

DESIGNING A NEIGHBORHOOD TO PREVENT CRIME  
AND INCREASE PHYSICAL ACTIVITY:  
A CASE STUDY AMONG AFRICAN-AMERICAN WOMEN IN KANSAS CITY,  
MISSOURI

by

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A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture / Regional & Community Planning  
College of Architecture, Planning & Design

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Approved by:

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## **Abstract**

Obesity levels—related to an increase of physical inactivity—are rapidly rising in the United States (CDC 2010; Office of Disease Prevention and Health Promotion 2008). Reportedly, African-American women have the highest obesity rates when compared to any other demographic in the United States—especially those residing in crime-plagued urban environments (CDC 2010). Yet active living strategies by designers have been least effective amongst this demographic (Day 2006). Researchers report crime-safety perceptions are one of the biggest environmental factors influencing physical activity levels amongst low-income African-American women (Foster and Giles-Corti 2008; Codinhoto 2009). Crime prevention through environmental design (CPTED) has been the most common practice towards an intervention of criminal activity in the built environment; however, little practice has addressed both CPTED and physical activity. While first and second generation crime prevention through environmental design (CPTED) are inclusive of addressing both physical and social aspects of the built environment (Cleveland and Seville 2008; Griffin et al. 2008; Dekeseredy et al. 2009), they have yet to effectively address crime-safety needs and its potential relationship with physical activity behaviors of low-income African-American women and their neighborhoods.

Therefore, what built environment changes tailored for this target population—African-American women—are necessary? This study examines 1) what crime safety perceptions of the built environment are affecting low-income African American women's physical activity levels in Kansas City, Missouri and 2) what design solutions these women suggest could help increase their physical activity levels, through improving their perceptions of neighborhood safety. As a place-specific study on a low income neighborhood in Kansas City, Missouri, selected through GIS suitability analyses with literature-based criteria, this study used survey and focus group interview methods to identify the target group's design suggestions. The findings resulted with a connection from research to design solutions—neighborhood and street-level design strategies with CPTED guidelines linking the researched participant's perceptions of crime in their built environment to the effect of crime on their own physical activity.

There are not enough lights  
It looks fine during the day.

Why don't our parks look like  
The Plaza?

The lighting is better but it's still dark  
I'd walk at 63rd because they just  
re-did it. The community center is  
there.

I wouldn't walk here by myself.

I go from point A to B, there  
is no purpose for the seat.

I'd probably walk the street or close to the  
curb because there's a vacant lot.

It doesn't look like a busy  
street, so walking in the street  
would be fine.

I let my kids go there so I'd say  
I'm comfortable when they go  
together.

The sidewalks are good because they are  
new, so are the lights.

**When you put benches, I think it's  
stupid. I wouldn't use the bench.**

There's a lot of traffic (positive), so  
people can see you.

You have to watch your kids constantly, you can't  
just sit while they play.

**I'd walk by myself here because I grew  
up here.**

I go from point A to B, there is  
no purpose for the seat.

**Once again, there are deer!**

The sidewalks are cracked.

## **DESIGNING A NEIGHBORHOOD TO PREVENT CRIME AND INCREASE PHYSICAL ACTIVITY A CASE STUDY AMONG AFRICAN-AMERICAN WOMEN IN KANSAS CITY, MISSOURI**

The park has animals so I  
wouldn't walk there at night.

**Baseball fields aren't maintained.**

**I don't walk in grass because things**

The lighting is better than  
what it was.

**bite you. Cydnie Jones**

Vacant houses.

**Master of Landscape Architecture**

**I've walked from Swope Parkway to  
Prospect many times.**

**Spring 2015**

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Therefore, what built environment changes tailored for this target population—African-American women—are necessary? This study examines 1) what crime safety perceptions of the built environment are affecting low-income African American women's physical activity levels in Kansas City, Missouri and 2) what design solutions these women suggest could help increase their physical activity levels, through improving their perceptions of neighborhood safety. As a place-specific study on a low income neighborhood in Kansas City, Missouri, selected through GIS suitability analyses with literature-based criteria, this study used survey and focus group interview methods to identify the target group's design suggestions. The findings resulted with a connection from research to design solutions—neighborhood and street-level design strategies with CPTED guidelines linking the researched participant's perceptions of crime in their built environment to the effect of crime on their own physical activity.

Key words:

low-income African-American women, physical activity, walkability, Crime Prevention Through Environmental Design (CPTED), security perceptions, neighborhood design

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## **NOMENCLATURE**

### **adequate physical activity**

"2.5 hours per week of moderate-intensity activity or 1.25 hours per week of vigorous-intensity activity, or an equivalent combination of both, plus muscle-strengthening activities on 2 or more days per week" (U.S. Department of Health and Human Services 2008, vii)

### **collective efficacy**

synonymous to 'self efficacy' (Oh et al 2010, 439)

### **constrained behavior**

personal exposure to potentially dangerous environments is minimized (Foster and Giles-Corti 2008)

### **Crime Prevention Through Environmental Design (CPTED)**

"proper design and effective use of the built environment that can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life" (Crowe 2000, 1)

### **direct victimization**

crime happened to you (Foster and Giles-Corti 2008)

### **health disparities**

differences in the amount health benefits provided to one population versus that of another population (Marshall et al 2014)

### **incivilities**

auditory annoyance, broken glass, dog refuse, dogs unattended, evidence of alcohol use, evidence of substance use, graffiti/tagging, litter, no grass, overgrown grass, sex paraphernalia, and vandalism (Lee et al. 2005)

### **indirect victimization**

crime happened to an acquaintance (Foster and Giles-Corti 2008)

**obesity**

Body Mass Index (BMI)  $\geq 30$  (Marshall et al 2014; Day 2006)

**obesogenic environments**

physical environments where obesity is indirectly promoted through socio-economic and environmental factors; unhealthy lifestyles and less physical activity is promoted (Swinburn et al. 1999; Poulou 2009)

**objective security**

actual and quantitative security (Lees et al 2007)

**perceived security**

sense of security influenced by indirect victimization (Lees et al 2007; Foster and Giles-Corti 2008)

**physical activity**

“any bodily movement produced by skeletal muscles that results in energy expenditure” (Caspersen 1985, 126). For purposes of this research, physical activity is defined as regular moderate intensity of bodily movements that increase and support a healthy well being (i.e. walking, cycling)—whether recreational or utilitarian (World Health Organization 2013)

**protective behavior**

security measures are upgraded (Foster and Giles-Corti 2008)

**self-efficacy**

group willingness to act on another’s behalf (Oh et al 2010, 439)

## **ACKNOWLEDGEMENTS**

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## **DEDICATION**

Thank you Mom and Dad, and mom and dad—Derrick and Grace Edmond, without whom, I would not have pursued a degree in Landscape Architecture. I appreciate your support and encouragement along these past six years and I hope to continue forward as a blessing to others as you have been to me.

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# CHAPTER 1

## INTRODUCTION



## INTRODUCTION

Recently, the obesity epidemic has been one of the major health-related issues in the United States (Day 2006). New urbanists, planners, and political officials have focused on middle-income, suburban communities—addressing their obesity and health issues (Day 2006). However, they often overlook the population with the highest obesity levels—low-income, African-American women—who often reside in crime-plagued, urban environments. Actions—such as Crime Prevention Through Environmental Design (CPTED) have been taken but with minimal effectiveness on greatly reducing crime while increasing physical activity levels within this population. Researchers claim minimal effectiveness results from limitations on improvement capacities in the physical built environment to increase physical activity and limit crime (Lees et al. 2007; Cherubini 2008; Marshall et al. 2006). My research efforts are re-envisioning CPTED to work towards creating physical activity-friendly environments.

Research linking crime safety to physical activity is growing, but the lack of strong evidence relating whether or how crime safety is linked to physical activity causes ambiguity in designing strategies to combat crime while increasing physical activity amongst this demographic. This uncertainty comes from mixed reviews and little variance in methodologies used to find a relationship between the factors (Lees et al 2007; Day 2006; Oh et al 2010; Foster and Giles-Corti 2008; Zenk et al 2008; Dannenberg et al 2003; Thompson and Kent 2013). The majority of recent research suggests a multi-faceted

approach via the ecological influences of demographics. A multi-faceted approach is necessary for preventing crime and increasing physical activity, for low-income African-American women in crime-plagued urban environments (Pouliou and Elliott 2009; Zenk et al 2008). By designing effectively not only for their built environment, but also for their social, individual, and psycho-social environment—we can create environments that more effectively decrease health disparity levels for this demographic.

This dilemma provides an opportunity to link crime safety—CPTED practices—to physical activity research in a new way through neighborhood-level and street-level design strategies. The strategies are based on community-input that encourages physical activity for low-income African-American women (Thompson and Kent 2013; Zenk et al 2008; Yancey et al 2004; Day 2006; Wallace and Milroy 1999). The results are design solutions not only related to CPTED but also related to low-income African-American women's suggestions to increase their own physical activity. Researchers say crime-safety perceptions are one of the biggest environmental factors causing decreased physical activity levels amongst low-income African-American women (Foster and Giles-Corti 2008; Codinhoto 2009). While first and second generation crime prevention through environmental design (CPTED) are inclusive of addressing both physical and social aspects of the build environment (Cleveland and Seville 2008; Griffin et al. 2008; Dekeseredy et al. 2009), they have yet to effectively address crime-safety needs of low-income African-American women.

# RESEARCH QUESTIONS

1. What crime safety perceptions of their built environment are affecting low-income African-American women's physical activity levels in Kansas City, Missouri?
2. What design solutions do low-income African-American women suggest could help increase their physical activity levels, while improving their perceptions of neighborhood safety?

## OBESITY IN THE U.S.

U.S. obesity and overweight population increasing

## DESIGN FOR ACTIVE LIVING

Healthy communities and active-living urban planning to design and promote physical activity

## TARGETING LOW-INCOME AFRICAN-AMERICAN WOMEN

Mainly targeting middle-income suburban communities with few recent efforts tailored to low-income African-American women—who are heavily influenced by their safety perceptions of their built environment

## LINKING CPTED TO PHYSICAL ACTIVITY RESEARCH

CPTED and second generation CPTED has yet to effectively address crime-safety needs for low-income African-American women to become more physically active in their neighborhood environments

## ANSWERING RESEARCH QUESTIONS (RQ)

RQ1 response: Areas of isolation, low visibility, unfamiliarity, low neighborhood collective efficacy

RQ2 response: Personal upkeep of one's properties; physical activity with others; utilizing churches as safe houses; increased pedestrian lighting, neighborhood aesthetic, police presence and exterior security systems

## STUDY END RESULT

Neighborhood and street-level strategies with CPTED guideline charts linking low-income African-American women's perceptions of crime to their suggested solutions of how environmental designer's could effectively increase the women's physical activity

Figure 1. [Dilemma to Research](#) | Through deductive reasoning this chart highlights the significance of this research topic.



## BACKGROUND

As noted in the 2008 Physical Activity Guidelines for Americans, physical activity can produce long-term health benefits for adults. The benefits include reducing risk of poor health levels, bone-strengthening, muscle strengthening, and increased lung capacity with more aerobic activity (U.S. Department of Health and Human Services 2008). These benefits accrue through an increase in the intensity, frequency, and duration in which physical activity is performed (U.S. Department of Health and Human Services 2008). By advertising and creating a design for cities that promotes adults to participate in weekly moderate-intensity activities for at least 150 minutes, city planners, landscape architects and city policy makers can

focus design on the minimal guidelines recommended for adult physical activity (U.S. Department of Health and Human Services 2008). Availability and proximity of neighborhood-level resources—such as sidewalks and enjoyable scenery—is one of the main environmental factors that affect adult physical activity levels (Brownson et al 2001; Diez 2007). Studies state that even when compared to personal and social factors, the environment will be a greater determinant in the future of adult physical activity levels (Trost 2002). By increasing the availability of physical activity resources that would allow for this level of physical activity intensity, the next step would be to ensure that lower income African-American women are utilizing these resources—by integrating

safe, walkable environments as part of a daily commute to general locations within their neighborhood.

Currently, African-Americans are the least likely demographic to engage in active physical activity. According to a recent national health report “in 2010, African-Americans were 70% less likely to engage in active physical activity than non-Hispanic whites” (U.S. Department of Health and Human Services Office of Minority Health 2013). In addition, 80% of African American women are obese or overweight—the highest rates for any demographic (U.S. Office of Minority Health 2013). Among them, individuals with lower income are at a higher risk for obesity, primarily due to the poor conditions of healthy

food accessibility and neighborhood environment— other additional factors include: individual lifestyles, perceptions on physical activity, or socio-economic status. In the downtown region of Kansas City, Missouri the vast majority of the African-American population resides in neighborhoods where safety levels have been compromised because of increased criminal activity within them. Therefore, identifying definitive descriptions of how neighborhood safety is compromised in Kansas City, Missouri neighborhoods, adult physical activity levels, inner-city communities, and safer neighborhoods is important in understanding how to effectively design safer environments that encourage increased daily physical activity amongst African-Americans in the Kansas City, Missouri region.

# CHAPTER 2

## LITERATURE REVIEW



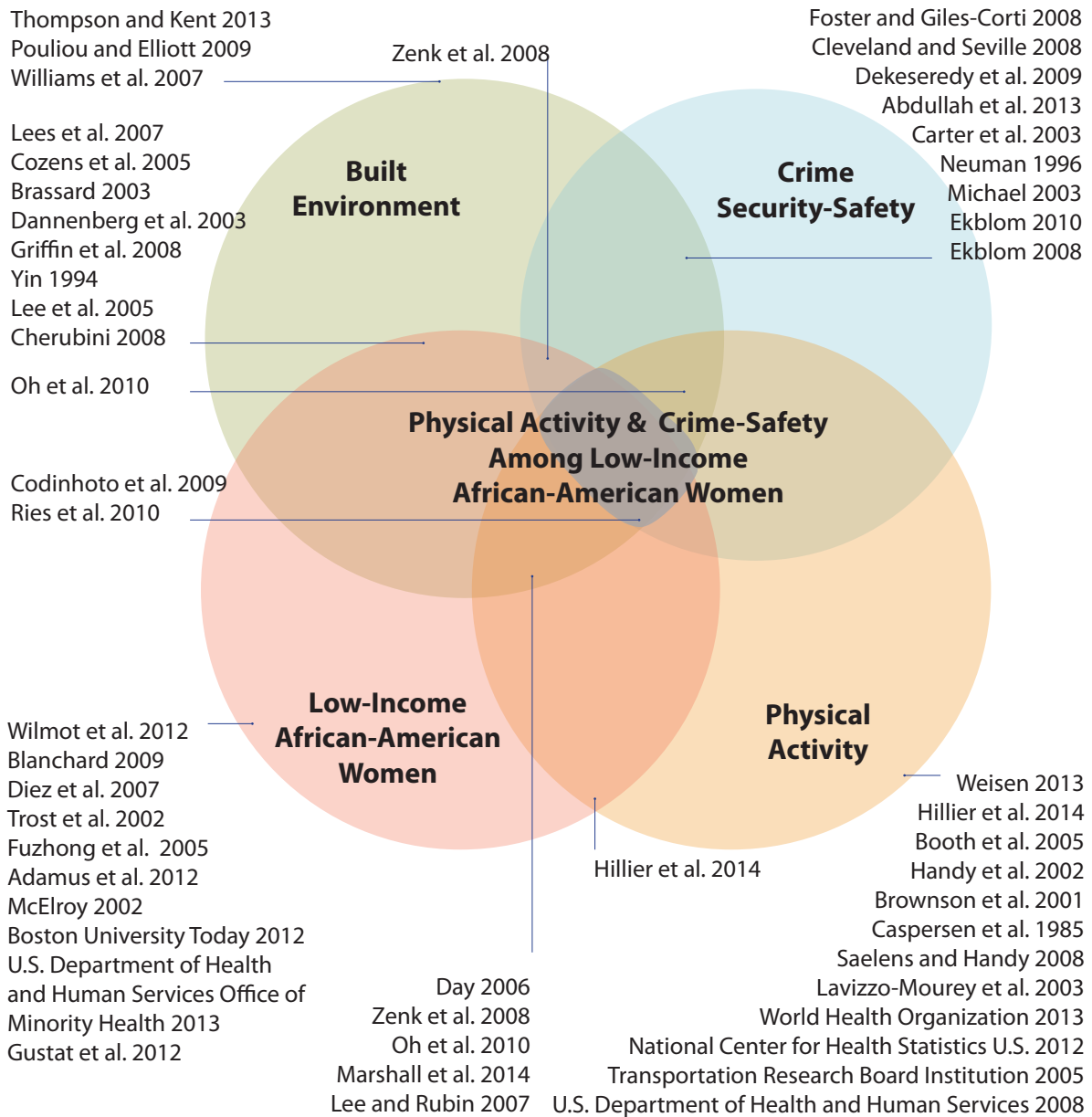


Figure 2. Literature Map | Topic connectivity and researcher sources utilized.

## LITERATURE REVIEW

The consensus of the physical activity articles I have reviewed through focus on providing more active living communities, as a solution to decrease adult sedentary lifestyles—ultimately minimizing obesity rates and increasing their health (Handy 2002; Lavizzo-Mourey 2003; Saelens and Handy 2008; Hillier et al. 2014; Pouliou and Elliott 2009; Zenk et al. 2008; Marshall et al. 2014; Weisen 2013; Saarloos et al. 2009; Foster and Giles-Corti 2008; Lees et al 2007; Diez 2007; Transportation Research Board Institute of Medicine 2005).

With that same focus in mind for low-income African American women residing in urban neighborhoods, increasing daily walking and creating more livable communities stems from securing a safer neighborhood environment, improving neighborhood social support, and decreasing the amount of unpleasant streetscapes (Adamus-Leach et al. 2012; Codinhoto et al. 2009; Lees et al. 2007, 431, 433; Wilmot et al. 2012; Blanchard 2009; Diez et al. 2007; Trost et al. 2002; Fuzhong et al. 2005; Ching-Hua et al. 2005; Ries et al. 2010; Lee et al. 2007; Griffin et al. 2008; and Oh et al. 2010).

The consensus of the crime safety-security articles, which state the solution to combating crime is CPTED—with several of the articles starting to investigate second generation CPTED (DeKeseredy et al. 2009; Cleveland and Saville 2008; Zahm 2007, 25; Carter et al. 2003; Michael 2003; Yin 1994; Saville 2004; Dannenberg et al. 2003; Ekblom 2010; Cleveland and Saville 2003; Brassard 2003; Ekblom 2008; and Cozens et al. 2005).

The framework for second generation CPTED begins to address some of the factors related to low-income African-American women's safety needs in order to become more physically active in their environment (DeKeseredy et al. 2009; Cleveland and Saville 2008; Griffin et al. 2008), but little of current research has linked these CPTED frameworks and strategies to neighborhood-level design strategies and guidelines for increasing low-income African-American women's physical activity involvement in the built environment. However, the opportunity for this project focus and goal will be finding how the physical activity research consensus and the crime safety-security research consensus can be related (See Figure 3).

### **Linking the Built Environment to Physical Activity of Low-Income African-American Women**

The major factors affecting physical activity in low-income African-American women are physical environment, safety, activities and social support, and institutional support—which is least noted but apparent (Lees et al 2007; Cherubini 2008). In order to make an impact on future urban environments, cities are recommended to be planned in a gridded-street arrangement—as they have been shown, in a study, to decrease obesity by 15%, high blood pressure by 10%, and heart disease by 6% (Marshall et al 2006). Gridded streets lower health disparities by being compact, connected, (Day 2006; Active Living by Design 2004) and with a smaller amount of lanes on the major road compared to standard tree-like street arrangement (Marshall et al 2006). Additionally, at a block group level, obesity rates have decreased with an increase of intersection density (Marshall et al 2006). At a city level, obesity, high blood pressure, heart disease, overweight rates decreased (Marshall et al 2006).

Articles that addressed the built environment in relation to low-income African-American neighborhoods identified “changes, such as easily

accessible paths that lead to destinations, can provide more opportunities for [physical activity]...” (Gustat et al 2012, 6; Adamus-Leach et al 2012). They also reveal that a major issue is the lack of aesthetically pleasing features in their built environment, along with the unfavorable upkeep of what does exist in their neighborhoods (Boston University Today 2012; Gustat et al 2012; Adamus-Leach et al 2012). A mere consideration of simple interventions in the built environment of low-income African-American neighborhoods, in the form of sidewalk additions and renovations or building face-lifts, have the power to shift physical activity levels amongst this population (Gustat et al 2012).

Previous research shows that older, less dense urban neighborhoods increase health disparities—probably because these neighborhoods lack healthy food grocers, lack a sense of community, and promote fear of crime in lower socio-economic areas (Twiss et al 2003; Marshall et al 2006; Day 2006; Lovasi et al 2009; Forsyth et al 2009; U.S. Department of Housing Urban Development 1999; Thompson and Kent 2013).

Overall, adult physical inactivity and the effects of health disparities from less

dense urban neighborhoods contribute to costing the United States an alarming \$76 billion annually (Pratt, Macera, and Wang 2000; Day 2006). Longer commutes to necessary work or leisure amenities promote the opportunity for increased physical activity—such as walking and biking—leading to show a decrease in obesity rates (Marshall et al 2006); therefore, supporting the idea of walkable neighborhoods benefits the health of populations residing in urban neighborhoods (Zenk et al 2008). Increased enjoyment of their neighborhoods is related to decreased safety issues for residents (Zenk et al 2008).

In general, the relationship of low-income African-American women to physical activity shows a need for increased neighborhood interaction (King et al 2006; Zenk et al 2008; Lees et al 2007), inexpensive spaces to exercise (Zenk et al 2008), voluntary organizations and group activities (Pouliou and Elliott 2009; Lees et al 2007), inter-generational activities (Lees et al 2007), and activities with a mix of races (Lees et al 2007; Cherubini 2008). These needs each target a different scale of intervention—neighborhood, street, and regional-level. Therefore,



a multi-level intervention—an intervention linking several scales of addressing the needs of women—is necessary (Pouliou and Elliott 2009; Zenk et al 2008).

To facilitate these efforts, community-based research or a ‘places framework’ (Thompson and Kent 2013) will be necessary to guide improvements (Zenk et al 2008; Yancey et al 2004; Day 2006; Wallace and Milroy 1999). To implement these efforts, much of the support will come from local residents via self-efficacy, defensible spaces, and/or stakeholders—which due to socio-economic status, health and school education, and cultural values, may be more difficult for this demographic (Ekblom 2011; Day 2006; Neuman 1996; Oh et al 2010).

### **Low-Income African-American Women and Crime Safety in their Built Environment**

For low-income African-American women, personal safety is a major concern (Foster and Giles-Corti 2008; Oh et al 2010) and they have much to say about how their built and social environment affects their physical activity (Lees et al 2007) Within the community of low-income African-

American women, crime security-safety has been noted as partially perceived with an increased fear from indirect victimization (Lees et al 2007; Oh et al 2010; Foster and Giles-Corti 2008); however, objective security appears to be the major issue amongst this group (Lees et al 2007; Neuman 1996). Low-income African-American women have reported instances of gangs, fights, muggings, prostitution, drug sales, profanity, car stealing, street drinking, weapons carried, and being uncomfortable around unfamiliar males (Lees et al 2007; Griffin et al 2008; Cherubini 2008).

### **Crime Security-Safety and Physical Activity Related to the Built Environment**

There are mixed reviews on the relationship between crime security-safety and physical activity when addressing the built environment. Several articles claim the two are unrelated (Foster and Giles-Corti 2008; Oh et al 2010). Several are unsure, claiming the two may be related (Zenk et al 2008; Dannenberg et al 2003), but further evidence is necessary through longitudinal studies on causality (Foster and Giles-Corti 2008). A recent study reaffirms that crime-safety and

physical activity are related and that it is important to recognize their relation for further study amongst specific populations (Thompson and Kent 2013). Does this signify a recent shift in research trying to identify the relationship between crime security-safety and physical activity?

Currently, CPTED is one of the popular design strategies addressing crime security-safety within the built environment (DeKeseredy et al. 2009; Cleveland and Saville 2008; Zahm 2007; Carter et al 2003; Michael 2003; Yin 1994; Saville 2004; Dannenberg et al 2003; Ekblom 2010; Cleveland and Saville 2003; Brassard 2003; Ekblom 2008; and Cozens et al 2005). There are advances into addressing more multi-faceted levels—socio-economic, environmental, psychosocial, and individual facets—of CPTED through second generation CPTED.

Second generation CPTED has been said to be more inclusive of the social aspect of the built environment via social cohesion, threshold capacity, community capacity, and connectivity as extensions of the original CPTED framework—territorial reinforcement, natural access control, maintenance,

and natural surveillance (Cleveland and Seville 2008; Griffin et al 2008; DeKeseredy et al 2009) (See Figure 33). Although second generation CPTED explores addressing the social aspect of the built environment, it has yet to specifically address the needs of low-income African-American women by making them feel safe enough to be more physically active outdoors. In order to increase the physical activity levels of this demographic, it will be necessary to link both generations of CPTED to this demographics' physical activity influencers—through research development, I will address physical activity influencers in the built environment.

# CHAPTER 3

## RESEARCH OBJECTIVES



## RESEARCH OBJECTIVES

The purpose of this study was to effectively address crime-safety needs and its potential relationship with physical activity behaviors of low-income African-American women. To begin to address this potential relationship, it was necessary to create a research framework connecting one of the major existing design practices—CPTED—to a new approach—physical activity research. The result was a study utilizing surveys and focus groups to gain the community opinion and create neighborhood-level and street-level design strategies.

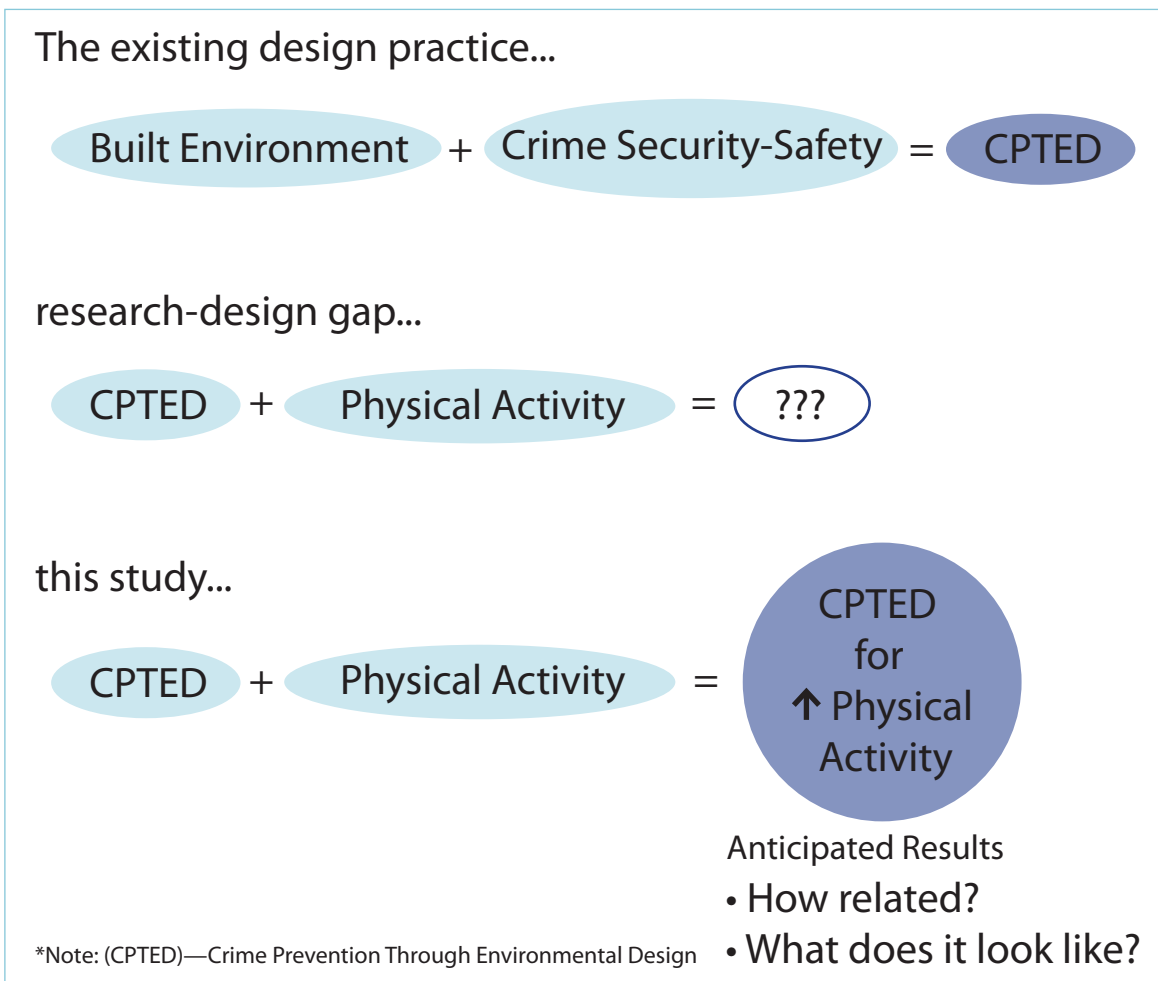


Figure 3. [Research Framework](#) | Framing research objectives for the study, relating CPTED to physical activity.

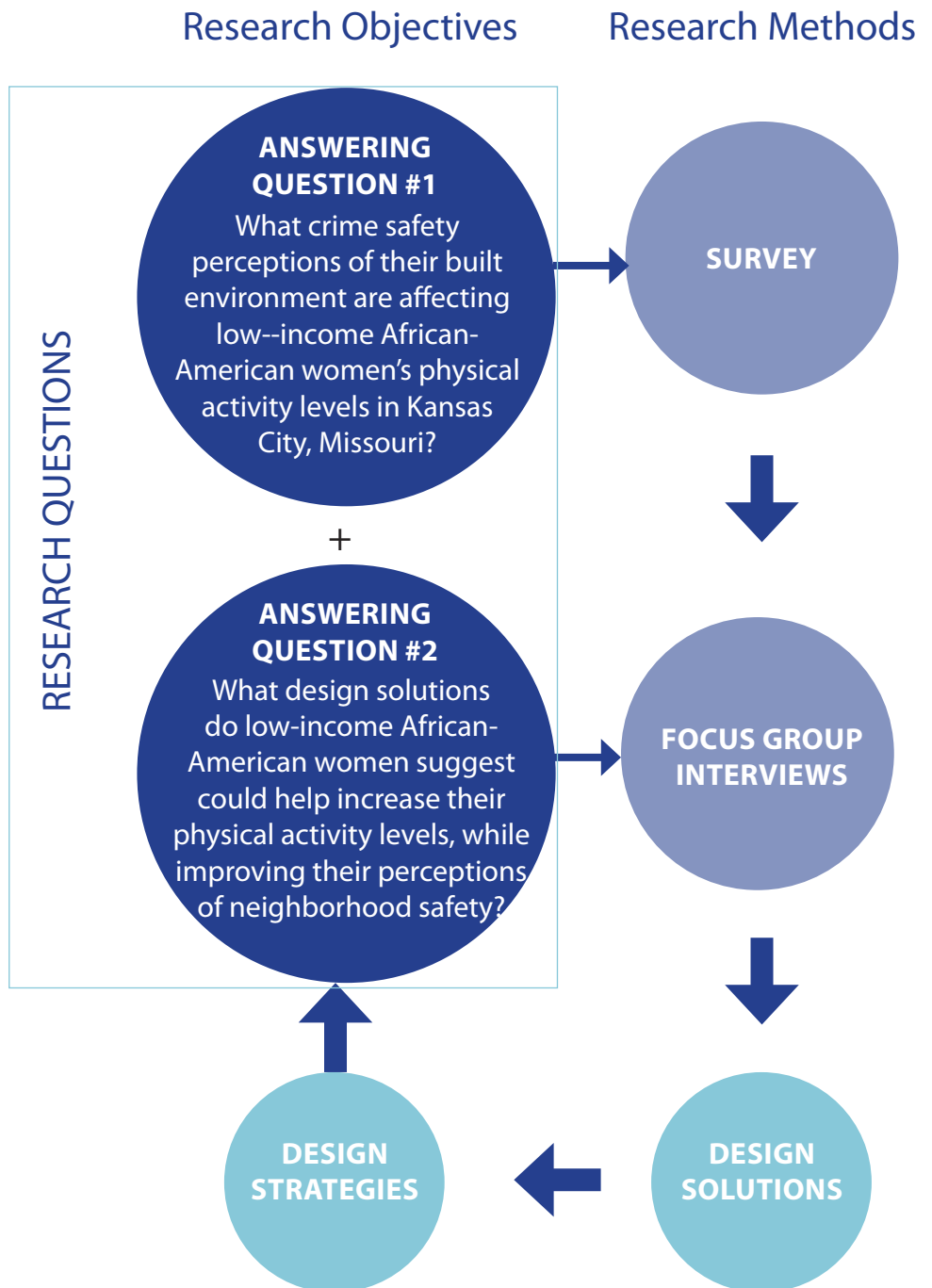


Figure 4. Research Objectives | Relating research objectives to research methods.

# CHAPTER 4

RESEARCH + DESIGN  
METHODOLOGY





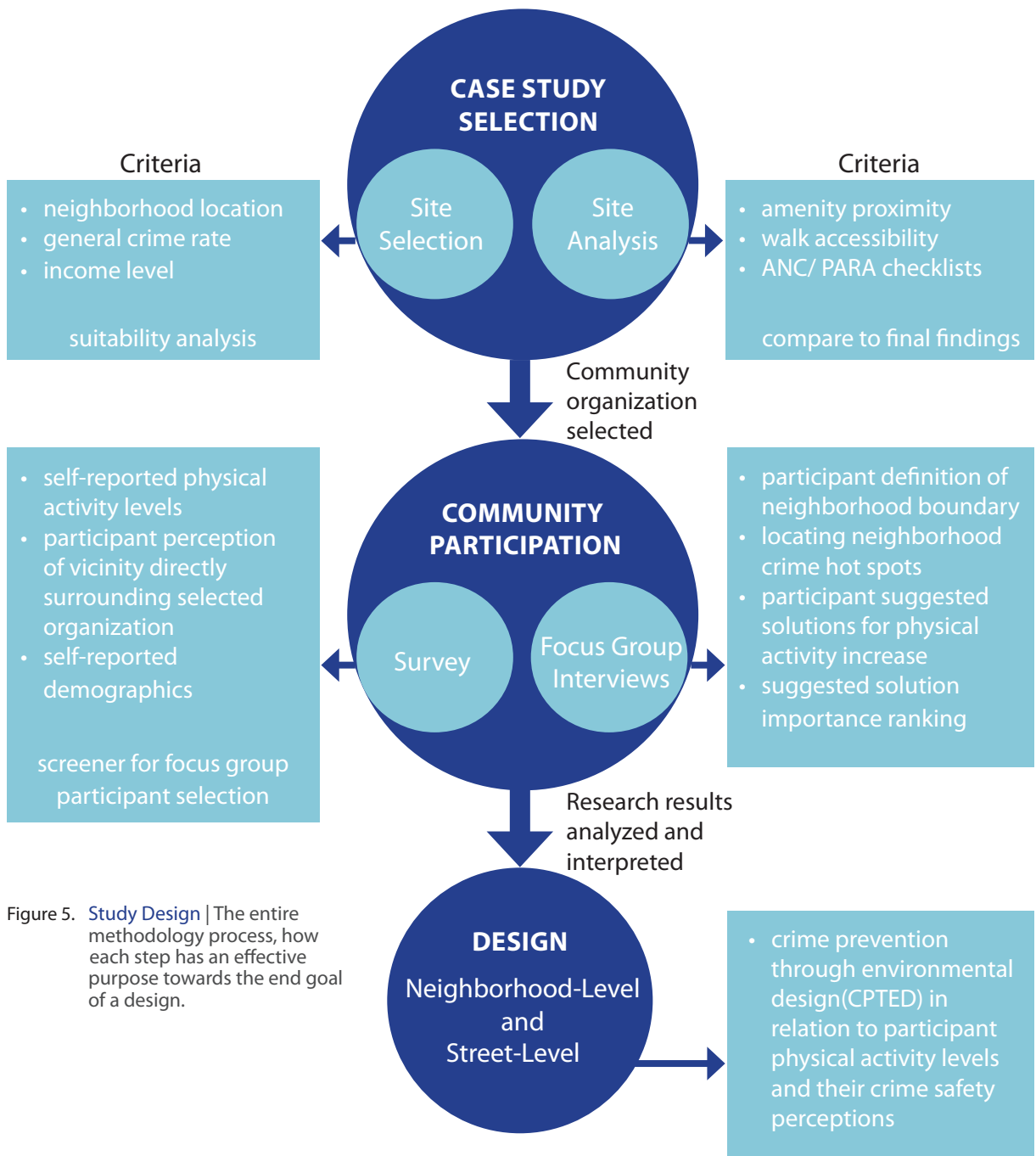


Figure 5. **Study Design** | The entire methodology process, how each step has an effective purpose towards the end goal of a design.

# METHODOLOGY

## Study Introduction

This study pursues a participatory design approach involving place-specific community members in the process and decision-making of design (Griffin et al 2008). The methods utilized for the study include: case study selection, community participation, and design strategizing.

## Case Study Selection:

### Selecting Study Site and Community Organization

For study area selection, first, Geographic Information Systems (GIS) were utilized to select areas with highest densities of low-income African-American population. The data types emphasized in GIS include: predominantly African-American neighborhood land tracts, median household income tracts, and park space delineations (See Figures 6-9). Second, an overlay of 2014 crime maps showing all types of crime trends for the urban region of Kansas City, Missouri, delineated areas with matches for both high criminal activity and dense low-income African-American residency. Third, among the community organizations of the selected areas, a non-profit organization—a church—was selected through MARC’s supports. Fourth, after site and organization selection, I conducted an on-site analysis—via the Physical Activity Resource Assessment instrument (PARA) and Active Neighborhood Checklist (ANC)—noting built environment amenities provided and utilizing as

comparative data after receiving feedback from the focus groups (See Appendix C).

### Site Analysis

Nearby amenities analyzed through the ANC and PARA instruments included: the area immediately surrounding the selected organization, a school yard, a park-greenway, and the residential blocks fronting these community amenities.

Regarding the PARA instrument, types of resources available were analyzed. For each resource, a set group of site elements—features, amenities, incivilities, and general operation notes—were measured on a quality increasing scale from not present, poor, mediocre, and good. Operational definitions of poor, mediocre, and good were dependent on the element being assessed—i.e. for basketball courts—poor meant the “court or hoop [was] in very bad condition, almost unstable,” mediocre meant the “hoop [was] missing a net, rim [was] bent, [and the] court [had] cracks or weeds, good meant the “hoop [was] straight and [had] a net or chain, [and the] court [was] playable (Lee et al 2005, Protocol 3).

For measurements of the ANC, site element availability, land use type, and general quality of the built environment were assessed through open-ended responses.

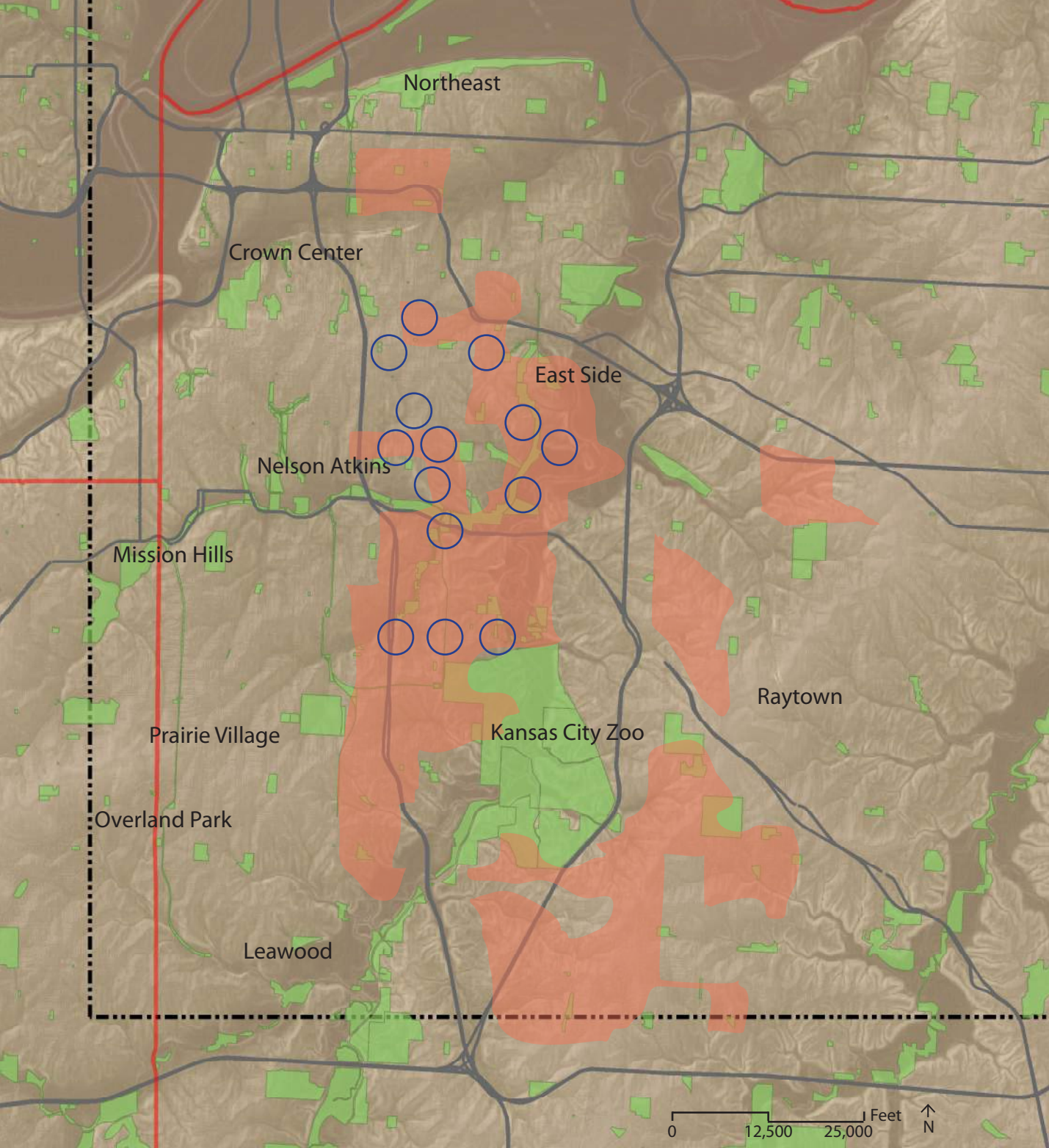
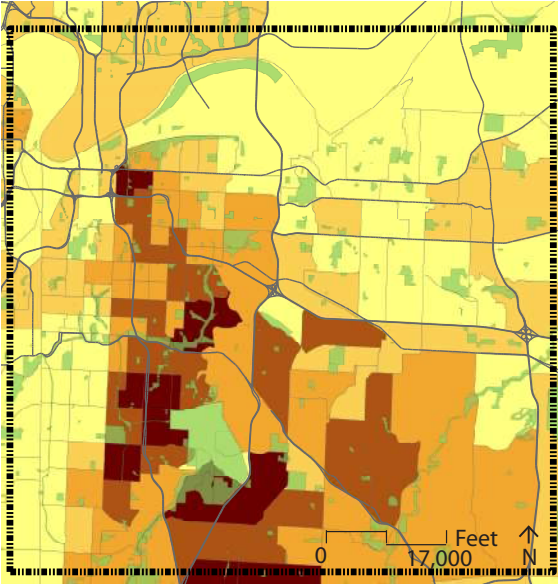


Figure 6. [Kansas City Base Map](#) | Regional park locations in relation to optimal study demographic areas and site locations.

- Urban Regional Boundary
- County Lines
- Parks

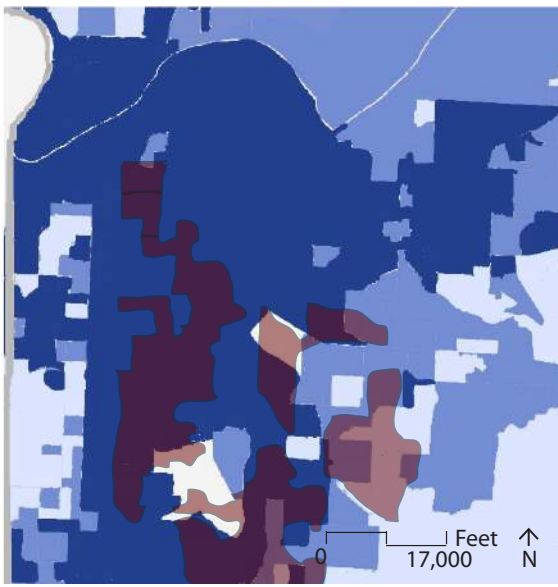
- Optimal areas with highest crime, African-American density and low-income population
- Selected non-profit organizations for contact





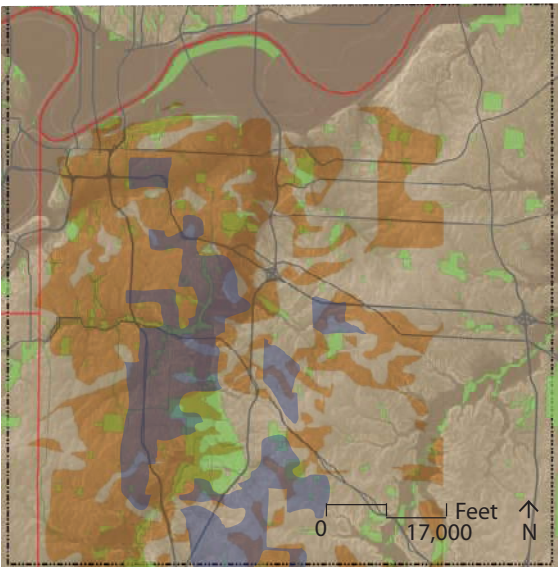
- Urban Regional Boundary
- Parks
  
- African-American Population  
(Over Age 18, Per Tract)
- Low density (0-299)
- Medium density (300-779)
- Medium density (780-1469)
- High density (1470-2449)
- High density (2450-3850)

Figure 7. African-American Population Density Map | Park proximity to predominantly African-American neighborhoods.



- Median Household Income  
(Block Groups)
- No households
- High income (\$60k or more)
- Middle income (\$40k to \$60k)
- Low income (\$40k or less)
  
- Selected African-American neighborhoods with highest density

Figure 8. Median Household Income Map | Narrowing locations for research study.



- Selected low-income areas overlaid with African-American neighborhoods to compare with crime maps
- Kansas City reported criminal activity zones

Figure 9. Compilation Map | Overlay of crime locations in relation to predecessor site analysis maps.

### Street-Level Site Selection

Focus group street-level sites were selected based on either proximity to the main neighborhood park—a potential physical activity resource within the selected community—or visible presence or absence of CPTED strategies. This enabled pre-categorization of the sites and allowed for further research interpretation after analyzing comments from the focus group women. The commentary interpretation—suggested solutions—were later linked to the outlined CPTED strategies, to begin an approach into understanding the crime-safety perceptions of the participating

women and the effect it has on their physical activity participation in the built environment selected for this study.

### **Community Participation:**

#### Brief Community Survey

To begin answering research question #1—identification of the community opinion—I handed out short surveys during a meeting session at the non-profit organization. This process is the first step—defining the decision context—in the structured decision-making process (Griffin et al 2008) (See Figure 10). Defining the decision context began with presenting my

research to the general audience of the selected non-profit group, from the site selection process.

#### Initial Participant Recruitment

At the non-profit organization, I presented my research intent and goal, requesting African-American women between the ages of 18 and 64 fill out surveys prompting: 'I would be more physically active if our neighborhood had/ was...?' (See Appendix A). As found through research, it is best to use someone the neighborhood trusts during initial hosting contact; therefore, I ensured my introduction

was given by the non-profit organization leader before presenting my research intentions (Griffin et al, 2008; King et al, 2000).

#### Secondary Participant Recruitment

Surveys utilized screeners by asking race, income level, age range, interest in participating in a focus group—with option to leave contact information and general residency location—in relation to the non-profit organization via generalized block distance responses.

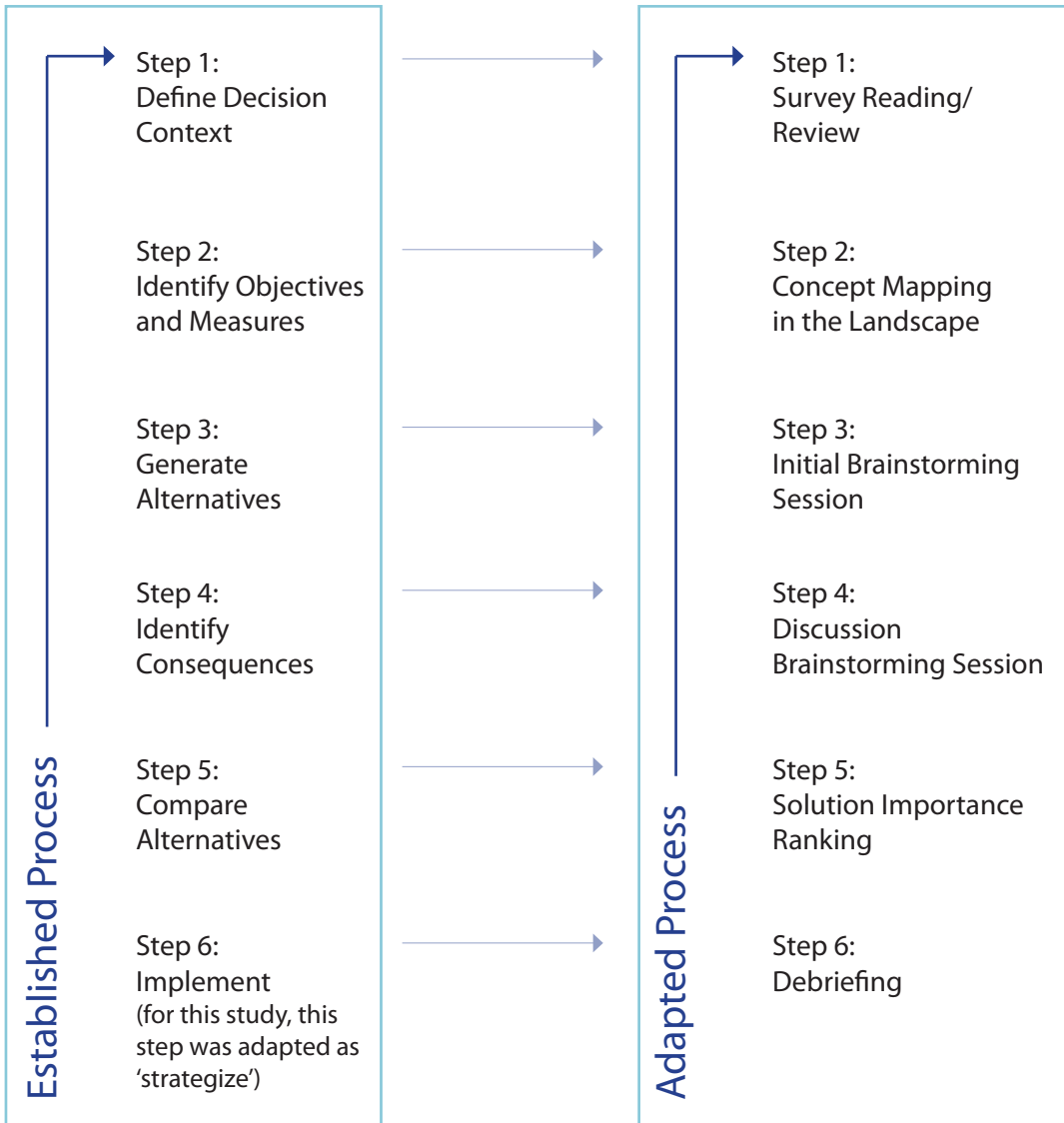


Figure 10. **Structured Decision-Making Process** | Research process adapted from to host focus group meeting and yield beneficial results. (Hammond et al 1998)

Figure 11. **Focus Group Process** | Actual focus group protocol utilized after adaptation from Structured Decision-Making Process. (Kaner et al 1996; Ries et al 2010)

## Focus Group Interviews:

The focus group methodology answered the two research questions by identifying the community opinion for research question #1 and utilizing those community opinions to create neighborhood and street-level designs to answer question #2.

To further identify the community opinion, I utilized a structured decision-making process to have the participants in the 90-minute focus groups develop their own solutions to inform neighborhood and street-level design guidelines which relate and addresses their own neighborhood (Griffin et al 2008). The structured decision-making process includes defining the decision context, identifying objectives and measures, generating alternatives, identifying consequences, comparing alternatives, and lastly, implementing—for purposes of this research study, applying suggestions of the women to illustrated design solutions (Hammond et al 1998) (See Figure 10).

### Step 1

Upon commencement of the focus group meetings, I—as the facilitator—read aloud the general results from the collected community survey, to warm the participants up to being open about their ideas (Kaner et al 1996). By reviewing survey results and conveying the collective responses of the surveyed women to the focus group participants, the women in the focus group meetings gained a better understanding of their community. Survey results presented include: self-reported physical activity

levels, demographics, and perceptions of the built environment directly surrounding the selected organization. This defined the context for decision-making throughout the focus groups.

### Step 2

At the two focus groups, objectives and measures of the research were communicated to the participants—restating the two research questions and outlining the process (See Figure 11). First, the facilitator presented land-use maps based on an initial analysis of the built environment directly surrounding the selected organization—via the Physical Activity Resource Assessment (PARA) instrument and the Active Neighborhood Checklist (ANC). The land-use maps were categorized and adapted from the ANC classifications of land-use: streets/walks/trails, parks/recreation fields, residential areas/yards, and schools/community centers (See Appendix C). Next, the facilitator had the focus groups map out their own neighborhood landscape by having the participants define their neighborhood boundary on a comprehensive map of the area surrounding the selected non-profit organization (See Figure 18). After defining the neighborhood based on participant perceptions and their main travel routes, the facilitator had the participants pinpoint problem areas with crime-safety issues that influenced their physical activity involvement (See Figure 19). This field-based process is a type of concept mapping, necessary in strong landscape architecture designing (Krishnaswamy 2004; Ries et al 2010).



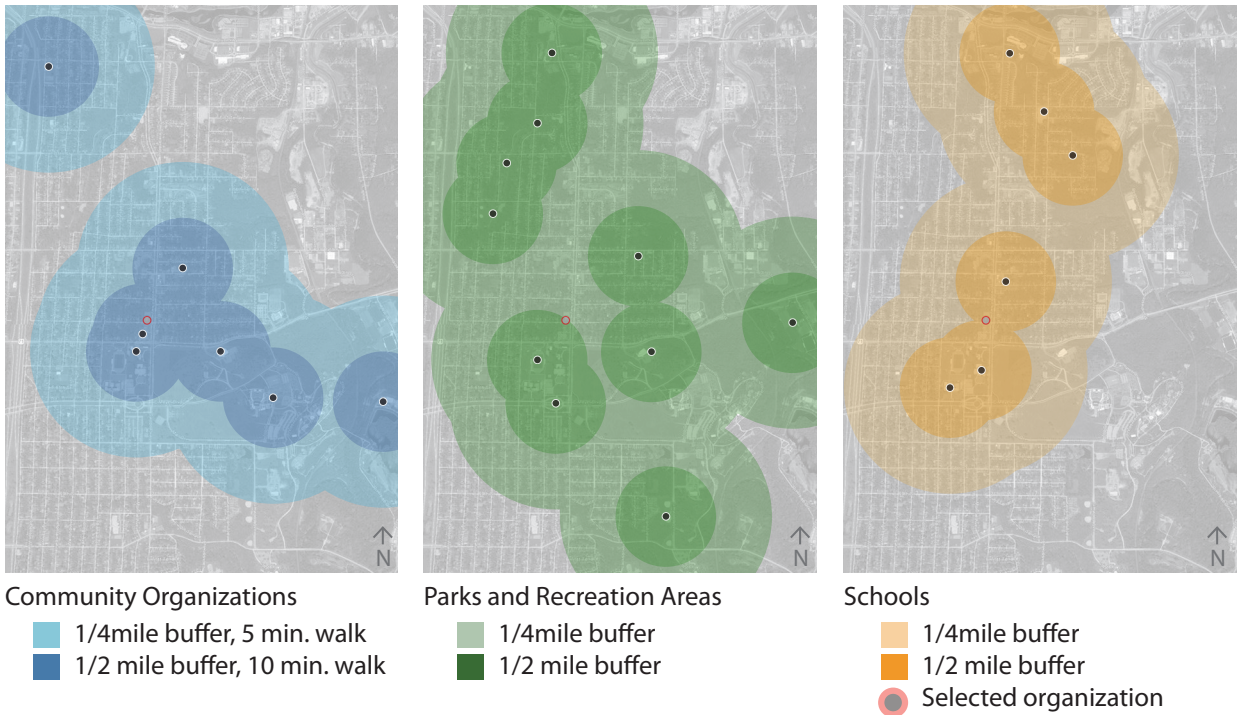


Figure 12. **Community Amenities Maps** | Locations and boundary buffers of neighborhood public amenities—such as community organizations, parks, and schools. (Google Maps 2015)

### Step 3

Generating alternatives to address their mapped out neighborhood and 10 street-level built environment dilemmas was the next step. To generate these creative solutions, the facilitator transitioned the focus groups into a brainstorming session. Participants had 3-minute intervals to brainstorm solutions to each of the 10 depicted street-level dilemmas and the physical land-use dilemmas they mapped within their neighborhood landscapes from Step 2. The ideas they came up with were recorded on large poster boards by the assistant to the facilitator—as the facilitator monitored the flow of the brainstorming session, kept time for each interval, and kept participants on task. Lauren Garrott—recent Kansas State University graduate with a Master

of Planning via similar research study, filled the role of assistant facilitator.

### Step 4

To identify the effectiveness of each brainstormed idea, the facilitator had the focus groups discuss the pros/cons, longevity, and projected neighborhood responses to the brainstormed solutions. For an orderly discussion—giving each participant a voice—the facilitator stated a brainstormed solution, then prompted the focus groups to evaluate the solution in a round-robin format (Kaner et al 1996). The process was continued until all of the solutions had been evaluated. The evaluated responses to solutions were recorded on large poster boards by the facilitator’s assistant—allowing the facilitator to moderate the discussion (Kaner et al 1996).

## Step 5

After evaluating each solution's effectiveness in Step 4, the facilitator had the focus groups compare the alternatives or trade-offs for evaluated solutions. The facilitator presented the evaluated responses to the solutions recorded by the assistant on large poster boards. The facilitator then prompted participants to individually rank each of the solutions in order of importance on notecards—'1' being the most important and in increasing order until the 'greatest number' being the least important (Lees et al 2007). After notecards were collected, the facilitator debriefed the focus group. A 5-minute break was allotted before the debriefing period (Kaner et al 1996). During the break, the facilitator and facilitator assistant tallied the most important to least important responses to solutions, as ranked by each individual participant. At the reconvene of the debrief, the ranked responses of the focus group were prompted with, "Now that we've heard what everyone has said, what concerns has this raised for me and you all as neighborhood residents?" (Kaner et al 1996). This question was meant to clarify and answer any unprompted questions of the focus group participants.

## Step 6

Lastly, neighborhood and street-level design strategies were created based on the responses to the structured decision-making process from the focus groups. Levels of design implementation focused on the most important to least important solution responses as ranked by focus group participants. Since discussions in the focus groups

highlighted the effects of safety at a neighborhood and street-scale, design strategies also focused on neighborhood and street-scale design. Design strategies were handled by the facilitator, a landscape architecture student. Similarly, when related to widespread usage in the fields of landscape architecture, urban planning, and public policy makers—the designers would be the facilitators.

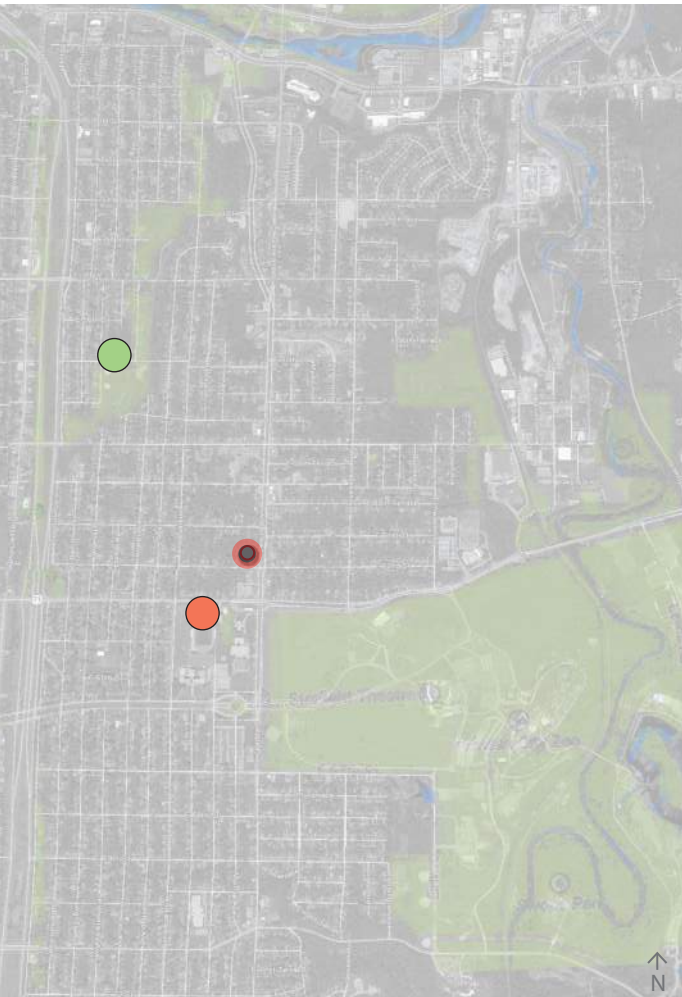
## Design

The result of the research methodologies ends with neighborhood and street-level design strategies and a guidelines chart linking the survey and focus group participant's perceptions of crime in their built environment to the effect of crime on their own physical activity (See Figure 34). CPTED framework categories and sub-categories have been utilized to classify responses of the participants for a clearer organization of how to approach neighborhood-level design strategies (See Figure 33). The guidelines chart includes CPTED framework categories and subcategories (Zahm 2007, 25; Hensworth 2008), what built environment factors make physical activity more or less desirable in said categories, how the built environment can improve to promote physical activity—specific to the responses of the women, and participant ranking of improvements to influence their increased physical activity involvement (See Pages 45-52). The neighborhood and street-level design strategies have been depicted with strategy call-outs for identification of specific improvements—applicable to designers, planners, and policy makers (See Pages 59-72).

# CHAPTER 5

## FINDINGS








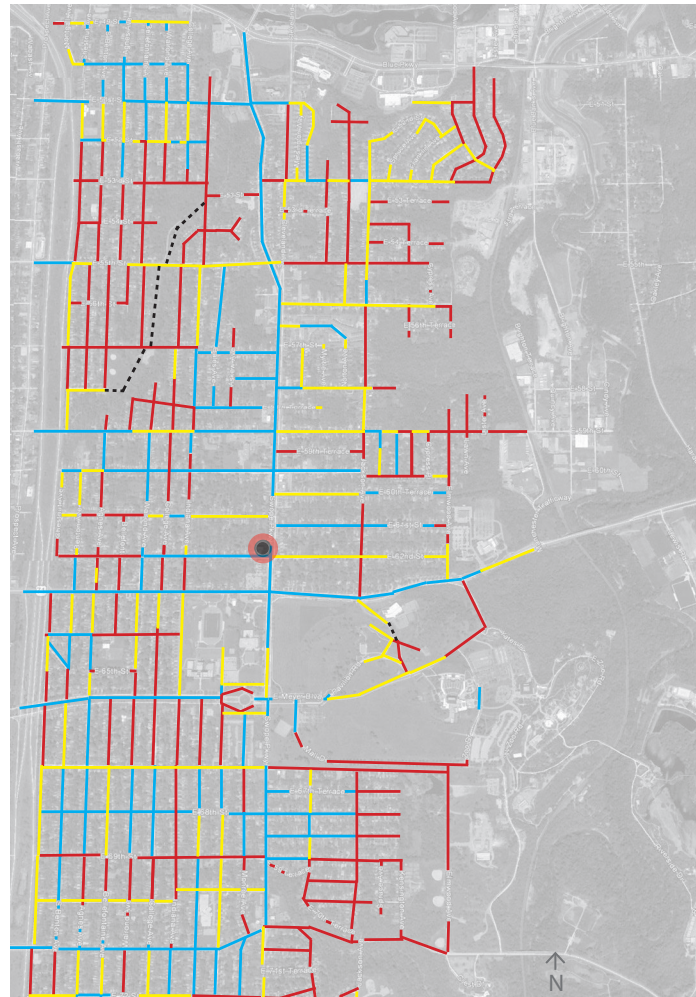
-  Selected organization
-  Park
-  School yard

Figure 13. **Site Analysis Resource Locator Map** | Locations of types of resources analyzed via ANC and PARA instrument. (Google Maps 2015)







-  Sidewalks on both sides
-  Sidewalks on one-side
-  No sidewalks
-  Selected organization

Figure 14. **Sidewalk Availability Map** | Locations of sidewalks with implications of walks on both sides, one side, or non-existence. (Google Maps 2015)



## FINDINGS

### Selected Organization

The selected organization was located on a corner, with single-home, residential blocks surrounding it in all four directions. Parking was available on-street, with a small lot dedicated to the organization attendees. Three blocks north of the organization was a small grocer and gas station. One block south was a library and elementary school. The organization property did not provide any physical activity-friendly features—such as recreation fields, bike racks, or access to trail systems. However, the landscape efforts of the organization were mediocre, with minimal but trimmed planting. Lighting surrounding the organization at night was mediocre, with enough light to see the surrounding environment features but not enough to identify details of signage or passersby. Sidewalks leading to the organization were mediocre—walkable at 4-foot wide but some unevenness was noted.

There were several transit stops located on both sides of the street, in front of the organization—making the organization clearly and easily accessible by bus, foot, or vehicular transport. The street in front of the organization consisted of four marked lanes, with a median island, speed limit signs posted at 35 mph, and turn lanes present. Although the streets were wide and traffic moved at calm speed, there were no designated

mid-block crosswalks to access opposite sides of the street. There was also clear signage at the front of the organization—highlighting the main point of entry, both during night and daylight hours. Conversely, there was no clear signage to state the hours of operation for the organization.

### School Yard

The high school yard was surrounded on three sides by single-family, residential blocks. The school appeared to be a private entity—as it was gated and locked at all entrances—with apparent signage on rules of usage. A small lot was dedicated to the sporting facility—as no parking was allowed on the adjacent arterial street most or all of the time. The arterial street had four, marked lanes with turn lanes present and sidewalks on both sides. The speed limit was 35mph regularly, with a special speed limit sign at 25 mph—for crossing access to the school.

With new features and amenities, the yard had high quality landscape efforts, tall security-lighting, shorter pedestrian-scale lighting, flat, gently-sloped 5-foot wide sidewalks shaded intermittently by trees, two bike racks, an outdoor bathroom facility, a football field, a rubber track, and stadium seating. The yard also included: several basketball courts, several tennis courts, a soccer field, and a shot-put/discus

# 30%

of The Defined Neighborhood Area Has No Sidewalks

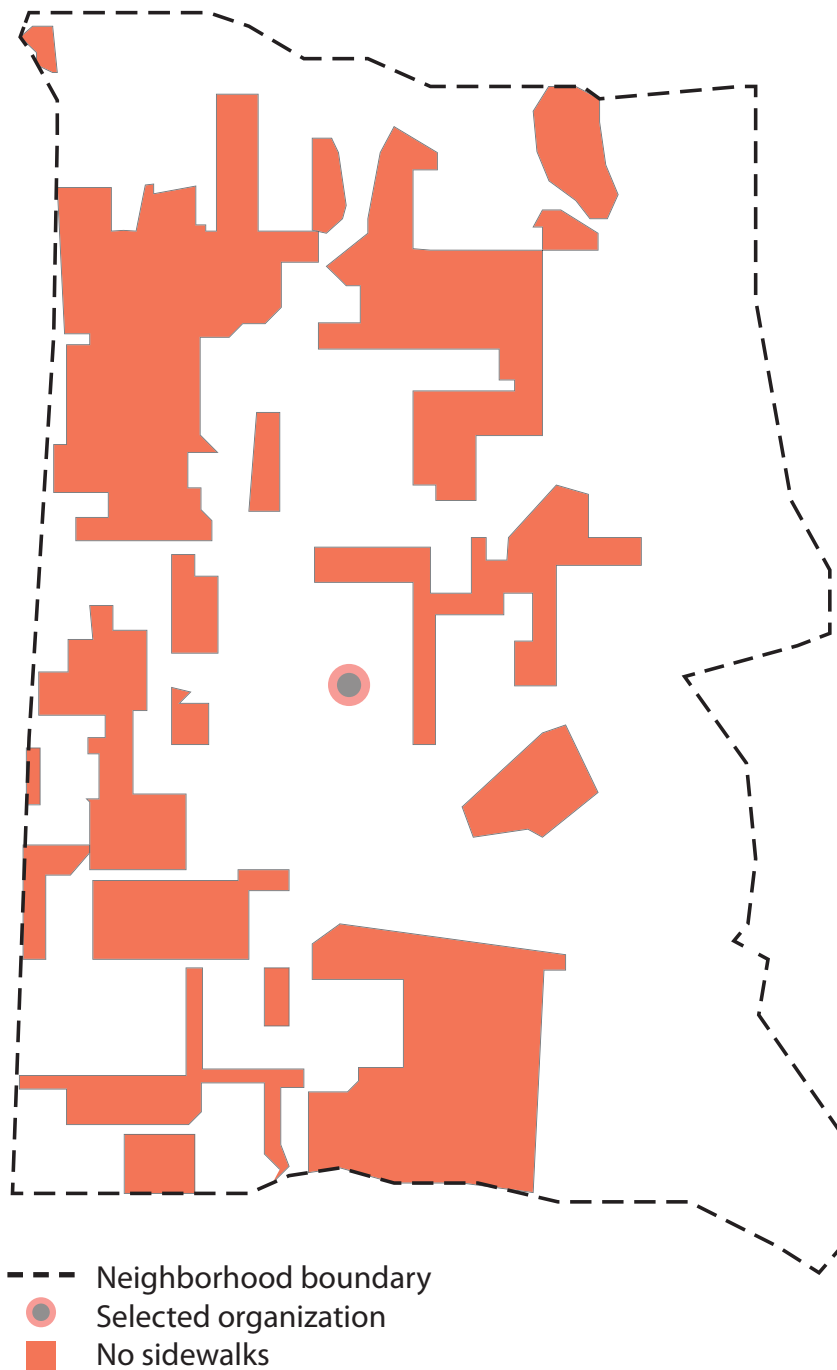


Figure 15. [Sidewalk Accessibility](#) | Spatial delineation of areas without sidewalks within selected neighborhood surrounding the selected organization.

field—but mediocre in quality. Lacking amenities—in the newly finished yard—were drinking fountains and trash receptacles. Even though the school yard facility was new, outside of the gates there was evidence of incivility—some, but very little litter. No graffiti or broken windows were reported.

### Park-Greenway

The park-greenway was fronting single-family, residential blocks on two perpendicular sides—throughout its entirety. Several of the homes located within three to four blocks of the park were abandoned and boarded up. The majority of present park features were mediocre in quality, with many typical park features noted as non-existent. The noted mediocre features included: one 4-foot sidewalk on the north end of the middle-most, three-sided parklet in the greenway system, recreation fields, a baseball field, a full basketball court, several isolated basketball one-hoop blacktops, vaguely defined park access points, and a very minimal trail system—without trees for cover. The trail system in each of the parks along the greenway appeared to be the main feature connecting the park spaces.

The recreation and baseball fields were in mediocre condition with a mid-level of maintenance—grass was cut and sand was fully visible, but there was only one set of stadium seats for the entirety of the field. The main basketball court was in mediocre condition—nets were tattered but intact, and the isolated one-hoop blacktops were in mediocre

condition and missing nets. The park entry access points did not have any signage or way-finding direction; they were merely highlighted by several large stones and two yellow bollards. Lacking in the park-greenway were bike racks, sidewalks—connecting the park to the neighborhood—, sidewalks—along the outer edge of the park—areas delineated for on-site parking, play equipment and playgrounds, in-park lighting, on-site human amenities—bathrooms, drink fountains, benches—, operation hours and rules signage, and delineated speed limit signs or special speed zones—along any of the park-greenway edges. Some but little litter were the only apparent incivilities along the park-greenway.

As an overall review of the vicinity directly surrounding the selected organization, upon three separate site visit occasions: roaming or loose dogs were never spotted, heavy litter and dumping was apparent in various locations throughout the general vicinity, and three park spaces, a community center, two schools, and a small shopping strip appeared to be located in close proximity—, within one-quarter and one-half of a mile distance— of homes surrounding the selected organization. Note that the two schools were a private secondary school and a public elementary school. The parks were at varying scales—one block scale, one neighborhood scale, and one regional scaled at 1,805 acres in comparison to Central Park’s 843 acres (Google 2015).



15%

Selected Non-Profit  
Organization Women  
(18-64 years old)

9%

U.S. Women  
(18-64 years old)

Figure 16. Meeting Adequate Self-Reported Levels | Surveyed women in this study reported physical activity levels at 6% more than those reported at a national level. (CDC 2009)

Figure 17. Self-Reported Physical Activity Levels | Surveyed women in this study reported that their physical activity (PA) level was good and generally the same as other women their age. (U.S. Department of Health and Human Services 2008).

General Health Status		Selected Organization PA level vs. Other women their age	
Fair	15%	Less	28%
Good to Fair	3%	Same as	39%
Good	69%	More	20%
Excellent	10%	Much more	8%
No response	10%	No response	5%
<b>Percent meeting <i>moderate</i> physical activity (PA) guidelines:</b>		<b>Percent meeting <i>vigorous</i> physical activity (PA) guidelines:</b>	
13%		15%	
*Moderate = 150+ minutes of PA per week		*Vigorous = 75+ minutes of sweat inducing PA per week	

## Survey Results:

### Physical activity

Total number of completed surveys received was 39. Of these women 69% stated they had generally good health, although only 13% meet current moderate physical activity level recommendations and only 15% meet current vigorous physical activity level recommendations (ODPHP 2008). Of these same surveyed women, 39% believe their physical activity levels are the same as other women their age. According to CDC 2009 data, in the United States, only 9% of adult African-American women—between the ages of 18 and 64—engage in adequate physical activity. At the surveyed organization for this case study, 15% of the adult African-American women engage in adequate physical activity. Based on this self-reported data, the concentration of women at the selected organization have a higher rate of physical activity—in comparison to their demographic at a national level.

### Demographics

Of the 39 women surveyed, 82% identified as being African-American—10% were other and 8% did not respond, 43% were aged over 65—with 50 to 64 years old age range just behind, at 36%. 54% of the women resided over 16 blocks from the selected organization, the largest income group at 41% had a household income ranging \$20,000 to \$40,000, and 39% of the women had a college-degree education level, 28% had some college with no degree.

## Perceptions of the Built Environment Directly Surrounding the Selected Organization

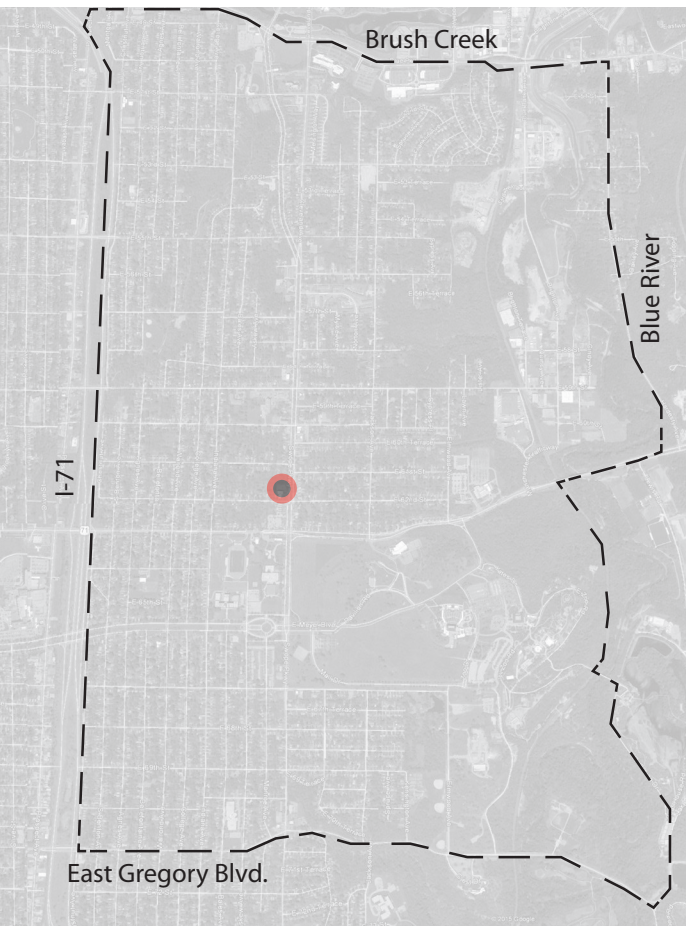
### Negative Neighborhood Perceptions

59% of the participants do not feel safe to go on walks in this vicinity at night—mainly, because they feel the streets are not well-lit at night. 36% of participants agree the streets are not well lit at night—with 44% neutral or no response. Both during the day and at night within this area, 41% of the surveyed women feel there are dangerous or unfriendly dogs wandering loose, while 28% do not.

### Positive Neighborhood Perceptions

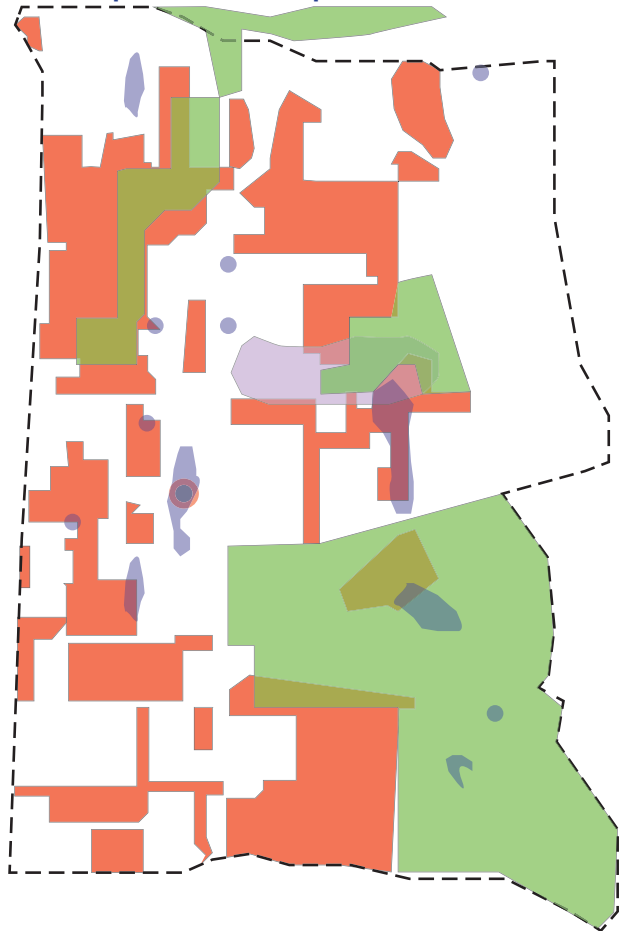
A 46% consensus of the participants disagrees that litter or graffiti deters them from walking in certain areas within the vicinity directly surrounding the selected organization—aside from the 18% neutral or non-responders. A 67% consensus of the participants agrees that places for them to exercise within the vicinity directly surrounding the selected organization are not too far away and 51% feel there are several choices of areas where they feel comfortable for physical activity in this area. 54% also feel safe to go on walks during the day because most of them—59%—are not harassed or cat-called when they walk this area, 39% believe walkers and bikers can easily be seen by people in their homes—with 44% neutral or non-responders, and most at 39% feel there are not unfriendly or dangerous people within this general vicinity—with 46% neutral or non-responders. The perception of there not being unfriendly or dangerous people comes from the women's visual and verbal interaction with people in the vicinity directly surrounding the selected organization.

## Neighborhood Boundary Delineation



- Neighborhood boundary
- Selected organization

## Research Analysis Compilation Map



- Major crime hotspot
- Parks
- No sidewalk access
- Low-light areas
- Selected organization

## Focus Group Results:

### Neighborhood Boundary Delineation

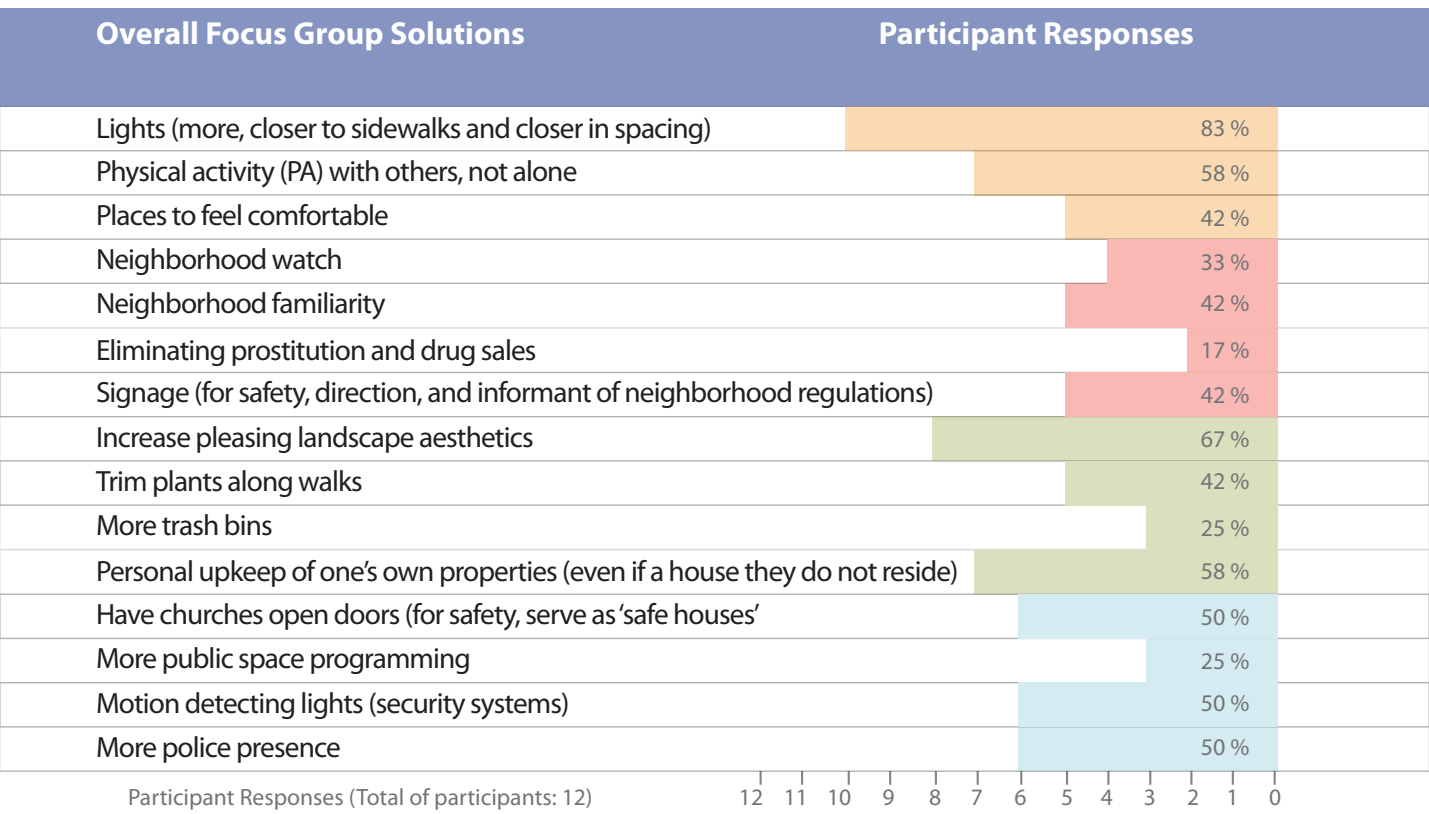
Total focus group response rate was 12 women from the two focus group meetings. During the focus meetings, the women were asked to define—based on their perceptions—the neighborhood directly surrounding the selected organization. The neighborhood boundary was unanimously defined by the 12 women as being located between: Brush Creek at the north, East Gregory Boulevard at the south, Interstate 71 at the west, and the Blue River at the east (See Figure 18).

### Identifying High Crime Zones in the Neighborhood

Major crime zones within the women’s defined neighborhood boundary include: the entirety of East 59th Street, and the intersection of East Gregory Boulevard and Cleveland Avenue (See Figure 19). Another major crime zone was Brooklyn Park—which is located outside of the women’s defined neighborhood boundary, but was infamously known to the women as a major drug and prostitution hot spot. An overall look at the major crime locations shows that there is a correlation between crime intensity and sidewalk availability. Interestingly, the perceived crime hot spots are not directly related to participant-perceived low lit areas within the selected neighborhood.

Figure 18. [Neighborhood Delineation Map](#) | Spatial delineation of the neighborhood, as outlined by women in the focus group meetings. (Google Maps 2015)

Figure 19. [Research Analysis Compilation Map](#) | Linking site analysis, walk accessibility to perceived crime hot spots from focus group meetings—in relation to park spaces.



CPTED Categories	Number of Solutions Related to CPTED Category
Maintenance	4
Territorial Reinforcement	4
Natural Access	4
Natural Surveillance	3

Rank	Solutions	CPTED Categories	Number of Responses
1	Lights	Natural Surveillance	10
2	Increase aesthetic	Maintenance	8
3	Personal upkeep of one's own property	Maintenance	7
4	PA with others, not alone	Natural Surveillance	7
5	More police presence	Natural Access	6
6	Churches as 'safe houses'	Natural Access	6
7	More security systems	Natural Access	6

## Participant Suggested Solutions for Physical Activity Increase

Of the solutions suggested and analyzed in relation to CPTED categories, the majority of solutions addressed maintenance issues—with 5 of the general responses in the maintenance category. Maintenance and natural surveillance had the highest general responses as a main solution to promote physical activity—taking the top four spots in the solution rankings (See Figure 22). The top solutions for each of the CPTED categories are as follows: more lighting for natural surveillance, increased landscape aesthetics for maintenance, a draw between increased signage and increased neighborhood familiarity for territorial reinforcement, and a draw between using churches as safe houses, increasing police presence, and increasing security systems for natural access.

Figure 20. [Focus Group Solutions](#) | Ranking of focus group participant responses in relation to CPTED categories.

Figure 21. [Focus Group Responses Related to CPTED](#) | Focus group solutions organized into CPTED categories.

Figure 22. [Top Focus Group Solutions](#) | Solutions suggested from the focus group in ranking order of significance.

# Crime Prevention Through Environmental Design (CPTED)

Category: Natural Surveillance

Sub-Categories: front porches, exterior lighting

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- Cut lawns
- Sidewalks both sides
- People on porches
- Open/ clear view of entire street
- Neighborhood/ place familiarity



- Scarce exterior lighting
- Dim lighting
- Loose dogs
- Overgrown plant sections impeding sidewalks



Figure 23. Focus Site 1.1 (Google Maps 2015)

1.1



*How can the built environment improve for physical activity?*

- More light posts on street with closer spacing
- Brighter lights, closer to street edge
- Fence-in or tie up loose dogs
- Remove excess of plantings along edge of walks

Figure 24. Guideline Chart 1.1 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.



## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- Inviting
- More activities accessible
- Variety in amenities
- New, even-level sidewalks
- Frequent lighting placement
- Ample tree spacing and peripheral visibility



- Out of place design elements
- Lighting on one side of the street



Figure 25. Focus Site 1.2 (Google Maps 2015)

1.2



*How can the built environment improve for physical activity?*

- Give each design element purpose, specific to site users
- Lighting on both sides of the street
- Fewer areas of isolation

Figure 26. Guideline Chart 1.2 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.



# Crime Prevention Through Environmental Design (CPTED)

Category: Natural Surveillance  
Sub-Categories: exterior lighting

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- None



- Roaming wild animals (deer)
- Dark areas (day and night)
- Dangerous people in neighborhood



Figure 27. Focus Site 2.1 (Google Maps 2015)

2.1

*How can the built environment improve for physical activity?*



- Control the roaming zones of animals
- Increase amount of lighting
- Remove excess of plantings along edge of walks and within parks
- Introduce neighborhood watch, security signage, and wayfinding signage
- More inviting aesthetics and defined entries specifically for pedestrians

Figure 28. Guideline Chart 2.1 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- Familiarity

- Heavy vehicle traffic too close to park/ walk edge
- Trees overhanging sidewalks
- No lighting
- Cracked sidewalks
- Roaming deer



- Dumping
- No safety boundary between trail and creek
- Dangerous people in neighborhood
- Dark areas (day and night)
- Congestion
- Uninviting appearance



Figure 29. Focus Site 2.2 (Google Maps 2015)

2.2

*How can the built environment improve for physical activity?*



- Reduce traffic flow
- Remove excess of plantings along edge of walks and within parks
- Increase amount of lighting
- Level-out uneven sidewalks
- Add signage to deter dumping
- Introduce neighborhood watch
- Block unnecessary driveways
- More inviting aesthetics and defined entries specifically for pedestrians

Figure 30. Guideline Chart 2.2 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

# Crime Prevention Through Environmental Design (CPTED)

Category: Maintenance

Sub-Categories: hedge height (3' or less, make permeable if taller)

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- None



- Overgrown plant sections creating sidewalk disconnect
- Litter
- Bad/ risky intersection
- Low visibility
- Vacant houses



Figure 31. Focus Site 3.1 (Google Maps 2015)

3.1

*How can the built environment improve for physical activity?*



- Introduce neighborhood watch, security signage, and wayfinding signage
- Brighter lights and increased visibility
- Rid vacant houses, increase owner responsibility with home exterior/yard aesthetics
- Remove excess of plantings along edge of walks

Figure 32. Guideline Chart 3.1 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- None



- Overgrown plants impeding sidewalks
- Scarce exterior lighting
- Missing sidewalks/ sidewalks only on one side of the street
- Dim lighting



Figure 33. Focus Site 3.2 (Google Maps 2015)

3.2



*How can the built environment improve for physical activity?*

- Brighter lights on street with closer spacing
- Increase availability of sidewalks
- Remove excess of plantings along edge of walks

Figure 34. Guideline Chart 3.2 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.



# Crime Prevention Through Environmental Design (CPTED)

Category: Maintenance, Natural Surveillance

Sub-Categories: tree canopies (be higher than 8'),  
lighting, front porches

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- None



- Vacant lot
- Missing sidewalks/  
sidewalks on one side  
of the street
- Less busy street
- Trees too close to the  
sidewalk



Figure 35. Focus Site 4.1 (Google Maps 2015)

4.1

*How can the built environment improve for physical activity?*



- Move homes closer to street edge and make their appearance more inviting
- Increase availability of sidewalks
- Increase vehicular traffic down street
- Decrease enclosure of sidewalks, placing tree set-back further from walks
- More inviting aesthetics

Figure 36. Guideline Chart 4.1 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

Category: Natural Surveillance, Maintenance  
Sub-Category: transit usage, front porches,  
tree canopies (be higher than 8')

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- Pedestrian visibility
- Easy/convenient route
- Sidewalk spatial and walk comfortability
- Lighting is better than previously
- Familiarity



- None



Figure 37. Focus Site 4.2 (Google Maps 2015)

4.2

*How can the built environment improve for physical activity?*



- Lighting on both sides of the street
- Remove excess of plantings along edge of walks

Figure 38. Guideline Chart 4.2 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

# Crime Prevention Through Environmental Design (CPTED)

Category: Natural Access

Sub-Categories: fences (permeability), security systems (clear access points)

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- Maintained grass
- Familiarity



- Steep elevation change near creek
- Necessity to constantly monitor kids at play
- No lighting
- Uninviting appearance
- Flooding tennis courts
- Poorly maintained baseball fields
- Drug sales



Figure 39. Focus Site 5.1 (Google Maps 2015)

5.1

*How can the built environment improve for physical activity?*



- Introduce neighborhood watch, security signage, and wayfinding signage
- Increase amount of lighting
- More inviting amenities and defined entries specifically for pedestrians
- Increase definitive boundaries and site-safety signage

Figure 40. Guideline Chart 5.1 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.

## Physical Activity Perceptions

*What makes physical activity more (+) / less (-) desirable here?:*



- A lot of people walk up and down here
- Ample Tree spacing
- Some lights
- Openness



- The isolated bridge
- Roaming deer
- Torn-up landscape
- Dumping



Figure 41. Focus Site 5.2 (Google Maps 2015)

5.2

*How can the built environment improve for physical activity?*



- Provide security and wayfinding signage
- Increase amount of lighting
- More inviting amenities and defined entries specifically for pedestrians
- Increase definitive boundaries and site-safety signage

Figure 42. Guideline Chart 5.2 | Highlight of street-level specific CPTED factors related to urban, low-income African-American women's perceptions on physical activity barriers.



# CHAPTER 6

## DESIGN SOLUTIONS



### CPTED Strategies

Natural Surveillance  
 Natural Access Control

Territorial Reinforcement

Maintenance

### CPTED Street-Level Sub-Categories

Lighting  
 Physical Barriers  
 Security Systems  
 Sense of Place or Belonging  
 Landscape Design  
 Maintenance

Figure 43. CPTED Framework Categories | Street-level sub-categories. (Abdullah et al, 2013; Hemsworth 2008; City of Virginia 2000)

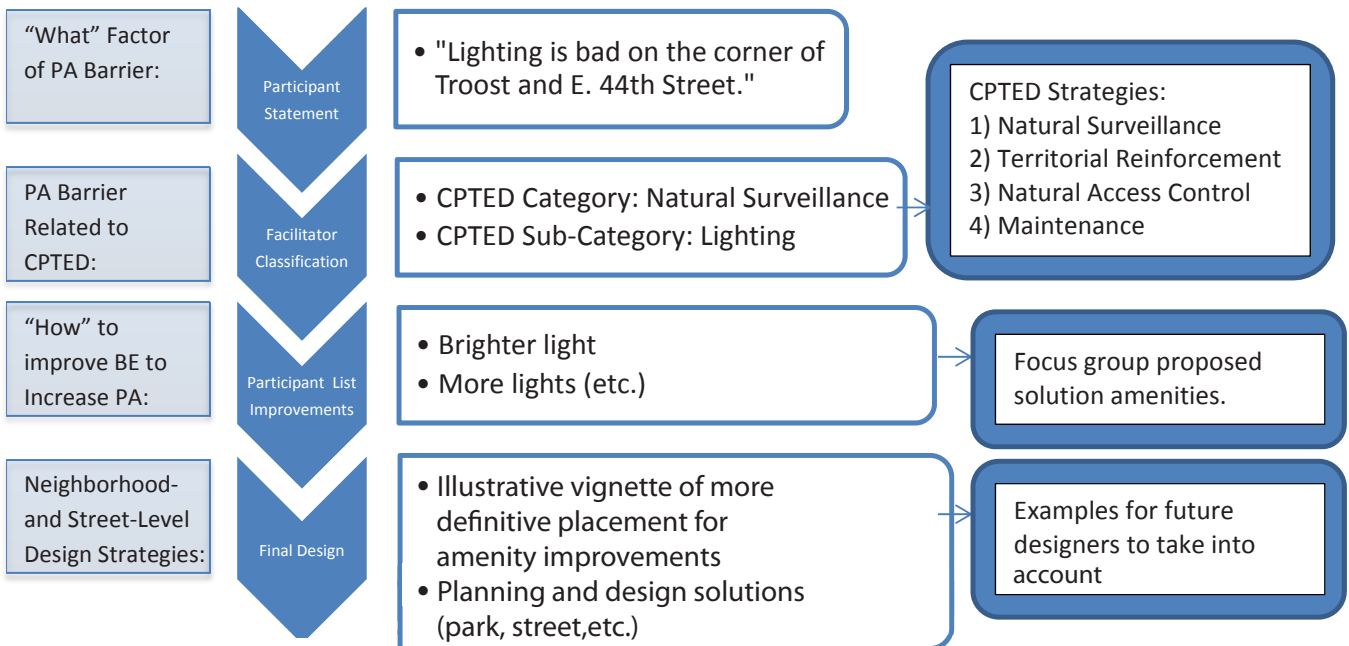


Figure 44. Research to Design Process | Example of how I transformed focus group data into classifying and designing.

## DESIGN SOLUTIONS

The findings end with a connection from research to design solutions—neighborhood and street-level design strategies and a CPTED guidelines chart linking the focus group participant’s perceptions of crime in their built environment to the effect of crime on their own physical activity (See Figure 44). CPTED framework categories and subcategories are utilized to classify responses of the participants, for a clearer organization of how to approach neighborhood and street-level design strategies (See Figure 43).

The CPTED guidelines chart includes: CPTED framework categories and subcategories (Zahm 2007; Hensworth 2008), what built environment factor makes physical activity more or less desirable within those CPTED categories, and how the built environment can improve to promote low-income African-American women’s physical activity (See Pages 43-52). The neighborhood and street-level design strategies are depicted with strategy call-outs for identification of specific improvements (See Pages 59-72).

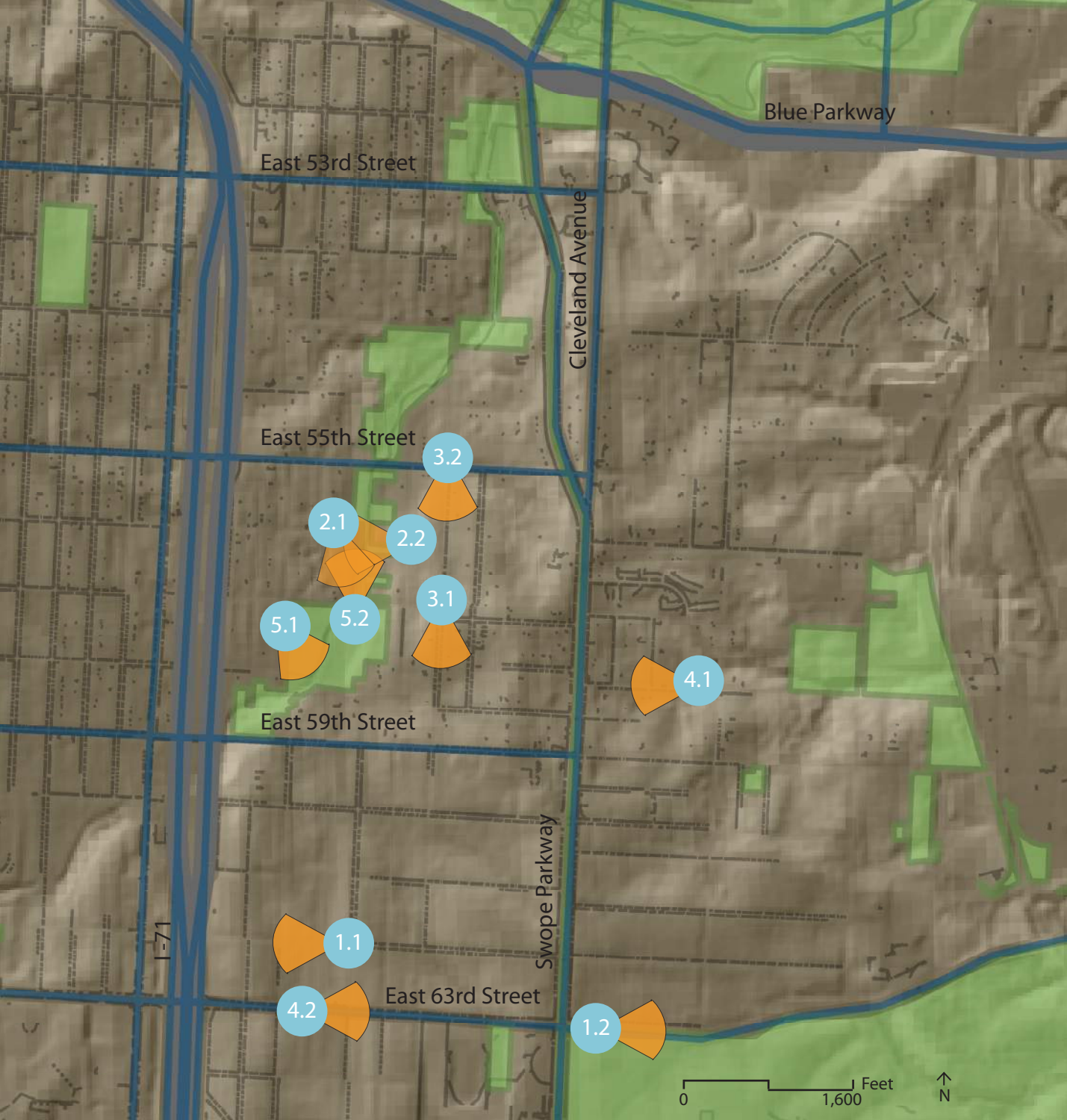


Figure 45. **Kansas City Neighborhood Map** | Locating selected images within neighborhood site, with direction of view indicated.

Figure 46. **Focus Sites 1.1-5.2** | On-site images selected and used for focus group street-level analysis. (Google Maps 2015)

Focus Site

1.1



Focus Site

3.2



Focus Site

1.2



Focus Site

4.1



Focus Site

2.1



Focus Site

4.2



Focus Site

2.2



Focus Site

5.1



Focus Site

3.1



Focus Site

5.2





## FOCUS SITE 1



### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

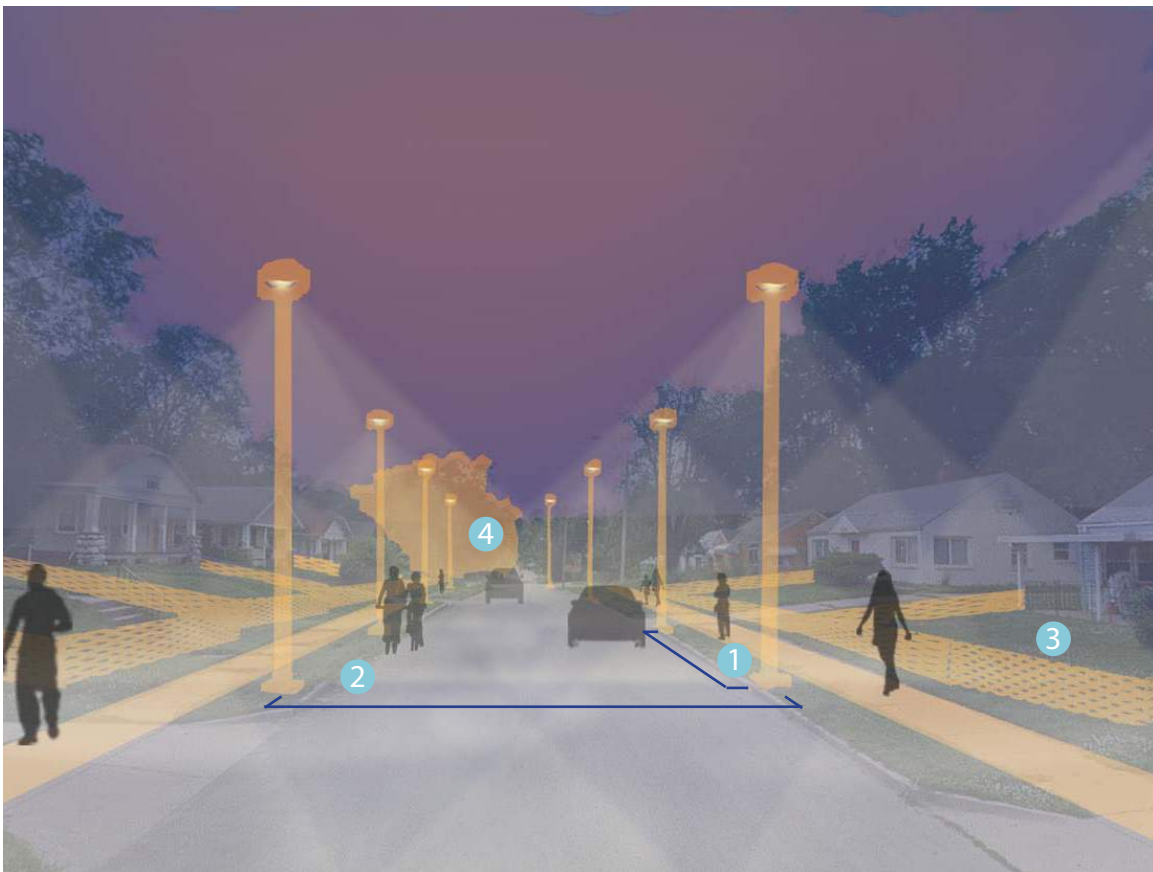
Category: Natural Surveillance

Sub-Categories: Front Porches, Exterior Lighting

### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 More light posts on street with closer spacing
- 2 Brighter lights, closer to street edge
- 3 Fence-in or tie up loose dogs
- 4 Remove excess of plantings along edge of walks

VIGNETTE 1-1



PLAN 1-1



SECTION 1-1 A





## FOCUS SITE 2



### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

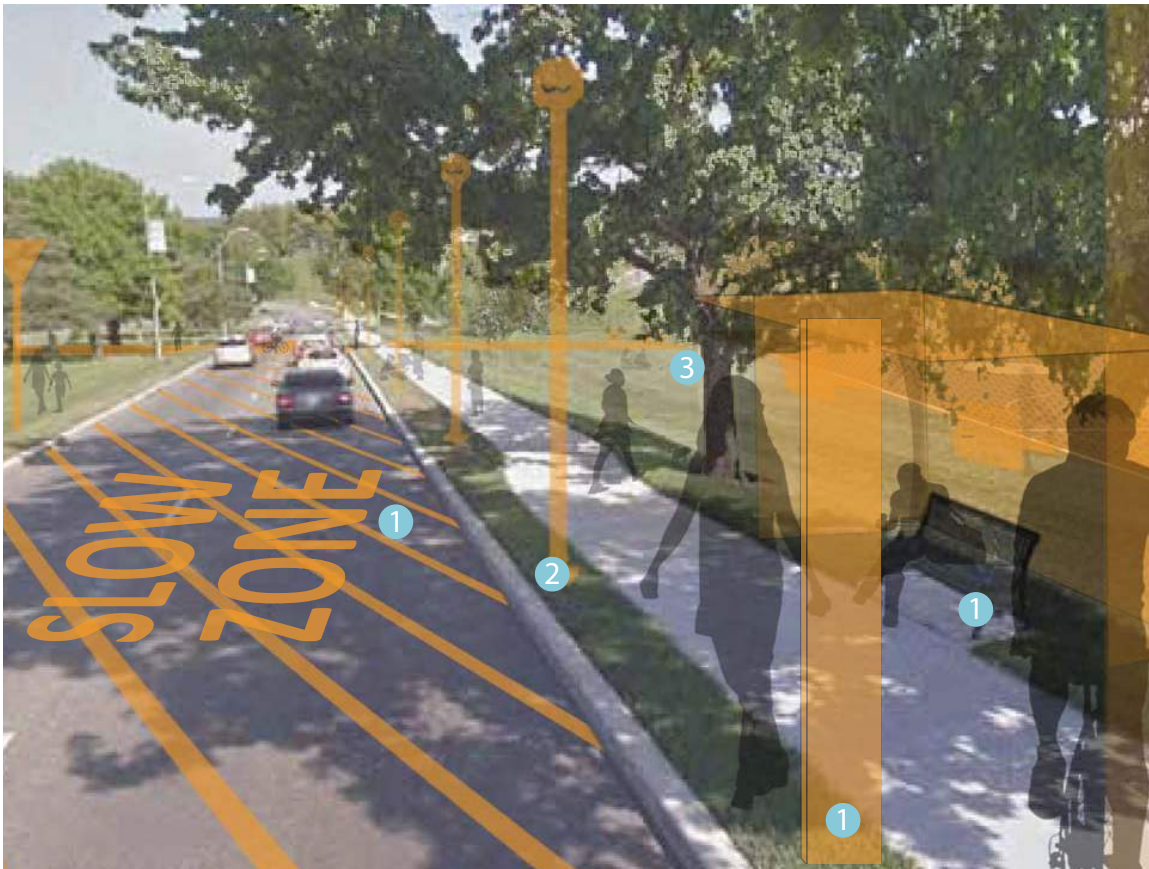
Category: Natural Surveillance

Sub-Categories: Transit Usage, Seating Areas, Exterior Lighting

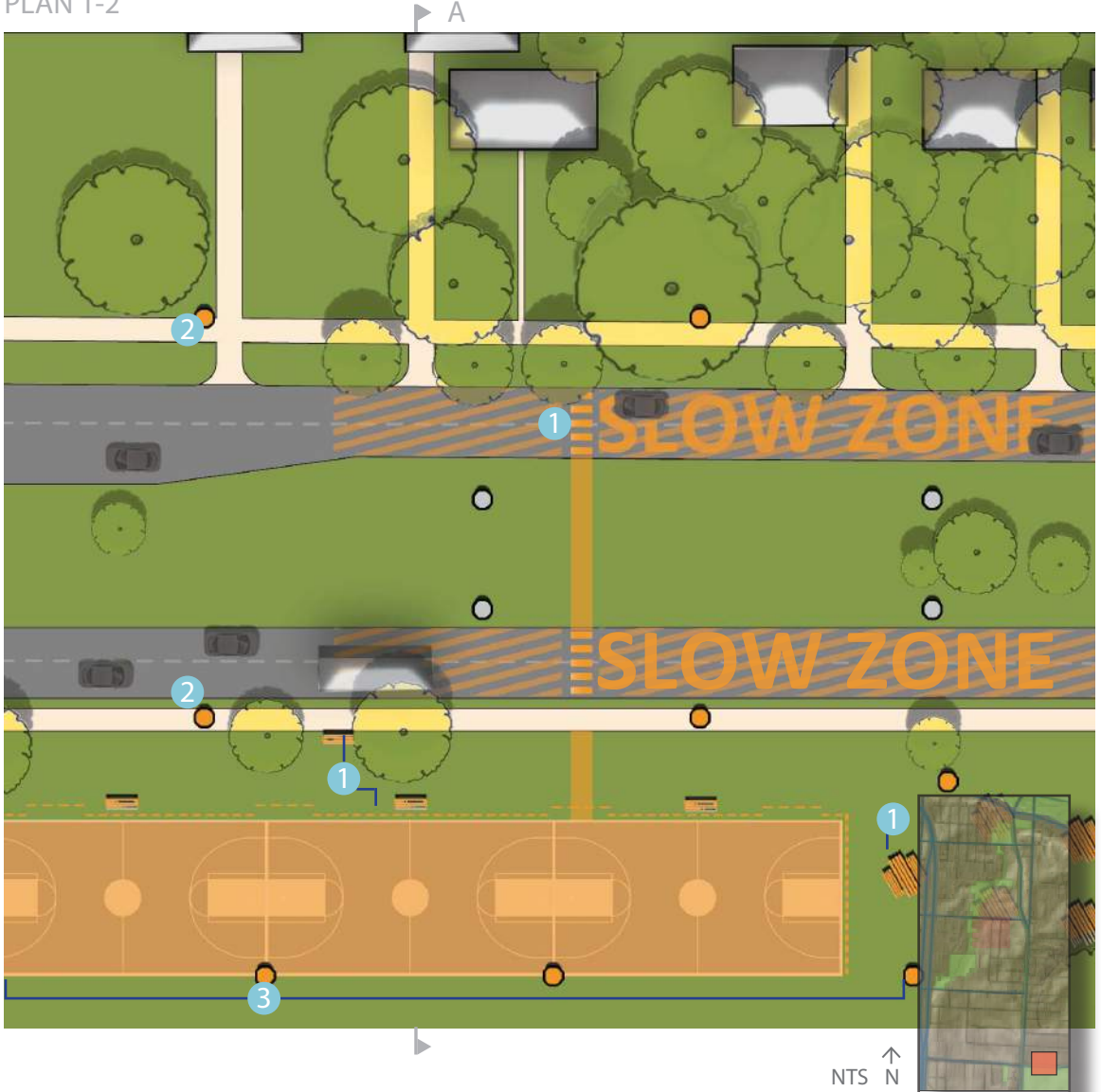
### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Give each design element purpose, specific to site users
- 2 Lighting on both sides of the street
- 3 Fewer areas of isolation

#### VIGNETTE 1-2



PLAN 1-2



SECTION 1-2 A



## FOCUS SITE 3 and 4

### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

Category: Natural Surveillance

Sub-Categories: Exterior Lighting, Legible Signage

### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Control the roaming zones of animals
- 2 Increase amount of lighting
- 3 Remove excess of plantings along edge of walks and within parks
- 4 Introduce neighborhood watch, security signage, and wayfinding signage
- 5 More inviting aesthetics and defined entries specifically for pedestrians

VIGNETTE 2-1

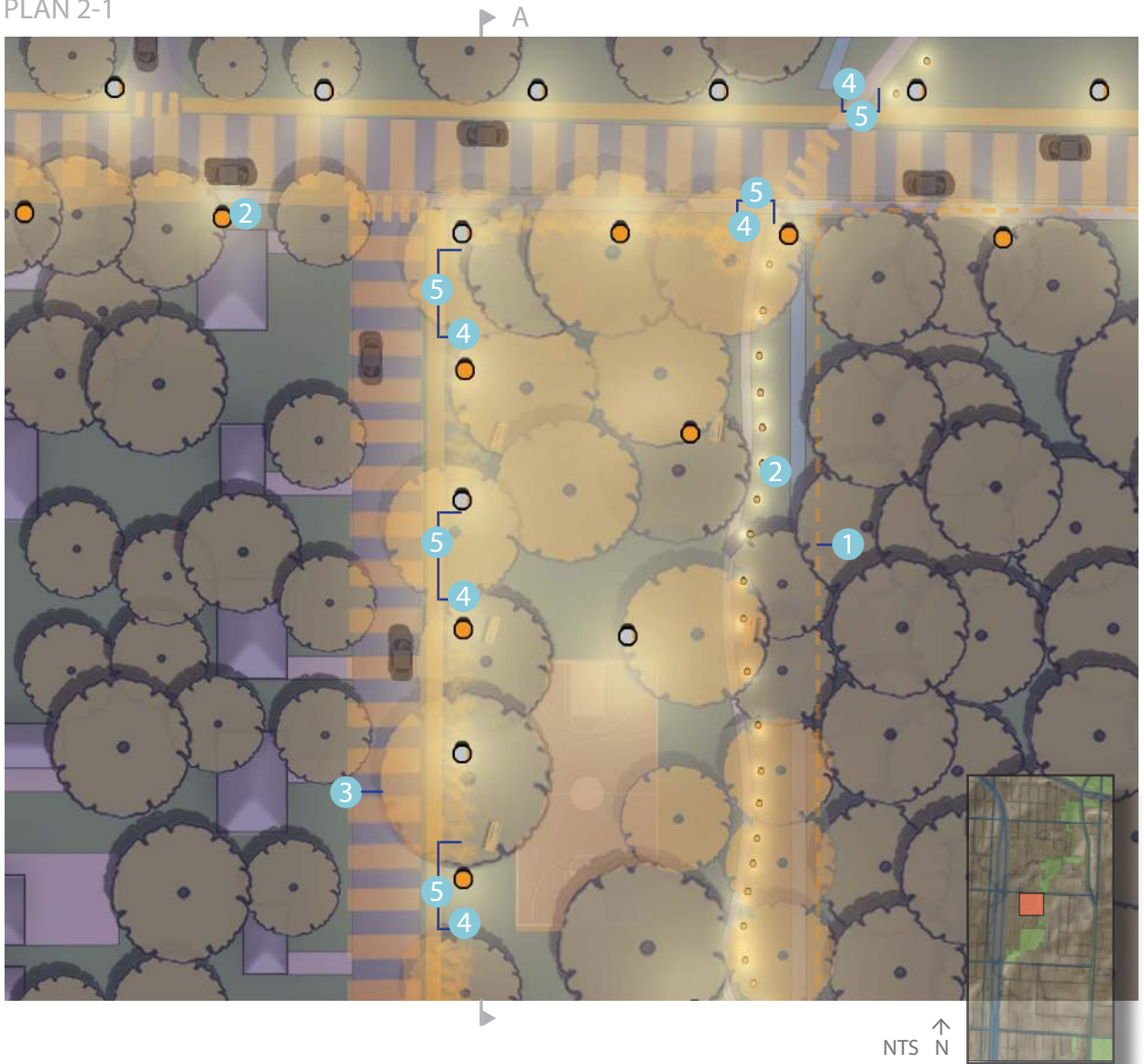


VIGNETTE 2-2

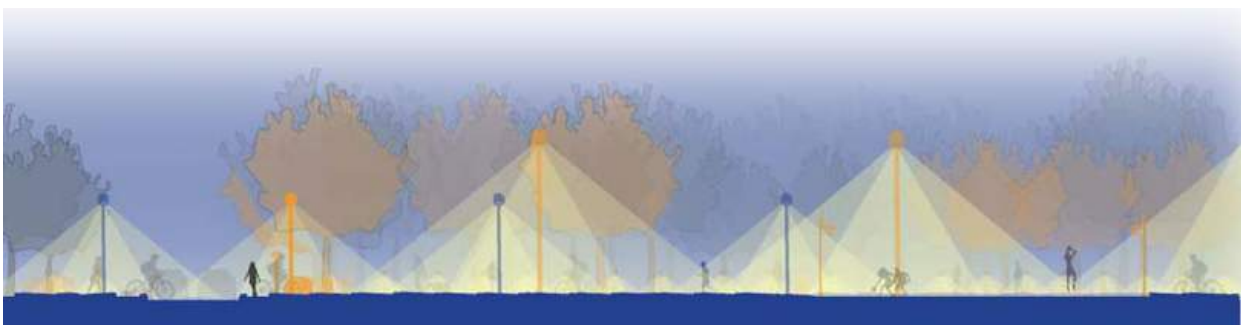




PLAN 2-1



SECTION 2-1 A



## FOCUS SITE 5, 6, and 7

### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

Category: Maintenance, Natural Surveillance

Sub-Categories: Hedge Height (3' or greater), Front Porches, Exterior Lighting, Tree Canopies (higher than 8')



#### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Introduce neighborhood watch, security signage, and wayfinding signage
- 2 Brighter lights and increased visibility
- 3 Rid vacant houses, increase owner responsibility with home exterior/yard aesthetics
- 4 Remove excess of plantings along edge of walks



#### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Brighter lights on street with closer spacing
- 2 Increase availability of sidewalks
- 3 Remove excess of plantings along edge of walks



#### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Move homes closer to street edge and make their appearance more inviting
- 2 Increase availability of sidewalks
- 3 Increase vehicular traffic down street
- 4 Decrease enclosure of sidewalks, placing tree setback further from walks
- 5 More inviting aesthetics



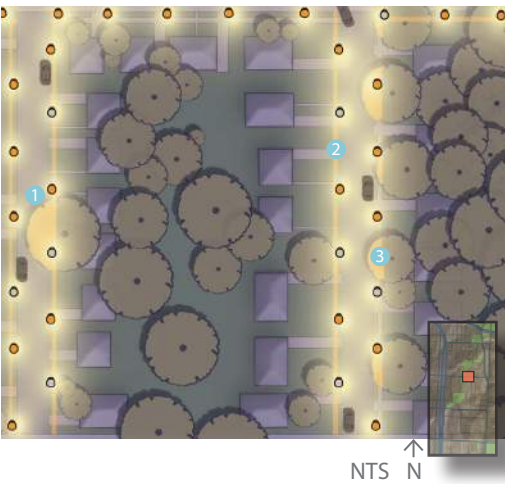
PLAN 3-1



VIGNETTE 3-1



PLAN 3-2



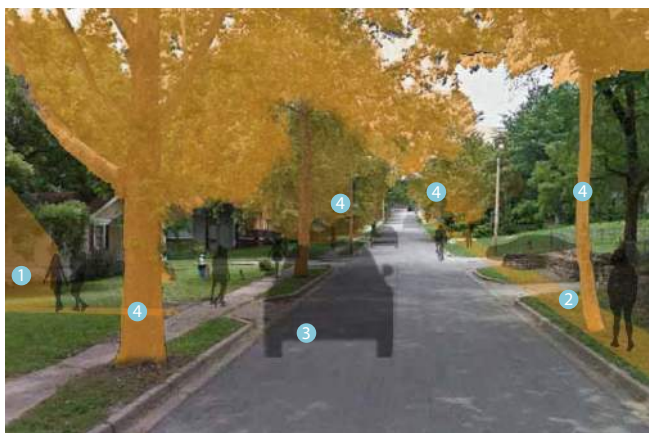
VIGNETTE 3-2



PLAN 4-1



VIGNETTE 4-1



## FOCUS SITE 8



### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

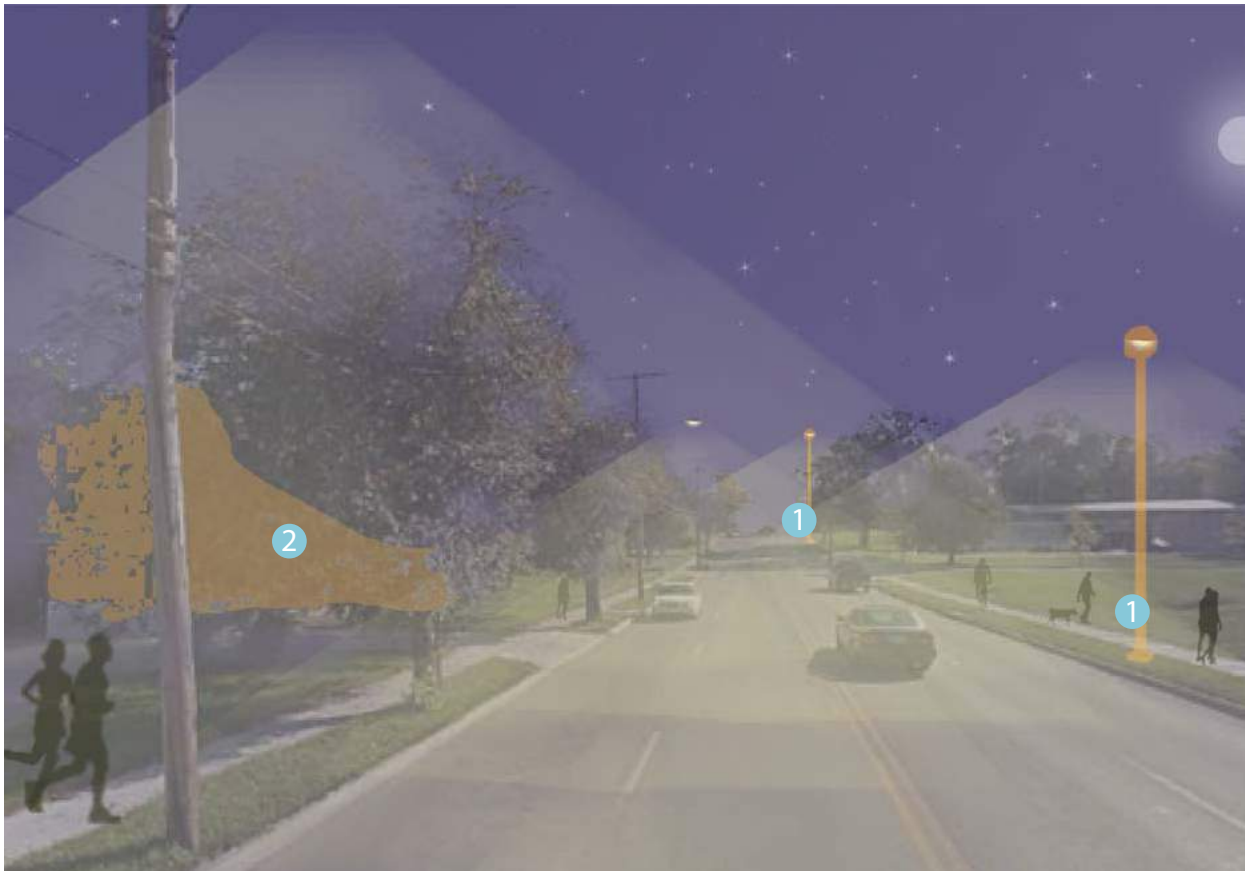
Category: Natural Surveillance

Sub-Categories: Transit Usage, Front Porches, Tree Canopies (higher than 8')

### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Lighting on both sides of the street
- 2 Remove excess of plantings along edge of walks

#### VIGNETTE 4-2



PLAN 4-2





## FOCUS SITE 9



### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

Category: Natural Access

Sub-Categories: Fences (permeability), Security Systems (clear access points)

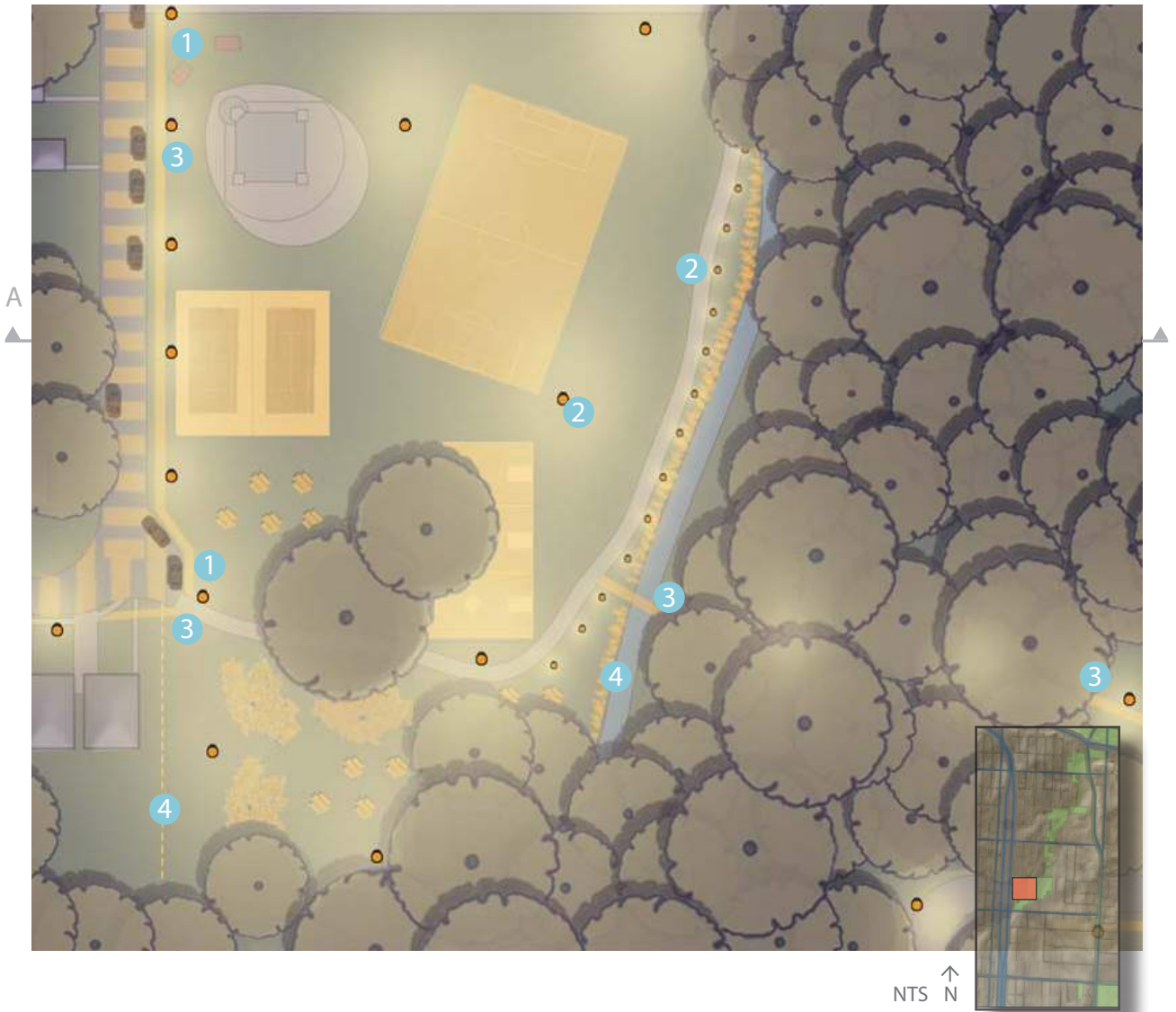
### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Introduce neighborhood watch, security signage, and way-finding signage
- 2 Increase amount of lighting
- 3 More inviting amenities and defined entries specifically for pedestrians
- 4 Increase definitive boundaries and site-safety signage

VIGNETTE 5-1



PLAN 5-1



SECTION 5-1 A



## FOCUS SITE 10



### Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

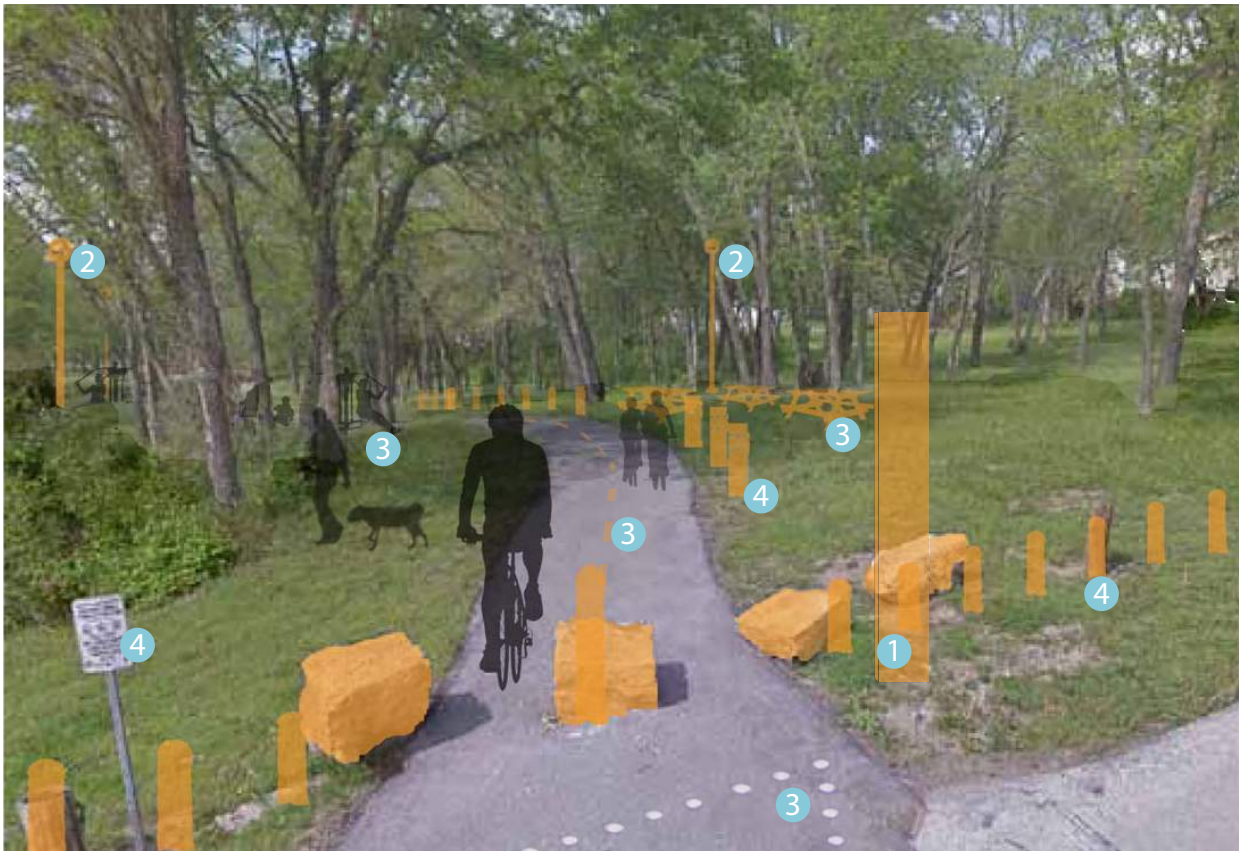
Category: Natural Access, Territorial Reinforcement

Sub-Categories: Security Systems (clear access points),  
Legible Signage

### Suggested Solutions Linked with CPTED for an Increase in Physical Activity

- 1 Provide security and wayfinding signage
- 2 Increase amount of lighting
- 3 More inviting amenities and defined entries specifically for pedestrians
- 4 Increase definitive boundaries and site-safety signage

VIGNETTE 5-2





PLAN 5-2



SECTION 5-2 A



# CHAPTER 7

## CONCLUSION



## Negative Perceptions

59% do NOT feel safe to go on walks at night

36% feel the streets are NOT well-lit at night

44% They feel there ARE dangerous/unfriendly dogs wandering around or loose

\*Note: Percentages were valued on the negative or positive side based on participants agreeing with each statement. Neutral and unanswered questions must be taken into account when the percentages mentioned above are not a majority number.

## Positive Perceptions

67% feel places for them to exercise are NOT too far away

52% feel there ARE several choices of areas for physical activity in the neighborhood

54% DO feel safe to go on walks during the day

59% feel they do NOT get harassed or cat-called when they walk around

39% feel there are NOT dangerous/unfriendly people

59% do feel they see and speak to people when they are walking around

38% DO feel walkers and bikers on the streets can easily be seen by people in their homes

51% feel there are parks where they feel comfortable exercising or being physically active

46% feel litter or graffiti does NOT deter them from walking in certain areas

Figure 47. [Neighborhood Perception Summary](#) | The positive and negative perceived safety perceptions on the built environment of the women from the focus group meetings.

# DISCUSSION

## Key Findings:

### Site Analysis

The overall quality of physical activity features and amenities located in the neighborhood was mediocre; however, their availability was mainly non-existent. Sidewalks were non-existent or only on one-side of the street throughout 30% of the streets within the neighborhood. However, there is potential for an intervention to increase physical activity of the targeted demographic as houses in the vicinity are located within one-quarter and one-half of a mile distance from the nearby parks. Increased walk and bike accessibility, pedestrian-scale lighting, and amount of typical amenities and features are necessary as the primary orders to promote the usage of recreational facilities.

### Survey Results

An 82% majority of the women were African-American, with 47% of those African-American women falling under the low-household income range—set in this study at under \$20,000 to \$40,000. With a 43% majority of the women ranging from 50 to 64 years of age, these survey results mainly implied the perceptions of older-aged women. Overall survey results imply that for physical activity meeting adequate adult levels, self-reported physical activity levels of the low-income African-American women was 6% more than that of the same demographic at a national level (CDC 2009). This means the physical activity levels of women in this research study are slightly below average.

Negative perceptions of this neighborhood built environment indicate that the streets are not well-lit at night and there are dangerous and loose dogs that roam the streets at all times of day. Positive perceptions of this neighborhood built environment indicate that litter or graffiti are not deterrents for these women being physically active. The women also agree that there are ample choices and places for them to exercise within the neighborhood. During exercise, they feel that being harassed or cat-called is minimal or non-existent and that there are not unfriendly, dangerous people roaming the streets.

### Focus Group Interview Results

Overall focus group discussion results imply that lighting is the main sub-barrier related to crime-safety, physical activity, and the built environment for low-income African-American women in this neighborhood. The top solutions for each of the CPTED categories are as follows: more lighting for natural surveillance, increased landscape aesthetics for maintenance, a draw between increased signage and increased neighborhood familiarity for territorial reinforcement, and a draw between using churches as safe houses, increasing police presence, and increasing security systems for natural access. With built environment natural surveillance and maintenance ranked as the top CPTED category solutions to increase physical activity levels of



## Built Environment Related to Crime Security-Safety

Crime Prevention Through Environmental Design (CPTED)

Category: Natural Surveillance

Sub-Categories: Front Porches, Exterior Lighting



RESEARCH QUESTIONS

1. **What crime safety perceptions** of their built environment are affecting low-income African-American women's physical activity levels in Kansas City, Missouri?

*A: Areas of isolation*

*A: Low visibility from a pedestrian vantage point  
(overgrown plantings/ lighting)*

*A: Unfamiliarity of area location*

*A: Low-neighborhood collective efficacy*

2. **What design solutions** do low-income African-American women suggest could **help increase their physical activity levels**, while improving their perceptions of neighborhood safety?

*A: Increased pedestrian lighting*

*A: Increased neighborhood aesthetic*

*A: Increased police presence*

*A: Churches as 'safe houses'*

*A: Active areas designed for range in ages*

*A: Personal upkeep of one's property/properties*

*A: Physical activity with others, not alone*

*A: Increased exterior security systems*

Figure 48. Answering Research Questions | Collective interpretation of survey and focus group participant responses.

low-income African-American women in this neighborhood, it is apparent that increased visibility and an increased neighborhood, collective efficacy are necessary for advancement. Areas of isolation and unfamiliarity are where this demographic feels unsafe to participate in physical activity in their built environment. Street cleanliness is also a large non-safety issue within the built environment of this neighborhood; however, similar to the survey results, street cleanliness is not a major barrier to physical activity levels of these low-income African-American women.

## Conclusion

To conclude, this report and project focuses on the research synthesis that low-income African-American women will not become physically active in their neighborhoods because of various levels of safety and security being compromised (Lees et al. 2007, Day 2006, Oh et al. 2010, Foster and Giles-Corti 2008). The target group wants results tailored to their own specific needs and want to contribute solutions for ridding their neighborhoods of safety barriers and increasing their own physical activity. (Griffin et al, 2008). Planners and environmental designers have closely followed CPTED and second-generation CPTED guidelines—highly developed approaches to combating crime in the built environment. However, a place-specific approach is necessary to promote effective solutions for under-represented neighborhood demographics.

The “one-size-fits all approach” not only ignores local context—the

built environment, but also ignores neighborhood demographic-specific cultural, economic, and personal barriers to use of the environment (Wortley et al 2008,170; Cozens et al 2005). “[R]esearch probing different stakeholder perceptions of crime and the built environment...promises much for future direction of CPTED”—especially when correlating the understudied link of CPTED to physical activity (Wortley et al 2008,171).

As a methodology, survey and focus group interviews are crucial to providing a deeper understanding of the needs for a specific demographic—to lead to an increase in their physical activity. In this case study, the surveys and focus group interviews benefitted the selected neighborhood in Kansas City, Missouri—causing increased awareness of participant’s and their community’s physical activity perceptions, increased awareness of participants own and their community’s neighborhood criminal activity perceptions, and self-awareness of participant’s propositions to decrease criminal activity in their own neighborhood environment.

As a result, this level of self and community-awareness helps identify neighborhood-specific crime-safety solutions. These place-specific solutions are the advancement necessary to make significant changes—increasing physical activity levels for demographics with the highest health disparity levels. In the end, environmental designers and city planners can promote a healthier America—involving and addressing all socio-economic classes.

## LIMITATIONS

### Survey Responses

Survey responses were limited to one organization and focused on one concentration of participants at this selected organization. This limitation makes generalization of the results difficult. Future studies may benefit from collecting survey responses from a large number of organizations surrounding a selected built environment element—such as a park or greenway. Also, not all women surveyed lived in the direct vicinity of the selected organization, so their comments from the focus group meetings may not have contributed as in depth as those women residing in the selected study vicinity. There were also limitations on collecting data from low-income women, as many of the surveyed women were above the low income-level set for this study—self-reported household incomes below \$20,000. In the future, with more time to collect data and larger survey groups, it would be possible to address and focus solely on low-income level participants—as this study included low-income and lower-middle income participants at self-reported incomes below \$40,000.

Additionally, it is a stretch to say that the built environment solutions proposed in this study would actually result in more physical activity of this demographic because there is no sufficient evidence of these women specifically using this environment for physical activity.

### Focus Group Responses

Total focus group response rate was 12 women. This is not a large response, but the response is sufficient for research validity (Guest et al. 2006, Mason 2010). There were only two participants in the first focus group, so it was necessary to expand my eligible participant pool. Once the participant pool was expanded, ten more participants took part in the focus groups. Participant inclusion was limited from the initial screeners upon selecting focus group participants. After selection of optimal participants—who met the demographic being researched—it was necessary to expand focus group invitations to a broader participant pool. The focus group selection pool was expanded to included women who resided further away from the selected organization. After expansion of the focus group selection pool, it was necessary to host another focus group to gain a higher response rate from the researched population.

### Neighborhood Checklists

A notable dilemma—when researching neighborhood amenity checklists for the site analysis phase—was the lack of variety in checklist analysis items for both physical activity and crime-safety. Each of the checklists reviewed needs for the general population—yet none of the questions were specific to low-income environments. This highlights the lack of research instruments for addressing needs of under-served demographics.

Additionally, even though this study assessed physical activity resources, the proposed design solutions were primarily focused on the streetscape. This neglected improvements to the physical activity resources themselves, which is a limitation.

### **Longitudinal vs. Cross-Sectional Studies**

Furthermore, several of the researched articles used suitability models detailing where to place physical activity resources so adult users will use them more—leading to an increase in their physical activity levels and a decrease in their obesity and sedentary lifestyles (See Fig. 2) (Transportation Research Board Institute of Medicine 2005; Trost 2002). One article mentioned that a more accurately focused suitability model, would require more longitudinal studies as opposed to cross-sectional studies to determine more solidified causal relationships between the built environment and adult physical activity (Trost 2002).

In the future, designers may utilize the methodology from this research study for finding the relationship between CPTED and physical activity in the built environment. However, for future development or re-development in urban areas, amongst the low-income African American demographic, more longitudinal studies are recommended to highlight more reliable trends in the

data collected from the field research. Cross-sectional studies are brief and unrepresentative of a general population—in the case of this study, low-income African-American women residing in a neighborhood, surrounding a selected community organization. With a methodology similar to the one used in this research study, it is necessary to transform it into a longitudinal study—collecting and analyzing the correlation of data from other community organizations within the same study region. This would allow for identification of more reliable data trends in the response rates of a larger data set of women—while continuing to focus on place-specific design interventions.

### **Effects of Several Physical Activity Barrier Levels**

To progress forward in this general field of research, it is necessary to look deeper into how barriers to physical activity for low-income African-American women affect them on a personal, institutional, and cultural level. Also, a stronger research consensus on the connections to crime security-safety and physical activity needs to be made--the current researched relationship is still unclear. Is there a recent shift in the relationship between crime security-safety and physical activity? It is also important to assess the effect of design solutions on both crime and physical activity over time after they are implemented.

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# APPENDIX A

## SURVEY DATA







# Kansas State University Community Opinion Survey

This survey is conducted on behalf of Cydnie Jones, a Master's degree candidate in Landscape Architecture at Kansas State University. Your participation will help identify your personal physical activity levels and perceptions along with the neighborhood's crime safety perceptions.

**Participation in this survey is voluntary and your identity will remain confidential. By completing and returning this survey, you are indicating consent for the information provided to be used for research.**

You may skip questions if you feel uncomfortable responding. Thank you for your participation!

**DIRECTIONS:** Please describe yourself. Circle ONE response for each category or fill in the blank where necessary.

1. My general health status is:   Excellent       Good       Fair       Poor
2. Compared to other women your age, your level of physical activity is:  
          much less    less    the same as    more    much more
3. In a usual week, how many days do you walk for exercise? \_\_\_\_ Days  
    3b. On average, how many minutes do you walk each time? \_\_\_\_ Minutes
5. In a usual week, how many days do you participate in any sports or exercise that makes you sweat or breathe hard for at least 20 minutes at a time? \_\_\_\_ Days

**DIRECTIONS:** Below are statements that relate to ideas about exercise and neighborhood safety from crime. Indicate the degree to which you agree or disagree with the statements by placing an X in one box per numbered response.

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
In the neighborhood directly surrounding this organization . . .						
1. Places for me to exercise are too far away.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. There are several choices of areas for physical activity in the neighborhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Litter or graffiti deters me from walking in certain areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel safe to go on walks <u>at night</u> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The streets are well lit at night.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. There are dangerous/ unfriendly dogs wandering around or loose.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I feel safe to go on walks <u>during the day</u> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I get harassed or cat-called when I walk around.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. There are dangerous/ unfriendly people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I see and speak to people when I am walking around.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Walkers and bikers on the streets can easily be seen by people in their homes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. There are parks where I feel comfortable exercising or being physically active.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Have you <u>seen</u> or <u>heard</u> any crime occur in this neighborhood in the past 12 months?	<input type="checkbox"/>	Yes		<input type="checkbox"/>		No
If yes, what happened? _____						

## I WOULD BE MORE PHYSICALLY ACTIVE IF OUR NEIGHBORHOOD SAFETY HAD/ WAS...

\_\_\_\_\_ .

**DIRECTIONS:** Please describe yourself. Circle ONE response for each category.

How many blocks away from this organization do you live?   0-3   4-7   8-11   12-15   Over 16

Education Level:           Less than high school           High school diploma or equivalent  
                                  Some college, no degree           Postsecondary non-degree award           College, degree

Race:   African-American/ Black           American Indian/ Alaska Native           Asian  
          Native Hawaiian/ Pacific Islander           White/ Caucasian           Other

Age:   18 - 25   26 - 49   50 - 64   Over 65

Income Level:   Less than \$20,000   \$20,000 - \$40,000   \$40,000 - \$60,000   More than \$60,000

**\*\*Would you like to participate in a focus group?**    Yes    No

Contact #: \_\_\_\_\_ or E-mail: \_\_\_\_\_

Best time to call: \_\_\_\_\_ **\*\*You will be contacted if eligible to participate in a focus group session. Refer to the attached Debriefing Statement for more information on the focus groups.**

**SURVEY RESULTS**

Personal Health Assessment: Physical Activity Results (based on currently recommended PA levels (2008))

Days walked in usual week (Moderate Physical Activity)	Days participated in sweat inducing exercise (Vigorous Physical Activity)
4	4
1.5	n/a
5	1
0	5
0	5
0	1
0	1
0	0
5	1
5	5
0	0
0	0
5	0
1.5	0.5
2	0
0	2
2	0
2	1
5	2
3	3
n/a	1
7	7
5	1
0	0
3	3
0	0
1	0
0	0
3	1
n/a	n/a
0	2
0	0
3	2
2	15
3	n/a
2	2
2	n/a
n/a	n/a
0	0

Notes:
Moderate PA Formula: days x minutes = estimated weekly PA
Vigorous PA: days vigorous PA x 20 = estimated weekly PA
Women who met currently recommended (2008) PA levels (per PA type, Moderate=150+ minutes/week, Vigorous=75+ minutes/week)

Minutes walked in per day in usual week	Estimated Weekly Moderate Physical Activity	Estimated Weekly Vigorous Physical Activity
37.5	150	80
40	60	n/a
20	100	20
5	0	100
0	0	100
n/a	n/a	20
n/a	n/a	20
0	0	0
30	150	20
60	300	100
n/a	n/a	0
n/a	n/a	0
5	25	0
22.5	33.75	10
30	60	0
0	0	40
30	60	0
20	40	20
15	75	40
30	90	60
20	n/a	20
60	420	140
20	100	20
0	0	0
60	180	60
n/a	n/a	0
20	20	0
n/a	n/a	0
40	120	20
20	n/a	n/a
15	0	40
n/a	n/a	0
15	45	40
45	90	300
30	90	n/a
20	40	40
30	60	n/a
n/a	n/a	n/a
0	0	0
Percentage of Total (39) Participants Surveyed Meeting Recommendations:	13%	15%

SURVEY RESULTS			
Personal Health Assessment			
General Health Status	your PA vs other women	days walked in usual week	minutes walked in usual week/days walked a week
good	same as	4 (6 in summer)	30-45
good	same as	1 to 2	40
fair	less	5	20
fair	same as	0	5
excellent	same as	0	0
good to fair	same as	0	n/a
good	same as	0	n/a
fair	same as	0	0
good	same as	5	30
fair	less	5	60 (in the pool daily)
good	less	0	n/a
good	less	0	n/a
good	less	5	5
good	more	1 to 2	15-30
excellent	same as	2	30
good	n/a	0	0
excellent	same as	2	30
good	same as	2	20
good	much more	5	15
good	more	3	30
good	less	depends	20
good	more	7	60
good	more	5	20
good	same as	0	0
good	much more	3	60
fair	less	0	n/a
good	more	1	20
good	less	0	n/a
good	same as	3	40
good	more	sometimes	20
good	less	0	15
good	less	0	n/a
excellent	more	3	15
n/a	n/a	2	45
good	more	3	30
good	same as	2	20
good	much more	2	30
good	same as	n/a	n/a
fair	less	0	0

Perceptions of neighborhood directly surrounding organization	Survey Participant #											
	1	2	3	4	5	6	7	8	9	10	11	12
Places for me to exercise are too far away	1	2	0	2	2	1	1	2	2	2	4	1
There are several choices of areas for physical activity in the neighborhood	3	3	3	0	1	2	4	3	2	3	3	3
Litter or graffiti deters me from walking in certain areas	0	2	3	3	3	3	1	2	3	3	2	0
I feel safe to go on walks at night	4	1	4	1	2	4	0	2	4	1	2	1
The streets are well lit at night	0	2	2	2	3	2	0	2	4	1	0	0
There are dangerous/ unfriendly dogs wandering around or loose	3	3	3	0	3	3	2	2	4	3	0	2
I feel safe to go on walks during the day	3	2	2	3	0	0	4	3	4	0	4	0
I get harassed or cat-called when I walk around	2	2	0	2	0	2	1	n/a	3	n/a	1	1
There are dangerous/ unfriendly people	0	4	3	0	0	3	1	2	0	n/a	2	2
I see and speak to people when I am walking around	0	3	3	0	4	0	0	n/a	3	3	0	3
Walkers and bikers on the streets can easily be seen by people in their homes	0	3	2	3	0	0	4	3	0	1	3	n/a
There are parks where I feel comfortable exercising or being physically active.	2	3	2	0	3	2	4	3	4	0	0	n/a
Have you seen or heard any crime occur in this neighborhood in the past 12 months	2	1	1	1	1	1	2	2	1	2	1	2
		multiple crimes	shooting person			burglary			someone was robbed		shootings	
If yes, what happened?			no			if I had the time			free of dogs roaming the neighborhood, clean, well-lit			
I WOULD BE MORE ACTIVE IF OUR NEIGHBORHOOD SAFETY HAD/WAS...												

days participated in exercise	Demographic						
sweat inducing/ breathe hard for at least 20 min	Blocks residing from organization	Education level	Race	Age	Income Level		
4 (6 in summer)	over 16	college degree	AA/ black	50-64	\$40,000- \$60,000	1	
n/a	over 16	college degree	AA/ black	n/a	n/a	2	
1	over 16	some college, no degree	AA/ black	over 65	\$20,000- \$40,000	3	
5	over 16	n/a	AA/ black	26-49	\$20,000- \$40,000	4	
5	over 16	college degree	AA/ black	26-49	\$20,000- \$40,000	5	
1	n/a	n/a	AA/ black	50-64	\$40,000-\$60,000	6	
1	over 16	college degree	AA/ black	n/a	more than \$60,000	7	
0	over 16	some college, no degree	AA/ black	over 65	\$20,000- \$40,000	8	
1	n/a	n/a	AA/ black	over 65	less than \$20,000	9	
5	over 16	college degree	other	50-64	n/a	0	
0	n/a	n/a	n/a	n/a	n/a	1	
0	over 16	college degree	AA/ black	over 65	\$40,000-\$60,000	2	
0	over 16	college degree	AA/ black	50-64	more than \$60,000	3	
0 to 1	over 16	some college, no degree	n/a	over 65	\$20,000- \$40,000	4	
0	over 16	some college, no degree	other	over 65	\$20,000- \$40,000	5	
2	over 16	college degree	AA/ black	over 65	more than \$60,000	6	
0	over 16	some college, no degree	other	over 65	\$20,000- \$40,000	7	
1	over 16	college degree	AA/ black	50-64	\$40,000-\$60,000	8	
2	over 16	college degree	AA/ black	50-64	more than \$60,000	9	
3	over 16	college degree	AA/ black	50-64	\$20,000- \$40,000	0	
1	over 16	college degree	AA/ black	50-64	\$40,000- \$60,000	1	
7	over 16	high school diploma or equivalent	AA/ black	over 65	\$40,000-\$60,000	2	
1	over 16	postsecondary non-degree award	AA/ black	50-64	\$20,000- \$40,000	3	
0	n/a	high school diploma or equivalent	AA/ black	26-49	less than \$20,000	4	
3	over 16	some college, no degree	AA/ black	50-64	\$20,000- \$40,000	5	
0	0 to 3	some college, no degree	AA/ black	50-64	less than \$20,000	6	
0	8 to 11	some college, no degree	a/ black	50-64	\$20,000- \$40,000	7	
0	0 to 3	some college, no degree	AA/ black	26-49	\$20,000- \$40,000	8	
1	4 to 7	high school diploma or equivalent	AA/ black	over 65	\$40,000- \$60,000	9	
sometimes	0 to 3	postsecondary non-degree award	AA/ black	over 65	n/a	0	
2	12 to 15	college degree	AA/ black	over 65	\$40,000- \$60,000	1	
0	8 to 11	some college, no degree	AA/ black	50-64	\$20,000- \$40,000	2	
2	4 to 7	high school diploma or equivalent	AA/ black	over 65	less than \$20,000	3	
15	4 to 7	some college, no degree	AA/ black	over 65	\$20,000- \$40,000	4	
n/a	4 to 7	college degree	n/a	50-64	\$20,000- \$40,000	5	
2	4 to 7	college degree	AA/ black	over 65	\$40,000-\$60,000	6	
n/a	4 to 7	high school diploma or equivalent	AA/ black	over 65	\$20,000- \$40,000	7	
n/a	8 to 11	high school diploma or equivalent	AA/ black	over 65	\$40,000-\$60,000	8	
0	0 to 3	high school diploma or equivalent	other	18-25	less than \$20,000	9	

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1	2	2	1	2	2	2	2	0	0	1	n/a	0	0	4	2	3	2	2	2	1	4	3	1	4	2	4
4	3	1	3	2	2	2	0	4	0	3	n/a	0	0	2	3	3	3	3	3	1	2	3	2	0	3	0
1	3	1	1	1	0	2	2	2	0	2	n/a	0	2	2	1	4	3	3	3	2	4	n/a	1	3	2	4
2	n/a	1	0	4	4	2	2	2	1	2	n/a	3	2	2	0	2	2	1	0	1	4	1	4	1	0	1
4	3	n/a	4	1	0	0	2	1	2	0	n/a	0	0	2	2	3	3	2	0	n/a	0	0	3	0	0	1
1	n/a	0	2	1	0	3	0	4	3	3	n/a	0	3	4	2	3	2	3	2	n/a	4	0	2	4	1	0
4	0	3	3	3	0	3	3	n/a	0	2	n/a	3	3	0	4	3	3	2	3	2	4	3	4	n/a	2	0
1	n/a	1	1	1	0	0	2	2	0	2	n/a	0	0	2	1	3	2	0	2	2	2	2	4	n/a	2	1
1	3	1	2	1	0	n/a	3	0	2	2	n/a	0	0	n/a	2	0	3	n/a	2	1	2	0	n/a	n/a	2	0
3	3	0	0	0	0	3	3	2	3	n/a	3	3	3	4	4	3	3	3	3	2	4	0	4	n/a	3	0
0	2	4	3	1	0	3	0	2	0	n/a	n/a	3	3	4	4	0	3	1	3	2	n/a	0	n/a	n/a	3	0
4	3	1	2	4	0	3	3	3	0	3	n/a	3	0	4	3	3	3	3	n/a	2	4	0	0	n/a	3	0
2	1	2	1	2	n/a	n/a	2	1	1	n/a	n/a	2	1	1	1	2	1	1	1	1	1	2	2	n/a	2	2
shooting		robbery												a dead body was found in a car across the street	shootings, killings, robbery			robberies, home invasions, car stolen								
										friendly people				free of all violence/ there was a drive by shooting across the street and killed a young boy												

# APPENDIX B

## FOCUS GROUP RESULTS





# FOCUS GROUP DISCUSSION

## Introduction

## Survey Result Reading

### Defining the Neighborhood Boundary and Concept Mapping

Map of Regional Kansas City, Missouri:

What makes you feel this is a neighborhood boundary?

- This is my main route because I come to church all the time.
- 71st to 85th street is where I usually go but the map doesn't go that far. That's how I get to work. I visit Eastwood Trafficway and Blue Parkway at the shops. I also visit the gas station in Rockhill. I have kids so I travel a lot.
- I usually go out in Independence because I live out there by the stadium and I work downtown.

What mode of travel is used mostly when traveling throughout the neighborhood?

- If you have a car it really doesn't matter where you live. I know people who live here in this neighborhood and go to church all the way over in Kansas.
- I agree with that. I live at 57 South Benton and I walk to church sometimes. It's about a 20 minute walk. I used to live at 71st and Myrtle. I think the walk is doable because there aren't a lot of hills. It's not like a hike or anything.

Crime:

What areas have you seen or heard of crime occurring in the past 12 months?

- Agnes to 57 in the park there is drug dealing. I don't spend a lot of time in Swope Park. I wouldn't go there by myself. I usually go with someone else.
- 52nd and olive people kicked in my door 2 times. The second time they came in and there was nothing left when I got home.
- The Blue hills area is bad. The association says they are trying to do something, but they didn't stop anyone from kicking in my door.
- Crime includes drug dealing, stealing cars, shooting

What makes this an 'avoid' area?

- There's crime everywhere. It's not like I'm fearful it's just dark outside. Just outside of the church is too dark. It's not lit there could be somebody who could crack me on the head.

Lighting:

Where are the areas that may not be well lit at night?

- It's not well lit all over this map. Nothing is lit, but if you go over to Brookside it's bright. Blue Parkway is decent, but go east on Blue Parkway it gets darker.

Elaborate on safety:

What areas do you believe to have the most litter or graffiti in the neighborhood?

- The Swope Park is very isolated. It is vast and there aren't a lot of lights, but that's expected.
- Swope Park is a dumping ground. You could drop a body over there and no one would notice.

What instances in your past have caused you to limit travel through the 'avoid' zones?

- The roads aren't lit over by the cemetery and if you don't know the roads you could crash. There are really sharp turns.
- My mom had to put motion detectors on her house, so she could have more security.
- She lives on the corner so there is a street light, but it's not enough.
- Another problem is vacant houses. The church owns the house next door. It's ragged and falling down. It's an eye sore.

What circumstances cause you to feel 'safe' at certain times and not others?

- Just lights. I don't get scared easily. I come [to the selected organization] by myself. I don't like it because it's a big building. I'm cautious though. Lights would help because people lurk in the dark. It would also help to have more police patrolling and strong police presence.
- The only thing I'm familiar with is a guy watching the cars at the catholic church. Occasionally police sit in the church parking lot on a sting to watch drug deals.
- There's no where I feel comfortable that they would help me. People around here don't have a neighborhood watch anymore. They might help me because I walk over here a lot, but everyone doesn't do that. So they might help me because they know me. Across the street before the house was vacant there was a domestic dispute. They were in the street for an hour. No one wanted to call police because they said it wasn't their business.

What areas would you use or do you use to be physically active in the neighborhood?

- I usually walk around here, but I'd rather work out in a gym. Even in Overland Park you hear about people getting snatched up on a trail. Gillham Park is not safe either they dropped a bunch of prostitutes over there. I haven't been there since I heard that news. They do have lighting about every 100 yards though.

### **Brainstorm (Solutions and Discussion)**

- More lighting
- Trim trees
- People need to take care of their property
- No landscaping
- Incivilities like beer cans, drug paraphernalia
- They take pride in their neighborhood in Brookside.  
If you redid the parks here people wouldn't take care of it. There would be graffiti and more trash. It's about educating more people
- More trash cans
- A prime example is Blue Hills, even though the park looks wonderful it's still crime ridden
- The mentality of people needs to be changed that's the real problem. They

won't appreciate improvements. They have no respect for themselves or anything for that matter

- The church should open their doors so people can pray at any time of day
- I don't have any safe places to go. I can't go to the church because it's locked or the people are too spooked to let me in. What good are all of these churches if they never let anyone in. If the library is closed there is no where else. There needs to be a safe house.

### **Solution Rank**

1. More lighting
2. Increase neighborhood and park aesthetic
3. Personal upkeep of one's own properties, even if renting out—is a must
4. Physical activity with others, not alone
5. More police presence
6. Churches utilized as "safe houses"
7. More security systems

### Concept Map Questions

- What makes you feel this is a neighborhood boundary?
- What makes this an 'avoid' area?
- What makes this a 'safe' area?
- What circumstances cause you to feel 'safe' at certain times and not others?
- How often do you pass through the safer areas?
- What instances in your past have caused you to limit travel through the 'avoid' zones?
- What mode of travel is used mostly when traveling throughout the neighborhood?
- Where are the areas that may not be well lit at night?
- What areas would you use or do you use to exercise or be physically active in the neighborhood?
- What physical activities do you do in the areas you mentioned were able to be used for physical activity?
- What areas are there dangerous/ unfriendly dogs wandering around or loose?
- What are areas you feel safe to go on walks during the day?
- What makes this an area that you feel comfortable going on walks during the day?
- What areas can walkers and bikers on the streets be easily seen by people in their homes?
- What areas have you seen or heard of crime occurring in the past 12 months?
- In what areas are you getting harassed of cat-called?
- What areas do you believe to have the most litter or graffiti in the neighborhood?

# APPENDIX C

## PARA AND ANC RESULTS



# Physical Activity Resource Assessment (PARA) Instrument

(Lee et al 2005).

1) Date _____		2) Data col _____		3) HD/PA Resource ID _____			
4) Time start: _____ stop: _____		5) Phone Call departure: _____ arrival: _____					
6) Type of Resource 1 fitness club                      2 park 3 sport facility                    4 trail 5 community center               6 church 7 school 8 combination _____				7) Approximate Size: 1 sm 2 med 3 lg			
				8) Capacity (indoor) _____			
				9) Cost 1 Free 2 Pay at the door 3 Pay for only certain programs 4 Other _____			
10) Hours a) open _____ b) close _____							
11) Signage – Hours    yes <input type="checkbox"/> no <input type="checkbox"/>				12) Signage – Rules		yes <input type="checkbox"/> no <input type="checkbox"/>	
Feature		Rating		Amenity		Rating	
13) Baseball field		0	1	2	3	26) Access Points	
14) Basketball courts		0	1	2	3	27) Bathrooms	
15) Soccer field		0	1	2	3	28) Benches	
16) Bike Rack		0	1	2	3	29) Drinking fountain	
17) Exercise Stations		0	1	2	3	30) Fountains	
18) Play equipment		0	1	2	3	31) Landscaping efforts	
19) Pool > 3 ft deep		0	1	2	3	32) Lighting	
20) Sandbox		0	1	2	3	33) Picnic tables shaded	
21) Sidewalk		0	1	2	3	34) Picnic tables no-shade	
22) Tennis courts		0	1	2	3	35) Shelters	
23) Trails – running/biking		0	1	2	3	36) Shower/Locker room	
24) VB courts		0	1	2	3	37) Trash containers	
25) Wading Pool < 3 ft.		0	1	2	3		
Incivilities		Rating		Incivilities		Rating	
38) Auditory annoyance		0	1	2	3	44) Graffiti/tagging	
39) Broken glass		0	1	2	3	45) Litter	
40) Dog refuse		0	1	2	3	46) No grass	
41) Dogs Unattended		0	1	2	3	47) Overgrown grass	
42) Evidence of alcohol use		0	1	2	3	48) Sex paraphernalia	
43) Evidence of substance use		0	1	2	3	49) Vandalism	
Comments:							



Key — Features, Amenities, Incivilities, General Operation

General	Not Present	Size	Small	Cost	Free
	Poor		Medium		Pay at the door
	Mediocre		Large		Pay for only certain programs
	Good				Other

Features	Park	Church	Sport Facility and Community Center
	Baseball field	Mediocre	Not Present
Basketball courts	Mediocre	Not Present	Mediocre
Soccer field	Mediocre	Not Present	Mediocre
Bike rack	Not Present	Not Present	Good
Exercise stations	Not Present	Not Present	Not Present
Play equipment	Not Present	Not Present	Not Present
Pool > 3ft. deep	Not Present	Not Present	Not Present
Sandbox	Not Present	Not Present	Not Present
Sidewalk	Mediocre	Mediocre	Good
Tennis courts	Not Present	Not Present	Not Present
Trails -- running/ biking	Mediocre	Not Present	Good
VB courts	Not Present	Not Present	Not Present
Wading pool < 3 ft.	Not Present	Not Present	Not Present

**Type of Resource**

# Physical Activity Resource Assessment (PARA) Instrument

Key — Features, Amenities, Incivilities, General Operation

General	Not Present	Size	Small	Cost	Free
	Poor		Medium		Pay at the door
	Mediocre		Large		Pay for only certain programs
	Good				Other
	Little				
	Medium Amount				
	A Lot				

	Type of Resource		
	Park	Organization	School
Access points	Good	Good	Good
Bathrooms	Not Present	Not Present	Good
Benches	Not Present	Not Present	Good
Drinking fountain	Not Present	Not Present	Not Present
Fountains	Not Present	Not Present	Not Present
Landscaping efforts	Mediocre	Mediocre	Good
Lighting	Poor	Mediocre	Good
Picnic tables shaded	Not Present	Not Present	Not Present
Picnic tables no-shade	Good	Not Present	Not Present
Shelters	Not Present	Not Present	Not Present
Shower/ Locker room	Not Present	Not Present	Good
Trash containers	Not Present	Not Present	Not Present

	Park	Organization	School
<b>Incivilities</b>	Auditory annoyance	Not Present	Not Present
	Broken glass	Not Present	Not Present
	Dog refuse	Not Present	Not Present
	Dogs unattended	Not Present	Not Present
	Evidence of alcohol use	Not Present	Not Present
	Evidence of substance use	Not Present	Not Present
	Graffiti/ tagging	Not Present	Not Present
	Litter	Medium Amt	Medium Amt
	No grass	Not Present	Not Present
	Overgrown grass	Little	Medium Amt
	Sex paraphernalia	Not Present	Not Present
Vandalism	Not Present	Not Present	

<b>General Operation</b>	Hours of Operation	Not Present	9am to 4pm	Not Present
	Signage Hours	Not Present	Not Present	Not Present
	Signage Rules	Not Present	Good	Good
	Approximate Size	Large	Medium	Large
	Capacity (Indoor)	Not Present	Approx. 300	Not Present
	Cost	Free	Free	Other/Private

**Type of Resource**

# Active Neighborhood Checklist (ANC)

(Hoehner and Brownson 2001).

**Date:** \_\_\_\_\_ **Segment ID:** \_\_\_\_\_  
**Auditor ID:** \_\_\_\_\_  
**Street Name:** \_\_\_\_\_  
**Start Time:** \_\_\_\_\_

## How were the data collected?

- Foot  Auto, provide reason: \_\_\_\_\_

## Is any building or section of the sidewalk or roadway under construction or being repaired?

- Yes, specify: \_\_\_\_\_  
 No

## A. What land uses are present?

### 1. Are residential and non-residential land uses present?

- All residential  
 Both residential and non-residential  
 All non-residential

### 2. What is the predominant land use?

Check one or two that apply.

- Residential buildings/yards  
 Commercial, institutional, office or industrial building(s)  
 School/school yards (elementary, middle, high school)  
 Parking lots or garages  
 Park with exercise/sport facilities or playground equipment  
 Abandoned building or vacant lot  
 Undeveloped land  
 Designated green space (includes park with no exercise/play facilities)  
 Other non-residential, specify: \_\_\_\_\_

### 3. What types of residential uses are present?

Select all that apply.

- None  
 Abandoned homes  
 Single family homes  
 Multi-unit homes (2-4 units)  
 Apartments or condominiums (>4 units, 1-4 stories)  
 Apartments or condominiums (>4 stories)  
 Apartment over retail  
 Other (retirement home, mobile home, dorms)

### 4. What functioning parking facilities are present?

Select all that apply.

- None (no parking allowed on street most or all of the time)  
 On-street, including angled parking  
 Small lot or garage (<30 spaces)  
 Medium to large lot  
 Garage

### 5. What public recreational facilities and equipment are present (including in the schoolyard if publicly accessible)?

Select all that apply.

- None  
 Park with exercise/sport facilities or playground equipment  
 Off-road walking/biking trail  
 Sports/playing field  
 Basketball/tennis/volleyball court  
 Playground  
 Outdoor pool  
 Other: \_\_\_\_\_

### 6. (OPTIONAL) What types of non-residential uses are present?

Select all that apply.

- None  
 Abandoned building or vacant lot
- Specific types of destinations:
- Small grocery, convenience store (including in gas station), or pharmacy  
 Supermarket  
 Food establishment (restaurant, bakery, café, coffee shop, bar)  
 Entertainment (e.g., movie theatre, arcade)  
 Library or post office  
 Bank  
 Laundry/dry cleaner  
 Indoor fitness facility

Educational facilities:

- School (elementary, middle, high school)  
 College, technical school, or university

Large buildings housing 1+ businesses/services:

- High-rise building (>5 stories)  
 Big box store (e.g., Walmart, Office Depot, Best Buy)  
 Mall  
 Strip mall  
 Large office building, warehouse, factory, or industrial building

Land use notes:

## B. Is public transportation available?

	No	Yes, one side	Yes, both sides
1. Any transit stop (bus, train, or other)?	go to C1		
1a. Bench or covered shelter at transit stop?			

Transit stop notes:

## C. What street characteristics are visible?

	No	Yes
1. Enter posted speed limit (99 if none):		
2. Enter special speed zone (99 if none):		
3. Enter total # of lanes on street:		
4. Marked lanes?		
5. Median or pedestrian island?		
6. Turn lane?		
7. Stop sign or light for crossing this segment?		go to C8
7a. Any stoplight(s) without a walk signal?		
8. Crosswalk for crossing this segment?		
9. Traffic calming device (roundabout, speed bump, brick road, other)?		
If yes, specify type(s):		
10. Cul-de-sac (dead-end street)?	go to D1	
10a. Sidewalk cut-through in cul-de-sac?		

Street characteristic notes:

## D. What is the quality of the environment?

	No	Yes
1. Any commercial buildings adjacent to the sidewalk? Enter "99" if not applicable.		
2. Any pedestrian amenities?		
2a. Bench (excluding at transit stop)?		
2b. Drinking fountain?		
2c. Pedestrian-scale lighting?		
2d. Other, Specify: _____		
3. Public art (e.g., statues, sculptures)?		
4. Graffiti or broken/boarded windows?		
5. Litter or broken glass?		None or a little Some A lot
6. Tree shade on the walking area?		None or a little Some A lot
7. Steepest slope along walking area?		Flat/gentle Moderate Steep

Pedestrian environment notes:

## E. Do you have a place to walk or bicycle?

	No	Yes, one side	Yes, both sides
<b>SIDEWALKS</b>			
1. Sidewalk present?	go to E10		
2. Any grassy or other buffer between curb and sidewalk <i>along most of the segment</i> ?	go to E3		
2a. Tree(s) in buffer?			
3. Sidewalk continuous within segment?			
4. Sidewalk continuous between segments at both ends?			
5. Width >3 ft for <i>most of the sidewalk</i> ?			
6. Width <3 ft for <i>any part of the sidewalk</i> ?			
7. Any missing curb cuts or ramps at intersections or driveways?			
8. Any major bumps, cracks, holes, or weeds in the sidewalk?			
9. Any permanent obstructions (trees, signs, tables) blocking the 3-ft walk area?			
10. <b>If a sidewalk is not present on any part of the segment</b> , do you have another safe place to walk, including:			
Street or shoulder (if safe)?			
Unpaved pathway?			
Other? Specify: _____			

Sidewalk notes:

### SHOULDERS (OPTIONAL)

11. Designated bike route sign or marking or "Share the Road" sign?			
12. On-street, paved, and marked shoulder?	go to E16		
13. Width of marked shoulder ≥ 4 ft?			
14. Shoulder continuous between segments at both ends?			
15. Any permanent obstructions in the shoulder (including drainage grates, parked cars)?			
16. <b>If a paved, marked shoulder is not present on any part of the segment</b> , do you have another safe place to bicycle, including:			
Street?			
Wide outside lane (~15 ft)?			
Other? Specify: _____			

Shoulder notes:

Stop time: \_\_\_\_\_

# Active Neighborhood Checklist (ANC) — Park Segment

## 1. What land uses are present?

- A. Are residential and non-residential land uses present?  
All residential
- B. What is the predominant land use?  
Park with exercise/ sport facilities or playground equipment
- C. What types of residential uses are present?  
Abandoned homes  
Single family homes
- D. What functioning parking facilities are present?  
On-street, including angled parking
- F. What public recreational facilities and equipment are present (including in the schoolyard if publicly accessible)?  
Off-road walking/ biking trail  
Sports/ playing field  
Basketball/ tennis/ volleyball court
- G. What types of non-residential uses are present?  
Abandoned building or vacant lot

## 2. Is public transportation available?

No

## 3. What street characteristics are visible?

- Two lanes on street
- Stoplights without a walk signal
- Lack of mid-block cross walks to access park/ trails
- Lack of speed limit signs

## 4. What is the quality of the environment?

- A. Any pedestrian amenities?  
One non-shaded picnic table, few benches  
Graffiti or broken/ boarded windows present  
Some litter or broken glass  
Little to no tree shade on the walking area  
Steepest slope along walking area is flat/ gentle

## 5. Do you have a place to walk or bicycle?

- Yes, on trails within park
- No, sidewalks surrounding park or leading to park from within neighborhood

# Active Neighborhood Checklist (ANC) — Organization Segment

## 1. What land uses are present?

A. Are residential and non-residential land uses present?

Both residential and non-residential

B. What is the predominant land use?

Residential buildings/ yards

C. What types of residential uses are present?

Single family homes

D. What functioning parking facilities are present?

On-street, including angled parking

Small lot or garage (<30 spaces)

F. What public recreational facilities and equipment are present (including in the schoolyard if publicly accessible)?

None

G. What types of non-residential uses are present?

Small grocery, convenience store (including in gas station) or pharmacy

Library or post office

School (elementary and high school)

Strip mall

## 2. Is public transportation available?

Yes, on both sides of street with bus stops signs

## 3. What street characteristics are visible?

Four lanes on street, marked lanes, median island, turn lanes

Lack of mid-block cross walks to access opposite side of street

Speed limit signs at 35mph

## 4. What is the quality of the environment?

Some commercial buildings adjacent to sidewalk

Pedestrian-scale lighting present

No graffiti or broken/ boarded windows

Little to no litter or broken glass

Some tree shade on the walking area

Steepest slope along walking area is flat/ gentle

## 5. Do you have a place to walk or bicycle?

Yes, sidewalks on both sides of street

Wide, outside street lane (approx. 15 ft) present (but not designated to bike)



# Active Neighborhood Checklist (ANC) — School Segment

## 1. What land uses are present?

- A. Are residential and non-residential land uses present?  
Both residential and non-residential
- B. What is the predominant land use?  
Residential buildings/yards  
School/school yards (elementary, middle, high school)
- C. What types of residential uses are present?  
Single family homes
- D. What functioning parking facilities are present?  
A small lot dedicated to the sporting facility  
(no parking allowed on arterial street most or all of the time)
- F. What public recreational facilities and equipment are present  
(including in the schoolyard if publicly accessible)?  
Not accessible to public  
(Sports/playing field, basketball court, brand new track)
- G. What types of non-residential uses are present?  
School (elementary, middle, high school)

## 2. Is public transportation available?

Yes, on both sides of street with bus stops signs

## 3. What street characteristics are visible?

Four lanes on street, marked lanes, turn lanes  
Speed limit signs at 35mph  
Special speed limit signs at 25 mph

## 4. What is the quality of the environment?

- A. Any pedestrian amenities?  
Pedestrian-scale lighting present  
No graffiti or broken/ boarded windows  
Little to no litter or broken glass  
Some tree shade on the walking area  
Steepest slope along walking area is flat/ gentle

## 5. Do you have a place to walk or bicycle?

Yes, brand new sidewalks on both sides of street  
No designated bike lanes

TO: Hyung Jin Kim  
LARCP  
208 Seaton

Proposal Number: 7455

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

DATE: 11/26/2014

RE: Proposal Entitled, "A Case Study: Designing and African-- American Neighborhood to Prevent Crime and Increase Physical Activity"

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.