A Profile of Physical Activity in the City of Knoxville's Lonsdale Park

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Prepared for

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Abstract

Physical activity is one of the most important things a person can do to significantly lower their risk for a number of diseases, such as Type 2 Diabetes and cardiovascular disease. Local parks can be one of the best sources for physical activity, and in some communities, it may be the only source of physical activity. Lonsdale Park is a small, neighborhood park within the Lonsdale Community which consists of mostly minority and low-income households. Through a four-day observational study utilizing the SOPARC guidelines, it was shown that Lonsdale Park is highly used by the surrounding area, and those using the park are doing so at a higher intensity than those using most other parks in the Knoxville area. However, due to overcrowding, the land Lonsdale Park is on now is being transferred to Knox County to use for the expansion of Lonsdale Elementary School. This report aims to show the significance of Lonsdale Park to the community and to persuade officials to open a new park on the Sam E. Hill grounds to ensure the people of Lonsdale have access to a park for physical activity.

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Introduction

Physical activity is one of the most important and effective ways a person can lower their risk for many different chronic diseases. Those who are physically active have a significantly lower risk for type 2 diabetes, cardiovascular disease, stroke, multiple types of cancer, depression, and hypertension. Not only can physical activity help prevent the development of new diseases, it can improve the quality of life and management for previously existing conditions, such as type 2 diabetes. According to the Physical Activity Guidelines for Americans, adults should aim to reach 150 to 300 minutes of moderate, aerobic physical activity or 75 to 150 minutes of vigorous, aerobic physical activity each week for substantial health benefits. Along with this, adults should perform muscle-strengthening activities, involving all muscle groups, 2 or more days per week. Health benefits can be seen immediately after exercising, and even short bouts of exercise can be beneficial. Moreover, additional health benefits can be achieved by engaging in more physical activity than the recommended values each week. (U.S. Department of Health and Human Services, 2018).

In 2016, 34.0% of adults in the City of Knoxville reported being sedentary in their leisure-time. There are certain areas throughout Knoxville where this percentage of sedentary behavior is much higher. In those specific areas, obesity rates and diabetes rates are higher than those for the city of Knoxville as a whole. These same areas also tend to have a higher proportion of minority and low-income households. Research shows that the closer one lives to a park, the more likely they are to use the park. This is particularly important in these low-income areas since these households may not be able to afford a private gym membership, so parks may serve as the primary source for potential physical activity (Fitzhugh, E.C, & Barroso C.S, 2019).

During April of 2019, I, along with other undergraduate students, observed and collected data at 12 parks throughout the Knoxville area to assess the physical activity and demographics of park users. This data, along with data collected in Fall 2018, was eventually utilized within a larger study to analyze the equity and physical activity potential of parks within the Knoxville area. This larger report was ultimately used to make recommendations to the Knox County Health Department and the City of Knoxville Parks and Recreation about how to increase the physical activity of the residents of Knoxville as well as increase the use and efficacy of parks throughout Knoxville. The portion of the study that I participated in focused on who uses Knoxville parks, what they do while they are at the parks, what amenities are used most, and what aspects promote physical activity.

Lonsdale is a small community of approximately 13,000 residents located in the Northwest planning sector of Knoxville, Tennessee. Within Lonsdale, there is a neighborhood park, called Lonsdale Park, for which I was assigned to collect data for the project. This area seems to be made up of a mostly minority population and lower socioeconomic housing. According to City-Data, 11.9% of Lonsdale residents were born outside of the United States. When comparing this number to the City of Knoxville at only 5.4%, it is obvious to see that this area has a higher concentration of minority residents. The median household income in 2016 for Lonsdale residents was $23,168 compared to $35, 816 for City of Knoxville as a whole. Along with this, the median cost of rent is $470 per month in Lonsdale while the City of Knoxville's median rent is $614 per month. Further, the average cost of a home in the Lonsdale community is $91,135 while City of Knoxville homes are, on average, $173,406. These numbers show that Lonsdale is made up of mostly low-income housing. Finally, the crime rate in the Lonsdale area

is significantly higher than the US average: Lonsdale had a crime index of 538.2 in 2016, while the US average was 236.5 that same year (City-Data, 2016).

As mentioned above, there is a small park situated in a large neighborhood within the Lonsdale area called Lonsdale Park. This is the park in which I observed physical activity and demographics of park users for the study. Lonsdale Park is a relatively small, neighborhood park at just 4.01 acres and is situated between a community/recreation center and an elementary school. This park includes a small play-field area, a paved walking path, a swing set, two playgrounds, two basketball courts, and a large pavilion. Throughout the park, there are numerous park benches and swing benches. Third Creek runs through the park, breaking the park into two distinct sides (City of Knoxville, 2019).

Figure 1. Map of Lonsdale Park



Lonsdale Elementary, the school situated within Lonsdale community and on one side of Lonsdale Park, has become severely overcrowded to the point that many kindergarten classes actually had to be moved a few blocks over to another building at Sam E. Hill pre-school. Sam E. Hill was once a fully functional school but has been used as a pre-school for the last few years, until this year, when these rooms were needed. Due to this, city and county officials decided to expand Lonsdale Elementary to accommodate the growing community. To be able to do this, they proposed a land swap between Lonsdale Park and the Sam E. Hill property, (Nelson, 2019). The proposal was passed in October of 2019, but it is unclear exactly when construction on the new school on Lonsdale Park grounds will begin or when, or if, a new park will be established on the old school grounds at Sam E. Hill, (WATE, 2019). As this report will show, Lonsdale Park is well-used by its community, so this land swap can either aid to increase this usage or cause the residents to stop using the park altogether. The land that Sam E. Hill is on is larger than the area of Lonsdale Park currently, but the area is three blocks away from the current site. Further, it is still unclear if a new park will be implemented when construction begins. See Appendix A for specific locations of this land swap.

Purpose

As mentioned above, this project was conducted to be utilized within a larger report that aims to further the understanding of "how parks and recreation relate to the health of the population with a specific focus on the City of Knoxville" (Fitzhugh, E.C, & Barroso C.S., 2019). The portion of the study in which I conducted observations at Lonsdale Park focused on answering these four primary questions, specifically about Lonsdale Park:

1. Who uses Lonsdale Park? Does this use vary by demographics?
2. What type of physical activities are people doing when they visit Lonsdale park?
3. What portion of park visits to Lonsdale park can be considered to be 'active visits'?
4. What park features and amenities attract the most people?

Further, this report aims to persuade officials to implement a new Lonsdale Park on Sam E. Hill grounds after the land swap occurs and make upgrades to further increase the physical activity of residents in the area.

Methodology

To study the physical activity of park goers within the City of Knoxville, twelve parks within five different park planning sectors were observed at three times per day for four days during the fall of 2018 and spring of 2019. The parks included in the study were as follows: Cal Johnson, Charter Doyle, Edgewood, Fountain City, Harriet Tubman, Island Home, Lonsdale, Malcolm-Martin, Sam Duff, West Hills, Whitlow-Logan, and World's Fair. The System for Observing Play and Recreation in Communities (SOPARC) was utilized to ensure reliable and valid results from the observations. During the first week of April 2019, the physical activity of park users was observed over four days of the week: Monday, Wednesday, Saturday, and Sunday. On each of these days, observations were made at three points: morning (7:30 - 8:30 AM), lunch (12:00 - 1:00 PM), and evening (5:30 - 6:30 PM). During these observations, specific physical activity scan zones were checked to ensure all park goers and activities were accounted for and documented correctly.

At Lonsdale Park specifically, there were four scan zones. The first scan zone encompasses two basketball courts, a portion of the walking path, and a set of metal bleachers. The second scan zone includes one playground, a large swing set, some walking path, and one bench swing. The third scan zone is the smallest scan zone, and it includes one playground along with a stationary park bench and a fraction of the walking path. Finally, the fourth scan zone is the largest and encompasses a pavilion, a section of the walking path, and a large open, green space. See Appendix B for an aerial image of these scan zones.

To properly account for each scan zone and accurately record demographic data and physical activity, observers walked to each zone individually. Upon arrival to each zone, the

observer would mark the appropriate date, time, and scan zone. After this, the observer would demarcate the condition of the scan area, checking for things like accessibility or usability. Finally, the scans themselves would be begin. First, the observer would scan for the primary activity of the scan zone and count each female doing that activity. Next, the observer would assign an age (child, teen, adult, or old) to every female counted in the previous scan. After that, the observer would assign an ethnicity (Latino, African American, white, or other) to each female counted performing the primary activity. Finally, the observer would decide which level of physical activity (sedentary, walking, or vigorous) each female in the scan zone was partaking in. After finishing the females doing the primary activity, the observer would complete this same procedure for females performing any secondary activities. Once all the female park users in the scan zone were accounted for, the scans would restart for every male performing the primary activity, assigning them to an age group, ethnicity, and physical activity level. Once the observer was satisfied with the data collected in one scan zone, the same procedure would be performed for the remaining scan zones. On a normal visit to Lonsdale Park, the observer would be expected to do a minimum of eight scans per scan zone, so at least 32 scans total per visit. See Appendix C for an example of the SOPARC data collection sheet.

The data from each park was analyzed individually to compare park users on the basis of sex, ethnicity, age, and type or intensity of physical activity. Based upon the different categories of physical activity (sedentary, moderate, vigorous), MET values were calculated to easily compare the intensity of physical activity at the different parks. A MET, or metabolic equivalent, is measured in kilocalories per kilogram per hour or can be measured in the amount of oxygen consumed during an activity. One MET is equivalent to the amount of energy utilized at rest. Basically, the higher the MET value the higher the intensity of physical activity. For this study,

1.5 METs were used for sedentary activities, 3.3 METs for moderate activities, and 6 METs for vigorous activities. A sample MET calculation can be found in Appendix D.

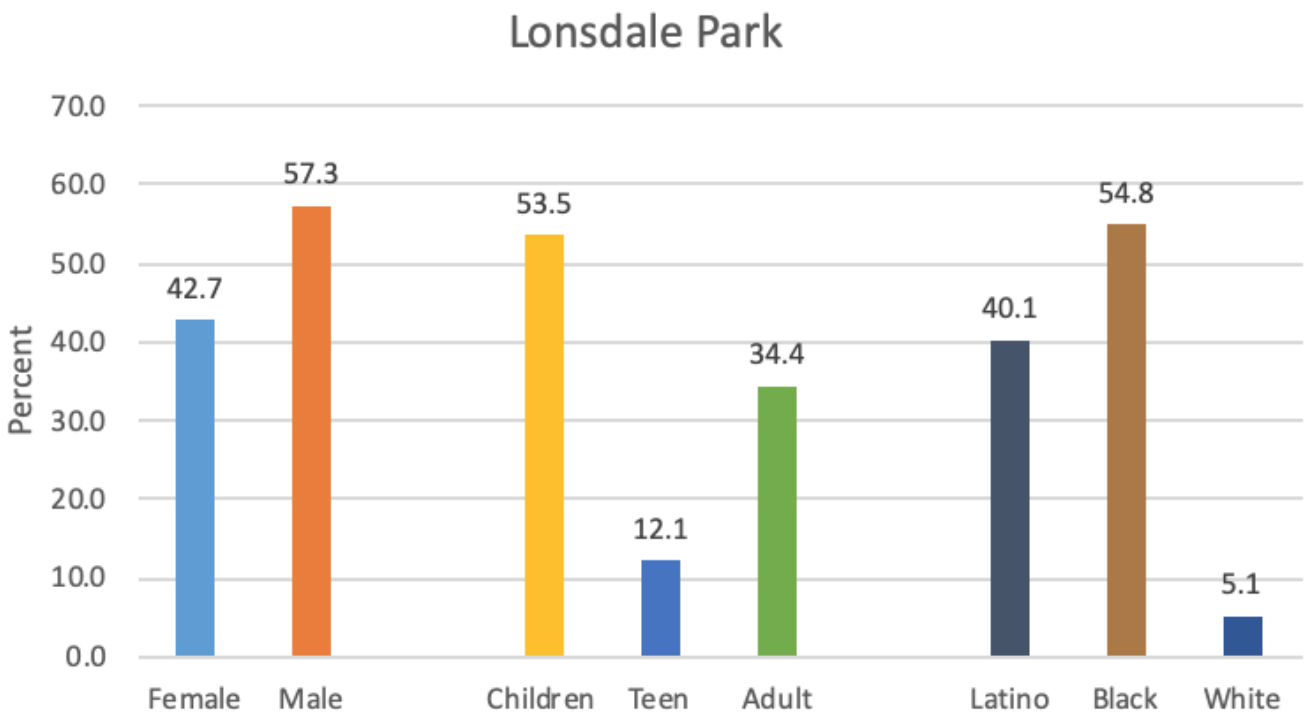
Finally, the data from each park were compared to one another and compiled into a larger report along with data from other sources, such as focus groups, to represent to city of Knoxville as a whole.

Findings

1. Who uses Lonsdale Park? Does this use vary by demographics?

Throughout all 12 parks, 3,961 residents were observed during the four-day study. Lonsdale Park had a total of 157 total park users over the four-day observation in Spring 2019, and 260 over the course of the entire study. The demographic distribution of these users is shown in Figure 2. A national study conducted in 2016 provides a good frame of reference for comparing Lonsdale and Knoxville to the United States as a whole (Cohen, Han, Nagel, 2016 – A).

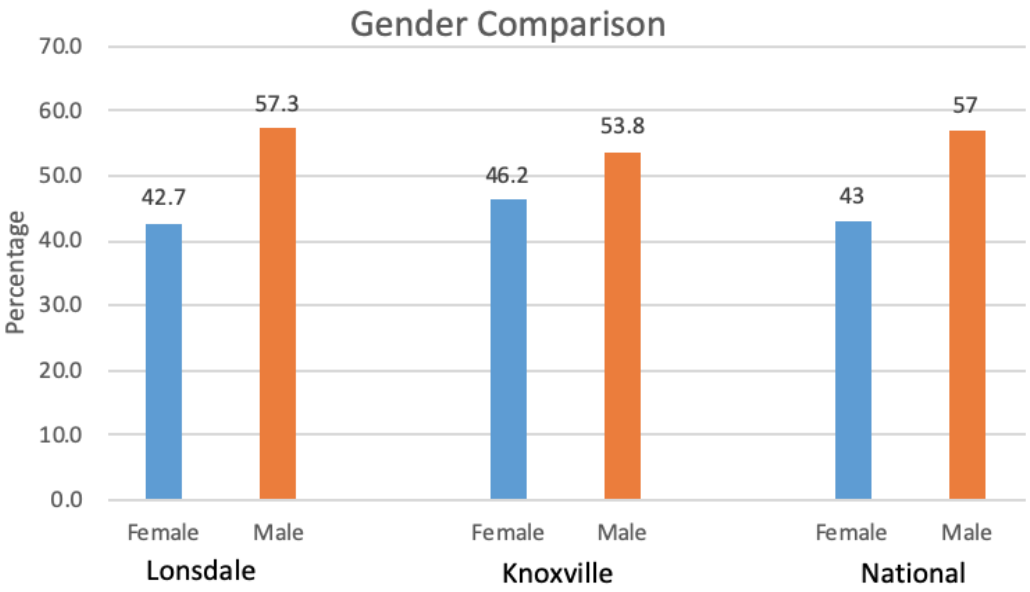
Figure 2. Demographic use of Lonsdale Park



Gender: Males (57.3%) are more likely to use Lonsdale Park than females (42.7%).

This is similar to the data found both in Knoxville and nationally, seen below in Figure 3, (Fitzhugh, E.C, & Barroso C.S., 2019).

Figure 3. Gender comparison between Lonsdale, Knoxville, and National data.

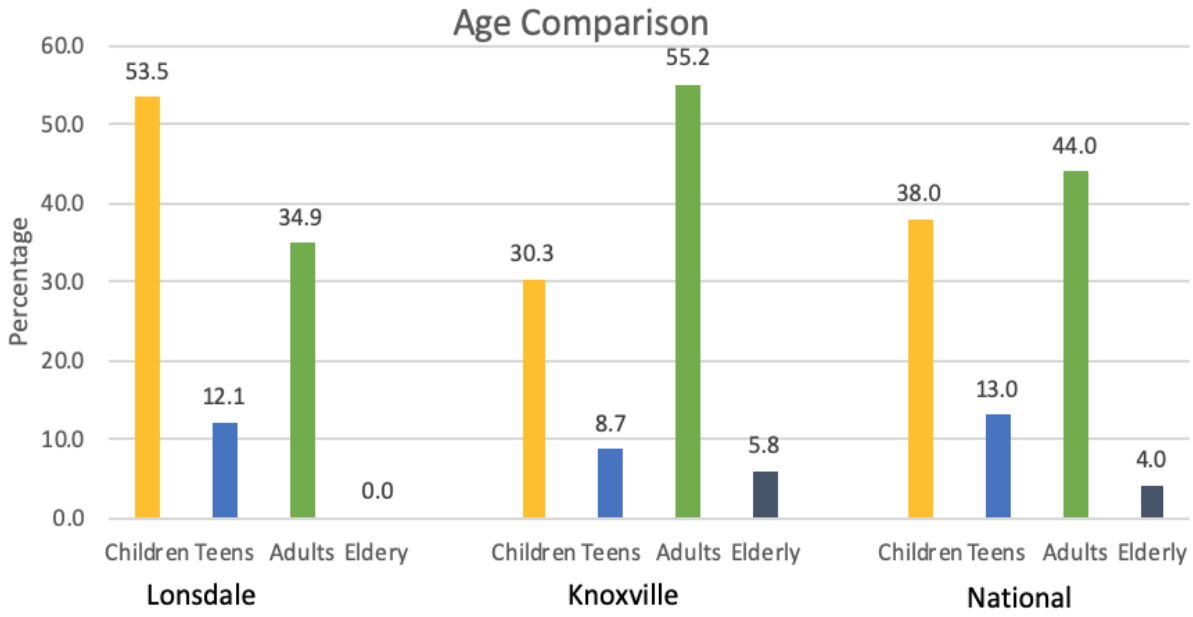


Age: Children are most likely to use Lonsdale Park at 53.5%. Adults are the second most likely to use the park at 34.9%. Teens are the least likely to use Lonsdale Park at only 12.1% of all users. There were no "Elderly" park users over the four days of observation.

This data does not align with data collected for Knoxville as a whole or the data collected nationally. Adults were the most prevalent in both Knoxville and nationally, and teens accommodate more park usage within Knoxville and nationally than in Lonsdale. Further, children were fewer for Knoxville City and nationally. Finally, elderly park users were found to

make up 5.8% in Knoxville and 4% nationally, much higher than 0% for Lonsdale Park, (Fitzhugh, E.C, & Barroso C.S., 2019). These comparisons can be seen in Figure 4 below.

Figure 4. Age Comparison between Lonsdale, Knoxville, and National Data

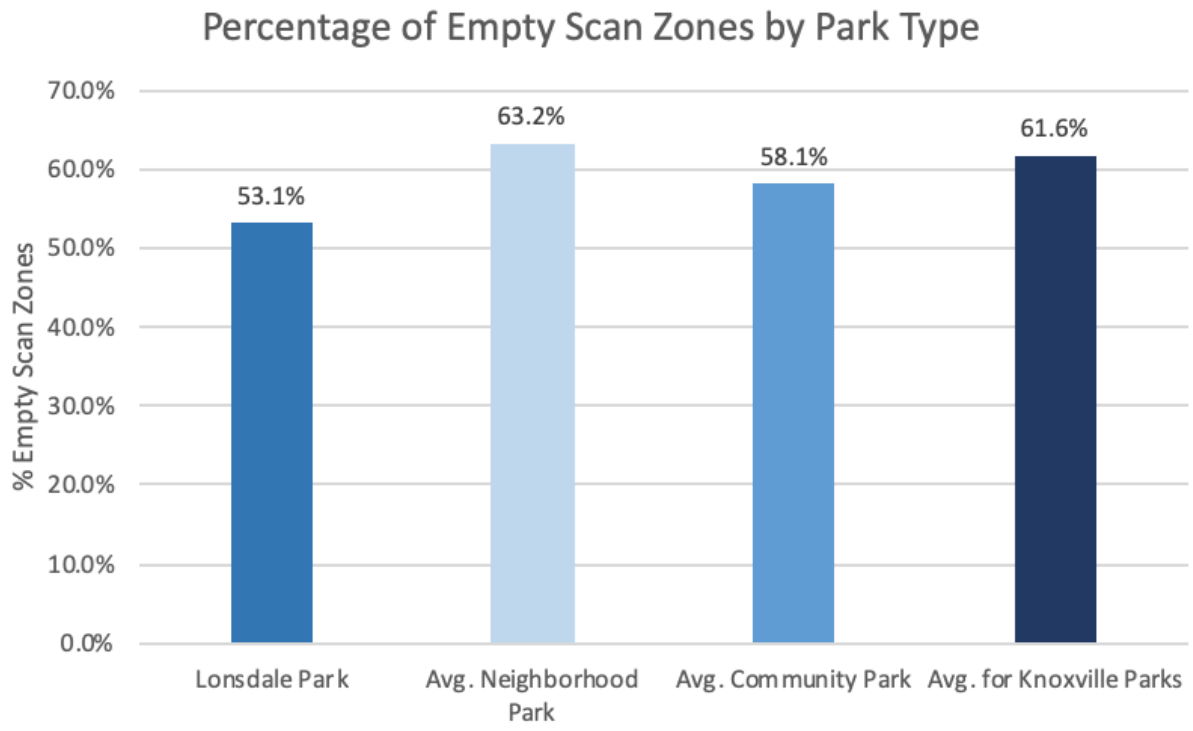


Ethnicity: African American people (54.7%) use Lonsdale Park the most, and Latinos follow closely behind at 40.1%. Whites (5.1%) are the least likely to use Lonsdale Park. There were no "Other" ethnicities observed. From this, we see that 94.9% of all 157 users were part of a minority ethnicity.

These values differ greatly from those found in Knoxville as a whole: 66.5% of users were white, 15.4% were Latino, and 15.0% were African American. Only 33.5% of park users fell within a minority group, (Fitzhugh, E.C, & Barroso C.S., 2019). There is no national data for ethnicities to be used for comparison here.

Overall Park Use: Lonsdale was the 5th most frequented park for the entirety of the study. To signify this, empty scan zone percentages were calculated to allow for easy comparison. Empty scan zones occur when there is no one in the scan zone for the entirety of the scan period. Lonsdale Park's scan zones were empty only 53.1% of the time while Knoxville parks as a whole were empty 61.6% of the time. Compared to other neighborhood parks, Lonsdale Park is more utilized than its counterparts. Lonsdale Park is also more utilized than larger community parks, (Fitzhugh, E.C, & Barroso C.S., 2019). This information is visualized below in Figure 5.

Figure 5: Lonsdale Park percentage of empty scan zones compared to park types



More specifically, Scan Zone 1 of Lonsdale Park was empty 50% of the time. Scan Zone 2 was empty 58.3% of the time. Scan Zone 3 was the least utilized scan zone at Lonsdale and

was empty 75% of the time. This scan zone contained a playground secluded off to one side by itself. Scan Zone 4 was the most utilized scan zone and was only empty 25% of the time. This scan zone contained the pavilion and the large, open field space.

Lonsdale Park was most utilized on Wednesday and least used Monday, closely followed by Sunday. A display of this information can be seen in Figure 6 below. Weekdays were empty 54.2% of all weekday scans, while weekends were empty 50% of all weekend scans. These numbers do not follow what was found for Knoxville City with 59.1% of weekday scans empty and 64.1% of weekend scans being empty (Fitzhugh, E.C, & Barroso C.S., 2019). This information is displayed in Figure 7 below.

Figure 6: Lonsdale Park use per day

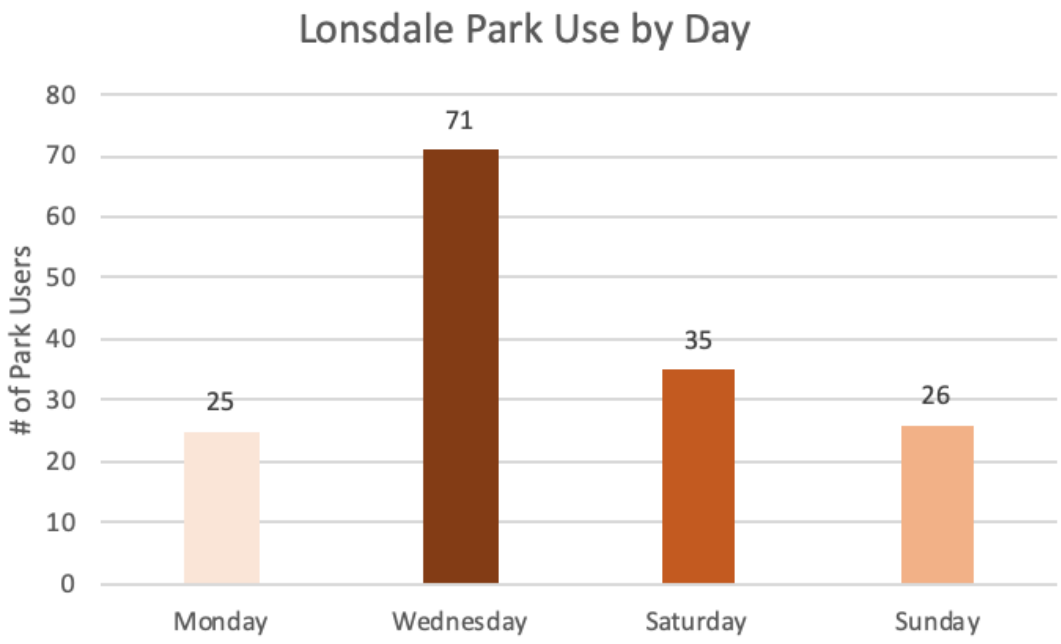
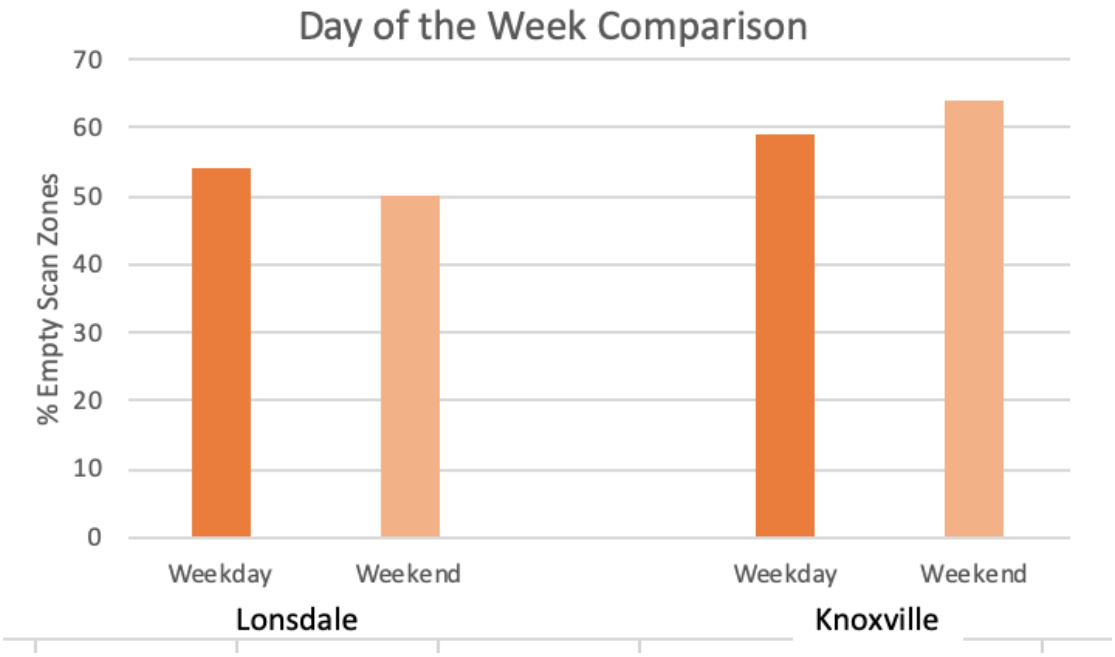


Figure 7: Lonsdale compared to Knoxville Parks as a whole for day usage



Along with this, Lonsdale was most utilized during the "Evening" observation time and least utilized in the morning. This information is displayed in Figure 8 below. The morning scan zones were empty 75% of the time, the lunch scans were empty 68.7% of the time, and evening scans were empty only 12.5% of the time. This mimics data collected in Knoxville overall. Fitzhugh, E.C, & Barroso C.S., 2019). This comparison is shown below in Figure 9.

Figure 8: Number of Park Users at Lonsdale Park by time of day

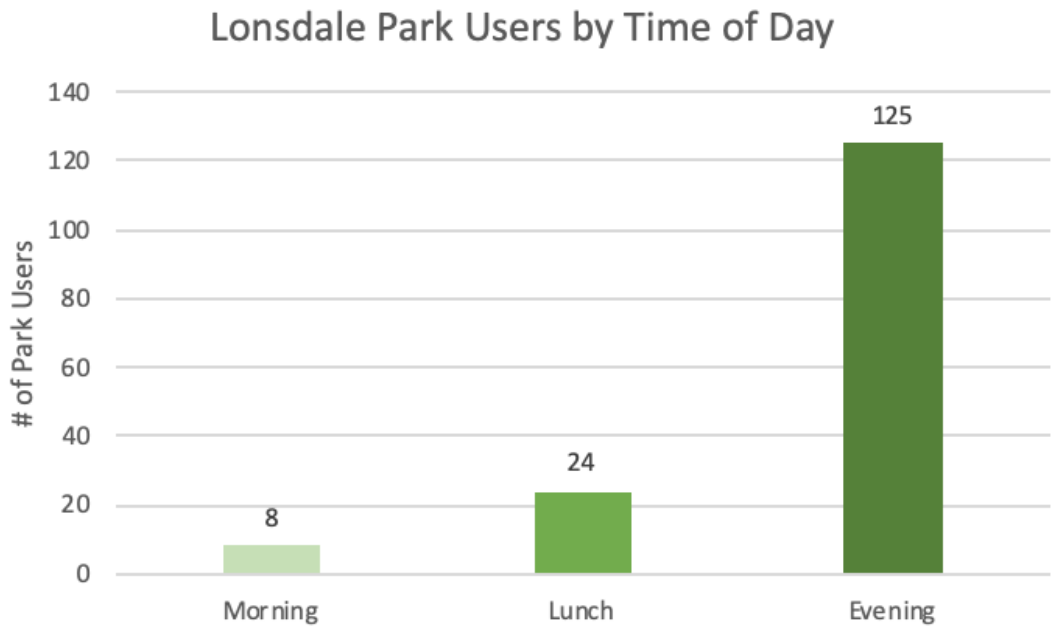
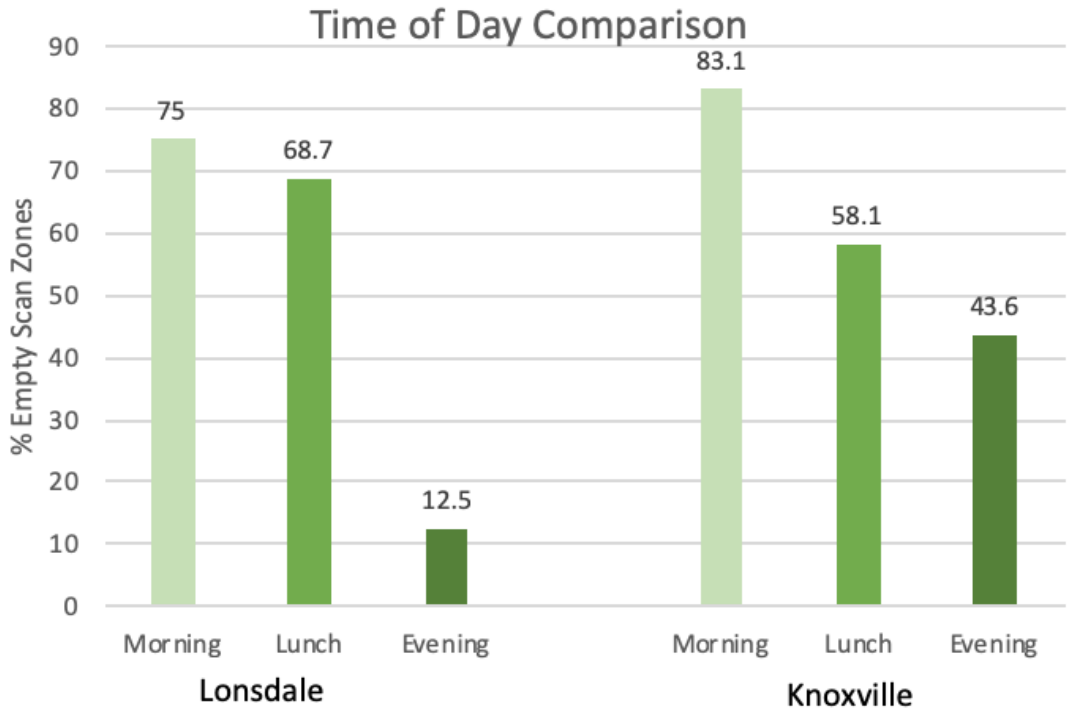


Figure 9: Percent of Empty Scan Zones compared between Lonsdale and Knoxville as a whole



2. What type of physical activities are residents doing when they visit a local neighborhood park?

Table 1 provides a list of the primary activities observed at Lonsdale Park during the observation period in Spring 2019. This list is in alphabetical order and does not signify quantity of participants in any way.

Table 1. Primary activities observed at Lonsdale Park

Moderate-Vigorous Activities
Basketball
Climbing/sliding (playground)
Football
Kickball
Soccer
Swinging
Tag/chasing games
Walking

Sedentary Behaviors
Picnic
Sitting
Sitting/Supervision
Standing

The most common physical activity at Lonsdale Park was climbing/sliding, or playground play. This is not surprising since there are two playgrounds in the park. The basketball courts were also highly used at Lonsdale Park, but there was no other equipment provided so park users had to bring their own ball to play with. Further, the open space was utilized to play soccer and kickball multiple times, but park goers had to bring their own equipment for this as well. The most common sedentary behavior at Lonsdale Park is sitting, specifically while supervising play.

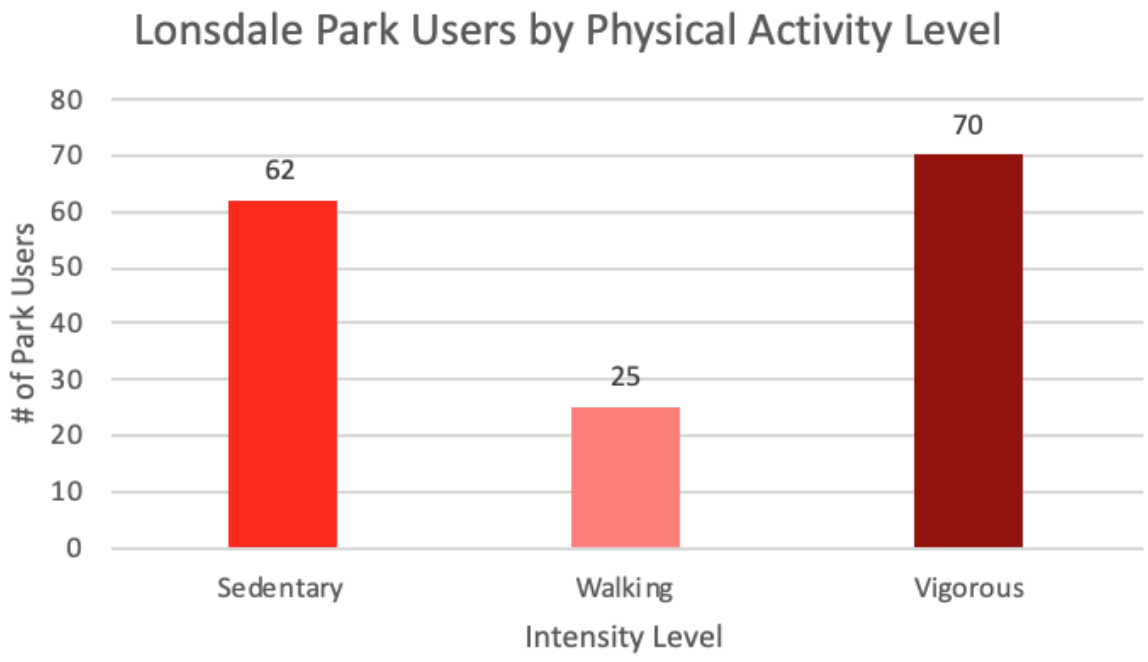
This is similar to the data from all Knoxville Parks. Climbing/sliding physical activity (playground activities) was the second most common activity for both males and females overall. Further, it was found that sitting was the third most common activity overall and the most common sedentary behavior, (Fitzhugh, E.C, & Barroso C.S., 2019).

3. What portion of park visits to local neighborhood parks are 'active visits'?

For a visit to be considered active, one must be performing an activity that is moderate to vigorous in intensity. Walking is considered moderate intensity, while things like jogging, sports-related activities, and playground activities are considered vigorous intensity. Sedentary behaviors include things like sitting and picnicking, which would not be considered an active visit, (Fitzhugh, E.C, & Barroso C.S., 2019).

A majority of Lonsdale Park users were performing vigorous activity (44.6%). Sedentary behavior was the next most common behavior at the park at 39.5%. Walking (or moderate physical activity) was the least prevalent action at Lonsdale at only 15.9%. This data can also be seen by number of users in Figure 10 below.

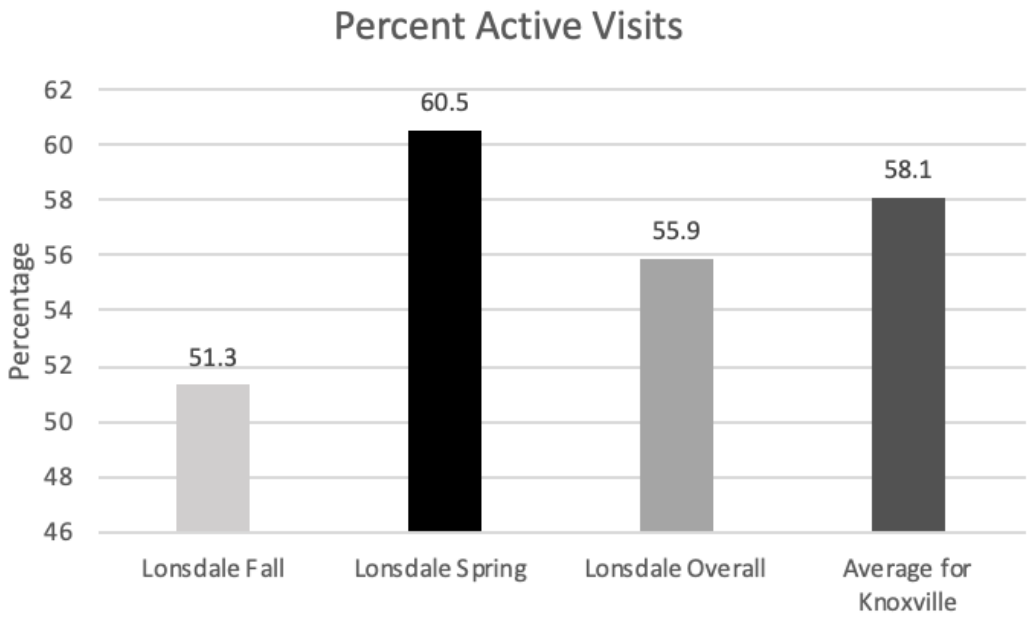
Figure 10: Lonsdale Park Users by level of physical activity



Lonsdale Park was the 8th most active park in the study with 55.9% of visits being active for the entirety of the study. More specifically, 60.5% of visits were active visits during my observation in Spring 2019, and 51.3% of visits were active during Fall 2018. The average for all parks in the study was 58.1% of visits being considered active, with a range from 35.2% to 78.5%, (Fitzhugh, E.C, & Barroso C.S., 2019). This data can be seen in Figure 11 below.

As shown, during the Spring, Lonsdale was more active than during the fall, and actually ranked 6th overall with this data. Further, Lonsdale was more active during the spring than the average Knoxville park.

Figure 11. Percent Active Visits compared between Lonsdale Fall 2018, Spring 2019, Overall Lonsdale, and Average for Knoxville Parks.

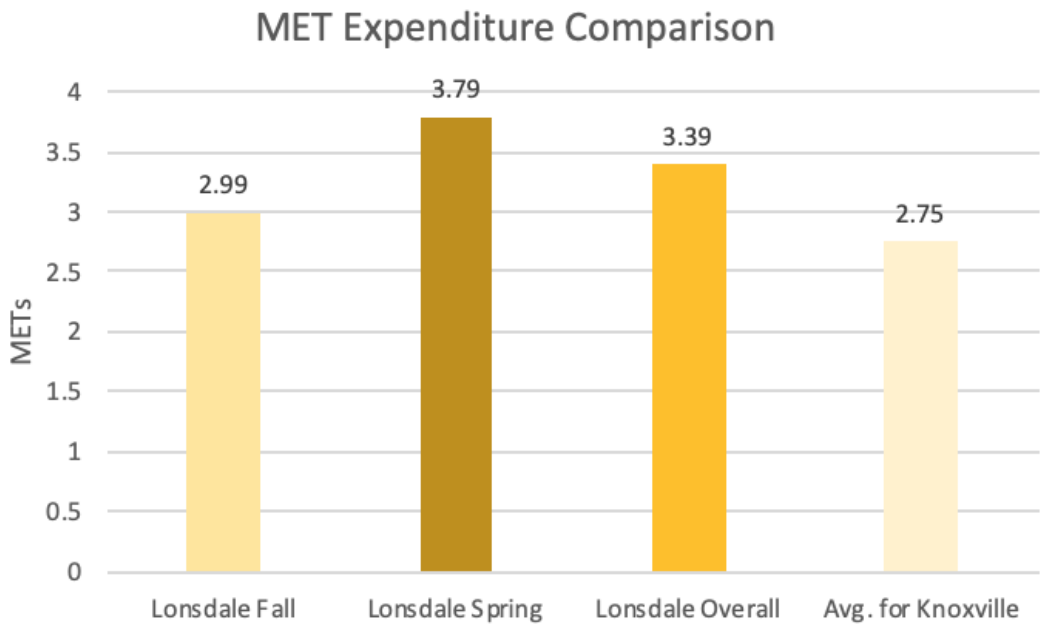


Further, the intensity of physical activity at the parks were compared using METs. The higher the MET value the higher the intensity of physical activity. For this study, 1.5 METs were used for sedentary activities, 3.3 METs for moderate activities, and 6 METs for vigorous activities.

Lonsdale Park ranks second highest for physical activity intensity with a MET average of 3.39 METS for the study overall. The average MET value during Spring 2019 was 3.79 and only 2.99 during Fall 2018. The average MET value for all 12 parks was 2.75 METs, (Fitzhugh, E.C, & Barroso C.S., 2019). See Appendix C for a sample calculation of MET values.

While Lonsdale did not attract the most visitors over the four days of observation, those who did come to the park were performing more vigorous activities. This statistic is important in showing how vital the park is to the residents getting physical activity in this area.

Figure 12. Comparison of MET Expenditure between Lonsdale in Fall 2018, Spring 2019, Overall, and Knoxville.

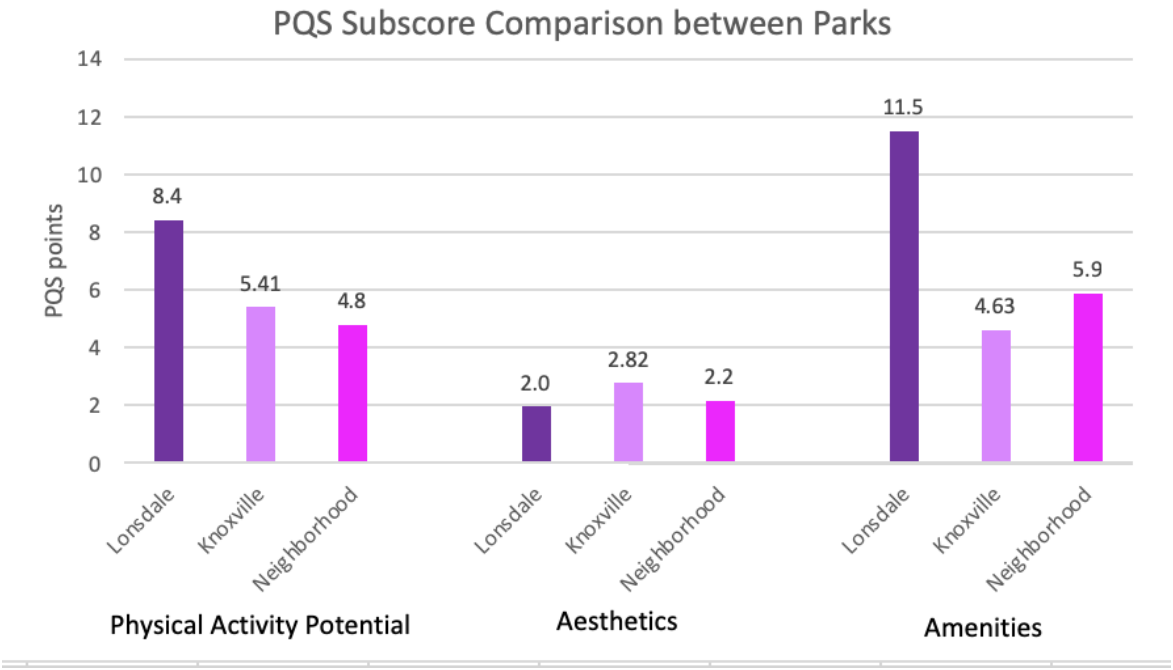


4. What park features and amenities attract the most people?

The Park Quality Score (PQS) for Lonsdale Park is 22.0 out of a possible 65 points. This score is determined by using the EAPRS method and scoring tool and looking at physical activity potential, aesthetics, and amenities of the park. Physical activity potential reflects the assets of the park that promote physical activity, such as open space, walking paths, playgrounds, and athletic courts. Aesthetics was calculated by looking at the visual features of the park like landscaping and streams. The amenities score incorporates the presence of items such as seating, restrooms, parking, and other things, (Geremia, Cain, Conway, Sallis, & Saelens, 2019) The sub-scores for Lonsdale's PQS are 8.4 for physical activity potential, 2.0 for aesthetics, and 11.5 for amenities, (Fitzhugh, E.C, & Barroso C.S., 2019.

Lonsdale's PQS score is 6.5 higher than the average for City of Knoxville Parks as a whole (15.5 out of 65). It is 9.2 points higher than other Neighborhood Parks (12.8 out of 65). Further, Lonsdale ranks 20th out of 94 total parks within the Knoxville park system, (Fitzhugh, E.C, & Barroso C.S, 2019). The comparison for each sub-scoring category between Lonsdale, other neighborhood parks, and Knoxville can be seen below in Figure 13.

Figure 13. Sub-score Comparison for Lonsdale, Neighborhood Parks, and Knoxville



As discussed above, the basketball courts, playgrounds, and pavilion were heavily used by the people of Lonsdale. This fits similarly with what was found for the City of Knoxville: playgrounds were the most used, while athletic courts were also highly used, (Fitzhugh, E.C, & Barroso C.S., 2019). Along with this, many adults came to the park with their children so they could supervise while the children play on the playground.

Conclusions:

Conclusion One: Lonsdale Park is highly used by the surrounding area. There is only one small parking lot in front of the community/recreation center, but this was rarely full. This shows that most of the people using the park got there on foot. Along with this, I actually witnessed a number of people walking from the surrounding homes into the park.

Lonsdale was the 5th most used park out of the 12 parks in the study despite the fact that it is a smaller, neighborhood park. It was preceded only by community parks and special-use parks. This is not a surprising finding since it has been found that larger, community parks "appeal to more users because of the diverse range of possible physical activities," (Fitzhugh, E.C, & Barroso C.S., 2019). However, this finding shows how highly trafficked Lonsdale Park is in comparison to other neighborhood parks and even to larger parks. The demographics of those using the parks differs greatly from the entirety of Knoxville, so it should be a priority to include African American and Latino people in discussions about how to go about the future of Lonsdale Park. Since it is implied that most of those using the park are residents living nearby, it is important to keep Lonsdale Park running smoothly, even during the transition phase. The need for the following is obvious to ensure the park continues to be used:

- Careful consideration of the most used facilities in the park
- The importance for regular maintenance and upkeep of the park (cleaning and repairs to amenities)
- The need for regular updates to the park (adding amenities or taking away unused amenities)

Conclusion Two: Those who use Lonsdale Park are more active than those using other parks. Regardless of the fact that Lonsdale did not attract the greatest number of people, those that chose to use Lonsdale Park did so at a higher physical activity level than other, more frequented parks. This follows along with the idea that people in low-income areas may rely on local parks as a primary source of physical activity. Lonsdale was more utilized in the Spring than the Fall, and those users were much more active than the fall users. This could be due to differences in weather, since it is much warmer in the fall than in the spring in this area. If there were more opportunities for shade and better hydration stations, this may not propose an issue in the future. Despite the fact that no equipment was provided, and no supervised games or activities occurred, the park was utilized at high intensities. However, if organized events were to take place here, as a part of Knoxville Parks and Recreation or possible nonprofit groups like Thrive, even more people in the area may be inclined to participate in physical activities. Since this is a lower income area, some people may be deterred from using the facilities because they lack access to desired equipment, like basketball or soccer balls. If there was a system for renting out equipment, possibly from inside the community/recreation center nearby, more people may be inclined to use the park.

Conclusion Three: The layout of Lonsdale Park seems to hinder certain activities. Scan Zone 4 was the most utilized scan zone, but there are a few issues with this area that, if changed, could greatly improve the park and increase physical activity levels even more. First, the green, open space in this area has a large slope to it. During my time at Lonsdale, I witnessed many groups of children attempt to play kickball and soccer in this area. However, the slope of the field created issues for the game and many times the children were getting frustrated. Further, the green space

is broken up on three sides by the walking path and Third Creek. This made it very difficult for participants to play a full-sized game of any sport. Moreover, the walking path at Lonsdale is very short at only 0.3 miles long, with the actual loop portion only 0.2 miles. This was one of the least utilized pieces of the park and created a hindrance for games in the open space. When planning the layout of the new Lonsdale Park, it may be important to think about how the layout of the walking path affects the physical activity potential of other areas of the park. Since it has been shown that walking paths ultimately increase physical activity of parks, I do not think the path should be taken away completely. A perimeter walking path may be an option.

Conclusion Four: A very small percentage of teenagers and no elderly adults utilized the Lonsdale Park. The park is designed mostly for children and able-bodied adults, so elderly people may feel there is nothing they can do at the park besides walk around or sit. Since the walking path is very short, they may get bored or feel they are wasting their time. If the walking path was improved or more amenities were added that were targeted at elderly adults, elderly may be more inclined to use the park. Another reason could be that the surrounding area is made of mostly younger families with school-age children as shown by the issue of overcrowding, so there are not many elderly people within walking distance of Lonsdale. Along with this, the lack of teenagers using the park may be explained by the same thing. Most teenagers do not play on playgrounds and would only play a game of soccer or another field sport if they had room to play a full-size game. If the issues with the green space were fixed, and in turn the walking path was moved and made longer, more teens may be more prone to using the park. It may be helpful to look at the data from park that had higher levels of elderly and teens using the park to see what attracted them. Further, another explanation for the lack of teens is that, at teenager age, they are

more likely to have more responsibilities with school, sports, or even a job, so they do not have time to spend at the park. As stated earlier, the families I saw in the area were mostly made up of parents and young children, so the issue may be that there are not many teenagers in the area to use the park. Either way, the community center or Knoxville Parks and Recreation can create programs to increase awareness and interest in these age groups to increase physical activity.

Conclusion Five: Lonsdale Park is not designed to allow parents to supervise their children and participate in physical activity themselves at the same time. At Lonsdale Park, most of the parents of younger children playing on the playground were completely sedentary. This may be due to the fact that one cannot see the playground from the entirety of the walking path, so parents may not be comfortable if they can no longer see their child. If this feature was changed to where you could see the playground from all angles of the walking path, supervising parents may be more likely to walk instead of sitting while their child plays. Another reason for this could be that there are no other amenities around the area to promote physical activity. With the impending move of Lonsdale Park to a new location, these may be things worth considering when planning the layout of the park.

Conclusion Six: As implied by certain members of focus groups and key informants, there may be tensions between different ethnic minorities and rising issues with gangs in Knoxville Parks. Certain residents indicated they have feelings of being displaced by other ethnicities using the parks. "African-American participants disclosed feelings of being discouraged from park use, and reported resentment toward Latino-American park users, who use the parks heavily," (Fitzhugh, E.C, & Barroso C.S., 2019).

Since Lonsdale Park is mostly used by African Americans and Latinos, the feelings of being displaced could cause issues with park use in the future. If the Latino population in the area continues to rise, the African American population may feel discouraged from using the park and may stop altogether. That being said, during my time at Lonsdale, I never saw any issues arise between any of the park users nor did I witness any gang-related activities. However, this does not mean that these problems are not occurring in the area. The best way to combat these feelings is through education about cultural differences and cultural respect.

Recommendations:

During this time of transition, it is important to take many things into account to ensure that the residents of Lonsdale do not miss physical activity and do not feel displaced from the park that they care about. My biggest recommendation and plea is that the land of Sam E. Hill is used for a new and improved version of the beloved Lonsdale Park. Along with this, it is important to take specific things into account to ensure that this park continues to be used at high volumes.

1. First and foremost, it is vital that this transition is done in a timely manner. From the time that the current Lonsdale Park is shut down until the time the new park is up and running, it is likely that most people in the area will be sedentary. Working efficiently but safely should be a priority.
2. Since the people using the park are mostly African American and Latino, it is important to hear from these people directly about how they feel and what they want. Creating specific interview groups or appointing people of color to the board overseeing the transition could be fundamental in ensuring the park is used at the same frequency as before.
3. From this study, it was shown that playgrounds, basketball courts, pavilion, and field space are most utilized by the surrounding community. This being said, it would make the most sense to ensure that these amenities are also available at the new park. Further, implementing rental programs to allow people to access needed equipment or organizing intermittent supervised games may intrigue more members of the community to use the park. To increase the use of other features of the park, updates and new plans may need to be made as discussed below.

4. There were a few things at Lonsdale Park that created a hindrance to park use and overall physical activity. These things should be taken into consideration when planning the layout of the new park. The walking path should either be extended to be longer (such as a perimeter path) or created to be similar to a track in which you can run a certain number of laps to equal a mile. Further, the placement of playgrounds should be such that parents can see children from all angles of the park. Another idea for increasing physical activity for parents supervising their children could be adding a feature near the playground that allows for exercise, such as a calisthenics station.
5. Since the new land the park will be on is larger, a full-size soccer field or kickball field seems possible. It may be productive to place either soccer goals or bases in a designated area to increase the likelihood of the area getting used. This would require very little maintenance besides mowing every couple of weeks and could increase physical activity of people of most ages immensely. This could also be used for community leagues through the Parks and Recreation Department in the future and increase the use of the entire community.
6. To increase the use of Lonsdale Park during the fall and other hotter times, it may be beneficial to implement more opportunities for shade and place functional hydration stations throughout the area. While Lonsdale Park currently has a few water fountains, I found that they were not functional on the days I was there. Along with this, constructing a parking lot may be beneficial to attract people from further away who may be deterred from visiting the park due to a long walk.
7. Education programs in the area about the importance of physical activity, available resources at the park, and ethnic/cultural respect could increase the community's use of

the park and ultimately decrease their risks for diseases. Signs or fliers about the benefits of physical activity throughout the park may increase park-goers likelihood to be active during their time there. Placing these signs around areas that attract sedentary behavior, such as benches where parents would sit watching their children play or in the pavilion, would be most effective. Further, creating community events that allow different ethnicities to interact with one another in a neutral environment may aid in decreasing the racial tension in the parks. Since the park is being moved away from the currently existing community/recreation center, it will need to be decided if this will be moved as well, if a new building will be designated, or if the center will stay apart from the park. Although I did not see many people actively going into the center (I was not necessarily paying attention), this could be a good resource for many of these educational programs to funnel through.

References:

City-Data. (2016). *Lonsdale Neighborhood in Knoxville, Tennessee.* Retrieved November 14, 2019 from http://www.city-data.com/neighborhood/Lonsdale-Knoxville-TN.html

City of Knoxville. (2018). *Lonsdale Park.* City of Knoxville Parks and Recreation. Retrieved November 14, 2019 from http://knoxvilletn.gov/government/city_departments_offices/parks_and_recreation/parks/lonsdale_park

Fitzhugh, E.C, & Barroso C.S. (2019). *Physical Activity in the City of Knoxville Parks: Findings and Recommendations for Public Health. Knox County Health Department;* Knoxville, TN.

Geremia, C. M., Cain, K. L., Conway, T. L., Sallis, J. F., & Saelens, B. E. (2019). Validating and shortening the environmental assessment of public recreation spaces observational measure. *Journal of Physical Activity & Health, 16*, 68-75.

Nelson, K. L. (2019, September 4). *City, County considering property swap for new Lonsdale Elementary School.* KnoxNews. Retrieved November 20, 2019 from https://www.knoxnews.com/story/news/education/2019/09/04/knoxville-knox-county-considering-property-swap-new-lonsdale-elementary-school-sam-e-hill-park/2214534001/

The Trust for Public Land. (2019). ParkScore. Retrieved from http://parkscore.tpl.org/#sm.0000qxppbnai1doftjt19ok1eeyef

City of Knoxville. (2018). *Lonsdale Park Greenway.* City of Knoxville Parks and Recreation. Retrieved November 19, 2019 from

http://knoxvilletn.gov/government/city_departments_offices/parks_and_recreation/greenways_trails/lonsdale_greenway

U.S. Department of Health and Human Services. (2018). *Physical Activity Guidelines for Americans, 2nd edition*. Washington, DC. https://health.gov/paguidelines/second-edition/pdf/Physical_Activity_Guidelines_2nd_edition.pdf

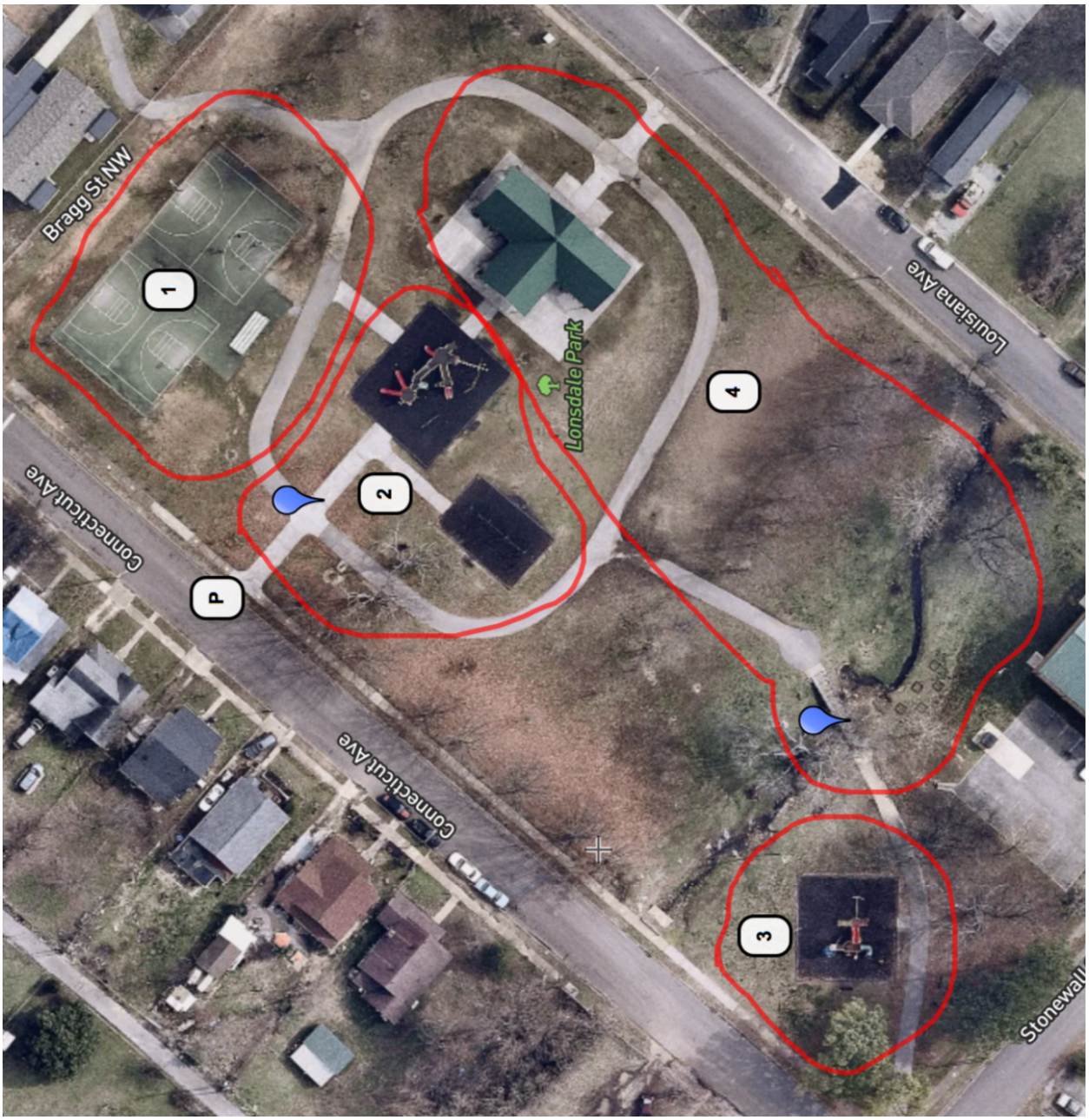
WATE Staff. (2019, October 16). *School Board approves Lonsdales Park land swap proposal.* WATE. Retrieved November 20, 2019 from https://www.wate.com/news/school-board-approves-lonsdale-park-land-swap-proposal/

Appendices:

Appendix A: Location of land swap for Lonsdale Elementary School construction



Appendix B: Scan Zones at Lonsdale Park



Appendix C: SOPARC data collection sheet

DATE _____ PARK ID # _____ OBSERVER ID # _____ PERIOD: ☐ Morning ☐ Lunch ☐ Afternoon ☐ Evening

TARGET AREA _____ START TIME _____

Target Area # _____ Subtarget Area # _____

CONDITIONS OF TARGET AREA

Accessible (e.g., not locked or rented to others) ☐ Yes ☐ No
Usable (e.g., is not excessively wet or windy) ☐ Yes ☐ No
Equipped (e.g., removable balls available) ☐ Yes ☐ No
Supervised (e.g., not locked or rented to others) ☐ Yes ☐ No
Organized (e.g., team sporting event) ☐ Yes ☐ No

Dark (e.g., insufficiently lit) ☐ Yes ☐ No
Empty (i.e., scan area is empty) ☐ Yes ☐ No

Comments:

PEOPLE	ACTIVITY	AGE GROUP				ETHNICITY					ACTIVITY LEVEL			
		Child	Teen	Adult	Old	L	B	W	O		S	W	V	
Participants	**Primary Activity**													
Female														
Male														
Participants	**Secondary Activity**													
Female														
Male														
Spectators	**Organized Activity**													
Female														
Male														

Fitness Related Codes:
aerobics (dance/step aerobics)
fitness stations
jogging/running
strengthening exercises (pull ups)
walking

Sport Related Codes:
baseball, basketball, cheer leading, dance, football, gymnastics, handball, horseshoes, soccer, tennis/racquet, tetherball, volleyball

Active Game Related Codes:
climbing/sliding
jumping (rope, hop scotch)
manipulatives/racquet
tag/chasing games

Sedentary Related Codes:
chess/checkers/cards
lying down
picnic (food involved)
reading
standing
sitting

SOPARC Data Collection Form, Revised 6/24/04

Appendix D: Calculation of MET values for Lonsdale Park

62 sedentary people x 1.5 METs = 93 METs

25 moderate PA people x 3.3 METs = 82.5 METs

70 vigorous PA people x 6 METs = 420 METs

TOTAL = 595.5 METs

Sedentary percentage: 93 / 595.5 = 15.6%

Moderate percentage: 82.5 / 595.5 = 13.8%

Vigorous percentage: 420 / 595.5 = 70.5%

Average METs: 595.5 METs / 157 people = 3.79 METs