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**Enabling Adult Physical Activity at Parks with a Focus on Physical
Design Elements**

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Design Elements**

by

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Abstract

Enabling Adult Physical Activity at Parks with a Focus on Physical Design Elements

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The University of Texas at Austin, 2010

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This report studies the built environment of Civitan Park, located in Austin, Texas. Through studying and observing how park design can influence adults' ability to engage in daily physical activity, alternative design recommendations are suggested for Civitan Park in order to create a park more able to be used by adults for physical activity and in turn, decrease obesity rates.

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Introduction

As many nations struggle with a lack of clean water, illiteracy rates, and starvation, the United States and other developed countries are facing a crisis pertaining to obesity. Since the 1980s, the prevalence of obesity in the United States has risen dramatically. In 1985 only eight states had an occurrence of obesity *greater* than 10%. Yet, by 2008, only the state of Colorado had a prevalence of obesity *less* than 20% (CDC 2010). This obesity epidemic facing our nation has led to devastating, yet preventable, health consequences.

Considered a problem related to an individual's energy imbalance, obesity is defined by the Centers for Disease Control and Prevention as a label "for ranges of weight that are greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health problems" (CDC 2010). Simply put, to be obese means that a person puts too many calories into their body and does not balance that intake with enough physical activity. As one's body mass reaches the point of obesity (defined as a weight for height ratio $> 30 \text{ kg/m}^2$), more and more health problems arise. Research has shown that as weight increases, the risks for things like coronary heart disease, premature death, type 2 diabetes, certain cancers, injury, hypertension, heart attacks, stroke, liver disease, respiratory problems, and osteoarthritis increase (CDC 2010).

Since physical activity generates a bodies' output of energy expenditure, it is the primary tool individuals can use to burn off what they eat, and therefore maintain a healthy weight. Consequently, regular physical activity can reduce the risk for obesity and the risk of related diseases and adverse health conditions that result. This recent research in obesity and physical activity confirms a link between physical activity and weight management.

However, research also shows a significant link between levels of daily, physical activity levels and the design of built environment. Many questions remain regarding the specific design elements that create useful environments for physical activity which can

help to promote the decline of obesity. Effective strategies to encourage various populations to adhere to physical activity recommendations are needed to help guide public health professionals, advocates, and individuals alike in assuring physical activity is actually obtained in order to mitigate the negative health effects of inactivity.

Engaging in physical activity can be viewed as a behavioral decision made by an individual. A person may be active at home as part of daily living, at work as part of their job, while commuting, or during their leisure time (Brand et al). Discounting those belonging to fitness clubs and gyms, many individuals must be physically active where there is little to use but the surrounding environment. Without a safe and comfortable built environment with resources and spaces to be physically active obtaining exercise on a daily basis may be difficult. Ultimately, public health strategies must be coordinated with planning strategies for the design of our built environment. Since it has been shown that all can benefit from any additional amount of physical activity, it has become clear that it is necessary to create supportive built environments that promote physical activities. “People may make decisions based on their environment or community. For example, a person may choose not to walk to the store or to work because of a lack of sidewalks. Communities, homes, and workplaces can all influence people's health decisions. Because of this influence, it is important to create environments in these locations that make it easier to engage in physical activity and to eat a healthy diet” (CDC 2010). These built features and amenities should surround homes and communities to help people obtain the recommended 150 minutes of physical activity per week as recommended by the Surgeon General (HHS 2008: 22). By making it possible for people to increase their levels of physical activity, the negative health consequences of inactivity, such as obesity and the related health problems, will decline. But, to do this, we must design our built environment in such a way that physical activity is encouraged.

As our nation struggles against obesity and physical activity continues to decline, park space and its function have become much more critical. Parks are vital in helping people engage in physical activity on a daily basis and therefore to maintain a healthy weight. By understanding what built elements can help contribute to functional and useful park space, we can begin to utilize all park spaces in a meaningful and helpful

manner. This report is intended to be a guide to a better understanding of how park space can facilitate and help people to obtain their daily physical activity needs.

RESEARCH QUESTIONS, CASE STUDY AND METHODS

As I embarked on this study, several questions were guiding my research. First, what are the specific park design elements that potentially contribute to or inhibit physical activity of individual adults (age 18-55)? Second, what is the design quality of the park surrounded by the lowest socioeconomic population (median household income less than \$20,000 per year), in Austin, measured by the Assessment of Public Recreation Spaces tool? Third, how can the design of this park be improved to facilitate greater use and more physical activity by individual adults? And finally, what are potential, external obstacles and challenges to increased physical activity in these parks and how can these be addressed?

This study focuses on Civitan Park, a city park surrounded by the lowest socioeconomic population in the City of Austin. Since research has shown that low-income households with the lowest level of park access have the highest risk for obesity this is a critical criterion for studying park space in Austin (Godbey et. al 1992). Although many parks throughout the city may be lacking some specific design elements which offer the ability to engage in physical activity on a daily basis, this socio-demographic group is typically at a disadvantage and often lack many neighborhood amenities. Walkability, access, and open space have historically been lacking in these neighborhoods. As such, adults with income levels below the poverty level are three times as likely as high-income adults to be physically inactive (Schoenborn 2008: p. 6), which leads to increased risk of obesity and therefore, increased prevalence of the related diseases. Therefore, this study uses the opportunity to investigate the park surrounded by the lowest socioeconomic status as determined by spatial analysis using Census data.

In order to assess the current state of Civitan Park and to furnish recommendations for design improvements, I used the Environmental Assessment of Public Recreation Spaces (EAPRS) evaluation tool. The EAPRS is a direct observation

tool used to evaluate the functionality or potential functionality of various features with a park. Specifically, I used the evaluation form provided by the EAPRS Direct Tool and Picture Guide to evaluating the park. This Tool and Picture Guide, paired with the guidebook, helped me identify elements and features for measurement and evaluation while at the site.

The EAPRS is one of 5 tools available to measure the built environment of park space and is developed by Active Living Research, a national program of the Robert Wood Johnson Foundation, which supports research to understand how environments and policies influence active living. These tools allows for a careful evaluation of the functionality of built elements of a park which in turn will help determine the potential for adult physical activity in a given park setting.

However, one limitation of the EAPRS tool is that it does not include observations regarding actual use of the physical elements of a park. Rather, the tool explores availability, cleanliness, proximity, and condition of the built elements within a park to understand the potential use for adults trying to engage in physical activity. I have therefore also reviewed obstacles and challenges to increased physical activity in these parks that are external to the park, including income and walkability.

I begin in *Chapter 1* with an introduction to the topic of obesity, mobility and park design, including the relationship between health issues and the built environment, the understanding of how park space impacts physical activity, as well as the methods used to choose the park of study. *Chapter 2* reviews the methods regarding how the field research was performed. *Chapter 3* covers the findings and analysis regarding the design of Civitan Park, and *Chapter 4* presents my conclusion and recommendations for how Civitan Park can be improved to increase the likelihood that adults will utilize the park for daily physical activity.

Chapter 1: Literature Review

HISTORY OF PHYSICAL ACTIVITY IN AMERICA

Beginning as early as the 1940s, major cardiovascular diseases were increasing in prevalence throughout the United States (DHEW 1979: pp. 8-11). Not surprisingly, simultaneously, many technological advances were causing changes in people's lifestyles. Fewer physical demands were necessary with things like the affordability of the individual automobile, the general shift from physically demanding to sedentary jobs, and the increased use of household inventions, such as the television and washer and dryer. As the statistics were showing an increase in the commonality of cardiovascular disease, awareness of this trend in American society, however, was not keeping pace. As a nation we had made huge advances in the early 1900s in understanding and controlling infectious diseases such as tuberculosis, typhoid fever, pneumonia, and small pox. Yet, a new concept was emerging; chronic, non-communicable diseases due to preventable causes. Things like heart disease, diabetes, and stroke were now plaguing our nation, with causes that were avoidable.

But it wasn't until the 1970s that American's physical activity levels began to creep up among the nation's most critical health problems and identified as a possible prevention for degenerative diseases. Exercise as a method of being healthy was still a young concept at this time. Only about half of American's exercised regularly and only 5% above the age of 20 used running as a form of exercise (DHEW 1979: p. 204). Even in 1979 with the publication of the first Surgeon General's Report, *Healthy People: Surgeon General's Report on Health Promotion and Disease Prevention*, the study of the effects of physical activity were still undeveloped. The report could only identify that "the role of exercise in preventing heart disease is attractive and plausible" (DHEW 1979: p. 205). Although this was the first government-based statement regarding an attempt to reduce death and disability in our society, the report offered only undeveloped research concerning physical activity's role in decreasing disease and therefore, increasing health.

Still a long way off from actively endorsing physical activity as a proven means for attaining health benefits and preventing disease, one year later and in conjunction with the 1979 Surgeon General Report, the Department of Health and Human Services published the *Promoting Health/Preventing Disease: Objectives for the Nation* report. This report was used to set specific and quantifiable objectives necessary for attaining the broad goals set by the Surgeon General Report. Physical activity was still only known to provide health *improvements* as the specific benefits of physical activity were unknown. This report did identify, however, that physical *inactivity* could increase obesity and coronary heart disease.

Finally, the 1980s and 1990s saw breakthrough research about the health benefits of physical activity and data became available to support the idea that physical activity can be a means for improving health (NCHS 2001: p. 1). Now, research showed that physical activity decreases morbidity and mortality from chronic diseases, decreases the risks of various diseases, and increases longevity. In *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, a ten year set of objectives published in 1990, it was stated that “research has demonstrated that virtually all individuals can benefit from regular physical activity, whether they participate in vigorous exercise or some type of moderate health enhancing physical activity” (NCHS 2001: p 65). Soon thereafter in 1996, the U.S. Department of Health and Human Services, in coordination with the CDC, National Center for Chronic Disease Prevention and Health Promotion, President’s Council on Physical Fitness and Sports published *Physical Activity and Health: A Report of the Surgeon General* which was a comprehensive review of all the research completed up to this date. This specific report was a crucial first step toward publicly addressing the dire need for all individuals to incorporate physical activity into their lifestyles. It laid the foundation for exact recommendations as to how much physical activity is needed by each individual and what that physical activity will yield in terms of health status (DHHS 1996: pp. 25-28). One major finding was that regular physical activity greatly reduces the risk of dying from coronary heart disease which is the leading cause of death in the United States and thus, “physical activity...joins the front ranks of essential health objectives. ...We must

get serious about improving the health of the nation by affirming our commitment to healthy physical activity on all levels: personal, family, community, organizational, and national. Because physical activity is so directly related to preventing disease and premature death and to maintaining a high quality of life, we must accord it the same level of attention that we give other important public health practices that affect the entire nation” (DHHS 1996: p. 7).

However, this same report confirmed that a staggering 60% of Americans were not engaging in regular physical activity and that 25% were not active at all in their daily lives despite the confirmed benefits that physical activity has. As physical inactivity reached proportions never seen before, our nation also started to see another emerging trend; an increase in body weight.

Table 1: Health Risks Associated with Obesity

Obesity is Associated with an Increased Risk of:	
<ul style="list-style-type: none"> • premature death • type 2 diabetes • heart disease • stroke • hypertension • gallbladder disease • osteoarthritis (degeneration of cartilage and bone in joints) • sleep apnea • asthma • breathing problems • cancer (endometrial, colon, kidney, gallbladder, and postmenopausal breast cancer) 	<ul style="list-style-type: none"> • high blood cholesterol • complications of pregnancy • menstrual irregularities • hirsutism (presence of excess body and facial hair) • stress incontinence (urine leakage caused by weak pelvic-floor muscles) • increased surgical risk • psychological disorders such as depression • psychological difficulties due to social stigmatization

Source: Adapted from www.niddk.nih.gov/health/nutrit/pubs/statobes.htm

In 2001, the U.S. Department of Health and Human Services published *The Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity*. This was a national call for action indicating that overweight and obesity had reached epidemic proportions and should be considered a public health problem. In 1999 alone,

61% of U.S. adults were considered overweight or obese and the trend has only worsened since. This report was to act as a public statement identifying the problems obesity can cause for individuals, the community, and the nation. As the number of obese people steadily rises every year, our nation's death rate increases, the health of our society decreases, and the economic cost to our nation multiplies.

Since physical activity generates a bodies' output of energy expenditure, it is the primary tool individuals can use to burn off what they eat, and therefore maintain a healthy weight. Therefore, regular physical activity can reduce the risk for obesity, among other things, and consequently the risk of related diseases and adverse health conditions that result. A document published in 2008 by the U.S. Department of Health and Human Services created the first science-based comprehensive guidelines for physical activity ever issued by the federal government (DHHS 2008). The guidelines, the *2008 Physical Activity Guidelines for Americans*, give prescribed numbers on the recommended amounts, types, and intensities people need for obtaining the health benefits from physical activity. The guidelines state that regular physical activity can produce long-term health benefits and benefits in regards to overweight and obesity. Specifically, "there is strong evidence that a health benefit of regular physical activity includes the prevention of weight gain and weight loss (particularly when combine with reduced calorie intake)" (DHHS 2008: p 21).

And, even more importantly, physical activity generates benefits for all people. These benefits can be seen with at least 150 minutes per week of moderate to vigorous activity (ideally broken up into 30 minutes a day, 5 days a week) with increasing benefits for increased amounts of physical activity beyond the recommended 150 minutes. In addition, and of equal importance, it was shown that "some physical activity is better than none" since "for most health outcomes, additional benefits occur as the amount of physical activity increases through higher intensity, greater frequency, and/or longer duration" (DHHS 2008: p. vi). The table below summarizes findings from the *Physical Activity Guidelines* regarding the health benefits of physical activity:

Table 2: The Health Benefits of Physical Activity – Major Research Findings

- Regular physical activity reduces the risk of many adverse health outcomes.
- Some physical activity is better than none.
- For most health outcomes, additional benefits occur as the amount of physical activity increases through higher intensity, greater frequency, and/or longer duration.
- Most health benefits occur with at least 150 minutes a week of moderate-intensity physical activity, such as brisk walking. Additional benefits occur with more physical activity.
- Both aerobic (endurance) and muscle-strengthening (resistance) physical activity are beneficial.
- Health benefits occur for children and adolescents, young and middle-aged adults, older adults, and those in every studied racial and ethnic group.
- The health benefits of physical activity occur for people with disabilities.
- The benefits of physical activity far outweigh the possibility of adverse outcomes.

Source: Physical Activity Guidebook

THE ROLE OF URBAN PLANNING IN PUBLIC HEALTH

Much of the research conducted over the past fifty years in regards to the links between physical activity, obesity, and health has helped us understand how obesity is affected by physical activity and therefore, how physical activity can reduce obesity. Obesity has only recently come to the forefront of our nation's focus since it has created a health epidemic. Physical activity, although on our radar for a longer period of time, has finally been linked to obesity as a preventive measure and recommended daily endeavor. However, a critical link is still missing; the understanding of how to actually get individuals to adhere to these evidence-based guidelines. Indications are that communities play a key role in helping people to obtain their regular amounts of physical activity. Things like trails, bicycle lanes, and green space are recognized as useful ways for communities to provide opportunities for physical activity (DHHS 2008: p. 48). However, such features are often missing from our urban environments.

The low level of physical activity among Americans is a major contributor to the burden of chronic disease. This burden is costly in terms of quality of life and economic resources needed to provide medical care. Like life in other modern societies around the world, life in the United States requires very little daily physical activity. The amount of physical activity we do is largely a matter of personal choice and the environmental conditions under which we live. So far, little progress has been made in meeting our national health objectives for

physical activity... Action is necessary. Regular physical activity needs to be made the easy choice for Americans...This comprehensive approach involves action at all levels of society: individual, interpersonal, organizational, community, and public policy. (DHHS 2008: p. 48)

Models and plans depicting successful strategies as to how various populations can effectively adhere to physical activity recommendations and guidelines are needed to help guide public health professionals, advocates, and individuals alike in assuring physical activity is actually obtained in order to mitigate the negative health effects of inactivity.

Because it has been shown that everyone can benefit from any additional amount of physical activity, it has become clear that it is necessary to create supportive built environments that promote physical activities. “People may make decisions based on their environment or community. For example, a person may choose not to walk to the store or to work because of a lack of sidewalks. Communities, homes, and workplaces can all influence people's health decisions. Because of this influence, it is important to create environments in these locations that make it easier to engage in physical activity and to eat a healthy diet” (CDC 2009). These built features and amenities should surround homes and communities to help people obtain the recommended 150 minutes of moderate-intensity physical activity per week. By enabling people to increase their physical activity levels health will likely be improved and the negative health consequences of inactivity, such as obesity and the related health problems, will be impacted. To do this, we must structure our built environment in order to provide this opportunity to engage in physical activity.

As research continues investigating this topic, there has been growing recognition that the field of urban planning can have substantial impacts on public health (Craig et al 2002: p. 1). Awareness is building that there are potential health benefits in the way we structure and build our environment; including things like roads, sidewalks, buildings, and parks. With continual increases in obesity trends nationwide, there needs to be a connection between what public health officials are recommending for physical activity

and how the built environment is structured in order to foster people's capability of actually obtaining the recommended levels of physical activity.

In a report published by the Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use titled, "Does the Built Environment Influence Physical Activity", the author suggests that the built environment has always played a role in public health (TRB 2005: pp. 2-3). Beginning as early as the 1800s, the built environment was affecting health. During this time, disease was rampant and infections spread quickly through communities as our cities were built to house huge conglomerations of people living in terrifyingly poor conditions. In the 1900s, as our communities began to spread out beyond the city core, with improved roads and other infrastructure, land use patterns changed from dense living spaces to more scattered homes built across larger areas.

After World War II, suburbanization grew rapidly in the US and the use of the personal automobile, the television and other labor-saving devices, provided ease and convenience. As these changes were taking place at the community and state level, changes were also being seen at the individual level. People's jobs and daily responsibilities were requiring less and less physical activity, allowing people to expend fewer calories and become entirely physically inactive. The idea of physical activity was no longer a requirement, it was a choice. These trends have continued today with sprawling neighborhoods, increased dependence on automobiles, and land use patterns that facilitate both. So now, with physical inactivity and obesity causing more than 300,000 deaths per year, our built environment is again under scrutiny.

Research shows that what the design of the built environment is affects individual's' ability to reach the recommended thirty minutes per day of moderate to vigorous activity (ALR 2005: pp. 1-3, TRB 2005: pp. 4-10, Gregory et. al 2006: pp. 55-67). It is therefore important for health and planning professionals to understand the link between public health and planning in order to better plan and design our built environment.

Parks have always been a natural site for people to engage in various activities; including things like recreation, exercise, sports, picnicking, and socializing. Studies

regarding the use of parks to help adults engage in physical activity show many strong relationships between parks and physical activity. For example; in the study, *Healthy Community Design*, it was shown that obesity levels can be decreased through creating communities with features that promote health in mind, including park space. Furthermore, specific park features may have significant implications for park based physical activity (Kaczynski 2008: pp. 1451-1455).

Parks with more features were more likely to be used for physical activity; size and distance were not significant predictors. Park facilities were more important than were park amenities. Of the park facilities, trails had the strongest relationship with park use for physical activity. (Kaczynski 2008: p. 1451).

However, if some park spaces are used for activities such as running or biking, and some are used for inactive activities, such as sitting or relaxing, then the question still remains: what specific elements in park spaces help adults engage in physical activity to reduce obesity levels? It is now apparent that we need physical activity incorporated into our daily lives. Yet, how are we to make these community features actually useful to the community members? Are all trails useful? Are all green spaces equal? Are all bicycle lanes functional? These questions are what lead me to examine how the design of park space can influence people's choices and abilities for attaining the recommended amounts of physical activity which can lead to reduced obesity levels. After reviewing a number of studies regarding the affects of park design elements on adults' ability to engage in the recommended amounts of physical activity, there were several categories of design elements identified. I have categorized them as follows:

1. *Accessibility*: The accessibility of a park to people and the accessibility of the built environment within a park are both important aspects of adults using and engaging in physical activity at a park. However, for this study, I will only be focusing on the accessibility of the built environment within a park as the other is a feature not limited strictly to the design of park space, but rather is a characteristic that describes a larger level of planning including the surrounding community. Examples of elements that contribute to the accessibility of the built

- environment within a park include things like walking paths, connectivity of features within a park, and trails (Librett et. al 2006: pp. 399-404).
2. *Safety: perceived and objective:* In studying the safety of a park, it has been revealed that how people perceive the safety of park space is more important than physical features representing safety, such as fences and signs. Perceived features include surrounding traffic, other people, lighting, and visibility within the park. As all increase, the more perceived safety there is for that space and the more likely adults are to utilize the space for activity (Bedimo-Rung 2004).
 3. *Features:* Features, most often thought of as the built environment of a park, are a very important aspect of the use of parks for physical activity. Parks can be used for physical activity depending on the inclusion or exclusion of various features. There are hundreds of possible features, both built and naturally existing, that can be included in a park. For example; paved and unpaved trails, wooded areas, active and inactive features, natural features, playgrounds, water features, shade, trees, playgrounds, sport courts, benches, water fountains, picnic tables, and public art (Kaczynski 2008: p. 1452).
 4. *Aesthetics:* The aesthetics of the built features within the park also plays a key role in attracting adults to engage in physical activity. Research shows that the design, attractiveness, perceived attractiveness, appeal of various design elements, scenery, physical layout of features, landscaping, sun and shade balance, topography, visual appeal, placement of park features in logical ways can all affect physical activity levels (Giles-Corti 2004).
 5. *Condition:* The condition, or state, that the built environment of a park is in can also play a role in the use of a park for physical activity. Maintenance, safety of equipment, and visual cues of incivilities are important built environment

characteristics that must be taken into consideration when finding function in a park space (Bedimo-Rung 2004).

In conclusion, parks not only can be a location where adults engage in physical activity, they can be designed in such a way to actually promote physical activity. Parks have been recently acknowledged as important behavior settings for physical activity and when manipulated and structured properly, have the ability to facilitate individuals' ability to engage in physical activity.

Chapter 2: Methods

SELECTION PROCESS OF CIVITAN PARK

Of the 206 City of Austin Parks located in Austin, TX, I will be observing the one which is surrounded by the lowest socioeconomic status. It has been shown that these households have the highest risk for obesity with the least amount of park access; making them the highest at-risk population for diseases and health problems related to obesity (Centers). To begin finding this park of interest, I first had to map Austin's park locations using GIS data. I then had to map Austin's median household income by census tract using GIS data. I was then able to analyze which parks were located in the lowest socioeconomic census tract where households make a median income of \$20,000 or less per year. Of the parks located within these census tracts, Civitan Park, located in Montopolis Neighborhood, was surrounded by the most low income households making it the park of study for this report.

Following the park selection, I had to determine how I was going to study and analyze this park and its built environment. Active Living Research, a national program designed to research the effects of environments and policies on active living among individuals, identified 5 tools which measure the built environment of park space. One of which, the Environmental Assessment of Public Recreation Spaces (EAPRS) is a direct observation tool used to evaluate the functionality or potential functionality of various features within a park. I chose to work with this tool because it allows for the evaluation of the functionality of the built environment of the park space. It is important to examine the functionality of built elements of a park, as this determines the potential ability for use as a location for adults to engage in physical activity. This can be difficult as the EAPRS tool does not make observations regarding actual use of the physical elements of a park. Rather, the tool explores things like the availability, cleanliness, proximity, and condition of the built elements within a park to understand the potential use for adults trying to engage in physical activity.

The tool provides an evaluation form, the EAPRS Direct Observation Tool and Picture Guide, which allowed me to evaluate Civitan Park. This Tool and Picture Guide, paired with the instructional guidebook, identifies the exact elements and features I had to look for, measure, and evaluate while at the site. The Tool breaks down the park into sixteen categories for evaluation, including; Trails, Paths, General Areas, Water Areas, Eating/Drinking Features, Facilities, Educational/Historical Features, Sitting or Resting Features, Landscaping, General Aesthetics, Access-Related Features, Directives and Information-Related Features, Safety-Related Features, Play Set or Structure Features, Other Play Components, and Athletic Fields and Other Recreation Areas. Each category then has many subcategories of features related to that category and which must be evaluated. There are 4 evaluation techniques that are used. Each feature to be evaluated is pre-assigned one evaluation technique (Saelens et al July, 2006).

After studying the instructional guidebook, I was able to visit Civitan Park and make my observations, measurements, and evaluations by recording directly on the given sheets. According to the tool, I had to look for various elements which a park should contain in order to help it increase its function and use for daily activity by individuals. I observed things like play areas, social areas, trails, open spaces, water fountains, accessibility, etc. My evaluation consists of completed evaluation forms detailing my study of each element, included in full at the end of this report.

LIMITATIONS

After utilizing the EAPRS Tool, I noticed that the tool lacks a scoring or grading system. Although the EAPRS Tool allowed for an investigation and study of the elements within Civitan Park, it lacked the ability to compare and contrast to other measured parks via a grading system. Without this, it is difficult to fully understand how this park compares to others in the same geographic location, socioeconomic status, or other various characteristics.

Additionally, the tool lacks age specificity. All elements were analyzed or observed without taking age into consideration. Since I am studying park design in terms

of adult physical activity; understanding what elements are critical to that age group would make this study more specific and the results more applicable.

RELIABILITY OF EAPRS

Measuring Physical Environments of Parks and Playgrounds: EAPRS Instrument Development and Inter-Rater Reliability (Saelens et al 2006: pp. 190-207) indicates that the EAPRS tool is reliable. The purpose of this article was to identify reliable and comprehensive measurements for physical activity settings. EAPRS was shown to provide comprehensive assessment of parks' and playgrounds' physical environment, with generally high reliability.

Chapter 3: Findings and Analysis

Focusing specifically on Civitan Park in Austin allowed for an investigation of the built elements and environment of a park surrounded by a socioeconomically challenged community. This chapter specifically outlines the EAPRS results for Civitan Park in order to assess how this park can serve as a location for adults to engage in physical activity.

Civitan Park, located in southeast Austin in Montopolis Neighborhood, is wedged between Vargas Road and Highway 183. Vargas Road is a residential street with limited automobile or foot traffic. Although there are single family homes along Vargas Road, the street's north end leads to an access point for Highway 183. Its southern end leads to Riverside Drive which acts as a main connection point for Highway 183. The park's access and walkability is extremely limited. The only neighborhood amenities within walking distance are a school and a dilapidated grocery store.

The park is a flat, generally open area. The west edge of the park lies directly along a residential street and offers no buffer, resulting in no defined entrance to the park. Upon "entering" the park, one can find a clean environment with limited litter or garbage in any area. The dominant feature is a baseball field located directly in the center of the park. Surrounding the field is a wide circular dirt path with a distance of nearly ¼ mile. Scattered throughout the park are green benches and picnic tables. They offer a place for relaxing and socializing but have limited shade. In the southeast corner, surrounded by a chain link fence, are a playground, basketball court, grills, and water fountains. Although most elements are in need of repair or assistance, the park seems to contain standard park amenities. Additionally, covering the basketball court area is a large blue awning which provides shade but no protection against other elements such as wind or rain.

After completing the assessment via the EAPRS Tool, it is clear that Civitan Park has many positive features. Still, many features are lacking or are in need of maintenance in order to make this a functional place for adults to engage in physical activity on a daily basis. The following table is a summary of the various physical elements of the park studied via the EAPRS Tool. In all, I documented 15 elements of the park. The table is

broken into categories to show those that are missing, those that are in need of repair, and those in need of relocation based on limiting proximity.

Table 3: Summary of Observed Physical Elements at Civitan Park

<i>EAPRS Category of Park Element</i>	<i>Element is Missing</i>	<i>Element in Need of Repair</i>	<i>Element Needs Relocation</i>
Trails: Paved	Paved Trail		
Trails: Unpaved	Coverage on Trail Signage on Trail Restrooms on Trail Working Call Boxes Separateness Fitness Stations	Length of Trail	
Paths: Existence and Surface	Path Link		
General Areas	Perimeter to Open Space Meadow Wooded Area		Road Proximity
Water Areas	Water Areas		
Eating/Drinking Features	Trash Cans	Water Fountains Grill Cleanliness Grill Condition	Water Fountains
Facilities	Restrooms Entertainment Venues		
Educational/Historical Features	Educational/Historic Markers		
Sitting/Resting Features	Seat Walls Bleachers		Proximity of benches to features (non-trail)
Landscaping	Landscaping (flowers, shrubs, beds)		
General Aesthetics	View Sculpture		
Access-Related Features	Bike Racks Parking Lot		

Play Set or Structure Features	Open Restrooms nearby Phone Moveable Rings/Things to Hang From	Coverage, Shade	
Other Play Components	Presence of things to slide down Swings - Baby swings Blacktop games Spring Toy / Teeter-Totter	Condition of Swings Chain Protection on swings	
Athletic Fields and Other Recreation Areas	2 Athletic Fields		

Source: Ali Christoph

The EAPRS Tool allowed for a systematic documentation of design elements, which made it possible to assess what elements Civitan Park was lacking, and which needed improvement. However, in addition, each physical elements must be understood in terms of *physical activity functionality*. The EAPRS Tool identifies five categories of design elements which must be evaluated to assess design quality and hence “functionality”: accessibility, safety, features, aesthetics, and condition. By examining the physical elements from Table 1 in terms of these five categories of design elements, it is possible to determine how Civitan Park can be improved. The following table, Table 2, correlates the physical elements from Table 1 with the five design element categories.

Table 4: Summary of Observed Physical Elements Classified by Design Element Categories

<i>EAPRS Category of Park Element</i>	<i>Element is Missing</i>	<i>Element in Need of Repair</i>	<i>Element Needs Relocation</i>
Trails: Paved	Paved Trail		
Trails: Unpaved	Coverage on Trail		
	Signage on Trail		
	Restrooms on Trail		
	Working Call Boxes		
	Separateness	Length of Trail	
	Fitness Stations		
Paths: Existence and Surface	Path Link		
General Areas	Perimeter to Open Space		Road Proximity
	Meadow		
	Wooded Area		
Water Areas	Water Areas		
Eating/Drinking Features		Water Fountains	Water Fountains
		Grill Cleanliness	
		Grill Condition	
	Trash Cans		
Facilities	Restrooms		
	Entertainment Venues		
Educational/Historical Features	Educational/Historic Markers		
Sitting/Resting Features			Proximity of benches to features (non-trail)
	Seat Walls		
	Bleachers		
Landscaping	Landscaping (flowers, shrubs, beds)		
General Aesthetics	View		
	Sculpture		
Access-Related Features	Bike Racks		
	Parking Lot		
Play Set or Structure Features			

<i>Key</i>
Features
Safety
Condition
Accessibility
Aesthetics

	Open Restrooms nearby		
	Phone	Coverage, Shade	
	Moveable Rings/Things to Hang From		
Other Play Components			
	Presence of things to slide down		
	Swings - Baby swings	Condition of Swings	
		Chain Protection on swings	
	Blacktop games		
	Spring Toy / Teeter-Totter		
Athletic Fields and Other Recreation Areas			
	Only 2 athletic fields		

Key
Features
Safety
Condition
Accessibility
Aesthetics

Source: Ali Christoph

Below, I have described my observations and assessment of each of the design elements I presented in Table 1. I have also included pictures to better illustrate each design element.

1. Trails:

A trail is an established route used predominantly for active recreation, such as walking, jogging, biking, etc. There are two different types of trails; paved and unpaved. Civitan Park contains no paved trails, only 1 unpaved dirt trail that circles around the baseball field. The trail is level, between 2-5 feet wide, and is in excellent condition. The trail is unobstructed and clean. Drawbacks include the limited connectivity to other features in and around the park, limited shade or covering, as well as its short length.

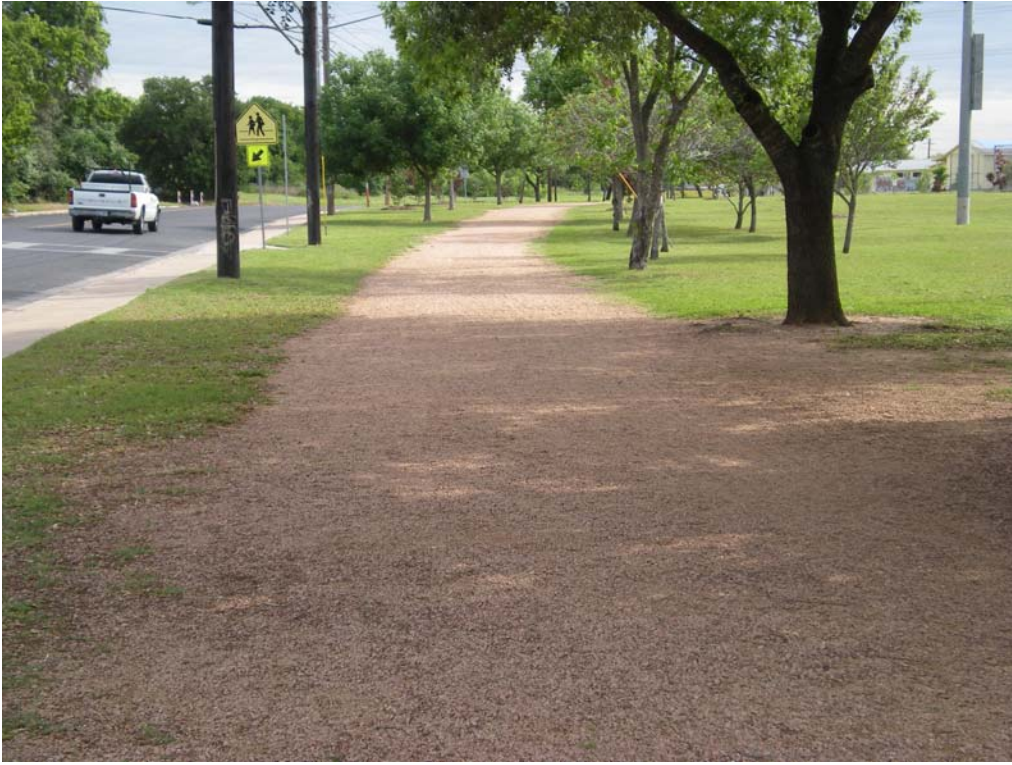


Figure 1: Trail at Civitan Park

Source: Ali Christoph



Figure 2: Trail at Civitan Park

Source: Ali Christoph

2. PATHS:

Paths are different than trails in that they are designed specifically for linking elements throughout a park. Civitan Park contains no paths. The various elements within the park stand alone and can be accessed by walking across grass or dirt areas.

3. GENERAL AREAS: This category was subdivided into 3 subcategories;

A. OPEN SPACE: This area is defined by its function. Open space must be functional for recreation purposes. It cannot be area that acts as a buffer between park elements or is littered with trees or man-made objects. Civitan Park has a large open space beyond the baseball field. Although it blends into the baseball field playing area, there are no delineations or markers indicating where the playing field is. The open space is a large grass area that is mostly level. There is nothing interrupting the space as it is

surrounded by trees on one side and a road on the other. The space is in very close proximity to the road creating a dangerous environment.



Figure 3: Open Space at Civitan Park

Source: Ali Christoph

B. MEADOWS: There are no meadows at Civitan Park.

C. WOODED AREAS: There are no wooded areas in Civitan Park.

4. WATER AREAS:

These areas include lakes, rivers, streams, ocean waters, or waters used for recreation. Civitan Park has none.

5. EATING/DRINKING FEATURES:

These elements include drinking water fountains, grills/fire pits, picnic areas, and vending. Civitan Park does have water fountains, grills, and picnic areas; however, all three are in need of repair and maintenance. The water fountains were only offered in close proximity to the playground but not the trail. They were handicap accessible,

although there were severe leakage and drainage problems at the base. The grills were located nearby the playground as well, each located within 25 feet of a picnic table. Although the grills were operational, they were unclean and old. Covers would be useful for their longevity. The park contained many benches and picnic benches; however, no picnic areas. Picnic areas, as defined by the tool, includes only those areas that have at least 2 or more adjacent picnic tables and a trash can. The picnic tables are scattered and usually at least 30 feet between two. Trashcans were very limited at the site which eliminated the possibility of the park having a designated picnic area.



Figure 4: Grill at Civitan Park

Source: Ali Christoph



Figure 5: Water Fountain Basin at Civitan Park

Source: Ali Christoph



Figure 6: Water Fountain Base at Civitan Park

Source: Ali Christoph

6. FACILITIES:

Facilities include restrooms, shelters/pavilions/gazebos, and entertainment venues. The park is lacking restrooms and entertainment venues. There is a large orange sun screen above the basketball court which provides shade for those underneath. The screen stretches above two small basketball courts as well as covers two benches. The area underneath the screen is kept clean and free of debris.



Figure 7: Basketball Court at Civitan Park

Source: Ali Christoph

7. EDUCATIONAL/HISTORICAL FEATURES:

Civitan Park has none.

8. SITTING OR RESTING FEATURES:

These elements include those built features not on a trail that can be used for sitting or resting, such as benches, walls, or tables. Civitan Park contains 6 plastic benches located predominantly near the playground area. Each bench is in fair condition with minor cracks and exposed elements. Three of the benches had shade covering. Each bench was similar in size; with a capacity to hold 2-4 adults. There were also two tables present which were both large and clean. They were in better condition than the benches although not in as great of proximity to other features. Also of note was the fact that there were no bleachers at the park despite the presence of a baseball diamond and basketball court.



Figure 8: Park Bench at Civitan Park

Source: Ali Christoph



Figure 9: Park Bench at Civitan Park

Source: Ali Christoph



Figure 10: Picnic Bench at Civitan Park

Source: Ali Christoph

9. LANDSCAPING:

Landscaping includes elements such as flowers, shrubs, and trees that were placed in the park for a specific design reason. My observations indicate that there is no landscaping at the park; i.e. the vegetation is entirely natural. The park contains little landscaping amenities, natural or man-made, other than grass.

10. GENERAL AESTHETICS:

This measure indicates the general cleanliness, availability, and condition of a variety of aesthetically related elements. There are five subcategories within this category, including:

A. VIEWS OUTSIDE OF PARK: This indicates that when in the park, one can see things of interest (city view, natural view, water view) from an elevated point in the park. Civitan Park has none.

B. SCULPTURE OR OTHER ART: There is none present.

C. AREA/NEIGHBORHOOD IMMEDIATELY SURROUNDING PARK: This feature is observed in order to gauge how much attention there is directed at the park. The land use of the surrounding area is critical to measure since it indicates the condition and character of the park. Civitan Park's western perimeter is adjacent to a residential street. Since the park has no fencing or barriers, there is good visibility from the residential area. The residential street itself is clean, in good condition, and creates a fair feeling of perceived safety from within the park.



Figure 11: Surrounding Neighborhood West of Civitan Park

Source: Ali Christoph

D. TRASH CANS: There is only 1 trash can present and it is in poor condition. It is inaccessibly chained inside of a fenced area and is not in good proximity to other elements in the park.

11. ACCESS-RELATED FEATURES:

These features are those which allow people to gain multimodal access to the park; including an entrance point, bike racks, parking lots, sidewalks adjacent to the park, and roadways. Civitan Park does technically have an entrance point, designated by a small green sign. However, this entrance is not very distinct and does not create a sense of entering the park upon passing it. There are no bike racks, parking lots, or roadways through the park. There is an adjacent sidewalk on the western edge of the park. The sidewalk is clean, wide, and has a crosswalk which walks across the street into the park. The sidewalk is unobstructed by poles or other built elements.



Figure 12: Entrance Sign at Civitan Park

Source: Ali Christoph

12. DIRECTIVES AND INFORMATION-RELATED FEATURES:

There is one sign with park rules listed. It lacks color and condition. It does clearly state the rules and regulations of the park in a clear and legible manner. The park is lacking things like maps and/or event postings.



Figure 13: Informative Signage at Civitan Park

Source: Ali Christoph

13. SAFETY-RELATED FEATURES:

The only safety related feature the tool observes is public telephones, which are not found in Civitan Park.

13. PLAY SET OR STRUCTURE FEATURES:

Civitan Park has a large play area surrounded by a perimeter fence that clearly designates the area as a playground. The entire play area's ground surface is mulch and about 40% of the area is shaded by trees. Tall lights surrounding the perimeter provide adequate light and visibility throughout evening hours.

The tool requires observation of each particular piece of the play set. A play set is considered to be the combination of two or more distinct pieces of playground equipment. Civitan Park contains 5 play sets. There are benches within 30 feet of each. All sets are colorful (2 or more vibrant colors) and interactive. There are various play sets for different age groups of children. Although the play sets seem to provide all ages

of children a great opportunity for interactive and imaginative play, none of the sets provide adults the opportunity to engage in physically active behavior. There is a lack of pieces of equipment sized for adults and none could be used for fitness purposes.



Figure 14: Play Area at Civitan Park; Highlighting Ground Surface and Play Equipment

Source: Ali Christoph



Figure 15: Play Area at Civitan Park; Highlighting Various Play Equipment

Source: Ali Christoph



Figure 16: Play Area at Civitan Park; Highlighting the Swings

Source: Ali Christoph



Figure 17: Play Area at Civitan Park; Highlighting Various Play Equipment

Source: Ali Christoph

14. OTHER PLAY COMPONENTS:

Again, although there are various other play components, such as things to hang from or swing sets, none are designed with the intention of letting adults engage in physically active behavior.

15. ATHLETIC FIELDS:

Civitan Park contains two different athletic fields; a baseball field and a basketball court. The baseball field has a designated infield area with dirt ground surface. Additionally, there is an outfield area with grass as the ground surface. The grass area is level and predominantly smooth. There are no bases or lines on the field. There is a chain link backstop behind home plate and 1 row of bleachers behind that which face the field.



Figure 18: Baseball Field and Backstop Cage at Civitan Park

Source: Ali Christoph

The basketball court's ground surface is concrete and is in fair shape. There are cracks and missing paint but the surface is predominately level and smooth. Although there are basketball hoops, there are no nets. The entire basketball court area is covered by a sun shade.



Figure 19: Basketball Court Painted Lines

Source: Ali Christoph



Figure 20: Basketball Court Hoop at Civitan Park

Source: Ali Christoph



Figure 21: Basketball Court Lights at Civitan Park

Source: Ali Christoph



Figure 22: Basketball Court Shade Cover at Civitan Park

Source: Ali Christoph

SUMMARY AND ADDITIONAL CHALLENGES

After observing and studying Civitan Park, it is clear that it contains many functional or potentially functional physical elements. Being located in a low-income residential neighborhood with a major highway within walking distance creates a perception that the park would be in a deteriorated state and lacking many quality elements. However, as described above, the park does have many elements that create a useful space for physical activity. The playground, field, court, and various amenities provides nearby residents with a safe park environment for adults, children, and families.

That being said, Civitan Park is still in need of changes, especially as it relates to providing the opportunity for adults to engage in daily physical activity. There are few elements that could be utilized in such a way as to help adults be physically active. The

trail is a great amenity; however, the length provides a challenge. The open space is another great amenity, but it lacks creative and useful elements which could actually help adults engage in activity. Even informative signage explaining different activities adults might partake in could be a helpful asset for this area. The playground has no equipment sized or made for adults. The basketball court is the sole element that could be used for adults but there are no organized teams, games, or leagues which use them. Lacking functional built elements designed with adult physical activity in mind will hinder adults' ability to utilize this park for physical activity and therefore obtain the recommended amounts of daily physical activity in order to decrease the chance of becoming obese.

Additionally, elements external to the built design of the park create an even tougher environment for adults to successfully engage in physical activity on a daily basis at the park. Civitan Park, located in Montopolis Neighborhood, does provide a place for adults to engage in physical activity. However, the surrounding environment is limiting its ability to provide a functional place for adults to utilize on a daily basis. Each of the following characteristics poses a challenge for Civitan Park.

LOCATION

The very location of this park poses a challenge. It is located within 0.5 miles of a major interstate and is bordered on only one side by a residential street. Without being located on all sides by residential land use, the park's location limits access to many within the Montopolis Neighborhood. By increasing park proximity to more individuals, the likelihood increases that individuals' within this neighborhood will engage in physical activity on a daily basis. Research suggests that when people have access to parks, they exercise more. In a study published by the Centers for Disease Control (CDC 2010), creation of or enhanced access to places for physical activity led to a 25.6 percent increase in the percentage of people exercising three or more days per week (Kahn et. al 2002: pp. 87-88). Other studies from the American Journal of Preventive Medicine found that access to a place to exercise results in a 5.1 percent median increase in aerobic capacity (Frank 2000)

HOUSEHOLD INCOME

Civitan Park is located in Montopolis Neighborhood, one of the lowest socioeconomic areas in Austin. Historically, low income neighborhoods are short of park space. The poor have continually been forced to live in areas with limited amenities and recreational spaces. This has created a link between low-income individuals and physical activity attainment. Low income individuals are less likely to engage in regular physical activity than high-income individuals. Research has shown that adults with incomes below the poverty level are three times as likely as high-income adults to never be physically active (Barnes and Schoenborn 2000: p. 6)

WALKABILITY TO SURROUNDING AREAS

Civitan Park is also limited in what surrounds it. Destinations located within ¼ mile distance from a location are considered “walkable”. Walkability is a crucial aspect for things like park and open space since the more destinations that are within walking distance from the park; the more attractive that park is for people to use. Most of the neighborhood amenities, such as grocery stores or libraries, are not located within this ¼ mile sphere.

Chapter 4: Conclusion and Recommendations

OUTCOME OF STUDYING CIVITAN PARK

Understanding that obesity can be positively impacted by engaging in regular physical activity, and that the ability to engage in physical activity can be positively impacted by properly designed park space, has helped to promote the argument that parks play a critical role in our nation's health. Research on park function, and specifically park design, has helped fuel research intended to invigorate the design of park space. Parks are essential natural environments which, when designed properly, can help individuals obtain necessary physical activity on a daily basis.

Based on my findings and observations of Civitan Park, I recommend the following steps be taken in order to help this park be a more functional space for adults to engage in daily physical activity. Based on the built elements from Table 1, I have created a series of planning and design recommendations to help to improve these different elements of the park design. Table 3 has a summary of these recommendations for each physical element and how they can be incorporated into Civitan Park in a useful and functional way. Following is a more detailed description and visual representations of the recommendations for each element. These improvements are offered in order to provide adults greater ability to engage in physical activity on a daily basis in Civitan Park.

TABLE 5: Summary of Recommendations for Physical Design

<i>EAPRS Category of Park Element</i>	<i>Element</i>	<i>Recommendations</i>
Trails: Paved	Paved Trail	NA
Trails: Unpaved	Coverage on Trail	Addition of Trees or Shade Elements
	Signage on Trail	Add signage indicating path and location of elements
	Restrooms on Trail	Add restrooms within 200 feet of trail
	Working Call Boxes	Add call boxes at entrance to park along trail
	Separateness	
	Length of Trail	Add distance along north edge of park
	Fitness Stations	Add fitness station near playground and within 50 feet of trail
Paths: Existence and Surface	Path Link	Addition of Link External to Park
General Areas	Road Proximity	
	Perimeter to Open Space	Add perimeter surrounding playfield
	Meadow	NA
	Wooded Area	NA
Water Areas	Water Areas	NA
Eating/Drinking Features	Water Fountains	Addition of water fountains within 20 feet of trail
	Grill Cleanliness	NA
	Grill Condition	NA
	Trash Cans	NA
Facilities	Restrooms Entertainment Venues	Addition of restrooms NA
Educational/Historical Features	Educational/Historic Markers	NA
Sitting/Resting Features	Proximity of benches to features Seat Walls Bleachers	NA NA NA

Landscaping	Landscaping (flowers, shrubs, beds)	Addition of landscaping surrounding trail
General Aesthetics	View Sculpture	NA NA
Access-Related Features	Bike Racks Parking Lot	Addition of bike racks at entrance of park and playground area NA
Play Set or Structure Features	Open Restrooms nearby Coverage, Shade Phone Moveable Rings/Things to Hang From	Addition of restrooms Add shade near bleachers, trail, and playground NA NA
Other Play Components	Presence of things to slide down Swings - Baby swings Condition of Swings Chain Protection on swings Blacktop games Spring Toy / Teeter-Totter	NA NA NA NA NA NA
Athletic Fields and Other Recreation Areas	Only 2 athletic fields	Create alternate uses for field area since space is restricted

*NA denotes elements not strongly associated with engaging in physical activity

Source: Ali Christoph

DETAILED DESCRIPTION OF RECOMMENDATIONS

1. ADDITION OF TREES OR SHADE ELEMENTS:

Adding shade via trees or designed shade elements can attract more users to the park as comfort increases while utilizing the park.



Figure 23: Trees and Shade at Pease Park, Austin

Source: Ali Christoph



Figure 24: Trees and Shade at Pease Park, Austin

Source: Ali Christoph

2. ADD INFORMATIVE SIGNAGE:

The signage of Civitan Park is limited. There is one “entrance” sign that is aged. I recommend the sign be updated and enlarged. Additionally, adding signs at the major surrounding intersections will increase awareness that a park is in vicinity. Adding awareness can help to increase use as more people will know that there is a park and where it is.

3. ADDITION OF RESTROOMS:

Although restrooms do not directly influence adults' ability to engage in physical activity on a daily basis; the lack of restrooms provides a barrier.

4. ADDITION OF FITNESS EQUIPMENT

By adding physical training equipment to the park, it becomes easier for adults to engage in physical activity. Without any sort of adult designed elements, adults are not aware that being physically active at the park is an option. By establishing a portion of the playground area as an adult recreation area, it offers adults a much easier and more obvious choice to be active while at the park. Also, by placing this area near the children's play area, adults and children can be active at the same time.



Figure 25: Fitness Equipment at Pease Park

Source: Ali Christoph



Figure 26: Fitness Equipment at Pease Park

Source: Ali Christoph

5. LENGTHEN TRAIL AND OFFER A CONNECTION

Although the trail itself is a great amenity to have at the park; it offers little in the way of function. The trail is very short in length, has no shade, and offers no connectivity to things external to the park. I recommend the trail is lengthened by integrating it into the surrounding community. Both the Montopolis Recreation Center and The Roy G. Guerrero Colorado River Park are located within 1 mile of Civitan Park. By creating an off-shoot of the trail to link to places such as the Recreation Center and

Colorado River Park, the community would have access to a trail with function. It would link community members to other places which could be used for physical activity and it would allow adults to partake in activity beyond the sphere of a small ¼ mile loop. Additionally, I recommend placing elements of shade around the current trail. The addition of trees and canopies can provide more comfort, especially in the heat, and therefore incentivize people to use the trail.



Figure 27: Connection of Trail at Pease Park to Shoal Creek Trail, Austin TX

Source: Ali Christoph

6. ADD PERIMETER SURROUNDING PLAY FIELD

Adding a perimeter surrounding the play field will increase the safety of using the trail which is currently exposed to activities which are being played on the play field.

7. ADDITION AND MAINTENANCE OF WATER FOUNTAINS

Water fountains are a critical element of designing park space for physical activity. When one exercises, water is crucial to have on site. The only water fountain

located at the park is inside the gated playground area. Not only should another water fountain be located near the sports field and trail, there needs to be better maintenance of the existing fountain. Overflowing water, leaking fountain bases, dirty bowl basins, and unclean mouth pieces indicate that the fountain is not for use.



Figure 28: Water Fountain at Pease Park

Source: Ali Christoph

8. ADDITION OF LANDSCAPING SURROUNDING TRAIL

Although landscaping doesn't directly affect one's ability to engage in physical activity on a daily basis, it does act as an incentive. The beauty and aesthetics of an area are highly correlated with use and enjoyment of that same area.



Figure 29: Landscaping Details at Pease Park

Source: Ali Christoph

9. ADDITION OF BIKE RACKS

Adding bike racks will allow bike users to access the park. This will help to increase multimodal access as well as allow for the use of bikes at the park.



Figure 30: Bike Rack at Zilker Park, Austin TX

Source: Ali Christoph

10. CREATE ALTERNATE USES FOR PLAY FIELD

Since there are only baseball/softball elements around the open space, this indicates to users that this is what the space is for. Rather, I suggest adding other built elements, such as various sport and game equipment, so users not interested in baseball/softball are aware that the space can be used for various activities. Suggested various sport and game equipment include volleyball nets, disc golf elements, and sport goals.



Figure 31: Volleyball Court and Open Space at Zilker Park

Source: Ali Christoph

11. OFFER NEIGHBORHOOD INTERACTION

I suggest adding an Events Board near the entrance sign to the park. This board can be used to inform the community of upcoming events, games, leagues, etc. By increasing the awareness of various activities can help people to utilize the park on a more daily basis.

CONCLUSION

As obesity levels are on the rise and reaching epidemic proportions throughout the United States, recognition regarding the negative health consequences related to obesity has escalated the awareness regarding the positive impacts of physical activity. Physical

activity is being looked to as a preventive measure as it is a tool individuals can use to increase caloric expenditure and therefore prevent obesity.

Yet, obesity levels are still increasing throughout the United States. As a result, various methods to stimulate increased levels of physical activity are being sought, researched and evaluated. Developing effective ways in which we can generate increased physical activity levels can help reverse the obesity epidemic we are facing. Although engaging in physical activity is a choice made by individuals, research has shown that providing opportunities in our surrounding built environment is one step that can be taken to help individuals be able to be physically active on a daily basis. It is critical that the proper steps are taken to provide as many of these opportunities in the built environment as possible.

Park space is one such built environment that can be designed and influenced in a variety of ways. Taking specific steps to ensure that park space contains and offers certain various elements will help to create more active and useful environments that are geared toward physical activity. Not every park must offer the same elements or physical design; yet there are a variety of design techniques that can be used to structure parks with physical activity in mind and help to increase adult's ability to engage in physical activity.

Focusing specifically on Civitan Park in Austin provided an opportunity to use various planning and design techniques in order to create a more active environment. Although Civitan Park has many amenities, such as a baseball field, basketball court, and play area; little to none of the physical elements were geared specifically towards adult physical activity. By altering the layout, design, and certain features, Civitan Park has the potential to become an active park allowing adults to engage in physical activity on a daily basis.

It is even more critical that these changes occur in Civitan Park because it is located in one of the most low-income neighborhoods in Austin. These neighborhoods typically face greater obesity levels, are offered less amenities, and therefore, face increased health problems related to obesity and inactivity.

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Vita

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