



South Oak Cliff Renaissance Park Methods

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This investigation was conducted as part of the Landscape Architecture Foundation's 2024 *Case Study Investigation (CSI)* program. CSI matches faculty-student research teams with design practitioners to document the benefits of exemplary high-performing landscape projects. Teams develop methods to quantify environmental, social, and economic benefits and produce Case Study Briefs for LAF's *Landscape Performance Series*.

The full case study can be found at: <https://landscapeperformance.org/case-study-briefs/south-oak-cliff-renaissance>

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Table of Contents

1. Research Strategy.....	02
2. Environmental Benefits.....	05
• Water: Stormwater Management	
• Water: Water Conservation	
• Habitat: Populations & Species Richness	
• Carbon, Energy, & Air Quality: Energy Use	
3. Social Benefits.....	06
• Recreational & Social Value	
• Health & Well-Being	
• Safety	
• Educational Value	
• Access & Equity	

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Research Strategy

South Oak Cliff Renaissance Park is a community green space located within a three-minute walk of South Oak Cliff High School in Dallas. The park's site was once home to two long-standing neighborhood concerns: an overgrown creek behind the high school that was filled with litter and a vacant lot across the street that was frequently used for illegal dumping. In 2018, the Trust for Public Land (TPL) partnered with the high school and local residents to address these issues. After a year of community engagement, TPL purchased the vacant lot in 2019 and began its transformation into a park designed to meet the community's needs.

Figure 0.1: Contextual Map. Source: Studio Outside



Historical Context and Regional Challenges

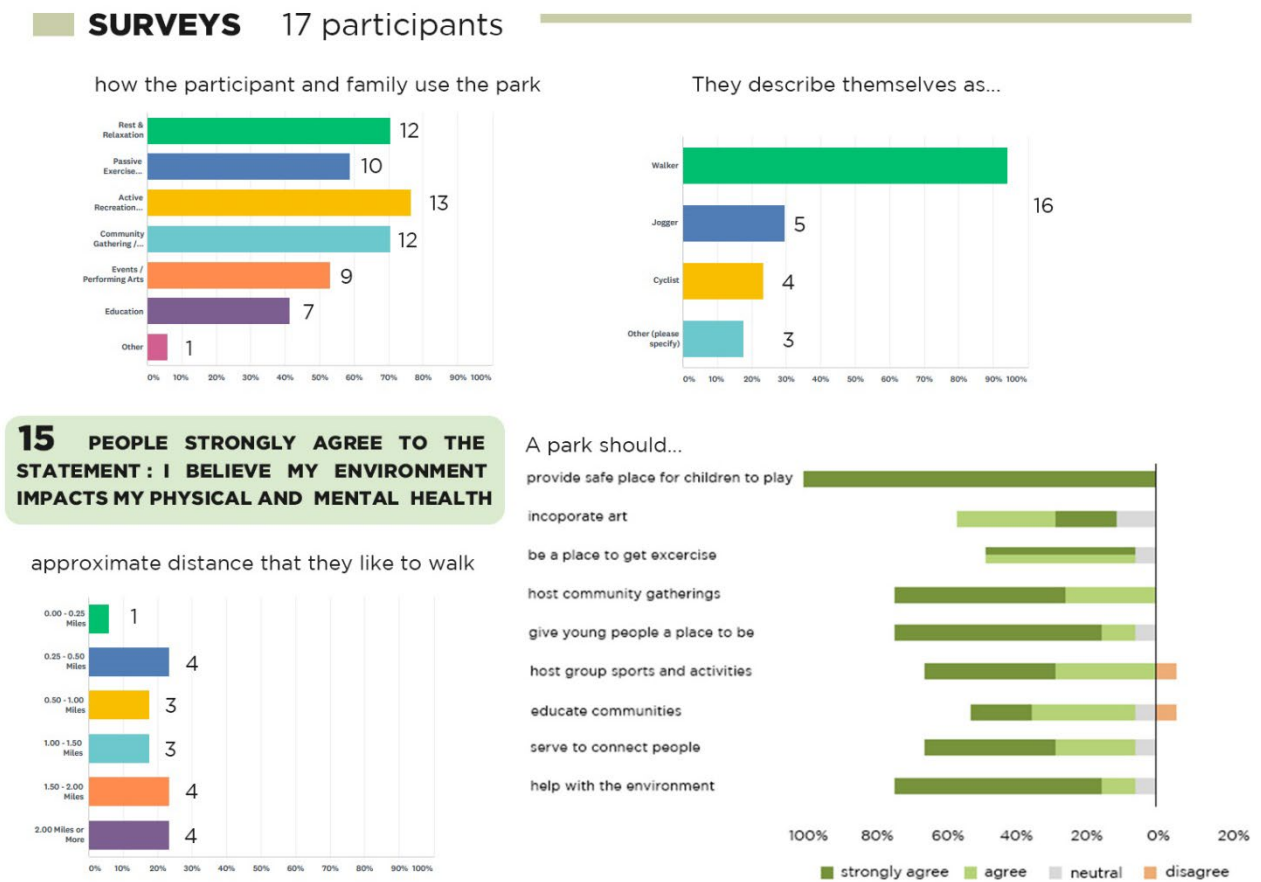
Understanding the history of South Dallas is essential to the context of this project. The area has faced decades of redlining and disinvestment, challenges that are especially pronounced in its southern neighborhoods. Research shows that regions historically marked as “declining” or “hazardous” due to redlining still experience higher levels of economic decline and lower household incomes.

In 2015, students from South Oak Cliff High School staged a walkout to protest their school’s poor conditions, leading to increased investment in the community. These efforts culminated in the opening of a newly constructed high school campus in 2020.

Project Development

The development of the park began with a comprehensive examination of the community's social history, which informed the project's goals and the metrics used to assess its social benefits. This process included engaging with the community through surveys and meetings with local residents and stakeholders, conducting site visits, and performing secondary data research in collaboration with the school district and the Trust for Public Land (TPL). Based on community engagement data, community members wanted the park to be a place for rest and relaxation, active recreation, community gatherings, passive exercise, and a safe place for children to play. The TPL survey received 17 responses. Coincidentally, this is the same number of responses received by the CSI research team in the 2024 survey.

Figure 0.2: Survey Responses from the Community Engagement Process. Source: Trust for Public Land



Broader Goals and Environmental Impact

In addition to meeting community needs, the park was designed to serve as an anchor for the Five Mile Creek Greenbelt Parks, protect natural areas, and incorporate features to slow and clean runoff into Alice Branch Creek. Collaboration with Studio Outside helped develop metrics for evaluating these benefits, using both online and on-site data. South Oak Cliff Renaissance Park now stands as a symbol of community resilience and a model for neighborhood-driven green space development.

The research approach began with an exploration of the unique and diverse history of South Oak Cliff to identify the key drivers of park development. This involved analyzing the community's social dynamics and their impact on the park's design, which shaped the survey questions and metrics used to measure social benefits. The process included site visits, secondary data research, and consultations with representatives from the school district and the Trust for Public Land. With a clear understanding of the park's historical and social context, the research team partnered with Studio Outside to develop metrics for the study, utilizing a combination of online and on-site data to assess the benefits of South Oak Cliff Renaissance Park.

Research strategy for Social Benefits includes the following methods:

Social Benefits	Methods
Recreation & Social Value	Ethogram, Azira software, Online survey
Access & Equity	Online survey
Health & Well-Being	Census tract data, Online survey
Safety	Dallas Police Department GISdata

Research strategy for Economic Benefits includes the following methods:

Economic Benefits	Methods
Construction Cost Savings	Trust for Public Land data

Research strategy for the Environmental Benefits includes the following methods:

Environmental Benefits	Methods
Populations & Species Richness	iNaturalist, Merlin Bird ID
Water Conservation	EPA conservation data, U.S. Dept. of Energy data
Stormwater Management	i-Tree, Trust for Public Land data
Energy Use	EPA Greenhouse Gas Calculator, U.S. Energy Information Administration data

Environmental Benefits

- **Captures an estimated 731 cu ft of stormwater runoff in rain gardens and intercepts an estimated 13,541 gallons of stormwater runoff annually in tree canopies.**
-

Background:

The park's topography and the surrounding properties make its ability to capture stormwater and the functionality of its landscape along the creek crucial for restoring the riparian zone and enhancing habitat diversity. The park's design includes rain gardens, bioswales, and vegetated filter strips to slow down water before it enters the creek. Additionally, preserving the existing trees on the site was essential to reinforcing the site's ability to capture stormwater before it reaches the creek.

Figure 1.1: Green infrastructure Map. Source: Studio Outside



Method:

Evaluation of stormwater runoff diverted and captured in the rain garden data collected by Trust for Public Land and onsite observation during rain event. Pre-construction runoff conditions were also estimated.

Evaluation of cubic feet of stormwater runoff diverted and captured from tree canopy was determined using i-Tree. The land use, existing tree species, planted tree species, and caliper inches during construction were entered into i-Tree.

Calculations:

Rain garden calculations:

Maximum Runoff Volume

Rain Garden 1: 512.00 Cubic Feet

Rain Garden 2: 219.00 Cubic Feet

= 731 Cubic Feet of stormwater capacity

Tree stormwater capture calculations

Table 1.1: Existing Trees Preserved

Quantity	Species	Caliper
5	Cottonwood spp. (Populus)	38, 14, 22, 15, 18
1	Oak (Quercus)	16
10	Osage orange (Maclura pomifera)	10, 24, 13, 25, 14, 18, 13, 20, 30, 10
7	Pecan (Carya illinoensis)	9, 18, 9, 18, 18, 18, 16
11	Elm spp. (Ulmus)	6, 11, 12, 12, 12, 27, 19, 19, 12, 28, 12
18	Ash spp. (Fraxinus)	25, 8, 10, 8, 12, 8, 9, 8, 6, 7, 8, 6, 14, 10, 15, 15, 15, 10
2	Willow spp. (Salix)	9, 16
3	Cedar (Juniperus virginiana)	9, 10, 11
2	Hackberry spp. (Celtis)	11, 16

Table 1.2: Trees Planted

Quantity	Common Name	Botanical Name	Caliper
9	Bur oak	Quercus macrocarpa	3"
2	Possum haw	Ilex decidua	B&B
6	Eve's necklace	Styphnolobium affine	B&B

Table 1.3 i-Tree Results

Quantity	Species	Avoided Runoff (gal/yr)
5	Cottonwood spp. (Populus)	1,991.62
10	Oak (Quercus)	540.77
2	Possum haw	10.61
10	Osage orange (Maclura pomifera)	2,644.94
7	Pecan (Carya illinoensis)	1,183.43
11	Elm spp. (Ulmus)	2,655.72
18	Ash spp. (Fraxinus)	3,240.89
2	Willow spp. (Salix)	373.63

3	Cedar (<i>Juniperus virginiana</i>)	372.47
2	Hackberry spp. (<i>Celtis</i>)	526.65
Total		13,540.74 (gal/yr)

Sources:

Rain garden data is from Trust for Public Land

i-Tree Eco v6.0.27. Accessed July 2024 <https://www.i-Treetools.org/tools/i-tree-eco/i-tree-ecooverview>

Limitations:

- i-Tree calculations are based on the DBH of the trees listed on the tree survey for the construction documents created in 2021. The i-Tree user-designated weather station reported 31.0 inches of total annual precipitation. i-Tree uses hourly measurements that have the greatest total rainfall or user-submitted rainfall if provided.

- ***Saves an estimated 830,105 gallons of water per year and uses 82% less water for irrigation than comparable City of Dallas parks.***

Background:

South Oak Cliff Renaissance Park was developed with 20 different species of native, drought-tolerant plants. The park has four rain gardens located at two different entry points to help with surface runoff, and a lawn that is 10% of the entire park area.

Table 2.1: Landscape Areas in Renaissance Park





Note: Area locations can be found in Figure 1.1

Neighborhood parks of similar size in Dallas are at least 40 years old. While some have had updates to their amenities and equipment, the landscapes are mostly outdated, consisting primarily of sod with little to no planting areas.

Method:

A comparative analysis was conducted to quantify reduced water use based on the installed plant material and the irrigation needed to maintain the landscape. The CSI team selected Dallas parks similar in size and type to Renaissance Park for comparison. Using GIS park data from the City of Dallas, they identified all parkland areas and narrowed the selection to neighborhood parks with similar acreage.

Table 2.1: Table showing four Dallas parks selected for comparison.

PARK NAME	ADDRESS	PARK TYPE	DATE ACQUIRED	ACRES
South Oak Cliff Renaissance Park	403 Overton Rd	Neighborhood	2021	1.84
Cherrywood	5400 Cedar Springs	Neighborhood	1939	1.99
Crockett	Carroll & Victor	Neighborhood	1988	1.81
Frances Rizo	2300 Kenesaw	Neighborhood	1977	1.95
McCree East	1100 McCree	Neighborhood	1974	1.95

The Guidelines for Estimating Unmetered Landscaping Water Use was used to estimate water use for Renaissance Park and the comparison parks. The following steps were used:

1. First, identify a city/climate zone that is the best match to the Dallas location. To do so the EPA Water Budget Data Finder was used to determine the peak water month (July) and evapotranspiration (8.93 inches/month) and rainfall (1.69 inches/month) values using the park’s zip code (75216). Those numbers were used to select San Antonio, a city in the Humid Southern climate zone that has a peak evapotranspiration and rainfall numbers that are most similar to Dallas.

2. Estimate the irrigated area. The CSI team used aerial imagery.

Table 2.2: Table showing the parks' landscape areas

Park	Sod Areas (sf)	Native or Drought Tolerant Planting Areas (sf)	Native Seed Areas (sf)
South Oak Cliff Renaissance Park	≈ 8,398	≈ 4,192*	≈ 27,901
Cherrywood	≈ 78,414.05	N/A	N/A
Crockett	≈ 66,393.20	N/A	N/A
Frances Rizo	≈ 72,343.09	N/A	N/A
McCree East	≈ 19,357.20	N/A	N/A

Note: Native or drought-tolerant areas include rain gardens and bioswales

To determine the annual irrigation factor, select a city from the "Guidelines for Estimating Unmetered Landscaping Water Use" table. Dallas's peak rainfall numbers were compared to the closest city listed in the table, leading to the selection of San Antonio.

Table 2.3: Table showing the selected city (San Antonio) and Dallas, TX peak numbers.

Climate Zone	Location	Peak ET (in/mo)	Peak Rainfall (in/mo)
Humid Southern	Dallas, TX	8.93	1.69
Humid Southern	San Antonio, TX	8.42	0.87

3. Next, identify the turf or landscape type.

Table 2.4: Table showing landscape types of Renaissance Park and comparison parks.

Park	Sod Areas (sf)	Native or Drought Tolerant Planting Areas (sf)
South Oak Cliff Renaissance Park	Bermuda Grass Buffalo Grass	Blackland Prairie Seed Mix Shade Friendly Seed Mix Rain Gardens Bioswales
Cherrywood Park	Bermuda Grass	-
Crockett Park	Bermuda Grass	-
Frances Rizo Park	Bermuda Grass	-
McCree East Park	Bermuda Grass	-

Table 2.5: Table showing landscape types' water annual irrigation factor of humid southern climate

Park	warm season turf (gal/sqft/yr.)	low density protected microclimate (gal/sqft/yr.)	average density-open microclimate (gal/sqft/yr.)	high density intense exposure (gal/sqft/yr.)
Bermuda Grass	10.82	-	-	-

Buffalo Grass	10.82	-	-	-
Blackland Prairie Seed Mix (low water requirement)	These areas are not irrigated. Only temporary irrigation was to be provided upon installation.			
Shade Friendly Seed Mix (low water requirement)				
Rain Garden and Bioswales	-	1.58	6.93	18.82

4. Determine irrigation system efficiency. For landscapes that require a sprinkler system, the efficiency was estimated at 60% and for micro irrigation areas (bubbler systems) efficiency was estimated to be 80% based on the Alliance for Water Efficiency standards.
5. Multiply annual irrigation factor by irrigated area.
6. Divide the number by system efficiency.
7. This equals the annual landscape water use.

Calculations:

$$\text{Annual Landscape Water Use (gallons per yr)} = \frac{\text{Annual Irrigation Factor (gal/sqft – yr)} \times \text{Irrigation Area (sqft)}}{\text{Irrigation System Efficiency}}$$

South Oak Cliff Renaissance Park

Bermuda and Buffalo Grass areas - $10.82 \text{ (gal/sqft/yr.)} \times 8,398 \text{ sqft} \div 0.60 = 151,443.93 \text{ gal/yr}$

Rain Garden areas - $6.93 \text{ (gal/sqft/yr.)} \times 4,192 \text{ sqft} \div 0.80 = 36,313.2 \text{ gal/yr}$

Total - 187,746.93 gal/yr

Comparison Parks

Cherrywood - $10.82 \text{ (gal/sqft/yr.)} \times 78,414.05 \text{ sqft} \div 0.60 = 1,343,494 \text{ gal/yr}$

Crockett - $10.82 \text{ (gal/sqft/yr.)} \times 66,393.20 \text{ sqft} \div 0.60 = 1,137,536.82 \text{ gal/yr}$

Frances Rizo - $10.82 \text{ (gal/sqft/yr.)} \times 72,343.09 \text{ sqft} \div 0.60 = 1,304,587.05 \text{ gal/yr}$

McCree East - $10.82 \text{ (gal/sqft/yr.)} \times 19,357.20 \text{ sqft} \div 0.60 = 349,074.84 \text{ gal/yr}$

Average Water uses of comparison parks – 1,033,673 gal/yr

Sources:

<https://www.epa.gov/watersense/water-budget-data-finder>

Energy Efficiency & Renewable Energy Federal Energy Management Program. (2010, July). *Guidelines for Estimating Unmetered Landscaping Water Use*. From <https://www.energy.gov/femp/articles/guidelines-estimating-unmetered-landscaping-water-use>

Limitations:

- Area square footage for the comparison parks is based on estimated landscape areas based on site visits and using aerial imagery. Renaissance Park calculations were based on construction documents.
- Estimated water use is based on the metrics provided by the *Guidelines for Estimating Unmetered Landscaping Water Use*. Actual annual water usage of the parks was not used for the calculations.

-
- ***Provides habitat for at least 16 native bird species observed on-site, such as Northern cardinal and cedar waxwing, and at least 13 insect and pollinator species, such as the monarch butterfly and snowberry clearwing.***
-

Background:

South Oak Cliff Renaissance Park is located along Alice Branch, a tributary of Five Mile Creek that feeds into Trinity River. Prior to the park's construction, the site was a vacant lot with overgrown invasive plants along the creek. In 2019, a collaborative effort between the Trust for Public Land, Dallas-based volunteer organizations, and Studio Outside led to the removal of over 160 cubic yards of trash and invasive species from Alice Branch Creek, with the Trust for Public Land also organizing volunteer days to seed native grasses and wildflowers throughout the site.

The park's design preserved 47 of the 58 existing trees, including ash (*Fraxinus texensis*), pecan (*Carya illinoensis*), and cottonwood (*Populus deltoides*). Five non-native tree species, including mimosa (*Albizia julibrissin*), hackberry (*Celtis occidentalis*), and chinaberry (*Melia azedarach*), were removed.

Figure 3.1: Aerial imagery of the vacant lot in 2019 and the developed park in 2023.



Invasive Plants Removed

Chinese Privet, *Ligustrum sinense*

Waxleaf Ligustrum, *Ligustrum japonicum*

Tree of Heaven, *Ailanthus altissima*

Chinaberry, *Melia azedarach*

Chinese Pistache, *Pistacia chinensis*

Japanese Honeysuckle, *Lonicera japonica*

Nandina, *Nandina domestica*

Mimosa, *Albizia julibrissin*

Native Plants Seeded

Purple Coneflower

Lanceleaf Coreopsis

Golden-Wave

Clasping Coneflower

Cutleaf Daisy

Drummond Phlox

Black-eyed Susan

Winecup

Pigeonberry

Blue Curls

Pitcher Sage

Red Columbine

Blue Mistflower

Frostweed

Shiny Goldenrod

Butterfly Weed

Purpletop

Inland Sea Oats

Prairie Wildrye

Sideoats Grama

Virginia Wildrye

White Tridens

Texas Wintergrass

Plains Bristlegrass

The park is the first park to open under Trust for Public Land's Five Mile Creek Greenbelt Master Plan, a 2019 initiative to create a network of parks and 13 miles of trails in Oak Cliff, connecting to Dallas's existing trail system. The previously unused land along the creek now functions as a habitat, supporting a diverse array of native wildlife. The introduction of native Texas plants in the park has attracted many birds and pollinators, enhancing local biodiversity.

Method:

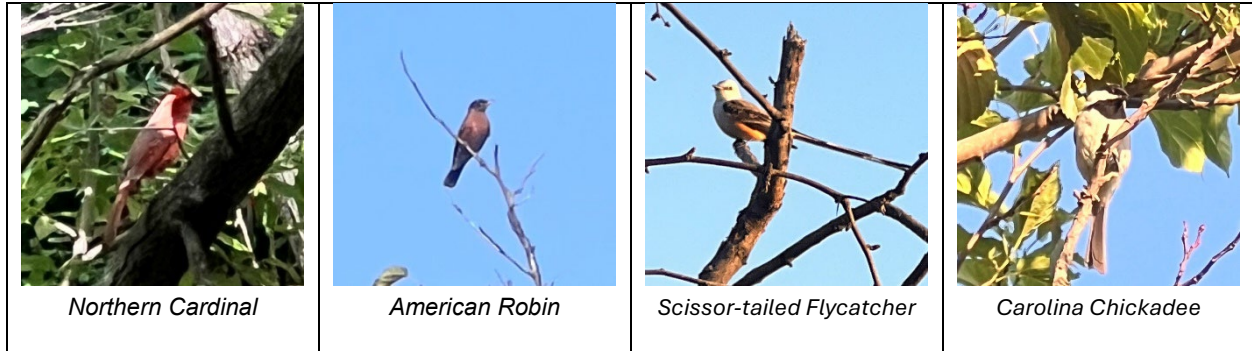
To assess the changes, the research team carried out independent research using the Merlin Bird ID app by Cornell Lab and the iNaturalist app to recognize potential species in the region prior to visiting the location. The observations were made by noting the birds and insects spotted while walking in the park. Also, bird sounds were recorded, and sketches were made to identify birds that were difficult to capture in photographs.

Equipped with the Merlin Bird ID app, iNaturalist app, field guide, notebooks, pens, and a camera, the research team conducted three observation sessions. The initial visit occurred on Saturday, February 24th at noon, the second on Friday, April 5th at 4:00 pm, and the third on Friday, May 17th, at the same time. During these visits, the team walked through the entire length of the park including the restored creek area at a slow pace stopping occasionally to document sightings and to take pictures. The notes, pictures and sounds helped with identification post-walk.

Additional Information: To deepen understanding of user perceptions of biodiversity, the CSI survey (see more in Social Benefits) included questions to assess users' observations of plant and animal species and the perceived value of informational signage in the park (see below). Participants were asked whether they had noticed an increase in plant species and animal species in and around the park compared to before its development.

Calculations:

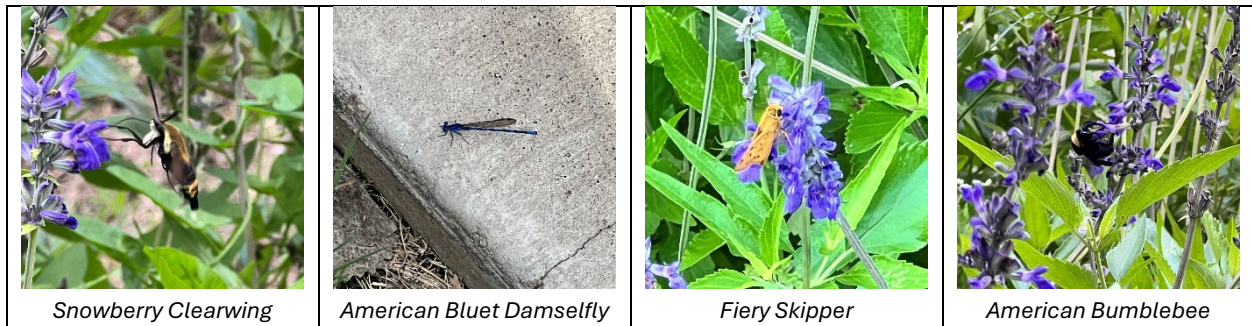
Table 3.1: Observed birds



List of birds observed:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Northern Cardinal (<i>Cardinalis cardinalis</i>) 2. American Robin (<i>Turdus migratorius</i>) 3. Mourning Dove (<i>Zenaida macroura</i>) 4. Northern Mockingbird (<i>Mimus polyglottos</i>) 5. Red-bellied Woodpecker (<i>Melanerpes carolinus</i>) 6. Eastern Bluebird (<i>Sialia sialis</i>) 7. House Finch (<i>Haemorhous mexicanus</i>) 8. Cedar Waxwing (<i>Bombycilla cedrorum</i>) 9. Carolina Chickadee (<i>Poecile carolinensis</i>) | <ol style="list-style-type: none"> 10. Scissor-tailed Flycatcher (<i>Tyrannus forficatus</i>) 11. Yellow-Crowned Night Heron (<i>Nyctanassa violacea</i>) 12. Blue Jay (<i>Cyanocitta cristata</i>) 13. Carolina Wren <i>Thryothorus ludovicianus</i> 14. House Sparrow (<i>Passer domesticus</i>) 15. Grackles (<i>Gracula quiscula</i>) 16. Tufted Titmouse (<i>Baeolophus bicolor</i>) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Table 3.2: Observed insects



List of insects observed:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Monarch Butterfly (<i>Danaus plexippus</i>) 2. Fiery Skipper (<i>Hylephila phyleus</i>) 3. Southern Yellowjacket (<i>Vespula squamosa</i>) 4. Western Honeybee (<i>Apis mellifera</i>) 5. American Bluet Damselfly (<i>Enallagma spp.</i>) 6. Snowberry clearwing (<i>Hemaris diffinis</i>) | <ol style="list-style-type: none"> 7. American bumblebee (<i>Bombus pensylvanicus</i>) 8. Sulphur Butterfly (<i>Pheobis sennae</i>) 9. Gulf Fritillary (<i>Agraulis vanilla</i>) 10. Question Mark (<i>Polygonia interrogationis</i>) 11. Easter Tiger Swallowtail (<i>Papilio glaucus</i>) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

12. Black Swallowtail (*Papilio polyxenes*)

13. Queen Butterfly (*Danaus glippus*)

Additional information:

Figure 3.2: Results from survey question (17 responses) Have you observed an increase in the following: Plant species in and around the park compared to before its development?

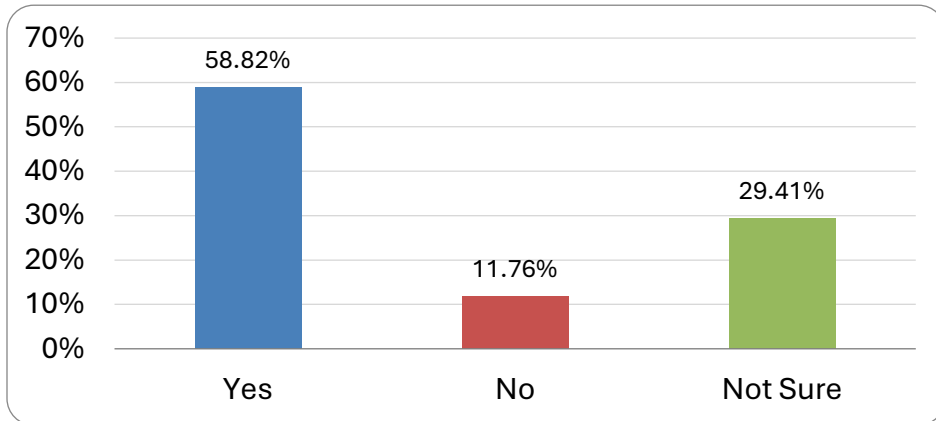
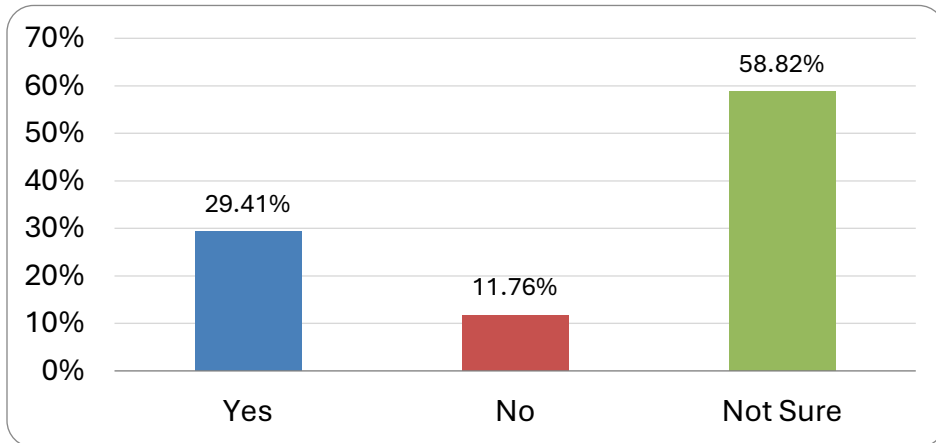


Figure 3.3: Results from survey question (17 responses) Have you observed an increase in the following: Animal species in and around the park compared to before its development?



Sources:

iNaturalist. Accessed February 24, 2024

iNaturalist. Accessed April 5, 2024

iNaturalist. Accessed May 17, 2024

Merlin Bird ID, Accessed May 17, 2024

Limitations:

- Documentation of fall migration season are not included due to the project timeline.

- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

-
- ***Projected to save an estimated \$30,033 in electricity costs and avoid almost 77 tons of carbon emissions over the next 20 years with solar-powered lighting. This is equivalent to 16.6 gasoline-powered passenger vehicles driven for one year.***
-

Background:

Renaissance Park is situated on a narrow, heavily wooded parcel of land. Adequate lighting is essential for both safety and extending the park's hours. The site features 13 solar-powered lights along the pathways and 2 solar surveillance system poles. The light poles are equipped with Li-ion batteries, vertical solar panels, motion sensors, and smart dimming from dusk till dawn. The surveillance poles include cameras and Wi-Fi for park visitors.

Method:

The following steps were used to calculate energy use (kWh).

To calculate energy savings, average day lengths for each month were used to determine the monthly night hours (from dusk to dawn). The night hours were calculated by subtracting the average daylight hours from (24) daily hours and multiplying by the number of days in month. This process was repeated for each month to get the total night hours (*Table 3.1*). These hours were then converted to monthly kWh and multiplied by 13 (the total number of park lights) to get the total monthly kWh for all park lights.

The following steps were used to calculate CO² emissions for solar and electric lighting:

To calculate the emission for lighting, the number of kWh were the entered into the EPA's [greenhouse gas calculator](#) to determine the amount of CO² emission from the 18W solar lights. The numbers were entered for a typical 150W electric pedestrian light pole.

The following steps were used to calculate the energy cost:

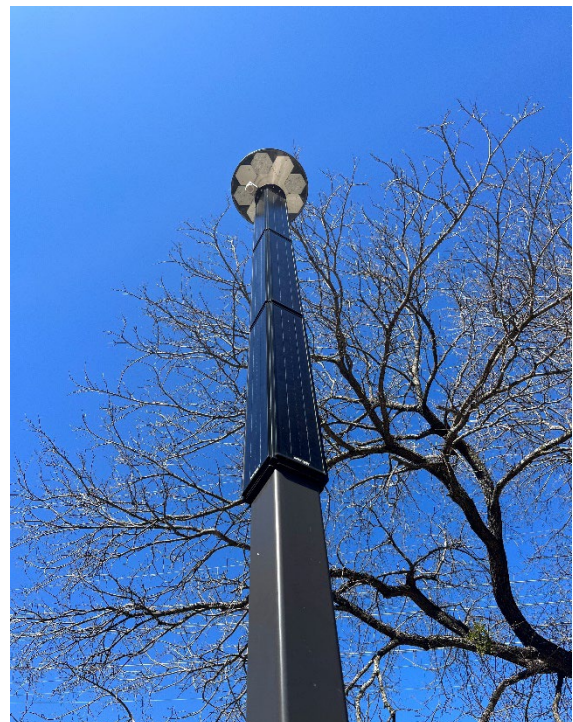


Figure 4.0: Solar lighting pole

The energy cost was determined by multiplying the total monthly kWh for all park lights by the average cost of electricity per kWh in Texas for the year 2024, according to the U.S. Energy Information Administration Monthly Electric Power Industry Report for April 2024.

Calculations:

Table 4.1: Monthly hours of light use calculations

Month	Average Day Length	Average Monthly Night Hours (dusk to dawn) Calculation	Average Monthly Night Hours multiplied by Monthly days	Total Estimated Monthly Hours Lights are in Use (dusk to dawn)
January	10:16:18	24 hrs. - 10.26 hrs. = 13.74hrs.	x 31days	425.94 hrs.
February	11:02:06	24 hrs. - 11 hrs. = 13 hrs.	x 29 days	319.00 hrs.
March	12:00:57	24 hrs. - 12 hrs. = 12 hrs.	x 31 days	372.00 hrs.
April	13:01:27	24 hrs. - 13 hrs. = 11 hrs.	x 30 days	330.00 hrs.
May	13:51:58	24 hrs. - 13.85 hrs. = 10.15 hrs.	x 31 days	314.65 hrs.
June	14:16:38	24 hrs. - 14.26 hrs. = 9.74 hrs.	x 30 days	292.20 hrs.
July	14:03:02	24 hrs. - 14 hrs. = 10 hrs.	x 31 days	310.00 hrs.
August	13:18:07	24 hrs. - 13.30 hrs. = 10.70 hrs.	x 31 days	331.70 hrs.
September	12:20:09	24 hrs. - 12.33 hrs. = 11.67 hrs.	x 30 days	350.10 hrs.
October	11:20:01	24 hrs. - 11.33 hrs. = 12.67 hrs.	x 31 days	392.77 hrs.
November	10:27:59	24 hrs. - 10.45 hrs. = 13.55 hrs.	x 30 days	406.50 hrs.
December	10:01:56	24 hrs. - 10 hrs. = 14 hrs.	x 31days	434.00 hrs.

Table 4.2: Monthly CO² emission calculations for the 18' pedestrian solar light pole

Month	Total Estimated Monthly Hours Lights are in Use (dusk to dawn)	Watts	Monthly kWh per solar light pole	Monthly kWh (13 solar light poles)	Monthly tons of CO ² Emission
January	425.94 hrs.	18W	7.667 kWh x 13	99.671 kWh	0.046
February	319.00 hrs.	18W	5.742 kWh x 13	74.646 kWh	0.034
March	372.00 hrs.	18W	6.696 kWh x 13	87.048 kWh	0.040
April	330.00 hrs.	18W	5.940 kWh x 13	77.220 kWh	0.035
May	314.65 hrs.	18W	5.664 kWh x 13	73.632 kWh	0.034
June	292.20 hrs.	18W	5.260 kWh x 13	68.380 kWh	0.031
July	310.00 hrs.	18W	5.580 kWh x 13	72.540 kWh	0.033
August	331.70 hrs.	18W	5.971 kWh x 13	77.623 kWh	0.036
September	350.10 hrs.	18W	6.300 kWh x 13	81.900 kWh	0.038
October	392.77 hrs.	18W	7.070 kWh x 13	91.910 kWh	0.042
November	406.50 hrs.	18W	7.317 kWh x 13	95.121 kWh	0.044
December	434.00 hrs.	18W	7.812 kWh x 13	101.556 kWh	0.047

Yearly Total	77.019 kWh	1,001.247 kWh	0.460 tons
20 Year Total	1,540.38 kWh	20,024.94 kWh	9.200 tons

Note:

1. Calculation of watts the kWh used:

$$E_{(kWh)} = P_{(W)} \times t_{(hr)} / 1000 \rightarrow \text{kilowatt-hour} = \text{watt} \times \text{hour} / 1000$$

Table 4.3: Estimated monthly CO² emission calculations for a typical 18' pedestrian electric 150W light pole

Month	Total Estimated Monthly Hours Lights are in Use (dusk to dawn)	Watts	Monthly kWh (typical 150W electric light pole)	Monthly kWh ((13) 150W electric light poles)	Monthly tons of CO ² Emission
January	425.94 hrs.	150W	63.891 kWh x 13	830.583 kWh	0.382
February	319.00 hrs.	150W	47.850 kWh x 13	622.050 kWh	0.286
March	372.00 hrs.	150W	55.800 kWh x 13	725.400 kWh	0.333
April	330.00 hrs.	150W	49.500 kWh x 13	643.500 kWh	0.296
May	314.65 hrs.	150W	47.100 kWh x 13	612.300 kWh	0.281
June	292.20 hrs.	150W	43.830 kWh x 13	569.790 kWh	0.262
July	310.00 hrs.	150W	46.500 kWh x 13	604.500 kWh	0.278
August	331.70 hrs.	150W	49.755 kWh x 13	646.815 kWh	0.297
September	350.10 hrs.	150W	52.515 kWh x 13	682.695 kWh	0.314
October	392.77 hrs.	150W	58.916 kWh x 13	765.908 kWh	0.352
November	406.50 hrs.	150W	60.975 kWh x 13	792.675 kWh	0.364
December	434.00 hrs.	150W	65.100 kWh x 13	846.300 kWh	0.389
Yearly Total			641.732 kWh	8,342.516 kWh	3.834 tons
20 Year Total			12,834.64 kWh	16,6850.32 kWh	76.68 tons

Note:

1. 3.8 tons of CO² is avoided in one year. This is equivalent to CO² emissions from 391 gallons of gasoline consumed.
2. 75.7 tons of CO² is avoided over 20 years. This is equivalent to CO² emissions from 7,827 gallons of gasoline consumed.
3. Calculation of watts the kWh used:

$$E_{(kWh)} = P_{(W)} \times t_{(hr)} / 1000 \rightarrow \text{kilowatt-hour} = \text{watt} \times \text{hour} / 1000$$

Table 4.4: Monthly energy cost savings calculations

Month	Monthly kWh ((13) 150W electric light poles)	Energy Costs Saved (13) light poles monthly*
January	830.583 kWh	\$149.50
February	622.05 kWh	\$111.97
March	725.4 kWh	\$130.57
April	643.5 kWh	\$115.83
May	612.3 kWh	\$110.21
June	569.79 kWh	\$102.56

July	604.5 kWh	\$108.81
August	646.815 kWh	\$116.43
September	682.695 kWh	\$122.89
October	765.908 kWh	\$137.86
November	792.675 kWh	\$142.68
December	846.3 kWh	\$152.33
Yearly Estimated Cost		\$1,501.64
20 Year Estimated Cost		\$30,032.80

Note:

**Saving rate is based on average cost of \$.15 per kwh in Texas in 2024; based on the U.S. Energy Information Administration. (2024). Monthly Electric Power Industry Report: Sales and Revenue. Washington, DC: U.S. Energy Information Administration. Monthly Release Date: June 26, 2024 for April 2024 data*

Sources:

Time and Date. (2024, June). Dallas, Texas, USA — Sunrise, Sunset, and Daylength. From timeanddate.com: <https://www.timeanddate.com/sun/usa/dallas>

Environmental Protection Agency. (n.d.). Greenhouse Gas Equivalencies Calculator. From www.epa.gov: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

U.S. Energy Information Administration. (2024). Monthly Electric Power Industry Report: Sales and Revenue. Washington, DC: U.S. Energy Information Administration. Monthly Release Date: June 26, 2024 for April 2024 data

Limitations:

- Electric pole watts were determined based on the typical wattage for 18-ft-tall pedestrian light poles.

Social Benefits

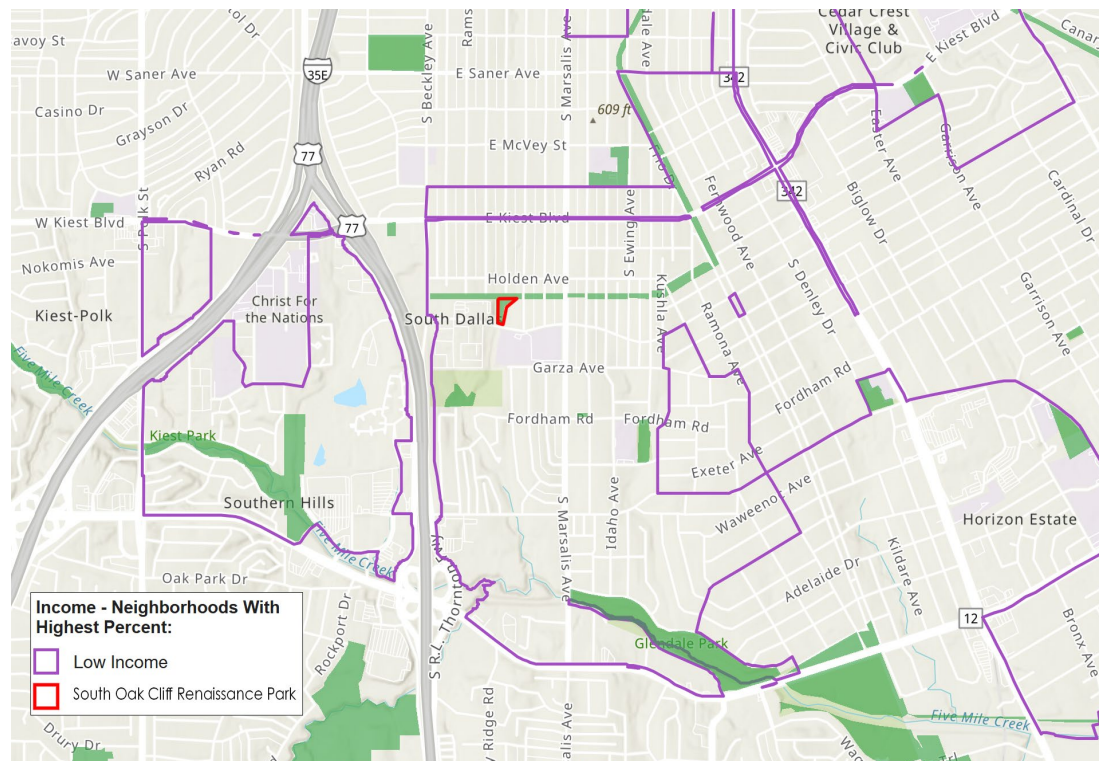
- **Offers a range of active and passive recreational activities, with 27% of site users observed walking along the park trail, 23% in seating areas, and 20% playing basketball during typical spring and summer days.**
 - **Supports social interaction, with 131 site users observed in groups of 2 or more during typical spring and summer days.**
-

Background:

Renaissance Park is located within a 3-minute walk of South Oak Cliff High School. Due to its proximity to the school, the students use the park to congregate and a pass-through space to the neighborhood or nearby locations. The park provides access to open space while also serving as a connection to the Cedar Crest Trail.

South Oak Cliff Renaissance Park is located southeast of historically redlined areas. According to Trust for Public Land, South Oak Cliff Renaissance Park serves 6,922 residents within a 10-minute walk and expands access to a park within a 10-minute walk to 3,169 residents who are primarily low- and middle-income households.

Figure 5.1: Map showing low-income neighborhoods. Source: Trust for Public Land + ESRI, 2023



The map above, created by the Trust for Public Land, highlights neighborhoods with the highest percentages of low-income residents. This data was derived from census block groups with the greatest concentrations of low- or high-income households within the city.

Method:

Online Survey: A 17-question online survey was created and distributed through For Oak Cliff's Facebook page and by staff at the Trust for Public Land. Most respondents, many of whom lived more than a mile from Renaissance Park, had resided in the area since before the park was built. The survey aimed to gather insights into the types of activities park users engaged in while visiting the park.

Observations – Site Visits: Observational data was collected through a series of 10 site visits during high school hours, dismissal times, and summer hours. An ethogram was recorded for each site visit to determine:

- Number of Users (groups vs individuals, number totals per day)
- Type of Users (female, male)
- User Activities on site
- Site Usage (bench seating, outdoor classroom, fitness equipment area, etc.)

Azira Software: Azira connects to a location data store containing over 13 trillion mobile location observations, collected from location and advertising Software Development Kits (SDKs). An ad SDK (Software Development Kit) is a set of tools and resources that helps developers integrate advertising features into their applications. It typically includes APIs for managing ad requests, interacting with ad networks, and displaying ads; sample code to demonstrate how to implement ads; detailed documentation with guidelines and troubleshooting tips; and analytics tools to monitor user engagement, ad performance, and revenue. By using an ad SDK, developers can monetize their apps through various ad formats, such as banners, interstitials, and rewarded videos. Popular ad SDKs include Google AdMob, Facebook Audience Network, and Unity Ads.

Azira software was used to determine summer park usage on site, Common Evening Location (CEL) and Common Daytime Location (CDL) Data Sets. These data points are screened to eliminate fraudulent or problematic entries. Through the Azira Data API and Pinnacle Data, users can access a variety of formatted data sets that provide insights into visitor activity at specific locations. These data sets are divided into several categories: Foot Traffic Data Sets, which count visitors to selected locations; Location Visitor Data Sets, offering detailed information about visits by specific devices; Path-to-Purchase Data Sets, tracking device movements to and from locations within a defined timeframe; Common Evening Location (CEL) and Common Daytime Location (CDL) Data Sets, which reveal where visitors spend their evenings and workdays; Visitor/Behavioral Data Sets, analyzing visitor behaviors over a specific period; and Location Data Sets, providing additional details such as trade areas and dwell times.

Calculations:

Online Survey:

Figure 5.2: Results from survey question (17 respondents): How far do you live from South Oak Renaissance Park?

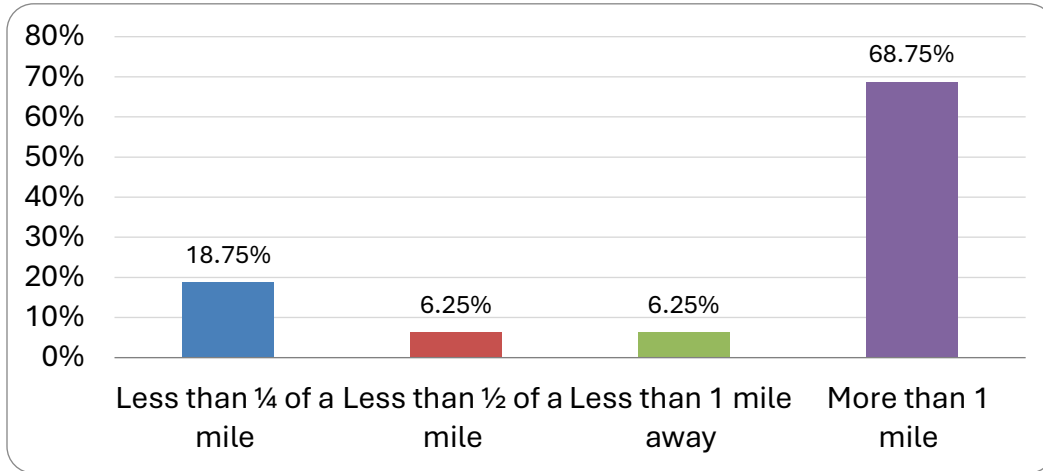


Figure 5.3: Results from survey question (17 respondents): Have you lived nearby since before the park was built?

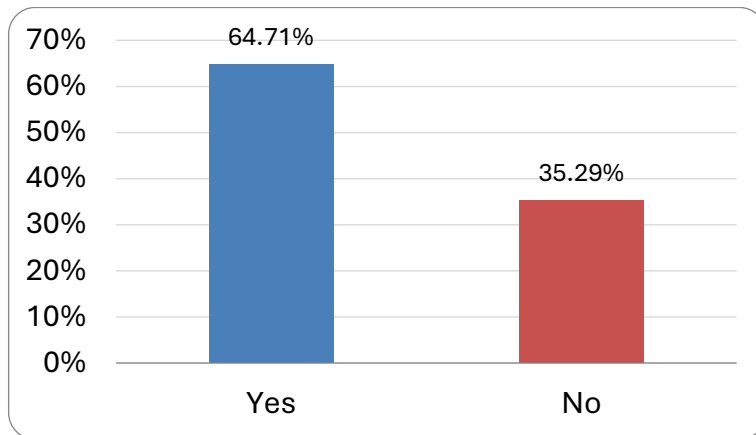
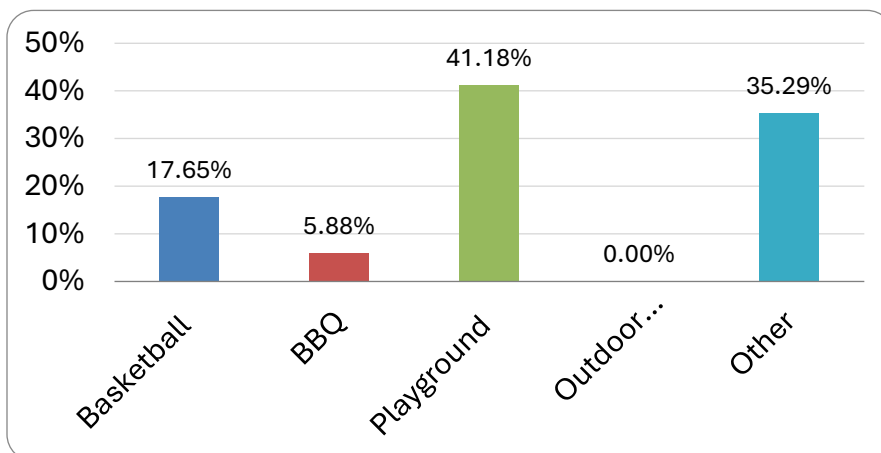


Figure 5.4: Results from survey question (17 respondents): What recreational activities do you most frequently engage in when visiting the park?



Observations – Site Visits

Table 5.1: Number of Users (groups vs individuals, number totals per day)

Date	Time	Temperature	Number of Single Visitors	Number of Groups	Total Visitors
Wed. May 15, 2024	4:00pm – 5:00pm	90 °F	5	2 – groups of (2) 1 – group of (4)	13
Fri. May 17, 2024	4:10pm – 5:10pm	85 °F	6	5 – groups of (2) 1 – group of (3)	19
Wed. May 22, 2024	8:30am – 9:30am	82 °F	3	1 – group of (2) 1 – group of (8)	13
Wed. May 22, 2024	1:00pm – 2:00pm	85 °F	5	8 – group of (2) 5 – group of (3) 3 – group of (4) 1 – group of (10)	58
Fri. May 24, 2024	2:00pm – 3:00 pm	90 °F	2	2 – groups of (2)	6
Fri. May 24, 2024	1:15pm – 1:45pm	90 °F	3	2 – groups of (2) 3 – groups of (3) 2 – groups of (5) 2 – groups of (6)	38
Tues. July 9, 2024	4:15pm – 5:15pm	95 °F	1	1 – group of (2)	3
Wed. July 17, 2024	1:00pm – 3:00pm	90 °F	1	1 – group of (2)	3
Thurs. July 18, 2024	11:00am – 1:00pm	88 °F	1	0	1
Mon. July 29, 2024	1:00pm – 2:00 pm	95 °F	2	1 – group of (4)	6

Figure 5.6: Number of Users during school vs. summer

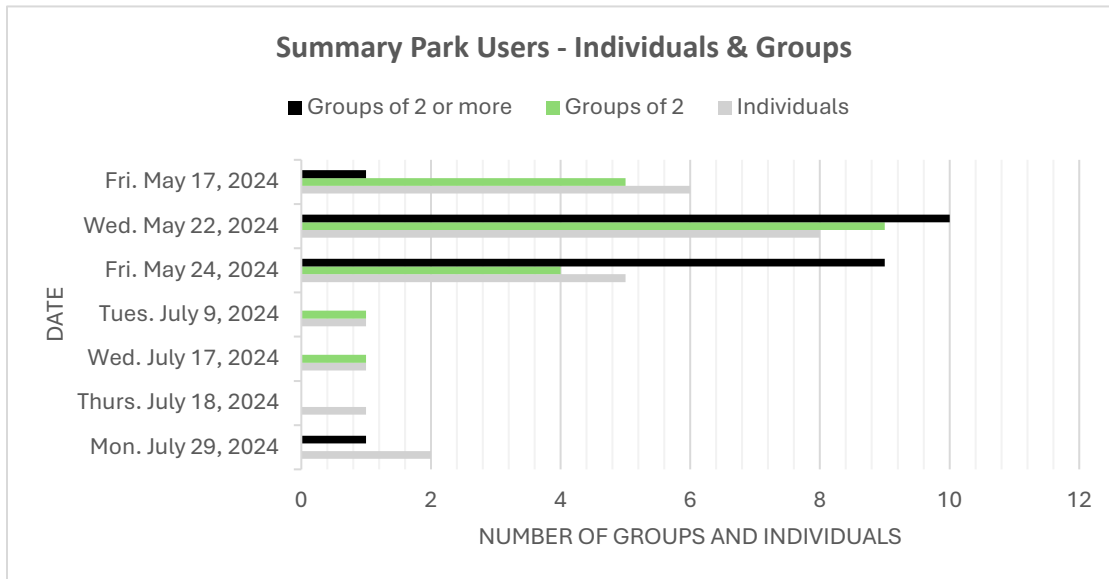


Table 5.2: Type of Users (female, male)

Date	Time	Female	Male	Total Visitors
Wed. May 15, 2024	4:00pm – 5:00pm	6	7	13
Fri. May 17, 2024	4:10pm – 5:10pm	10	9	19
Wed. May 22, 2024	8:30am – 9:30am	5	8	13
Wed. May 22, 2024	1:00pm – 2:00pm	8	50	58
Fri. May 24, 2024	2:00pm – 3:00 pm	0	6	6
Fri. May 24, 2024	1:15 pm – 1:45 pm	17	21	38
Tues. July 9, 2024	4:15pm – 5:15pm	0	3	3
Wed. July 17, 2024	1:00pm – 3:00pm	0	3	3
Thurs. July 18, 2024	11:00am – 1:00pm	0	1	1
Mon. July 29, 2024	1:00pm – 2:00 pm	1	5	6

Figure 5.7: Type of Users (female, male)

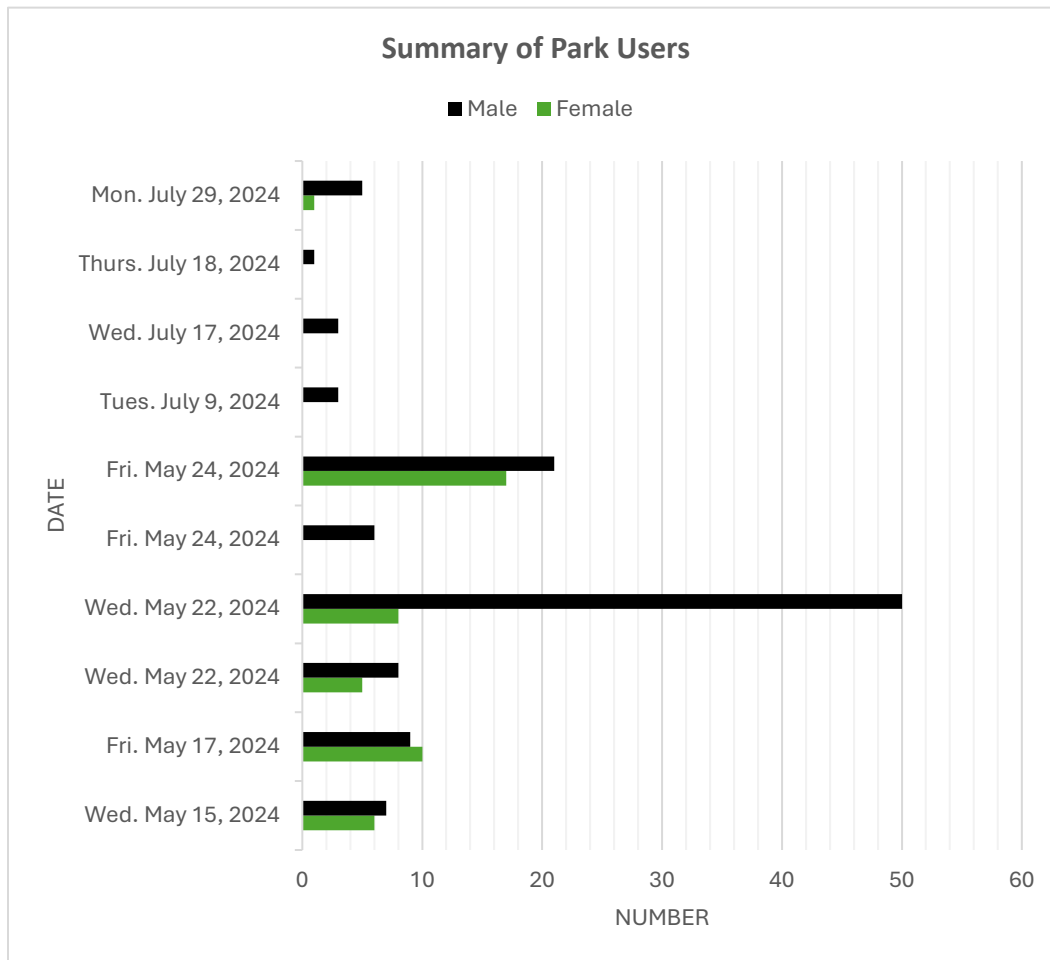


Table 5.3: User Activities on site

Date	Users Passing Through	Passive Recreation/Socializing (seating areas, benches)	Recreational Activities (basketball, workout equip)	Total Visitors
Wed. May 15, 2024	11	2	0	13
Fri. May 17, 2024	6	3	10	19
Wed. May 22, 2024	8	5	0	13
Wed. May 22, 2024	X	42	16	58
Fri. May 24, 2024	0	3	3	6
Fri. May 24, 2024	X	38	0	38
Tues. July 9, 2024	3	0	0	3
Wed. July 17, 2024	3	0	0	3
Thurs. July 18, 2024	1	0	0	1
Mon. July 29, 2024	1	0	5	6

Figure 5.8: Chart showing summary of park user activities (recreational and passive)

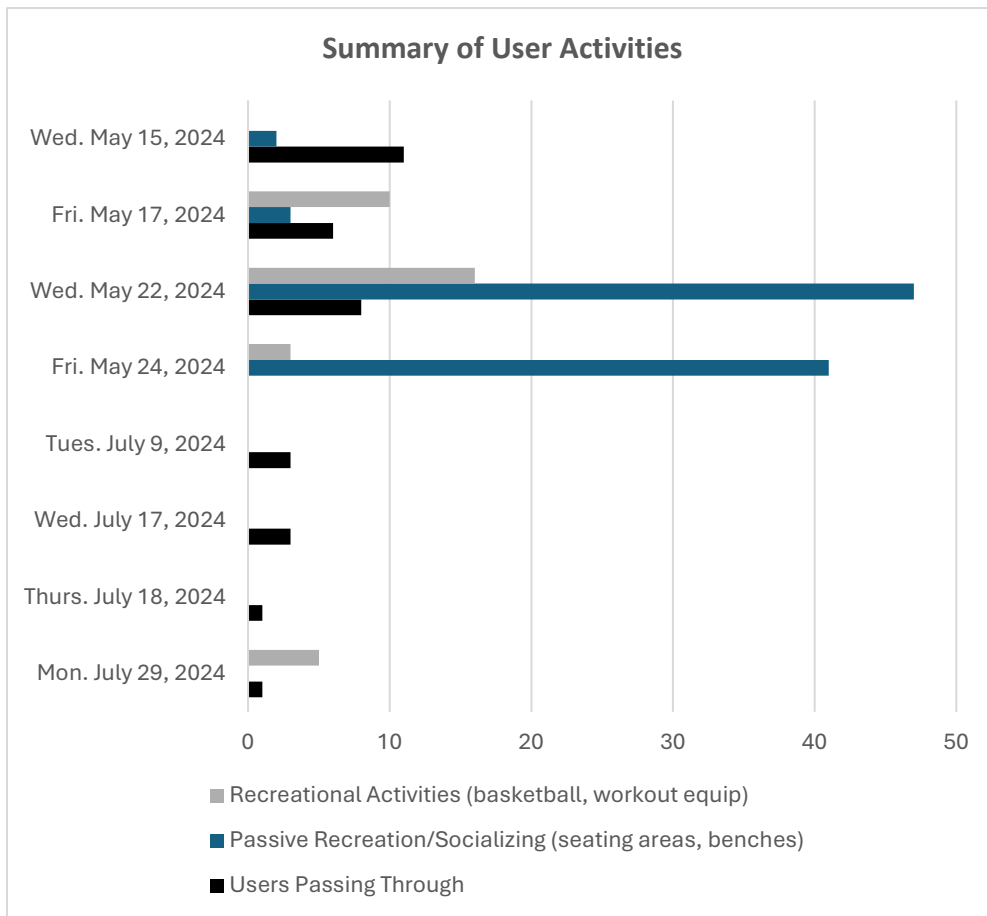


Table 5.4: Site Usage

Date	Number of Users	Site Location/Area	Total Visitors
Wed. May 15, 2024	11 2	Sidewalks Benches	13
Fri. May 17, 2024	6 2 2 2	Sidewalks Benches Basketball Court Playground	19
Wed. May 22, 2024	8 5	Sidewalks Benches	13
Wed. May 22, 2024	16 4 2	Basketball Court Picnic Tables Benches	58
Fri. May 24, 2024	3 3	Sidewalks Basketball Court	6
Fri. May 24, 2024	6 9 11 6	Picnic Tables Benches North Entrance (Workout Equipment Area) Outdoor Classroom	38
Tues. July 9, 2024	3	Sidewalks	3
Wed. July 17, 2024	3	Sidewalks	3
Thurs. July 18, 2024	1	Sidewalks	1
Mon. July 29, 2024	1 5	Sidewalks Basketball Court	6

Figure 5.9: Survey question on frequency of user visitation to the park

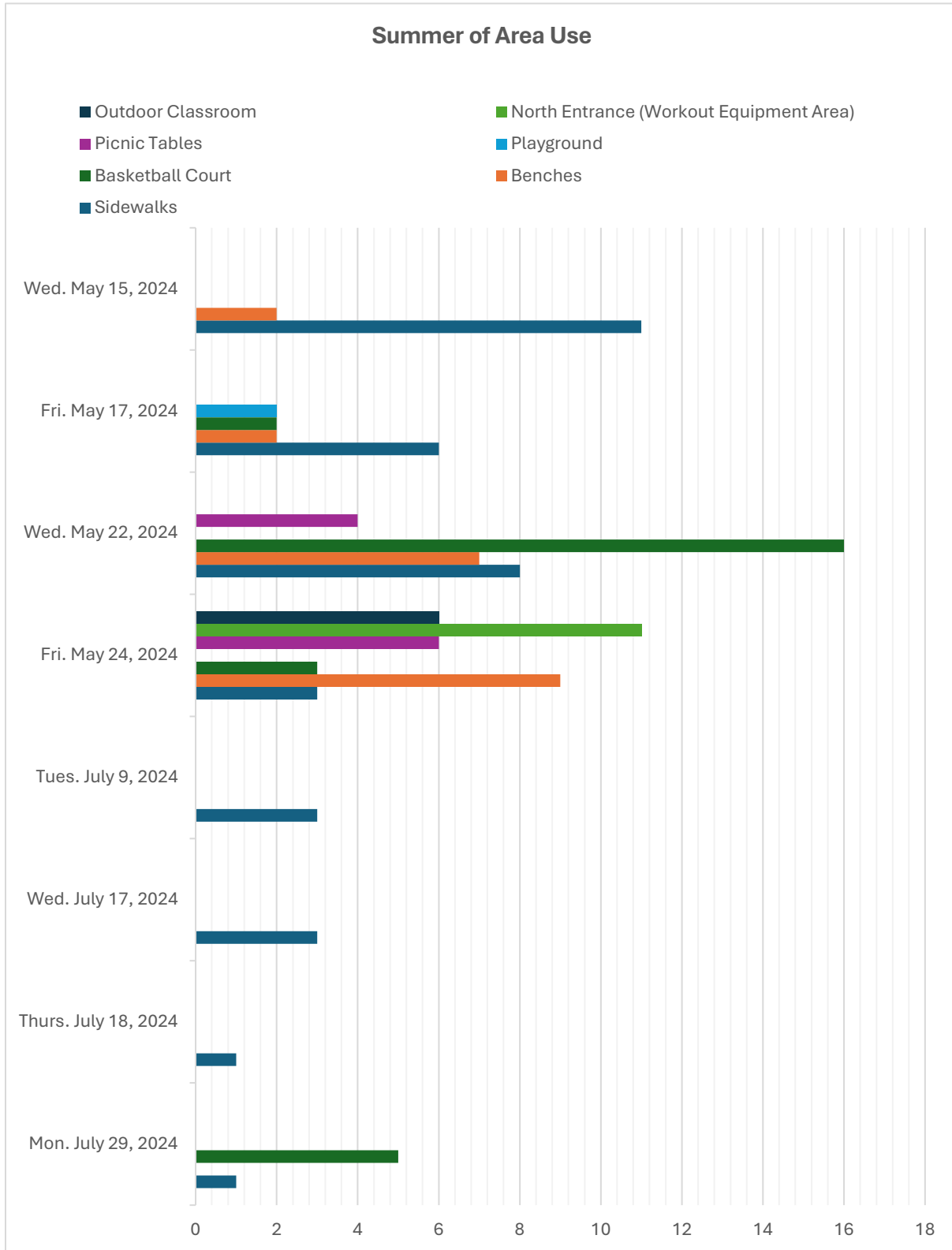


Figure 5.10: Data points showing user Activities on site in June (2024) detected by Azira

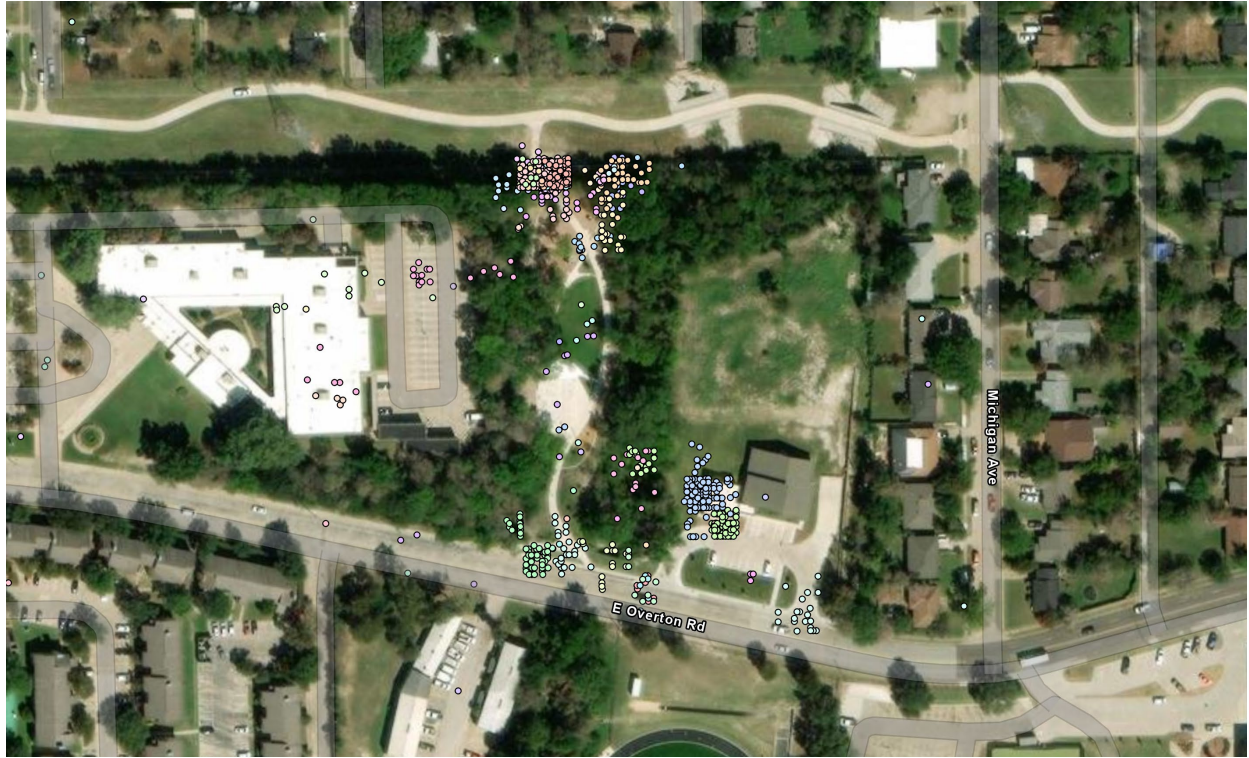


Figure 5.11: Chart showing the number of first-time visits based on the day of week in June. The chart shows there more daily weekday visits than weekend.

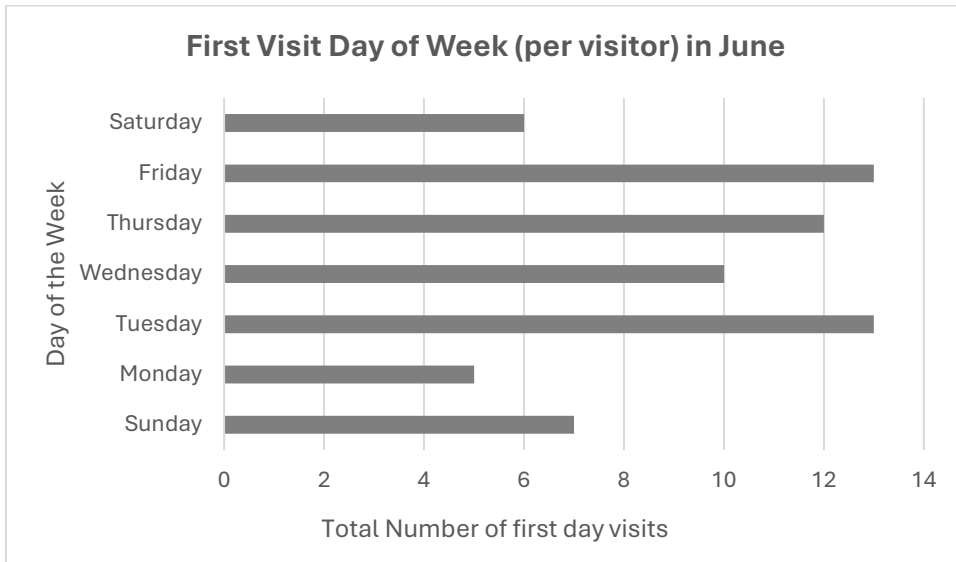


Figure 5.12: Chart showing the time of day of park user's first visit in June.

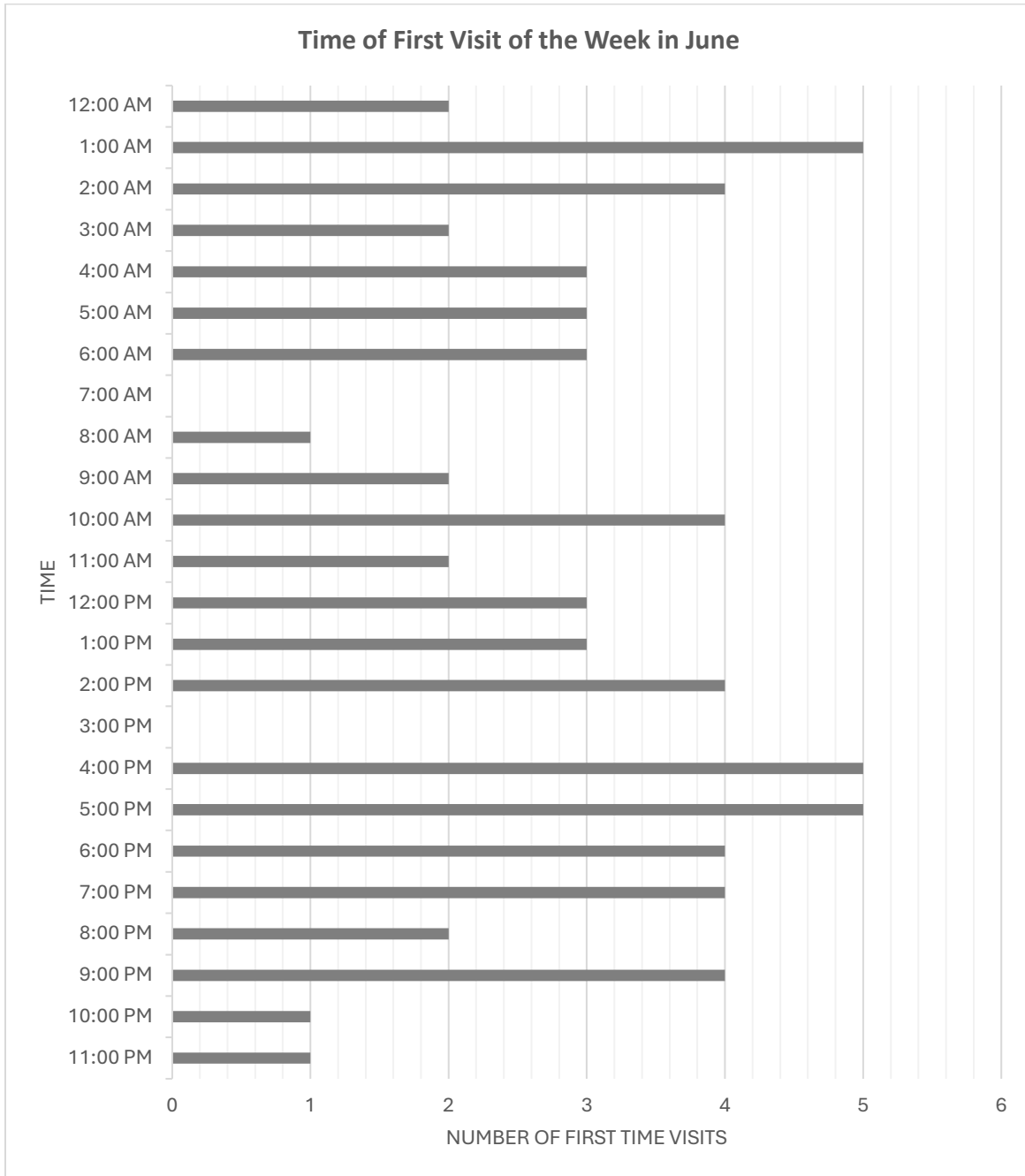


Figure 5.13: Data points showing where users are coming from (North, East, South, West)

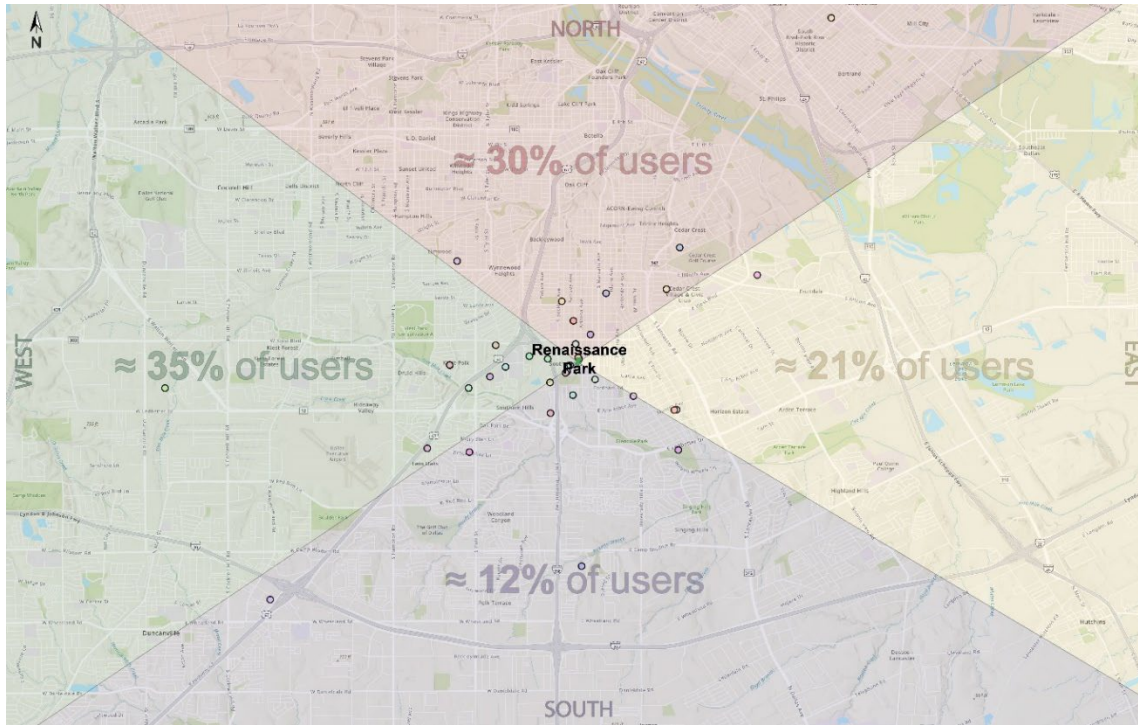


Figure 5.14: Data points showing where users are coming from (Proximity of Users to site)

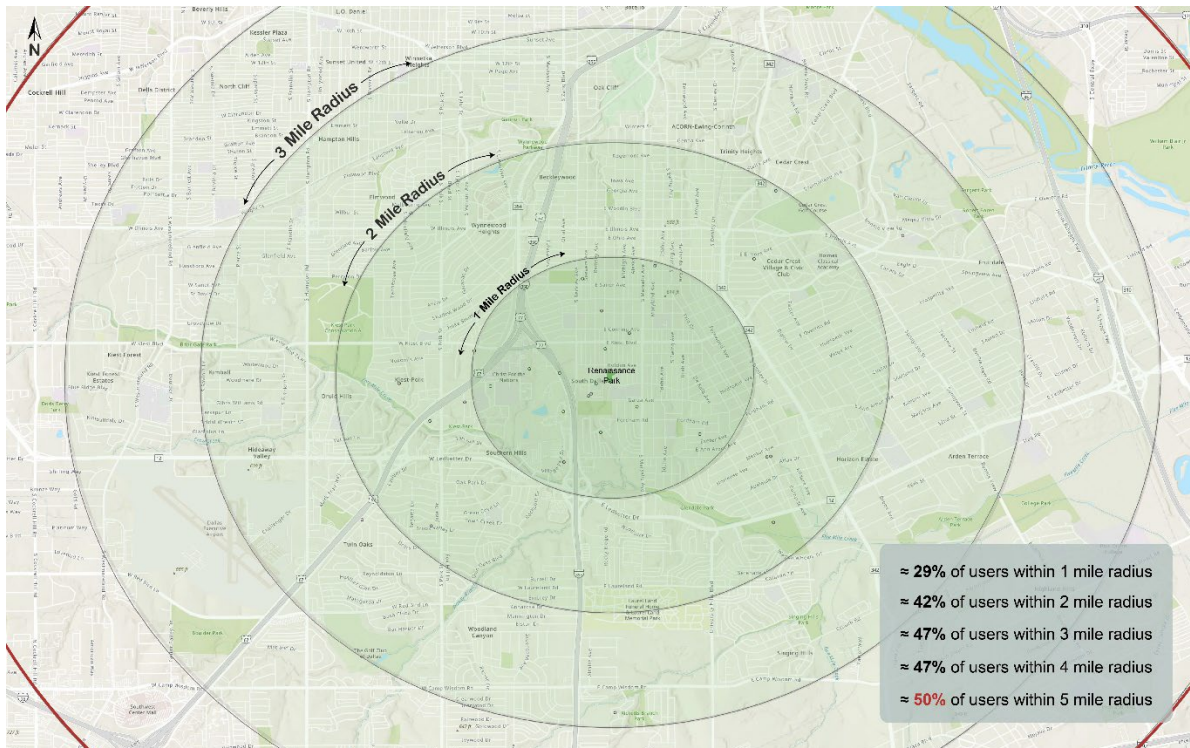
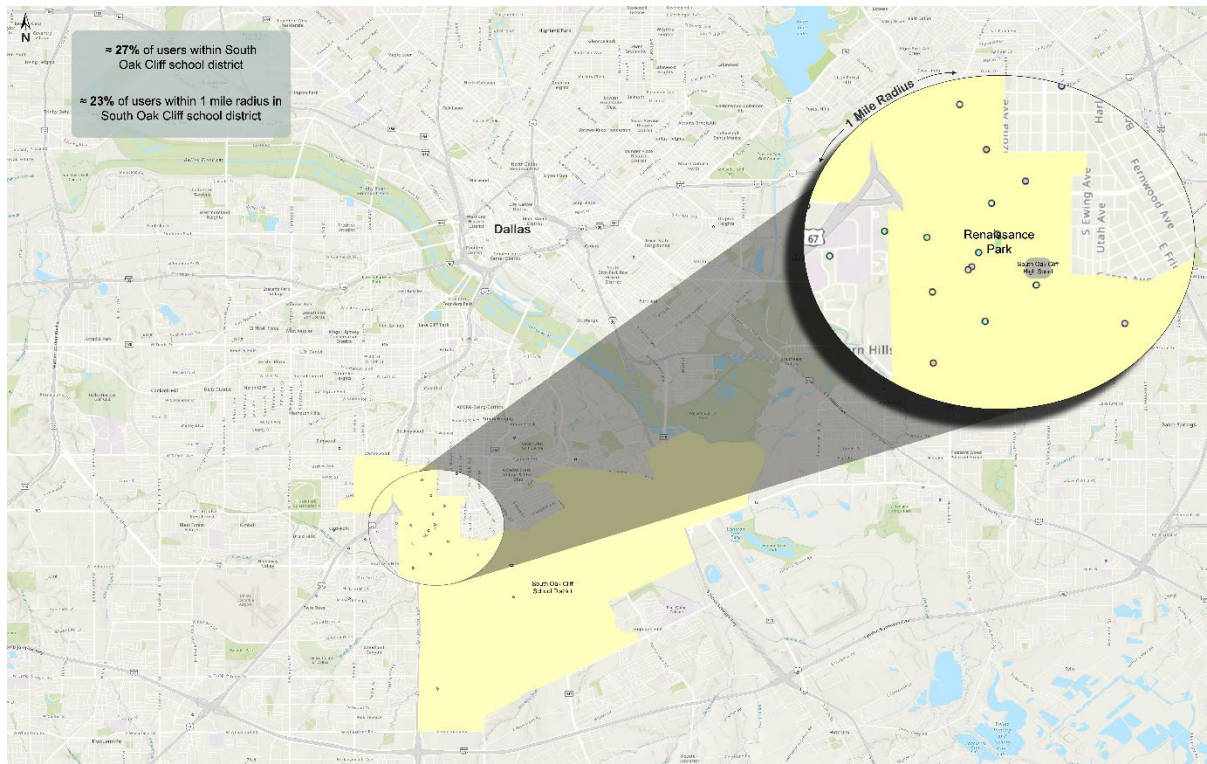


Figure 5.15: Data points showing where users are coming from (Percentage of Users located within the school district)



The Azira data shows that 27% of users live within South Oak Cliff High School service area boundary, and 23% of users live within a one-mile radius from the school high service area boundary.

Sources:

Azira software
CSI team field observations

Limitations:

- Azira location data limited to users for the month of June 2024 only.
- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

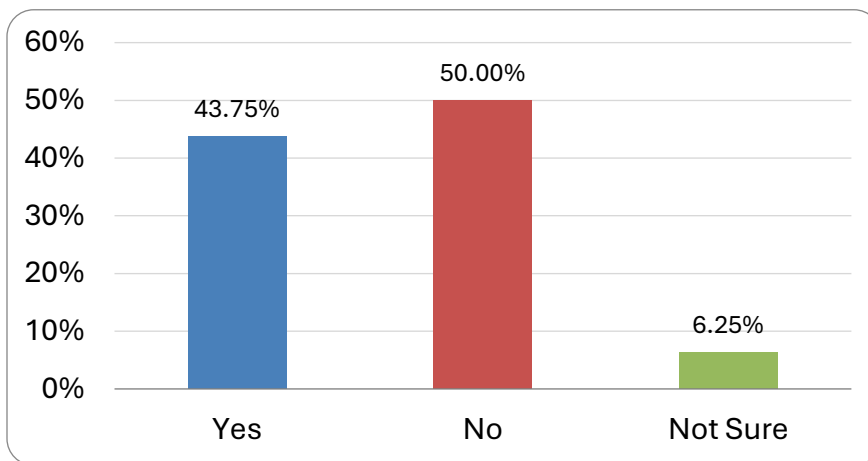
-
- ***Supports community cohesion, with 88% of 17 surveyed site users agreeing that the park is valued as a gathering space in the community and 83% agreeing that the park contributes to community-building and social interaction in the neighborhood.***
-

Method:

The evaluation of the CSI user survey includes three key questions to assess community engagement and perception of South Oak Cliff Renaissance Park. The first question, “Were you involved in any community engagement activities related to the planning or development of South Oak Cliff Renaissance Park?” helps quantify the percentage of survey respondents who participated in the park’s planning process. The second question, “How would you describe your perception of South Oak Cliff Renaissance Park as a gathering place in the community?” evaluates the park’s value as a community gathering space. The third question, “In your opinion, how has the park contributed to community building and social interactions in the neighborhood?” evaluates the extent to which the park serves as a space for community. Responses to these questions were analyzed to determine the percentage of residents who view the park as a meaningful and valued part of the community.

Of the 17 park users surveyed, 43% participated in the community engagement process during the park’s design phase.

Figure 6.1: Results from survey question (17 respondents): *Were you involved in any community engagement activities related to the planning or development of South Oak Cliff Renaissance Park?*



Calculations:

Figure 6.2: Results from survey question (17 respondents): How would you describe your perception of South Oak Cliff Renaissance Park as a gathering place in the community?

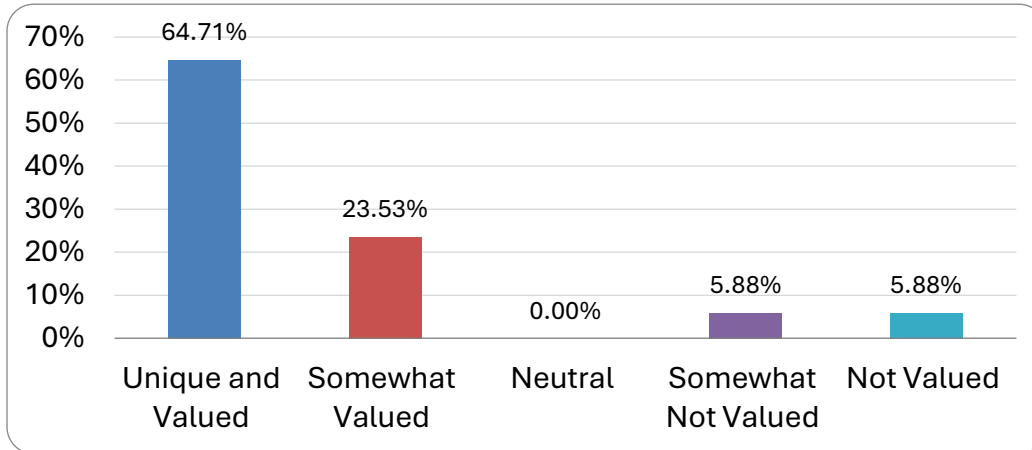
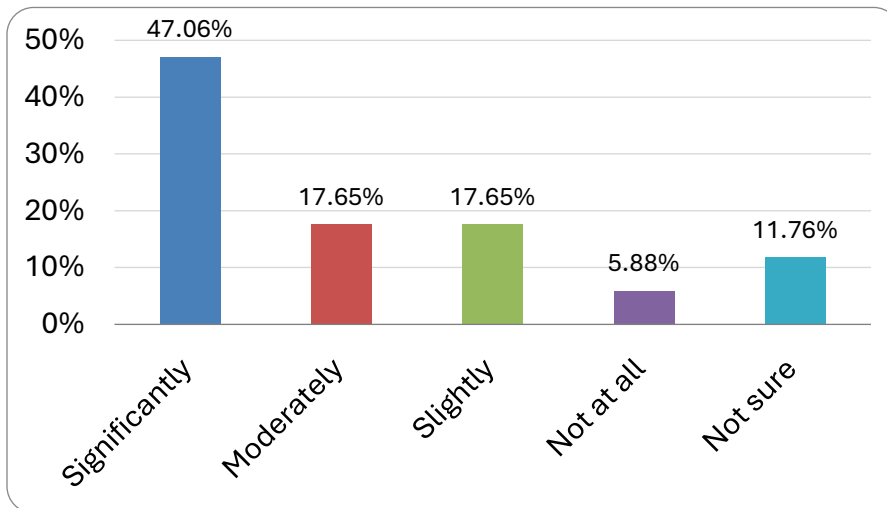


Figure 6.3: Results from survey question (17 respondents): In your opinion, how has the park contributed to community building and social interactions in the neighborhood?



Sources:

UTA Renaissance Park Online survey data

Limitations:

- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

-
- **Hosts events such as parades, community engagement events, educational walks, community clean ups, and senior activities as compared to none held before park construction. 65% of 17 surveyed site users reported attending community events or programs in the park.**
-

Background:

The previously vacant lot had a reputation for attracting undesirable activities in the community. Before the park was constructed, an extensive five-year public engagement process was undertaken to understand the community's needs. Renaissance Park is now the primary green recreational space in close proximity to South Oak Cliff High School that is used for community events.

Figure 7.1: Photo of the SOC ASAP Kick Off (senior program). Image supplied by TPL Dallas.



Method:

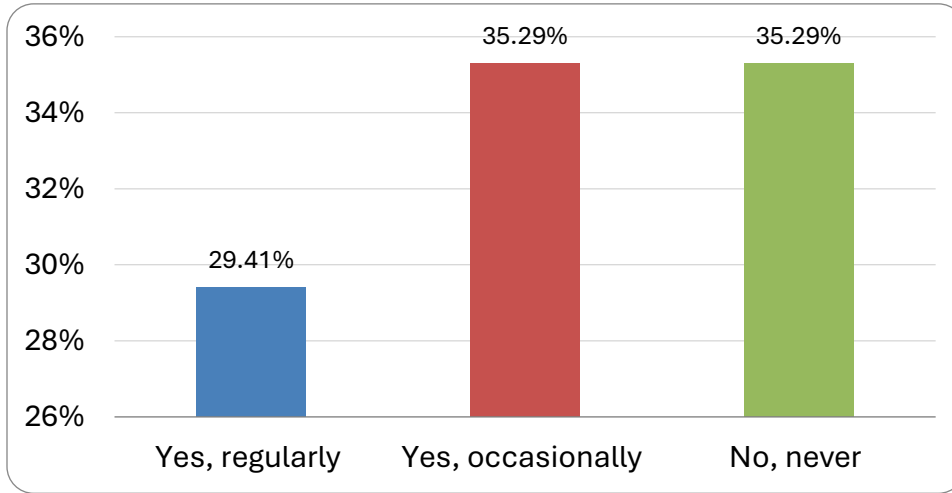
Event information was sourced from Google searches, Facebook and social media posts, and Trust for Public Land.

Calculations:

Table 6.1: List of past and planned events at South Oak Cliff Renaissance Park

Year/Date	Event type	Event title	Details	Source
2021. Nov. 13	Grand Opening	Ribbon Cutting & Grand Opening Celebration	Hosted by Trust for Public Land to celebrate the park's grand opening.	EventBrite post by The Trust for Public Land
2022. Jan. 7	Parade	Golden Bears Celebratory Parade	The parade to celebrate South Oak Cliff becoming the first Dallas ISD school to win back-to-back state championships concluded at Renaissance Park where there were speakers and live entertainment.	Dallas ISD News
2022. Mar. 26	Community Engagement	Free Yoga + Community Park Day	Hosted by Trust for Public Land, yoga provided by "Yoga n' da Hood" to help clean the creek and do "community seeding."	Social media post by yoga instructor
2022. April 30	Community Engagement	Common Ground Rally	Hosted by Dallas Cred Violence Interruption Team and the city to highlight positive changes in the environment and aimed to be the first of many monthly events held at the park.	NBC DFW
2022. Oct 15	Educational Walk	Impact Walk	Hosted by Southern Methodist University, in conjunction with the Hunt Institute for Engineering & Humanity to pilot the "ImpactWalks" program which is for educational walks to Dallas's outdoor treasures (side activity from similar program hosted by SMU, "ImpactNights").	Southern Methodist University Website
2023. March 11	Community Clean Up	Keep Southern Dallas Beautiful	Community clean up event hosted by Dallas Parks & Recreation for volunteers to clean out flower beds, plant flowers, pick up litter, and other needed beautification projects.	Dallas Parks & Recreation Website
2024. Oct. 17 – Nov. 16	Senior Activities	Pop up programs	Hosted every Tuesday & Thursday for seniors to participate hosted by Dallas Parks and Recreation. <ul style="list-style-type: none"> • Walking Club (walk the trail) • Chair Yoga (yoga in chairs) • Nature Photography (learn how to use digital cameras and/or cell phone cameras to capture the surrounding nature) 	The Trust for Public Land

Figure: 7.2: Results from survey question (17 respondents): Have you attended any community events or programs hosted in the park?



Results from survey question: Are there any events or programs you want offered at the park?

- *Walking Club, Outdoor Exercise Class*
- *Shared time to work out*
- *More group exercise groups.*
- *A rec center if possible*
- *Maybe a pet-friendly event or events based on holidays.*
- *Fishing*
- *Chess, basketball tournaments, child learning*
- *We would love to see more seeding events, some musical performances and a movie night for youth.*
- *Anything*

Sources:

Online sources such as Facebook, Instagram, and Trust for Public Land

Limitations:

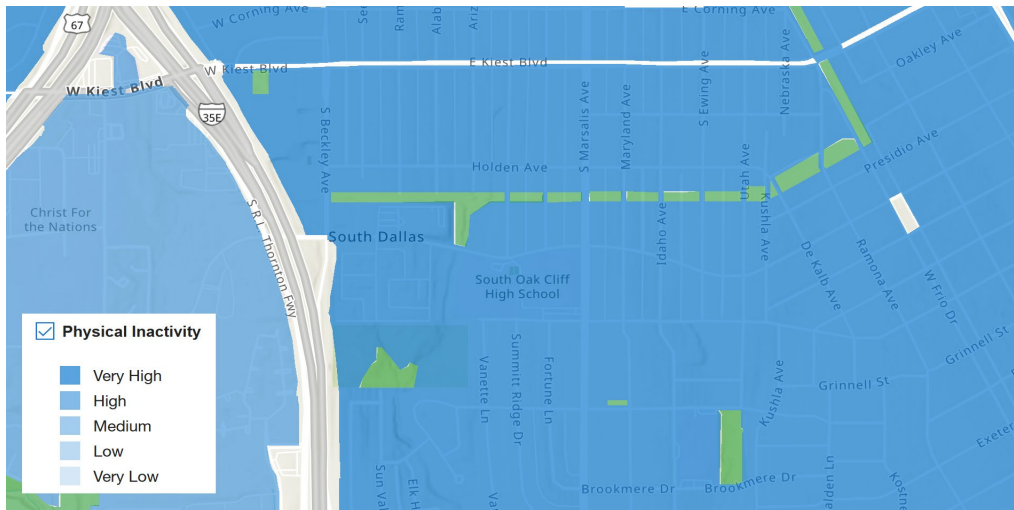
- Information is limited to information sourced online, stakeholders, and Trust for Public Land

-
- ***Supports improved health, with 35% of 17 surveyed site users noticing positive changes in their physical or mental well-being since the park's development.***
 - ***Promotes physical activity, with 82% of 17 surveyed site users agreeing that the park's location encourages walking instead of using private vehicles.***

Background:

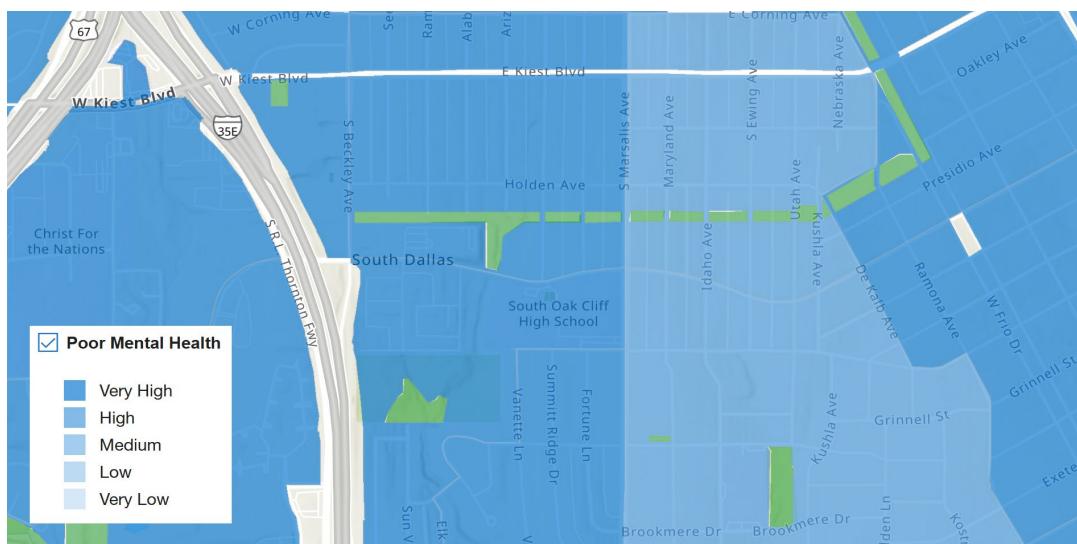
Recent data for the neighborhoods within a 10-minute walk of the park show high levels of physical inactivity among residents. One of the research goals was to assess whether the development of the park has led to increased physical activity and improve mental health in the community.

Figure 8.1: Map showing physical inactivity data around the park. Source: Trust for Public Land



The map above from Trust for Public Land spatially shows estimated rate of physical activity. The data is based on the percentage of respondents aged 18 and older who answered “no” to the question: “During the past month, aside from your regular job, did you engage in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?” Data source: CDC PLACES, 2023.

Figure 8.2: Map showing poor mental health around the park. Source: Trust for Public Land



The map above from Trust for Public Land spatially shows estimated rates of poor mental health. The data is based on the percentage of respondents aged 18 and older who reported experiencing 14 or more days of poor mental health in the past 30 days. Data source: CDC PLACES, 2023. These maps illustrate the need for improved mental health and more physical activity for nearby residents.

Method:

The CSI user survey includes several key questions to assess the park's impact on health. One question asks whether users have experienced health benefits, such as improved heart health, increased physical activity, or enhanced well-being, since using the park. Responses indicating positive changes were quantified and compared to the total number of survey participants. Health is also related to issues of access and equity; see Access & Equity below.

Calculations:

Figure 8.3: Results from survey question (17 respondents): Have you noticed any positive changes in your physical or mental well-being since the park's development?

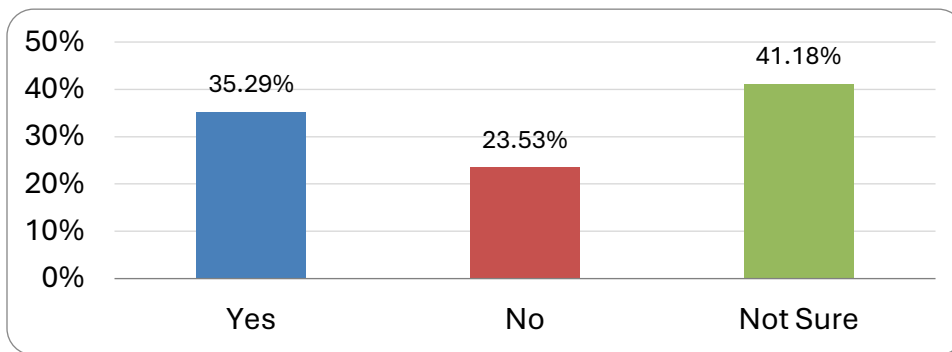


Figure 8.4: Results from survey question (17 respondents): Have you experienced health benefits from utilizing the park? (improved heart health or circulation, more physically active, etc.)

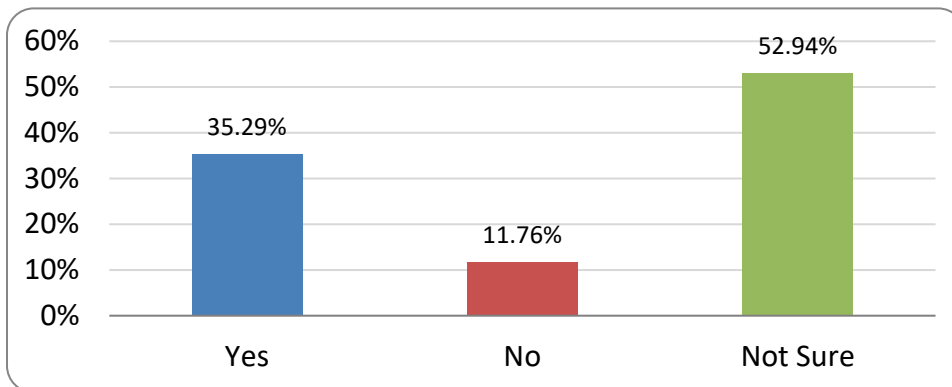
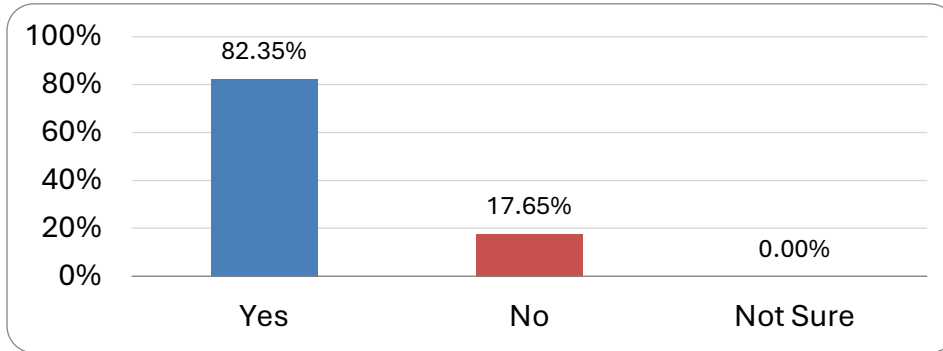


Figure 8.5: Results from survey question (17 respondents): Do you find the park's location encourages walking instead of private vehicles?



Sources:

UTA Renaissance Park Online survey data

Limitations:

- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

-
- ***Contributed to a 58% reduction in crime incidents resulting in calls to the police since the park's construction. 35% of 17 surveyed site users agreed that the park has contributed to reducing criminal activity in the area.***
-

Background:

South Oak Cliff Dallas has experienced disinvestment that has left the community with little to no outdoor and recreational space. A community desire for the park was to create a space for youth activity within the community. The once vacant and overgrown lot was susceptible to unwanted activity. With the development of the new park, the goal was to reimagine the space and promote healthy and safe outdoor recreation and activities with the community.

Method:

To gauge the evolution of crime activity pre- and post-construction, an evaluation of police GIS crime data points was conducted. Police phone call data were evaluated using GIS to pinpoint 911 calls made in the area. A comparison was made to determine if there has been a decrease in police calls in the area since the park's completion. Both the type and number of incidents were recorded. Some events were a result of multiple incidents from one police report.

Calculations:

Figure 9.1: Image of Community Crime Map showing incidents from Jan 2017 to Dec 2020.

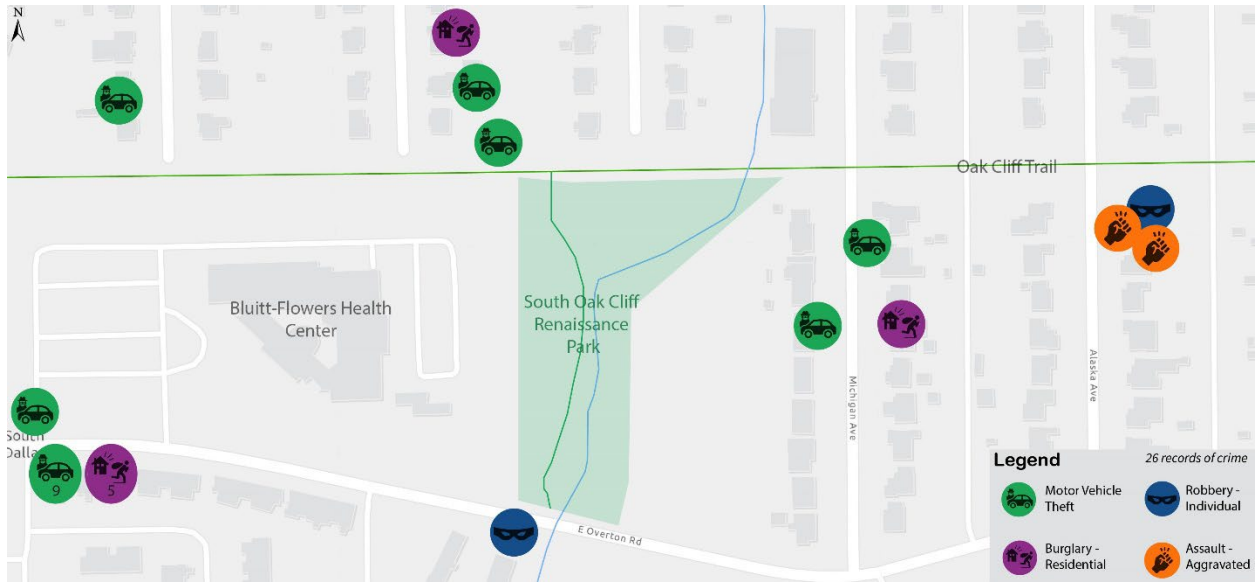


Figure 9.2: Image of Community Crime Map showing incidents from Jan 2021 to June 2024.

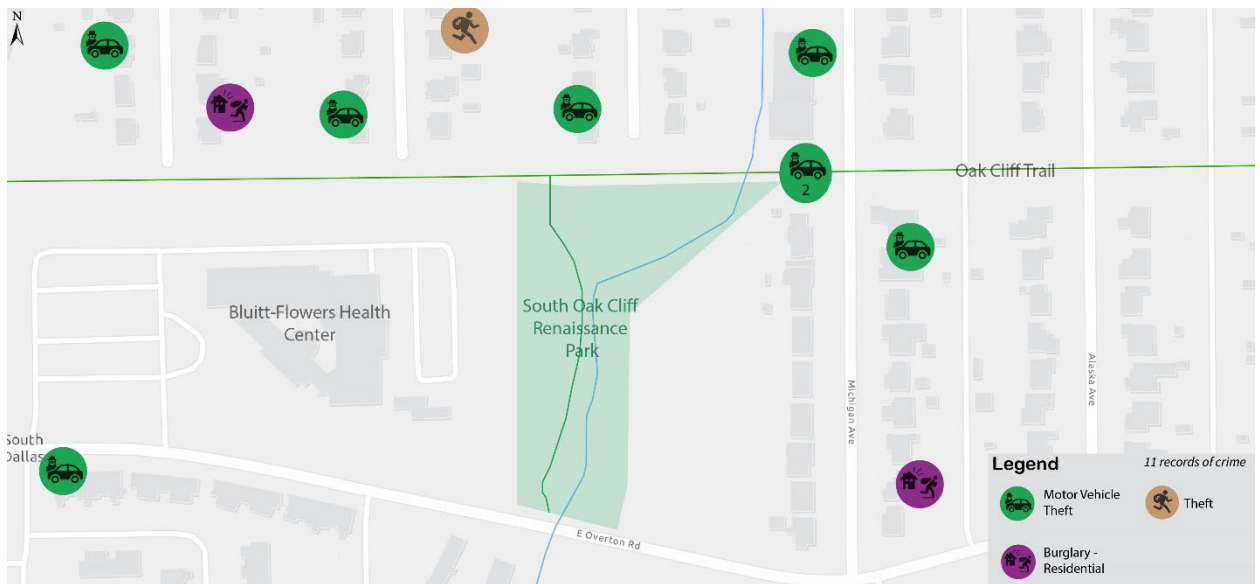
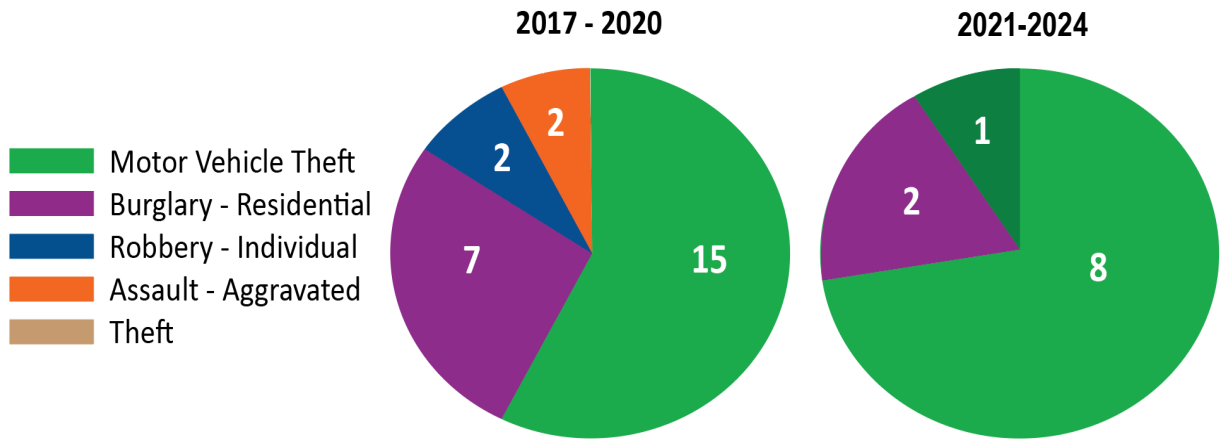


Figure 9.3: Pie Chart of Community Crime incidents from Jan 2017 to Dec 2020 and Jan 2021 to June 2024

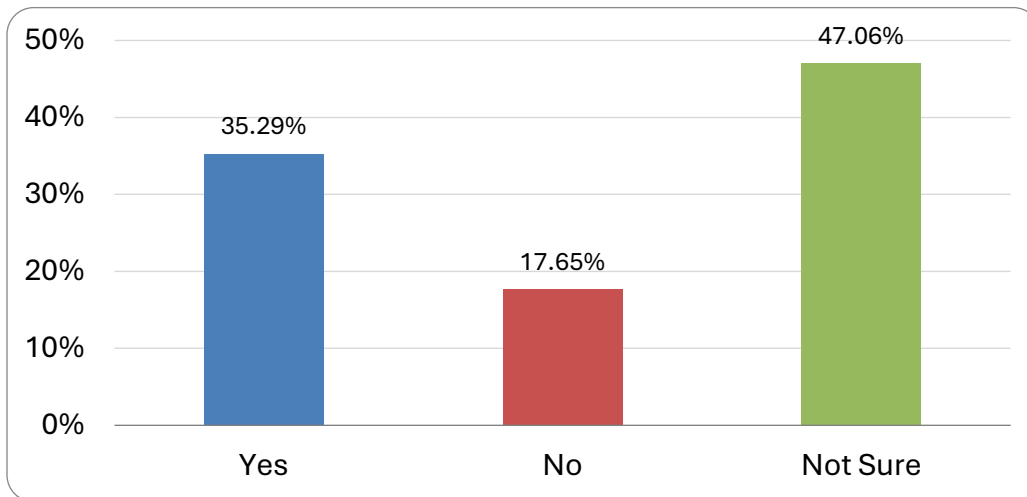


Total calls 2017-2020 (four years prior to park opening): 26

Total calls 2021-2024 (four years during construction and post-park opening in November 2021): 11

$26 - 11 = 15/26 \times 100 = 57.69\%$ reduction in calls

Figure 8.4: Results from survey question (17 respondents): Contributed to reducing criminal activity in the surrounding area?



Sources:

Community Crime Map. <https://communitycrimemap.com/map>

Limitations:

- Police data only focuses on the immediate vicinity of the park. Park data within a greater radius was not included in the data.

- Some events were a result of multiple incidents from one police report and may be double counted.
- While the pre-construction data was complete (4 years), the post-construction data only represents about 3.5 years as this study was conducted in mid-2024.
- Crime is influenced by many factors beyond park creation, including the COVID-19 pandemic which occurred during this period.
- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

- ***Provides educational value, with 82% of 17 surveyed site users encountering and finding value in educational signage. 53% agreed that the park contributes to raising awareness about environmental pollution and conservation.***

Method:

To deepen understanding of user perceptions of biodiversity and educational value, the CSI survey included questions to assess users' observations of plant and animal species (see above) and the perceived value of informational signage in the park. Participants were asked if they had encountered and found value in the informational signage throughout the park, which highlights its sustainable features and promotes environmental conservation.

Calculations:

Figure 9.1: Results from survey question (17 respondents) Have you encountered and found value in the informational signage throughout the park educating visitors about its sustainable features and environmental conservation?

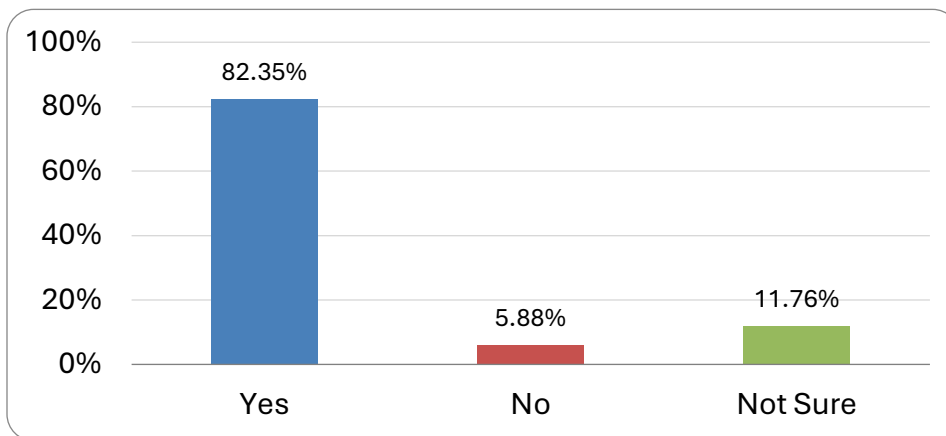
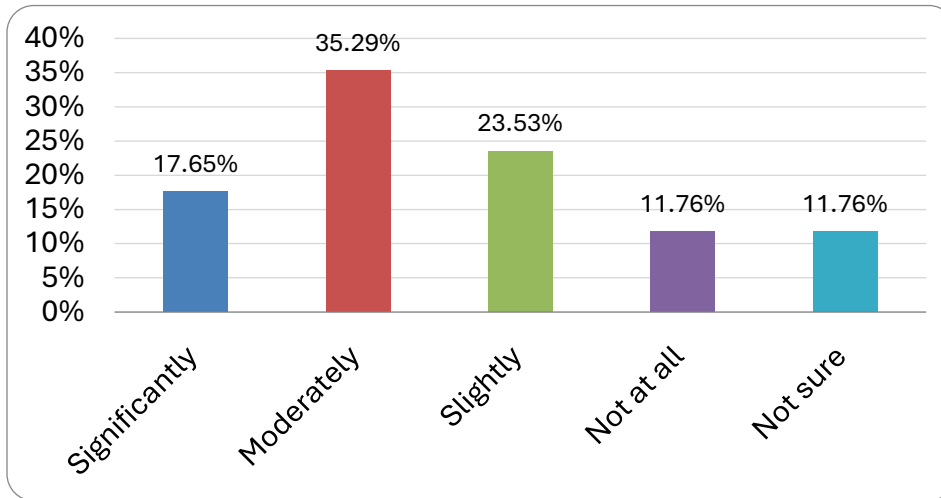


Figure 9.2: Results from survey question (17 respondents) In your opinion, to what extent does the park contribute to raising awareness about environmental pollution and conservation?



Sources:

UTA Renaissance Park Online survey data

Limitations:

- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.

-
- **Serves 6,922 residents who live within a 10-minute walk and expands access to a park within a 10-minute walk to 3,169 residents who represent primarily low- and middle-income households.**
 - **Provides equitable access to green space and recreational facilities according to 94% of 17 surveyed site users.**
 - **Provides easy access and walkability according to 88% of 17 surveyed site users.**
-

Method:

South Oak Cliff Renaissance Park is located southeast of historically redlined areas. According to Trust for Public Land, South Oak Cliff Renaissance Park serves 6,922 residents within a 10-minute walk and expands access to a park within a 10-minute walk to 3,169 residents who are primarily low- and middle-income households. See Figure 5.1 for map. Data from Trust for Public Land.

The CSI user survey includes several key questions to assess the park's impact on accessibility and equity. Matrix questions evaluate user perceptions of the park's accessibility and walkability, including whether the location encourages walking instead of driving and whether the park provides equitable access to green space and recreational facilities for all community residents. These responses were analyzed to determine overall trends in perceptions of walkability and perceptions of equitable access.

Figure 10.1: Results from survey question (17 respondents): Provides equitable access to green space and recreational facilities for all residents in the community

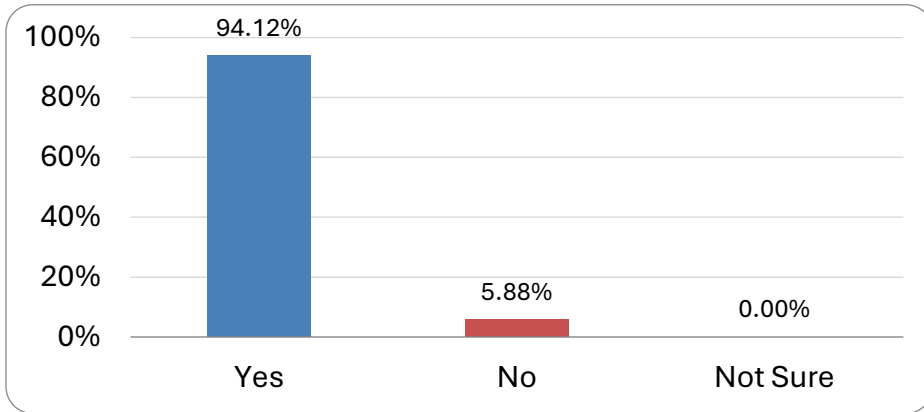
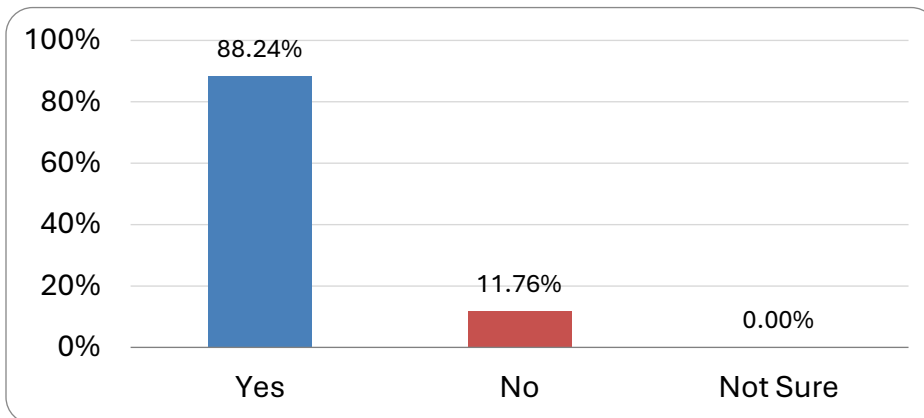


Figure 10.2: Results from survey question (17 respondents): Is easily accessible and walkable



Sources:

Trust for Public Land

UTA Renaissance Park Online survey data

Limitations:

- The survey was available exclusively online. While the primary users of the site are students, individuals under 18 could not participate without parental consent. As a result, the survey respondents were limited to adults who were reached through For Oak Cliff and the Trust for Public Land's communication channels. This contributed to a low response rate: 17 respondents.