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ACTIVE LIVING & LOCAL GOVERNMENT

A DISSERTATION APPROVED FOR THE  
DEPARTMENT OF HEALTH AND EXERCISE SCIENCE

BY

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This is dedicated to my children, Petra and Luca. My hope for you...may you discover what nourishes your soul, dream big, work hard for what you care about, take care of each other, make the world a better place, and keep being you.

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## Abstract

**Purpose:** This qualitative study explored a local government's perceptions of and support for active living and factors that influenced active living decisions and collaboration in one metropolitan city in the southern region of the United States.

**Methods:** City leaders and municipal employees (n=46) were interviewed. Participants had a role in creating and implementing policies and infrastructure changes that impact physical activity behaviors of city residents. They included the mayor, seven city council members, the city manager, the assistant city manager, fifteen director- and management-level city employees, six public health practitioners, six city planners, three parks and recreation employees, three public works employees, and three commissioners. The study took place in a car-dependent and car-prioritized city where physical inactivity is high, inadequate active living supportive policies have been adopted, and few walkable and bikeable areas exist. Interview transcripts were coded using NVivo and then analyzed for themes. **Results:** Regarding city leaders and active living decisions, five themes were identified: (1) identification of the most influential decision-makers, (2) barriers to making active living supportive design decisions, (3) city assets that facilitate making active living supportive design decisions, (4) younger generation preference, and (5) acknowledgement of particular co-benefits of activity-friendly environments. Regarding municipal employees and perceptions of active living, seven themes were identified: (1) perception of high level of support, (2) identification of the co-benefits of creating activity-friendly environments (3) comparison to other cities in the country, (4) 'not there yet' status, (5) acknowledgment of these changes being a long-term process, (6) importance of the mayor's support, and

(7) need for greater citizen involvement and demand. Regarding inter-governmental active living collaboration, eight themes were identified: (1) minimal active living/public health collaboration, (2) strained relationships with city planners, (3) radically different perceptions of planners, (4) the person matters, (5) facilitators to collaboration (history of working together, personal relationships, and regular meetings), (6) barriers to collaboration (silo-ed work environments and turf issues), (7) key decision-makers (the city manager, council, and mayor), and (8) inclusion of citizens in collaboration. **Conclusions:** These three studies add to the literature that explores the connection between local government and the promotion of physical activity. Findings increase understanding of multiple viewpoints of local government officials and the challenges and opportunities associated with creating activity-friendly policies and environments. Qualitative research can provide guidance to enhance collaboration and facilitate the creation of stronger partnerships and long-lasting policy and environmental changes.

## **Chapter 1: Introduction**

Physical inactivity is one of the most serious public health problems of the century with regard to human health consequences and economic costs (Colditz, 1999; Brownson et al., 2009; Pratt et al., 2014; WHO, 2015). Epidemiological evidence links inactive lifestyles to numerous physical and mental health problems (Paffenbarger, Wing, & Hye, 1978; Rankinen & Bouchard, 2002; WHO, 2015). Physical inactivity shortens life expectancy and is estimated to be responsible for 11% of all-cause mortality and 7-12% of mortality from heart disease, diabetes, and colon and breast cancer (Lee et al., 2012). Despite the well-established health benefits of regular physical activity, most children, youth, and adults in the United States are insufficiently active (USDHHS, 2008; Sallis, Floyd, Rodriguez, & Saelens, 2012). If trends continue it is estimated that by 2030 Americans will be almost half as active as they were in 1965 (Ng & Popkin, 2011).

Along with the health risks and consequences, physical inactivity places a substantial economic burden on the nation (Pratt, Macera, & Wang, 2000; Pratt, 2014). Inactivity increases the risk for some of the most expensive medical conditions including type 2 diabetes, obesity, heart disease, stroke, falls, and depression (Pratt, 2014; CDC, 2015). According to 2000 data sources, the national annual direct medical costs attributable to physical inactivity were \$76 billion (Pratt, Macera, & Wang, 2000; Pratt, 2014). Physical inactivity also perpetuates other social costs such as poor academic performance (Strong et al., 2005) with subsequent adverse impact on employability and decreased work productivity (Pronk et al., 2004).

In response to the negative effects of high levels of physical inactivity, the promotion of physical activity is now recognized as a valuable investment for our nation. Physical activity is considered one of the most important behaviors to improve overall health (USDHHS, 1996; USDHHS, 2008; Tuso, 2015) because of its role in preventing and reducing the burden of common chronic diseases. It also is important because it facilitates positive mental health and healthy aging (Physical Activity Guidelines Committee, 2008; USDHHS, 2008). Evidence indicates that even moderate intensity physical activity, walking and bicycling in particular, can prevent disease and promote health (Killingsworth, Nazelle, & Bell, 2003). Physical activity promotion efforts are increasingly expanding from individual-focused interventions (Giles-Corti & Donovan, 2002; Mermin & Graff, 2009; Leeman, 2012) toward more upstream approaches (Sacks, Swimburn, & Lawrence, 2009). Built environment focused interventions are garnering greater attention because they impact entire communities for many years and require less individual effort (Frieden, 2010; Sallis, 2012; Sallis et al., 2015). A large body of evidence demonstrates that a majority of Americans are inactive unless communities, transportation systems, schools, and recreation facilities are designed to promote active living (Dannenberg et al., 2003; Srinivasan, O'Fallon, & Deary, 2003; Sallis, Floyd, Rodriguez, & Saelens, 2012). Built environment-focused interventions and policies are now recommended by the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) as cost-effective and sustainable approaches for promoting population physical activity (Frieden, 2010; Kenner, Goodman, Lowry, Zaro, & Kettel, 2009; Parker, Burns, Sanchez, 2009; Edwards & Tsouros, 2008; CDC, 2011; Rydin, et al., 2012). The *Guide to Community*

*Preventive Services* advocates for environmental and policy approaches to increase physical activity, specifically recommending community and street-scale urban design land use policies that support physical activity in small geographic areas (Community Guide, 2007). Furthermore, the current U.S. Surgeon General, Dr. Vivek Murthy, is now urging the nation to better support walking and walkability for people of all ages and abilities (USDHHS, 2015).

Built environment-physical activity research has primarily focused on national and state policy (Bernier & Clavier, 2011). However, many decisions affecting physical activity environments occur at the municipal government level (Sallis et al., 2015). These decisions can include zoning, land use and transportation policies, infrastructure changes, parking restrictions, traffic control, taxation, new funding, and resource allocation (Perdue, Gostin, & Stone, 2003; Lyn et al., 2013).

Recommendations by leading health authorities call for local governments' involvement and leadership in physical activity promotion, yet there is little research on city-level action to achieve activity-friendly environments. Local policymakers play a critical role in the incorporation of active living considerations into the development of ordinances, plans, and policies. Their support is vital to achieving desired policy changes and creating activity-friendly communities (Perdue, Stone, & Gostin, 2003; Dannenberg, et al., 2003; Edwards & Tsouros, 2008; Jackson, Dannenberg, Frumkin, 2013).

Advancing the concept of active living requires greater understanding of its role within the context of the mission of a variety of disciplines (Killingsworth, Nazelle, & Bell, 2003) and effective communication of these disciplinary specific roles. In addition to city leaders, public health professionals (Corbett, 2008; Kuiper, Jackson,

Barna, & Santariano, 2012), city planners, parks and recreation employees, and city engineers are also key players in the process of creating activity-friendly communities (Jackson, 2012). City planners make daily decisions that influence their citizen's physical activity behaviors. Without their support for active living, community practices, policies, and environments are unlikely to change. Although transportation experts are not directly responsible for decisions that affect the built environment as a whole, their practices and decisions may dictate whether a city's infrastructure supports non-motorized travel (Killingsworth, Nazelle, & Bell, 2003). Public health strategies to increase physical activity often focus on individual and interpersonal level interventions (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2002). However, with the emergence of research that the built environment may have important implications for health promotion, public health professionals are increasingly participating in built environment and policy approaches to address physical inactivity (Killingsworth, Nazelle, & Bell, 2003). Representatives from these respective disciplines can provide leadership and legitimacy for development of policies and practices that make walking and bicycling possible, safe, easy, and appealing (Sallis, Frank, Saelens, & Kraft, 2004; Edwards & Tsouros, 2006; Corbett, 2008). Thus, greater understanding of these professionals' viewpoints can contribute to a more complete and accurate picture of the challenges and opportunities associated with creating activity-friendly policies and environments.

It is well recognized that multidisciplinary collaboration is beneficial in creating community and health changes (Bors et al., 2009; Baker et al., 2012). Through collaboration, problems can be addressed that affect many organizations and for which



no one organization has all the resources and skills to effectively deal with on its own. Collaboration also provides a means to pool financial resources and work together on complex problems (Bazzoli et al., 2003, p. 64S).

Collaboration among public health officials, city planners, and engineers is not entirely new. These fields have a history of working together to achieve improved health outcomes (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2002; Sallis, Frank, Saelens, & Kraft, 2004). In the past, they have partnered to resolve problems related to overcrowding, poor living conditions, and air and water pollution. Today, the disciplines are reuniting over a different issue, the promotion of active living (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2002). These fields' agendas overlap; however, collaboration may be fueled by differing motivations, such as concern for social equity, pedestrian injuries, traffic congestion, air quality, mental health, and/or physically inactive lifestyles (Sallis, Frank, Saelens, & Kraft, 2004).

Communities across the United States are creating and supporting active transportation, and a major contributor to their success is cross-sector collaboration (Killingsworth, Nazelle, & Bell, 2003; Bors et al., 2009). Despite successful collaborations in select cities, little research has been conducted examining the cross-sector participation in creating policies and environments that encourage walking and bicycling. Greater understanding of factors that influence collaboration at the local level can justify and promote effective collaboration and inform and enhance efforts aiming to achieve long-lasting policy and environmental changes that support active living.

## **Purpose of the Study**

It is in a community's best interest for different individuals and agencies to work together for successful solutions to supporting active living. Despite the growing trend to prioritize environmental and policy supports for physical activity, limited research exists within a single community that focuses on municipal level processes and decisions, impetuses for, and efforts to create walking and bicycling-friendly environments and policies (Maddock et al., 2009; Institute of Medicine, 2010). This study will explore one metropolitan city's leaders' and municipal employees' perceptions of, support for, and collaboration in creating active living supportive policies and environments. The overarching purposes of this qualitative study are to (1) investigate factors that influence city leaders' active living related decisions, (2) examine public health professionals', city planners', engineers', parks and recreation employees', and commissioners' perceptions of and support for the creation of policies and environments that support active living, and (3) examine active living related collaboration among these three groups. The study will take place in a car-dependent and car-prioritized southern city in the United States where physical inactivity is high, inadequate active living supportive policies have been adopted, and few walkable and bikeable areas exist. The participants in this study will be city leaders, elected and appointed officials, municipal employees, and local public health professionals who have a role in creating and implementing policies and infrastructure changes that impact physical activity behaviors of city residents. First, one-on-one, in-person, semi-structured interviews will be conducted with city leaders, defined as those with authority and decision-making power. Second, one-on-one, in-person, semi-structured

interviews will be conducted with five groups of municipal employees and appointed officials: public health professionals, urban planners, engineers, parks and recreation staff, and commissioners who have a role in decision-making related to active living. These methods will be used to help understand the multiple perspectives of and collaboration among local government officials.

## **Study Setting**

### *Physical Activity and Related Health Outcomes*

The setting for the proposed study is a large metropolitan city in the southern region in the United States. One reason this particular setting is worthy of study is the populations' poor health status, especially in health outcomes related to physical inactivity. The state's health indicators are among the worst in the nation, ranking in the lowest ten in overall health status of its residents compared with other states. Overall, the state has one of the highest rates of death from all causes. The state is among the leaders in the nation in mortality rates due to heart disease, stroke, diabetes, and respiratory disease (State Health Department, 2014). The U.S. mortality rate has dropped 20% over the past 20 years, whereas this state's mortality rate has dropped at a much lower rate. The state ranks in the lowest ten states for physical activity level (State Health Department, 2014) and is one of the top ten most obese states in the nation (State Health Department, 2014). The target city, similar to the state, ranks high in health risk behavior and outcomes. Behavioral Risk Factor Surveillance Survey data from 2012 support this (specific information is not given in order to protect the identity of the city) (CDC, 2012).

### *Population*

The target city is one of the largest cities in the state (Census, 2014) and ranks one of the most populous cities in the United States. According to the 2010 census (Census, 2010), the racial composition of the city was predominantly White but also had sizeable numbers of Hispanics/Latinos, Blacks/African Americans, Asians, and American Indians. According to 2009-2013 data sources, the median household income was \$45,824, and over 18% of the population were below the poverty level (Census, 2009-2013). In 2010, the city's age composition was less than 10% under the age of 5, about 25% under the age of 18, and just over 10% 65 and older (Census, 2010). The city has experienced a significant population increase since the late 1990s. The current population estimate is the largest ever recorded for the city (Census, 2014).

### *Geography and Regional Characteristics*

The city covers a large geographic area that encompasses both urban and rural areas (The City, 2015). The north side of the city is characterized by diverse and historical urban neighborhoods near the city center and sprawling suburbs further north. A primarily working class population and a rapidly growing Latino community characterize the south region of the city. The northeast region of the city is home to the states' largest African American population. The area has a mix of low, middle, and upper income residents, all within close proximity to each other. The city's downtown is currently undergoing an influx of private investment and large-scale residential infrastructure projects and is now home to over 7,000 residents (The City, 2015).

## *City Government*

The city's government is made up of a City Manager, a Mayor, and eight city council members who represent their geographic wards. The mayor and councilors are elected to four-year terms, and they appoint a city manager that serves as the city's chief administrative official. The city employs over 4,500 full time workers and had an annual budget of approximately \$1 billion for fiscal year 2014-2015 (The City, 2015). The city's health department works to "protect health, promote wellness, and prevent disease" (The City-County Health Department, 2015) and is governed by a nine-member board under the authority of a state statute. It currently employees nearly 300 (The City-County Health Department, 2015). The city's planning department "works to improve the welfare of people and the community by creating more convenient, equitable, healthful, efficient, and attractive place for present and future generations" (The City, 2015). It has four divisions: administration, planning and urban design, housing and community development, and the urban redevelopment (The City, 2015). It currently just under 50 employees. A nine-member board governs this department and adopts the city's comprehensive plan (a policy document used by city leaders, developers, business owners and citizens to make decisions about future growth and development). The city's transportation department is "responsible for planning, developing, building, and operating a downtown parking network and a regional public transit system". It currently has over 200 employees and is governed by an eight-member board (The City, 2015).

### *City Land Use and Development*

The city's development patterns are similar to other American cities. Citywide development has tended to locate in single-use areas. Current and past land ordinances encourage separation of uses and compartmentalized growth. Lower density, more dispersed development pose challenges for the city when attempting to create more activity-friendly kinds of development (The city comprehensive plan, 2015).

Historically low land costs coupled with a fairly unlimited land supply are other factors that influence the city's design and infrastructure. As a result, there has been little economic incentive for higher density development. The city's lower-density land use consequently reduces walkability, creates more dependence on automobile transportation, and increases the distance of individual trips. Additionally, the city's outdated zoning regulations have resulted in fragmented growth and an inability to mix uses. Subdivisions lack standards that provide open space, street connectivity, active transportation networks, and a variety of uses and densities (The city comprehensive plan, 2015).

Regarding the city's land use patterns, "more land is devoted to residential use than to any other urban use. Therefore, residential development has had a huge influence on the form and physical size of the city" (The city comprehensive plan, 2015, p.130). To date, most residential development has been built in a way that separates homes of different costs and sizes and rarely includes multiple types and densities of housing. The city has recently made some positive changes related to commercial land use. "Innovative new commercial centers are emerging and both older commercial

districts and special character areas are experiencing a renaissance, to the benefit of businesses and surrounding neighborhoods” (The city comprehensive plan, 2015).

Similarly, the city’s downtown has experienced significant changes in the past twenty years. These changes are primarily due to a citywide program of development projects funded by taxpayers and private investment. Upcoming downtown projects include a new convention center, a downtown park, a downtown streetcar transit system, downtown residential development, and a boulevard. Despite the progress, the city’s downtown still lacks mixed land use and connectivity that provides walkable and bikeable spaces (The city comprehensive plan, 2015).

#### *Transit*

In the mid 1900s, public transportation was converted to a bus service and the rate of transit usage steadily declined. In 2010, only 0.8% of the city’s commuters used transit for travel to work, which is the lowest rate among the nation’s fifty largest metropolitan areas. However, the city claims it is currently taking major steps to revitalize its transit service (The city comprehensive plan, 2015). Recently, the city underwent a major re-branding and route reconfiguration to provide more direct lines, eliminate non-productive routes, and run routes with greater frequency. Despite these improvements, the transit system has limited service hours. It shuts down early (7:30 pm on Monday – Friday and 6:30 pm on Saturday) and does not operate on Sunday, which is unusual for a city of this size. These restrictions are the result of limited funding and relatively low rider density. The coverage area is spread over a very large territory, and many areas of the city lack the density or rider demand necessary to support transit. Support infrastructure is lacking as well. The city’s transit system is

characterized by long waiting periods and inadequate shelters, lighting, and pedestrian access to bus stops (The city comprehensive plan, 2015).

### *Bicycling Facilities, Trails, and Sidewalks*

Too often, the city's streets accommodate cars, rather than other transportation options. The city has minimal biking infrastructure compared to other large cities. The city includes 12 lane-miles of dedicated use bike lanes (roads that have bike lanes on both sides have been counted twice), and about 7.5 miles of road that have a bike lane (whether one or both sides). The city also has over 150 miles of bike routes on both sides of the roads that are designated as bike routes (The City, 2015), but are not restricted to bike traffic only. These bike routes, however, are just sharrows painted every so often and include signs that say, "Share the Road" or "Bikes May Use Full Lane".

The city has approximately 70 miles of multi-use trails in six major corridors; however, many of the major trails remain disconnected from the rest of the trail network. Also, local links to surrounding neighborhoods and destinations are often missing and trail support facilities such as signage, mileage markers, and safe intersection designs are lacking. Another challenge is trail development and maintenance funding. "Trails in the city are considered recreational facilities and compete with parks for scarce maintenance funding" (The city comprehensive plan, 2015).

Sidewalks are vital to a city's pedestrian system; however, the city's current sidewalk system is limited. "Most of the city has poor sidewalk coverage or no sidewalks at all" (The city comprehensive plan, 2015). Citywide there is a total of over



4,000 miles of roads and less than one-third of the roads have sidewalks (The City, 2015).

Reasonably good networks occur in the traditional city core and in new neighborhoods where recent subdivision regulations now require sidewalks along streets. But, in the intervening period, pedestrian activity was generally not valued and, in an automobile culture, developers and even the city viewed sidewalks as an unnecessary expense. Even where sidewalks are present, data on their condition, safety, and usability are limited (The city comprehensive plan, 2015, p.164).

### *Walking and Bicycling-Friendly Status*

In the past ten years, the city has been ranked as one of the least friendly cities in the nation for pedestrians (Speck, 2009), one of the least walkable of the 50 largest cities in the United States (Walk Score, 2015), and among the top metropolitan areas in the nation for pedestrian traffic deaths (Smart Growth, 2015). Furthermore, the city has yet to adopt a Complete Streets Policy (a policy that guides street design to enable safe access for all users, regardless of age, ability, or mode of transportation) (Smart Growth, 2014).

### *The City's Comprehensive Plan*

The city recently updated its comprehensive plan, which provides long-term policy direction for future land use, transportation, economic development, housing, public services, and natural and cultural resources. Of relevance to this study are the city's goals for sustainable growth and development and the creation of more transportation options including safe places to walk and bicycle. The city is currently in the process of creating a master plan for cyclists and pedestrians, making this study a timely project. The master plan for cycling and walking recommends the development and completion a bicycle and pedestrian network throughout the city to promote safe

and more enjoyable active transportation choices. An online survey was administered between August and October 2015 to gather input from city residents. Over 50 percent of respondents rated present bicycling conditions as poor and over 70 percent considered it very important to improve those conditions. Nearly 50 percent of respondents rated walking conditions as poor and over 75 percent considered it very important to improve those conditions. The top four factors that discourage survey respondents from bicycling or walking in the city were: (1) lack of connected multi-use paths, sidewalks, and bicycle facilities, (2) motor vehicle traffic, (3) unsafe street crossings, and (4) aggressive motorist behavior (The City, 2015). Citizens' input gained from this survey is intended to assist in the creation of the pedestrian and cycling master plan.

### **Research Questions**

The following research questions will be investigated in this study:

#### *Manuscript 1: Factors that Influence City Leaders' Active Living Decisions*

RQ1: How favorable are city leaders to making decisions and policies that support active living?

RQ2: What factors influence city leaders' decisions and involvement in active living related policy (land use, city design, transportation, and parks and recreation)?

- What factors encourage city leaders to make active living supportive decisions?
- What factors hinder city leaders from making decisions that are supportive of active living?

RQ3: What are city leaders' perceptions of the co-benefits of designing communities for active living?

Co-benefits are defined as outcomes expected to provide benefits of activity-friendly environments in addition to increased physical activity. These may include benefits such as physical health, mental health, social and community benefits, safety/injury prevention, environmental sustainability, and economics (Sallis et al., 2015).

*Manuscript 2: Local Government's Perceptions of Active Living*

RQ1: What are each sector's level of support for creating policies and environments that encourage active living?

RQ2: What are each sector's perceptions of the co-benefits of designing communities for active living?

RQ3: What are the perceptions of each sector's role and responsibility in creating active living-supportive policies and environments?

RQ4: How does each sector envision the best way(s) to active living-supportive policies and environments?

*Manuscript 3: Active Living Collaboration in Local Government*

RQ1: In what capacity does each sector collaborate with the other sectors in the creation of policies and environments that support active living?

RQ2: What is each sector's role in collaboration?

RQ3: What factors influence collaboration in creating policies and environments that support active living?

- What factors facilitate collaboration?
- What factors hinder collaboration?

RQ4: What solutions do each sector propose to improve collaboration in creating policies and environments that support active living?

These research questions will be refined throughout the reflexive and interactive inquiry process.

### **Theoretical Foundation**

The study is guided by social constructionism. Social constructionism asserts that humans construct reality and “things are defined interpersonally and inter-subjectively by people interacting in a network of relationships” (Patton, 2015, p. 122). This theoretical foundation was applied because the proposed study sought to capture diverse understandings and multiple realities about peoples’ (i.e., different sectors and professionals) definitions and experiences of a particular situation (i.e., active living decision-making and collaboration within local government) (Patton, 2015). Insight was gained and understanding achieved within the context of the study participants’ social and physical environments. Through qualitative data collection methods, the study aimed to (1) examine the shared meaning that city leaders, municipal employees, and appointed officials (public health professionals, city planners, engineers, parks and recreation employees, and commissioners) have assigned to city level changes that promote active living and to (2) elicit diverse perspectives in order to better understand multiple realities regarding a city’s effort to increase opportunities for citizens to be physically active.

### **Significance of the Study**

Quality of life in cities is of increasing concern to the public and to policymakers. One of the major threats to quality of life is the high rate of physical

inactivity (Lee et al., 2012; Sallis, Floyd, Rodriguez, & Saelens, 2012). A few generations ago physical activity was a regular and purposeful part of daily life (Lavizzo-Mourey & McGinnis, 2003). Today, urban planning and transportation investments that favor travel by car make participating in regular physical activity difficult (Sallis et al., 2015, p1). Similarly, residents of the study's target city are insufficiently active (State Health Department, 2014) and have inadequate policy and environmental supports for being regularly active (The city comprehensive plan, 2015). Despite these challenges, the city is attempting to become more activity-friendly. These characteristics make this particular city a worthwhile investigation.

Active living researchers have called for efforts to learn more about those with the responsibility and influence to change the built environment (Giles-Corti et al., 2015). Because most built environment decisions occur at the local level, greater understanding of city leaders and municipal employees within the context of enhancing opportunities for active living are necessary. The majority of studies targeting city leaders and municipal officials have utilized quantitative study designs (Librett, Yore, & Schmid, 2003; Hollander, Martin, & Vehige, 2008; Heinrich, Johnson, Jokura, Nett, & Maddock, 2008; Maddock, Reger-Nash, Heinrich, Leyden, & Bias, 2009; Bocarro et al., 2009; Evenson, Aytur, Satinsky, & Rodriguez, 2011; Dill & Howe, 2011; Groins et al., 2013; Zwald et al., 2014; Lemon et al., 2015). Very few have focused on one particular metropolitan city, other than those receiving Robert Wood Johnson Foundation funding (Rockey Moore, 2009; Baker, Wilkerson, & Brennan, 2012). Currently, there appear to be no studies that have focused on a city with few existing walkable and bikeable locations.

Past qualitative studies have examined factors that support or hinder successful implementation of local policies that promote physical activity (Salvesen, Evenson, Rodriguez, & Brown, 2008), processes and policies that facilitated the development of community trails (Eyler et al., 2008), and public support for obesity policy (Neiderdeppe et al., 2011). Although these studies provide initial insights, further examination is warranted to increase understanding of factors that influence city leaders' decisions and municipal official's involvement in creating activity-friendly policies *and* environments. It also is important to better understand factors that influence collaboration among these groups. Missing from the literature is an examination of local leaders' decisions about all aspects of the built environment (city design, land use, transportation, and parks and recreation) that affect activity levels of all population subgroups within a large metropolitan city.

Public health and city planning professionals have been identified as key players in the promotion of physical activity. However, few studies have conducted in-depth investigations of these sectors' perceptions of and motivations for involvement in creating policies and environments that favor active living. Furthermore, the results from prior studies suggest that collaboration plays a major role in a community's success in overcoming barriers to creating active living supportive policies and environments (Hoehner, Brennan, Ross, Handy, & Killingsworth, 2002; Sallis, Frank, Saelens, & Kraft, 2004; Bors et al., 2009). However, the mechanisms for how and why cross-sector collaboration within local government occurs has received little attention. Deeper understanding of such collaboration can inform and enhance collaboration among transportation, parks and recreation, planning, and health professionals.

The proposed study will involve an investigation of factors that influence active living in one city in the United States. A qualitative analysis of in-depth interviews with city leaders, public health officials, city planners, engineers, parks and recreation employees, and commissioners will be conducted. The findings from this study can improve understanding of factors that influence the development of policies related to the built environment. Additionally, findings can inform policy makers, practitioners, researchers, and active living advocates seeking to advance policies supportive of active living.

### **Delimitations**

The study was delimited by the following:

1. The study will be conducted in one city in the southern region of the United States.
2. Participants will be municipal employees and elected or appointed officials who have a role in active living related decisions.
3. Participants will include both males and females.
4. Participants will be excluded if they are not an elected official, appointed official, or a municipal employee.
5. Participants will be excluded if they do not have a role in city-level active living related decisions.
6. Face-to-face interviews will be conducted.
7. Interviews will be conducted at a site of preference to the participant.
8. Interviews will be audio-recorded with permission to assure accuracy of transcription.

## **Limitations**

Possible limitations of the study include:

1. The study will be conducted in one city. This method reduces generalizability of the findings to other cities.
2. Participation in this study will be voluntary. This recruitment approach will restrict the generalizability of the findings to similar groups in similar populations.
3. There was the possibility of response bias. Those more interested in active living may have been more likely to agree to be an interviewed.
4. There will be the possibility that perceptions of the city's built environment may differ from the actual built environment.
5. There will be the possibility that participants will respond in a socially desirable manner due to the political nature of the interview questions asked.
6. Not all city leaders will be interviewed.
7. Not all municipal employees with a role in active living will be interviewed.
8. Not all built environment features in the city will be discussed.
9. Not all active living-related policies in the city will be discussed.

## **Assumptions**

The following assumptions were made:

1. Interview questions will be clear and understood to mean the same thing by participants.
2. Participants will respond honestly and accurately to interview questions.

## **Operational Definitions**

The following are definitions of terms that were used in the study:



1. Physical activity: any bodily movement produced by skeletal muscles that requires energy expenditure, including activities undertaken while working, playing, carrying out household chores, travelling, and engaging in recreational pursuits (USDHHS, 1996).
2. Physically inactive: not meeting the general recommendations for physical activity (150 minutes of moderate intensity activity or 75 minutes of vigorous activity per week) (USDHHS, 2008).
3. Active living: a way of life that integrates physical activity into everyday routines such as walking to work or school or bicycling to the store (WHO, 2006; Active Living Research, 2015).
4. Domains of physical activity: various purposes of physical activity such as leisure, transportation, occupational, and home-based (Sallis, Frank, Saelens, & Kraft, 2004).
5. Built environment: where people live, work, recreate, worship, and learn; human-made infrastructure designed to support human activity that includes buildings (homes, schools, stores, and restaurants), public resources (streets, streetlights, parks, trails, and sidewalks), land use patterns, transportation systems, and city design features (Frank, Engelke, & Schmid, 2003).
6. Physical activity environments: specific types of places in which people engage in physical activity such as parks, trails, fitness centers, schools, and streets (Sallis, 2009).
7. Walkability: a measure of the extent to which the built environment facilitates or hinders walking for purposes of daily living, such as how friendly an area is to

- walking (Andrews, Hall, Evans, & Colls, 2012). Factors affecting walkability include but are not limited to the presence or absence and quality of sidewalks or other pedestrian walkways, traffic and road conditions, land use patterns, street connectivity, access to mass transit, destination accessibility, street designs, traffic volume and speed, aesthetics, and safety (Ramirez et al., 2013; Walk Score, 2015).
8. Walkable: an area that is friendly to and supportive of walking (Albey, 2005; Walk Score, 2015).
  9. Bikeability: a measure of the extent to which the built environment is suitable or fit for bicycling (Walk Score, 2015).
  10. Bikeable: an area that is friendly to and supportive of bicycling (Walk Score, 2015).
  11. Active transport: non-motorized transport such as walking and bicycling (Sallis, 2003); also referred to as “walking and cycling for transportation”, “non-motorized transport”, and “human powered transport” (Sallis, Frank, Saelens, & Kraft, 2004).
  12. Local government: municipal employees and elected officials within an incorporated city, town, county, or municipal area (Institute of Medicine, 2010).
  13. Physical activity policies: rules, regulations, or decisions that state the actions needed to address low rates of physical activity participation (Heesch & Han, 2007).
  14. Co-benefits: outcomes expected to provide benefits of activity-friendly environments in addition to increased physical activity such as other physical health, mental health, social/community, safety/injury prevention, environmental sustainability, and economic benefits (Sallis et al., 2015).

15. City comprehensive plan or master plan: a general plan that lays out the future of a city's development in broad terms through a series of general policy statements (Prevention Institute, 2008).
16. Zoning: the division of a community into districts and the application of different requirements in each of those districts (Prevention Institute, 2008).
17. Sharrow: a street marking placed in car travel lanes to indicate where people should preferably cycle; also called a shared-lane marking (Blasko, 2013).
18. Capacity: the ability of a government agency to implement changes, including possession of sufficient knowledge and resources (Salvensen, Evenson, Rodriguez, and Brown, 2012).

It is important to note that the terms “city leaders”, “policy-makers”, and “decision-makers” will be used interchangeably throughout the paper.

## **Chapter 2: Review of Literature**

The lack of physical activity from people's lives is a complex, entrenched problem (Lavizzo-Mourey & McGinnis, 2003) and a major public health challenge (Sallis et al., 2004). Inactivity is responsible for about 200,000 deaths in the United States each year, second only to tobacco (USDHHS, 1996; Sallis et al., 2004). Consequently, the promotion of physical activity has become a national priority (USDHHS, 1996). Public health authorities recommend municipal level policy and environmental changes that support active living as effective and sustainable approaches to increasing physical activity and improving health outcomes (Handy, Cao, & Mokhtarian, 2005; Khan et al., 2009; The Guide, 2011; USDHHS, 2015). Key players in achieving these recommendations include elected and appointed representatives and municipal officials from diverse sectors. Changing active living related policies, practices, and environments requires local government support and leadership. Therefore, greater understanding of local level efforts and processes to create environments more supportive of active living is needed.

Since physical activity is associated with reduction in risk for and prevention of several common chronic diseases, this review includes the well-established benefits of physical activity, the current national recommendations for being active, the current rates of physical activity in the United States, and the types of physical activity. This chapter also discusses the long-term social, political, and technological trends affecting physical activity behaviors. Because improving the built environment is an important approach to increasing population physical activity, this chapter includes relevant national goals for increasing physical activity. The impact of the built environment on

physical activity also will be examined, including particular built environment features and policies that facilitate and hinder physical activity. Furthermore, the review includes indicators of activity-friendly communities and strategies for enhancing the built environment to support active living. The chapter then discusses the literature regarding city leaders and municipal employees and their roles in influencing and determining built environment policies and practices and physical activity promotion at the municipal level. Finally, this chapter ends with a discussion of the co-benefits of community design that supports active living.

## **Physical Activity**

### *Benefits of Physical Activity*

Being active is fundamental to healthy living (Pate et al., 1995; USDHHS, 1996). Since the publication of *Physical Activity and Health: A Report of the Surgeon General* in 1996, extensive, additional evidence for the health benefits of physical activity has accumulated (USDHHS, 2008). Physical activity is associated with reduced morbidity and mortality and is critical in the reduction of risk for heart disease, stroke, hypertension, type 2 diabetes, obesity, osteoporosis, osteoarthritis, and breast and colon cancer (USDHHS, 1996; USDHHS, 2002, USDHHS, 2008). Additionally, regular physical activity improves health by contributing to: maintenance of healthy weight, maintenance of healthy blood pressure, development of healthy and strong bones, muscles, and joints, improvement in strength and flexibility, prevention of falls in older adults, reduction in feelings of depression and anxiety, and promotion of mental health (USDHHS, 1996; USDHHS, 2002, USDHHS, 2008). Regular physical activity uses large muscle groups, produces cardiovascular adaptations for improved exercise

capacity, and promotes cardiovascular and muscular fitness, which decreases the risk of cardiovascular disease, the leading cause of death in the United States (Paffenbarger, 1978; Rankinen, 2002; Handy, Cao, & Mokhtarian, 2005). The health benefits of regular physical activity are compelling. According to one study, 32 to 35 percent of all deaths in the United States attributable to coronary heart disease, colon cancer, and diabetes could be prevented if all members of the population were physically active (Powell and Blair, 1994).

### *Physical Activity Recommendations*

Physical activity recommendations have been made because regular physical activity helps improve overall health and fitness and reduces risk for development of many chronic diseases and premature mortality. In 2008, the U.S. Department of Health and Human Services disseminated the current physical activity guidelines for children and adolescents, adults, and older adults:

- **Children and Adolescents:** In addition to participation in activities of daily living, children and adolescents between the ages of 7 and 17 years should participate in 60 minutes or more of activity daily, with at least three days a week of vigorous-intensity aerobic activity. Bone and muscle strengthening and flexibility exercises are recommended to be performed at least three days a week.
- **Adults:** In addition to participation in activities of daily living, adults aged 18 to 64 should engage in 150 minutes a week of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity, or an equivalent of both. Physical activity sessions can be performed in three 10-minute bouts or in one

bout of 30 minutes. Adults should also include muscle-strengthening activities for at least two days of the week.

- Older Adults: In addition to participation in activities of daily living, older adults should participate in 150 minutes a week of moderate-intensity physical activity if their physical conditions allow. Flexibility and balance exercises are also recommended for older adults.

With all age groups, additional health benefits can be gained by accumulating larger doses of physical activity than prescribed by the recommendations (USDHHS, 2008).

#### *Prevalence of Physical Activity in the United States*

According to the CDC, 21% of adults and less than 30% of high school students meet the national physical activity guidelines (CDC, 2012). The rates of physical activity vary by geographic region. Americans living in the South are less likely to be physically active than those in the West, Northeast, and Midwest regions of the United States. In addition, activity rates differ based upon ethnicity, age, sex, and socioeconomic status. Non-Hispanic white adults (23%) are more likely than non-Hispanic black adults (18%) and Hispanic (16%) adults to meet the current physical activity guidelines. Younger adults are more likely than older adults, and men (54%) are more likely than woman (46%) to meet the guidelines. Adults with more education and having an income above the poverty level are more likely to meet the physical activity recommendations compared with those with less education and whose family income is at or near the poverty level (CDC, 2012).

### *Types of Physical Activity*

There are different types of physical activity, each with different characteristics that influence the ease or difficulty in adopting and adhering to the particular type of activity. The various purposes or domains of physical activity include occupational, recreational, home-based, or utilitarian (Frank, Engelke, & Schmid, 2003; WHO, 2006; Ainsworth et al., 2011). These types of physical activity vary with respect to amounts of energy expended (Ainsworth et al., 2011), resources, time, equipment required, who can participate, when the activity can be done, and where the activity can be performed (Frank, Engelke, & Schmid, 2003). For example, recreational forms of physical activity are participated during a person's leisure time and include activities such as jogging, playing basketball, swimming, participating in an exercise class, and weight lifting. Occupational physical activity is activity associated with a job usually during the timeframe of the 8-hour workday. Home-based physical activities include participation in domestic chores and/or yard work. In contrast, utilitarian physical activity is undertaken primarily for transportation (Frank, Engelke, & Schmid, 2003).

Utilitarian activities, such as walking or bicycling for transportation, often demand less financial resources and equipment, involve lower exertion, can be performed by most people, and take less time away from other daily activities (Frank, Engelke, & Schmid, 2003; Sallis, Frank, Saelens, & Kraft, 2004; Rodriguez, 2009). Utilitarian activity is often referred to as 'active transport' or 'non-motorized transport' (Sallis, Frank, Saelens, & Kraft, 2004). Because of its numerous advantages, active transport is important to consider when planning interventions to increase population physical activity rates (Rodriguez, 2009). People can adopt and maintain this type of



activity over the long term. It requires lower fitness level and few financial resources, if any. Because of lower cost and greater ease, vulnerable populations such as children, the elderly, and the poor are likely to participate in this type of activity if proper and adequate supports exist (Frank, Engelke, & Schmid, 2003). Unfortunately, non-motorized modes of travel are far less popular in the United States when compared to other parts of the world. Active transport is often difficult, impractical, and dangerous due to environmental factors in the United States (Frank, Engelke, & Schmid, 2003, Sallis, Frank, Saelens, & Kraft, 2004; Rodriguez, 2009).

#### *Long-term Trends Affecting Physical Activity Levels*

Social, political, and economic changes and technological innovations over the past century may help explain American's current inadequate levels of physical activity (Handy, Cao, & Mokhtarian, 2005). The demands for physical activity have steadily and significantly been reduced at work, home, during recreation, and as people travel (Brownson, Boehmer, & Luke, 2005; Ng & Popkin, 2012). The growth of white-collar jobs and decline in employment in agricultural and manufacturing has caused considerable decreases in physical activity levels in the workplace (Brownson, Boehmer, & Luke, 2005; Handy, Cao, & Mokhtarian, 2005).

In 1950, approximately 30 percent more of the labor force was engaged in high-activity than in low-activity occupations. By 2000, roughly twice as many persons were employed in low-activity than in high-activity occupations (Handy, Cao, & Mokhtarian, 2005, p. 66).

Similarly, time spent on household activities (i.e., cleaning, laundry, and meal preparation) has been reduced as a result of technological improvements, labor-saving devices, and with the increase of women in the workforce (Cutler, Glaeser, & Shapiro, 2003; Brownson, Boehmer, & Luke, 2005). Abundant opportunities for leisure-time

sedentary activities such as electronic entertainment options have contributed to profound declines in leisure-time physical activity. Television watching is now the most common leisure-time activity (Brownson, Boehmer, & Luke, 2005; Handy, Cao, & Mokhtarian, 2005). In 1950, only about 10% of households had a television as compared to today when 98% or more have at least one (Brownson, Boehmer, & Luke, 2005).

Changes in land use and travel behavior have also had implications for population physical activity levels (Brownson, Boehmer, & Luke, 2005; Handy, Cao, & Mokhtarian, 2005). As urban sprawl emerged in the early 1900s, city design became increasingly automobile-oriented, thus encouraging widespread use of the car as the primary form of transport. In 2001, respondents to the National Household Travel Survey reported that, for the first time, the number of personal vehicles per household (1.9) exceeded the mean number of reported drivers per household (1.8) (Bureau of Transportation Statistics, 2003). Furthermore, non-motorized travel (i.e., walking, cycling, and using public transportation that requires some walking or cycling) has declined over time, corresponding to the increase in personal vehicle travel (Brownson, Boehmer, & Luke, 2005; Handy, Cao, & Mokhtarian, 2005). Today, in all aspects of daily life, sedentary and low-intensity physical activities dominate (Dong, Block, & Mandel, 2004; Ng & Popkin, 2012).

## **The Built Environment and Active Living**

### *Relationship Between the Built Environment and Physical Activity*

In the past decade, interdisciplinary research that examines the relationship between the built environment and physical activity has increased (Handy, et al., 2002; Butler, Ambs, Reedy, & Bowles, 2011). Findings from studies with strong

methodologies and approaches suggest that several characteristics of the built environment are associated with physical activity. Even though causality is difficult to prove in this research field, there is evidence that the environment plays an influential role in both recreational and transportation-related physical activity (Health et al., 2006; Sallis et al., 2012).

Kahn et al. (2002) conducted a systematic review to evaluate the effectiveness of interventions to increase physical activity. The authors of this review were part of the Task Force that developed the *Guide to Community Preventive Services* (the Community Guide). The authors noted strong evidence that enhanced access to places for physical activity combined with informational outreach activities increased physical activity. Specifically, these interventions identified the importance of access to fitness equipment in gyms or community centers, walking trails, and access to nearby fitness centers.

Heath et al. (2006), as part of the Task Force that developed the Community Guide, examined the effectiveness of urban design, land use, and transport policies and practices to increase physical activity. Two interventions were effective in promoting physical activity: (1) street-scale urban design and land use policies and practices, and (2) community-scale urban design and land use policies and practices. Street scale urban design and land use policies and practices support physical activity in small geographic areas, generally limited to a few blocks. These interventions included improved street lighting, increased ease and safety of street crossings, enhanced traffic calming measures, enhanced aesthetics of the streetscape, and ensured sidewalk continuity. Community scale urban design and land use policies and practices support

physical activity in larger geographic areas. Examples of these types of interventions included: improved continuity and connectivity of streets, sidewalks, and bike lanes; zoning regulations and road design that promote destination walking; mixed use of residential, commercial, and school properties; and transit oriented development. Evidence was insufficient to assess the effectiveness of transportation policies and practices to increase physical activity.

In 2008, Brownson et al. examined environmental and policy determinants of physical activity in the United States. Environmental factors associated with increased physical activity included: (1) access to parks, indoor gyms, and treadmills, and (2) neighborhood characteristics such as the presence of sidewalks, enjoyable scenery, heavy traffic, and hills.

The influence of the built environment on physical activity behaviors also varies depending upon the population. Humpel et al. (2002) reviewed studies that assessed environmental factors associated with adults' physical activity. The authors reported that accessibility of facilities, opportunities for physical activity, and aesthetic attributes (i.e., the presence of attractions and comforts such as enjoyable scenery and friendly neighborhoods) had a positive effect. Davison et al. (2006) conducted a review of studies examining the associations between children's participation in physical activity and the physical environment. The authors found children's physical activity to be positively associated with access to recreational facilities and schools, presence of sidewalks, safe intersections, access to destinations, and access to public transportation. Negative associations included number of roads the children had to cross, high traffic density and speed, crime, and area deprivation. Van Loon et al. (2014) examined

relationships between youth physical activity and the neighborhood environment. High commercial density, high residential density, high number of parks and high intersection density were positively associated with moderate to vigorous physical activity. Greater distance to school and recreation sites was negatively associated. For girls, low cul-de-sac density and low speed limit streets were significantly associated with moderate to vigorous physical activity. King et al. (2006) explored the relationship between perceived environments and physical activity among ethnically diverse adults. The authors found that those who reported living in neighborhoods with more attractive scenery and ease of walking were more likely to meet national physical activity recommendations. Van Cauwenberg et al. (2011) conducted a systematic review regarding the relationship between the physical environment and physical activity in older adults. Among the longitudinal studies that were reviewed, safety and access to recreational facilities were shown to have positive relationships with recreational walking. Other positive associations with recreational walking in older adults included: walkability (i.e., an area with built environment attributes that are friendly to walking) (Carlson et al., 2012), availability of parks (Cerin et al., 2012), street connectivity (i.e., well connected streets that make travel more efficient by providing choice in modes and routes such as a grid network) (Smart Growth, 2015), walking-cycling infrastructure (i.e., sidewalks, bike lanes, and trails), and shorter distance to transportation stops (Ding et al., 2014).

The effect of the built environment also depends upon the type of physical activity in which one participates (active transport or active recreation). For example, physical environment features that support jogging for exercise are different compared

to those that support riding a bicycle to pick up groceries. Saelens et al. (2003) conducted a review of studies that explored the relationship between neighborhood environment and active transportation (i.e., walking and cycling). The authors found that residents from neighborhoods with higher density, greater connectivity, and more mixed land use reported higher rates of walking and cycling than low density, poorly connected, and single land use neighborhoods. Walkability (i.e., high residential density, high street network connectivity, pedestrian infrastructure, and mixed land use) has consistently been associated with active transport (McCormack & Shiell, 2011; Dannenberg, Frumkin, & Jackson, 2011; Saelens et al., 2012; Giles-Corti et al., 2013). Availability and proximity to recreational facilities, mixed land use, pedestrian infrastructure, aesthetics of the built environment, and the presence of trails/paths have consistently been associated with active recreation (Sallis et al., 2009; Dannenberg, Frumkin, & Jackson, 2011; Sallis et al., 2012).

Research also has identified environmental factors that negatively influence physical activity. These include: unsafe neighborhoods (CDC, 1999), less aesthetics and less convenient environments (Ball et al., 2001), lack of equipment and facilities (Sternfeld et al., 1999), urban sprawl (Kemperman & Timmermans, 2009), perceived danger from traffic volume or speed (Kerr et al., 2010), incivilities (Dannenberg, Frumkin, & Jackson, 2011), and safety from crime (Saelens et al., 2012).

#### *Indicators of Activity-Friendly Communities*

Activity-friendly cities are associated with more walking, biking, and less sedentary time spent in cars. Creating cities that facilitate active transport and active leisure is now seen as a priority from health perspectives (Frank, Engelke, & Schmid,

2003). Due to the growing need to identify specific characteristics of activity-supportive communities, Ramirez and colleagues (2006) conducted a comprehensive literature review to identify key indicators that can assess and improve opportunities for regular physical activity in communities. Their work was an important first step in providing researchers, practitioners, and policymakers an initial set of ten practical indicators of activity-friendly communities. The indicators identified included:

- land use environment (e.g., presence of integration between residential and commercial land uses in dense population areas),
- facilities (e.g., availability and accessibility of facilities or natural features for activity),
- transportation environment (e.g., availability and accessibility of competitive transport alternatives and infrastructure such as transit, sidewalks, bike lanes),
- aesthetics (e.g., presence of attractions and comforts and absence of physical disorder),
- travel patterns (e.g., frequency of non-motorized transportation),
- social environment (e.g., presence of protective social factors and absence of social disorder),
- land use economics (e.g., availability of local government funds for parks and recreation facilities),
- transportation economics (e.g., availability of local government and highway funds for sidewalks and bike lanes),
- institutional and organizational policies (e.g., incentives for travel by non-motorized transportation modes), and

- promotion (e.g., presence of community-wide campaigns to increase active living) (Ramirez et al., 2006, p521).

#### *Relevant National Objectives Related to the Built Environment*

The Healthy People 2020 objectives emphasize the importance of structural environments (i.e., the availability of sidewalks, bike lanes, trails, and parks) and legislative policies that improve access to facilities that support physical activity positively affect physical activity. Specifically, Healthy People 2020 physical activity objectives related to active living and the built environment include: (1) increase the proportion of trips made by walking, (2) increase the proportion of trips made by bicycling, and (3) increase legislative policies for the built environment that enhance access to and availability of physical activity opportunities (Healthy People 2020, 2016).

#### *Policy and Environmental Strategies to Support Active Living*

Particular strategies and political opportunities have been recommended on the basis that certain policies and environmental conditions will result in increased community-wide levels of physical activity. The Prevention Institute (a national non-profit dedicated to improving community health and promoting effective primary prevention through collaboration with experts and organizers across the United States) suggests that communities:

- implement Complete Streets policies (i.e., policies that direct transportation planners and engineers to routinely design and operate streets to provide safe and convenient travel of all users of the roadway, including pedestrians,



bicyclists, public transit users, motorists, children, seniors, and people with disabilities (Smart Growth, 2015)),

- connect roadways to complementary systems of trails and bicycle paths that provide safe place to walk and bicycle for children, seniors, and the general public,
- encourage the adoption of pedestrian and bicycle master plans, which can be incorporated into city general plans and capital improvement programs,
- invest in public transit to provide affordable and reliable multimodal transportation options for all neighborhoods,
- ensure that children can walk and bicycle safely to school,
- increase federal funding sources for active transportation and public transit,
- provide parks, playgrounds, and recreation facilities in currently underserved residential areas,
- require new housing developments to incorporate recreation and open space for activity,
- offer parks and recreation programming that encourages and supports physical activity,
- establish joint use agreements that allow use of public schools and facilities for recreation by the public,
- increase access to national and state park systems among people from low-income communities and communities of color,
- integrate health and smart growth considerations into general plans, area specific plans, and zoning decisions,

- establish development requirements that give priority to creating transit oriented development,
- support the development of mixed-income housing to provide affordable options in convenient locations and avoid concentrations of poverty,
- stimulate economic development and revitalize communities by providing a mix of retail, housing, and transit in underserved communities,
- renovate or rebuild schools located in neighborhoods that students can easily walk or bicycle to and from or when building new schools ensure that they are located in areas that are easily accessible by walking, bicycling, and public transit, and
- refine and promote the use of health impact assessments for development decisions (Prevention Institute, 2008, p 11- 19).

### **Local Government, the Built Environment, and Physical Activity**

#### *Guides for Local Government*

Given the growing evidence to support local government's involvement and leadership in physical activity promotion, guides have been created to specifically assist policymakers. The Institute of Medicine suggests particular actions for local officials to follow, and these include:

- conduct an assessment of opportunities for physical activity within the community,
- plan, build, and maintain a network of sidewalks and street crossings that are safe, comfortable, and that connect schools, parks, and other destinations,
- adopt policies that improve safety and security for park use,

- collaborate with schools to implement a Safe Routes to school programs,
- build and maintain parks that are safe and attractive for playing and in close proximity to residential areas,
- collaborate with schools districts and other organizations to establish joint-use policies,
- institute policies that mandate minimum play space, physical equipment, and duration of play in child care and school settings,
- adopt local policies limiting screen time in preschool and after-school programs, and
- develop media campaigns to promote consistent messages about physical activity (Institute of Medicine, 2010).

Likewise, the World Health Organization created a document for municipal politicians and decision-makers, *Promoting Physical Activity and Active Living in Urban Environments: The Role of Local Government*. The purpose of this document is to provide scientific evidence that can support, accelerate, and legitimize policy changes and action for local governments. It provides rationale for local governments' involvement in the promotion of active living and makes suggestions, similar to the aforementioned policy and practice strategies, based upon current scientific evidence (WHO, 2006).

#### *Local Government's Involvement*

Promotion of physical activity is recognized as a valuable investment for our nation because of its role in preventing and reducing the burden of common chronic diseases (The Guide, 2011). As undesirable consequences of inactivity increase (Giles-

Corti & Donovan, 2002), governing bodies are investing more in the promotion of population-wide physical activity through legislation and budgeting (Maddock, Reger-Nash, Heinrich, Leyden, & Bias, 2009). Elected officials and municipal employees can advocate decisions that prioritize physical activity and serve as catalysts for changes in policies and environments that increase opportunities for being active (Perdue, Stone, & Gostin, 2003; Dannenberg, et al., 2003; Edwards & Tsouros, 2008; Jackson, Dannenberg, Frumkin, 2013). Considering local governments' potential impact on population physical activity levels, it is important to better understand the relationship between local government officials' involvement in and decision-making related to the built environment and physical activity promotion.

In 2001, the Robert Wood Johnson Foundation began implementing twenty-five Active Living by Design community-based interventions designed to increase physical activity rates across the United States (Rockymore, 2009; Baker, Wilkerson, Brennan, 2012). Results from these projects support local government's involvement and provide guidance to local officials seeking to make changes that effectively increase opportunities for their communities to engage in physical activity. These sites demonstrated that local leaders play multiple, important roles in advancing active-living efforts and improving public health. Specifically, local officials were described as "gatekeepers", "allies in active-living", and "possessors of resources and information".

The Active Living by Design case studies illustrated that

policymakers can broaden public access to information and other government resources; help elevate the importance of policy and environmental changes; and take the necessary steps to adopt, implement, and institutionalize policies and physical projects that support active living goals (Rockymore, 2009, pS456).

Looking at other investigations of local policy makers and physical activity issues, one study conducted by Librett and colleagues assessed municipal policies that promote physical activity in Utah. Their study examined six types of policy interventions (sidewalks, bicycle lanes, shared-use paths, greenways, recreational facilities, and worksites) that were aimed at promoting active community environments. Seventy-four municipalities responded to their survey. Results revealed that high growth cities reported having more physical activity related ordinances, with the exception of sidewalk ordinances. Slow growth cities were more likely to report an intention to have an ordinance specific to bicycle lanes, shared-use paths, greenways, and recreational facilities in place within one year (Librett, Yore, & Schmid, 2003).

Hollander and colleagues investigated active living focused city design knowledge, attitudes, and practices by surveying local officials and professional staff responsible for making land use and community design decisions. Participants in this study were members of five professional associations: The International City/County Management Association (ICMA), n=959; The National Association of Counties (NACo), n=128; The American Planning Association (APA), n=1543; National Environmental Health Association (NEHA), n=409; and National Association of County and City Health Officials (NACCHO), n=395. Results from their study focused on the following themes: the importance of physical activity, barriers to addressing physical activity, technical assistance needs, and collaboration. According to their findings, local officials appeared to be interested in physical activity and health-enhancing city design, yet the level of importance varied among respondents. City and county elected and appointed officials believed physical activity was more important

than did planners. The most prominent barrier faced by all organizations was inadequate funding or staff resources. Some respondents reported lack of political-will as a barrier. Lack of knowledge was also reported by APA and NACCHO respondents; however, this was reported less of a barrier by other organizations. Having access to sample policies and programs was the most common technical assistance need indicated by the respondents. The most frequently reported implemented policy respondents reported was an initiative that connected walking, bicycling, health, and community design. Responses also indicated a desire for more opportunities and improved collaboration among all disciplines (Hollander, Martin, & Vehige, 2008).

Heinrich and colleagues assessed policies and local ordinances that support physical activity in four Hawaii counties. The purpose of their study was to evaluate six types of policies (sidewalks, bike lanes, greenways, recreational facilities, commercial buildings, and shared-use paths) through a survey completed by planning department employees. Results indicated that the most populous county had the most policies. However, among all counties, few policies directly addressed physical activity promotion. Discrepancies were found between reported and actual policies. Sidewalk ordinances were the most common ordinances, and recreational facility and pedestrian shared-use path were the most common type of policies across all counties (Heinrich, Johnson, Jokura, Nett, & Maddock, 2008).

A case study of Montgomery County, Maryland examined factors that support or hinder successful implementation of local policies that promote physical activity. Salvesen and colleagues conducted a policy review and 17 in-depth interviews with 26 individuals including elected officials, real estate consultants, board of education

members, planners, and employees from parks, public health, and recreation departments. Their findings suggested the following factors influenced physical activity policy implementation: 1) knowledge and awareness of the importance of physical activity and the need to link with planning, 2) commitment and capacity of staff to find ways to increase physical activity, 3) intergovernmental coordination to achieve goals, 4) the presence of an advocate or champion for change, and 5) conflict between agencies, and with citizens and interest groups (Salvesen, Evenson, Rodriquez, & Brown, 2008).

A study conducted by Maddock and colleagues assessed attitudes of key decision makers in Hawaii to determine if activity-friendly community issues were prioritized. State and county officials (n=179) participated in their mailed survey. Participants were asked to rank the importance of particular problems including six related to physical activity. Results indicated that decision makers most frequently listed affordable housing, environment/sustainability, sprawl/traffic/population growth, and healthcare as priorities. Only one respondent mentioned obesity as an important issue, and no participants listed physical inactivity or access to recreational facilities (Maddock, Reger-Nash, Heinrich, Leyden, & Bias, 2009).

Bocarro and colleagues assessed the perceptions of North Carolina park and recreation directors (n=134) concerning physical activity in their communities. Their questionnaire aimed to elicit park directors' perceptions of citizen and political support of physical activity, barriers to providing physical activity opportunities, and future priorities. Results of their study indicated that a majority of directors believed citizens valued physical activity opportunities. However, significantly fewer directors felt

residents would be willing to pay for additional amenities. Rural park directors reported less community support than urban directors. The most significant barrier identified was not having enough staff. Additional barriers noted in their findings included inadequate funding and poor quality of facilities and equipment. Engaging in partnerships and providing a greater diversity of programs were the most common future priorities reported (Bocarro et al., 2009).

A qualitative study in Edmonton, Canada examined 17 key stakeholders' (9 public health employees and city employees, 3 city councilors, and 5 private sector individuals) perspectives on the development of walkable and food-secure neighborhoods. Through in-depth interviews, Clark and colleagues found three overarching themes that facilitated or discouraged change in neighborhood development that encouraged walking and healthful eating. Their study participants agreed that consumer demand was an important factor for invoking change. Common barriers that hindered change included the financial cost of implementing and maintaining changes, car dependency, and social norms. Additionally, participants considered increased awareness and buy-in from local governing bodies to help encourage change (Clark, Berry, Spence, Nykiforuk, & Carlson, 2010).

Another qualitative study conducted in Canada examined barriers local policymakers and professionals face when investing in built environments that can help reduce youth (aged 12-15) obesity. Although this study focused on adolescents and obesity, findings provide insight into the challenges policymakers encounter when making decisions favorable to active living and healthy eating. To elicit perspectives, Grant and colleagues facilitated seven focus groups with 44 participants including



planners, recreation professionals, school board staff, health professionals, and local council members. Participants indicated four common barriers to acting to improve the built environment: limited financial resources, historical built environment decisions (i.e., poor planning and zoning choices), barriers to collaborative opportunities due to government organization, and cultural values regarding automobile dependency (Grant, MacKay, Manuel, & McHugh, 2010).

Evenson and colleagues sought to better understand barriers that municipal staff experience when planning for walking and bicycling in North Carolina. They surveyed 337 municipalities within the state and asked for the employee with the most knowledge about walking and cycling planning to complete the survey. Common barriers identified were inadequate funding, low prioritization, staffing challenges, and insufficient support from residents. Also, the presence of barriers was more prevalent among rural than urban municipalities (Evenson, Aytur, Satinsky, & Rodriguez, 2011).

Dill and Howe examined motivations and oppositions to the adoption and implementation of land use and zoning policies within United States local governments. Additionally, they examined public health agencies' influence on policy adoption. They conducted two web-based surveys with planning directors: one with 53 communities with outstanding examples of mixed-use developments and the other with randomly selected midsized cities (n=145). Results from their study revealed that physical activity was not a dominant motivator during the development of comprehensive plans and/or zoning policies. Their findings also indicated that public health agencies played a minor role in policy adoption (Dill & Howe, 2011).

Goins and colleagues conducted a study in the United States investigating municipal officials' perceived barriers to consideration of physical activity in city design decision-making. Four hundred and fifty three municipal officials (public health, planning, transportation, public works, community and economic development, parks and recreation, city management, and municipal legislatures) from 83 cities in eight states (Colorado, Georgia, Hawaii, Kansas, Massachusetts, Missouri, North Carolina, West Virginia) responded to their web-based survey. The most common barriers that were identified were lack of political will, limited staff, and lack of collaboration across municipal departments. Other barriers that were less often reported were business community opposition and resident opposition. Overall, their findings revealed the prevalence of these barriers to be low (Goins et al., 2013).

Zwald and colleagues sought to describe and examine municipal officials' involvement in development of policies supportive of walking and bicycling. Using the municipal officials' survey described above (Goins et al., 2013), this study examined individual-and job-related predictors of participation in development of transportation policies. Findings revealed that involvement in development of a local transportation policy by a city official was associated with greater perceived importance of economic development and managing traffic congestion in job responsibilities, greater perceived resident support of local government to address economic-development, and community of residence of the municipal official. Perceived lack of collaboration was associated with a decreased likelihood of involvement in development of a transportation policy that supports walking and bicycling (Zwald et al., 2014).

Most recently, Lemon and colleagues examined elected and appointed municipal officials' participation in built environment policy development in land use design, transportation, and parks and recreation. This study also used the municipal officials' survey described above (Groins et al., 2013; Zwald et al., 2014). Results indicated that public health officials, compared with other positions, had a lower level of participation in all three types of policy initiatives. Perceived limited staff, perceived lack of collaboration, and perceived lack of political will were negatively associated with participation in development of built environment policies. Awareness that community design affects physical activity, the extent to which physical activity was considered in community design, and physical activity partnerships were positively associated with participation (Lemon et al., 2015).

Current research reveals key themes related to the involvement of municipal government in physical activity promotion. These include the presence of common barriers, the importance of increased awareness and knowledge of the significance of physical activity to health, the importance of public support and political will, and the need for improved collaboration within local governments. Inadequate funding for infrastructure and staff appear to be well-established barriers to the promotion of physical activity via policies designed to produce a supportive built environment. Other less substantial barriers reported in the reviewed studies include low prioritization and public opposition. Rural and smaller communities reported having fewer supportive policies and resources to promote physical activity. Despite the identified barriers, most studies indicated that municipal officials acknowledged the importance of promoting physical activity. Growing awareness and support by governing bodies was noted as a

facilitator of change in a few of the studies. Additionally, inter-government collaboration was well recognized as a factor that needs improvement and holds potential for greater and more effective commitment to active living policies.

Several gaps remain in the literature related to the role of local government in physical activity promotion. Past studies commonly assessed policy-makers' perspectives but did not report on actual measures polices and/or built environments of the municipalities. The question remains whether decision-makers' priorities and/or attitudes toward physical activity correspond to the presence of supportive policies and environments. Furthermore, the use of qualitative research methods to examine the role local government in the promotion of active living is minimal. Qualitative methods can add greater insight and deeper understanding of the context and processes involved in local decision-making and policy development.

#### *Co-benefits of Designing Communities for Active Living*

The promotion and creation of activity-friendly environments is recommended by leading health authorities (WHO, 2004; Heath et al., 2006; CDC, 2011; Sallis et al., 2012), and doing so has potential to produce other meaningful benefits beyond promoting physical activity. Identification of the co-benefits (i.e., outcomes expected to provide benefits of activity-friendly environments in addition to increased physical activity) can aid municipal officials in city design decision-making (Sallis et al, 2015). Recently, an extensive review of literature was conducted by Sallis and colleagues to understand the co-benefits of designing activity-friendly environments. A wide-range of literature was reviewed to identify beneficial outcomes related to the creation of communities that support active living. These co-benefits included improvements in (1)

physical health, (2) mental health, (3) social benefits, (4) safety/injury prevention, (5) environmental sustainability, and (6) economics within five physical activity settings (parks/open space/trails, urban design, transportation, schools, and workplaces/buildings). Overall, 22 of 30 setting-outcome combinations showed strong evidence of co-benefits. Each setting had strong evidence of at least 3 of the 6 co-benefits. In all settings, activity-friendly design was associated with strong evidence of environmental benefits such as reduced pollution and carbon emissions. Parks and trails had strong evidence of all 6 co-benefits. Also, there was little evidence of negative consequences of activity-friendly environments. Overall, findings indicate the creation of communities that make physical activity safe, attractive, and convenient produces additional benefits for communities, such as environmental sustainability, economic growth, and improvements in multiple dimensions of health (Sallis et al, 2015).

### **Summary**

Physical inactivity is increasingly recognized as a major public health problem. Health authorities have called upon researchers, practitioners, and policymakers to develop and evaluate policy- and environment-focused physical activity interventions. Growing evidence shows that activity-friendly environments are capable of positively affecting physical activity behaviors and yield benefits to both individuals and communities (Sallis et al, 2015). Although these types of interventions are more costly and time-consuming compared with individual behavior and lifestyle modification strategies, they are likely to have longer-lasting effects and benefit more of the population (Brownson et al., 2001; Frieden, 2009).

Recommendations have been created and disseminated to assist communities in development of policies and environmental conditions that support active living. Achieving this requires work by multiple organizations, people, disciplines, and governmental sectors (IOM, 2005). Specifically, local governments play a vital role in such initiatives. Substantial evidence exists to encourage their support, yet relatively little research exists on factors that influence such city-level decision-making and motivations for participation in creating activity-friendly policies and environments. Furthermore, there is need for studies to conduct a localized investigation in order to compare differing sectors' perceptions of and motivations for involvement in creating policies and environments that support active living. It is also important to better understand the roles and responsibilities of members of different sectors in creating policies and environments that support active living. Previous studies have primarily applied quantitative methodologies and lack in-depth investigation. Most studies conducted thus far have been national surveys addressing either active living related policies or environments, rather than both. Finally, through in-depth interviews, this study aims to examine active transportation collaboration among different disciplines within one particular city. No previous studies have conducted a localized, in-depth investigation of city leaders, public health officials, city and transportation planning experts on their perspectives and experiences in the creation of activity-friendly policies and environments.

Overall, the proposed study aims to deepen understanding of those with the responsibility and influence to change the built environment. Given the increasing public health and economic burdens of physical inactivity, local governments'

investment in active living-focused policies and environments will likely increase.

Building upon current research holds potential for increased capacity to make changes in population-physical activity levels through local government actions.

## **Chapter 3: Methodology**

The main objective of this study is to investigate leaders in one metropolitan city and factors that influence their city design and active living related decisions. The study will take place in a car-dependent and car-prioritized city where physical inactivity is high, inadequate active living supportive policies have been adopted, and few walkable and bikeable areas exist. The methods that will be used are presented in this chapter including a description of the study setting, the study participants, data collection procedures, and data analysis

### **Manuscript 1: Factors that Influence City Leaders' Active Living Decisions**

#### *Setting*

The study's setting will be de-identified to protect the privacy of the participants. The study will be conducted in a southern metropolitan city. The city government is made up of a City Manager, a Mayor, and city councilor members who represent their geographic wards. The mayor and councilors are elected to four-year terms, and they appoint a city manager that serves as the city's chief administrative official (The City, 2015). Concerning the city's health status, the city ranks poorly in health behaviors and outcomes. According to the Behavioral Risk Factor Surveillance Survey, approximately 30% of adult citizens were physically inactive (not participating in any leisure-time activities during the past month), over 60% were overweight or obese, over 30% had high blood pressure, over 40% had high cholesterol, and over 10% had diabetes (CDC, 2012). Although the city's comprehensive plan promotes physical activity, the city's current infrastructure and policies are inadequate to support active living. At present, the city is characterized as a car-dependent and car-prioritized



community. For example, the city is ranked poorly regarding walkable and bikeable characteristics (Walk Score, 2015). Most of the city has inadequate sidewalk coverage or no sidewalks at all (The city comprehensive plan, 2015). Likewise, the city has minimal biking infrastructure, and the public transit system is deficient compared to other cities in the region. Additionally, the city has yet to adopt a Complete Streets policy (a policy that guides street design to enable safe access for all users, regardless of age, ability, or mode of transportation) (Smart Growth, 2015). These factors provide the rationale to ask questions regarding city leaders' decision-making related to city design and active living.

### *Participants*

Potential participants will be purposefully sampled according to the following criteria: the person is an elected government official, a full time employee of the city in upper management, a government appointee, and has a role in determining city design. Participants will be identified by the city's website, by four local subject matter experts, and by using a snowball sampling technique at the end of each interview. Interviewees will be asked who else in the city might be important to speak with regarding these issues. Attempts will be made to interview the following elected officials and municipal employees: the city Mayor, eight city council members, the City Manager, the Assistant City Manager, Planning Director, Parks and Recreation Director, Public Works Director, City Transit Director, General Services Director, Sustainability Director, Development Services Director, Economic Development Director, Public Information and Marketing Director, Assistant Planning Director, City Transit Manager, Capital Improvement Program Director, and the Urban Redevelopment Manager.

### *Recruitment Methods*

Prior to recruiting participants and conducting interviews, the researcher will apply for and obtain Institutional Review Board approval through the University of Oklahoma. Key informants will be contacted and asked to assist with identifying eligible study participants. Once identified, the researcher will contact potential participants via email and/or phone to ask if he/she would be willing to participate in an interview. A recruitment email script (Appendix A) will be used to explain the purpose of the interview and study. The researcher's contact information will be provided so potential participants can ask any questions before committing to participate in an interview.

### *Data Collection and Analysis*

Interview questions will be developed from a review of literature (Dannenberg et al., 2003; Heath et al., 2006; Perdue, Stone, & Gostin, 2003; WHO, 2006; Clark, Berry, Spence, Nykiforuk, & Carolson, 2010; Grant, MacKay, Manuel, & McHugh, 2010) and reviewed by an advisory group (four local subject-matter experts). Following suggestions, the question path will be modified and retested with a Mayor of an adjoining city. Interview questions will be revised again based on feedback. The interview path will include questions about participants' decision-making processes, roles in city design decisions, barriers to making decisions that support active living, city assets, resources needed, funding mechanisms, role of the comprehensive plan, potential solutions for problems encountered, and future visions of a healthy and active city. Prior to the interview, "city design that supports active living" was defined by the interviewer for the participants as "things such as policies and infrastructure that

increase opportunities for being physically active like walking, biking, and playing outside, including zoning policies, transit policies, resource allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc.”. See interview question path in Appendix B.

The principal investigator will conduct all interviews. Interviews will take place in the interviewee’s office or a location convenient to the interviewee. Interviews will be doubly audio-recorded and later transcribed verbatim. Transcripts will be reviewed with the audio recordings to check for errors. A codebook will be created to ensure accurate and consistent coding. See preliminary codebook in Appendix C.

Transcriptions will be coded using NVivo (v.11: QSR International, Burlington, MA). All transcriptions will be independently coded by two different researchers, with the aim of high agreement between coders. The interviews will then be analyzed for themes. Themes will be identified as topics discussed by participants in 25% of the interviews. Following theme identification, the investigators will review the transcripts again for confirming and disconfirming evidence of themes.

### **Manuscript 2: Local Government’s Perceptions of Active Living**

The main objective of this study is to examine different sectors’ and agencies’ (public health, city planners, public works, parks and recreation, and commissioners) perceptions of and motivations for involvement in the creation of policies and environments that support active living. These particular groups were selected because they play a significant role in shaping the built environment, promoting physical activity, and creating activity-friendly communities. The study will take place in a car-dependent and car-prioritized southwestern city where physical inactivity is high,

inadequate active transportation supportive policies have been adopted, and few walkable and bikeable areas exist. The study will be conducted to deepen understanding of cross-sector perspectives' of local government employees within the context of creating policies and environments that support active living. The methods that will be used are presented in this chapter including a description of the study setting, the study participants, data collection procedures, and data analysis.

### *Setting*

The study's setting will be de-identified to protect the privacy of the participants. The study will be conducted in a southern metropolitan city. The city government is made up of a City Manager, a Mayor, and city councilor members who represent their geographic wards. The mayor and councilors are elected to four-year terms, and they appoint a city manager that serves as the city's chief administrative official (The City, 2015). Concerning the city's health status, the city ranks poorly in health behaviors and outcomes. According to the Behavioral Risk Factor Surveillance Survey, approximately 30% of adult citizens were physically inactive (not participating in any leisure-time activities during the past month), over 60% were overweight or obese, over 30% had high blood pressure, over 40% had high cholesterol, and over 10% had diabetes (CDC, 2012). Although the city's comprehensive plan promotes physical activity, the city's current infrastructure and policies are inadequate to support active living. The city is known for being a car-dependent and car-prioritized community. According to Walk Score, a private company that calculates a walkability index for different locations, the city is ranked poorly (Walk Score, 2015). Citywide the pedestrian infrastructure includes significantly more linear miles of roads than

sidewalks. Less than one-third of the roads have sidewalks (The City, 2015). Likewise, the public transit system is deficient compared with other cities in the region, and the city has yet to adopt a Complete Streets policy (a policy that guides street design to enable safe access for all users, regardless of age, ability, or mode of transportation) (Smart Growth, 2015). These factors provide the rationale to ask questions regarding city leaders' decision-making related to city design and active living.

### *Participants*

Participants will be purposefully sampled according to the following criteria: a full time employee of the city or county, a professional or appointed role in active living (public health, city planner, public works, parks and recreation, and commissioners). To protect confidentiality, participants will be identified by generalized positions.

Attempts will be made to interview the following positions: city planners, public works employees, parks and recreation employees, commissioners, and public health professionals. A key informant, a city planner, will be used to assist in identifying potential participants. Additionally, at the end of each interview participants will be asked to recommend others to be interviewed, such that the interview process will continue until saturation is reached (Patton, 2015).

### *Recruitment Methods*

Prior to recruiting participants and conducting interviews, the researcher will apply for and obtain Institutional Review Board approval through the University of Oklahoma. The study's target population will be identified by the use of key informants, the city's website, and by using a snowball sampling technique at the end of each interview. Key informants will be contacted and asked to assist with identifying

eligible study participants. Once identified, the researcher will contact potential participants via email to ask if he/she would be willing to participate in an interview. Potential participants' email and phone numbers will be retrieved via the city and the health department's website or by the key informant, if the websites do not contain up-to-date contact information. A recruitment email script (Appendix A) will be created to explain the purpose and benefit of the interview and study. The researcher's contact information will be provided so potential participants can ask any questions before committing to participate in an interview. Each invited individual will receive up to one email and one phone call follow-up request for an interview.

#### *Data Collection and Analysis*

Interview questions will be developed and guided by the literature (Salvensen, Evenson, Rodriguez, & Brown, 2008; Zwald et al., 2014; Lemon et al., 2015), familiarity with the city's environments, policies, and plans (The City, 2015; The city comprehensive plan, 2015), and assistance from a key informant. Using the structured interview question path, the researcher will conduct all of the interviews. See the interview question path in Appendix D. The following definitions will be provided to all participants. 'Active living' are things that increase opportunities for being active like walking, biking, and playing outside. This includes zoning policies, transit policies, resources allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc. 'Policy' or 'policies' refers to laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior. Policy could include formal written codes or regulations bearing legal authority, written guidelines, or procedures (Schmid, Pratt, and Wittmer, 2006;

Salvesen, Evenson, Rodriguez, & Brown, 2009). Examples of interview questions will include:

- What makes your agency interested in making the city more supportive of active living?
- What is/are the benefit(s) of being involved in the creation policies and environments that support active living?
- What do you think makes a city supportive of active living?
- What do you believe is your role and responsibility in creating policies and environments that are more supportive of active living?
- What do you think is the best way to create policies and environments that support active living?

Participants will be asked to provide responses that reflect the values and philosophy of their organization and their personal opinions (Clark et al., 2010). The interview question path will be tested with a municipal employee in a nearby city and modified based upon feedback.

All interviews will be doubly audiotaped, transcribed verbatim, and checked for errors. Transcribed interviews will be entered into NVivo (v.11: QSR International, Burlington, MA), a qualitative analysis software program. The researcher will use NVivo to code and identify reoccurring themes. Participant's statements will be coded based upon predetermined categories that correspond to the purpose of the study but will also allow for the inductive identification of codes as new themes emerge. See codebook in Appendix E. A second coder will independently check all coding.

Discrepancies that arise between the two coders will be discussed and resolved in order to reach consensus.

### **Manuscript 3: Active Living Collaboration in Local Government**

The main objective of this study is to examine active living related collaboration among different municipal sectors' (public health professionals, city planners, public works, parks and recreation, and commissioners). These particular sectors were selected because they each play overlapping roles in shaping the built environment, promoting physical activity, and creating communities that support active living. The study will take place in a car-dependent and car-prioritized southern city where physical inactivity is high, inadequate active transportation supportive policies have been adopted, and few walkable and bikeable areas exist. The study will be conducted to deepen understanding of cross-sector and cross-agency collaboration in the creation of policies and environments that support active living. The methods that will be used are presented in this chapter including data collection procedures and data analysis. The study setting, participants, and recruitment procedures are described above in Manuscript 2's methodology.

#### *Data Collection and Analysis*

A concept illustration exercise and interview questions will be developed and guided by the literature (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2002; Bazzoli et al., 2003; Sallis, Frank, Saelens, & Kraft, 2004; Bors et al., 2009; Baker et al., 2012; Forrest et al., 2016), familiarity with the city's policies, plans, and organizations (The City, 2015; The city comprehensive plan, 2015; The city-county health department, 2015), and assistance from a key informant. Prior to the interview,



the following definitions will be provided to all participants. ‘Active living’ are things that increase opportunities for being active like walking, biking, and playing outside. This includes zoning policies, transit policies, resources allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc. ‘Policy’ or ‘policies’ refers to laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior. Policy could include formal written codes or regulations bearing legal authority, written guidelines, or procedures (Schmid, Pratt, and Wittmer, 2006; Salvesen, Evenson, Rodriguez, & Brown, 2009).

The researcher is interested in the city’s collaboration network related to policies and practices that involve active living. Therefore, a concept illustration exercise will be included at the beginning of the interview process to provide a better understanding of the underlying partnerships and distribution of those individuals and agencies involved in the creation of active living supportive policies and environments. Using a large sheet of paper, the interviewer will ask each participant to create drawings based upon their understanding of how different sectors of the city government collaborate in such efforts. To guide participants and clarify the exercise, the interviewer will suggest thinking about:

- What does collaboration related to policies and practices that involve active living look like in [the city]?
- Who is a part of collaboration related to policies and practices that involve active living and who is not (individuals and agencies)?

- Who play the most and least significant roles (funding and decision-making) in collaborations related to policies and practices that involve active living?
- Where do agendas related to policies and practices that involve active living overlap and where are they divided?

Following the drawing exercise, each participant will be asked to explain his/her illustration's features. Next, interview questions will be asked. Examples of interview questions will include:

- In the past, who have you collaborated with in creating active living related policies and environments in [the city]?
- What has made it easy for you to collaborate with others [public health, city planners, public works, parks and recreation, commissioners, city leaders]?
- What makes it difficult or challenging to collaborate with [public health, city planners, public works, parks and recreation, commissioners, city leaders]?
- What do you think would make it easier for you to work together with [public health, city planners, public works, parks and recreation, commissioners, city leaders]?

Participants will be asked to provide responses that reflect the values and philosophy of their organization and their personal opinions (Clark et al., 2010). See concept illustration exercise and interview question path in Appendix D.

All interviews will be conducted by the researcher, doubly audiotaped, transcribed verbatim, and checked for errors. The concept illustration exercise and interview question path will be tested with a municipal employee in a nearby city and

modified based upon feedback. Active living collaboration illustrations will be analyzed for themes. Transcribed interviews will be entered into NVivo (v.11: QSR International, Burlington, MA), a qualitative analysis software program. The researcher will use NVivo to code and identify reoccurring themes. Participant's statements will be coded based upon predetermined categories that correspond to the purpose of the study, but also will allow for the inductive identification of codes as new themes emerge. See codebook in Appendix F. A second researcher will independently check all coding. Discrepancies that arise between the two coders will be discussed and resolved in order to reach consensus.

## Chapter 4: Results

This chapter includes three manuscripts: (1) Factors that Influence City Leaders' Active Living Decisions, (2) Local Government's Perceptions of Active Living, and (3) Active Living Collaboration in Local Government.

### **Manuscript 1: Factors that Influence City Leaders' Active Living Decisions**

#### *Introduction*

The increasing prevalence of physical inactivity and associated poor health outcomes has stimulated attention to the role of the built environment as a support or barrier to active living (Leslie et al., 2005; Browson et al., 2009; Sallis, 2009; McCormack & Shiell, 2011). Despite the health benefits of regular physical activity, most adults and children in the United States do not meet the national physical activity recommendations (USDHHS, 2008; Sallis, Floyd, Rodriguez, & Saelens, 2012). Research from urban planning suggests that the design of a city can influence physical activity levels of city residents (Saelens, Sallis, & Frank, 2003; Perdue, Stone, & Gotin, 2003; Heath, et al., 2006; Sallis, Floyd, Rodriguez, & Saelens, 2012), which can reduce the risk for development of several common chronic diseases and other adverse health outcomes (Haskell, 1994; Rankinen & Bouchard, 2002; Lee et al., 2012). As evidence accumulates, governing bodies increasingly consider the health consequences of land use, zoning policies, and transportation decisions. Urban design decisions can facilitate or hinder the creation of active, healthy communities; therefore, they are important factors in the relationship between the built environment and population-level physical activity (Leslie et al., 2005; Browson et al., 2009; Sallis, 2009; McCormack & Shiell, 2011).

In recent decades researchers have examined the relationship between the built environment and physical activity, and evidence continues to support that the built environment affects physical activity behaviors (Handy, Boarnet, Ewing, & Killingsworth, 2002; Ewing, Schmid, Killingsworth, Zlot, Raudenbush, 2003; Saelens et al., 2003; Sallis & Glanz, 2006; McGinn, Evenson, Herring, Huston, & Rodriguez, 2007; Saelens & Handy, 2008; Ding, Sallis, Kerr, Lee, Rosenberg, 2011; Ding & Gebel, 2012; Sallis, Floyd, Rodriguez, 2012). For example, city design has been shown to influence travel mode choices (Handy, Cao, & Mokhtarian, 2005; McMillan, 2007;) and levels of walking and cycling (McCormack et al., 2004; Ogilvie et al., 2007; Owen, Humpel, Leslie, Bauman, & Sallis, 2004; Panter, Jones, & Van Sluijs, 2008; Saelens & Handy, 2008; Durand, Andalib, Dunton, Wolch, & Pentz, 2011; McCormack & Sheill, 2011; Giles-Corti et al., 2013). Specifically, particular environmental features have been shown to influence certain types of physical activity. Walkability (i.e., high residential density, high street network connectivity, and mixed land use) has been associated with increased transport-related physical activity (McCormack & Shiell, 2011; Giles-Corti et al., 2013; Van Dyck, Meester, Cardon, Deforche, & Bourdeaudhuij, 2012). Similarly, availability and proximity to recreational facilities have been positively associated with leisure time physical activity (Hoehner, Ramirez, Elliott, Handy, & Brownson, 2005; Sallis et al., 2009; Sallis, Floyd, Rodriguez, & Saelens, 2012).

The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) recommend urban designs that create health-enhancing environments (WHO, 2006; Edwards & Tsouros, 2008; CDC, 2011; Rydin, et al., 2012). The Community Guide, produced by the Community Preventive Services Task Force (CDC

and collaborating partners), recommends implementing city design and land use policies and practices that support physical activity (Heath, et al., 2006; The Community Guide, 2015). Furthermore, *Healthy People 2020* contains an objective specific to city design policy, encouraging development and implementation of policies to enhance the availability and accessibility to physical activity opportunities for all population groups (USDHHS, 2014).

City leaders, both elected officials and municipal employees, play a central role in city design decisions and shaping the built environment to encourage or discourage physical activity within their communities. They have the capacity to advocate for decisions that prioritize active living considerations in environmental design and policies (Perdue, Stone, & Gostin, 2003; Dannenberg, et al., 2003; Edwards & Tsouros, 2008; Jackson, Dannenberg, Frumkin, 2013). Additionally, they have the authority and resources to make active living enjoyable, convenient, and safe (Morandi, 2009).

Qualitative studies can add to the growing body of active living research and provide insights into the specific influences that motivate and/or pressure city leaders' decisions about city design. Previous qualitative studies have focused on key stakeholders' and policy-makers' decisions that influenced policy implementation (Salvesen, Evenson, Rodriguez, & Brown, 2008), the development of walkable and food-secure neighborhoods (Clark, Berry, Spence, Nykiforuk, & Carolson, 2010), and decreasing obesity in adolescents (Grant, MacKay, Manuel, & McHugh, 2010). A case study in Montgomery County, Maryland examined factors that facilitated and hindered successful implementation of local policies that promoted physical activity (Salvesen, Evenson, Rodriguez, & Brown, 2008). Salvesen and colleagues conducted a policy

review along with 17 in-depth interviews with 26 key informants (elected officials, real estate consultants, board of education members, planners, and employees from parks, public health, and recreation departments) about factors that influence local physical activity policy implementation. Their findings suggested that policy implementation was affected by: knowledge and intent of policymakers, commitment and capacity of staff, intergovernmental coordination, the presence of a policy champion, and conflict between agencies or with citizens and interest groups. Another study conducted in Edmonton, Canada examined key stakeholders' (public health employees, city employees, city councilors, and private sector individuals) perspectives on the development of walkable and food-secure neighborhoods (Clark, Berry, Spence, Nykiforuk, & Carolson, 2010). Through in-depth interviews, Clark and colleagues found three overarching themes. First, participants agreed that consumer demand was important for generating changes. Second, common barriers encountered by key stakeholders that hindered change included the cost of implementing and maintaining changes, car dependency, and social norms. Finally, these stakeholders considered increased awareness and buy-in from local governing bodies to facilitate change. In a third qualitative study, Grant and colleagues conducted seven focus groups in Atlantic, Canada to examine the barriers local policy-makers and professionals faced when investing in built environments that could reduce youth (aged 12-15) obesity (Grant, MacKay, Manuel, & McHugh, 2010). Participants included planners, recreation professionals, school board staff, health professionals, and local council members. Participants indicated four common barriers: limited financial resources, built environment decisions that were made in the past (i.e., poor planning and zoning

choices), the reduction of collaborative opportunities due to government organization, and cultural values regarding car dependency.

To expand upon previous research, an examination of local government decision-making that includes all aspects of city design decisions (policy, infrastructure, taxing, comprehensive plans, and resource allocation decisions) is needed.

Additionally, more extensive investigation of decisions that affect all citizens in a community is needed. To date, no study that we are aware of has focused on a city characterized by insufficient policy and environmental supports for active living. The purpose of this qualitative study was to identify factors that influence elected officials' and upper-level municipal employees' urban design and active living decisions in one city characterized as not activity-friendly in the United States.

### *Methods*

**Setting.** Data were collected in a metropolitan, southern United States city. The city is not identified to protect the confidentiality of the local leaders who participated in the interviews. In relation to the city's active living characteristics, the city's current infrastructure and policies are inadequate to support active living. Although the city's new comprehensive plan addresses many of these insufficiencies, according to walk and bike scores the city currently is ranked poorly (Walk Score, 2015).

**Participants.** Potential participants were purposively sampled according to the following criteria: the person was an elected government official or a full time employee of the city with a professional leadership role in city design, planning, and development. Participants were identified from the city's website, by four local subject matter experts, and by using a snowball sampling technique at the end of each



interview. Participants were asked to suggest others in the city who would be important to interview. Fifteen face-to-face in-depth interviews (thirteen city employees, a city council member, and the Mayor) were conducted in the spring and summer of 2015. Ten additional people were interviewed in the summer of 2016 including six additional city council members, the city Manager, and three director-level city employees. Participants included the City Manager, Assistant City Manager, Planning Director, Director of the City-County Health Department, two Parks and Recreation Directors (one retiring and one recently hired), Public Works Director, Director of City Transportation, City Transit Manager, Sustainability Director, Development Services Director, Economic Development Director, Public Information and Marketing Director, Assistant Planning Director, Senior City Planner, Capital Improvement Program Director, Urban Redevelopment Manager, seven councilmembers, and the Mayor. One city councilmember declined to be interviewed.

**Data collection and analysis.** Interview questions were developed from a review of the literature (Dannenberget al., 2003; Heath et al., 2006; Perdue, Stone, & Gostin, 2003; WHO, 2006; Clark, Berry, Spence, Nykiforuk, & Carolson, 2010; Grant, MacKay, Manuel, & McHugh, 2010) and reviewed by an advisory group (four local subject-matter experts). Following suggestions, the question path was modified and tested with a Mayor of an adjoining city. Interview questions were revised again based on feedback. The interview path included questions about participants' decision-making processes, barriers, city assets, resources needed, funding mechanisms, role of the city's comprehensive plan, potential solutions for problems encountered, and future visions of a healthy and active city (see Appendix B). Prior to the interview, "city

design for active living” were defined by the interviewer for the participants as “things such as policies and infrastructure that increase opportunities for being physically active like walking, biking, and playing outside, including zoning policies, transit policies, resource allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc.” (Active Living Research, 2014).

Following Institutional Review Board approval, participants (n=25) were recruited through a recruitment email. The first author conducted all interviews. Interviews took place in the interviewee’s office or a convenient nearby location. Interviews lasted between 11 and 78 minutes and averaged 37 minutes; they were audio recorded and later transcribed verbatim. Transcripts were reviewed with the audio recordings to check for errors. A codebook was created to ensure accurate and consistent coding. Transcriptions were coded using NVivo (v.11: QSR International, Burlington, MA). Two of the authors independently coded all transcriptions, with high agreement between coders. The interviews were then analyzed for themes. Themes were identified as topics discussed by participants in 7 or more of the 25 interviews (28%). Following theme identification, the investigators reviewed the transcripts again for confirming and disconfirming evidence of themes.

### *Results*

Five broad themes emerged from the interviews with city leaders: (1) identification of the most influential decision-makers, (2) barriers to making supportive active living design decisions, (3) city assets that facilitate making supportive active living design decisions, (4) preference of the younger generation, and (5) acknowledgement of particular co-benefits of activity-friendly environments. Themes

and sub-themes are described below with representative quotes from the participants (P). Quotes also may include questions/comments from the interviewer (I).

**(1) Influential decision-makers.** Participants were asked who they thought were the most important opinion leaders and decision makers regarding city design for active living. Interview responses revealed a strong influence by the city's elected officials. The Mayor and the city council were considered the most important opinion leaders and decision makers.

*The Mayor and City Council...at the end of the day, to me, it's the policy makers because they are the ones elected to make the policy, not us.*  
Economic Development Director

*Well, obviously, the Mayor and Council... from my viewpoint and our direction, it's the Mayor and Council, as far as the policy makers for what we do. They are the elected officials and they have an opinion...and you'll see that usually, with issues like this. They'll be the unanimous decision with Council because they've been given the facts, and they know what's best for the city.*  
Capital Improvement Program Director

*The mayor, without a doubt, without equivocation. [He/she] is one of the best communicators I've seen. [His/her] voice to communicate a message well as why we need to be active, why we need to think about getting outdoors, why we need to, um [his/her health campaign/program] was visionary. I thought that was really um something great for the city.*  
City Council Member #6

*The Mayor. I mean, [he's/she's] got great numbers. [He's/she's] a strong leader. [He/she] is the voice of [a successful city improvement project]. [He/she] is the voice for health and wellness in a lot of areas.*  
City Manager

*City Council, absolutely...they possess the authority to make the decision first of all...There is a lot of validity that is given to their opinions about these things. I think they are the most influential people in this discussion.*  
Assistant City Manager

*Clearly the city council is the ultimate decider. Without their approval really we aren't able to do anything.*

Public Works Director

*Oh by far the mayor of the city is probably the number one pick for, for the visionary and helping to, uh create that space and that relationship with the citizens. Uh, mayor is number one.*

new Parks and Recreation Director

*Oh, I think our mayor is absolutely...yeah.*

City Council Member #2

*I: Who would you consider the most important opinion leader or decision maker around some of these issues?*

*P: The Mayor.*

*I: What is it about his/her role that you feel make him/her one of the most –*

*P: Outside of the fact that I work for him/her? I mean, [mayor's name] has great numbers. He/she's a strong leader...He/she's the voice for health and wellness in a lot of areas.*

City Manager

*P: I think our mayor is absolutely...yeah.*

*I: What makes you say that?*

*P: Well, he's/she's, I mean for one thing he/she [challenged the city] so, pretty much suggests we're supposed to get out and move around a little bit.*

Transportation Director

*I think the mayor is number one. He/she's just well respected, locally and nationally. So I think he/she'd be, really be the top one.*

City-County Health Department Director

The Mayor considered him/herself, along with the City Manager, and the Department of Transportation to be the most important opinion leaders and decision makers for city design and active living.

*Well, it is hard to get away from the way cities are designed in [the city] from Mayors and City Managers and your department of Transportation, because they need to be on board; it's going to be hard to do it around them in our system.*

Mayor

**(2) Barriers.** Participants discussed numerous barriers to decisions that support active living. These barriers included: expense, existing infrastructure, less supportive

public attitudes, inadequate transit system, large geographic area, dependency on the automobile, and inefficient funding mechanisms. The most common barriers stated were the cost of making changes and the city's poor existing infrastructure. Each subtheme is described below.

- **Expense.** Most participants remarked on the desire for city-wide enhancements; however, economic constraints limited their ability to achieve large-scale changes.

*I think we would need King Midas' touch. We are going to need more money. You know honestly it does only come down to funding. I think the staffing is in place, the knowledge is already here, the standards are well thought out and designed to the point of we just simply have more projects than we can afford and the only resource that really is missing is just the dollars.*

Public Works Director

*Funds, just the sheer need for them. There's just not enough to go around to link the network and fix sidewalks that have been there for decades.*

Assistant Planning Director

*Obviously cost is a large impediment. It's harder to – a lot of expense involved in trying to put in trails and sidewalks.*

Transit Manager

*The cost of changing infrastructure is the biggest impediment.*

Mayor

*I: What would you consider are the barriers that the city faces to making the city more supportive of active living?*

*P: Money.*

*I: Anything else?*

*P: That's, it's priorities. I mean, you know, it's-, we spend two thirds of our general fund budget on police and fire. Now, that isn't changing and so when you take a look at that and we live in [the state] which is an anti-tax increase environment. So there are no community resources, the economy is down right now.*

City Manager

*P: Cost.*

*I: Any others that you can think of that are barriers?*

*P: That's the major barrier.*

City Council Member #3

*We continue to hear more and more requests for sidewalks. The problem is we're limited as to our budget.*

City Council Member #5

- **Poor existing infrastructure.** Both city staff and elected officials acknowledged the city's inadequate and unsupportive built environment for active living. They indicated that past city planning priorities and decisions resulted in residual obstacles to their current efforts and limited the extent to which physical improvements can be implemented.

*We have developed portions of the city that don't have sidewalks and that don't connect to our resources.*

new Parks and Recreation Director

*I think city design for active living is a long term investment and that's been one of the down sides of the city for the longest time because for forty years we didn't build sidewalks, and we didn't require anyone to build sidewalks.*

Capital Improvement Program Director

*You know, um, older East coast cities, you know, all had side walks everywhere. So I've always lived near downtown and have always had sidewalks and it seems odd that you don't. But there was a period of 20 or 30 years when a developer didn't, wasn't required, and didn't build sidewalks. Now that's changed by policy again, but, so we're playing catch up, uh, to try and make that happen.*

City Council Member #2

*I think one of our biggest challenges and you have probably heard this over and over again but we went so long with out requiring sidewalks.*

*And that should have never happened. I wish we would have been more visionary back in the 40s, 50s, 60s, 70s, 80s, and even 90s but we didn't.*

Public Information & Marketing Director

*It's taken things to the extreme where we went some 40 years without building sidewalks with new development. And so you have massive holes in the core of the city without walkability...And I think we've made progress since then but we are way, way behind our peer cities.*

City Council Member #7

- **Less supportive public attitudes.** Participants discussed the public's preferences and attitudes as barriers to making decisions that support active living environments.

*A lot of people would prefer to have their potholes patched before having a sidewalk.*

Economic Development Director

*There are some neighborhoods that have rejected [sidewalks]. We have had some communities saying 'We don't want sidewalks.'*

City Council Member #1

*Surprisingly, enough have for the most part voted against adding sidewalks...the priorities they, they want, they want their streets fixed. That's their number one priority. And they want public safety.*

City Council Member #3

*P: People are just set in their ways. They don't like change. The older you get the less you like change, and so you gotta, you've gotta, you gotta communicate the message, you gotta get people on board, uh, and not just try to, uh, do something without people, uh, being a part of the process and participating.*

*I: When you say people, are you talking citizens or leadership?*

*P: I'm talking our citizens.*

City Manager

So the public is not engaged. And wealthy developers are intimately, they have knowledge of how the process works and how to lobby for their particular needs to get prioritized over individual neighborhoods.

City Council Member #6

*Participant: For example, in my ward that we have talked about sidewalks, uh, surprisingly enough for the most part voted against adding sidewalks.*

*Interviewer What do you think are some of your ward's priorities?*

*Participant: Well they, the priorities, they want their streets fixed. That's their number one priority.*

City Council Member #3

- **Inadequate transit system.** City staff and elected officials spoke about limited resources allocated to the city's transit system and the need for a more robust public transportation system.

*[The city] has barriers. It's impossible for public transit. Which is a real frustration. I don't care, you know, how much money we had, I still don't think you could do a good, really efficient, public transit system that served everybody.*

City Council Member #2

*In this city we have not funded public transportation as we should have. If we had been looking further down the road we should have seen that by now we should have been funding public transportation much better than we are. But until we have more public transportation we are going to be really dependent upon the automobile, individual personal automobiles. I think that is what is holding us back more than anything else.*

retiring Parks and Recreation Director

*There are resource limitations and probably the most significant of those at this point is our transit system. There's lots of evidence that having a better transit system gets more people on to transit and what is meant by a 'better' transit system is not like having light rail instead of bus. It's more frequency. It's on time. It is going places people need to go.*

Senior City Planner

*Our transit system, we don't have the decency to build adequate bus shelters. So who, who's gonna sit out in this for 30 minutes, 45 minutes, an hour waiting for a bus with no protection from the sun, or the wind, or the rain, or the snow? Um, but when you start, when you start doing the things that we know work-transit shelters, increased frequency of the buses- the ridership goes up just like anywhere else. There's nothing, there's certainly nothing wrong with, I mean we're, we're industrious. And we have, we're perfectly capable of improving our health, but a lot of people just don't have access to the means.*

City Council Member #7

- **Large city size.** City staff and elected officials acknowledged the limitations they experienced working in a large city, by land area.

*I think a barrier is just how darn big this city is. [Number of square miles] makes it, you know, almost impossible.*

City Council Member #2



*It would be nice if every resident could walk to a park, and I think you can if you are in a city like San Francisco, a city that has 72 miles in it. But, the fact that we have so much rural property is just difficult. I think that dream is a difficult dream because we will never be a livable, sustainable city because of our square miles.*

Public Information and Marketing Director

*Current resources, again, with a city of the size of [number] square miles is limited, so we will never be able to fulfill every single request. Although I think our goal would be to do so.*

Public Works Director

*I think the biggest impediment, in my mind, uh, maybe not the biggest, but one of the impediments is that, that we're such a big city...it encourages car-centric lifestyle which doesn't promote necessarily an active lifestyle.*

City Manager

*The unique [the city] experiment is that you're trying to do that all in [number of square miles] with only a couple cities in the country bigger geographically... I mean we're really on our own in many respects with unique funding mechanisms, unique geographical, situations, and so we'll just, we'll see how it plays out.*

City Council Member #7

- **Car dependency.** The Mayor and city employees spoke about the dependence on individually owned automobiles for transportation. They considered this a barrier, caused by past and present prioritization on moving cars efficiently.

*You know we have 8,000 lane miles of road in the city. And probably over 7,000 is built by how fast we can get a car somewhere. There aren't complete street designs in much of the city. We didn't build schools designed to walk to. Most of our schools are designed for our car. A lot of the restaurants and shopping centers, and so it's not just public sector investment, it's private sector investment too that has been built around moving people around the city in a car.*

Mayor

*Our continued dependence upon the automobile, and I will have to criticize myself along with all the rest of us because I am also guilty. Many of us have taken homes in areas where the automobile is a necessity in this city.*

retiring Parks and Recreation Director

*We, similar to [another metropolitan city], uh, have a mentality that it's my right as a citizen to have a car or multiple cars, and to use those every moment of the day and not rely upon public transportation.*

City Council Member #5

*You know [the city] is such a young city; we really were built up around cars.*

City Council Member #2

*[The city], as I am sure the other councilors have talked to you about, is a city that was built for the automobile. It's a sprawling city.*

City Council Member #7

*Planning as, as a rule has been marginalized in [the city] in favor of engineering, public works, and traffic movement, and, uh, quasi worship of the automobile and it's, and it's, it's, and it's movement. Efficient movement. Uh, and so anything, but the, the problem is you've created a situation where you have too many lane miles because you have [large number of] square miles to cover. So, now you're past like 8,000 lane miles. The roads only last so long, so it becomes a black hole where you'll never, you'll never be able to spend enough money to keep up. And that's why it was so dangerous and misguided to be building new roads.*

City Council Member #7

*We have a great highway structure. And so, people are very convenient and comfortable in, uh, driving their automobile. And so, um, in the foreseeable future, that's not going to change overnight 'cause it's just something that is convenient, and people are used to doing.*

City Manager

- **Inefficient funding mechanisms.** City staff discussed infrastructure projects that were funded by general obligation bonds (GO bonds). They considered the GO bond process an impediment due to the long-term and inflexible nature of this particular funding mechanism.

*The bond process, I think the next one is [3- 4 years away]. Being so far out is problematic a lot of times when setting budgets and knowing how much it's going to cost to do whatever. And even the existing conditions can change, and new development can happen in that area.*

The Director of Sustainability

*Our bond process, which is very long term. Right now we're working on projects for 2017-2018, but then those projects might not be part of a bond sell until 2022. And that might not build anything until 2024-2025... That is a big gap or need for that particular time versus later.*  
Assistant Planning Director

*We're putting in walking paths in neighborhood parks that were voted for in 2007, but at least we're building them. You know, would we have liked to build them all in 2007 and taken-, yeah, but that's not the reality of how the bond programs work.*  
new Parks and Recreation Director

*So for example, right here, you have children walking in the middle of the street to [Elementary School]. And we've known that for years. And the neighborhood has complained about it, and the schools complain about it and, um, for not just years, but in the decades now. So in the 2007 bond, we, we prioritized it. We made it, we put it on the list, and the, and the voters vote on that list of projects. Well, it's not going to be done, assuming that we sell the number of bonds we think we can, until 2019. 12 years after the voters said, "Alright. This needs to be done. The kids are walking in the middle of the street." Here's, it's 12 years later. And they're shutting [the Elementary School] down now. So, it's like you can't, you can't adapt. You're to, you're trying to, you're, you're trying to plan for things that you can't, eventualities you can't know. And so now, we still need sidewalks on [this street] but it's going come too late for those kids at that school. And maybe there's another, maybe there's another school in the city that the kids are walking in the street that needs it more. But we're locked in, because that's what the voters voted on in 2007.*

City Council Member #7

Additionally, city directors and elected officials discussed the budgetary challenges due to the city's unique source of revenue. The city's budget is exclusively dependent on sales tax.

*I think the biggest thing is um you know when, when [the state] relies on 100% of sales tax to do all of their operational activities and they push that down through the municipalities, um, you have big swings. When you're only focused on being able to maintain roads; hire police officers; buy fire apparatuses; let alone getting down to parks and recreation elements, you know.*

new Parks and Recreation Director

*We are the one state that does not allow cities to use property tax or income tax for their day-to-day operations... if you're an outlier and you're the only city*

*that's, that's doing it this way, and then you have this movement towards consumption over the internet, then what does that mean for a city's ability to make investments in infrastructure and maintain infrastructure that will facilitate public health? So, it's a very unique situation that [the city] finds itself in, or all the cities in [the state]. Um, and so, so I think that's, that's extraordinarily relevant.*

City Council Member #7

*Our funding for operational purposes is limited to sales tax...And, that's not a good environment to operate in but it's what we're dealt with.*

City Council Member #5

*Well, city funding is a complicated issue. Um, you know municipalities, I think [the state] is the only state in which municipalities get no share of ad valorem taxes. We rely a hundred percent on sales tax. And, so that is extremely complicated.*

City Council Member #2

**(3) City assets.** Participants discussed several positive factors that facilitated making active living supportive design decisions. These assets included: political will and leadership, a political champion, growing citizen support, partnerships, and the city's status of transformation. Each subtheme is described below.

- **Political will/leadership.** City staff spoke about the value of political will and the leadership of elected officials.

*Well, you know, I think our biggest asset is our policy makers are interested in the topic - the mayor, the city council people.*

Assistant City Manager

*I think our policy makers are really in-tune and very supportive. I believe our city management and city hall are very supportive of [city design that supports active living].*

Transportation Director

*Through strong leadership of the Mayor deciding to make an active change in the city and with council agreeing with that, we were able to do more trails and sidewalks.*

Public Works Director

*City council took the first big step in making sure that um all citizens have access to parks...whether it's playgrounds for the little kids to go play on or*

walking paths through the neighborhoods or things along those lines. So I think that's a significant move that the city council made that investment.  
new Parks and Recreation Director

*The city has really done a lot to, to really help the public health agenda, and so we, we think it's important to continue to emphasize the, you know the built environment that we have, that-, the city has put it at the top of their agenda. The mayor of course as you've probably learned from his interview. Um, one of his top priorities as the President of the U.S. Conference of Mayors is health and wellness, and so we're just very fortunate to have leaders like [name of council member] and many of the other city councilors and the mayor that really put a high priority on health and wellness, and understand the built environment as well.*  
City-County Health Department Director

*You know, most of the council is pretty, is well, all of the council is pretty supportive of active living.*  
City Manager

- **A political champion.** Many municipal employees and city council members mentioned the influence of a particular person, a champion, one who encourages greater awareness and advocates for change. Two individuals (the mayor and a city council member) were reported as having these characteristics.

*We have a councilperson now who is a doctor. His/her big push is public health. He/she brings it up almost every single council meeting. He/she ties health into the discussion. He/she feels like it is city government's role to have something to do to influence health. All departments are starting to put a greater focus and emphasis on what they can do to improve that. And those were not discussions that were had ten years ago. It's really encouraging.*  
City Planning Director

*[It is an asset] having a doctor on the council now, who is really an advocate for wellness. The mayor has also been a big advocate for wellness.*  
City Council Member #1

*The Mayor, kind of, came in as the public health mayor. She/he has directed a lot of attention to, not just obesity, but health and wellness in general.*  
Transit Manager

*Through strong leadership of the Mayor deciding to make an active change in the city and with council agreeing with that, we were able to do more trails and sidewalks.*

Public Works Director

- **Public support.** Although not asked directly, elected officials and municipal employees emphasized the importance of community buy-in on decisions and discussed infrastructure changes implemented as a result of public support.

*When the last [program name] was being planned, there was a website, and there was an opportunity for citizens to say what they thought needed to be included in [program name]. I do know that is one reason why trails and sidewalks were in there, because so many people responded that they wanted trails and more sidewalks around town.*

Capital Improvement Program Director

*Guess we are getting citizens to see it as valuable enough thing to vote on it....Sidewalks and trails got a lot of funding, and so, on the public side there is a priority there. And, that is a good thing.*

retiring Parks and Recreation Director

*In order to do any real change, in other words, to change the taxation rate you have to go to the vote of the people. They get a say. So, it's not enlightenment or lack of enlightenment from the Mayor and Council or of any city in the state. You have to get the people in your community to really be engaged if there is really going to huge, large-scale changes.*

Mayor

*In [year], voters voted um for sidewalks for the city to really go aggressively for a long-term plan for sidewalks, and so thanks to [capital improvement program] we are now putting sidewalks in. We have a sidewalk master plan.*

City Council Member #3

*There is a huge public health aspect to [capital improvement program]. Um, so I think it was clearly a priority vote...It's just part of changing culture and adopting uh more active or responding to the publics desire for more active amenities.*

City Manager

*I think our citizenry, our voters are supportive of [designing our city to support active living], and that's evidenced by the [capital improvement projects] that were all approved by voters.*

Transit Director

I think active living has been promoted by especially our latest *[capital improvement program]* and people are buying into that.

City Council Member #6

*When the citizens say what they want and the elected say, "Well how are we going to pay for it?" the citizens say by voting for our general obligation bonds they're voting in favor of us improving the quality of life and like I said, a piece of that is the healthy living by making outdoor space more available and more accessible to all of our citizens being able to get outside.*

new Parks and Recreation Director

- **Partnerships.** Participants spoke about the benefit of working together across agencies and sectors in order to get things accomplished in the past and discussed the importance of future partnerships.

*Partnerships between [agencies], they only strengthen our ability to explain and describe what our goals are and why it's important to the community...It's the first time we are really using each other's resources and working together.*

City Planning Director

*[The health department] was designed to include access for, for physical activity and so that includes the walking trails here [and additional physical activity infrastructure]. And then, we've also added [athletic program infrastructure]. Uh, and partnered with [a local professional team]... We have two other campuses planned currently. Uh, one is [name of location], which is next to [a park] and attached to [an elementary school], which is primarily a Hispanic area, and uh, 1,000 kids there and ... it'll be a partnership of, oh, about 110 organizations.*

City-County Health Department Director

*Well, that is another great thing. We have a lot of great partnerships that help us. Number one probably on the hip-hip hooray would probably be the [foundation]. I mean they saw the reality of doing the [parks] master plan. They helped pay for that...they are bequeathing a tree inventory of our city parks, something that is in the neighborhood of a \$120,000 gift.*

new Parks and Recreation Director

*I think we have, we have the right ingredients, and...people are really working together. It is the secret sauce that [the city] has, I hate that expression, but um, you know people come from all over the country, to [the city], as we go to other places to steal their ideas, but people come here all the time... we can tell you what projects we built, we can tell*

*you, you know, all those things, but the secret to the success has been the collaboration between city government and the business community and probably the chamber, kind of three legged stool. With everybody, generally speaking, trying to go the same direction.*

City Council Member #2

*Interviewer: You mentioned departments that you often work with, other key groups or departments that are fairly regulars that you collaborate with?*

*Participant: Sure, yeah, I mean, public works and planning, they definitely come to mind. Um, at the same time, we also work with organizations that are closely associated with our city, like the groups that are promoting economic development. I mean transit is always a big discussion point. When it comes to bringing in new business and those kinds of things, even organizations such as [name of the city's downtown management organization]. And, [name of neighborhood organization] is another one of our partners that we try to get at the table.*

Transportation Director

*Again nobody is opposed to [active living]. I mean, so you know, everybody, it's all local. So you know, if you know at [name of University] wants some trails then that group can activate it and we'll build some really nice trails at [the University]...They took the initiative and that was responded to.*

City Manager

*Groups like [name of education and research institute] are very good about sharing their thoughts and concerns about the development of the city. And then like I said, I think our council is, is very well in tune with those concerns. We, especially if you compare our operation to that of the state's, is a much more transparent. We welcome input. Uh, we want people to be a part of the budget process. And planning process.*

City Council Member #4

- **The city's status of transformation.** Overwhelmingly, participants talked about the city's momentum, growing public interest, and a shift toward changes that are more supportive of active living. Changes in the city that participants considered an improvement in support for active living included a downtown park enhancement, investment in the trails system, a bike share program, an open streets event, increased public awareness and support, the inclusion of walkability and bikeability in city planning efforts, greater prioritization of



active living within city government, greater public usage of new sidewalks, and the hosting of a [major event]. Despite the numerous barriers participants discussed, most conveyed a sense of optimism and a desire to continue becoming a more activity-friendly city. They described the city as being in a stage of change and spoke about the city's increasing support for active living and used words such as "momentum", "new wave", "a shift", "turn the tide", "more receptive than ever", "becoming more hip and cool", "turning a ship", and "evolving" to describe this current transformation.

*I think the dye is cast. I think we are going that direction...I think that is our priority now - to make the city the most livable and well city we can make it.*

City Council Member #1

*I think the idea of design being important is kind of a new concept in [the city]. It is a real paradigm shift, and I say that as an outsider. Um, and, I have really in the last 30 plus years, I have really watched how the concept of place making and design has been embraced.*

City Council Member #2

*You know ten years ago during the bond we were not talking about walkability. We were not talking about, um, complete streets. We weren't talking about, uh, the connection between the built environment and, uh, public health. If you talked about sprawl, you were black listed and ostracized. And now, now that stuff is all, is all part of the common discourse.*

City Council Member #7

*You know first of all, we've come a long ways and had a lot of barriers.*  
City Manager

*When you look at an active lifestyle [the city] has really transpired over the last ten years.*

Public Works Director

*I think just the synergy of things coming together. The city is moving in a certain direction; the health department is moving in a certain direction; the partners seem to be moving in a certain direction. So I think it's just coming together at the right time really.*

City-County Health Department Director

*It never happens as fast as I would like something to happen, but it feels like real change is occurring here.*

Mayor

*You know we are seeing...a lot of trends in downtown housing, much more walkability. Much more, many more transit options. Bike lanes you know have been a big priority. The bike share program has been a big priority and all of those, you know, stations obviously are centrally located so people can get downtown and use the bikes to get around. So, the addition of those things has been really important to this ward and I think will become increasingly so.*

City Council Member #2

*I: What would you consider [the city's] biggest assets regarding city design that supports active living?*

*P: That we are, um, having discussions. Uh, about it. And from those discussions, we'll try and figure out a way to bring active living. Five or ten years ago those discussions did not happen. Now we're having those discussions. Now we're trying to figure out a way to bring about designs where, um, it really creates walkability. That livability.*

City Council Member #3

*I mean the latest [capital improvement project] is the key to this movement for active living. It's worked quite well in my opinion.*

City Council Member #5

**(4) Preference of the younger generation.** Participants acknowledged the younger population's favor toward and demand for active living supportive infrastructure.

*And so, a lot of that is I think younger generations. Um, you have historically low number of millennials I guess if you want to use that, that have driver's licenses and the number of miles they're driving each year. They don't, they don't want to spend their life or their resources, uh, that way. The average cost of ownership and maintenance of a vehicle is like 10,000 dollars a year. I mean who wants that. That may be the difference between going to college or not. If, if a family has to buy vehicles for each and every child, I mean that's just a ridiculous proportion of a, of a family's income towards the automobile. And, I think that younger generations are saying, "Enough. We're not, we want to spend on other things." And so, uh, so just, just the new ideas that come with turnover and generations is probably the biggest factor.*

City Council Member #7

*I, I think each new generation, uh, has a greater interest in active living.*  
City Council Member #4

*So in a grand scheme there, the younger people are more likely to want a more pedestrian friendly community.*  
Mayor

*I see more and more younger families moving into the city's core, and to me it is critical that the sidewalks and the trails happen in [the city].*  
Public Information & Marketing Director

*I think there is pent up demand for it and people are a lot more demand as it is happening all across the nation for these types of infrastructure improvements and for biking and walking facilities. I think that [the city] is more receptive as ever and the people of [the city] are more vocal than ever. And I think that a lot of that – I hate to attribute all of it to the millennial push but it's got something to do with that.*  
Sustainability Director

*I will tell you. I think younger generation is wanting [active living supportive infrastructure] more than the older generation.*  
Economic Development Director

*Now that downtown is revitalizing and has all sorts of amenities, people are very supportive of past and future investment in downtown to create commercial districts, connected neighborhoods, just that kind of lifestyle. And that's supported, in part, by the influx of younger people who want that.*  
Assistant City Planning Director

*You know, look at the [area in the city]; it just continues to stun me...we've nurtured, somehow, a group of real young talent that see the importance of design and placemaking and so, you know, they're just beginning to sort of come into their own, but its been a generational thing. It's been really transformational I think.*  
City Council Member #2

**(5) Co-benefits.** Although participants were not asked directly about the benefits of activity-friendly environments, some spoke about favorable outcomes other than increased physical activity. Very few participants discussed multiple benefits. Physical health and economic benefits were the most common benefits discussed by participants. Physical health benefits were discussed by fifteen participants (60%). Economic

benefits were discussed by thirteen participants (48%). Social benefits were discussed by five participants (20%). Mental health benefits were discussed by three participants (12%). Environmental sustainability benefits were also discussed by three participants (12%). Safety/injury prevention was discussed the least; two participants (8%) spoke about this benefit. Less than half of participants discussed more than one benefit. Three participants talked about more than two benefits. No participants, other than the Planning Director, discussed more than three benefits. The Planning Director discussed five benefits. Each subtheme is described below.

- **Physical health.** Participants discussed active living focused efforts as being beneficial to the public's health in general.

*At the end of the day to make the regulation stick you have to have the political will to say it's worth it, and we believe this outcome will benefit our community and our health and the level of activity and level of opportunity our citizens will have and it's worth it to us to do this.*

Planning Director

*We know the health challenges associated with [the city] specifically and we wanted to be cognizant of the role the city has to play in creating an environment in which people have the opportunity to be healthy.*

Senior Planner

*[The bike share program and urban agriculture ordinances] are other issues where we can help people improve their health outcomes indirectly or directly.*

Sustainability Director

*The city has really done a lot to, to really help the public health agenda, and so we, we think it's important to continue to emphasize the, you know, the built environment that we have, that the city has put it at the top of their agenda.*

City-County Health Department Director

*The main thing is that everything's intertwined. The way the built environment impacts our daily living in, in many different aspects, you know...But so much of how we interact with each other and the planet is defined by how infrastructure is built and allocated, and it impacts the human experience and public health in a lot of ways that we don't appreciate.*

City Council Member #7

*The only way we're going to get our health coefficients into a more suitable range is uh we've got to plan for the long haul and really push educating people to get outdoors.*

new Parks and Recreation Director

- **Economic.** Elected officials and city staff acknowledged the favorable economic impact of making decisions that support active living.

*I haven't seen anyone that is not supportive [of city design efforts that support active living], even some financially conservative people you know. They see that you can sell a house better if it has access to outdoor activities, so they are willing to spend more to make sure it is. Now they see this return on investment so they are willing to do it.*

City Council Member #1

*Our private sector downtown business leaders have been supportive and the heads of our biggest companies. They are trying to attract highly educated 20-somethings, and they agree that educated 20-somethings are attracted to an urban lifestyle that is pedestrian friendly and has the type of urban environment that you are talking about, so they are on board.*

Mayor

*When you look at our [name] programs that are causing private and public investment in projects, because there is spin off. Whenever there's public investment, private investment always follows.*

Capital Improvement Program Director

*There is a new understanding and appreciation of the planning process and the [comprehensive] plan itself and the impact it can have on health and really economic vitality too. Not just physical health but the sustainability financially of our community.*

Assistant City Manger

*It has another reason to be liked beyond the recreation for kids; it provides income to the city and to businesses. Which, by the way, we never forget. We know we have a great impact on the economy and when we are talking to someone who doesn't have much interest in a park service but they may very well be interested in the impact it has on the economy.*

retiring Parks and Recreation Director

*I think [city design for active living] is both [a short term and long term decision]. It's a huge economic development tool and that's why its both, you know, in the short term, city planning and policy makers are doing everything*

*we can, I think, to create an environment where choice workers want to come live. You know, we do live in a very different world today, and, it's just said so many times, but rather than go to where your job is, you know, you go to where you want to live. And to make [the city] that kind of a place, a lot of the policies that we're, that we're, talking about are designed to do that. So, long term, you know, for [the city] to be on the map and to be able to attract some of the other kinds of things that we want, you know we're probably looking at needing a population base of 2 million people rather than 1.3 million. So you know, how you do that and how you attract people to your region is a longer vision, but I think the sustained focus on quality of life and on job creation and place creation.*

City Council Member #2

### *Discussion*

Overall, the results of this study provide insight into factors that influence city leaders' decision-making process related to active living. Specifically, the findings demonstrate the importance of elected officials in the decision-making process and the value of a 'champion'. Findings highlight the positive influence of public support (especially the younger generation's preference), partnerships, the economic benefit of making decisions that are favorable to active living, and the city's momentum toward change. Participants described several barriers that hindered change including expense, existing infrastructure, less supportive public attitudes, inadequate transit system, large geographical area, dependency on the automobile, and inefficient funding mechanisms. Despite the identified economic and structural challenges, the data suggest that city leaders believe the governmental, public, and private sectors of the city are becoming more supportive of active living policies and environments. These findings provide insight for public health researchers, practitioners, and policy-makers interested in increasing opportunities for city-level physical activity and advancing active living research.

Elected officials play a central role in active living decisions, therefore they are an important population to understand and with whom to collaborate. The presence of a champion for active living appears to positively affect the decision-making process and to stimulate changes in city infrastructure. A champion assumes a leadership role, creates greater awareness of the benefits of changing environments to support active living, and advocates for change. This finding is supported in previous qualitative active living research (Salvesen, Evenson, Rodriquez, & Brown, 2008; Baker, Wilkerson, & Brennan, 2012), and highlights the potential influence of a few committed individuals' in the change process (Giles-Corti & Whitzman, 2012). Within cities, 'champions' for active living should be identified and encouraged to continue their advocacy work. It is important to note that participants in this study indicated that the 'champions' were elected officials. It is difficult to determine if a champion has to be an elected official or if any local 'champion' outside of government could be as influential.

Consistent with other research findings, the public can facilitate or discourage change (Clark, Berry, Spence, Nykiforuk, & Carolson, 2010). This study suggests that increased public support would encourage city design decisions that increase opportunities for physical activity. Specifically, the younger generation may be an important group to engage in active living related initiatives. Thus, strategies to garner greater public support should be developed and implemented. This study also highlights the importance of partnerships in the creation of activity-friendly environments. Given the numerous challenges that city leaders face, engaging in and nurturing a variety of partnerships might be a helpful strategy to reduce or overcome some barriers.

A new finding from this study was the participants' acknowledgment of the economic benefit (i.e. the positive impact on real estate, private investments, and attracting people to move to the city) of design decisions that are supportive of active living. The influence of economic considerations on city leaders' decisions should encourage public health officials and researchers to better identify and communicate the economic benefits of city designs that support active living. Another new finding from this study was the lack of city leaders' acknowledgment of additional meaningful co-benefits, beyond increased physical activity (i.e., the mental health, social, environmental, and safety/injury prevention benefits). This should encourage efforts to educate elected officials and municipal employees of the social, mental health, environmental, and safety/injury prevention benefits of designing activity-friendly environments (Sallis et al, 2015).

Barriers identified by study participants (expense, existing infrastructure, less supportive public attitudes, and dependency on the automobile) have been noted in other literature except for the challenges associated with the city's size, public transportation, and inefficient funding mechanisms (Salvesen, Evenson, Rodriquez, & Brown, 2008; Clark, Berry, Spence, Nykiforuk, & Carolson, 2010; Grant, MacKay, Manuel, & McHugh, 2010). These findings suggest that there is overlap in barriers that local leaders experience when making city design decisions that support population physical activity. Because of this, national organizations that advocate for active living environments should be encouraged to develop and disseminate strategies that can reduce the adverse impact of identified barriers on local decision-making.



City employees and local politicians described the city's evolving support for active living. Considering indicators of activity-friendly communities, the city's existing built environment and associated policies do not meet several objective measures that are indicative of an activity-friendly city (Brennan-Ramirez et al., 2006). An explanation for this discrepancy could be the time required between the establishment of governmental policies and the implementation of environmental changes that encourage physical activity. Another explanation could be that the city's growing support for active living is important and necessary but not sufficient to overcome barriers to city-wide infrastructure and policy changes.

**Implications for researchers.** This study suggests that qualitative methods can help researchers understand local leaders and factors that influence city design decision-making. Future research could explore mechanisms by which many cities worldwide have overcome barriers to making their communities more activity-friendly (Lavizzo-Mourey & McGinnis, 2007; Bors et al., 2009; Sallis et al., 2009). Replication of this study in other cities could provide comparisons to the factors identified here. Future investigation might also use a case study approach to follow municipal elected officials and their involvement in policy development and successful or un-successful implementation of changes to the built environment to provide additional insight into the decision-making process. An additional study with a specific focus on local governments' perceptions of the co-benefits of activity-friendly environments might merit deeper investigation. Finally, this study could be expanded to examine characteristics of "active living champions", inside and outside of local government.

**Implications for practitioners and policy-makers.** Local leaders, especially elected officials, should be encouraged to create health-enhancing environments that increase opportunities for population-wide physical activity. Greater networking among and within cities should be promoted to foster methods for sharing successes and strategies for overcoming common barriers. Since public health officials are motivated to promote physical activity, they should seek active collaboration in city design decisions. Public health professionals should keep policy-makers informed of the research evidence that support such policy and infrastructure decisions. They should also emphasize the financial benefits of urban designs that promote physical activity. Increased communication of the economic and additional co-benefits can stimulate greater government and citizen support for activity-friendly environments.

**Limitations.** Our findings have limitations. Participants represent a small sample of city leaders, and the data are specific to one particular metropolitan southern city in the United States. Despite several attempts to interview the eighth city council member, he/she declined. Some participants' limited time schedules decreased interview times to less than desired. Although responses may have been biased because of the political nature of the interview questions, privacy was assured through multiple means to mitigate this limitation. Finally, during the data collection one director-staff position changed. Both the retiring and the newly hired Parks and Recreation Directors were interviewed, and it is possible that one's responses might have differed if obtained prior to his/her retirement announcement and the other's if interviewed after additional time in the position.

## *Conclusion*

This study adds to the literature that explores the connection between local government and the promotion of physical activity. Many decisions made at the local government level affect physical activity environments and impact population activity levels and public health. Continued efforts to investigate city leaders' decision-making processes will provide greater understanding of this key group of individuals. Improved understanding can assist public health practitioners influence local leaders to prioritize investment in activity-friendly environments.

### **Manuscript 2: Local Government's Perceptions of Active Living**

#### *Introduction*

The level of physical inactivity in people's lives is a complex problem (Lavizzo-Mourey & McGinnis, 2003) and a major public health challenge (Sallis et al., 2004). Epidemiological evidence links inactive lifestyles to numerous physical and mental health problems (Paffenbarger, Wing, & Hye, 1978; Rankinen & Bouchard, 2002; WHO, 2015). Despite the well-established health benefits of regular physical activity, most children, youth, and adults in the United States are insufficiently active (USDHHS, 2008; Sallis, Floyd, Rodriguez, & Saelens, 2012; Healthy People, 2017). Along with the health risks and consequences, physical inactivity places a substantial economic burden on the nation (Pratt, Macera, & Wang, 2000; Pratt et al., 2014). Physical inactivity increases the risk for many of the most expensive medical conditions including type 2 diabetes, obesity, heart disease, stroke, falls, and depression (Pratt et al., 2014; CDC, 2015).

Evidence indicates that most people are inactive unless their cities are designed to support active living (Dannenberg et al., 2003; Srinivasan, O’Fallon, & Dearry, 2003; Sallis, Floyd, Rodriguez, & Saelens, 2012). Built environment focused interventions garner greater attention because they impact communities for many years and require less individual effort to be active (Frieden, 2010; Sallis, 2012; Sallis et al., 2015; Tuso, 2015). Leading health authorities now recommend the creation and promotion of activity-friendly policies and environments as cost-effective, sustainable approaches for promoting population physical activity (Edwards & Tsouros, 2008; Kenner, Goodman, Lowry, Zaro, & Kettel, 2009; Parker, Burns, Sanchez, 2009; Frieden, 2010; Rydin, et al., 2012). Furthermore, the current U.S. Surgeon General, Dr. Vivek Murthy, has urged the nation to better support walking and walkability for people of all ages and abilities (USDHHS, 2015).

Built environment-physical activity research has primarily focused on national and state policy (Bernier & Clavier, 2011); however, many decisions related to development of environments that facilitate physical activity occur at the local/municipal government level (Sallis et al., 2015). Public health authorities encourage local government involvement in physical activity promotion, yet there is little research on city-level actions to develop activity-friendly environments. Consequently, active living researchers have called for efforts to learn more about those with the responsibility and influence to change the built environment (Giles-Corti et al., 2015). Greater understanding of the role of municipal employees in enhancing opportunities for active living is necessary. Insight into these professionals’ viewpoints

can contribute to a more complete and accurate picture of the challenges and opportunities associated with creating activity-friendly policies and environments.

The majority of studies targeting municipal employees and active living have utilized quantitative study designs (Librett, Yore, & Schmid, 2003; Hollander, Martin, & Vehige, 2008; Heinrich, Johnson, Jokura, Nett, & Maddock, 2008; Maddock, Reger-Nash, Heinrich, Leyden, & Bias, 2009; Bocarro et al., 2009; Evenson, Aytur, Satinsky, & Rodriguez, 2011; Dill & Howe, 2011; Goins et al., 2013; Zwald et al., 2014; Lemon et al., 2015). Past qualitative studies have examined factors that support or hinder successful implementation of local policies that promote physical activity (Salvesen, Evenson, Rodriguez, & Brown, 2008), processes and policies that facilitated the development of community trails (Eyler et al., 2008), and public support for obesity policy (Neiderdeppe et al., 2011). Although these studies provide important insights, further examination is warranted to increase understanding of municipal employee's perceptions of and support for active living policies and environments. Additionally, there appear to be no in-depth investigations conducted within a city with few existing walkable and bikeable locations.

Public health professionals, city/transportation planners, engineers, and parks and recreation professionals play overlapping roles in shaping the built environment, promoting physical activity, and creating places that support active living. This qualitative study aims to deepen understanding of local government perceptions of active living within a city characterized by insufficient environmental supports for active living. The purpose of this study was to examine municipal employees' perceptions of and support for policies and environments that facilitate active living.

## *Methods*

**Research Approach.** Qualitative methods were used because this study sought to gain a deep understanding of the research participants' perspectives and experiences about active living within a specific setting. In person, in-depth interviews were chosen because of the method's ability to elicit diverse, unique, and intimate perspectives (Patton, 2015).

**Setting.** The study's setting is de-identified to protect the privacy of the participants. The city of focus is located in the southwestern region of the United States. The county the city resides in also ranks poorly in relation to physical activity and health. Approximately 30% of adult citizens are physically inactive (not participating in any leisure-time activities during the past month) and 30% are obese (County Health Rankings & Roadmaps, 2016). The state also ranks high in burden of heart disease (State Health Department, 2016) and obesity (The State of Obesity, 2016). At present, the city is characterized as a car-dependent and car-prioritized community. For example, the city is ranked poorly regarding walkable and bikeable characteristics (Walk Score, 2015). Most of the city has inadequate sidewalk coverage or no sidewalks at all (The city comprehensive plan, 2015). Likewise, the city has minimal biking infrastructure, and the public transit system is deficient compared to other cities in the region. There is low usage of alternative modes of transportation; walking and biking constitute less than 2% of commuting trips (Census, 2014). Furthermore, the city has yet to adopt a Complete Streets policy (City Health, 2017). Despite these challenges, local government officials are working to make the city more activity-friendly. These characteristics make this particular city worthy of investigation.

**Participants.** A purposive sampling method was used to recruit potential participants. Inclusion criteria were that the participant had to be: a full time employee of the city or county with a professional role in active living, or had to be in an appointed position with a role in active living. Participants were identified from the city's websites and by two key informants (a city planner and a health department employee). Commissioners' contact information was not publically accessible; therefore, access to the three commissioners was gained by snowball sampling technique.

Twenty-one face-to-face in-depth interviews were conducted in the summer of 2016. To protect confidentiality, participants are identified by generalized positions. Participants included six public health employees, twelve municipal employees (three public works employees/engineers, three parks and recreation employees, and six city planners), and three appointed commissioners (Planning Commissioner, Park Commissioner, and Traffic Commissioner).

**Data collection.** Interview questions were developed and guided by (1) the literature (Salvensen, Evenson, Rodriguez, & Brown, 2008; Zwald et al., 2014; Lemon et al., 2015), (2) familiarity with the city's environments, policies, and plans (The City, 2015; The city comprehensive plan, 2015), and (3) assistance from a key informant. The interview question path was tested with a municipal employee in a nearby city and modified based upon feedback. Using a structured interview question path, the lead researcher conducted all interviews. The interview path included nine questions and additional probes related to factors that make a city supportive of active living, motivations for being involved in making their city more supportive of active living,

benefits in making their city more supportive of active living, roles and responsibilities in creating policies and environments that support active living, and ideas for making the city more supportive of active living.

Prior to each interview, “active living” was defined by the interviewer for the participants as “things that increase opportunities for being active like walking, biking, and playing outside. This includes zoning policies, transit policies, resources allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc.” (Active Living Research, 2014). Also, “policy” and “policies” were defined as “any laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior. A policy could include formal written codes or regulations bearing legal authority, written guidelines, or procedures” (Salvesen, Evenson, & Rodriguez, 2008). Participants were asked to provide responses that reflected first the values and philosophy of their organization and then their personal opinions when asked about the benefits of creating a more activity-friendly city (Clark et al., 2010). See interview question path in Appendix D. Participants were recruited through a recruitment email. See Appendix A. All interviews (n=21) were conducted by the first author and took place in the interviewee’s office or a convenient nearby location. Interviews were conducted until saturation (no new information gathered from interviews) was reached (Patton, 2015). Interviews were audio recorded and ranged from 30 minutes to two hours in length.

**Data analysis.** Research assistants transcribed interviews using a VLC media player and Microsoft Word. Transcripts ranged from 10 to 32 pages. Each was checked for errors. The principal investigator created a preliminary codebook to ensure accurate



and consistent coding. Codes represented concepts within the interview question path as well as concepts that emerged. Transcriptions were coded using NVivo v.11 software and Microsoft Excel. All transcriptions were coded by the principal investigator and reviewed by a second researcher. If a disagreement in coding arose, codes were discussed until consensus was reached. The interviews were then analyzed for broad themes. Broad themes were identified as topics discussed by participants in six or more of the 21 interviews (29%). Finally, the lead investigator reviewed the transcripts again for disconfirming evidence of themes (Ulin, Robinson, & Tolley, 2005).

### *Results*

The coding process identified seven broad themes that represent commonalities among the local government employees and appointed commissioners. These included: (1) perception of high level of support, (2) recognition of active living co-benefits (3) comparison to other cities in the country, (4) ‘not there yet’ status, (5) acknowledgment of these changes being a long-term process, (6) importance of the mayor’s support, and (7) importance of citizen support, involvement, and demand. Themes are described below with representative quotes from the participants (P). Quotes also may include questions/comments from the interviewer (I).

**(1) Perception of high level of support.** Participants overwhelmingly spoke positively about active living and described their particular departments and the city as a whole as being highly supportive of increasing opportunities for physical activity.

*You know, [the Mayor] is very, it’s one of his/her main things. So, yeah, we all support [active living].*

P19 Public Works

*Opportunities to be active are a direct reflection on health...I would say we’re very, as an agency we’re very, very interested in making the city more, giving*

*people more opportunities for active living.*  
P23 Public Health

*Personally, I am very supportive. I am very supportive of [policies and environments that increase opportunities for people to be active in the city].*  
P 29 Park Commissioner

*I think the [city's] level of support is increasing. I think people are more aware of it...I think it's important for each division and everyone needs to be a part of it.*  
P24 Parks and Recreation

*Our department's level of support internally is as high as possible. We completely support it.*  
P17 City Planner

*I think [the agency] is very supportive. I think they see how beneficial it is, and they are trying to help make that a reality as well.*  
P16 Public Health

*I think it's a huge part of what we do. [The city health department's] level of support is absolutely through the roof, I would say.*  
P12 Public Health

Some participants described differing levels of support among particular groups. One engineer described the planning department's level of support as being higher than that of the public works department. A city planner described city engineers as being less supportive. The Traffic Commissioner described his/her personal support as being different than the traffic commission's level of support.

*Well I mean there's some departments, like our planning department are extremely supportive of a lot changes and that, and you know and that's kind of a, a function of what they do. But, I think, you know, the thing is you have to kind of balance the, the desires of you know, one group of people that are planning for pedestrian and bike facilities with the reality because not every roadway is really suitable for active living.*  
P25 Public Works

*Sometimes, city staff aren't quite so cooperative. There are some engineers that only see widening roads. It just seems like we see this. It's that [engineer classes] are not teaching them the whole system.*  
P7 City Planner

Participant: *I'm about walkability. I'm about bicycles. I'm about doing everything that I possibly can in my traffic commission role to put people and bicycles and walking before cars.*

Interviewer: *On the traffic commission, what's the level of support for creating an activity-friendly city?*

Participant: *Barely, barely 50%...on the traffic commission, it's truly an uphill battle.*

P28 Traffic Commissioner

Participants shared examples of groups or individuals being vocally supportive of the concept but not supportive when making actual infrastructure decisions. A city planner described the city, as a whole, less supportive when it came to implementing action as opposed to voicing support. Likewise, another city planner described business owners. He/she spoke of their verbal support for active living infrastructure, but conflicting actions. The Planning Commissioner described the planning commission similarly.

*I think the city's supportive to a degree. I think they, at times, pay a lot of lip service to it. But it's, things like applying for a bicycle friendly community. There is usually a push to do those sort of things without actually doing the work that it takes to become, you kinda check the boxes without actually changing environments.*

P22 City Planner

*We still have a lot of people who pay lip service to the ideas without actually knowing what they meant or it's kind of the flavor of the day for them. So if this is what the mayor wants to hear, then we'll say yeah that's what we're gonna do. So there's a lot of that. The philosophy of the city still hasn't totally changed.*

P22 City Planner

*The shop owners and business improvement district in [area] say they want a walkable district, but they recoil at the idea of putting a stop sign somewhere in the district, you know, to actually stop cars so pedestrians can cross the street. They talk about traffic calming, but anytime actual traffic calming is put in place, people freak out and they say we need to remove it.*

P17 City Planner

I: *How would you describe the planning commission's level of support for policies and environments that support active living?*

*P: If you ask them that question, they would be like, “Down with that. Absolutely. Yes. Yes. Yes.” [theoretical response from other planning commissioners] The devil is in the details, right? It’s when you get down to it. Well, maybe we should not have as many parking places. “Oh. I don’t know about that idea.” [theoretical response from other planning commissioners] The [street] streetscape out here is a great example. Maybe we should start doing things that actually physically change the environment so that cars are not the number one goal to be served. “Oh, I don’t know about that.” [theoretical response from other planning commissioners] It’s like, yeah, that’s a great idea. That’s a great idea, but are you really talking about doing this. Or, you’re really going to do that? You’re going to narrow the street because research shows that causes cars to slow down which makes it safer for people to walk. It’s like ohhhh, but what about, I mean at the same time I remember one of the council people at some point came up along here about the streetscape and he/she was like, “Oh, we just need to widen [the street]. It needs to be for lanes.” You’re like, no. No. No. No. You’re moving in the wrong direction, you know? But the concept of it, I think they are absolutely supportive of it.*

P30 Planning Commissioner

**(2) Recognition of active living co-benefits.** All participants discussed benefits of making the city supportive of active living in addition to increased physical activity. Most discussed the physical health, economic, social/community, mental, and environmental benefits. Participants acknowledged that the city’s poor health outcomes could be improved by making the city more supportive of physical activity. They spoke of the positive impact that such policies and environments could have on the city’s economy and its ability to attract and retain citizens. Additionally, participants discussed active living efforts as a health equity issue, describing active living supportive policies and environments as ‘equalizers’. They related how activity-friendly places connect people and encourage social interaction in the community. Participants discussed how making the city more supportive of active living could positively influence quality of life. They also spoke about environmental benefits such as clean air, more trees, and sustainability.

*Our goal is to have a healthier community. And so to improve our health indicators, and so you know, we don't do so well compared nationally and so we know for the specific diseases we're trying to prevent – we look at the top causes of death – um you know being heart disease and cancer. We know that obesity are underlying risk factors for all of those so in order to combat obesity we have to have people active.*

P18 Public Health

*If the city is more supportive of active living, we get all these policies in place. Now, let's say we have this amazing policy on the books and we have trails everywhere and bike lanes everywhere and people feel safe walking then 20 years from now we wouldn't see as much heart disease and diabetes, and we wouldn't need to invest as much time in treating if we prevent the problem and so it saves money, it saves lives, it makes everyone healthier, happier.*

P12 Public Health

*We see the healthy side of it but we also see it's, uh, the equity side of it as well you know that more people are, are able to move around and get jobs and have access to grocery stores, you know whatever, medical care. That's, that it's the equalizer that we see and the health benefits are there as well.*

P23 Public Health

*The benefits of supporting active living in the way of building more infrastructure or kind of strengthening that I think is, um, something that's sorely needed in a community where 45,000 people live without a car, without access to a car, and, you know, now children don't have access to cars. There are people in the northeast side of the city, um, kids that have never been downtown. They live like a mile and half from downtown because they can't cross [highway] or [street] or [street]. You know, we have all these big roads that are not suitable for anybody but drivers, and, um, so I think investing in that would be, you know, it's, I feel like it's a moral obligation.*

P17 City Planner

*Well I tend to think it, I would come at it from an accessibility stand point because if some, if, if the least mobile person is given the opportunity to get out and around, that means every able body person can do it. So I think that uh, I would encourage, I kind of encourage it because...if we can, if we can make...the city in general accessible to those that have the most difficulty getting around it just, it's just a better place over all. So like I said, mine more is, mine more from accessibility not necessarily from...you know from active living.*

P25 Public Works

*I mean from, pretty much from the mayor and city council side it's more about the healthy living part of it which I mean is a definite benefit. Um, that's kind of one side of the story to tell. From the planning side of it, we see the healthy side of it, but we also see the equity side of it as well. You know*

*that more people are able to move around and get jobs and have access to grocery stores, medical care. That's, that it's the equalizer that we see and the health benefits are there as well.*

P22 City Planner

*There's just this whole concept that [the city] will be a more attractive place for people to come live and for businesses to locate...There's a beautification aspect to that healthier environment. Open space. Green space. It's not just about being healthier, it's about really improving lifestyle as a whole. There's a certain sort of booster advantage to the city as a whole. Everybody wants to live some place that's a healthier place to live.*

P30 Planning Commissioner

*Parks, I think, are a place, a destination for active living but that can also be valuable socially...But these are places where people congregate and come in and out of, so you can run into people just randomly and reconnect, and so you renew those ties. Those social ties of the neighborhood.*

P29 Park Commissioner

*There's obvious health benefits...The property values improve. That is a quality of health. Another quality of health is just getting cars the hell out of there. Minimizing focusing on always making decisions to accommodate the vehicle and start making decisions to accommodate people. When I hear about health in my public work, it's a healthy city. It's a healthy neighborhood. It's prosperity.*

P28 Traffic Commissioner

*Better health, um, economic development tool, like I said before. You know the better your parks look the more people want to come live here and stay here. It's a tool to help build the city basically.*

P24 Public Works

*I think health and active living is a benefit in and of itself, but then I think it also makes the city more attractive as a destination. As a place for businesses to move to. As a place for people not to move away from...That's one thing that we can do to make the city attractive.*

P29 Park Commissioner

*The benefit both physically and emotionally from, you know having outdoor experiences. I mean the goal is to try to encourage people to be aware of how they can just have a better lifestyle and a life quality if they're more active, physically.*

P11 Parks and Recreation

**(3) Comparison to other cities.** Participants frequently talked about other metropolitan cities in the United States. They described other cities as providing more facilitators to physical activity compared to [the city]. Specifically, they described other cities' more supportive social, physical, and natural environments.

*I've been to Boston and Chicago and their systems that are in place really support walking and biking, and they have a lot of the bike share. I know we've got some of those starting to pop up in [the city], but it's just more prevalent in some of those other communities, and it just seems that walking is the norm and it's not a big deal to walk half a mile somewhere, you know, in other cities.*  
P18 Public Health

*San Francisco is kind of it's, it's kind of an anomaly, but, in that city and in that culture, walking to get, walking two miles to get somewhere is not, a big deal, it's not abnormal. Um, you just, it's just, part of everyone's life. Um, and here, people don't want to walk more than like a couple of blocks, like to get from their car to wherever they're going. Um, so it's just very, in that city, it's very accepted, encouraged, it's the norm, like walking everywhere. Um, and like obviously [the city] will never be like San Francisco, but, like the more sidewalks you have, the more its part of peoples norm. And like we want public health to be, we want active living and public health has got to be the norm.*  
P23 Public Health

*It's better than it has been historically. So we are, I mean, I hate to complain too much, but it could still be a lot better. We are not Portland or Austin or you know Fort Collins or Boulder.*  
P22 City Planner

*Places like Boulder and Denver and Seattle, and places near the coast where there's more active lifestyles and they have different topographies. Those lend themselves to more outdoor, but more than anything their climate does.*  
P20 City Planner

*I lived in Denver and they had better public transportation I'd say. They had a trail system that could take you places within the city... In Denver at least there were places through the city that you could go from say where I lived to the [destination]. And it was probably 30 minutes, but still you could do it. I mean; I would that. My husband worked there, and he used to do that several times a week. But, now, it's just totally out of the question [here].*  
P29 Park Commissioner

*I travel quite a bit. My family is spread out throughout the country...and so we go around and I get to experience cities and I'm always looking. Where [the*

*city] really needs to pay some attention is policy that is not there. There needs to be a policy developed or a series of policies developed that help inner city neighborhoods. There's nothing. There is nothing. There are no resources. There is no money. There are no policies. There are no plans...Now in places like Charlotte, North Carolina they are rampant. There's all kinds of programs and grants and things the neighborhoods can take advantage of to help them. That's not here.*

P28 Traffic Commissioner

*When you see cities like Charlotte and well Portland is an awful example because they're so extreme, but I mean it's a different philosophy. They decided to put their money elsewhere and it's paid off for them.*

P22 City Planner

*I think it would be interesting to go down some of the paths that maybe some places have gone like Portland or Detroit or so on, and have a little bit of experimentation. Maybe not roll it out everywhere like a policy, but a little more experimentation with like food forests, urban ag, community growing. That sort of thing. I'm a fan of community gardens, but in [the city] I don't think they're valuable because we're so suburbanized.*

P29 Park Commissioner

**(4) 'Not there yet' status.** Participants acknowledged that more changes are needed to consider [the city] an activity-friendly city. They believed change was possible but described the city as not quite there yet. They characterized citizens, municipal efforts, and the city's policies this way. Participants used terms such as 'not changing yet', 'not adopted yet', and 'not really there yet'.

*I think people are still trying to realize what exactly a parks department can do for city. I think we're heading that direction. I don't think we're quite there yet.*

P24 Parks and Recreation

*I mean I know that they've been trying to improve bike lanes here, and I see them more often, but the culture is not really there yet. I think for most people to feel safe about it. I think the city's trying, but it's an enormous, I don't even know a hundred years of history to overcome the lack of building of the infrastructure and, the place making. So it's not just the lack of the sidewalks, crosswalks, bike lanes, things like that, but also having a place that's close enough that you would want to walk to.*

P29 Park Commissioner



*There may come a day where we do an absolute Open Streets. But, I think our city is just not there yet.*

P8 Public Health

*I think [the city] doesn't have a critical mass yet of people demanding this, which is probably it's biggest challenge. We're, I think we're close but we're just not quite there yet.*

P22 City Planner

*We are possibly changing from a physical standpoint. I don't know if we're really changing yet from a health standpoint.*

P7 City Planner

*I guess to some extent we haven't completely changed all of that [making it easy to be active] yet. A lot of policies and procedures and sort of thoughtless, you know, not thinking in this way.*

P30 Planning Commissioner

**(5) A long-term process.** Participants discussed the long-term nature of making the city more supportive of active living. They described these efforts as a process that takes a considerable amount of time to change.

*There is time involved in this process. And, and that's where we are right now is that, you know, whatever we do today, won't come for probably a couple years down the road. So we have to remember that, but at the same time, don't give up on it because each little thing that we can do now makes that incremental change later, better.*

P7 City Planner

*You know these things they just take years to get embedded in culture.*

P14 City Planner

*We're not going to see change over night. I think we have to understand it's just- it is a process, and it's a journey, and I know that's such a cliché, but there's no other way to say it.*

P8 Public Health

*[The planning department] has great ideas. A lot of times you can't implement those, or the cost exceeds what's available. And so, we aren't wanting to be Debbie-downers because we have to live in the realistic world and you know, and they have all these wonderful ideas. It's just going to take a long time to get there.*

P19 Public Works

*We strongly believe in public transportation, not just as something like a box you need to check, but it needs to be a full-fledged public service ... but with transportation we've been really kind of slow as a city for a long time. If you go back and look at old plans, you know there are policies saying invest in active living and things like that, and you know it's finally starting to really gain some steam.*

P17 City Planner

*The slow-mo bullcrap process of two freaking years of trying to get something accomplished that should happen in a month... The process is damn slow.*

P28 Traffic Commissioner

*And, you know, we probably have another four years before all the projects are done... So it's really, instead of seven to ten years, it's more like ten to fourteen.*

P4 Public Works

*[The city] is, I mean, it's such a big animal to tackle because of its size and it's just variety of land uses... Context is everything in active living. Uh, so we have to come up with a process or policy in a way to allow us to evaluate that at a much smaller scale, which is going to be a much longer process with the staff we have now and the ability we have now.*

P22 City Planner

*I think we're on the right track, that's the thing. It just takes a little time you know what I mean. That's what I told somebody, "It's a big boat and big boats don't turn like this. They turn like." You know it's a slow turn.*

P24 Parks and Recreation

**(6) Mayor's support.** Participants were not asked specifically about local policymakers; however, many participants discussed the city's Mayor and his/her promotion of and support for physical activity. They described the mayor's prioritization on health and wellness a vital impetus in making the city more activity-friendly.

*I think with our mayor being so, you know, specifically involved in our health and wellness and our city council seems to be a lot more involved, [support for active living] has definitely increased over the last five to ten years.*

P20 City Planner

*It's so personal to me; you know, to live in a city that is going to take initiative. I think our mayor has made [active living] a very important priority. I think he/she personally invested a lot of himself/herself and made changes.*

P8 Public Health

*I think we've got a mayor who is very active nationally [in active living efforts]. I think he/she sees what's happening in other communities around the country.*

P13 Parks and Recreation

*With the direction that the mayor has taken and the example that he's/she's had with [a city initiative], that has carried over to most of the [city] departments who have the ability to influence that kind of emphasis.*

P11 Parks and Recreation

*[The Mayor] obviously supports active living vocally. And has really kind of made that one of the pillars of his/her political existence. And, so I think that has been extremely helpful from the city perspective to have our recognizable leader promoting those kinds of things, and that's kind of in contrast to other governments in [another city in the state]. Their city council and mayor are not nearly as progressive... [Our mayor's] ideas are kind of common sense ideas that don't affiliate with party lines, which is great.*

P17 City Planner

**(7) Importance of citizen support, involvement, and demand.** Many

participants spoke about the power of the people. When sharing their thoughts on ways to make improvements in the city, they discussed the importance of citizen action such as voicing desires to policymakers and city staff, using existing infrastructure that supports active living, and voting.

*I: What do you think is the best way to create policies and environments that are more supportive of active living here?*

*P: Public outcry.*

*I: What are your thoughts on where we are with that? How effective has it been so far?*

*P: Infancy. But it's there.*

P28 Traffic Commissioner

*I: What do you think is the best way to create more policies in environments that support active living in the city?*

*P: It's the residents have to want it. The residents have to elect people who are supportive of those things. They need to you know build their alliances and show a verbal as well as um you know voting. They have to be involved um and just getting out and doing it. Taking advantage of the infrastructure that we do have.*

P20 City Planner

*You know, you get the public involved, the public...I don't know if they realize how much input they could actually have. They have a lot of input if they, if you know you get a whole group of people that go to the mayor, [he/she] is going to think, okay I need to do something.*

P24 Parks and Recreation

*When people come to me and say, "Boy, I wish we could do this. And I wish we could do that." I say, "Well, you know, it's great that you're telling me these things." But really, you know, if four people phone their council person, then that council person suddenly wakes up and goes, "Oh, this is an issue." If one person calls their councilman and goes, "In this neighborhood we need better sidewalks, because, I nearly got hit last week and it's not safe to walk, or ride, or whatever." Then if multiple people call, then the council person then goes to staff usually and goes, "Hey, what can we do about this?" If no calls or they just complain to staff, um, nothing much gets done. There has to be some interaction between the citizens and the elected officials to ask them or get them to make some of these improvements.*

P7 City Planner

*Citizen calls really hold a lot of weight with us. I mean, I think it's true that one call can have a really big emphasis. A really big impact. Whenever we get a single call, I mean it ripples through the system. And, we try to respond to it and get it to the right people so that it can be addressed. We don't want it to languish in the system and people think, "Well, they just really didn't care about my concern." Uh, so if people say, "We need to have more of this or more of that", I think our leadership listens to that. We may not have the resources to do it immediately, but I think certainly it's something then that goes into the mix as far as planning for future improvements and programs.*

P11 Parks and Recreation

*I think [the city] doesn't have a critical mass yet of people demanding this, which is probably it's biggest challenge... We still have citizens who are pothole first you know everything else after that. So until we get a large voice out there, it will continue to be a challenge.*

P22 City Planner

*Sidewalks have been built and people have been using them, and you know if people, basically embrace those and really like it and they are willing to, you know, go for more, improvements like that, that really helps the community. So we really need to have the support of community to pass those bonds or [name] programs, etc.*

P4 Public Works

*If 25 or 30 people show up at city council and they don't want you to do something just because they don't want you to do it, that's somebody that an*

*elected official has to pay attention to. You don't just tell voters to go away and we don't care what you think.*

P30 Planning Commissioner

*I think there's momentum here. I think the resident's themselves just have to make sure they voice that that is a priority for them.*

P20 Public Health

*Once [the public] get in tune with the pedestrian ways, that we have available bike routes, how you can get from one place to another, they catch on, they start using that, then it will expand. So, that's kinda how, which would expand the policies and we would change policies to meet their needs.*

P19 Public Works

*Nothing is more powerful in the city of [the city] than a group of citizens with a reasonable goal and a strong voice. That's the most powerful thing.*

P28 Traffic Commissioner

### *Discussion*

This study provides insight into municipal officials' (public health staff, city planners, engineers, parks and recreation staff, and commissioners) perceptions of active living. Specifically, the findings demonstrate the importance of mayoral and city staff support and greater citizen demand. Municipal officials characterized the mayor as supportive of active living and believed that greater citizen involvement was needed to make policy and environmental improvements in the city. Additionally, the distinction between supporting the *idea* of active living and supporting active living by decision-making appears to be important. Findings indicate that local government employees and commissioners are aware of multiple benefits to the creation of more activity-friendly places. Participants described several benefits of making the city supportive of active living: increased physical activity, improved physical health outcomes, enhanced economic vitality, improved social/community health, improved mental health and quality of life, better air quality, and less pollution. Although participants perceived

high levels of support for active living, they acknowledged the city, in form and function, did not yet adequately support the concept. Data suggest that local government employees and appointed officials are aware of cities in the United States that objectively support walking and bicycling. Participants described other cities' social and physical environments as considerably more supportive of physical activity compared with [the city]. Results also indicate that city staff considered these changes to inherently take a significant amount of time.

Municipal staff and commissioners described high levels of support for active living; yet the city is not activity-friendly (Brennan-Ramirez et al., 2006). They described [the city] as 'not there yet' indicating their recognition that change is needed for the city to truly support active living. They also compared [the city] to more activity-friendly cities acknowledging missing key elements such as walking/biking infrastructure, robust public transit, and cultural norms. An explanation for this discrepancy between expressed support and direct action to develop [the city] into an active living supportive community could be the difference between 'verbal support' versus 'action-oriented support'. This study's interview question path did not probe about how perceived high levels of support influenced specific city policies and infrastructures. Future research could investigate whether perceived support translates into policy development and implementation and/or infrastructure changes. Another explanation for this discrepancy could be that the outcomes of their support may not be visible yet considering the length of time required to make some of these environmental and policy changes. Another explanation could be that 'soft support' is not sufficient to create city-wide policy and infrastructure changes.

Involvement and collaboration of elected officials, appointed officials, municipal staff, and citizens appear to be key factors in active living support. It is important to understand each group and to promote collaboration among them. High levels of *collective* support among these four groups may be necessary to overcome challenges in the creation of activity-friendly policies and environments. Future research could investigate the necessary amounts or types of support among these groups that are necessary to stimulate change. Is the mixture of support from these four groups important or are particular groups more important than others in making changes? Likewise, researchers could target cities that are classified as activity-friendly and investigate whether support from particular individuals, municipal staff positions, or city departments is more important than others.

This study's findings mirror other research findings related to the importance of public support in mobilizing governmental support (Clark, Berry, Spence, Nykiforuk, & Carlson, 2010; Zwald et al., 2014). This study suggests that greater public interest and demand for active living facilitators could contribute to improved policies and environments at the local level. Thus, efforts to increase citizen support should be encouraged. The roles and responsibilities for garnering greater support from the public should be determined and clarified. Given that municipal staff and elected officials respond to the needs and desires of their citizens, future research should examine citizens' levels of support for active living supportive policies and environments. Comparing citizens' levels of support in different metropolitan cities may be worthy of examination as well. Also consistent with other research findings was the important role of the mayor (Rockymoore, 2009; Goins et al., 2013; Lemon et al., 2015). Participants

viewed his/her leadership and prioritization of health and active living positively. This finding provides insight into the influence of elected officials on municipal staff regarding the creation of activity-friendly cities. Efforts to establish and strengthen political will for such policies and environments should continue.

A new finding from this study was the participants' identification of numerous meaningful benefits of activity-friendly policies and city designs (Sallis et al., 2015). City employees and commissioners acknowledged that creating physical activity-supportive places and policies could assist in preventing and/or solving multiple problems such as improving air quality, quality of life, and equity; reducing chronic diseases and traffic deaths; and attracting and retaining businesses and people. This should encourage the initiation and/or continuation of educational efforts related to the co-benefits of designing activity-friendly environments. Also, these efforts should extend to policymakers and citizens. Future research could examine elected officials' and the public's perceived benefits of making a city more supportive of active living.

Finally, findings from this study suggest the potential value of learning from those metropolitan cities that provide more facilitators to walk, bike, and play outside. An important strategy to improve current policies and physical environments might be to reach out to other local governments and to study their practices and policies. The creation of a networking system between less-activity-friendly cities and more progressive cities also could be helpful.

**Implications for researchers.** This study suggests that qualitative methods are helpful in understanding municipal employees' and commissioners' views of active living. Replication of this study in other cities across the United States could provide



valuable comparisons. Future studies could investigate perceptions of and support for active living among activity-friendly metropolitan cities and/or rural communities. An additional study with a focus on collaboration among these groups might provide deeper insight. Also, this study could be expanded to specifically examine perceptions of city's commissioners/board members.

**Implications for public health practitioners.** Public health practitioners should continue to support active living through involvement in policy and infrastructure changes. Collaboration with city planners, parks and recreation staff, and public works staff should be encouraged. Likewise, networking with public health professionals from activity-friendly cities could be beneficial. Local health departments could establish positions that focus exclusively on issues related to the built environment and physical activity promotion. Additionally, public health professionals should continue to educate policymakers, city staff, and citizens on the co-benefits of activity-friendly cities.

**Implications for city staff and commissioners.** Municipal officials should continue to support the creation of activity-friendly policies and environments (verbally and through action) and communicate the wide range of benefits of these. Learning strategies and practices from other metropolitan cities who have been more successful in the creation of active living policies and infrastructure could provide insight and aid in making changes. Active living focused collaboration among city departments and with public health practitioners should be encouraged. City staff should continue to work with government leaders such as the mayor on these issues. Also, increased involvement with city residents may foster greater public interest and demand for places that promote active living.

**Limitations.** This study has limitations. Participants represent a sample of municipal employees and appointed commissioners, and the data are specific to one metropolitan city in the United States. Social norms and natural environments related to active living vary by geographic location. Some responses may have been biased because of the participants' job duties and the perceived political nature of interview questions. These issues were addressed by de-identifying the target city and by identifying participants by generalized positions.

#### *Conclusion*

This study adds to the local government and active living literature. Municipal employees and appointed commissioners play an important role in the support and creation of activity-friendly policies and environments. Their overlapping roles influence decisions that may determine the built environment of cities and influence their citizens' daily physical activity behaviors. They can legitimize city designs that make walking, biking, and recreating outside safe, easy, and enjoyable (Sallis, Frank, Saelens, & Kraft, 2004). Deeper understanding of their perceptions of active living can assist in stimulating greater investments in activity-promoting policies and places.

### **Manuscript 3: Active Living Collaboration in Local Government**

#### *Introduction*

Multidisciplinary collaboration helps create community and health changes (Rouso & Fawcett, 2000; Bazzilo et al., 2003; Bors et al., 2009; Baker et al., 2012). Working together provides opportunities to leverage resources, pool talents, share knowledge, and distribute labor to solve complex issues (Shortell et al., 2002; Bazzoli et al., 2003; Baker et al., 2012). Collaboration also allows effective collective management

of problems when organizations lack the skills and/or resources to manage them individually (Bazzoli et al., 2003).

There is a long history of collaboration among public health officials, city planners, and engineers for working together to achieve improved health outcomes in communities (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2003; Sallis, Frank, Saelens, & Kraft, 2004). In the past, these groups have partnered to resolve problems related to overcrowding, poor living conditions, and air and water pollution. Today, the disciplines are reuniting over a different issue, the promotion of active living (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2003). While these fields' agendas overlap, collaboration may be fueled by differing motivations, such as concern for social equity, pedestrian injuries, traffic congestion, air quality, mental health, and/or physically inactivity (Sallis, Frank, Saelens, & Kraft, 2004).

Active living compels dissimilar groups to work together, given the benefits each group receives (Giles-Corti & Whitzman, 2012). Communities across the United States are changing environments and policies to promote physical activity, and a major contributor to their success is cross-sector collaboration (Killingsworth, Nazelle, & Bell, 2003; Bors et al., 2009; Giles-Corti & Whitzman, 2012; Litt et al., 2013). The Centers for Disease Control and Prevention and the Institute of Medicine emphasize the importance of engaging multiple, non-health sectors to change physical environments (Varda, Chandra, Stern, & Lurie, 2008; Litt et al., 2013). Greater understanding of factors that influence active living-collaboration at the local level can inform effective collaboration in the future. Results from prior studies suggest that collaboration plays a role in a community's ability to overcome barriers to create active living supportive

policies and environments (Hoehner, Brennan, Ross, Handy, & Killingsworth, 2002; Sallis, Frank, Saelens, & Kraft, 2004; Bors et al., 2009). However, limited research exists that focuses on such collaboration in a single city (Brownson, 2009; IOM, 2010). For instance, the mechanisms for how and why cross-sector collaboration within local government occurs has received little attention. Deeper understanding can inform and enhance collaboration among city government officials and public health practitioners.

This study investigates factors that influence active living collaboration in one metropolitan city characterized as not being activity-friendly. The study's purpose was to improve understanding of cross-sector collaboration among local public health professionals and city staff (city planners, public works, parks and recreation, and commissioners) in their creation of policies and environments that support active living. These specific groups were selected because they play overlapping roles in shaping the built environment, promoting physical activity, and creating communities that support active living.

### *Methods*

**Research Approach.** Qualitative methods were used because this study aimed to gain a deep understanding of the participants' perspectives and experiences about active living collaboration within a specific setting. In person, in-depth interviews were chosen because of the method's ability to elicit diverse and unique perspectives (Patton, 2015). The lead researcher also was interested in studying the network of collaboration related to the city's active living policies and practices. Therefore, a concept diagramming exercise was included at the beginning of the interview process to gain a better understanding of the underlying partnerships and perceived roles and responsibilities of

individuals and agencies involved in the creation of active living supportive policies and environments (Forrest, et al., 2014).

**Setting.** The study's setting is de-identified to protect the privacy of the participants. The city of focus is located in the southwestern region of the United States. The county the city resides in also ranks poorly in relation to physical activity and health. Approximately 30% of adult citizens are physically inactive (not participating in any leisure-time activities during the past month) and 30% are obese (County Health Rankings & Roadmaps, 2016). The state also ranks high in burden of heart disease (State Health Department, 2016) and obesity (The State of Obesity, 2016). At present, the city is characterized as a car-dependent and car-prioritized community. For example, the city is ranked poorly regarding walkable and bikeable characteristics (Walk Score, 2015). Most of the city has inadequate sidewalk coverage or no sidewalks at all (The city comprehensive plan, 2015). Likewise, the city has minimal biking infrastructure, and the public transit system is deficient compared to other cities in the region. There is low usage of alternative modes of transportation; walking and biking constitute less than 2% of commuting trips (Census, 2014). Furthermore, the city has yet to adopt a Complete Streets policy (City Health, 2017). Despite these challenges, local government officials are working to make the city more activity-friendly. These characteristics make this particular city worthy of investigation.

**Participants.** A purposive sampling method was used to recruit potential participants. In order to be included as a participant an individual had to hold a full time position with the city or county with a professional role in active living, or an appointed position with a role in active living. Two key informants (a city planner and

a health department employee) and the city's websites were used to assist in identifying potential participants. Commissioners' contact information was not publically accessible; therefore, the three commissioners were gained as participants by referral using a snowball sampling technique.

Twenty-one face-to-face in-depth interviews were conducted in the summer of 2016. To protect confidentiality, participants are identified by generalized positions. Participants included six public health employees, twelve municipal employees (three public works employees/engineers, three parks and recreation employees, and six city planners), and three appointed commissioners (Planning Commissioner, Park Commissioner, and Traffic Commissioner). Public health employees worked at the local health department, which was housed at a separate building from other participants, and was governed by a board of health independent from the city government. The city planners, public works engineers, parks and recreation staff were housed at the city building and were governed by a city manager, city council, and mayor. The time participants worked at their respective agencies ranged from <1-9 years for public health employees, 1-31 years for city planners, 5.5-16 years for public works employees, 8-27 years for parks and recreation employees, and .5-11 years for commissioners. The times worked of all participants are listed by department and illustrated in Table 1 (see Appendix G).

**Data Collection and Analysis.** A concept diagramming exercise and interview questions were developed and guided by: (1) the literature (Hoehner, Brennan, Brownson, Handy, & Killingsworth, 2002; Bazzoli et al., 2003; Sallis, Frank, Saelens, & Kraft, 2004; Bors et al., 2009; Baker et al., 2012; Forrest et al., 2016), (2) familiarity

with the city's policies, plans, and organizations (The City, 2015; The city comprehensive plan, 2015; The city-county health department, 2015), and (3) assistance from a key informant. Prior to each interview, "active living" was defined by the interviewer for the participants as "things that increase opportunities for being active like walking, biking, and playing outside. This includes zoning policies, transit policies, resource allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc." (Active Living Research, 2014). Also, "policy" and "policies" were defined as "any laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior. A policy could include formal written codes or regulations bearing legal authority, written guidelines, or procedures" (Schmid, Pratt, and Wittmer, 2006; Salvesen, Evenson, Rodriguez, & Brown, 2009). During the concept diagramming exercise the participants used a large sheet of paper, a generic sample illustration, pre-cut out circles (some blank and some with key agencies and positions typed on them), and tape. The interviewer asked each participant to arrange the pieces and to create an illustration based on his/her understanding of how different groups of the city government collaborate, specifically regarding active living. To guide participants and clarify the exercise, the interviewer suggested the participants think about: what active living collaboration looks like, who is a part of collaboration, who is not part of collaboration, who plays the most significant role in collaboration, how information flows among partners, who makes the decisions, and who plays a role in funding. Participants were given the freedom to illustrate any personal collaborative experience. Following the exercise, each participant

was asked to explain his/her diagram's features. Next, interview questions were asked.

Examples of interview questions included:

- (1) In the past who have you collaborated with to create active living policies and environments in [the city]?,
- (2) What facilitates collaboration with [agencies and people on his/her map]?,
- (3) What impedes collaboration with [agencies and people on his/her map]?, and
- (4) What do you think would make it easier for you to work together with [agencies and people on his/her map]? See concept diagramming exercise materials and interview question path in Appendix D.

All interviews were conducted by the researcher, doubly audiotaped, transcribed verbatim, and checked for errors. The concept diagramming exercise and interview question path were tested with a municipal employee in a nearby city and modified based on feedback. The principal investigator created a preliminary codebook to ensure accurate and consistent coding. See codebook in Appendix F. Codes represented concepts within the interview question path as well as concepts that emerged. Transcribed interviews were entered into NVivo (v.11: QSR International, Burlington, MA), a qualitative analysis software program. The lead researcher used NVivo to code and identify reoccurring themes. Participants' statements were coded based on predetermined categories that corresponded to the purpose of the study, but also allowed for the inductive identification of codes as new themes emerged. A faculty member and a graduate research assistant checked the accuracy of codes. If a disagreement in coding arose, codes were discussed until consensus was reached. The interviews and concept diagrams were then analyzed for broad themes. Broad themes



were identified as topics discussed by participants in six or more of the 21 interviews (29%). Finally, the lead investigator reviewed the transcripts again for disconfirming evidence of themes (Ulin, Robinson, & Tolley, 2005).

### *Results*

The coding process and analysis of the collaboration diagrams identified eight broad themes and five sub-themes that represented shared concepts among the study participants. These included: (1) minimal active living/public health collaboration, (2) strained relationships with city planners, (3) radically different perceptions of planners (4) the person matters, (5) facilitators to collaboration (history of working together, personal relationships, and regular meetings), (6) barriers to collaboration (silo-ed work environments and turf issues), (7) key decision-makers (the city manager, council, and mayor), and (8) inclusion of citizens in collaboration. Themes and sub-themes are described below with representative quotes from the participants (*P*). Quotes also may include questions/comments from the interviewer (*I*).

**(1) Minimal active living/public health collaboration.** Municipal employees reported rarely working with public health professionals on active living issues. Public health employees acknowledged minimal to no participation in collaboration with municipal staff, other than with a few city planners. The public health-active living collaboration most often discussed and diagramed was an Open Streets event.

*I: Do you ever work with the city county health department?*

*P: Rarely.*

*They've got this thing called Open Streets, which is supposed to, which is supposed to promote healthier living and stuff. Ironically, it's called Open Streets but what they do is they close streets. I think the intent is to get more people out onto a street to see what they can do which...that only, but that only happens when the street is shut down to traffic.*

P25 Public Works

*I: Do you ever work with or collaborate with city county health department?*

*P: No, we don't. And we should.*

P13 Parks and Recreation

*I: Tell me, have you collaborated with the health department ever?*

*P: Nope, not yet.*

P24 Parks and Recreation

*I: Have you collaborated with [the health department] specific to any active living related efforts?*

*P: Food trucks and special events.*

P14 City Planner

*I mean, our relationship with them [the health department] has been more to assist with the organization of events. We haven't really worked with them much on active living other than Open Streets.*

P17 City Planner

*I: Do you feel there is an example that you've worked on or that your staff has worked on yet that this [concept map] could fit into?*

*P: We just haven't done a lot in [the city] yet.*

P16 Public Health

*I don't see it as anybody's fault, but they [health department staff] work for a quasi-military type environment...I don't see them as being, um (long pause) and this is going to sound really horrid but it's the first word that comes to my mind and it's not meant to be profane, but slogan whores...But, in terms of addressing what's really going on with public health, it's about putting the rubber to the road and it's not about slogans.*

P14 City Planner

*I: In the past, who have you collaborated with in creating policies and environments that support active living?*

*P: I personally have not created active living policies, at all.*

*I: In the collaboration you've done thus far, do you feel like your input was valued and respected?*

*P: Oh, yeah. Probably the most collaboration I have done was at the Open Streets planning committee meetings.*

P12 Public Health

*I have not collaborated with Parks and Rec, even though if I had a park project I would.*

P10 Public Health

*I couldn't tell you anybody who works in any three of those departments [public works, transportation, and economic development] ... So, us being able to open those communication doors a little bit more would be helpful. And sometimes the door is shut where I can't get in.*

P16 Public Health

*The health department probably needs to collaborate with us more on locating where they put their facilities and where they place their offices, but mainly their activities, or their fields... Sometimes they work autonomously and we need them to work with our data analyst and people who know where the growth patterns are and where people are and try to find the best location for them so that people aren't having to drive to all over, just so they have easier access.*

P20 City Planner

One public health professional spoke about an unsuccessful attempt to work with the Parks and Recreation department on a playground project.

*We [local health department] were applying for a grant to build a playground in the [location]. And we had this meeting with parks and a couple other agencies and the parks department basically said no... They said, "This is a great concept. This is a great idea, but we don't want to take away green space."*

P23 Public Health

This theme also was exemplified in the participants' concept diagrams. See Appendix H. Among municipal staff, only three (two planners and one public works participant) included the health department in their diagrams of collaboration, and they included them as a peripheral group. None of these three participants used arrows to connect themselves to public health. Arrows represented how information flowed among collaborators. Maps generated by public health professionals tended to include themselves as the centerpiece of collaboration because their diagrams referenced collaboration with an Open Streets event, in which they reported playing the lead role.

**(2) Strained relationships with planners.** Overwhelmingly, municipal staff discussed experiences of tension with city planners. They used terms such as 'weird relationship', 'tension', and 'them versus us'. They described the strain due to differing

career philosophies, conflicting job responsibilities, misunderstanding of a planner's role, and past people who caused lingering distrust. Even the planners acknowledged this strain. In particular, the city planners described differing perspectives with engineers as being a hindrance to active living collaboration and progress.

*Engineers versus planners. And, it may change one day if planners actually start to gain the upper hand, because engineers, our city manager's an engineer. The public works director is an engineer obviously... We lament certain aspects of the engineering mindset and how like kind of dehumanizing it can kind of be... if you look at the trails how they're built, it's just concrete. There are no water fountains. There are no trees. There are no, well it's asphalt, but you know, there are chain linked fences. There are guardrails. But there are no bathrooms. There's nothing for humans. It is designed in a very engineering kind of way. And so, I think that's like our beef with them. And not, and it's not their fault as I said before, they're very project oriented. If they get the right project and it has all the right components, they'll do it perfectly.*

P17 City Planner

*I don't know if you've heard that anywhere else, but uh, no I tend to think that... I think it's... I don't know if we have if we have the healthiest working environment or currently the healthiest working relationship [with planners].*

P25 Public Works

*There's a culture of engineering that needs to be respected, and I don't know that most planners have gone in there [to work with them] with anything other than their planner's armor on.*

P14 City Planner

*Now with planning, we [public works] kind of go back and forth because they have their view and we have our view, and, so... Planning has great ideas. A lot of times you can't implement those, or the cost exceeds what's available, and so, we don't want to be Debbie downers. 'Cause we have to live in the realistic world and you know, and they have all these wonderful ideas it's just going to take a long time to get there.*

P19 Public Works

*Even with the public works department, we don't always talk the same language. A sidewalk to us is different than what a sidewalk is to them. Yeah. And making something walkable to them means they put a sidewalk in. Making something walkable to us is putting an adequate sidewalk in and there are land uses along it that somebody would want to walk to and crossings and all that.*

P22 City Planner

*In the past, [the planners] felt there were people down here [in the parks department] that really weren't engaged with the public, weren't really trying to make a difference, and therefore, they had to take the ball and run with it. And now, it's like we're trying to get part of the ball back or we want to help carry the ball. And, are they nervous? Or, they don't know us yet? Or, you know, I think we're trying to build those relationships. So, maybe we're to blame as well. Maybe we should be engaging them.*

P13 Parks and Recreation

*Sometimes we see some ideas, which are pretty far fetched, and we don't necessarily support them that well...I tend to think we probably see more things come to us through our planning department than we do anywhere else. And, it's almost like they'll send it our way, maybe get some feedback or see if they want some feedback from us and then they'll make their decision from there. But as far as it being an active collaboration type thing, I wish I could say it was really a lot of two way discussion, but I think it's more one way.*

P25 Public Works

*Public works is still a challenge because it's engineering dominated. And, engineering for the car dominated mindset. Um, I mean the sidewalks are sometimes, not as much as they used to be, but they're still an after-thought. It's still the cheapest thing is what they look to build, not the most efficient or the most usable thing. They almost never consider bike facilities or anything like that. So that's still a huge hurdle and they're still the big dog in the conversation as far as city management and city council is concerned.*

P22 City Planner

*I hear talk about changing the relationship between the planning folks and us. Um, because, I'll just say it, I don't, my sense is from what I'm hearing, they don't value us as having some expertise. And I don't think they really mean it. It's just that the people that maybe were in these offices before. I mean none of them were park and recreation professionals. None of them. Yet, they were running the parks and recreation program for 25 years. And so, I'm sure the planners said, "Well, we know more than those guys down stairs." And, so that's become the relationship.*

P13 Parks and Recreation

*I: What's made it difficult or challenging with planners?*

*P: Oh, the newer younger guys (laughter). That's the one I butt heads with, that's funny. Not that it's a big deal; it's not. Um, I just think the challenges are, trying to get everybody on the same page.*

P24 Parks and Recreation

*The relationship between most planning and public works departments, if they're not together already, usually has a good deal of philosophical tension about things and planners because they tend to be advocates. And, I'll also say*

*that planners tend to whine a little bit too. Um, they tend to be a little bit arrogant about how their knowledge, and, I mean, this is true in any field but listening to the people and being flexible about things, it's all about the best practices and we've got to do it this way. I think that planners are just as guilty as engineers are for not allowing there to be more space for a solution.*  
P14 City Planner

*I: Do you work with city planning much?*

*P: I try to avoid them. I'm just kidding. No, I'm kidding. There's some weird relationships going on.*

P24 Parks and Recreation

One city planner regarded this tension as a positive aspect of collaboration. He/she described it as a constructive strain that produced better outcomes.

**(3) Radically different perceptions of city planners.** Participants discussed their perceptions of and experiences with planners. Responses revealed drastically different views from city staff (public works and parks and recreation) versus public health professionals. Municipal employees negatively described planners as 'dreamers', 'arrogant', 'superior', and 'favored'. Even city planners perceived themselves as being viewed negatively by other city staff. Contrary to these perceptions, public health professionals described city planners differently; they often referred to planners positively, characterizing them as 'approachable', 'humble', 'helpful', 'knowledgeable', and 'appreciative'.

*[Planners] don't like to hear things if it doesn't echo what they're saying. And I can appreciate that, I'd probably be the same way, but they really tend, they really have a tendency to I think disregard things if it doesn't suit their purposes, but that's my perception.*

P25 Public Works

*I mean, these guys, you know they're great people...Planners, city planners, usually they think that they've got most of the answers. They know.*

P13 Parks and Recreation

*I think a lot of times we're an annoyance to [public works] because I mean it seems that they're, they're main push has been to you know be on time and on*

*budget, and things like adding a sidewalk here or a bike lane here tends to screw all that up.*

P22 City Planner

*These guys (pointing to city planners on diagram) are saying, "We should do A, B, and C." Well that's great, do you have any money? "No, but we should do A, B, and C." Well, maybe we think it's B and C. Forget A. "Well, who are you guys?" Well, we're the guys with the money, remember? So, I think to understand that, you know, these guys don't just get to shoot recommendations out without understanding how does this whole part (pointing to parks on diagram) feel about what you're planning or recommending.*

P13 Parks and Recreation

*I: How are you viewed by [the parks department]?*

*P: Excellent question. Something we don't think about probably nearly enough. Parks, I think they, the leadership views us as encroaching, and pushy, and opinionated, and judgmental. And I don't know that there's any evidence of that. It's just a perception, and that could come from past agencies we've worked with or they've worked with.*

P17 City Planner

*Things, I think, are changing, but I'd say for several decades they [public works] used to call us [planners] floor cloud 9. Which I think is actually very clever. But they see us the same way engineers see architects, which is overthinking things, or overthinking, kind of soft touchy feely things, and under thinking the concrete real world things. And, so that's been an interesting relationship to try to work through.*

P17 City Planner

*I've never really heard anyone say, "The parks department is a breeze to work with." Whereas, I could call any three or four of [the city planners] right now and say, "Hey can you help me with something?"*

P23 Public Health

*I think the personalities of the city planners we work with are very laid back, but they're very professional and they enjoy what they do, and they like working with other agencies.*

P23 Public Health

*And the whole time the city planners have kind of said, you know we just appreciate that you all want to do this. Like, we're going to give our say and our knowledge and put our foot down when we have to, but ultimately this is a public health thing. We trust you all. They came in saying you guys know more about public health than we do. So that was kind of nice.*

P23 Public Health

*I: What's made it easy for you to work with city planners specific to active living?*

*P: I think overall whether city planners or the internals, we have a plan in place with [the city's comprehensive plan] and they have experience...[The city planners] are pretty much genius's in their field; I think that helps out too.*

P10 Public Health

*For an active living project, I would say the first person to get at the table would be the planners. They know what's going on, they've read the books, they've been a part of the [past active living] projects; they know what's coming; they know where that funding is coming from; they know how the bonds, the general obligation funds, they know how all that stuff works.*

P10 Public Health

*I: What makes it easy for you to work with the planners?*

*P: I mean they are nice people. That makes a difference. We've dealt with some parks people who have not been so nice. When we come to them and we feel like we are respected.*

P16 Public Health

*My goodness, [name of planner] was awesome. He/she would go back and advocate for us to get our routes and all of that and helping us. He/she was our supporter with traffic, so when we were talking about shutting down all these streets and coming up with all the detours, he/she was the one that would go back to others within the organization to help support what we were trying to do.*

P18 Public Health

*[Name of planner] was invaluable in creating the maps and detours; that was in-kind, you know, he/she did all of that, and so that was something we didn't have to do. We didn't have to pay anyone to do it. I mean, so, that was a big in-kind contribution.*

P8 Public Health

**(4) The person matters.** Most participants reported an experience with a particular individual and described him/her as facilitating or hindering collaboration. They acknowledged the ease or difficulty of working with some. Participants discussed how director changes influenced collaboration among the city departments. They described collaboration ease being dependent on which staff was assigned to work on particular projects. Participants shared stories about how individuals from the past



negatively influenced their current collaboration. They also shared examples of people in new leadership roles who work to overcome residual tension and mend relationships.

*He/she was the traditional post war public works director in every way. And he/she was educated from the same place that you know most of the mature civil engineers are educated from that we run into today. And didn't have, um, his/her mind in terms of things that were starting to happen in other places around the country with walkability and bicycling and pedestrian safety. And, well ... it was just about concrete and making roads wider. And then he/she retired and when he/she retired, there was a little bit of a sigh of relief around certain areas of the city because the person who came in was very approachable, very easy to talk to. Whereas the prior guy/gal was a little bit gruff and you kinda had to go through channels. So, and now we have a public works director who's worked very closely with the public because he/she was the [program coordinator] for so long, and understood a variety of projects and how it affected communities. You know, he/she was sensitive and also creative.*  
P14 City Planner

*You don't want to have a system that relies upon personality. We've had plenty of people, since the early 80s, in [public works director] position that were like, no. Hell no, and don't even talk to me about that. Get out of here. For instance, traffic calming and things like that. We've had public works directors who were like streets are for cars. The purpose of streets is to move cars faster, more of them, all the time...that conversation doesn't go any further than that until that person dies or retires, or gets a better job somewhere else or whatever.*  
P30 Planning Commissioner

*You know it just depends on who's, you know, who's directing the planning department at the time. You know, some directors are more inclined to work with you know their public works brothers, you know their public works counter part and others not so much.*  
P25 Public Works

*It also depends on who's, you know who's heading up planning department and who's heading up public works and you know a few years back we had a long time public works director that was rather strong willed and so consequently you know if it was, if odd ideas came from planning staff they kind of stayed. They just, you know keep your, thank you we appreciate hearing them, but that's strange, just hang on to that. But, uh, now it seems more of their ideas are filtering out and you know.*  
P25 Public Works

*There are two groups that we [the parks department] come in contact with - the city planners, and public works and engineering... And, it depends on the staff -*

*whoever their project manager is for a particular project. Some get it more than others.*

P13 Parks and Recreation

*Sometimes it can just be one person that happens to be in the leadership role and can make certain decisions. While they will 'okay' certain things to do, they are like 'absolutely no' on others...The higher ups are like "Nope, can't do it." And so, that is hard as far as making progress and trying to move forward.*

P18 Public Health

*Our former director [name] didn't really get along with anyone. And so planning was kind of like, we didn't get along with anybody, which is ridiculous for planning.*

P17 City Planner

*I: What's made it difficult for you to collaborate?*

*P: ...Some of it's dependent on the personalities of the various department staff and managers, and so on. I think that there's not really a huge culture of working with commissions.*

P29 Parks Commissioner

*[The parks department] had a change in leadership which has been very helpful. Their previous director and the assistant director were both, they just didn't want to do anything that was different and they were very set in their ways.*

P22 City Planner

*It's also the personalities involved to make sure that they're tenacious about, and doing their research and making sure good projects are moving forward or recommended.*

P20 City Planner

*I think there's still a little bit of growing pain, and I think that's with every department, and it depends who you're dealing with in that department too. I mean, I could tell you here, there's people in this department that are harder to deal with than other people. That's just human nature.*

P24 Parks and Recreation

*A certain person somewhere along the chain may be upset about something, or doesn't like that one particular thing, so you have to work as a group to kind of work by that. Um, that's definitely happened.*

P7 City Planner

*The personality of the people involved. Those are the biggest hurdles.*

P30 Planning Commissioner

*I was hired to do a job, and you know, and offer feedback, analysis, support, and that's what we do. Sometimes you get a clash of personalities.*

P25 Public Works

*The turnover has been so high [at the health department] that it's hard for anyone to be there long enough to form a real opinion of us...I think it's kind of fluid. It's based on the personalities that are there at the time...I think [name] is excellent and hope he/she stays there for awhile...He/she's open to new ideas and listening.*

P17 City Planner

The Park Commissioner spoke about collaborating with another city department more than the parks department because of two particular people. He/she even traveled with them to another city to learn about tree farming.

*Their willingness and dedication to making things happen. They're really passionate and believe in what they're doing and are looking for ways to make that happen... I just try to give them information when I can and keep in touch about the parks department.*

P29 Parks Commissioner

**(5) Facilitators.** Participants discussed factors that facilitated active living collaboration. These included: history of working together, personal relationships, and regular meetings.

- **History of working together.** Participants spoke about past successful collaborations and how previous working relationships led to subsequent work together and stronger partnerships.

*I: What makes it easy for you to collaborate with city county health department or city planning?*

*P: Some history. I think it's some history on things that we've done before with them.*

P7 City Planner

*With city planners, they have been so involved with Open Streets and [other physical activity promotion activities]. We already had a working relationship and so that's why I think [name] approached me as kind of like,*

*“I know you’re probably interested in this. Do you want to come help us with this?”*

P23 Public Health

*I: What’s what made it easy for you to collaborate with city planning or any other additional partners?*

*P: Past history, honestly, because people are starting to become aware of the [Open Streets] event and they know that people are excited about it. It’s successful, it brings so much benefit and so, you know, when something’s successful people want to be a part of it.*

P8 Public Health

*For [collaborating with] city council, what’s been helpful is the success of the first [Open Streets] event. That really set the stage and made it easier, you know, when going in because then other councilmen and councilwoman wanted it in their district...that’s been a big help.*

P18 Public Health

*Definitely [feel I have a strong relationship with transit department] since [name] came on two years ago, and I did a project with him/her - the transit rider survey. And, he/she was super open to it and since then we’ve all been working together a lot.*

P17 City Planner

*You know we trust one another; we’ve worked with them now on several projects. Many, many blocks of sidewalks, three parks now and it’s gratifying for them as well as for us to see those projects done.*

P20 City Planner

- **Personal relationships.** Participants mentioned the importance of personal relationships in collaboration. They believed these relationships contributed to successful collaborations.

*What’s made [collaboration] easy? It comes back to those personal relationships.*

P30 Planning Commissioner

*Well, we have a relationship with them, and so, I think that really is the basis. It’s all, all a team effort the way I look at it.*

P19 Public Works

*There’s some comfort levels between the key people involved whereby they are able to openly make suggestions and work with us. And I think it’s just a*

*matter of time where you've built a relationship with people and you know what to expect from each other.*

P11 Parks and Recreation

*I think just a good respectful relationship. I mean because to me that's where it all starts really. If you can have a good relationship, you know, with the other individuals there then anything else will kind of go from there.*

P18 Public Health

*I: What's made it easy for you to collaborate with public works?*

*P: I know a lot of them personally. I've built relations over the-, cause I've been here so long. In fact people make fun of me cause I know so many people. Um...I'm very easy to get along with. Um, but I've built relationships through the years and I think that helped a lot.*

P24 Parks and Recreation

*I: What's made it easy for you to collaborate with public works?*

*P: Developing relationships back in 2005. It's been a temperament of respect rather than an attack.*

P14 City Planner

*I can, you know, I can text [name of public works director] on his/her cell phone and say that we should talk about this. But I do that very carefully because he/she's one of the busiest men/women in the city.*

P17 City Planner

One city planner spoke about his/her responsibility and desire to strengthen his/her relationship with the parks and recreation staff as a way to improve collaboration. Another acknowledged the benefit of developing relationships with staff from public works.

*I think we just need to have more face time with them. I think that's really what it comes down to. They're very busy and I think honestly building personal relationships with public works would probably be for the best.*

P17 City Planner

- **Regular meetings.** Participants talked about the importance of meeting frequently in person. They described regular meetings (informal and formal) as helpful in preventing conflict and suggested it as a strategy to improve relationships.

*Set up some regular meetings with open agendas and, and maybe set some goals. You know, what can we do together versus apart? It seems very, it's always, you know, the meetings I've been or certainly the ones I've heard about, it's just, it's what needs to happen today. We need some information from you today, so let's meet today and talk about that. There's never anyone saying, "You know, we should just get together and kick around. What's happening in our world and what's happening in yours, and how can we work together to benefit the citizens?"*

P13 Parks and Recreation

*We have a really good relationship with them. They are very involved...they come to every steering meeting...They show up the day of. So that department is, I would say very much in support of us.*

P23 Public Health

*Staying connected with one another and attending each other's meetings or reading each other's newsletters. Keeping a weekly call, like what [name of public health staff] has with the city planners. Just keeping those lines of communication open is probably one of the most important things you can do. Because whenever you don't communicate, sometimes there's tension. You can create frustration and not knowing and, "Oh, they didn't tell me this" or "They didn't tell me that." But if you just stay in that close contact and keep that relationship going, you're able to work together better.*

P12 Public Health

*Definitely [collaborate with] the planners because we have bi-weekly or bi-monthly calls where we will tell what's going on, on our side and what they're doing and where we can partner with - anything we've learned, what projects anything like that.*

P10 Public Health

*[Parks and Recreation staff] are having meetings with one [public works] project manager, one senior project manager... We're having weekly meetings to keep on task to make sure that happens, because what we're trying to do is remodel [a park] during a slow period of time out of the park. But, that's almost unheard of around here. (laughter) So, that's a good thing.*

P24 Parks and Recreation

*I think with public works it helps when we have projects and we meet weekly...and you know maybe that is something we could work on as a whole with the planning department. You know, having those meetings and getting to know each other.*

P24 Parks and Recreation

**(6) Barriers.** Participants described factors that inhibited active living collaboration. These included: silo-ed working environments and turf issues.

- **Silos.** Participants discussed the negative consequences of not working together and working in isolation. Specifically, they spoke about exclusion of others from meetings, failure to communicate with others, and not knowing others even within the same agency.

*I think it's just kind of maybe institutional barriers. [Different departments and groups] are siloed. Just the legacy of that.*  
P29 Parks Commissioner

*They don't do a very good job of all sitting down at the same table at the same time...Cross communication is lacking.*  
P28 Traffic Commissioner

*I think that we're...we spend too much time...working in isolation...I mean I don't, I don't think, of course if we were, if we spent all five or, cause I only see the public works director, I don't know couple...some days I don't see him at all, and...it's difficult to know everything that's going on in the city because unless you've got a global perspective as to what's being contemplated it's difficult to, to grasp the things, you know all the moving pieces that are out there. Except for when I worked for a smaller government. It was easier to see all the things that were being considered.*  
P25 Public Works

*You know, we have a planning department that goes out and engages the public about park improvements and we're not at the table.*  
P13 Parks and Recreation

*I mean I think they could do more...I don't think they partner well with others. I think it's because they are siloed and bureaucratic and you gotta get over your damn self if you're going to do this work and get things done.*  
P14 City Planner

- **Turf issues.** Participants spoke about territorial statuses, perceived and actual. Some even characterized themselves as territorial. Participants described certain departments and people as having ownership of responsibilities. They believed that territoriality negatively affected

collaboration and that greater willingness to work as a team in decision-making could improve collaboration.

*Oh, we're over parks. If it's in the parks, it's us. Don't step on my toes. You know, but you still got to work with them; and they have some valuable input on some of that, and we listen. But, ultimately if it's in the park or something under our, you know what we're in charge of we'll make the call.*

P24 Parks and Recreation

*Territoriality. The parks department has a planning office within it, and we've run into this with other departments. People get uncomfortable when planners show up and what they perceive as telling them how to do their job. And, you know, that's fine for them to react that way. If we're not interacting with other agencies, we're not doing our job. So we're kind of figuring out how to work through that... The planner's role has been not well defined in the past... which may hint at why people get territorial - because planning has never done this before, but now we're doing it.*

P17 City Planner

*Everything that is spent through the city is on the agenda as an agenda item. So again, the money is allocated by these different groups... And so we all know that everybody wants something in their ward. So, there's some territoriality again that's being revealed. Our world is nothing but tribal... I mean everybody wants to have their own special name and special requirements.*

P11 Parks and Recreation

*I think they feel like parks are kind of their domain, and they don't really want a lot of other people influencing what they're doing, and I think they have a pretty extensive plan and they are pretty set on it... I think [another organization] hit some similar roadblocks. Obviously I think [the city] has awesome parks, and I don't mean to like rag on that department. They just... they're not, like, the most civil, the easiest department to partner with.*

P23 Public Health

*I got into it with a guy in planning a while back cause he was trying to tell me what I needed in parks. And I go that's not your job. I said that's my job. You're the city planner. I'm the park planner. Don't do that. So there's a little bit of that, that goes on, but you know we work through and we move ahead.*

P24 Parks and Recreation

*I: What would make it easier for you to work with parks?*



*P: If our city manager told [the parks and recreation department], “play nice”. I think that’s number one. That if we could abolish the idea of territoriality.*

P17 City Planner

*I think there was a time when [the parks department] felt like we were kind of stepping on their toes a lot. I think that’s changed a little bit with the new director in parks. I think he/she sees more value in it.*

P22 City Planner

**(7) Key decision-makers (city manager, council, and mayor).** City staff and the commissioners discussed the importance of the city manager; they described him/her as a powerful authority and decision maker in active living related decisions. Participants illustrated this theme in their collaboration diagrams as well. See Appendix H. Most identified the city manager as a key decision-maker. Diagrams also revealed that participants considered the city council and the mayor to be important decision-makers. Most participants included both the mayor and city council on their diagrams and labeled them with a “D” which represented people or agencies with a major role in active living decision-making.

*But, you know, at the end of the day [the city manager] is the most powerful man/woman in the city.*

P14 City Planner

*I think the city manager and public works director, um, are the big, the big decision-makers here. And then, uh, so a lot of these projects aren’t even going to go before the city council.*

P17 City Planner

*The city manager is the main decision maker. Period.*

P30 Planning Commissioner

*You know, city manager’s office really plays a big role [in active living policies and practices].*

P4 Public Works

*The city manager is the top executive.*

P11 Parks and Recreation

*I have not personally met with him/her, but I would star the city manager, because he/she's the one that would have that next step with budget – he/she determines if it's legal to do everything like that.*

P10 Public Health

**(8) Citizens.** Nearly all participants who took part in the collaboration diagram exercise included community members. See example illustrations in Appendix H.

### *Discussion*

This study indicates that qualitative methods are useful to elicit intimate, in-depth information about active living collaboration within a city government. The portrayal of active living collaboration in diagrams also helped improve understanding of the people, the relationships, and the processes involved. Findings indicate several factors that positively and negatively influence collaboration. The data suggest that participants face numerous challenges, and there is a need to strengthen the capacity to collaborate. In particular, minimal involvement of public health professionals, tension with city planners, siloed work environments (structurally and functionally), and territoriality hindered efforts to work together. Substantial differences in levels and types of active living participation were reported. Public health professionals discussed their involvement primarily with an annual event; whereas, city staff spoke about infrastructure changes (sidewalks, trails, bike lanes, traffic calming, and park improvements). Participants indicated that the ‘who matters’ and described several individuals, past and present, who helped or hindered collaborative progress. Data indicated that the past greatly influences present collaboration, and current conflict was often described as being connected to historically strained relationships. Another challenge identified was tension with planners and its interference with collaboration.

Although public health professionals spoke highly of planners, city staff characterized them as problematic.

With respect to the positive findings, participants identified factors that enhanced successful collaboration. In particular, they highlighted the importance of past work together, personal relationships, and regular meetings. Several noted these factors as sustaining healthy work relationships and increasing capacity for further collaboration. Certain leaders were identified as key active living decision-makers; these included the city manager, city council, and the mayor. Finally, the concept diagrams indicated that participants acknowledged the importance of involvement of citizens in active living collaboration. Community members were represented in various forms such as voters, neighborhood groups, citizen survey input, special populations such as the disabled, and stakeholders. These findings provide insight for researchers, public health practitioners, municipal employees, and city leadership interested in strengthening active living collaboration.

Similar to previous research, findings illustrate a lack of collaboration across municipal departments (Goins et al., 2013; Lemon et al., 2015), silo-ed project creation and implementation (Lemon et al., 2015), and public health playing a minor role in active living initiatives (Dill & Howe 2011; Lemon et al., 2015). Public health participation must expand beyond event coordination, and this may require changes in staff-time allocation. Most public health participants reported that their work on active living initiatives was secondary or tertiary to work on other issues such as tobacco policies, nutrition education, coalition development and coordination, and managing other programs. Public health professionals should be encouraged to use the progress

made with the Open Streets events to work on more complex issues such as policy and infrastructure projects (Bazzoli, 2003). Also, celebration of accomplishments with partners could inspire collaborative momentum (Baker et al., 2012). Findings also indicate that public health professionals appreciate working with city planners and view this relationship positively. This should encourage city planners and public health professionals to continue to build upon those existing relationships. Likewise, it is important for inter-governmental collaboration to improve. The magnitude of perceived strain among city staff with city planners was a unique finding. Reduced tension and improved harmony among city staff should be urged. Increased focus on the city's comprehensive plan may help alleviate the tension caused by personalities, past conflict, and philosophical differences between disciplines.

This study also highlights the influence of staff changes on collaboration. For instance, several examples of changes in director-level positions were reported in a positive light. The parks, public works, and planning directors were relatively new to their positions (less than five years). Most participants viewed the new directors favorably because they attempted to repair historically fractured relationships. Effects from staff change have been reported (Baker et al., 2012); city employees should be encouraged to provide cooperation and to allow time for transition when major changes occur.

A new finding from this study was the participants' identification of the city manager as a key decision maker in active living collaboration. This finding confirms the need to gain the support of the city manager by making him/her aware of the co-benefits of policies and environments that encourage active living (Sallis et al., 2015).

The economic benefits of active living favored decisions may be especially important to emphasize given the city manager's role in budget decisions. Other key decision-makers identified included the mayor and the city council. These results demonstrate the importance of supportive leaders, and these individuals (city manager, city council members, and the mayor) should have access to the guides that assist policymakers in physical activity promotion (Institute of Medicine, 2010; WHO, 2006).

**Implications for researchers.** Future qualitative studies are needed to explore active living collaboration. Replication of this study in other cities within the state and other cities across the United States could provide valuable comparisons. An additional study with a deeper investigation of public health professionals' prioritization of active living could expand this study's findings. This study could also be widened to include more traffic, parks, and planning commissioners. Finally, investigation of the influence of comprehensive plans on active living collaboration within city governments could provide additional insight.

**Implications for public health practitioners.** Findings suggest several large and small scale strategies that can be taken by public health professionals to improve collaboration. These include:

- (1) increased participation to change active living policies and environments,
- (2) creation of positions that focus solely on these issues,
- (3) professional development related to active living policies and to other disciplines such as city planning,
- (4) support for environmental and policy changes that are consistent with national guidelines,

- (5) involvement in the creation of and incorporation of city comprehensive plans in health department practices, policies, and programs,
- (6) expansion of collaborations from prior collaborative successes,
- (7) establishment of regular meetings with parks staff, city engineers, and planners, and
- (8) advocacy for support from city leadership.

**Implications for city government employees.** Strategies that should be useful to city staff include:

- (1) increased consideration of the public health implications in decisions,
- (2) delineation of roles and responsibilities,
- (3) utilization of the city's comprehensive plan to guide collaboration internally and externally,
- (4) development of performance measures tied to utilization of the city's comprehensive plan (Lemon et al., 2015),
- (5) engagement of public health officials in the early stages of planning and continued involvement until changes are implemented and observable (Morris, 2006),
- (6) establishment of regular communication and meetings across city departments,
- (7) incorporation of relationship/trust building activities and conflict management in professional development, and
- (8) encouragement of greater support from city leaders for active living.

**Implications for policymakers.** Findings suggest several strategies for local policymakers in active living collaboration. These include:

- (1) familiarization with active living guides for city leaders,
- (2) re-prioritization of resource allocation,

- (3) participation in active living task forces/committees, and
- (4) promotion of policy and environment changes that support active living.

**Limitations.** This study has limitations. Participants represent a small number of municipal employees, and the city is not representative of all metropolitan cities or structures and functions of city governments. Some participants were new employees with limited experiences and knowledge of collaboration. Commissioners' contact information was private and protected, thus it was difficult to include as many commissioners as originally desired. The lead researcher was given contact information for the three commissioners because of their known interest and engagement in active living related issues. Their views, therefore, are not likely to be representative of all commissioners. Given the political nature of some interview questions, not all participants were willing to allow the researcher to quote them directly in publications. Because collaboration is a dynamic process and difficult to conceptualize in a single-dimensional diagram, the diagramming methodology had limitations. Collaboration examples that were illustrated depended upon the participants' personal choices and varied significantly among participants, which made comparisons difficult. Additionally, participants may have had trouble illustrating reality versus what they believed collaboration should look like.

### *Conclusion*

Collaboration can be a catalyst for change. Despite challenges, it serves a community's best interest for diverse sectors to work together to support active living. Experiences of the participants in this study indicate factors that influence collaboration and emphasize the need for improved inter-government cooperation. Qualitative

research results can provide guidance to enhance collaboration and facilitate the creation of stronger partnerships, long-lasting policy and environmental changes, and more active living supportive cities.



## **Chapter 5: Global Findings, Limitations, Conclusions, & Recommendations**

Cities possess unique histories, leaders, identities, and cultures that shape their physical environments, which thereafter shape their people's behaviors. Local government officials make routine decisions that have lasting influence on where, when, what type, and how much physical activity their citizens engage in. Because of this influence, this study aimed to deepen understanding of the role of local government officials who have the responsibility and the authority to change the built environment. This research explored one metropolitan city's leaders', municipal employees', and commissioners' decisions, perceptions of, support for, and collaboration in creating active living supportive policies and environments. The study took place in a car-dependent southern city in the United States where physical inactivity is high, inadequate active living supportive policies have been adopted, and few walkable and bikeable areas exist. In this chapter, discussion of the global findings, limitations, and conclusions are presented. Recommendations for future research, health promotion/public health practitioners, and policy-makers also are addressed.

### **Global Summary of Findings**

Overall, findings of these three studies can inform active living advocates who seek to advance practices and policies that support population-wide physical activity. Results provide insight into factors that influence the creation of active living policies and environments and active living collaboration. Several themes emerged from the three studies. Themes from the city leaders' study included: (1) identification of the most influential decision-makers, (2) barriers to supportive active living design

decisions (expense, existing infrastructure, less supportive public attitudes, inadequate transit system, large geographic area, dependency on the automobile, and inefficient funding mechanisms), (3) city assets that facilitate active living design decisions (political will and leadership, a political champion, growing citizen support, partnerships, city leaders' characterization of the city's status of transformation), (4) preference of the younger generation, and (5) city leaders' acknowledgement of few perceived co-benefits of activity-friendly environments.

Themes from the municipal staff and commissioners' study included: (1) perception of high level of support, (2) recognition of active living co-benefits, (3) comparison to other cities in the country, (4) characterization of the city's 'not there yet' status, (5) acknowledgment of these changes being a long-term process, (6) importance of the mayor's support, and (7) importance of citizen support, involvement, and demand.

Themes from the active living collaboration study included: (1) minimal active living/public health collaboration, (2) strained relationships with city planners, (3) radically different perceptions of planners, (4) the person matters, (5) facilitators to active living collaboration, (6) barriers to active living collaboration, (7) key decision-makers in active living collaboration, and (8) inclusion of citizens in collaboration.

#### *Key People and Groups*

Across the three studies, particular people and groups emerged as key to the city's active living efforts. Important active living decision-makers included the mayor and city council members. Because of elected officials' power to change policies and environments that increase opportunities for physical activity (Edwards & Tsouros,

2008; Jackson, Dannenberg, Frumkin, 2013), this finding confirms the need to gain their support. Without their support, community practices, policies, and environments are unlikely to change. As reported in previous research, local leadership and political will strongly influence the transition of active living considerations into the development of plans and policies; both are vital to achieve desired policy changes and to create activity-friendly communities (Perdue, Stone, & Gostin, 2003; Dannenberg, et al., 2003; Edwards & Tsouros, 2008; Jackson, Dannenberg, Frumkin, 2013). Because of elected officials' focus on economic growth and their concern with city budget management, the economic benefits of city designs and policies that support active living should be emphasized.

Another key person identified was an active living champion, someone well-known and respected who has a notable interest in active living. A local champion appears to positively affect the decision-making process, stimulate changes in the city infrastructure, and help maintain positive momentum. This finding is supported in previous qualitative active living research (Salvesen, Evenson, Rodriguez, & Brown, 2008; Baker, Wilkerson, & Brennan, 2012) and highlights the potential influence of a few committed individuals in the change process (Giles-Corti & Whitzman, 2012).

Advancement of active living necessitates greater understanding of its role within the context of a variety of disciplines (Killingsworth, Nazelle, & Bell, 2003; Jackson, 2012). Across the three studies, key groups of people emerged including citizens, public health professionals, and city planners. Although citizens were not participants in the studies nor did any interview questions focus on the public, the finding emerged across all three studies that citizen desire and support facilitated

change. City leaders, municipal staff, and commissioners all discussed the power of community members. These studies, along with previous studies, suggest that increased public support, involvement, and demand for activity-friendly places could stimulate change (Clark, Berry, Spence, Nykiforuk, & Carolson, 2010).

In the study city, few municipal employees had worked with public health professionals on active living related issues. Results indicated that the local health department employees were highly supportive of active living. However, public health practitioners played a minor role in active living initiatives. The type of public health-active living involvement most often discussed was the coordination and funding of an annual Open Streets event. Although the event was perceived as an achievement, increased involvement by public health professionals is likely necessary to make an impact on citizens' physical activity levels. Findings also indicated that public health professionals view city planners positively, unlike other municipal staff. Tension and conflict with city planners appeared to interfere with successful inter-governmental collaboration and was attributed to clashing personalities, past conflict, and philosophical differences between disciplines. City planners and public health professionals should be encouraged to build upon existing positive relationships, and efforts to reduce tension among city departments should be encouraged.

#### *Differences Noted Across the Three Studies*

Among the three studies, differences in results were noted. City leaders seemed to be less aware of the benefits beyond the health and economic benefits of creating activity-friendly places. Compared with city leaders, municipal staff and commissioners acknowledged more benefits of activity-friendly environments. Most

discussed the physical health and economic benefits in addition to the social/community, mental health, and environmental benefits. This difference could be due to the nature of the interview questions. The researcher did not explicitly ask the city leaders about the benefits of active living supportive environments; whereas, she did ask the municipal staff and commissioners. This difference could also be due to level of knowledge of the co-benefits due to job priorities, responsibilities, and expertise.

Another difference noted was the characterization of the city. City leaders described the city as “*transforming*”; whereas, municipal staff and commissioners characterized the city as “*not there yet*”. These two groups appear to perceive active living progress differently. City leaders described the city as further along than the municipal staff and commissioners. Overwhelmingly, city leaders talked about the city’s momentum, growing public interest, and a shift toward changes that are more supportive of active living. They described the city as being in a stage of change and spoke about the city’s increasing support for active living. Conversely, municipal staff and commissioners acknowledged that improvements had been made in the city, but that more changes were needed to classify the city as activity-friendly. They indicated that citizens’ support, municipal efforts, and the city’s policies and environments were still insufficient. These differences may be due to the nature of leaders versus workers. Municipal employees are intimately and routinely involved with city projects and, therefore, may be more aware of the realities of actual rather than theoretical change. Additionally, city leaders may tend to over-report progress due to their political positions.

Discrepancies also were found between reported verbal support and actual environments and policies. Although participants reported high levels of support, the city, in form and function, does not yet adequately support active living. It is important to distinguish between support for the concept of active living and support for the decisions that bring the concepts to reality.

### **Global Limitations**

This study has limitations. First, participants represent a sample of city leaders, municipal employees, and appointed commissioners. Second, some participants were new employees with limited local experiences and others were new to their positions. Third, the data are specific to one metropolitan city in the United States and, therefore, not representative of all cities. Social norms, government structures and functions, and natural environments related to active living vary by location. Fourth, some participants' limited time schedules decreased interview times to less than desired. Fifth, responses may have been biased if interview questions were perceived to be political in nature. Lastly, not all participants were willing to allow the researcher to quote them directly in publications. Privacy, however, was assured through multiple means to attempt to mitigate this limitation. This included de-identifying the city and identifying participants by generalized positions.

### **Global Conclusions**

These three studies add to the literature that explores the connection between local government and the promotion of physical activity. Findings increase understanding of multiple viewpoints of local government officials and the challenges and opportunities associated with creating activity-friendly policies and environments.

Identified people and certain factors can help or hinder progress, and these are often interrelated. Specific examples are discussed below.

These three studies have led to the following conclusions. The mayor and city council members play an important role in the promotion of active living. Support from these key decision makers is crucial, but not the only factors necessary to create an activity-friendly city. In addition to elected officials, a local champion can positively influence policy and environmental changes. Several barriers (economic, structural, and cultural) hinder active living policies and design. Public demand and support, political will and leadership, partnerships, and emphasis on economic benefits can mobilize support for an activity-friendly community and can stimulate change.

Municipal employees, public health professionals, and appointed commissioners also play an important role in the support and creation of activity-friendly policies and environments. This research indicated that municipal officials are aware of the co-benefits of activity-friendly places and can identify cities in the country that support active living. High levels of support for active living were reported; however, the city's policies and environments do not objectively demonstrate this support at this time. This could require more time and collective, action-oriented support for active living among multiple diverse groups. As Gil Penalosa states, "we are thinking and talking about walking and cycling and parks and sustainable communities, but there's not enough doing", emphasizing the importance of action (Penalosa, 2011). Likewise, it may be of value for local government officials to learn from other cities that provide more facilitators to active living.

Finally, active living collaboration can be a catalyst for change. Despite challenges, it serves a city's best interest for diverse sectors to work together to support active living. Attempts should be made to strengthen active living collaborative capacity within cities. Greater public health participation in active living efforts could be an important collaboration strategy. Experiences of the participants in these studies and previous studies emphasize the need for improved inter-government and inter-agency collaboration. Qualitative research results can provide guidance to enhance collaboration and facilitate the creation of stronger partnerships and long-lasting policy and environmental changes, all of which can promote active living cities.

### **Recommendations for Future Research**

Because of the increasing public health and economic burdens of physical inactivity, local governments' attention toward and investment in efforts to facilitate active living probably will increase. These studies and future research can increase the capacity to make changes in policies and environments through local government actions. These studies suggest that qualitative methods can deepen understanding of local government's decision-making processes; they also can clarify perceptions of, support for, and collaboration in active living. Additional qualitative active living studies that focus on the role of local government should be encouraged, and the following future research is recommended:

- Replication of this study in other cities across the United States could provide valuable comparisons.



- Future research also could explore mechanisms by which many cities worldwide have overcome barriers to making their communities more activity-friendly (Lavizzo-Mourey & McGinnis, 2007; Bors et al., 2009; Sallis et al., 2009).
- Future investigation could use a case study approach to follow elected officials and municipal staff through the policy development process and successful or unsuccessful implementation of changes to the built environment (Salvensen, Evenson, Rodriguez, & Brown, 2008). This investigation could examine decision-making within the framework of collaboration.
- This study could be expanded to examine characteristics of and changes made by “active living champions”, inside and outside of local government.
- An additional study could compare characteristics of city leadership within cities that are objectively activity-friendly with those that are not.
- Future studies could investigate verbal and action-based support for active living among other local government officials.
- Further investigation of public health professionals’ prioritization of active living could provide greater insight into their level of involvement and could build upon this study’s findings.
- A future study could investigate which co-benefits should be emphasized with city leaders and with the public. This could provide insight for those who need to garner citizen support for active living and political buy-in.
- Increased investigation of the public’s perceptions of and support for active living is needed.

- An additional study could explore the mechanisms of successful inter-agency and intergovernmental active living collaboration and strategies for overcoming conflict among people and departments.
- Investigation of the influence of comprehensive plans on active living decisions and collaboration within city governments could provide additional insight (Lemon et al., 2015).

Findings from these suggested studies would significantly enhance our understanding of the role of local government in the development of active living communities.

### **Recommendations for Health Promotion Practitioners**

Public health officials have a responsibility to promote physical activity (Healthy People 2020, 2016); therefore, they should be involved in active living decisions. They can be most effective if they participate in the earliest stages of planning and stay involved through implementation of infrastructure changes (Morris, 2006). Local health departments could establish positions that focus exclusively on issues related to the built environment and physical activity promotion. Public health practitioners should support and advocate for environmental and policy changes that are consistent with national guidelines. They should be encouraged to become ‘active living champions’ and identify additional champions within their communities. Also, public health professionals should keep policy-makers informed of the evidence that supports active living policy and infrastructure decisions. When working with city leaders, they should emphasize the financial benefits of city designs that promote physical activity. Increased communication of the co-benefits could stimulate greater government and citizen support for activity-friendly environments. Collaboration with city planners,

parks and recreation staff, and public works staff also should be encouraged.

Furthermore, increased networking with public health professionals from activity-friendly cities could result in collaborations that involve sharing successes and for development of strategies to overcome common barriers.

### **Recommendations for Municipal Staff**

Municipal officials should continue to support the creation of activity-friendly policies and environments (verbally and through action) and to communicate their benefits. Application of strategies and practices used by other cities to successfully implement active living policies and infrastructure could provide insight and could help institute positive changes. Municipal officials could become and/or help identify and support active living champions in their communities. Efforts to improve inter-government active living-focused collaboration should be encouraged (Salvensen, Evenson, Rodriguez, and Brown, 2008). Collaboration among city departments and with public health officials could be improved by: increased consideration of the public health implications in decisions, clearer delineation of roles and responsibilities, utilization of the city's comprehensive plan to guide collaboration, inclusion of public health officials during all stages of planning and implementation (Morris, 2006), and establishment of regular communication and meetings across city departments. City staff should continue to work with city leaders including the mayor, city council members, and city manager on these issues. Finally, increased involvement with city residents may foster greater public interest and demand for places that promote active living.

## **Recommendations for Policy-Makers**

Local leaders, especially elected officials, should be encouraged to create health-enhancing environments that increase opportunities for population-wide physical activity. Greater networking among and within cities should promote methods to share successes and strategies for overcoming common barriers. Guides that have been created to assist policymakers can help them when making decisions that affect the physical environment. Local policy-makers also should be encouraged to familiarize themselves with national objectives such as the built environment and physical activity objectives in Healthy People 2020 (Healthy People 2020, 2016). Finally, city leaders should elevate the priority of active living decisions and policies and take action to institutionalize policies that support active living.

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## **Appendix A: Recruitment Email**

Subject: Local government and active living

Mr./Ms./Dr. \_\_\_\_\_

I am currently working on my doctoral dissertation as a requirement for completion of my PhD in Health Promotion at the University of Oklahoma. My research seeks to examine the connection between local government decisions, city design, and active living.

I am contacting you to ask if you would be willing to participate in an interview. I am reaching out to city leaders who have experience in decision-making processes. The insight gained from this research can 1) further our understanding of local leadership's direct and indirect influence on establishment of active living environments 2) inform and advance local policy development 3) enhance public and private partnerships, and 4) guide city efforts/initiatives in OKC and other local communities.

Interviews will take approximately 60-90 minutes and can take place in your place of employment or another location that is convenient to you. Your identity will not be connected to your responses, and confidentiality will be preserved. Information shared through the interview process will be linked to your position and to a large southwestern city, rather than to you specifically or to Oklahoma City. I will contact you within a few days to follow up and answer any questions you have.

Thank you for your consideration,

Jamie Dunnington, MPH, PhD(c)

## **Appendix B: Interview Question Path for Manuscript 1**

Definition provided prior to interview: For the purpose of this interview we will be talking about city design and active living – things such as policies and infrastructure that increase opportunities for being active like walking, biking, and playing outside. So this includes zoning policies, transit policies, resources allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc.

Tell me about the types of city design and active living issues that you deal with as the [position].

- Describe how the decision-making process works (the inside process of how things get done).
  - Who were the people and/or organizations involved in making those decisions?
  - What factors influenced the decisions?
  - What resources were necessary to influence and carry out those decisions?
  - Describe your role in [the city] city design decisions?
  - Who are you accountable to in decisions?
  - What was the result?

Would you consider city design for active living a long-term or short-term investment?

- Tell me more about this.
- How does this impact decision-making?

Tell me about the biggest impediments to making city design decisions that support active living?

- Historical, social, political, and economic?
- Tell me more about how those barriers exist.

Tell me about [the city's] biggest assets regarding city design for active living.

- Tell me more about how those assets came to be.

Tell me about people or organizations that have been supporters of these efforts.

- Are these your traditional partners?
- Who surprises you with their support?

Which organizations or groups do not support city design that promotes active living in [the city]? Tell me about them.

- What's behind their lack of support?

Tell me about how funding such as [the city's] capital budget, infrastructure projects, or private investment impact city design and active living decisions.

- How does timing of funding impact the implementation of a project?

Tell me about the role of planning documents, such as [the name of the city's comprehensive plan], in the decision-making process.

Who do you think is the most important opinion leaders and decision makers around these issues?

- What is their position and role?
- Tell me more about them.
- Who do they work with?

- What resources do they possess that make them have the biggest voice in these decisions?

Given current resources, what do you think are potential solutions to [the city's] design becoming more supportive of active living?

- What additional resources would make it easier for those decisions to be made?

Tell me about your future visions of a healthy, active [the city]. What does a healthy, active [the city] look like to you?

In talking about the issue of active living and city design decisions, is there someone in the city that I should be talking to?

## Appendix C: Codebook for Manuscript 1

Code	Definition
Favor toward active living supportive decisions	Emphasizing the positives of and showing support for city design decisions that support active living
Decisions made/actions taken	Providing an example of an action he/she took to create support for active living encouraging environments
Important people/groups in these decisions	Champions, advocates, their support is needed and valued in order for change to happen, they have a role in determining how/why city design decisions for active living are made
Barriers experienced (historical, geographical, political, financial, cultural, infrastructure, policy & procedures)	Challenges to making city design decisions that support active living, things that make present day decisions more difficult
Assets	City/local assets that advocate for, support, and/or encourage active living efforts; make it easier to make decisions that support active living
Resources missing/needed	In order to move forward and better support these efforts the city needs these things
Health as a priority/consideration of the health problem	Health is mentioned as a priority or an area of great focus, it drives a decision; the mention of physical inactivity or obesity related issues as being problematic/concerning for the city
City characteristics	Characteristics of the city that contribute to how or why decisions are made; (structure of government, economy, rising city, large land area, cultural values)
Perception of the public	How they describe public demand, public interest, public attitudes, and public awareness of these issues
Potential solutions to making the city more activity-friendly	Their perceptions of how to overcome barriers or enhance city assets in creating more areas/locations that support physical activity
Co-benefits of designing communities for active living	Mention of benefits such as physical health, mental health, social benefits, safety/injury prevention, environmental sustainability, and economics

A shift	Characterization of the city in a stage of change, becoming more activity-friendly, having momentum toward increasing support for active living
Partnerships/Collaboration	Discussion of working together across agencies and/or sectors to get something accomplished related to active living policies or environments; helpful partnerships

## Appendix D: Interview Question Path for Manuscript 2 and 3

How long have you been at [agency]?

What is your current role at [agency]?

How long have you been in your current role?

For the remaining questions in the interview we will be talking about *active living*.

These are things that increase opportunities for being active like walking, biking, and playing outside. So this includes zoning policies, transit policies, resources allocation, revitalization or addition of sidewalks, bike paths, trails, parks, etc. When I say policy or policies in the interview that means any laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior. A policy could include formal written codes or regulations bearing legal authority, written guidelines, or procedures.

What makes [agency] interested in making [the city] more supportive of active living?

- What motivates [position] to be involved in the creation of such policies and environments?
- How would you describe [the agency's] level of support for such policies and environments?

What benefit(s) does [the agency] see in being involved in the creation of policies and environments that support active living?

- Tell me more about that.

What benefit(s) do you see in being involved in the creation of policies and environments that support active living?

- Tell me more about that.



What benefit(s) does [the agency] see in making [the city] more supportive of active living?

- Tell me more about that.

What benefit(s) do you see in making [the city] more supportive of active living?

- Tell me more about that.

What do you think makes a city supportive of active living?

- What do active living supportive cities have?
- What specific policies?
- What specific environments?
- What do they have that [the city] does not?

What do you believe is your role and responsibility in creating policies and environments that are more supportive of active living?

- Tell me more about what that means for you and your position at [agency].
- What do you think is your role in policy development?
- What do you think is your role in policy adoption?
- What do you think is your role in policy implementation?

What do you think is the best way to create policies and environments that support active living in [the city]?

- What are your thoughts about the best way to fund these initiatives?

Now we are going to shift gears and talk about **collaboration**. Specifically, collaboration related to active living in [the city].

*Provide paper, markers, and paper pieces representing pre-identified sectors.* Please arrange these pieces and draw a picture of your understanding of how different sectors of the city collaborate in creating policies and environments that support active living.

In doing this, think about:

- Who is involved? (both individuals and agencies)
- What partnerships exist?
- Illustrate how information and decisions flow between partners.
  - Draw a blue line for information flow
  - Draw a green line for how decisions are made
- Who play the most and least significant roles in collaborations?
  - Who plays a role in funding?
    - Put a “\$” by these
  - Who plays a role in decision-making?
    - Put a “D” by these
  - Any other roles missing?
- Where do roles related to policies and practices that involve active living overlap and where are they divided?
- Where is your agency on this illustration?
- Who did you leave off?
  - Who is not involved but should be?

Please explain your illustration to me.

- What does this mean?
- What does that represent?

In the past, who have you collaborated with in creating policies and environments that support active living?

- Tell me more about that experience.
- What was the policy?
- What was the environment?
- What was that organization's role?
- What was your role in working together?
- What did you/your agency add that was important?
- How were you viewed by them?
- Do you feel your input was valued and incorporated into decisions?

What has made it easy for you to collaborate with [public health/city planners/public works/parks and recreation]?

- Tell me more about that.
- How did that make collaboration easier?

What makes it difficult or challenging to collaborate with [public health/city planners/public works/parks and recreation]?

- Tell me more about that difficulty.
- How was the conflict resolved?

What do you think would make it easier for you to work together toward creating policies and environments that support active living with [public health/city planners/public works/parks and recreation]?

- Tell me more about what that looks like.

## Appendix E: Codebook for Manuscript 2

Code	Definition
Motivations for involvement	Reasons described for being involved in such efforts (i.e., economic, health, social, environmental, political)
Level of support	Description of their level of support for active living prioritized policies and environments (i.e., personal, agency, and/or city's level of support)
Perception of benefits	Mention of benefits such as the physical health, mental health, social benefits, safety/injury prevention, environmental sustainability, and economic benefits
Perceptions of policy(s)	A policy described that he/she considers a policy that supports active living in the city
Perceptions of environment(s)	Physical environment features/infrastructure that he/she considers supportive of active living in the city
Perception of own role & responsibility	Identifying a particular role and/or responsibility of their position; what they should be doing or what current actions they are taking
Perception of other's role & responsibility	Identifying a particular role and/or responsibility of an individual or agency other than themselves (i.e., public health, city planners, public works, parks and recreation, and commissioners)
Ideas for improvement	Methods or strategies suggested for creating more policies and/or environments that support active living

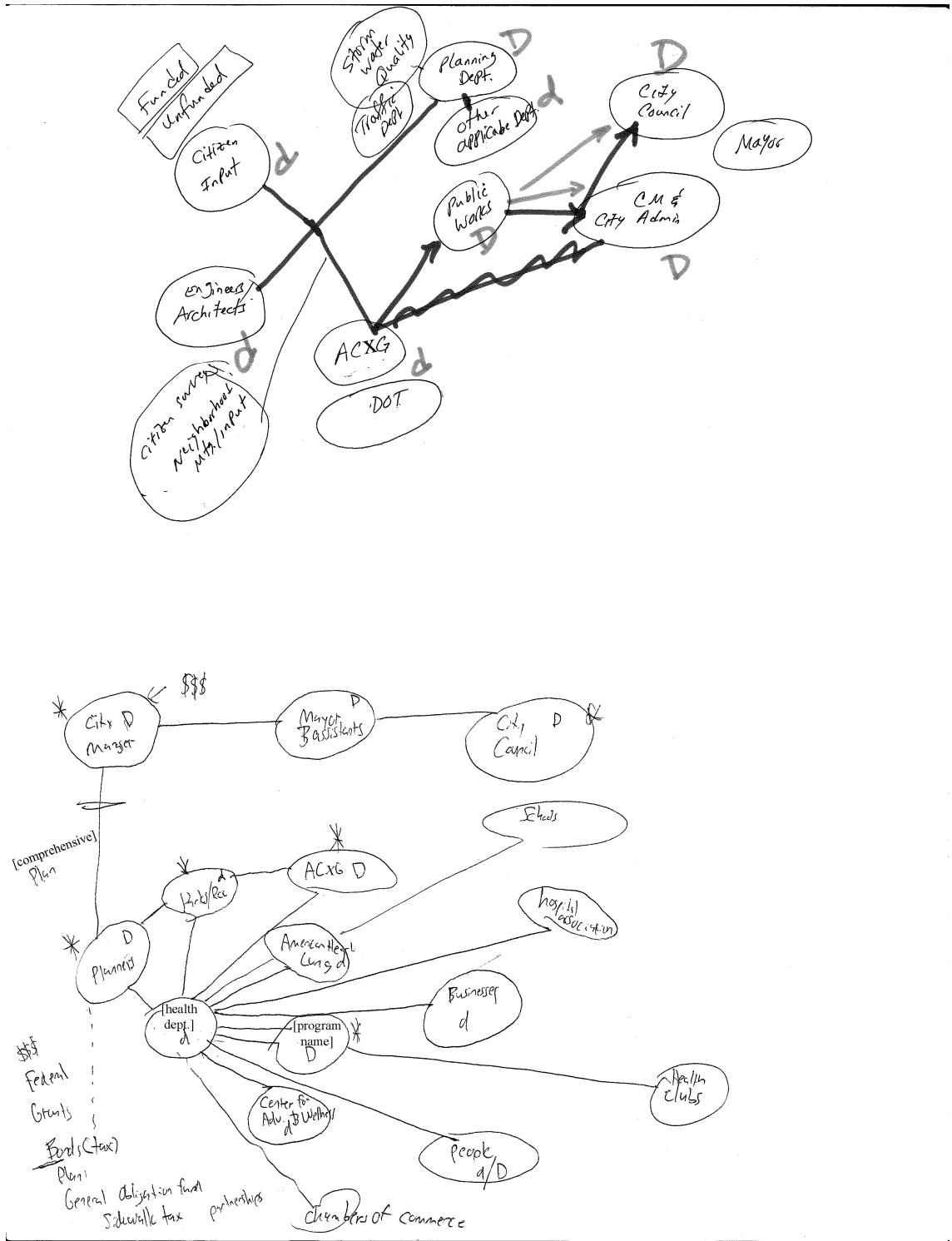
### Appendix F: Codebook for Manuscript 3

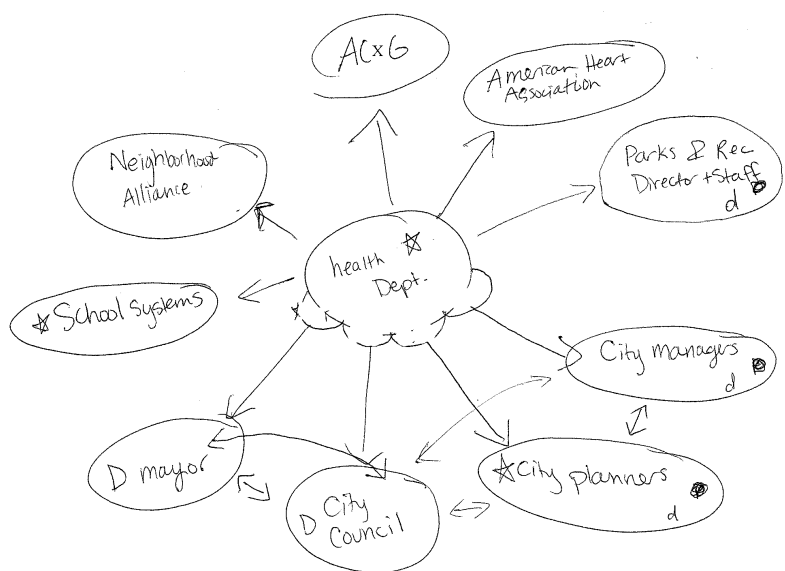
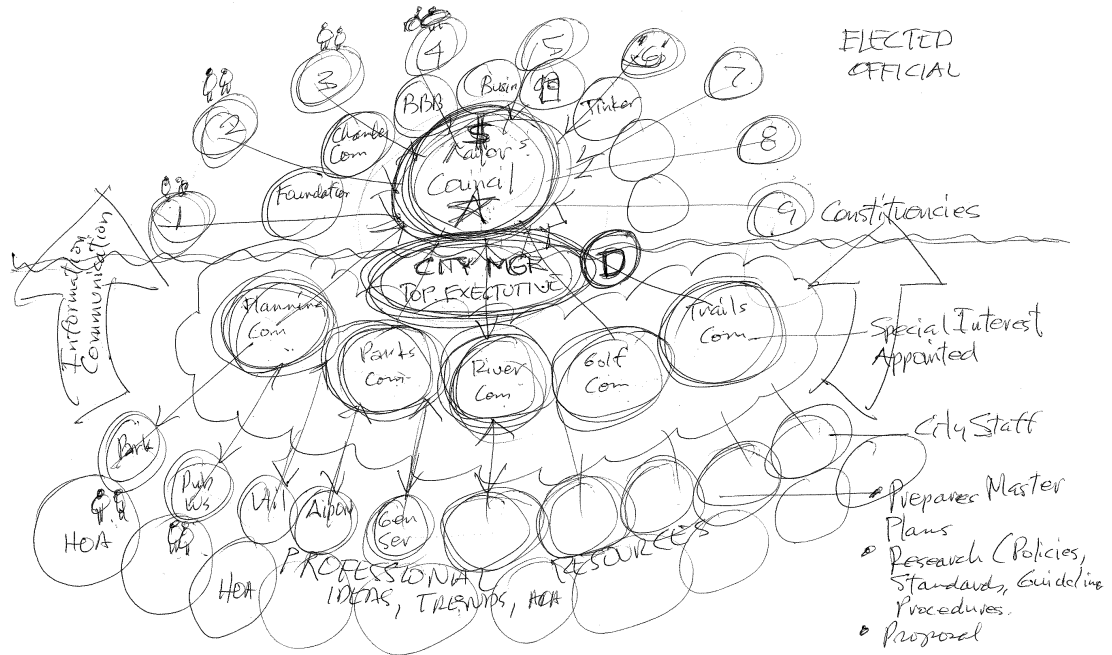
<b>Code</b>	<b>Definition</b>
Who is involved in collaboration	What agencies or individuals primarily work together to create activity-friendly policies and environments in the city
Who is not involved in collaboration	What agencies or individuals are absent from these efforts but should be more involved
Conflict with collaboration	Any tension or conflict discussed related to active living collaboration and reasons for conflict
Collaboration examples	Description of any active living collaboration within the city
Perception of own role in collaboration	Description of what they believe is their own role(s) in active living collaboration
Perception of other's role in collaboration	Description of what they believe is others' role(s) in active living collaboration
Factors that influence collaboration	Any factor – positive or negative - discussed as influencing active living collaboration
Facilitators to collaboration	Specific factors that help make active living collaboration easier
Barriers to collaboration	Specific factors are hinder/discourage active living collaboration
Potential solutions to improving collaboration	Perceptions of what should be done and how to improve active living collaboration
Key decisions makers in collaboration	Individuals or agencies that play a major role in decision-making related to active living collaboration

**Appendix G: Table 1**

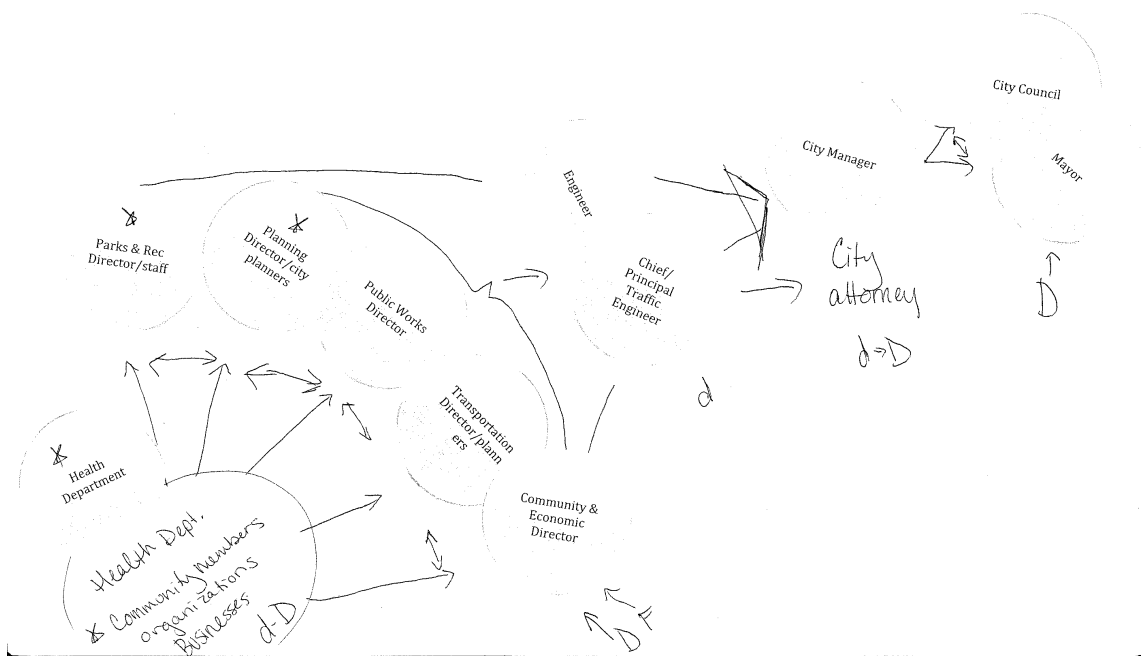
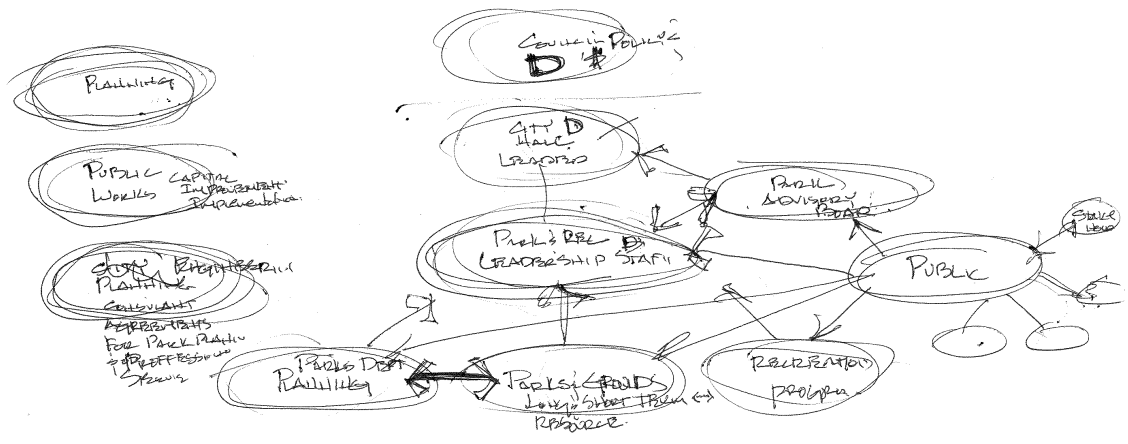
<b>Participants</b>	<b>Agency</b>	<b>Time Worked at Agency</b>
Public Health	Local health department	<ul style="list-style-type: none"> <li>▪ &lt; 1 year</li> <li>▪ 1.5 years</li> <li>▪ 2.5 years</li> <li>▪ 5 years</li> <li>▪ 8 years</li> <li>▪ 9 years</li> </ul>
City Planners	The City	<ul style="list-style-type: none"> <li>▪ 1 year</li> <li>▪ 3 years</li> <li>▪ 4 years</li> <li>▪ 8.5 years</li> <li>▪ 10 years</li> <li>▪ 31 years</li> </ul>
Public Works	The City	<ul style="list-style-type: none"> <li>▪ 5.5 years</li> <li>▪ 15 years</li> <li>▪ 16 years</li> </ul>
Parks and Recreation	The City	<ul style="list-style-type: none"> <li>▪ 8 months</li> <li>▪ 21 years</li> <li>▪ 27 years</li> </ul>
Commissioners (appointed officials)	The City	<ul style="list-style-type: none"> <li>▪ 6 months</li> <li>▪ 5 years</li> <li>▪ 11 years</li> </ul>

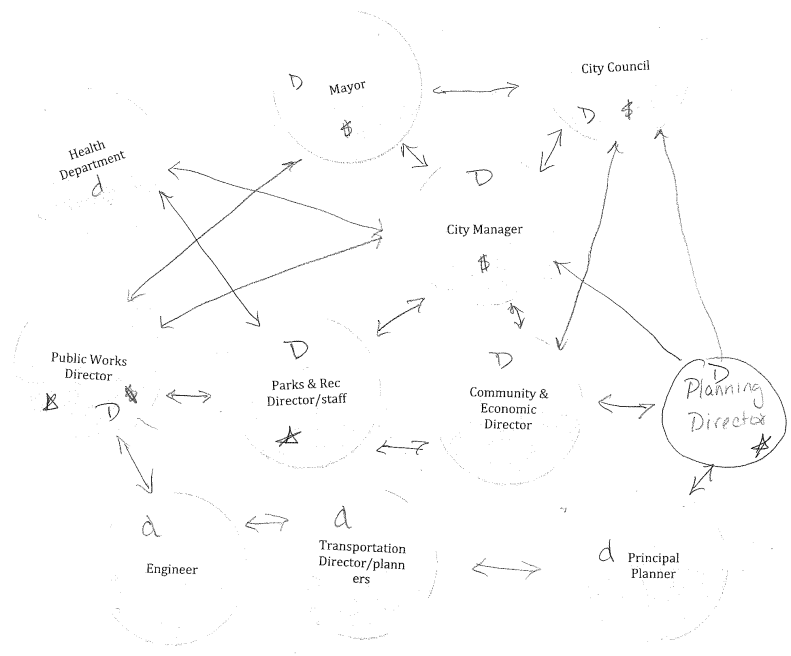
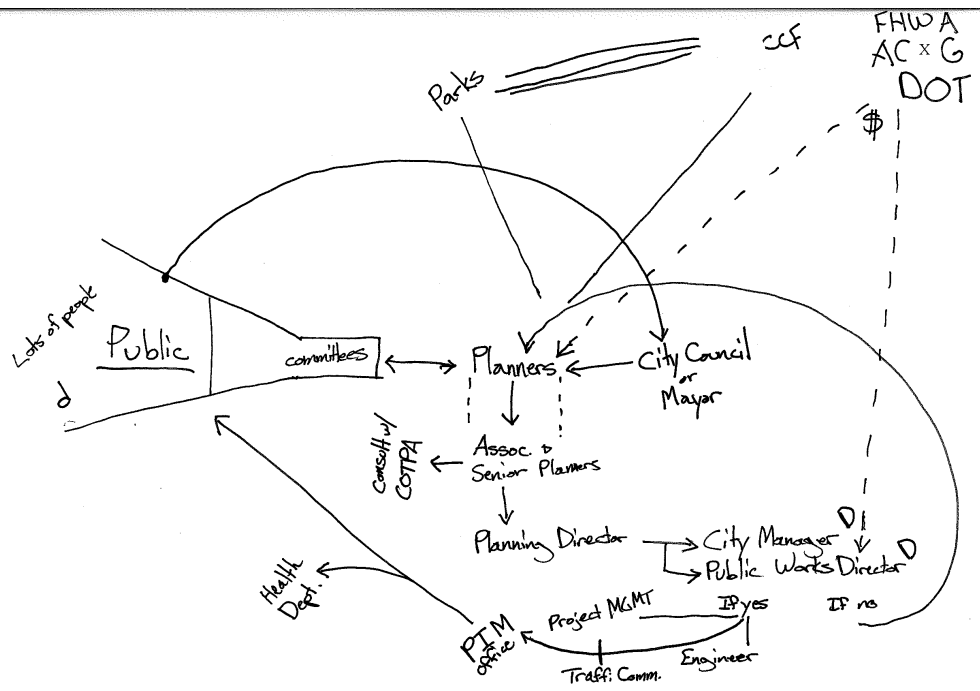
## Appendix H: Collaboration Illustration Examples











## Appendix I: Informed Consent

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### Signed Consent to Participate in Research

#### **Would you like to be involved in research at the University of Oklahoma?**

I am Jamie Dunnington from the Health & Exercise Science Department, and I invite you to participate in my research project entitled Local Government and Active Living. This research is being conducted in Oklahoma City. You were selected as a possible participant because you are involved in active living and city design decisions for Oklahoma City. You must be at least 18 years of age to participate in this study.

#### **Please read this document and contact me to ask any questions that you may have BEFORE agreeing to take part in my research.**

**What is the purpose of this research?** The purpose of this research is to (1) understand the decision-making processes regarding city design and active living, (2) understand municipal employee's involvement in the creation of policies and environments that support the creation of an activity-friendly city, and (3) understand collaboration among different sectors in creating policies and environments that support active living. The results of this study will be used to understand how local leadership influences physical activity, informs policy development, enhances public and private partnerships, and guides city efforts. The results of this study will also be used to understand how differing government sectors' roles influence policies and environments related to active living.

**How many participants will be in this research?** Up to approximately 100 adults will take part in this research.

**What will I be asked to do?** If you agree to be in this research, you will be asked to participate in an in-person interview about decision-making regarding city design and physical activity, your involvement in the creation of activity-friendly policies and environments, and your collaboration with other sectors in doing so.

**How long will this take?** Your participation will take approximately 30-90 minutes.

**What are the risks and/or benefits if I participate?** There are no risks from being in this research. There are no direct benefits to you for participating in the study, but the information you provide will be helpful in advancing the knowledge base of health and the built environments, specifically the decision-making processes of leadership and collaboration around city design and active living.

**What do I do if I am injured?** If you are injured during your participation, report this to a researcher immediately. Emergency medical treatment is available. However, you or your insurance company will be expected to pay the usual charge from this treatment. The University of Oklahoma Norman Campus has set aside no funds to compensate you in the event of injury.

**Will I be compensated for participating?** You will not be reimbursed for your time and participation in this research.

**Who will see my information?** In research reports, there will be no information that will make it possible to identify you directly, however, there is a slight chance that someone could identify you based on your interview responses. In such reports, you will be identified by your position

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Page 1 of 2

44 only. The geographic location of the study will be identified as a metropolitan city in a  
45 southwestern state in the United States. Research records will be stored securely and only  
46 approved researchers and the OU Institution Review Board will have access to the records.

47 **Do I have to participate?** No. If you do not participate, you will not be penalized or lose  
48 benefits or services unrelated to the research. If you decide to participate, you do not have to  
49 answer any question and can stop participating at any time.

50 **Will my identity be anonymous or confidential?** Your name will not be retained or linked  
51 with your responses. The data you provide will be retained in de-identified form. Please check  
52 all of the options that you agree to:

53 I agree to being quoted directly.  Yes  No

54 I agree for the researcher to use my data in future studies.  Yes  No

55

56 **Audio Recording of Research Activities** To assist with accurate recording of your  
57 responses, interviews will be recorded on an audio recording device with your permission. If  
58 you do not agree, you will not be interviewed. You have the right to refuse to allow such  
59 recording without penalty.

60 I consent to audio recording.  Yes  No

61

62 **Who do I contact with questions, concerns or complaints?** If you have questions,  
63 concerns or complaints about the research or have experienced a research-related injury,  
64 contact me at [jadunnington@ou.edu](mailto:jadunnington@ou.edu) or 405-740-1370. You may also contact Dr. Laurette  
65 Taylor at [eltaylor@ou.edu](mailto:eltaylor@ou.edu) or 405-325-5211.

66 You can also contact the University of Oklahoma – Norman Campus Institutional Review  
67 Board (OU-NC IRB) at 405-325-8110 or [irb@ou.edu](mailto:irb@ou.edu) if you have questions about your rights as  
68 a research participant, concerns, or complaints about the research and wish to talk to  
69 someone other than the researcher(s) or if you cannot reach the researcher(s).

70 *You will be given a copy of this document for your records. By providing information to the*  
71 *researcher(s), I am agreeing to participate in this research.*

Participant Signature	Print Name	Date
Signature of Researcher Obtaining Consent	Print Name	Date
Signature of Witness (if applicable)	Print Name	Date

72

## Appendix J: IRB Approval Letter



### Institutional Review Board for the Protection of Human Subjects Approval of Initial Submission – Expedited Review – AP01

**Date:** July 07, 2016 **IRB#:** 6890  
**Principal Investigator:** Jamie Dunnington **Approval Date:** 07/07/2016  
**Expiration Date:** 06/30/2017

**Study Title:** Local Government's Role in Creating an Active Living Community

**Expedited Category:** 6 & 7

**Collection/Use of PHI:** No

On behalf of the Institutional Review Board (IRB), I have reviewed and granted expedited approval of the above-referenced research study. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Obtain informed consent and research privacy authorization using the currently approved, stamped forms and retain all original, signed forms, if applicable.
- Request approval from the IRB prior to implementing any/all modifications.
- Promptly report to the IRB any harm experienced by a participant that is both unanticipated and related per IRB policy.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Promptly submit continuing review documents to the IRB upon notification approximately 60 days prior to the expiration date indicated above.
- Submit a final closure report at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or [irb@ou.edu](mailto:irb@ou.edu).

Cordially,

A handwritten signature in blue ink that reads 'Fred Beard'.

Fred Beard, Ph.D.  
Vice Chair, Institutional Review Board