3.4 Total collective efficacy scores

Individual collective efficacy	Score
1. Lowest possible collective efficacy score	18
2. Median collective efficacy score	54
3. Highest possible collective efficacy score	90

Garden preference elements

Garden preference elements were also asked through Likert-scale questions to determine which elements respondents considered more important. These scores were checked against collective efficacy variables to see if the preference of elements had an effect on collective efficacy. Participants were asked to rate the importance of seating, paths, shade, community art, flowers & other plantings, children's play areas, bathrooms, lawn/multipurpose space, gathering spaces, storage, accessible plots, parking, compost areas, children's gardens, and other from 1 (not important at all) to 5 (very important).

Table 3.5 Garden preference elements

Composite measures used in analysis	Scale
Individual garden preference elements	
1. Seating (includes tables, chairs, benches and picnic tables)	5-point scale (not important at all to very important)
2. Paths (to accommodate pedestrian and equipment circulation)	
3. Shade (trees and manmade structures)	
4. Community art	
5. Flowers + other plantings	
6. Children's play areas	
7. Bathrooms	
8. Lawn/multipurpose space	
9. Gathering spaces	
10. Storage (sheds + buildings)	
11. Accessible plots (designed for ease of access to those with limited mobility)	
12. Parking	
13. Compost areas	
14. Children's gardens	
15. Other	

Gardening experience & exposure

A dichotomous rating system was utilized to determine participants' community gardening experience, whether they have experienced community gardening in their neighborhood, reasons they do/do not participate in community gardening, and where they would prefer to add a community garden to the neighborhood.

Table 3.6 Community gardening experience and exposure

Composite measures used in analysis	Scale
Individual community garden experience	
1. No experience	yes (1) / no (0)
2. You (yourself) participate in community gardening currently	
3. Someone you are close with participates in community gardening currently	
4. You garden at home	
5. Other (please explain)	
6.Have you seen or experienced any community gardening within your neighborhood?	yes (1) / no (0)

Table 3.7 Reasons for/against participation

Composite measures used in analysis	Scale
Reasons for not participating in community gardening	
1. Lack of time	yes (1) / no (0)
2. Lack of interest	
3. Unsure how to garden	
4. You don't know anyone who participates	
5. Too expensive	
6. Located too far away	
7. Other	
Reasons for participating in community gardening	
1. Food production and access	yes (1) / no (0)
2. Nutrition/improved diet	
3. Social engagement/well-being	
4. Exercise/physical activity	
5. Individual personal satisfaction	
6. Environmental benefits	
7. Inter-generational activities	
8. Education	
9. Inter-cultural communication	
10. Neighborhood revitalization	
11. Horticultural therapy	
12. Art	
13. Job training	
14. Education specifically about gardening	
15. Income generation	
16. Other	

Table 3.8 Preferred garden placement

Composite measures used in analysis	Scale
Preferred community garden placement	
1. Park	yes (1) / no (0)
2. School	
3. Vacant or underutilized lot	
4. My or a neighbor's yard	
5. Other	

A participant's residential area was determined by asking: what are the names of the streets that make up the closest intersection to your house? These locations were translated to a map of southeast Kansas City to show where participants came from.

FOCUS GROUPS

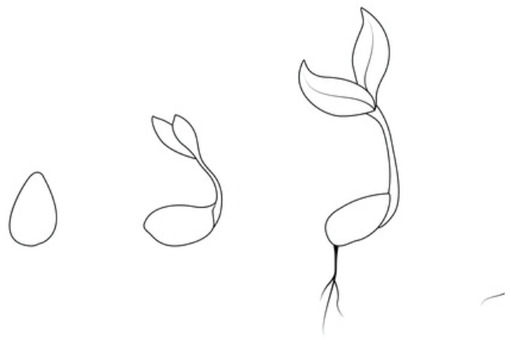
Focus group sessions served to answer the second objective of evaluating the community's collective efficacy building potential through a community-engaged design process. Working with community leaders, a focus group was conducted at the end of the Hyde Park and Old Hyde Park Neighborhood Association meetings. After participants completed the paper survey and were briefed on the subject material, they participated in a facilitated design charette. There were two components of the charette: a design "board game" element and free drawing element. For the game play, participants placed game "pieces" representing different garden elements on an aerial base map. For the free drawing portion, participants were given a blank base map, markers, pencils, and trace paper to draw their design ideas. Groups worked collaboratively to come up with a consensus for each part. The moderator provided paper, trace paper, markers, pencils, and base maps for the participants. The briefing included enough information to get the participants started but not too much to limit their ideas and they were encouraged to think outside the box. The session lasted less than an hour (Freeman 2006; Knodel 2013).

Community-oriented design

There are several benefits to neighborhood residents involving themselves in community development design and decision-making. First, encouraging community participation promotes local leadership and empowers residents to make their own neighborhood improvement decisions. This process instills a sense of investment and pride in the state of the neighborhood which contributes to community attachment (Brisson 2005; Ohmer 2007, Alaimo et al. 2010). Citizen participation is an active contribution towards improving quality of life by transforming negative community conditions through programs and policies. Communities that participate in organizations are also more likely to be self-reliant (Ohmer 2007). Community-oriented design can result in more practical and holistic designs since residents have a different perspective from policy makers and developers. Listening to their ideas can result in new ideas that drive innovative designs.

How participants were selected

Participants were gathered from the neighborhoods directly adjacent to the site. These neighborhoods included the Central Hyde Park, South Hyde Park, Southmoreland, Valentine, Manheim Park, Longfellow and Ivanhoe Southeast neighborhoods. Through snowball sampling, the data was collected through contact with representatives of districts 3 & 4, neighborhood associations, non-profits, garden conservancies, churches, local businesses and neighborhood residents. Respondents above the age of 18 were able to participate. 43 people completed the survey and 22 participated in focus groups. The focus group sessions were held in conjunction with the Hyde Park Neighborhood Association and Old Hyde Park Neighborhood Association monthly meetings



4.RESULTS

Neighborhood collective efficacy of the target area is assessed in this chapter. Data collected through online and in-person surveys and focus groups is included and analyzed. The data shows that collective efficacy is dependent on many variables but community gardens can have an effect.

Survey Results

Demographics

Of the forty-three people surveyed, seventy-seven percent identify as white, nine percent as African American, five percent s Hispanic or Latino, two percent as Native American and five percent as other.

The majority of participants, fifty-three percent, are employed full time while twenty-one percent are retired, twelve percent work part time and seven percent are out of work.

Twenty-six percent of participants indicated that they are 65 or older. 25-34 and 45-54 were each chosen by twenty-one percent of respondents.

Household income was distributed fairly evenly accross the participants with less than $20,000 and $50,000-$74,999 each being chosen by nineteen percent of respondents. Sixteen percent chose over $100,000 and twelve percent chose $35,000-49,999.

Sixty percent of respondents indicated that they had recieved a college degree while fourteen percent had begun but not completed college. Seven percent had earned a high school degree, five percent had no schooling completed, and five percent had trade/technical school/ vocational training.

Table 4.1 Participant ethnicity (Yeager 2020)	
White	77%
Hispanic or Latino	5%
Black or African American	9%
Native American or American	2%
Asian/Pacific Islander	0%
Other	5%

Table 4.2 Professional or employment status (Yeager 2020)	
Employed full time	53%
Employed part time	12%
out of work and looking for work	7%
retired	21%
unable to work	2%

Table 4.3 Age in years (Yeager 2020)	
18-24	7%
25-34	21%
35-44	9%
45-54	21%
55-64	12%
65 or older	26%

Table 4.4 Highest level of schooling	
No schooling completed	5%
High school graduate or the equivalent	7%
Some college credit, no degree	14%
Trade/technical school/ vocational training	5%
College degree	60%

Table 4.5 Total household income (Yeager 2020)	
less than $20,000	19%
$20,000 to 34,999	9%
$35,000 to 49,999	12%
$50,000 to 74,999	19%
$75,000 to 99,999	9%
Over $100,000	16%

Social cohesion

Eight statements were shown to participants to gauge their social cohesion perception. Each of the eight items was rated from strongly disagree to strongly agree. The highest rated social cohesion item was: "people around here are willing to help their neighbors". For this item, twenty-three percent of participants chose strongly agree, fifty-six percent chose agree and fourteen percent chose neither agree nor disagree. The total average score for this item out of 5 was 4.05. Most respondents answered positively to the statement "there are adults in the neighborhood that children can look up to" to which twenty-one percent of respondents strongly agreed, fifty-one percent agreed and twenty-one percent neither agreed nor disagreed. The high ratings of these statements may suggest a present culture of shared resources and strong leadership in the neighborhood.

On the other hand, the statement "people in this neighborhood share the same values" received a less positive response with forty percent of respondents choosing agree, forty percent choosing neither agree nor disagree and seven percent choosing disagree. For the statement "adults in this neighborhood know who the local children are", thirty-seven percent of respondents chose agree, forty-nine percent chose neither agree nor disagree, and five percent chose disagree putting it at the bottom of the ratings.

The item with the biggest discrepancy in answers was "this is a close-knit neighborhood" to which sixteen percent of participants disagreed, forty-two percent agreed and nine percent strongly agreed. The lower score for these items may be explained by the diverse range of backgrounds in the neighborhood and the transient nature of the area. However, since all of the average scores were above three on the Likert scale (the neither agree nor disagree category), it is likely that residents generally feel a sense of social cohesion in their neighborhoods.

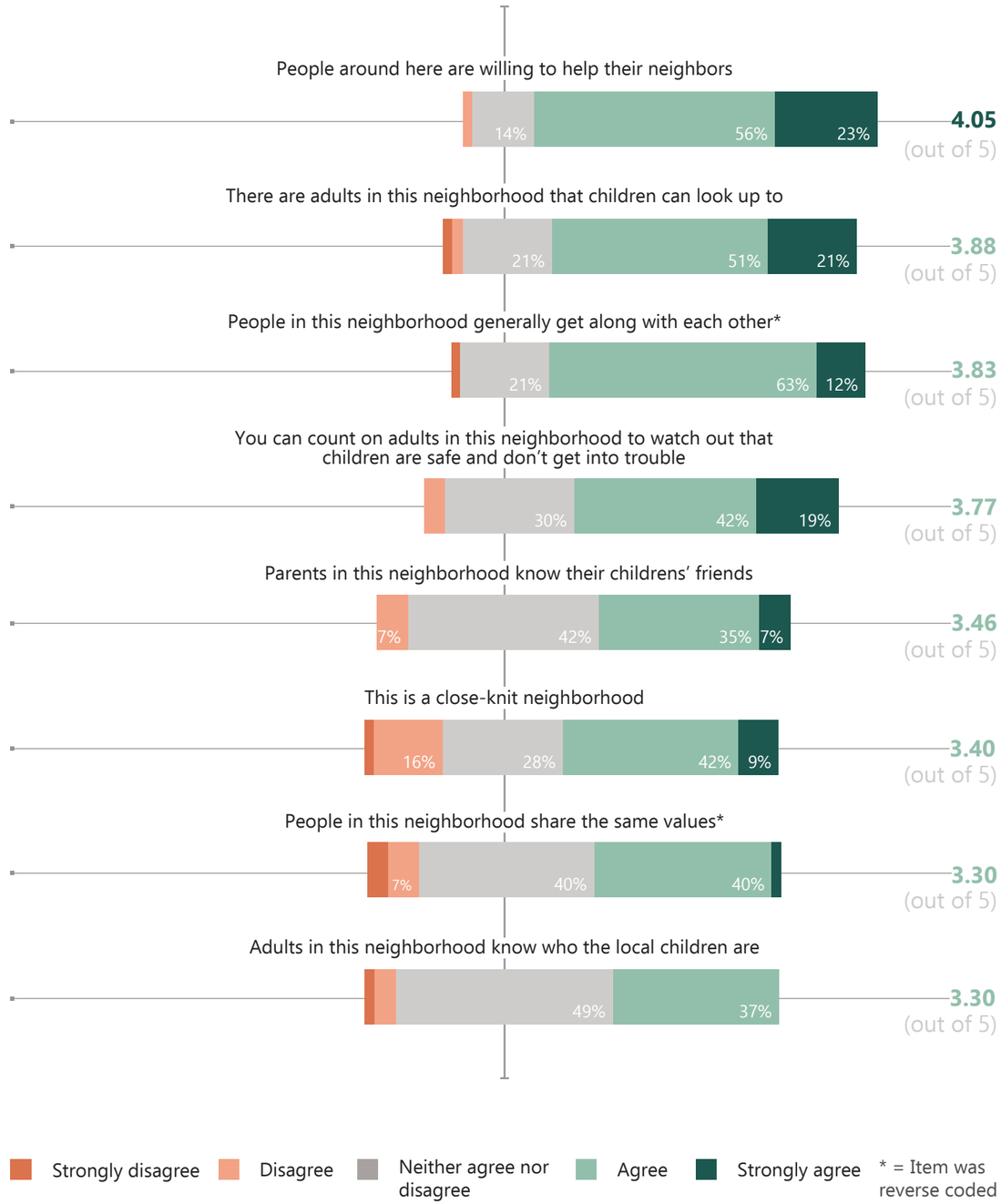


Figure 4.1 Social cohesion variables (Yeager 2020

Physical incivilities

To assess respondents' perception of physical incivilities, four statements about the neighborhood environment were presented. All of the physical incivility items were negatively worded so a response of strongly disagree or disagree correlated with a stronger collective efficacy score. The most problematic physical incivility item denoted by respondents was "litter, broken glass or trash on the sidewalks is a problem". To this statement, fourteen percent of respondents chose strongly agree, twenty-six percent chose agree, and twelve percent chose neither agree nor disagree. The second-lowest item to which twelve percent of respondents chose strongly agree and twenty eight percent chose agree was "there are many vacant or deserted houses or storefronts". To the statement "people commonly use drugs or drink in public," twenty-three percent chose agree, twenty-one percent chose neither agree nor disagree, twenty eight percent chose disagree, and sixteen percent chose strongly disagree. For the statement "groups of teenagers or adults often hang out in the neighborhood and cause trouble" thirty-three percent of respondents chose neither agree nor disagree, thirty seven chose disagree, and fourteen percent chose strongly disagree suggesting that it is the least problematic item for most respondents (see figure #).

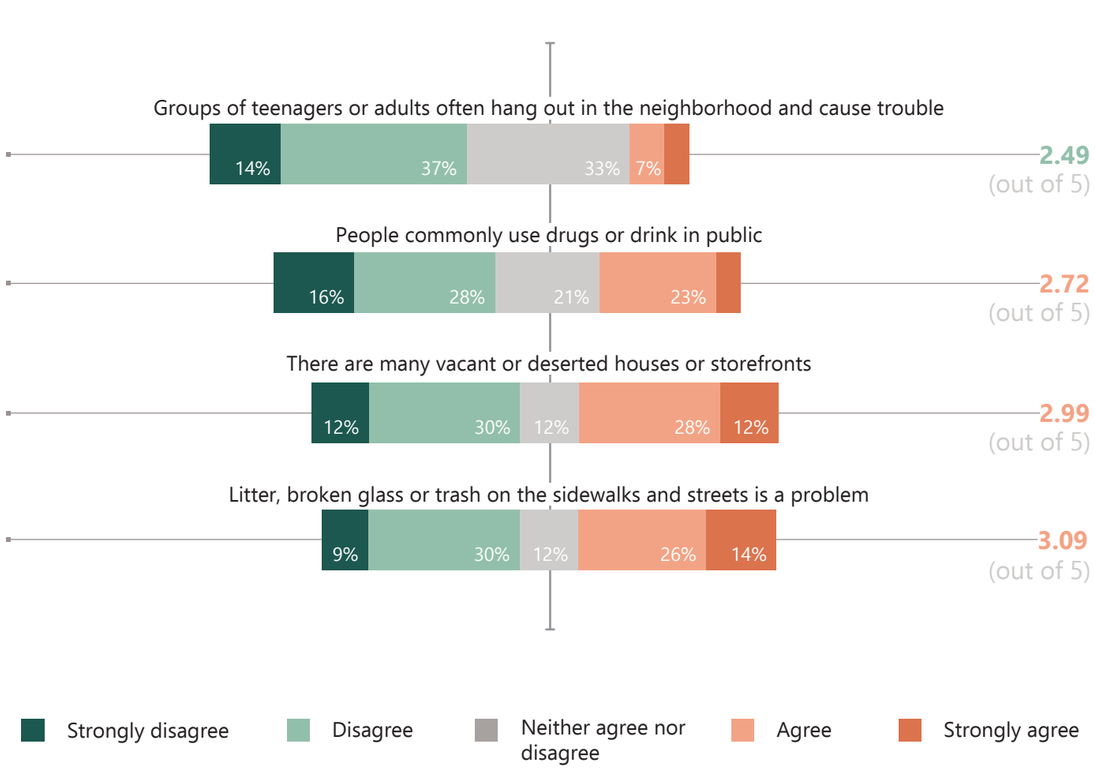


Figure 4.2 Physical incivility variables (Yeager 2020)

Neighborhood attachment

Each of the neighborhood attachment items were rated relatively high. For the statement "now this neighborhood is a part of me" forty-two percent of respondents chose strongly agree and thirty-seven percent chose agree. The responses to this statement averaged 4.21 out of 5. For the statement "there are places in the neighborhood to which I am emotionally attached" twenty-eight percent of respondents chose strongly agree, forty percent chose agree, and sixteen percent chose neither agree nor disagree. The lowest rated item was "I would not willingly leave this neighborhood for another." To this statement, nine percent of respondents chose strongly agree, thirty-three percent chose agree, and thirty-five percent chose neither agree nor disagree (see figure #). This might suggest that residents feel that the neighborhood is an important part of their life and has had an impact on them, but they would consider moving if another opportunity presented itself. However, most participants scored above neutral on the neighborhood attachment section, suggesting that they have a relatively high level of neighborhood attachment.

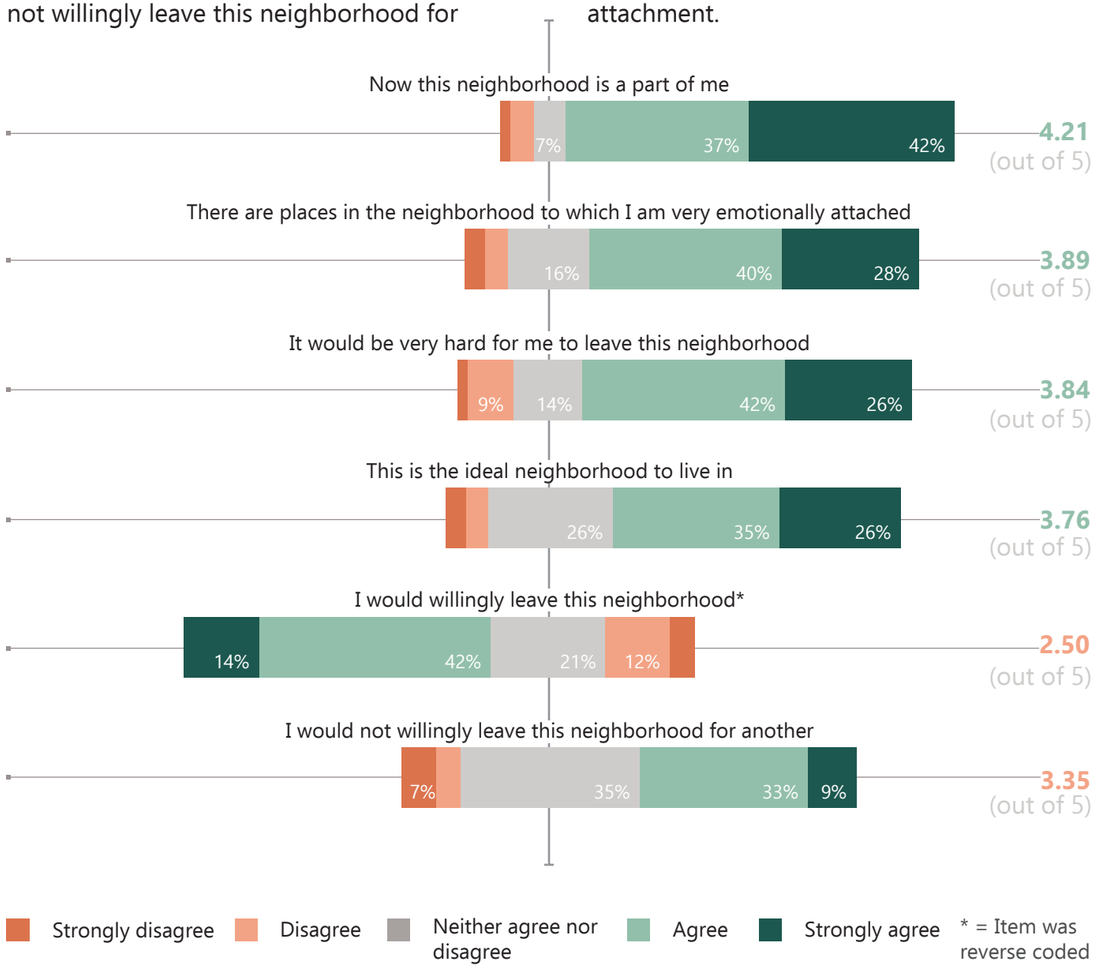


Figure 4.3 Neighborhood attachment variables (Yeager 2020)

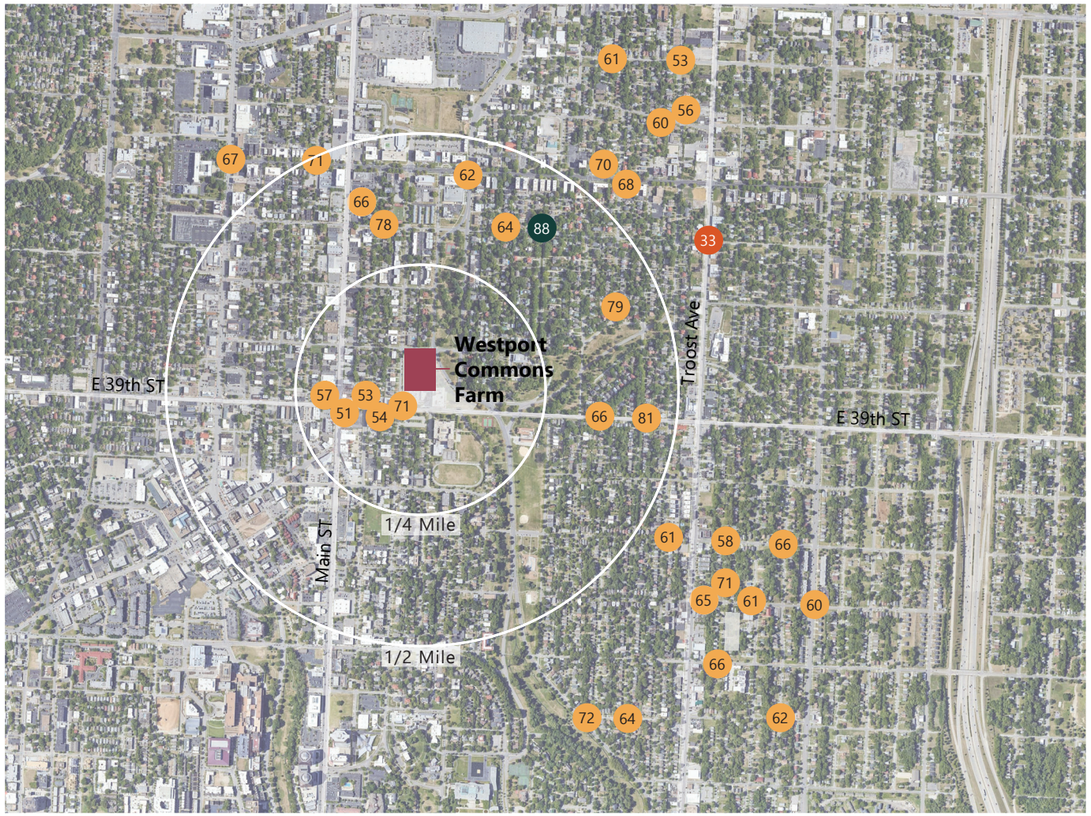
Total collective efficacy

Each of the individual responses for the social cohesion, physical incivility and neighborhood attachment questions were added to form each respondent's individual collective efficacy score. Questions that were worded negatively were reverse coded to give a more consistent score with the rest of the data. These scores were used to test other aspects of the data against the population's collective efficacy. The highest recorded collective efficacy score was 88 and the lowest was 30. The total average collective efficacy score of all the participants was 63 (well above the median of 54). This score's position above the median value suggests that most participants perceived their own collective efficacy to be above average.

The scores were compared with their corresponding street addresses to test for potential geographical patterns. It was hypothesized that those who live close to a community garden would have relatively high collective efficacy scores and that respondents living near each other would have similar scores. This did not prove to be the case as the data does not show a pattern of higher collective efficacy scores in relation to garden proximity. Residents who live near each other tend to have similar collective efficacy scores but occasionally vary significantly. The variance in scores within the same neighborhood are to be expected since collective efficacy is a perceived notion that can vary by individual. Interestingly, several residents close to the site have relatively low scores despite living in a more affluent area than others on the map. In light of this, creating a community garden on the site that fosters collective efficacy could be especially fruitful. The garden could be a good example of a catalyst that drives the formation of more collective efficacy through additional organizations.

Table 4.6 Total collective efficacy scores (Yeager 2020)

Lowest possible collective efficacy score	18
Median collective efficacy score	54
Highest possible collective efficacy score	90
Lowest recorded collective efficacy score	**30**
Average recorded collective efficacy score	**63**
Highest recorded collective efficacy score	**88**



LEGEND

1500 ft

marker indicating the intersection closest to a respondent's home

\# respondent's total collective efficacy score based on survey responses

minimum recorded score

maximum recorded score

Average score within 1/2 mile: 67.21
Average score within 1/4 mile: 57.2

Figure 4.4 Map of the focus area with total collective efficacy scores shown in yellow circles (Yeager 2020)

Gardening experience & exposure

Survey results indicate that twenty-eight percent of participants had no experience gardening, thirty-five percent currently participate in community gardening, nineteen percent are close with someone who gardens, forty percent garden at home, and twelve percent said “other” (neighbors

Table 4.7 Gardening experience (Yeager 2020)

Gardening experience	
no experience	28%
you (yourself) participate in community gardening currently	35%
someone you are close with participates in community gardening currently	19%
you garden at home	40%
other	12%

Table 4.8 Community garden present in neighborhood (Yeager 2020)

Community garden present in your neighborhood	
yes	56%
no	42%

are involved in community gardening; have participated in community gardening in the past, gardening professionally for a local restaurant)(see table #). Fifty-six percent of participants said they have seen or experienced community gardening in their neighborhood while forty-two percent said they had not (see table #). The total average collective efficacy score for those who have a community garden present in their neighborhood was 61.77, slightly below the average score. Interestingly, those who do not have a garden present in their neighborhood averaged a total collective efficacy score of 63.72.

The average collective efficacy score for survey respondents with no gardening experience was 57.6. Those who currently participate in community gardening averaged a score of 61.83. Interestingly, respondents who indicated that they are close with someone who participates in community gardening got an average score of 64.88. However, the highest scores were from those who garden at home with an average of 66.19. Unexpectedly, current community gardeners had the second lowest average collective efficacy score. These respondents scored just below the overall average of 62.6. Community gardeners even scored lower than those who are simply close with someone who participates in community gardening. While the difference between average scores is not enormous, there is still a sizeable gap between those who participate in community gardening and those who garden at home.

This may be because residents who maintain their home gardens have a higher neighborhood attachment and more socialization with neighbors in their immediate vicinity. Being a home gardener may be associated with homeownership- another thing that is linked with stronger collective efficacy. Another possible explanation is that community gardeners may have experienced more negative interactions with other gardeners or community members. Community gardeners often must battle theft and vandalism from the community more often than other neighborhood residents. This could result in a weakened sense of collective efficacy. Furthermore, some gardeners live outside the neighborhood and commute to the garden which may have an impact on their overall score. Respondents who indicated that they are close with someone who gardens received a higher score than gardeners themselves. This could be because those who are close with gardeners may feel encouraged by others in the neighborhood working towards the greater good. People who are close with gardeners may have a more robust social circle or family structure which may contribute to their collective efficacy perception. Additionally, gardening can be an introverted activity. Those who participate in community gardening for personal rather than social reasons may not perceive as much trust and social cohesion as their neighbors. Regardless, this data suggests that home gardeners and those who are close with community gardeners are more likely to perceive higher levels of collective efficacy than community gardeners themselves. However, those with no gardening experience perceived the lowest collective efficacy which suggests that some form of gardening experience is valuable.

Table 4.9 Gardening experience and total collective efficacy scores (Yeager 2020)

Gardening experience	Average CE Score
no experience	57.6
you (yourself) participate in community gardening currently	61.83
someone you are close with participates in community gardening currently	64.88
you garden at home	66.19

Reasons for/against participation

Respondents that do not participate in community gardening were asked to choose a reason why not. Fourteen percent of participants chose “lack of time”, seven percent chose “lack of interest”, seven percent chose “unsure of how to garden”, and seven percent chose “you don’t know anyone who participates.” Five percent indicated that a garden was located too far away and two percent said other (physical limitations) (see figure #).

On the other hand, those who do participate in community gardening were asked to indicate all the reasons why (see figure #). The biggest motivator was individual personal satisfaction which was chosen by forty-nine percent of respondents. Food production/access and exercise/physical activity were respectively chosen by forty-four percent. Forty-two percent chose environmental benefits, forty percent chose social engagement and well-being, and thirty-seven percent chose neighborhood revitalization as motivators (see figure #). The top choices seem to confirm the assumption that participation in community gardening strengthens collective efficacy since they suggest overall well-being (individual personal satisfaction), shared values (exercise and physical activity, environmental benefits, neighborhood revitalization) and social cohesion (social engagement/wellbeing). The high percentage of participants who indicated that they garden for social engagement and well-being strengthen the idea that gardens are more than just places to grow food. While many community gardeners are motivated by individual personal satisfaction, social engagement is a probable byproduct. The least selected reasons for participation were income generation and job training which were each chosen by seven percent of respondents.

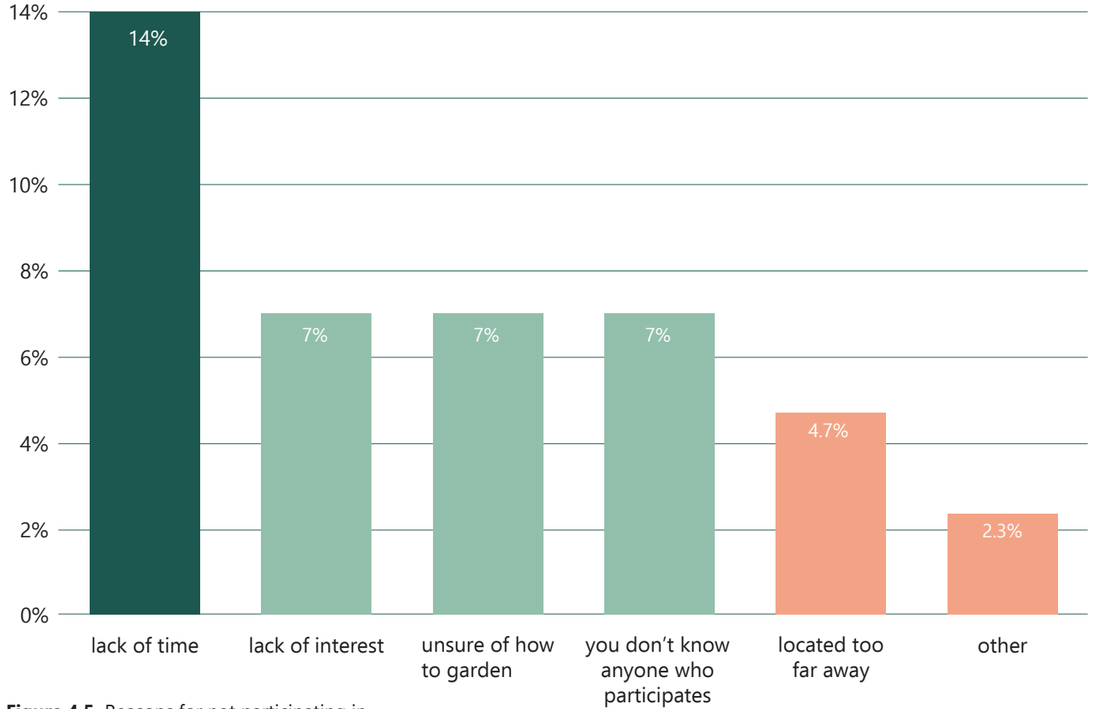


Figure 4.5 Reasons for not participating in community gardening (Yeager 2020)

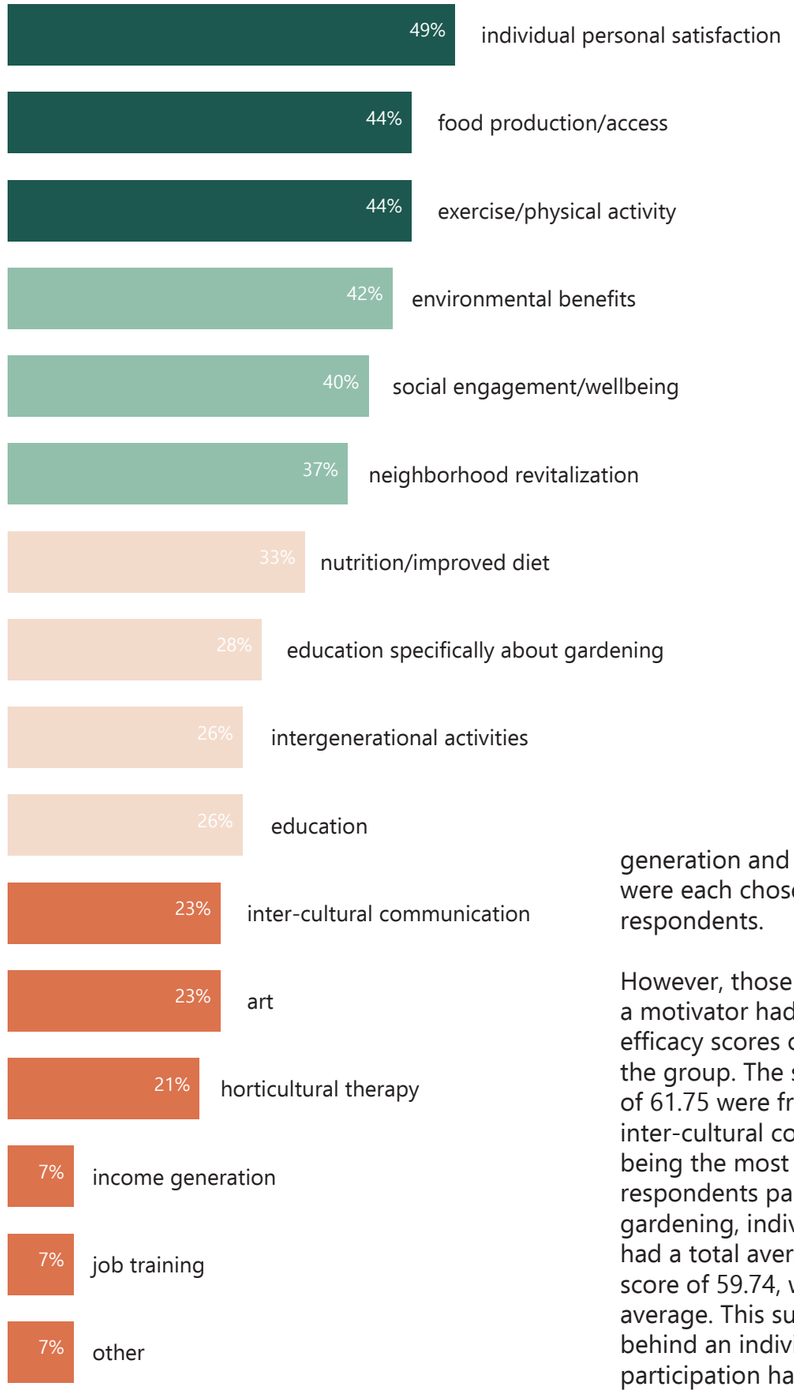


Figure 4.6 Reasons for participating in community gardening (Yeager 2020)

However, those who chose job training as a motivator had average total collective efficacy scores of 67, the highest of the group. The second highest scores of 61.75 were from those who chose inter-cultural communication. Despite being the most chosen answer for why respondents participate in community gardening, individual personal satisfaction had a total average collective efficacy score of 59.74, well below the overall average. This suggests that the motivation behind an individual’s community garden participation has a significant impact on their perceived collective efficacy.

Garden element preferences

Finally, respondents were asked to rate the importance of certain garden elements on a scale of 1-5. Compost areas and flowers + other plantings both scored the highest with an average of 4.24 out of 5. Accessible plots received a score of 4.19 out of 5 and paths had an average score of 4.17 out of 5. The three lowest rated items were lawn/multipurpose spaces (2.91 out of 5), bathrooms (3.1 out of 5), and children's play areas (3.43 out of 5). Most of the elements received an above-neutral score, indicating that respondents felt they were important in garden design. The other category received a few suggestions including: water supply, water catchment system, event space/community space, pet area, money to pay part time organizers, easy access to management, and safe spaces. Garden element preference did not vary greatly between high and low-collective efficacy-perceiving respondents.

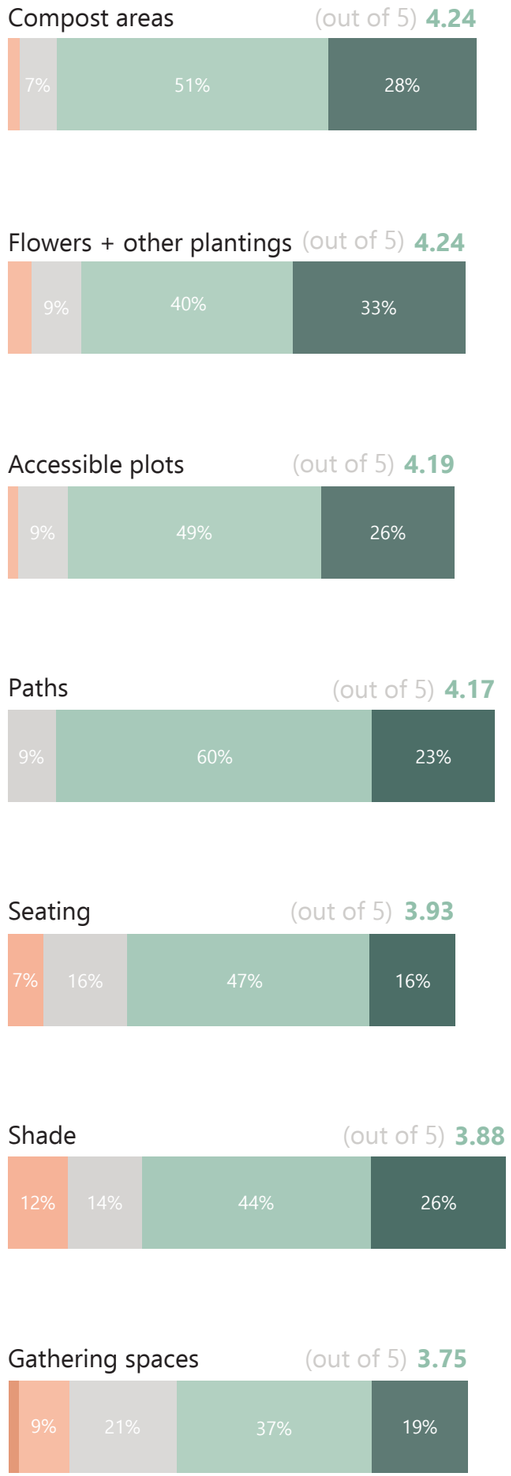
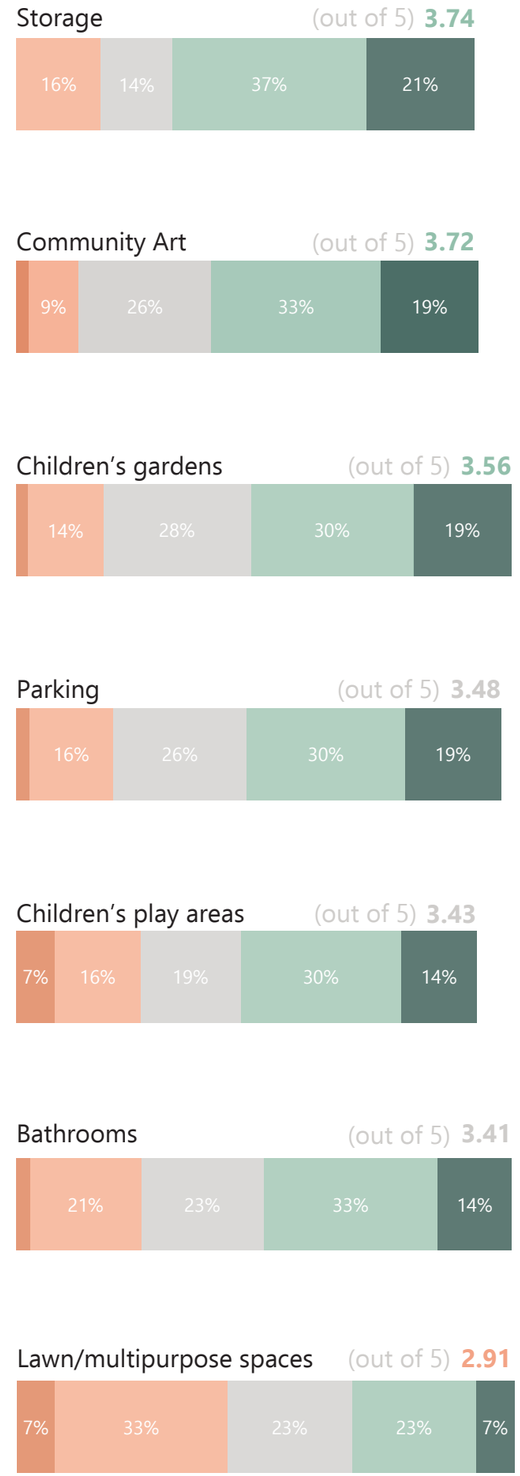


Figure 4.7 Garden element preferences ranked in order of percieved importance (Yeager 2002)

Figure 4.8 Garden element preferences ranked in order of percieved importance continued(Yeager 2002)



Overall findings from the surveys were put into a matrix to delineate collective efficacy goals (social cohesion, control over physical incivilities, and neighborhood attachment) and correlate them with design solutions. A positive and negative results list were formulated for each category along with proposed design recommendations.

Goal	Present in neighborhood?	Outcomes	Design elements/solutions		
Social cohesion	YES	Social support, trust, sense of belonging, idea sharing, role models present for children, willingness to invest in shared interests, neighborhood revitalization initiatives possible	• Space for garden outreach and training programs • youth education about food health and wellness	• gathering spaces • varied seating types • educational spaces • recreational gardening	• financial opportunities like selling produce at farmer's markets
	NO	Social isolation, mistrust, inequality, economic disparity, lack of role models for children, lack of community leaders	• Multi-purpose spaces, • abundant/varied seating • community outreach initiatives • multi-cultural and inter-generational activities • space for sharing food with the community	• experienced gardeners hired to teach techniques • low maintenance requirement • adaptability • artistic expression encouraged	• advocation of horticulture therapy and consumption of healthy foods
Control over physical incivilities	YES	Clean streets, safe neighborhood appearance, few vacant lots and stores, law-abiding citizens, low fear of crime and safety	• Garden designed for permanence • gathering spaces • financial opportunities	• space for outreach and training, • bulletin/message board for garden news	
	NO	Litter/broken glass/trash present on sidewalks and streets, vacant houses and storefronts, drinking and drug use in public, potential criminal activity, high fear of crime and safety	• Clear garden boundaries • proximity to pedestrian area • clear signage • clear and visible garden rules and regulations • garden added to vacant lots	• beautification through planting design (especially on perimiter) • maintain sightlines through • increased measures for accessibility • locks on sheds and equipment	• plant designated edible "community areas" on the outskirts to minimize theft
Neighborhood attachment	YES	Emotional connection with neighborhood environment, feeling of personal association with what happens in the neighborhood	• Garden designed for permanence • space for outreach and training programs	• gathering spaces • context specific • bulletin/message board for garden news	• space for reflection/meditation
	NO	Disinterest in what happens to the neighborhood, only temporary attachment, disconnect between identity and place	• Beautification through planting design • ability to grow incrementally	• artistic expression • community outreach initiatives • clear signage	• space for sharing food with community

Figure 4.9 Design solution matrix (Yeager 2020)

Focus Group Results

Focus groups were conducted with two different neighborhood groups following their monthly meeting. To analyze the community's ability to enhance their own collective efficacy through a community engaged design process (objective 2), two separate focus group sessions were held.

The first was the Hyde Park Neighborhood Association and the second was the Old Hyde Park Neighborhood Association.
A total of 22 people participated across both groups. The whole conversation was recorded and transcribed for analysis. The moderator began the sessions with an explanation of the research and history of the site. Participants were then briefed on the expectations and components of the session. Each group created their own projective design for the Westport Commons Farm through playing a custom design "game" and drawing ideas on a base map. The process helped the participants actively think about their neighborhood in a new way. With some prompting from the moderator, group members easily offered their opinions on what they felt should go in the garden. Each group worked as a team and created final designs that expressed their collective desires for the new space. Overall, the groups designed the garden with functionality, good circulation, a wide variety of elements, and accessibility for all members of the community.

Each group demonstrated signs of social cohesion, control over physical incivilities and neighborhood attachment throughout the design process.
Regardless of their pre-existing relationships with one-another, the groups successfully worked together, drew inspiration from shared past experiences, told stories, corrected each other when wrong, shared uncommon knowledge, and ultimately envisioned the future of themselves and each other in the garden. The diverse range of voices present at the session required the participants to empathize with all the residents of the neighborhood, not just

Focus group 1: Hyde Park Neighborhood Association

Figure 4.10 Focus group 1 design game (Yeager 2020)

Figure 4.11 Focus group 1 design drawing (Yeager 2020)

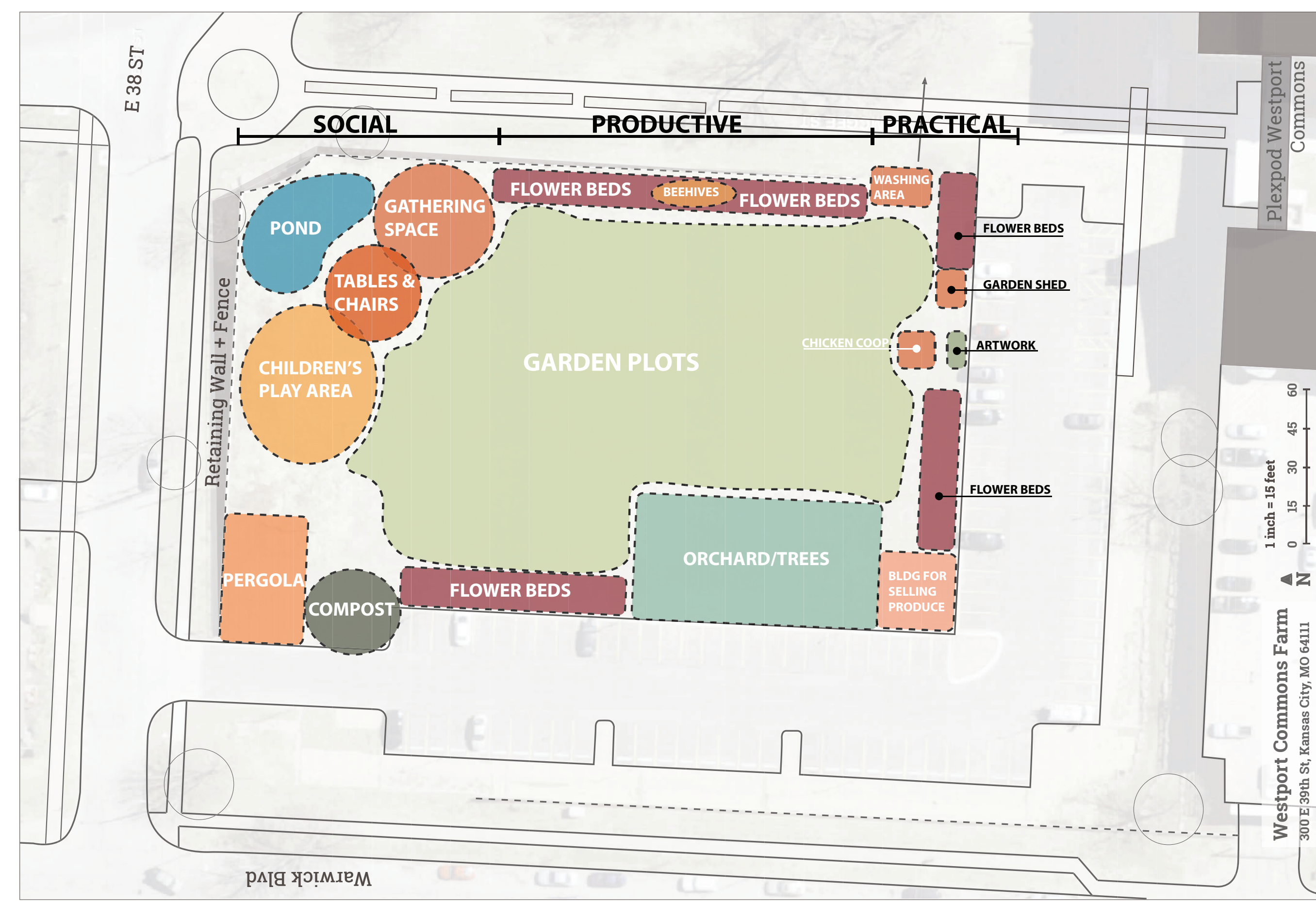


Figure 4.12 Focus group 1 final design synthesis. This group divided the space by social, productive and practical functions (Yeager 2020)

themselves. While there were some minor disagreements, most participants seemed comfortable speaking up in the group. In a few instances, it was noted that ideas from more soft-spoken participants were immediately shut down by those with a louder voice. This caused the soft-spoken participants to refrain from speaking for at least a few minutes. Since collective efficacy relies on individual perception, it is possible that social dynamics like this one could cause a discrepancy in collective efficacy among group members. Each member should feel that their voice is heard, and that they would be backed up by the group if greater collective efficacy is to be achieved.

Participants demonstrated control over physical incivilities by discussing the safety of users, how to protect the garden, how the garden can beautify the rest of the neighborhood, mitigating potential disturbance from wildlife, and minimizing unsightly garden elements like compost.

The groups demonstrated neighborhood attachment by considering the aesthetic elements of the garden, sharing thoughts and feelings about the neighborhood in general, and taking a vested interest in the new garden design. Both focus groups showed that the community really cares about its gardens and green spaces.

Each group ended up with a completely different design for the Westport Commons Farm although both groups focused on aesthetics, garden function and social function. After analyzing the data from the sessions, it seems likely that the specific layout of the elements is less important than programming. Programmatic elements that were intended to bring the community together including a gathering space, walkable paths, educational opportunities, outreach opportunities and beautiful planting design were discussed at length. Aesthetic elements such as flowers, trees, pergolas and art were often placed near the edges of the garden in order to beautify the neighborhood and contribute to neighborhood attachment. Other plantings were also intended to increase pollinators and enhance the environmental value of the garden- giving neighbors a chance to bond over shared environmental values. In the end, both groups came up with different garden designs that were meaningful and thoughtful, regardless of where elements were placed. This suggests that the reason behind including a garden element is more important than the placement of that element. Furthermore, both groups were able to successfully work as a team and create new garden designs, while seeming to enjoy themselves and strengthen bonds with peers. While their true collective efficacy levels are difficult to assess, from an observational standpoint, this method of community-driven design seemed to enhance collective efficacy among the group members.

Focus group 2: Old Hyde Park Neighborhood Association

Figure 4.13 Focus group 2 design game (Yeager 2020)

Figure 4.14 Focus group 2 design drawing (Yeager 2020)

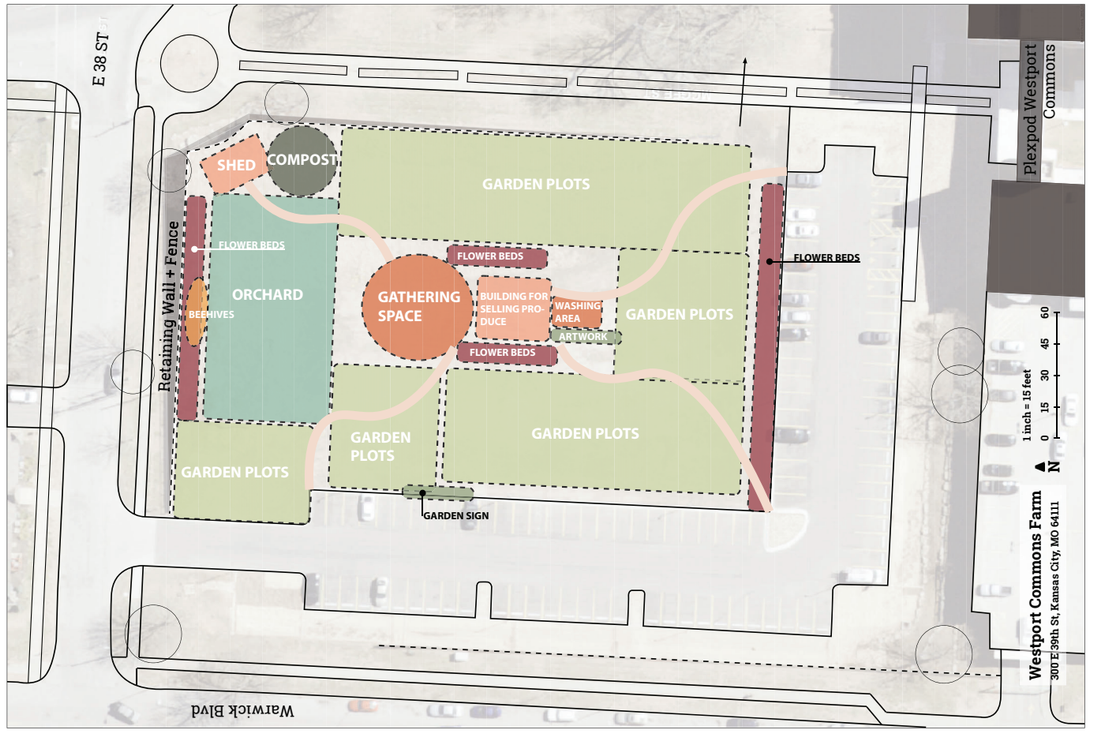


Figure 4.15 Focus group 2 final design synthesis. This group oriented the space around a central hub (Yeager 2020)

Focus group themes

social cohesion

"Well if you have a playground and table here you can put the pergola where the table is"
-Hyde Park participant

"[Gathering space] area to have a concert or something"
- Old Hyde Park participant

"having some sort of center gathering space or whatever is nice"
- Old Hyde Park participant

"No just a place for the kids to play maybe"
- Hyde Park participant

"we need to make a pathway from the parking lot that's going to draw you into the center location"
- Old Hyde Park participant

control over physical incivilities

"[The pond] could be aesthetic but I would be conservative about intrusion and kids getting in and potential danger"
-Hyde Park participant

"if people are bringing compost or mulch or something like that, they're not going to want to tote it a long way"
-Hyde Park participant

"Plant other stuff that [wildlife] want to eat to distract them from the stuff that I want to eat"
- Hyde Park participant

neighborhood attachment

"One [path] from here, curvy and decorative"
- Old Hyde Park participant

"Flowers around the edges"
-Hyde Park participant

"[The shed] should be really unique. I'd prefer it be really nice attraction in the middle"
- Old Hyde Park participant

Compost

set up in a convenient area for neighbors and people exiting the building can contribute their scraps

close access for truck

near the trash

Garden layout

curvy paths for community walking area, straight paths for strictly garden area

pathway from parking lot to center

raised and ground level planting beds

beehives near the orchard

Shed

near the parking lot for easy access when coming or going

either hidden in the back or made to be a unique attraction for the space

Social space

tables near flowerbeds but away from bees

pergola/shade structure with the tables

Gathering space

central area for selling produce

drive by building for selling produce

covered area or tent for selling

multipurpose area in the center

farmer's market, flowers near gathering space

Art

support for community art depends on what it is

garden sign for welcome

art can be incorporated with plants and shade structures

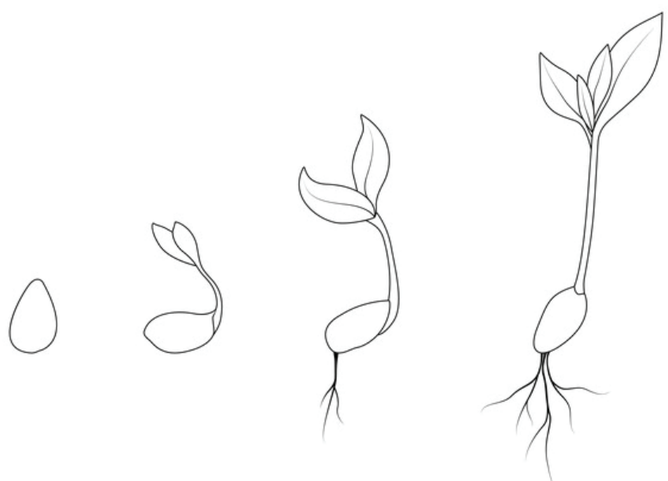
Flowers

flowers around the edges

beehives near flower beds

edible flowers

pollinators



5. DESIGN OUTCOME

Conclusions gathered from data collection, literature review, conventional community garden design, and the current owner's vision informed the following design for the Westport Commons Farm. This design seeks to enhance collective efficacy in the surrounding community by increasing site access, providing space for formal and informal social interaction, and improving the aesthetic appeal of the site while maintaining a functional farm. The result is a lively space that is suitable for growing food and engaging the neighborhood in numerous ways.

Design goals

Data collection results suggest that the area within a 1/2 mile radius of the Westport Commons Farm experiences above-average collective efficacy while the area within a 1/4 mile radius experiences below-average collective efficacy (see figure 4.4). In light of this, the final design for the Westport Commons Farm takes moderate measures to increase social cohesion, control over physical incivilities, and neighborhood attachment.

Since the site is owned by an agriculture-based non-profit, the design assumes that the land use will not change in the future. This allows the garden to be designed as a permanent fixture in the neighborhood- a factor that increases neighborhood attachment. The design also attempts to beautify the space through planting design, provide a variety of seating options, provide multi-purpose spaces, create space to share food with the community, allow artistic expression, establish clear and visable garden rules and regulations, increase accessibility for those with limited mobility, and establish and maintain sightlines throughout the site.

The preferences of survey respondents and themes gathered from the focus groups were also taken into account with the addition of compost areas, flowers and other plantings, accessible plots, seating, shade, gathering spaces, and interesting garden layouts (see figure 4.7 & page 57).

The site design was organized around three key elements: access to the site through new entrance points and connections to existing sidewalks, spaces that encourage formal and informal social interaction, and improved aesthetic appeal within the site and from nearby streets.

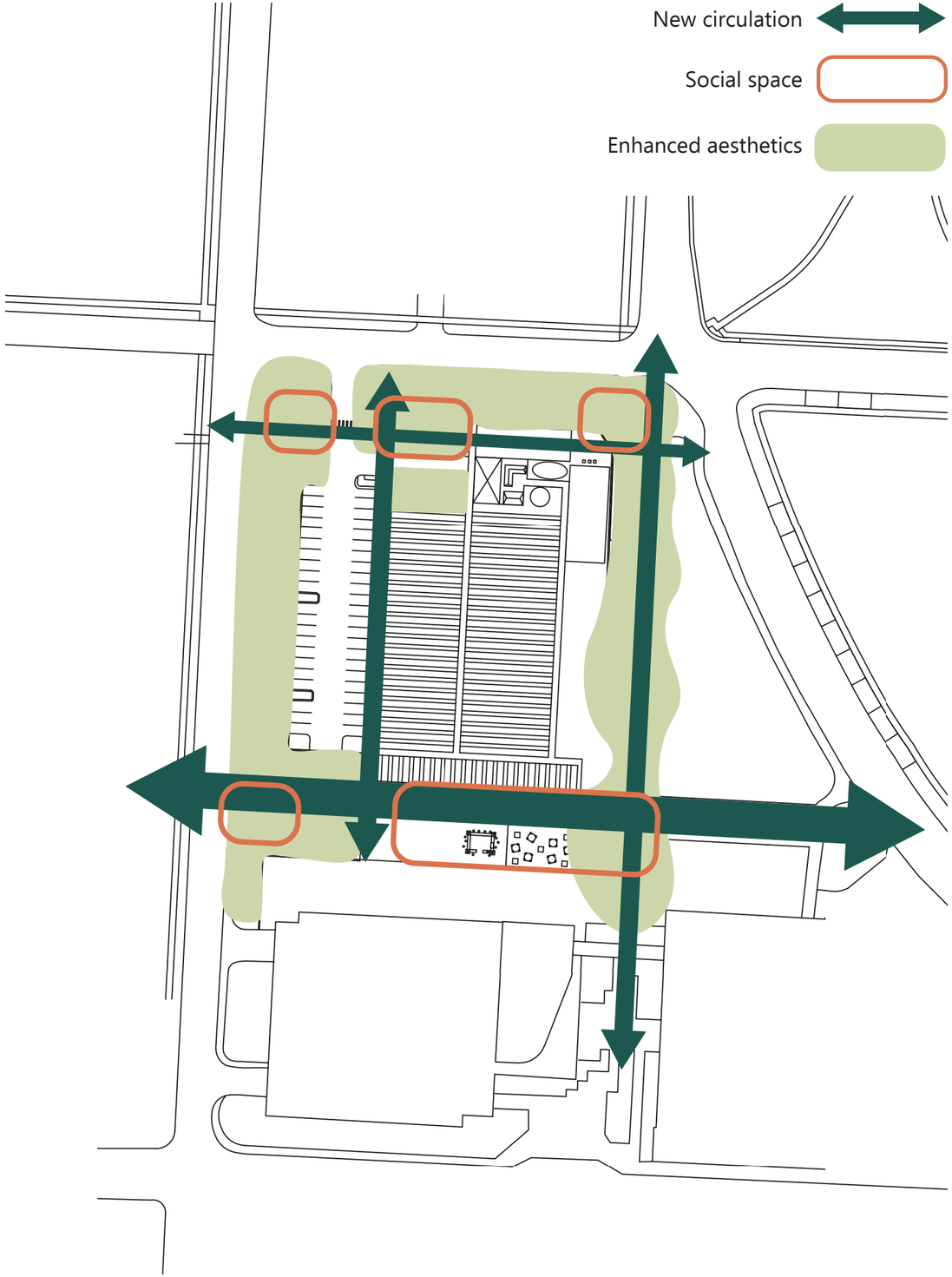


Figure 5.1 Three main goals of the design are improved circulation, spaces that encourage formal and informal social interaction, and aesthetic appeal (Yeager 2020)

Site Context

The site is located in an urban area with dense development on the West, North and South. The primary land uses on these sides are single-family residental, multi-family residential, and condominiums. However, Main Street is located two blocks away from the site and houses mostly commercial uses. The site is bordered on the East by the 7.46 acre linear green space, Hyde Park.

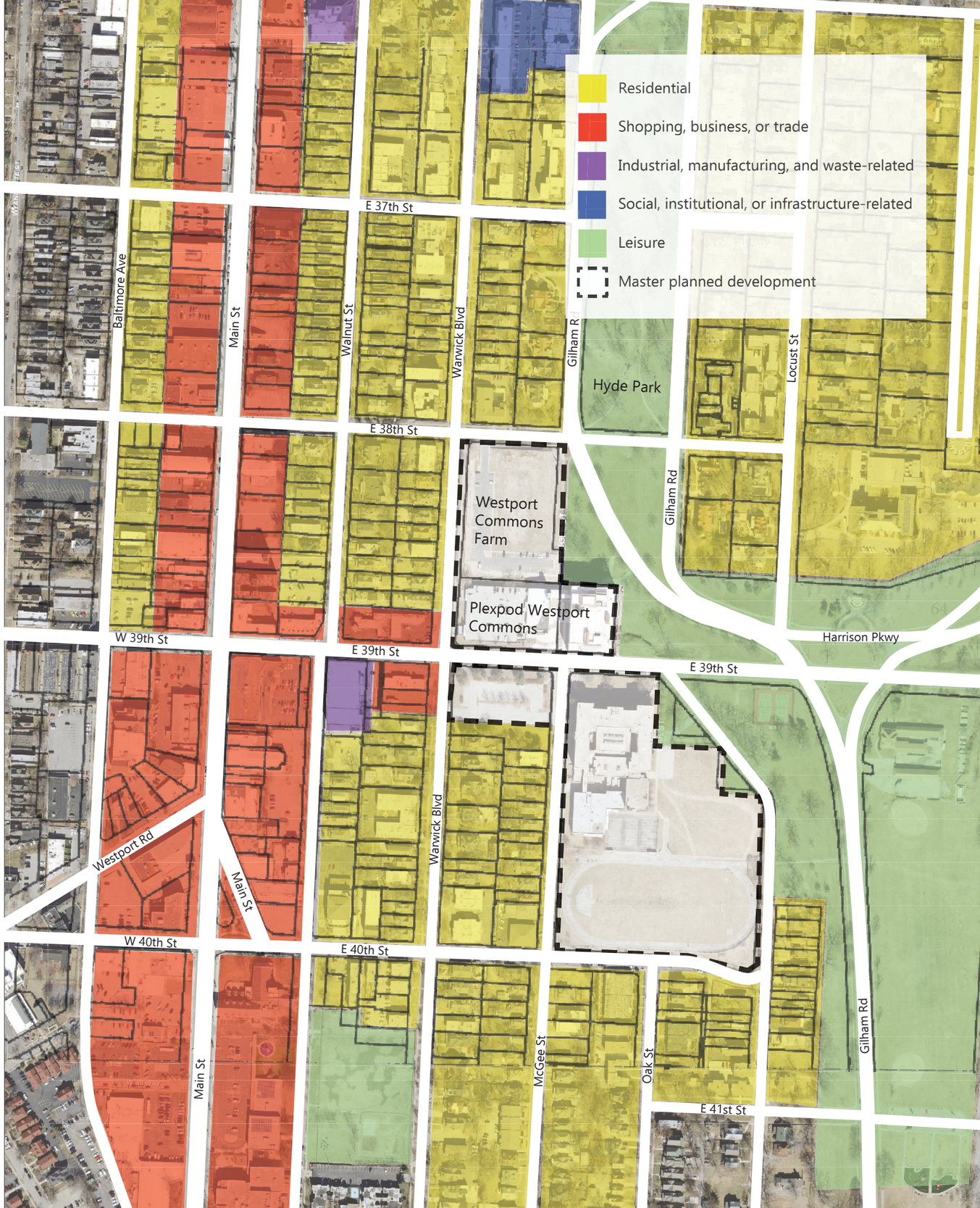


Figure 5.2 Map showing parcels and land use adjacent to the site (Yeager 2020)

350 ft

Existing topography

While the measures enumerated in the design solution matrix (figure 4.9) can be universally applied to community gardens, the real challenge for landscape arcthiects lies in fitting the design solutions to the place. The intense topographical configuration of the area surrounding the Westport Commons Farm presents a significant design hurdle. Applying collective efficacy-enhancing garden elements to the space calls for a great deal of problem-solving.

The landform surrounding the farm is steeply sloped resulting in the site being girded by retaining walls. There are two ways to enter the site, from the Plexpod courtyard in the southeast or the vehicular entrance on the northwest. The lack of easy pedestrian access is a barrier to the community.

Figure 5.3 Section A-A Existing conditions of the southern parking lot (Yeager 2020)

60 ft

Figure 5.4 Retaining wall on the western edge (Yeager 2020)

Figure 5.5 Retaining wall on the northeast edge (Yeager 2020)

Figure 5.6 Retaining wall on the north edge (Yeager 2020)

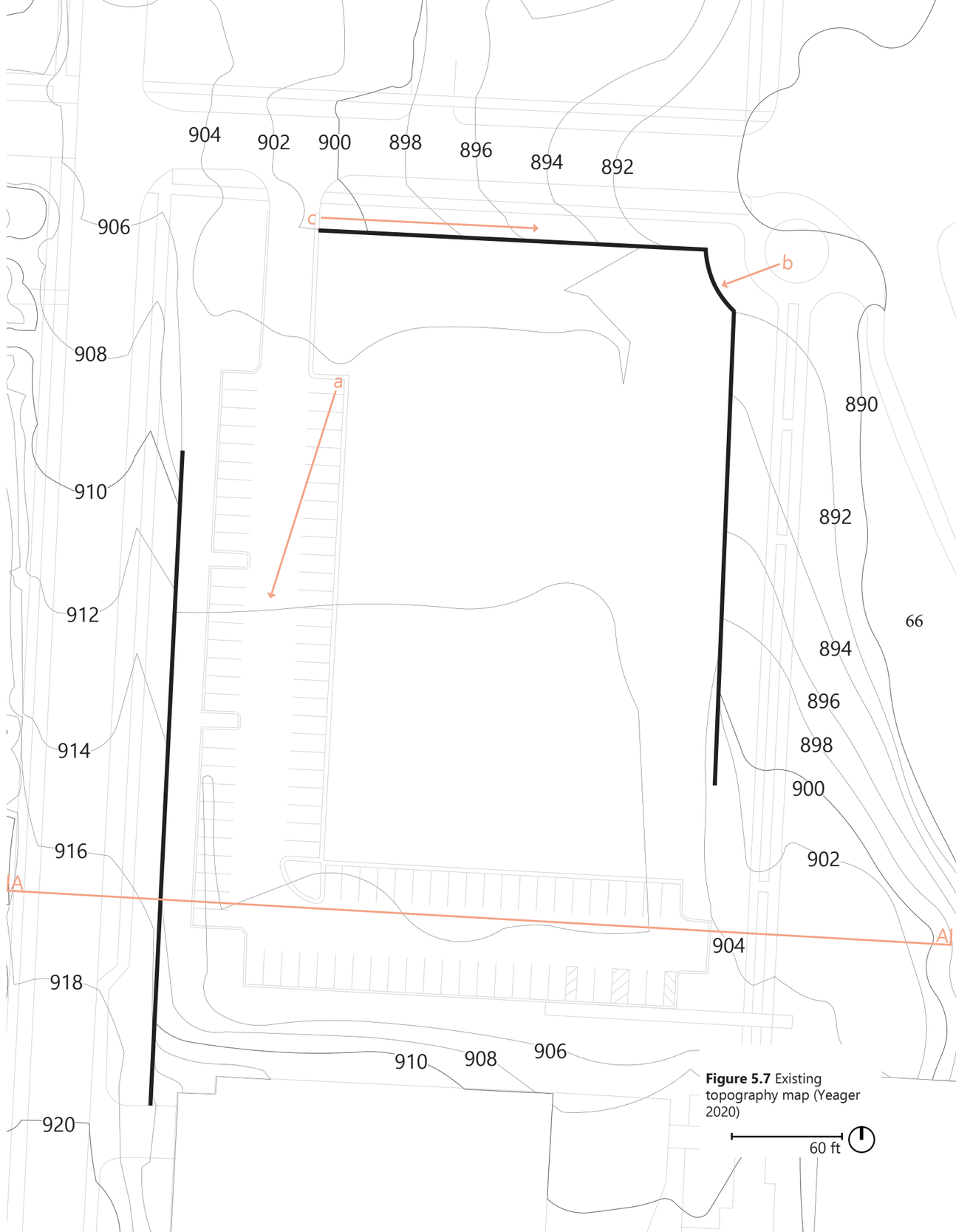


Figure 5.7 Existing topography map (Yeager 2020)

60 ft

SITE PLAN

The final plan to increase collective efficacy in the neighborhoods surrounding the Westport Commons Farm begins with a variety of accessible entrance points from surrounding sidewalks. These entrances lead to seating areas and social spaces of different sizes and functions. Terraced planters on the north and east retaining walls break down the visual barrier between the street and the farm. The terraces are a prime surface for community artists to paint. Two paths twist and overlap each other through shade and fruit trees to navigate the steep slope from the northeast corner to the Plexpod entrance.

Community garden plots on the southern end of the site create a buffer between recreational public space and the productive urban farm. The large recreational space between the farm and the Plexpod includes a large bulletin board for garden news, table seating, an outdoor kitchen, bench seating, bar seating, a large swing, and ample open space for activity. IBC water retention barrels are placed next to the building on the south side to collect water for irrigation.

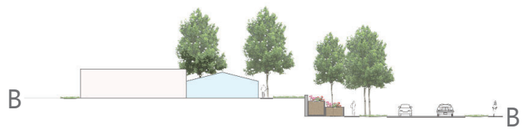


Figure 5.8 Section B-B showing the terrace on the north side, office and greenhouse (Yeager 2020)

60 ft

KEY

a. Pocket park
b. Garden welcome sign
c. Terraced planters
d. Pedestrian path
e. Greenhouse
f. Staircase
g. Driveway
h. Office
i. Building for washing produce
j. Shed
k. Compost
l. Beehives
m. Chicken coop
n. Row crops
o. Permaculture zone
p. Plexpod entrance
q. Outdoor workspace
r. Outdoor tables
s. Swing
t. Community garden plots
u. Outdoor kitchen
v. Garden bulletin board
w. Sloped park
v. Rainwater containers

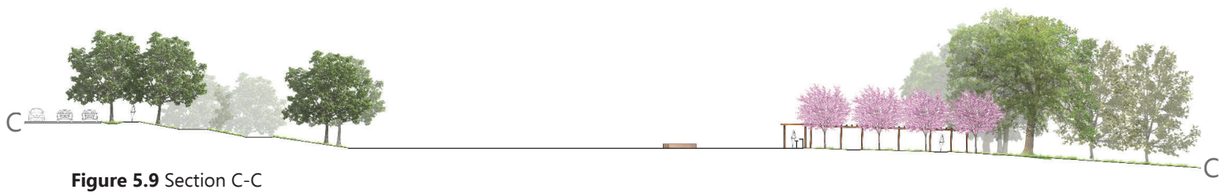


Figure 5.9 Section C-C showing the community space and outdoor workspace (Yeager 2020)

60 ft

Figure 5.10 Site plan (Yeager 2020)

60 ft

SOCIAL SPACES

Social spaces of different sizes allow formal and informal interaction to occur. Scattered throughout the design are places for users to sit and rest, work at a private desk, host events, chat with friends, or simply watch what's happening at the farm.

Figure 5.11 A pocket park on the corner and pedestrian path on the north side of the farm invite pedestrians in

30 ft

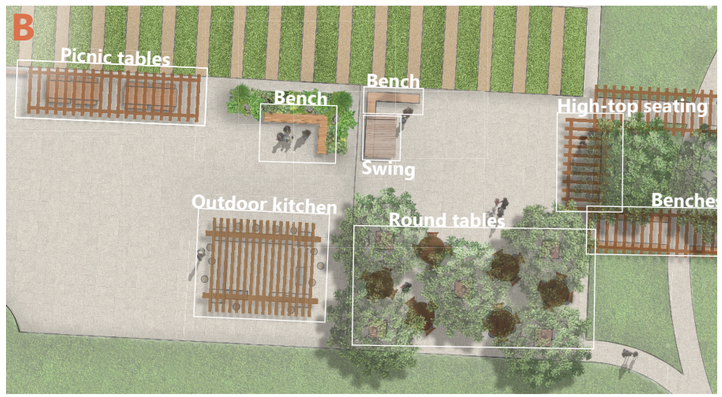


Figure 5.12 The former parking lot becomes a multi-purpose space for several levels of socialization. Benches, table seating, a large swing, an outdoor kitchen and open space provide a variety of options for planned and unplanned social interaction

30 ft

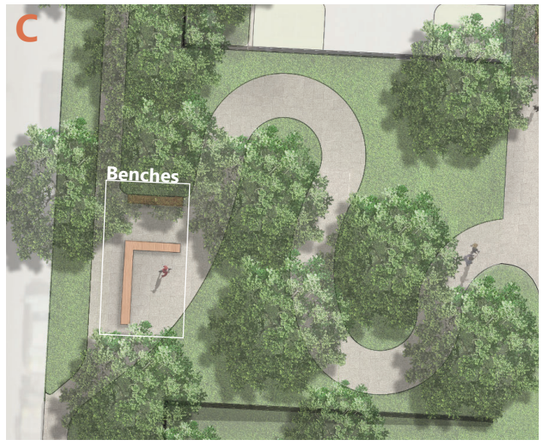


Figure 5.13 The sloped park provides pedestrians and residents on the west side easy access to the park. It serves as a small park and respite for walkers

30 ft

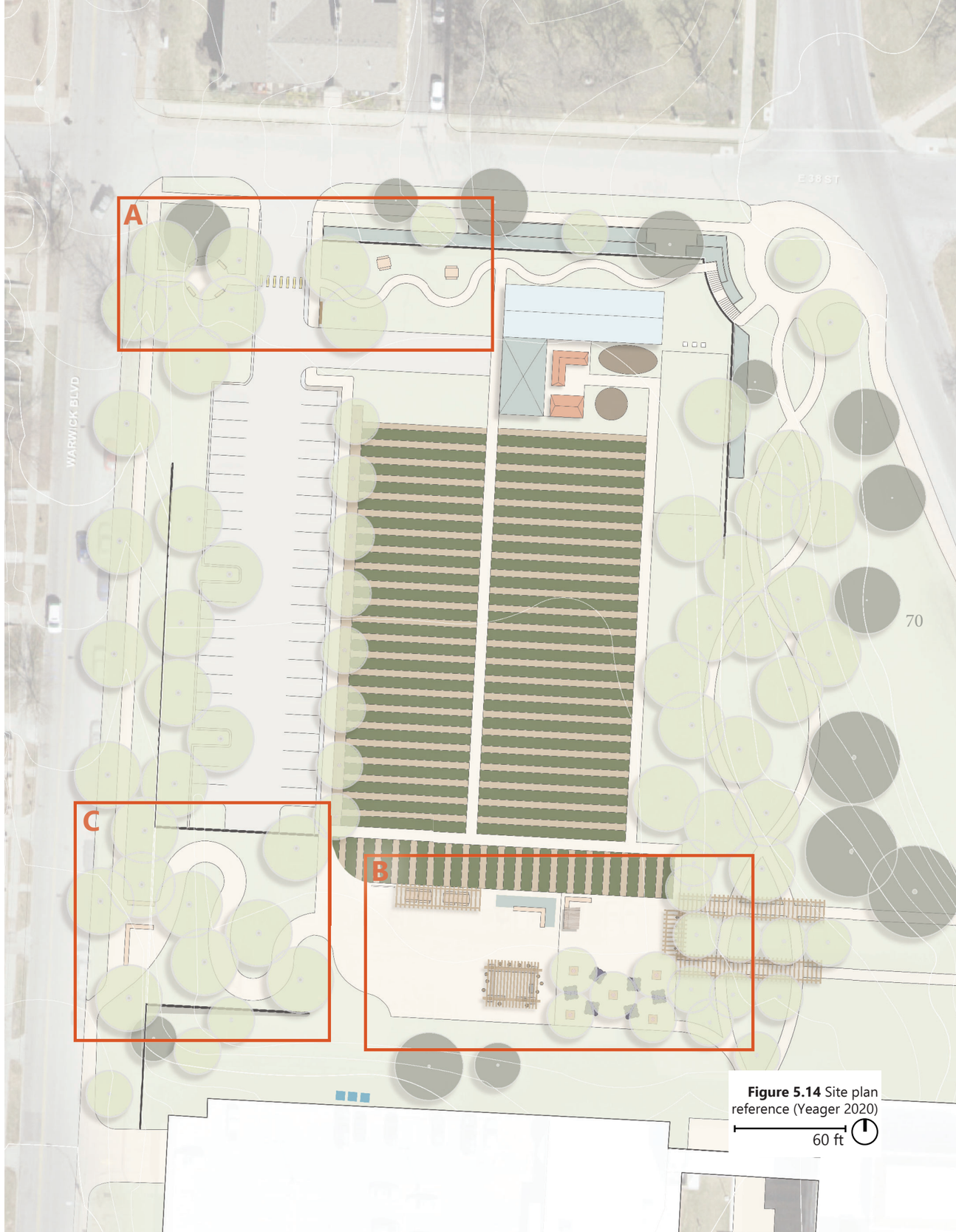


Figure 5.14 Site plan reference (Yeager 2020)

60 ft

CIRCULATION

Improvements in circulation throughout the space increase the community's access to the site physically and visually. Fifty parking spots on the south of the site are removed to create a user-friendly axis that promotes an east-west connection. The winding paths throughout the site provide the user with different views of the farm and park spaces from above and below.

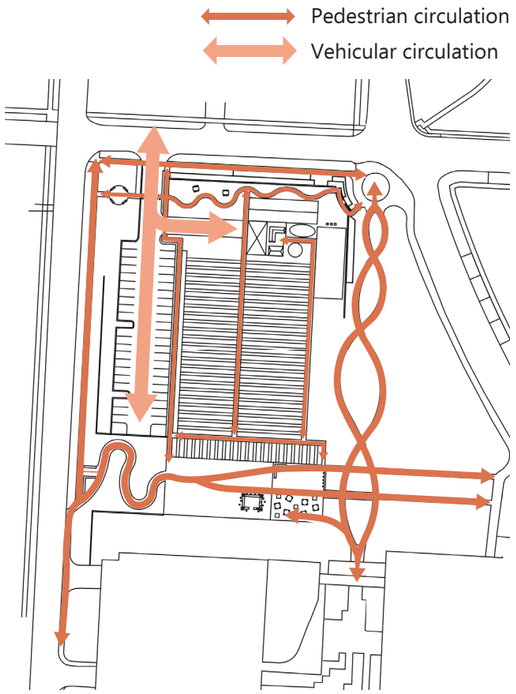


Figure 5.15 Circulation improves access to the site and connection from east to west (Yeager 2020)

150 ft

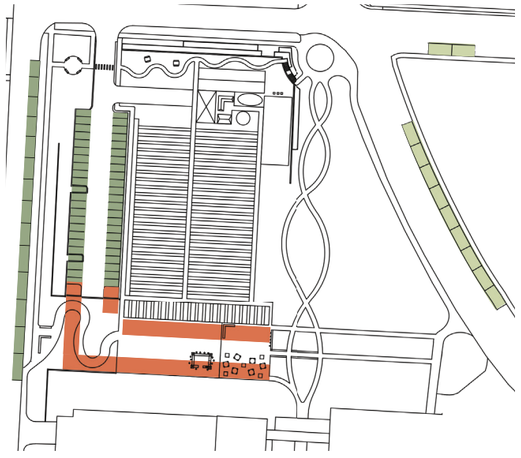


Figure 5.16 50 parking spots are removed from the original layout. 11 spots are added to the nearby streets (Yeager 2020)

150 ft

PLANTING DESIGN

Aesthetic improvements through planting design improve the overall look of the site as well as invite pedestrians to walk along the paths. Shade trees create a more enjoyable experience while fruit trees that are accessible to the public bridge the barrier between the community and the farm. Flowers and other plantings are placed around the edges of the site for those passing by to enjoy. The planting design can be viewed from above by those walking along the retaining wall on the west.

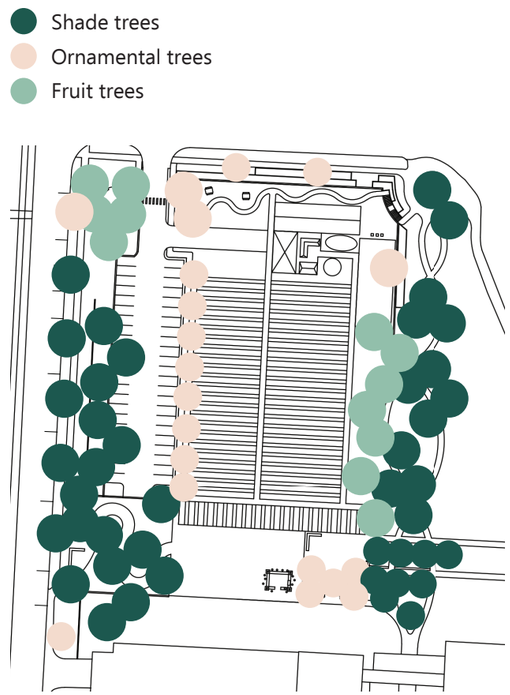


Figure 5.17 Trees added to the site include shade, ornamental and fruit-bearing trees (Yeager 2020)

130 ft

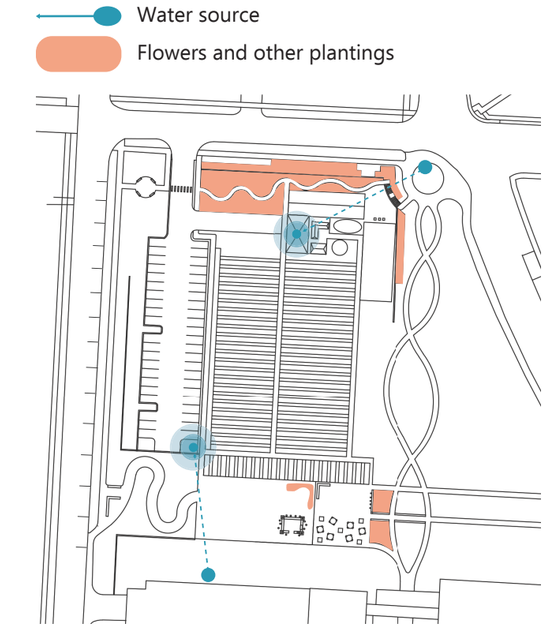


Figure 5.18 Areas of flowers and other planting design (Yeager 2020)

140 ft

NORTHEAST CORNER

The design improves circulation and access from sidewalks on the northeast corner of the site by creating a more pleasing approach to the Plexpod with intertwining paths and trees. A staircase leads up to the pedestrian path on the north side of the site and terraced walls contain flowers and pollinators. Murals from local artists complete the space.

Figure 5.19 View of the design from the northeast corner (Yeager 2020)

SLOPED PARK

To connect the event space with the sidewalk and residences atop the western retaining wall, a sloped park is constructed with a serpentine pathway, shade trees and benches. The park provides accessible entry to the community garden plots and the Plexpod.

Figure 5.20 The park/hill connecting the sidewalk on the west side to the site (Yeager 2020)

COMMUNITY PLOTS

Community garden plots provide a buffer between the row crops and social space.

Figure 5.21 Community garden plots (Yeager 2020)

6.CONCLUSION

CONCLUDING REMARKS

The objective of this research was to explore potential connections between collective efficacy and community gardening useful to landscape architects and community planners. New information about the public realm is always useful for pushing the field of design further, and the recent rise of urban agriculture presents an opportunity to cultivate multiple benefits.

The methods used in this study helped inform the general collective efficacy levels as well as gauge the potential of a neighborhood to foster its own collective efficacy. The surveyed area showed above-average collective efficacy scores for most respondents and focus group participants demonstrated potential for collective efficacy building. Asking pertinent questions informed a model of community-involved urban farm design focused on fostering collective efficacy.

Results of the surveys were often surprising and lead to new territories of thought exploration. The revelation that community gardeners had lower collective efficacy scores than average was unexpected and changed the author's assumptions about the inherent relationship between gardens and urban space. This finding lead to the idea that community gardening itself may be less important than the participant's intent behind gardening. The most important component is creating a garden that serves many functions and can change over time to suit the community's needs.

Perhaps community gardening is not the most straightforward way of enhancing neighborhood collective efficacy but it is a start. Every community garden is as different as the people who tend it. This was evidenced by the diverse range of opinions and ideas in the focus group sessions. This study lead to interesting new thoughts that should be continued in further research.

While this study can only make brief observations and educated guesses on why certain results occurred, it is important that these concepts be studied empirically. If neighborhood collective efficacy can be enhanced through urban design changes it is a worthwhile task.

Community gardens are harmless additions to neighborhoods. They are often built as temporary space fillers but their positive effects can have a huge impact on the future development of the neighborhood.

Limitations

While this study begins to understand some of the drivers of collective efficacy, there are several limitations. Collective efficacy is a highly nuanced concept that depends on individual perception. For this reason, there are infinite uncontrollable factors that could be at play in the population's responses. Additionally, while this study recognizes that both social cohesion and informal social control are necessary for collective efficacy, the surveys did not ask questions about informal social control to save participants from survey fatigue. In the future, both concepts should be studied when trying to determine collective efficacy levels. This study did not eliminate possible factors such as other organizations in the neighborhood that may have had an effect on collective efficacy development.

The project had a limited time frame. Having more time during the data collection phase would have allowed more surveys and focus groups to be conducted- creating a more accurate picture of the neighborhood. Only forty-three people responded to the survey.

Furthermore, due to the nature of the focus groups, many participants were neighborhood leaders, garden leaders or otherwise involved in civic engagement. This may have skewed the data in favor of higher collective efficacy levels since those who are active participants in neighborhood development generally have a higher neighborhood attachment. This study also does not address other variables such as, geographic limitations or the presence of other neighborhood anchors besides gardens.

Future research

Since collective efficacy has many contributing factors, continuing research could take many different forms. Urban agriculture is a growing phenomenon and understanding how its design can influence neighborhood well-being is important for designers. This study attempted to test levels of collective efficacy and measure them against seemingly unrelated element preferences. Future studies should attempt to find a more effective way to determine this link. Research should also look into the value of this knowledge, how valuable is enhanced collective efficacy in the broader currency of social capital? Future research could take the literature review further and examine how collective efficacy and design are related. How long respondents have lived in the neighborhood would be an interesting data point since permanent residency is an indicator of neighborhood attachment.

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APPENDIX A | IRB APPROVAL

KANSAS STATE UNIVERSITY | University Research Compliance Office

TO: Dr. Hyung Jin Kim
Architecture, Planning, and Design
1102 Seaton Hall

Proposal Number: 10019

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 01/16/2020

RE: Proposal Entitled, "Enhancing the collective efficacy of a low-income neighborhood through community garden design"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

203 Fairchild Hall, Lower Mezzanine, 1601 Vattier St., Manhattan, KS 66506-1103 | 785-532-3224 | fax: 785-532-3278
comply@k-state.edu | k-state.edu/comply

APPENDIX B | SURVEY QUESTIONNAIRE

Enhancing Collective-Efficacy of a Neighborhood through Community Garden Design

Project approval date: December 20th
Project expiration date: May 8th
Length of study: 1 Month

Principal investigator: Hyung Jin Kim
Contact details for problems/questions: Mackenzie Yeager | (636) 795-6070 | macken5@ksu.edu
IRB chair contact information: Rick Scheidt; 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506 | (785) 532-3224

My name is Mackenzie Yeager and I am a graduate student of landscape architecture at Kansas State University. I am doing my master's research on community gardening design.

The purpose of this survey is to examine whether community gardening influences your neighborhood's trust levels and social circles. These questions ask about your neighborhood environment, relationships with your neighbors, and your opinions about designs for the community garden.

After the survey there will be a focus group design session where you will be encouraged to offer your opinions on the community garden in your neighborhood. These opinions can be shown through discussion, drawing on a base map or arranging game pieces on a board. You will be provided with markers, pens, hi-lighters and colored paper.

Your garden designs will be taken into consideration for future changes in the garden. You can expect to learn more about your community and how your opinion matters in garden design.

Participants who wish to remain anonymous will be allowed to do so. All survey responses will be kept confidentially. The board game play will be recorded but will not include any of the participants' faces. Participants can withdraw their consent at any time or refuse to answer questions that make them uncomfortable.

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

Participant Name:_____Date: _____

Participant Signature:_____Date: _____

Witness to Signature:_____Date: _____
(project staff)

The following questions ask about your neighborhood gardening experience. Please answer to the best of your ability.

1. Please mark the boxes that correspond most closely with your community gardening experience: (check all that apply)

- ☐ no experience
- ☐ you (yourself) participate in community gardening currently
- ☐ someone you are close with participates in community gardening currently
- ☐ you garden at home
- ☐ other (please explain)_____

2. What are the names of the streets that make up the closest intersection to your house?

_____

3. Have you seen or experienced any community gardening within your neighborhood?

- ☐ Yes (if yes please skip question 4)
- ☐ No
- ☐ Unsure

4. (for non-gardeners) is there a particular reason you don't participate in community gardening? (check all that apply)

- ☐ Lack of time
- ☐ Lack of interest
- ☐ Unsure of how to garden
- ☐ You don't know anyone who participates
- ☐ Too expensive
- ☐ Located too far away
- ☐ Other _____

The following questions ask about your neighborhood environment. For each of the questions below, circle the number for the response that best characterizes how you feel about the statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. This is a close-knit neighborhood.	1	2	3	4	5
6. There are adults in this neighborhood that children can look up to.	1	2	3	4	5
7. People around here are willing to help their neighbors.	1	2	3	4	5
8. People in this neighborhood generally do not get along with each other.	1	2	3	4	5
9. You can count on adults in this neighborhood to watch out that children are safe and don't get into trouble.	1	2	3	4	5
10. People in this neighborhood do not share the same values.	1	2	3	4	5
11. Parents in this neighborhood know their childrens' friends.	1	2	3	4	5
12. Adults in this neighborhood know who the local children are.	1	2	3	4	5
13. Litter, broken glass or trash on the sidewalks and streets is a problem.	1	2	3	4	5
14. There are many vacant or deserted houses or storefronts.	1	2	3	4	5
15. People commonly use drugs or drink in public.	1	2	3	4	5
16. Groups of teenagers or adults often hang out in the neighborhood and cause trouble.	1	2	3	4	5

Adapted from the work of Comstock 2010

17. Reasons why you participate in community gardening, check all that apply (skip if you do not participate)

- ◻ Food production and access
- ◻ Exercise/physical activity
- ◻ Intergenerational activities
- ◻ Neighborhood revitalization
- ◻ Job training
- ◻ Other_____
- ◻ Nutrition/improved diet
- ◻ Individual personal satisfaction
- ◻ Education
- ◻ Horticultural therapy
- ◻ Education specifically about gardening
- ◻ Social engagement/wellbeing
- ◻ Environmental benefits
- ◻ Inter-cultural communication
- ◻ Art
- ◻ Income generation

Adapted from the work of Drake, L. & Lawson, L.J. (2015)

The following questions ask about your preferences for community garden elements. For each of the questions below, circle the number for the response that best characterizes how important the element is to you.

Examples of different elements in the same space

	Not important at all	Low importance	Neutral	Important	Very important
18. **Seating** (includes tables, chairs, benches and picnic tables)	1	2	3	4	5
19. **Paths** (to accommodate pedestrian and equipment circulation)	1	2	3	4	5
20. **Shade** (trees and manmade structures)	1	2	3	4	5
21. **Community art** (murals, sculptures, etc)	1	2	3	4	5
22. **Flowers + other plantings**	1	2	3	4	5
23. **Children's play areas**	1	2	3	4	5
24. **Bathrooms**	1	2	3	4	5
25. **Lawn/multipurpose spaces**	1	2	3	4	5
26. **Gathering spaces**	1	2	3	4	5
27. **Storage** (sheds + buildings)	1	2	3	4	5
28. **Accessible plots** (designed for ease of access to those with limited mobility)	1	2	3	4	5
29. **Parking**	1	2	3	4	5
30. **Compost areas**	1	2	3	4	5
31. **Children's gardens**	1	2	3	4	5
32. **Other**:_____	1	2	3	4	5

Adapted from the work of Buchenau, M. 2011

33. Where would you prefer to add a community garden to your neighborhood? (check all that apply)

◻ park ◻ school ◻ vacant or underutilized lot ◻ my or a neighbor's yard ◻ Other_____

The following questions ask about your neighborhood. For each of the questions below, circle the number for the response that best characterizes how you feel about the statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
34. This is the ideal neighborhood to live in.	1	2	3	4	5
35. Now this neighborhood is part of me.	1	2	3	4	5
36. There are places in the neighborhood to which I am very emotionally attached.	1	2	3	4	5
37. It would be very hard for me to leave this neighborhood.	1	2	3	4	5
38. I would willingly leave this neighborhood.	1	2	3	4	5
39. I would not willingly leave this neighborhood for another	1	2	3	4	5

Adapted from the work of Comstock 2010

Please mark one answer for each of the following:

40. Age

- ◻ 18-24years
- ◻ 25-34years
- ◻ 35-44years
- ◻ 45-54years
- ◻ 55-64years
- ◻ 65 years or older

41. Ethnicity

- ◻ White
- ◻ Hispanic or Latino
- ◻ Black or African American
- ◻ Native American or American Indian
- ◻ Asian/Pacific Islander
- ◻ Other

42. What is the highest degree or level of school you have completed? If currently enrolled, highest degree received

- ◻ No schooling completed
- ◻ High school graduate or the equivalent (for example: GED)
- ◻ Some college credit, no degree
- ◻ Trade/technical/vocational training
- ◻ College degree

43. Household composition

- ◻ Single (never married)
- ◻ Married, or domestic partnership
- ◻ Widowed
- ◻ Divorced
- ◻ Separated

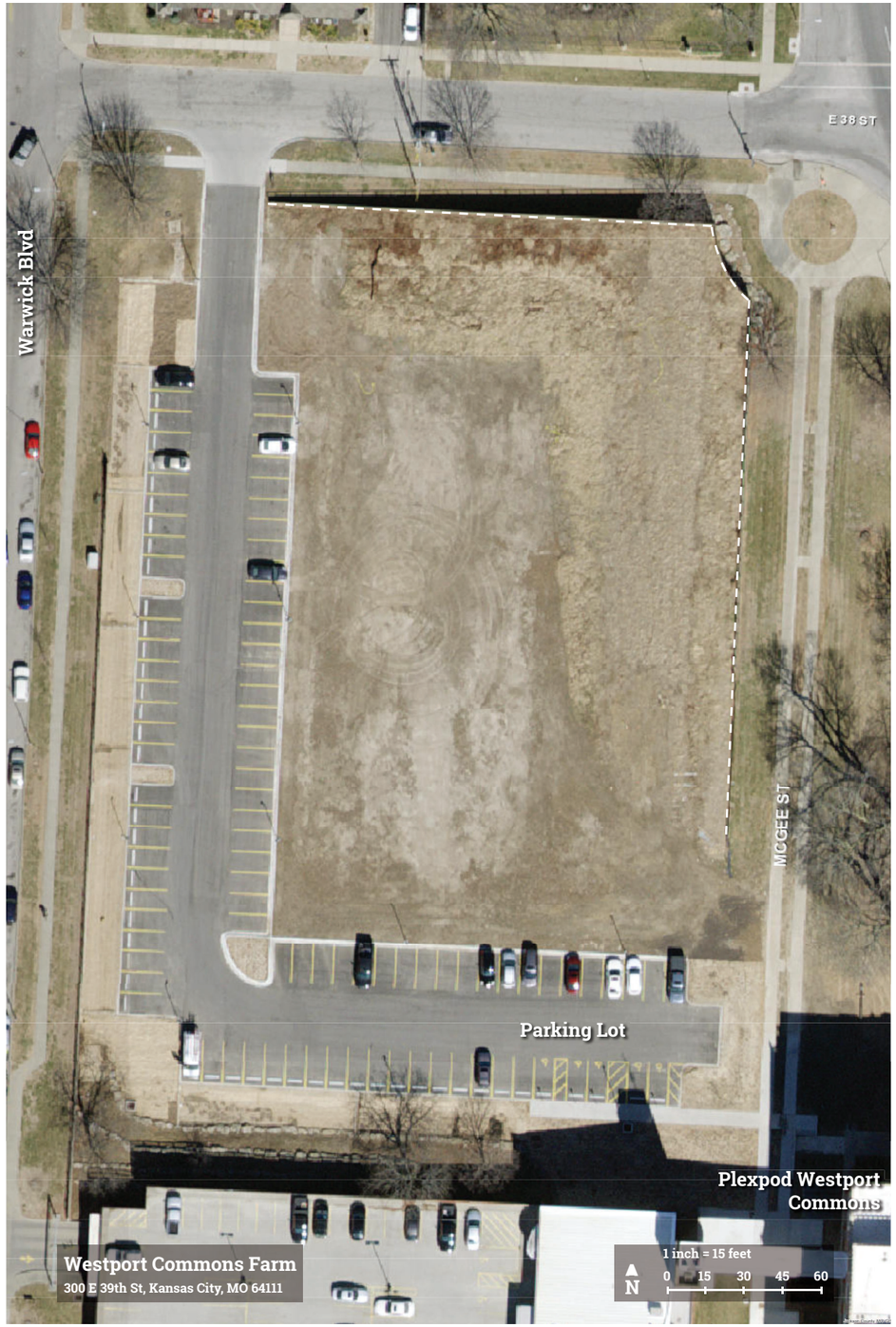
44. Professional or Employment Status. Are you currently...

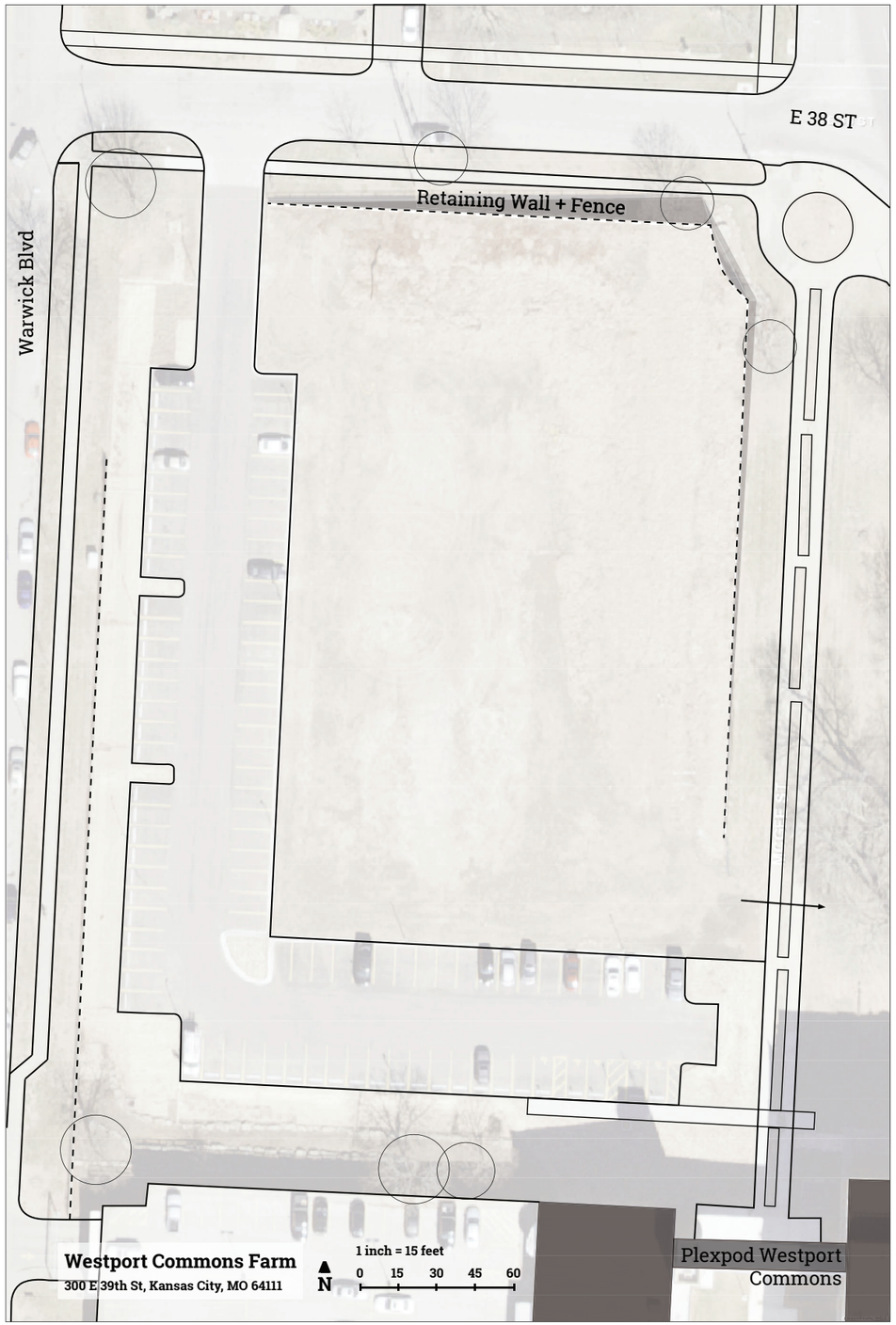
- ◻ Employed full time (40 or more hours per week)
- ◻ Employed part-time (up to 39 hours per week)
- ◻ Out of work and looking for work
- ◻ Homemaker
- ◻ Student
- ◻ Retired
- ◻ Unable to work

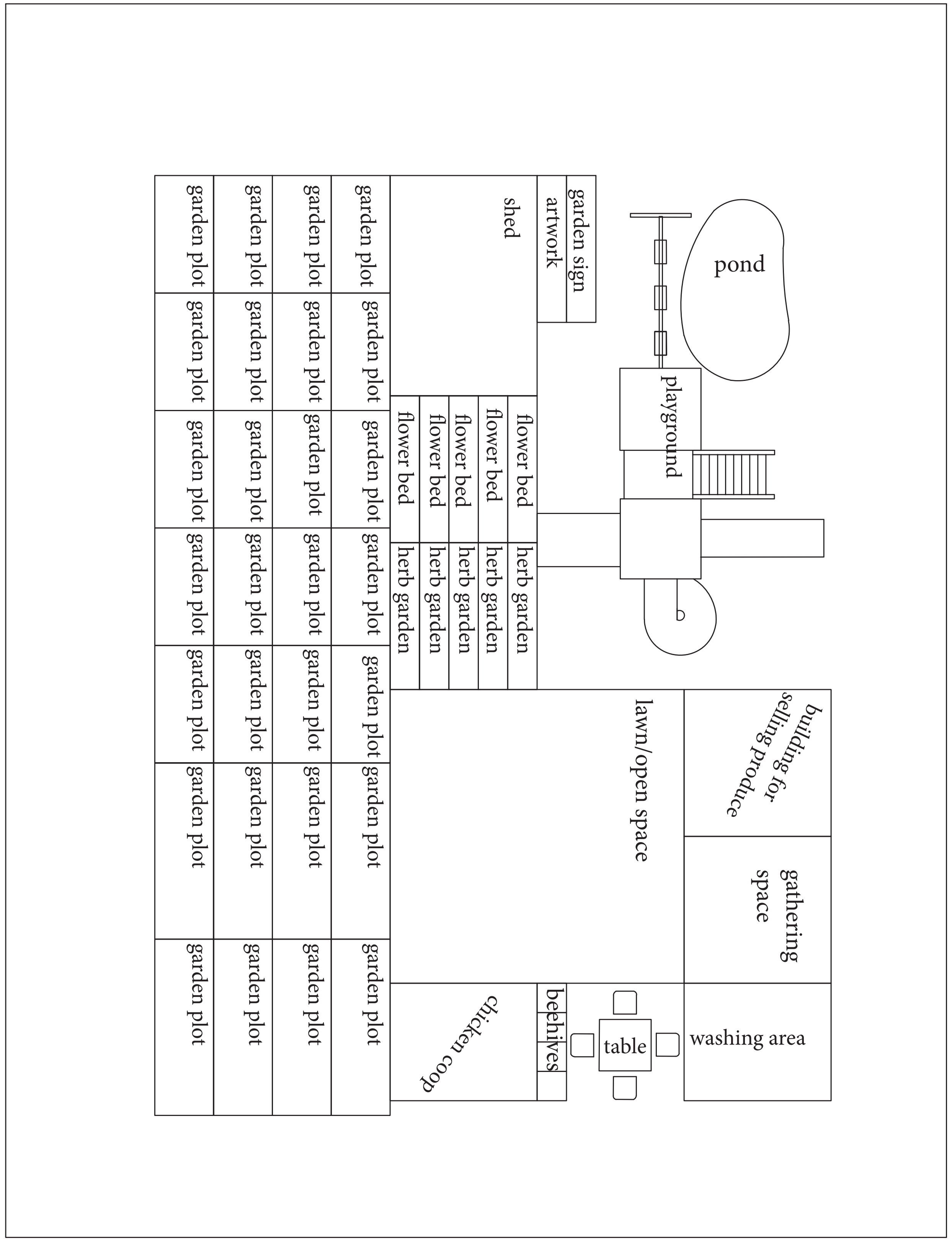
45. What is your total household income

- ◻ less than $20,000
- ◻ $20,000 to $34,999
- ◻ $35,000 to $49,999
- ◻ $50,000 to $74,999
- ◻ $75,000 to $99,999
- ◻ Over $100,000

APPENDIX C | FOCUS GROUP MATERIALS






garden sign
artwork
shed
pond
playground
flower bed
herb garden
garden plot
lawn/open space
building for selling produce
gathering space
washing area
table
beehives
chicken coop

Focus Group Discussion Guide: **WESTPORT COMMONS**

Time: 20-50 Minutes

Welcome

Introduce myself and my assistant (if present) "Hello, my name is Mackenzie Yeager and I am a graduate student at Kansas State University. I am studying landscape architecture so I am learning how to create beautiful and functional outdoor designs."

Our topic is: Enhancing neighborhood attachment through community garden design

The results will be used to generate a community garden design for the Westport Commons Farm.

You were selected because you live within 1 mile of Westport Commons Farm and as a member of the community, your input is valuable to the future of the site's design.

Guidelines:

There are no right or wrong answers, only differing points of view. I specifically want to hear the opinions of everyone, whether you have many years of gardening experience or zero.

We will be video recording the session so that I can have a visual record of the game play and an audio recording of the discussion.

One other consideration: the Charrette is used only when there is sufficient trust present in a group, and when the prevailing atmosphere is one of cooperation rather than competition. Underlying the successful use of the Charrette are 2 fundamental beliefs

There are two reasons we are doing this in a focus group style setting:

1. Individuals or groups working together can usually produce better work than individuals or groups working in isolation ("none of us is as smart as all of us").

2. There is no piece of work that with more time, thought and effort couldn't be improved ("with learning there is no finish line").

Process

1. *I present the work in progress of the garden while the group listens. Using the prepared labeled base map, I will give a brief overview of the Westport Commons Farm (5 or 10 minutes.)* **The site's past history:** "formerly, the site was a middle school field" **future plans:**

2. *I state what I want from the focus group* "From this discussion, I would like to generate new ideas for the future of the Westport Commons Farm. Since you represent the community, your opinions are important. What things are missing from the garden that would be good to include? Should the design be completely different? How can we make this better? Any and all ideas are welcome- even far-fetched or unrealistic ideas. Please speak freely but respect the opinions of others."

3. *Show precedent images of more imaginative or unconventional garden designs.*

4. *I introduce the game.* "First we will be playing a design board game. There is a base map and pieces that correspond with different garden items. Please discuss with each other and place the pieces where you think they would go best on the board. There are extra pieces that can be written on as well. We will play this for about 5 minutes or until an agreement is reached."

I listen and offer advice or join the discussion only if necessary. The atmosphere is one of "we're in this together," and our single purpose is "to make a good thing even better."

5. *I introduce the drawing phase.* "Now we will be drawing designs on the base map. I want the ideas to be as creative as possible so don't worry about what seems reasonable or realistic. You can draw accurately, write out words or just doodle shapes or simple lines. If you prefer to not draw, I can draw something for you."

When I know I have gotten what I need from the group, I stop the process, briefly summarize what was gained, and thank the participants. "Thank you for taking the time to participate, I will collect the data and incorporate it in my design process."

6. *Debrief the process as a group. "*What did you all think of this exercise?"

Precedent Images: