2.7

SYSTEM EQUITY ASSESSMENT

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INTRODUCTION

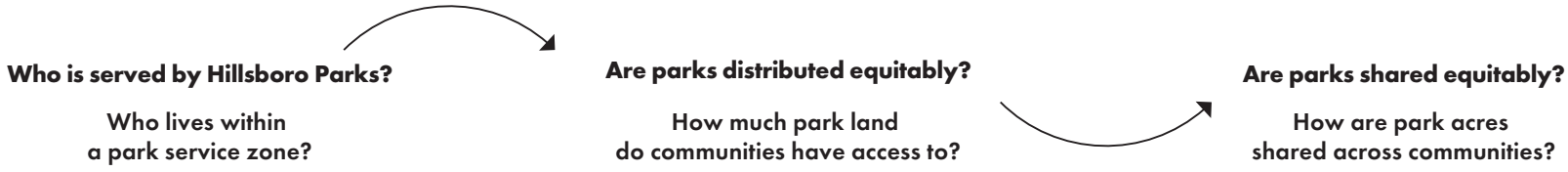
The system assessment evaluates the distribution of existing parks in relationship to population in the City of Hillsboro. This equity-based approach goes beyond city-wide metrics which are unable to understand differences in service to specific communities and may allow vulnerable and underserved individuals to fall through the cracks. This assessment, alongside outcomes of community and stakeholder engagements, will be used to support the planning process and inform equity-based prioritization criteria for future investments.

The City of Hillsboro Equity Statement recognizes that marginalization along the lines of race and other identities extend to public services, where the City has an explicit responsibility to provide services equitably. It is possible that, like other cities, the distribution of parks and recreation services in Hillsboro contributes to social and economic inequity because where racialized communities live, and where parklands and services are located, are not random but are a result of historical forces which act along both racial and socio-economic dimensions. In order to achieve distributive justice we need to accurately understand where existing inequities exist; where parks and recreation services are located and who they do and do not serve.

This investigation evaluates three spatial questions:

i. Who is or is not served by parks and recreation by the City of Hillsboro?,
ii. How does access to parks differ across groups who live in the city?
iii. Are parks being shared equitably, or are some park lands shared with more people than others?

The answers to these questions help the city understand the existing level of park service provided across different communities within Hillsboro, identify the largest gaps in service and prioritize interventions to support a targeted universalism approach. The results help us make specific planning recommendations that will help uplift all communities in Hillsboro to an equitable universal standard.



SYSTEM ASSESSMENT PROCESS OVERVIEW

HOW ARE PARK ASSETS AND BENEFITS DISTRIBUTED TODAY ACROSS THE CITY IN RELATIONSHIP TO THE PEOPLE THEY SERVE?

This section reports the results and interpretation of the equity analysis and potential planning implications. We used demographic information, park type and park service areas to answer how assets are distributed across the city in relationship to the people they serve. We used demographic information to help us understand how communities are distributed across the city in relationship to the distribution of parks. Demographic information were up-sampled to locate people closer to where they live. Those methods are outliens in chapter 2.3: Community Demographics. Service areas were evalauted by park type (neighborhood, community, and nature park) and are defined and visualized in chapter 2.4: Park Serivce Profiles.

We start by asking who is served by each park type and who is not served. We show what percentage of the Hillsboro community as a whole is within service areas for each park type, and then break this down by racial, ethnic, socioeconomic, and health and ability demographic groups. In this case, a percentage of each community is either inside or outside the combined service area for each park type. The result shows who has access to a neighborhood, community, or nature park but counts all parks evenly. However some parks are much bigger than others and should count more in an analysis of equity than smaller parks.

Since some parks are bigger than others, we next turn to ask how many acres different groups have access to on average in the city. This analysis begins to characterize different communities' experiences of park access nearby where they live, with parks being more or less abundant in their neighborhood. However, this experience will also be influenced by how crowded those parks are.

Thus, we followed up by asking, how many acres per capita each group has access to. Acres per capita take into account population density, which gives a more accurate sense of the level of service for each group on average. The last charts summarize the findings, showing acres per capita by community across the park types. This is the culmination of the analysis that accounts for where people are, where parks are, in what abundance, and population density.

It is important to state that this analysis is focused on the distributive justice domain of equity, and there are other important equity questions that are more qualitative in nature which our team explored through community engagement and is addressed in the Community Insights chapter (3.2).

As a baseline for the city, the total population is approximately 105,945 people, with 108.58 acres of Naighrbohood parkland, 149.15 acres of Community parkland, and 728.80 acres of Nature parkland. The city thus has 9.3 acres of park land per 1000 people altogether, which puts the city below the typical park and recreation agency in 2023 (10.8 acres) but above the typical agency with 100,000 - 250,000 residents which have 8.9 acres of parkland per 1,000 residents (NRPA, 2023). This analysis breaks down this benchmarking metric further considering park type which is helpful since parks function quite differently across park types. It then futher integrates questions of equity into this assessment, to better understand whether all communities have similar access.

SYSTEM BENCHMARK

City of Hillsboro

Total Population	105,945

PARK ACRES PER 1000 PEOPLE CITY OF HILLSBORO

	Acres Total	Acr/1000
Neighborhood Parks	108.58	1.03
Community Parks	149.15	1.41
Nature Parks	728.80	6.88

WHO IS SERVED BY CITY OF HILLSBORO PARKS?

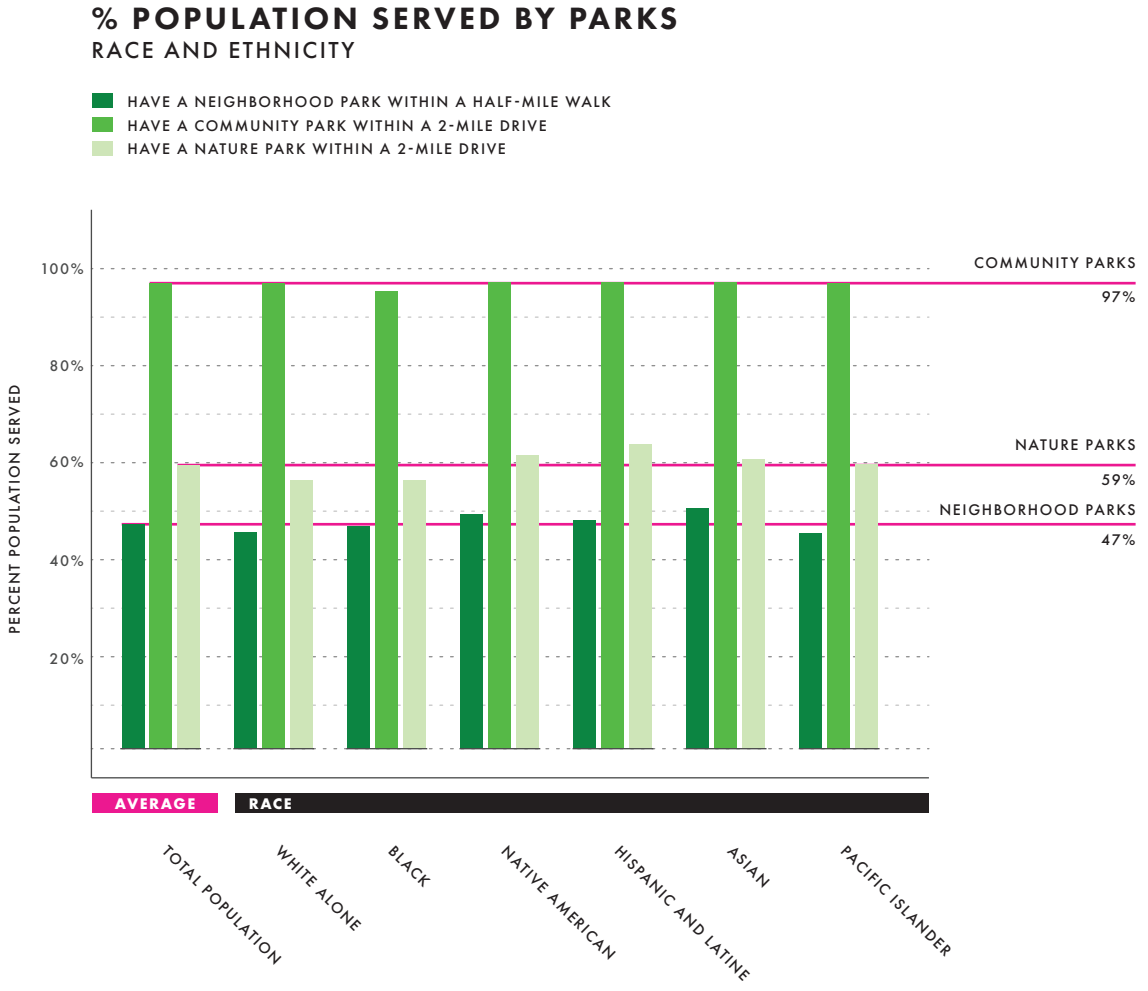
The key question for the City of Hillsboro's parks system is: "Who is served and who isn't?" The answer is binary: residents either live within a service area or within a service gap. This helps identify underserved communities based on their location. For planning, a neighborhood park's service area is defined as a half-mile walk, while community and nature parks have a two-mile drive service area. This analysis quantifies the percentage of residents within these service areas.

Results show that neighborhood parks serve 47% of Hillsboro residents, community parks serve 97%, and nature parks serve 59%. This highlights neighborhood park service gaps, good distribution of community parks, and some gaps in nature park service zones.

Looking at Neighborhood Parks and race, white residents and Pacific Islanders are less likely to live within a service zone (45% each, 2 percentage points below average). The starkest disparities are seen among youth and those without healthcare, with only 44% living within a Neighborhood Park service zone. People without higher education, limited English, or any health and ability indicators are also slightly less likely to live in these areas (by 2-4 percentage points).

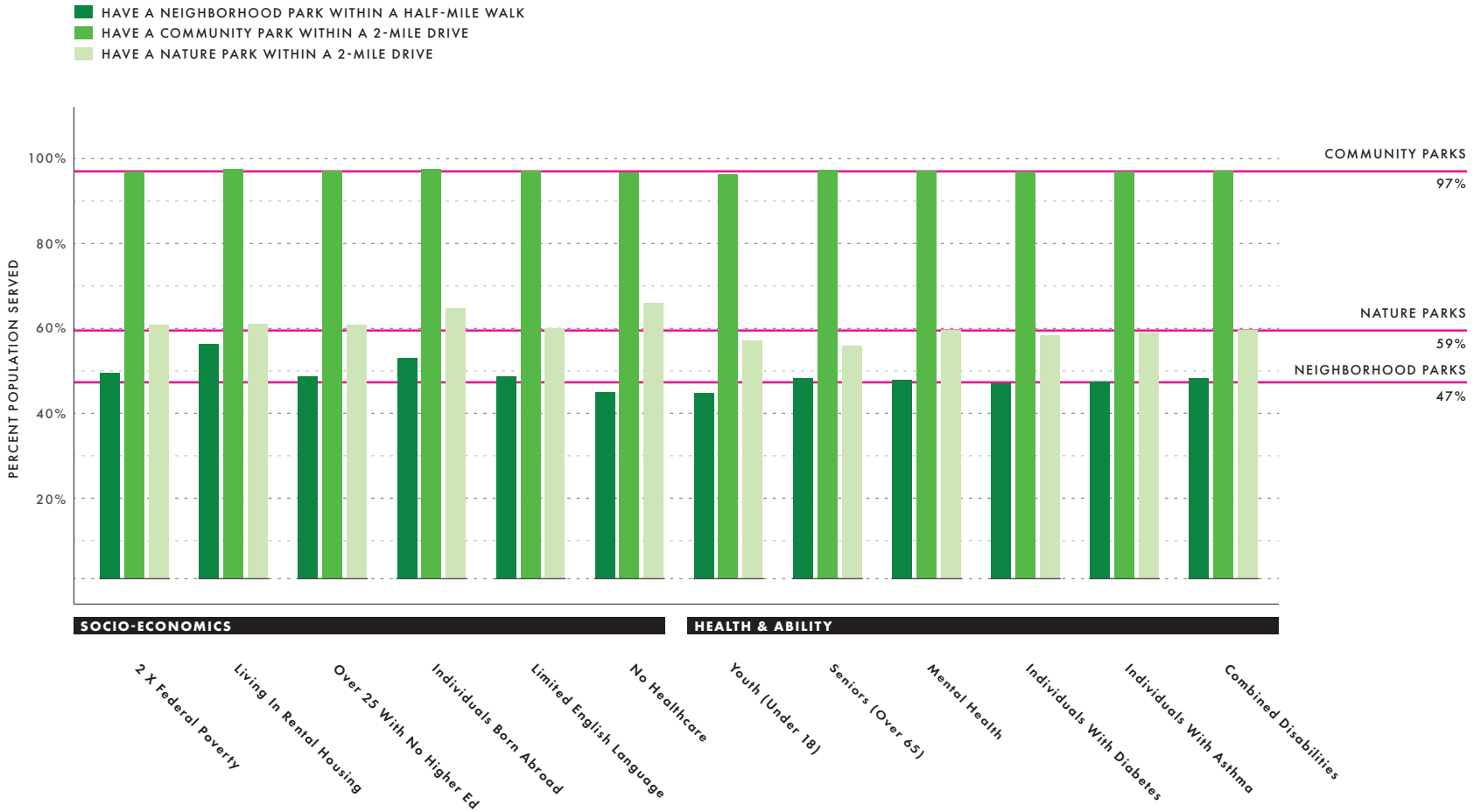
Community Parks offer broad service across groups, though Black residents are slightly less served, with 95% living in a service zone (2 percentage points below average).

For Nature Parks, both White and Black residents, as well as Seniors, are less likely to be served, with 56% living within a service area (3 percentage points below average). Youth are also 2 percentage points less likely to live within a Nature Park service area.



% POPULATION SERVED BY PARKS

SOCIO-ECONOMICS, HEALTH AND ABILITY



ARE NEIGHBORHOOD PARKS DISTRIBUTED EQUITABLY?

After evaluating who is served by the parks system, we need to assess how much parkland each community has access to, providing insight into service levels across populations. Park acreage is a standard metric in parks planning, and understanding its distribution helps identify inequities. This analysis informs future investments, improvements, and community engagement by the Parks Department.

Hillsboro residents have access to an average of 4.14 acres of neighborhood parkland within a half-mile of where they live. However, this varies by race and ethnicity. The Asian population is the most well-served, with 5.34 acres within a half-mile (129% of the city average), while the Hispanic and Latine population is the most underserved, with only 3.38 acres (82% of the city average). These disparities are not visible when only considering service areas or total acres per population.

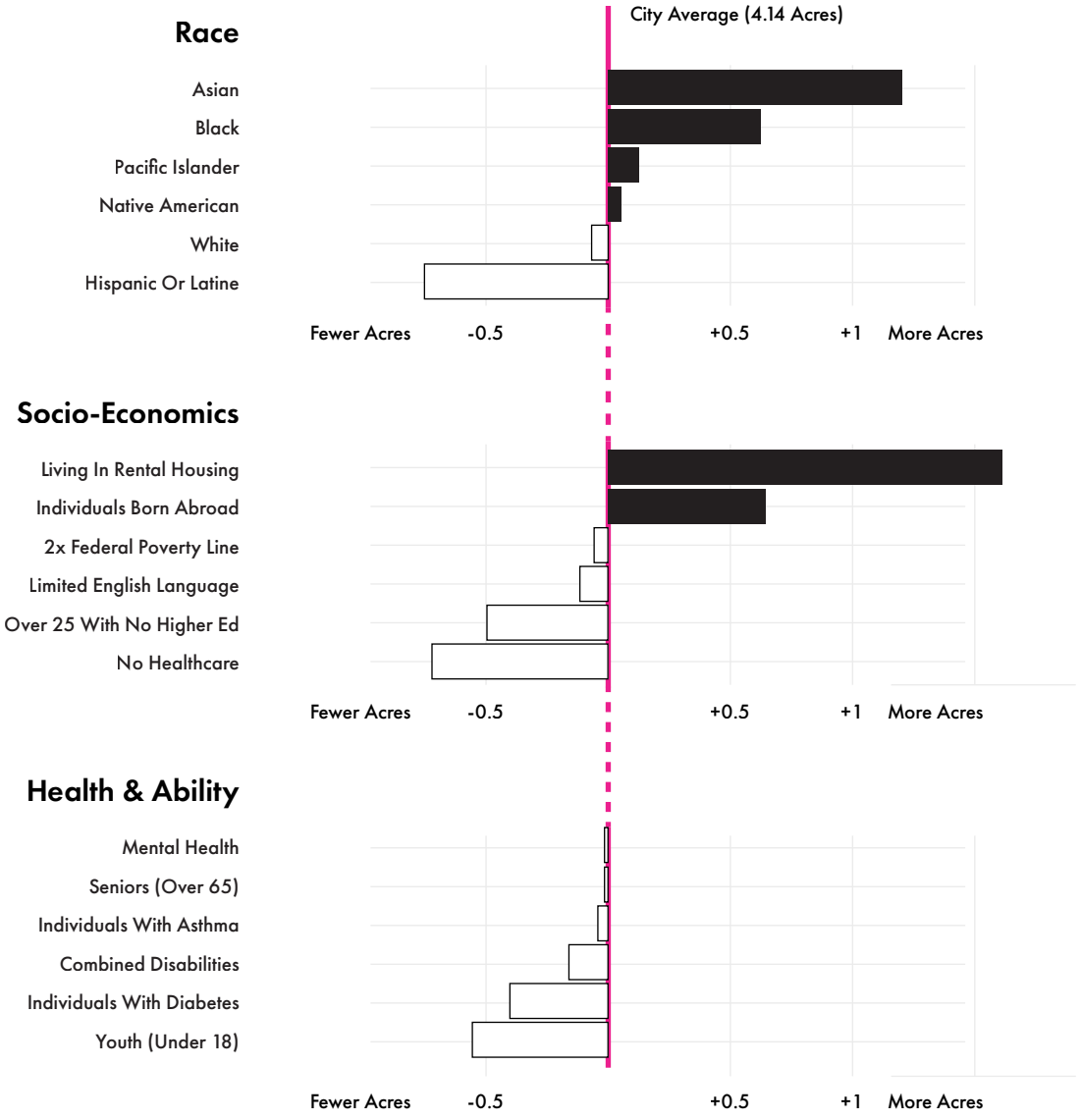
Socio-economic factors also influence park access. Residents living at or below 2x the federal poverty line have access to 4.08 acres, close to the city average (99%). Individuals living in rental housing have the highest access, with 5.75 acres (139% of the city average). The geographic distribution of this group corresponds with Asian and White populations living in northeast Hillsboro. People born abroad have access to 4.78 acres (116% of the city average), reflecting the intersection of various communities in NE Hillsboro that make up this group. Health and ability factors are more evenly distributed across communities, though youth (under 18) have the lowest service levels. This is driven by higher representation of youth in the central east side and downtown/SW.

This analysis highlights how uneven distribution of neighborhood parks impacts different groups, with lower service in central and SW Hillsboro affecting Hispanic and Latine communities, while higher service in the NE benefits Asian communities. The Hispanic and Latine population is largely concentrated around Walnut Street Park, which, at 2.4 acres, is among the smallest neighborhood parks. Higher-density Asian populations are served by Magnolia Park, Magnolia Meadows Park, Evergreen Park, Amberglen Park, Cornell Creek Park, Rosebay Park, and Central Park. These service areas overlap and compound to produce higher-than-average service acres in these zones. The southwest quadrant of the city has fewer and lower-quality neighborhood parks (two parks in average condition) compared to the northeast quadrant, which has more parks in better condition (seven parks, 2 in excellent condition, 2 in good condition, 2 in average condition, and 1 in fair condition). See the 50-year Vision statement for a definition of quadrants and Chapter 2.2: Summary Condition Report to see the park condition scores map.

NEIGHBORHOOD PARKS - AVERAGE ACRES SERVED

City of Hillsboro	Acres	Acr Diff	Diff
Population Overall	4.14	0	0%
Race			
White	4.07	-0.07	-2%
Black	4.76	0.62	+15%
Native American	4.19	0.05	+1%
Hispanic or Latine	3.38	-0.75	-18%
Asian	5.34	1.20	+29%
Pacific Islander	4.26	0.13	+3%
Socio-Economics			
2x Federal Poverty Line	4.08	-0.06	-1%
Living in Rental Housing	5.75	1.61	+39%
Over 25 with No Higher Ed	3.64	-0.50	-12%
Individuals Born Abroad	4.78	0.64	+16%
Limited English Language	4.02	-0.12	-3%
No Healthcare	3.42	-0.72	-17%
Health & Ability			
Youth	3.58	-0.56	-13%
Seniors	4.12	-0.01	0%
Mental Health	4.12	-0.01	0%
Diabetes	3.73	-0.40	-10%
Asthma	4.09	-0.04	-1%
Combined Disabilities	3.98	-0.16	-4%

NEIGHBORHOOD PARKS - AVERAGE ACRES SERVED



ACRES DIFFERENCE FROM CITY AVERAGE

ARE COMMUNITY PARKS DISTRIBUTED EQUITABLY?

As we move to look at community parks, we expand our service areas to include a two-mile drive from each of Hillsboro's seven community parks. On average, residents live within a two-mile drive of 34.22 acres of community park. At the highest level, Hillsboro's seven community parks are evenly distributed across the city and serve 97% of the population within a two-mile drive. This even geographic distribution results in many overlapping service areas, meaning that many people in the city have more than one community park within two miles and, in some places, up to four. These overlaps result in the average number of acres accessible to people from their homes (39.44 acres) exceeding the average acres per community park (21 acres). The overall difference in accessible acres across all groups is much smaller for community parks than it is for either neighborhood parks or nature parks, with the lowest level being 94% of the city average and the highest being 109%. This is a good indicator of a more equitable distribution of community park acres.

The difference in community park acres distribution varies across populations following a different pattern than neighborhood park service. Hispanic and Latine people have 43.04 acres of community park within a two-mile drive of their homes on average (109% of the city average). Asian people in Hillsboro have 37.90 acres within a two-mile drive (96% of the city average). These patterns are inverted from what we found when looking at neighborhood parks but are intuitive as we look at the distribution of community parks and populations across the city.

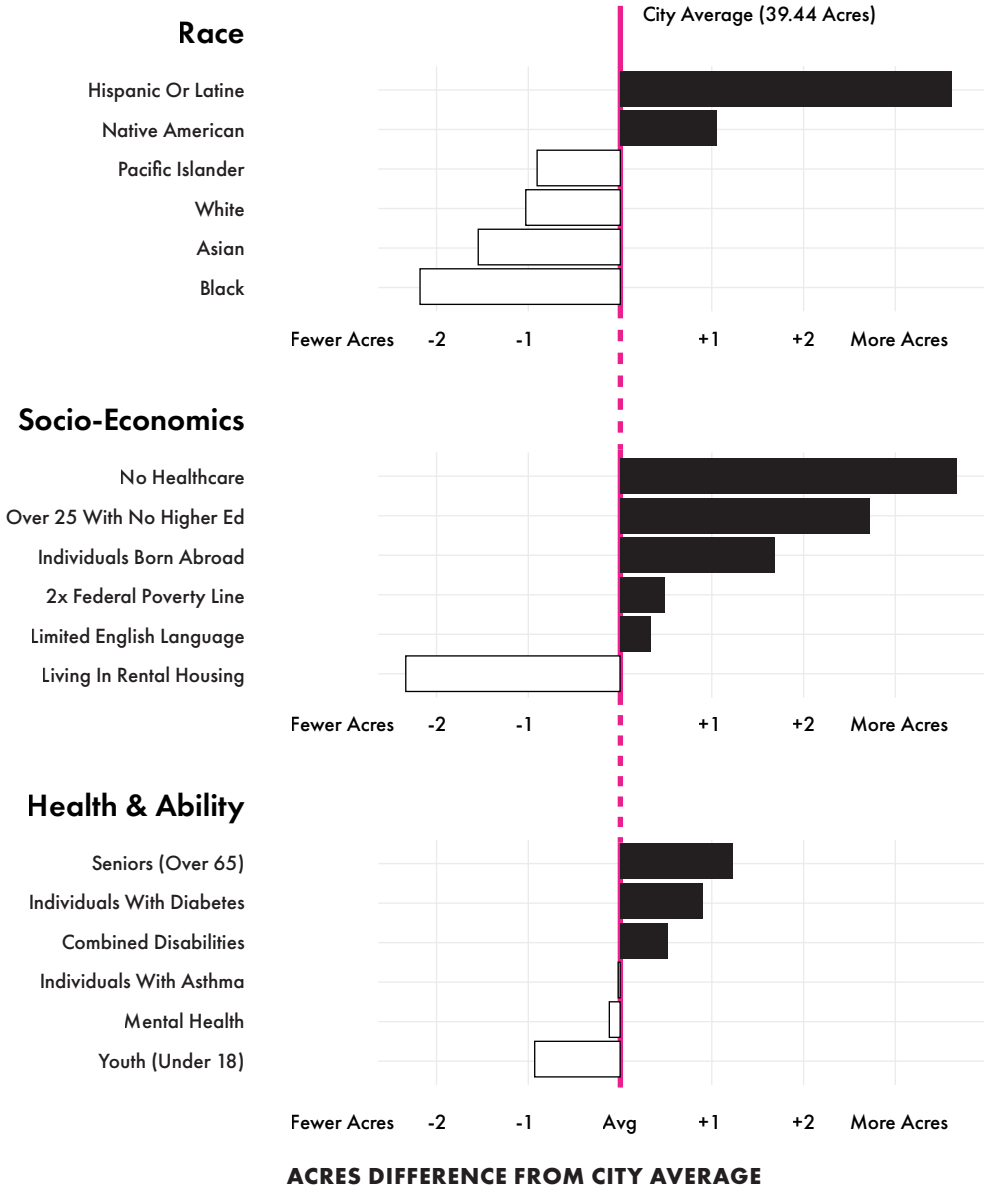
Hispanic and Latine populations are concentrated around Shute Park (17 acres), but this area also overlaps with the two-mile service areas of Dairy Creek Park, Griffin Oaks Park, and Rood Bridge Park. This means that for people living in this area of service overlap, their total level of community park service is uplifted to 106 acres (the total acres of those parks combined). In northeast Hillsboro, where Asian communities are concentrated, Orchard Park (20 acres) provides the only community park service. This reduces the overall level of community park service for this group. The Black community in Hillsboro has the lowest level of community park service for any race or ethnicity group, with an average of 37.27 acres (94% of the citywide average). This results from this community living in service gaps and fewer acres for both Orchard Park and Reedville Creek Park, which provide service to the majority of this community.

Socio-economic factors with the largest differences from the city average include individuals living in rental housing (94%) and those with no healthcare (109%). Individuals living in rental housing spatially correspond with where the Asian community is concentrated and individuals with no healthcare correspond with where the Hispanic Latine community lives, so the drivers for differences in community park service are similar, respectively. Health and ability factors are more broadly distributed across the population overall, and therefore, the accessible acres adhere more closely to the city average.

COMMUNITY PARKS - AVERAGE ACRES SERVED

City of Hillsboro	Acres	Acr Diff	Diff
Population Overall	39.44	0	0%
Race			
White	38.42	-1.02	-3%
Black	37.27	-2.17	-6%
Native American	40.49	1.05	+3%
Hispanic or Latine	43.04	3.60	+9%
Asian	37.90	-1.54	-4%
Pacific Islander	38.54	-0.90	-2%
Socio-Economics			
2x Federal Poverty Line	39.92	0.48	+1%
Living in Rental Housing	37.11	-2.34	-6%
Over 25 with No Higher Ed	42.16	2.72	+7%
Individuals Born Abroad	41.13	1.69	+4%
Limited English Language	39.77	0.33	+1%
No Healthcare	43.11	3.67	+9%
Health & Ability			
Youth	38.51	-0.93	-2%
Seniors	40.67	1.23	+3%
Mental Health	39.32	-0.12	0%
Diabetes	40.35	0.90	+2%
Asthma	39.42	-0.02	0%
Combined Disabilities	39.96	0.52	+1%

COMMUNITY PARKS - AVERAGE ACRES SERVED



ACRES DIFFERENCE FROM CITY AVERAGE

ARE NATURE PARKS DISTRIBUTED EQUITABLY?

The City of Hillsboro's Nature Parks include Noble Woods (38 acres), Orenco Woods (44 acres) and Jackson Bottom (459 acres). Noble Woods and Orenco woods are located in Hillsboro's E and NE zones, whereas Jackson Bottom is found along the city's far SW border. On average, residents live within a two-mile drive of 116 acres of Nature Park, however the combined two-mile service areas of these three Nature Parks serve 59% of the city's population. Acres of Nature Parks in Hillsboro are not evenly distributed and as a result, level of service across different groups is highly variable. Nature Parks have the greatest difference in service across groups for any of the three analyzed park types.

Across race and ethnicity groups, Hispanic and Latine communities have the highest level of Nature Park service, with an average of 181 acres (156% of the city average) within a two-mile drive. Asian communities, on average, have the lowest level of service, living within a two-mile drive of only 69.62 acres (60% of the city average). This is clearly driven by the fact that Jackson Bottom is so much larger than Noble Woods (12 times as large) and Orenco Woods (10 times as large). 44% of the city's 25,442 Hispanic and Latine residents live within a two-mile drive of Jackson Bottom while only 10% of the city's Asian population lives within that same zone. Native American community members have access to an average of 143 acres within a two-mile drive (123% of the city average). All other racial groups in the city are below the city average, indicated fewer individuals living within the Jackson Bottom service area.

All analyzed socio-economic groups have an above level of service for Nature Park acres. This is a result of these groups living within the Jackson Bottom service area, as well as concentrated populations living within the overlapping service areas of Orenco Woods and Noble Woods.

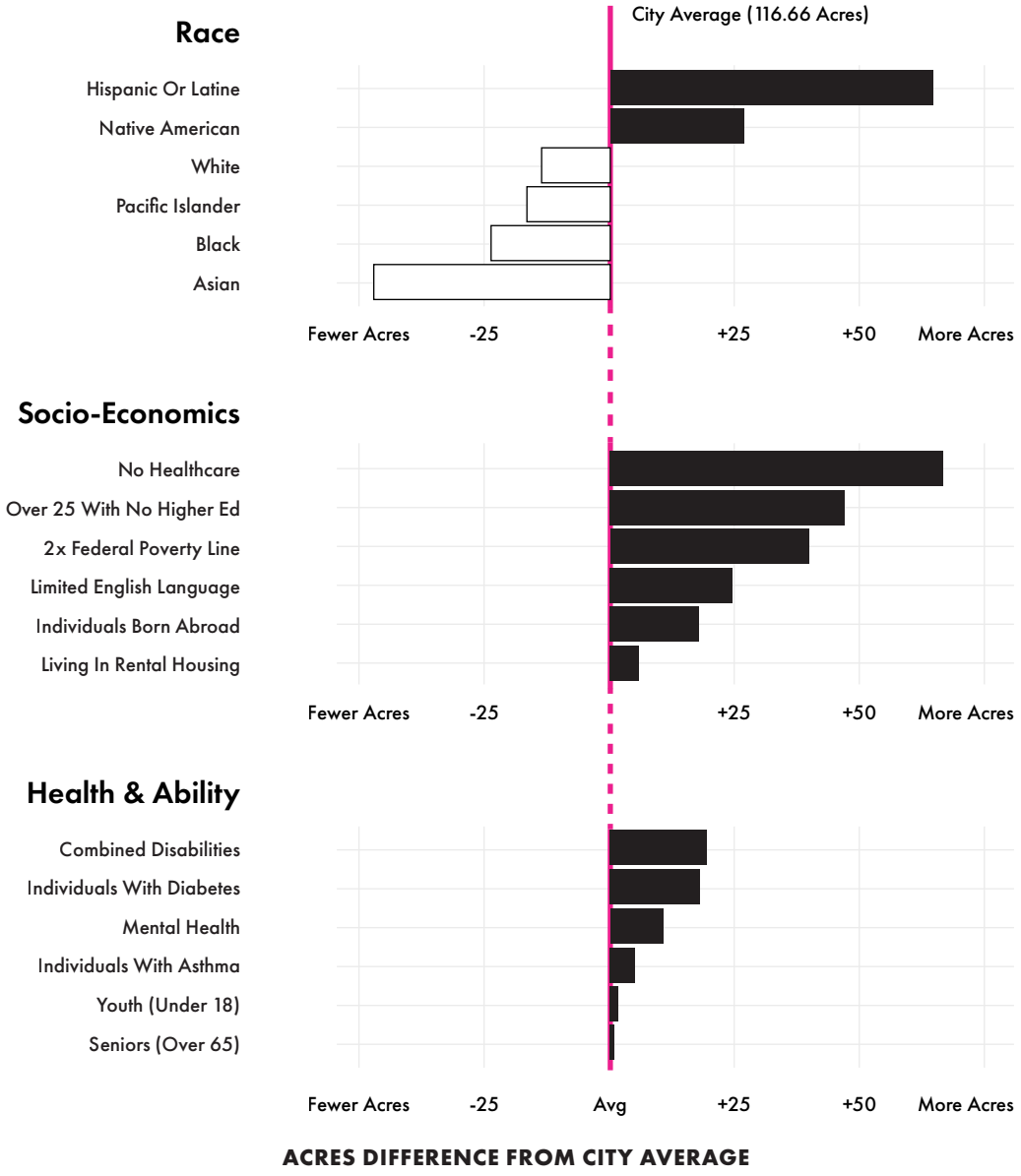
Health and ability factors are more evenly distributed across communities, resulting in closer adherence to the city-wide average. Individuals with diabetes and those with a disability have the highest level of service across health and ability groups.

It is important to note that not all of Jackson Bottom Wetland Preserve is used as a Nature Park and some portion of the acreage is inaccessible when annually flooded. Its function as a nature preserve means that it has limited access for people. Therefore, we think that its weight in this analysis is representative of its actual value as a Nature Park for residents. Conversely, Orenco Woods has excellent amenities and programming, making it a very desirable destination for parkgoers. Additionally, since these metrics are calculated with an assumed two-mile driving service area, they do not account for barriers to access, such as lacking a driver's license or access to a vehicle. These factors may limit the actual use of a park even if populations are technically within the standard service areas. The lack of a vehicle is a priority factor to consider when reviewing equity concerns across neighborhoods and park types.

NATURE PARK AVERAGE ACRES SERVED

City of Hillsboro	Acres	Acr Diff	Diff
Population Overall	116.66	0	0%
Race			
White	103.16	-13.50	-12%
Black	93.14	-23.52	-20%
Native American	143.65	26.99	+23%
Hispanic or Latine	181.42	64.77	+56%
Asian	69.62	-47.04	-40%
Pacific Islander	100.25	-16.41	-14%
Socio-Economics			
2x Federal Poverty Line	156.56	39.91	+34%
Living in Rental Housing	122.69	6.03	+5%
Over 25 with No Higher Ed	163.83	47.17	+40%
Individuals Born Abroad	134.80	18.14	+16%
Limited English Language	141.31	24.65	+21%
No Healthcare	183.54	66.89	+57%
Health & Ability			
Youth	118.50	1.84	+2%
Seniors	117.69	1.03	+1%
Mental Health	127.47	10.81	+9%
Diabetes	134.75	18.10	+16%
Asthma	121.86	5.20	+4%
Combined Disabilities	136.07	19.42	+17%

NATURE PARKS - AVERAGE ACRES SERVED



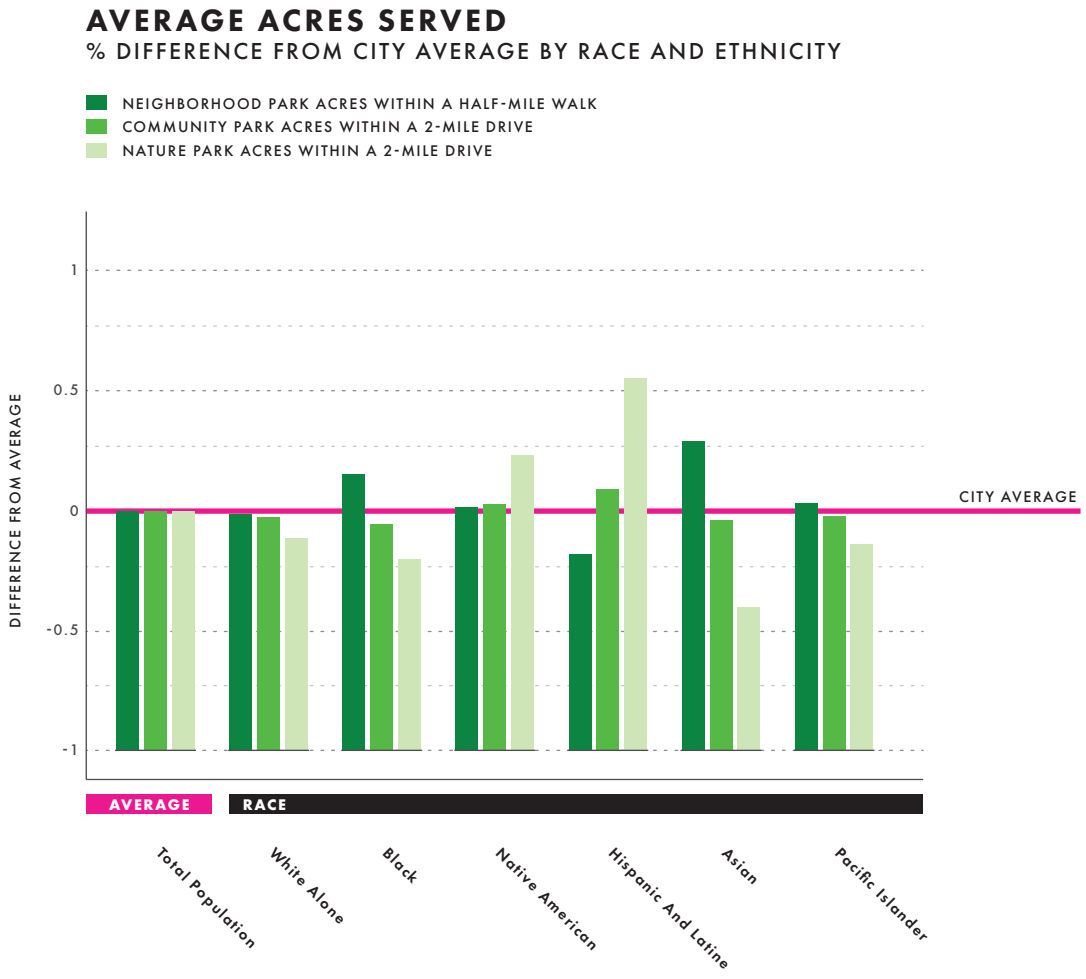
ACRES DIFFERENCE FROM CITY AVERAGE

ARE PARK ACRES DISTRIBUTED EQUITABLY?

To compare park access across groups and park types, we calculated the percent difference from the average park access for each group. This method allows for consistent comparison across park types of different sizes. The formula, [(α - μ) / μ], where α is the community average and μ is the overall average, produces a result between -1 and 1. Values close to 0 indicate access near the average, negative values indicate below-average access, and positive values indicate above-average access.

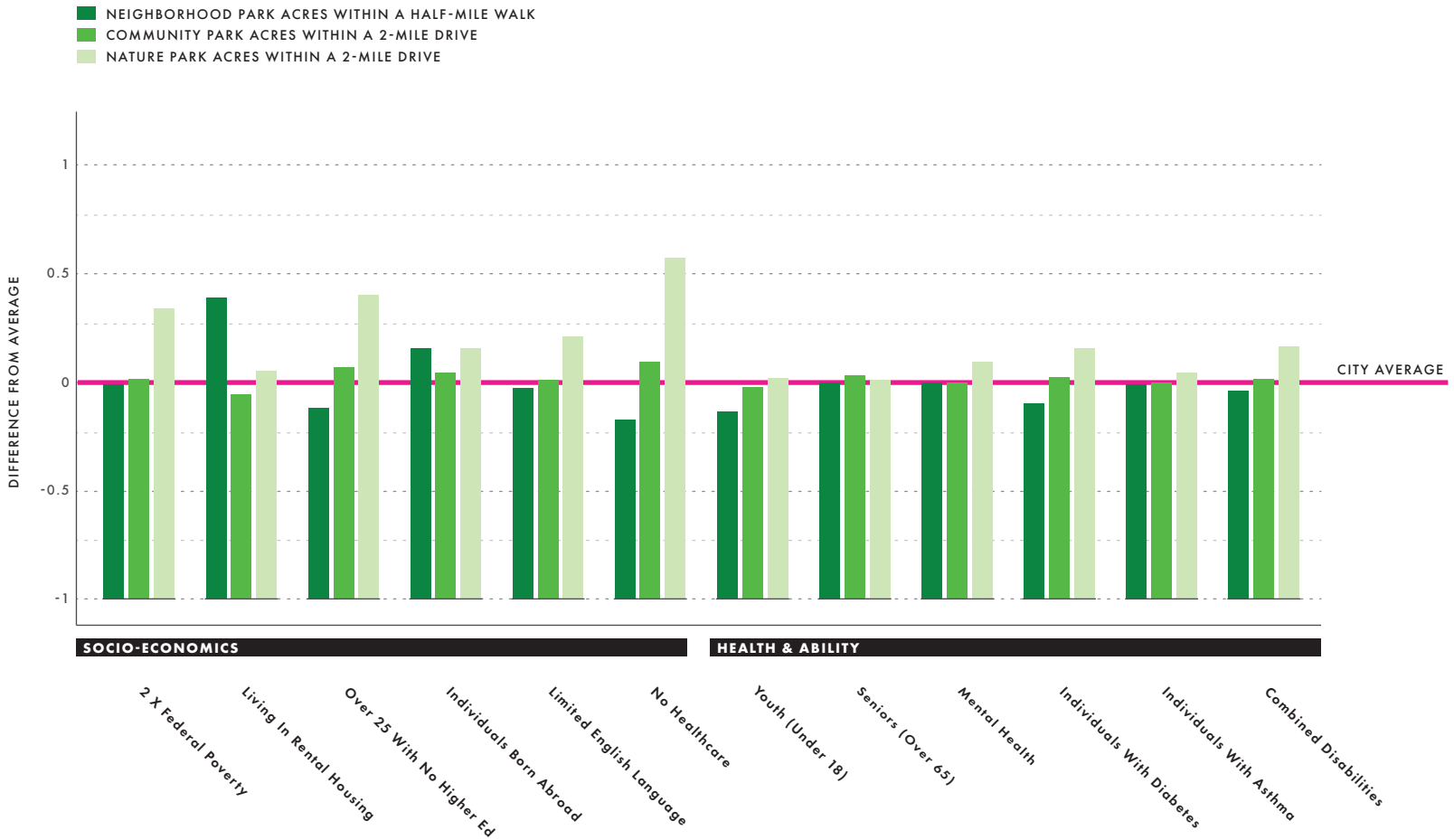
The analysis reveals interesting trends: groups with less access to neighborhood park acres often have more access to nature park acres, and vice versa. For example, Hispanic and Latine populations have the least access to neighborhood parks but the most access to nature parks, while Asian communities experience the opposite. Walnut Street Park is the sole neighborhood park serving the densest Hispanic neighborhood, while seven neighborhood parks serve the densest Asian neighborhoods. Jackson Bottom significantly boosts nature park access for Hispanic and Latine populations, while Asian communities are largely outside its service area.

These findings offer valuable insights for future planning, highlighting opportunities to reduce disparities and improve park access for underserved communities.



AVERAGE ACRES SERVED

% DIFFERENCE FROM CITY AVERAGE BY SOCIO-ECONOMICS, HEALTH AND ABILITY



ARE NEIGHBORHOOD PARKS SHARED EQUITABLY?

Assessing the distribution of park acres throughout the city of Hillsboro in relation to where people live provides a baseline understanding of how well-served communities are by the park system. This provides an important foundation for understanding potential disparities within the system, but it doesn't tell the full story. We know that not all park acres are shared equally. When comparing parks, there is variability in the number of people living within a park service area, and this variability is not correlated to park acres. In order to understand if park acres are shared equitably, we must ask the question: how many people are communities sharing their park acres with? Before we show the summary level of service results, we wanted to represent the combination of considerations that went into the level of service metric.

The accompanying infographics provide a graphic representation of the considerations that were used to develop a measure of the level of service for each community. Each park type has its own series, which are drawn to scale. The total population results are reported on the top row and indicate the city averages for both park acres and number of people those acres are shared by. The average acres are then represented by a magenta box for reference across the series to see if the acres per community are above or below the city average. The scale of each park type varies and is indicated by the key on the upper righthand side of the graphic, which shows an acre to scale and the number of people each dot represents. The rows are organized by race, socio-economics, and health and ability. The text on the top of the boxes indicates the group represented, and the text on the bottom describes the results narratively.

Each dot represents 100 people, and each row of dots represents 1000 people. Since the magenta box is the average acres for that park type, when there is white space inside the magenta box, that community has fewer park acres than average. Black space outside of the magenta box means that the community has more park acres than average.

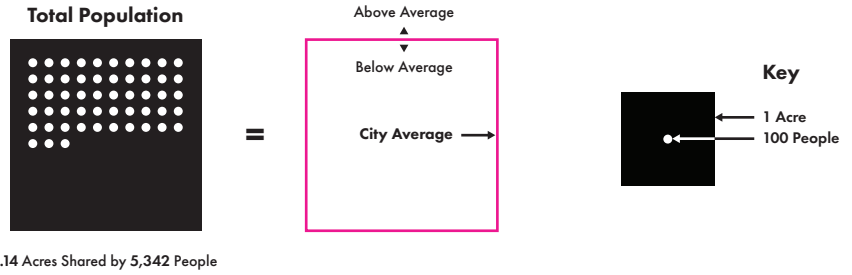
Hillsboro's 19 neighborhood parks account for 108.58 total acres. This would provide 1.03 neighborhood park acres per 1,000 people, but this doesn't account for distribution of parks and park service areas. Neighborhood parks range in size from 1.8 acres to 14.3 acres, with an average size of 5.7 acres. Neighborhood parks serve just 47% of residents within a half-mile walk indicating that there are significant gaps in the system. Residents on average have access to 4.14 neighborhood park acres within a half-mile walk from their residence and share these acres with 5,342 people.

Across race and ethnicity groups, the Asian community has access to the most neighborhood park acres, an average of 5.34 acres within a half-mile walk from their residence, but they share these acres with an above-average number of people, 6,023 people. The Hispanic and Latine community has the fewest neighborhood park acres with access to 3.38 acres within a half-mile walk from their residence and they share these acres with a below-average number of people, 4,968 people.

Across socio-economic groups, those living in rental housing have access to the most neighborhood park acres, an average of 5.75 acres within a half-mile walk from their residence, but they share these acres with an above-average number of people, 7,118 people. Individuals with no healthcare have access to the least neighborhood park acres, an average of 3.42 neighborhood park acres within a half-mile walk from their residence, and share these acres with a below-average number of people, 5,056 people.

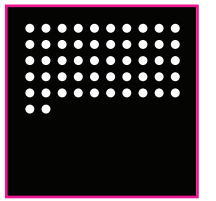
Across health and ability groups, seniors (over 65) have access to the most neighborhood park acres, an average of 4.12 acres within a half-mile walk from their residence, and share these acres with a below-average number of people, 5,118 people. Youth (under 18) have access to the least neighborhood park acres, an average of 3.58 neighborhood park acres within a half-mile walk from their residence, and share these acres with a below-average number of people, 4,704 people.

Are Neighborhood Parks Shared Equitably?



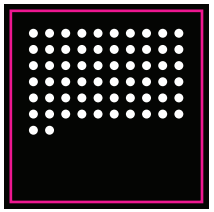
4.14 Acres Shared by 5,342 People

Race



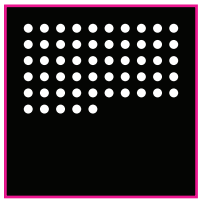
White

4.07 Acres shared by 5,192 People



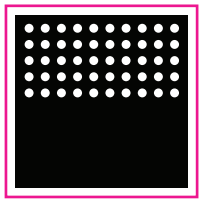
Black

4.76 Acres shared by 6,243 People



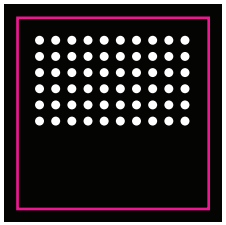
Native American

4.19 Acres shared by 5,483 People



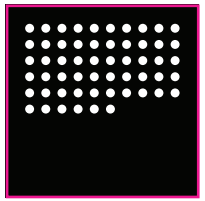
Hispanic and Latine

3.38 Acres shared by 4,968 People



Asian

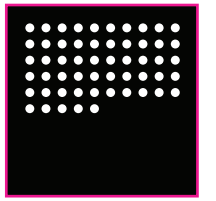
5.34 Acres shared by 6,023 People



Pacific Islander

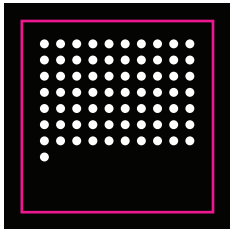
4.26 Acres shared by 5,614 People

Socio-Economics



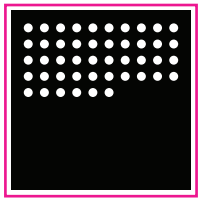
2x Federal Poverty

4.08 Acres shared by 5,534 People



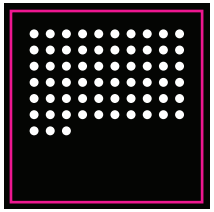
Living in Rental Housing

5.75 Acres shared by 7,118 People



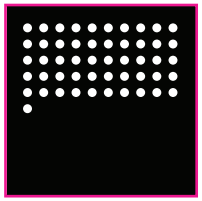
Over 25 with No Higher Ed

3.64 Acres shared by 4,641 People



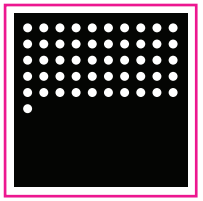
Individuals Born Abroad

4.78 Acres shared by 6,342 People



Limited English Language

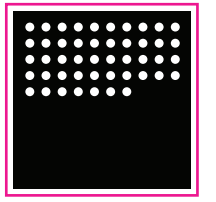
4.02 Acres shared by 5,114 People



Individuals with No Healthcare

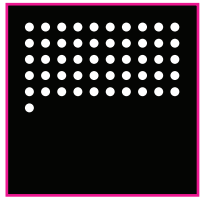
3.42 Acres shared by 5,056 People

Health & Ability



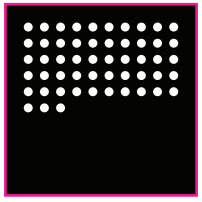
Youth (under 18)

3.58 Acres shared by 4,704 People



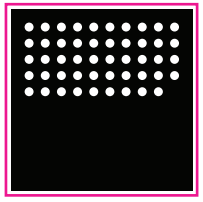
Seniors (over 65)

4.12 Acres shared by 5,118 People



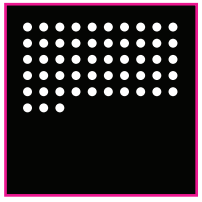
Mental Health

4.12 Acres shared by 5,278 People



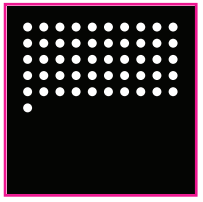
Individuals with Diabetes

3.73 Acres shared by 4,859 People



Individuals with Ashthma

4.09 Acres shared by 5,264 People



Combined Disabilities

3.98 Acres shared by 5,055 People

ARE COMMUNITY PARKS SHARED EQUITABLY?

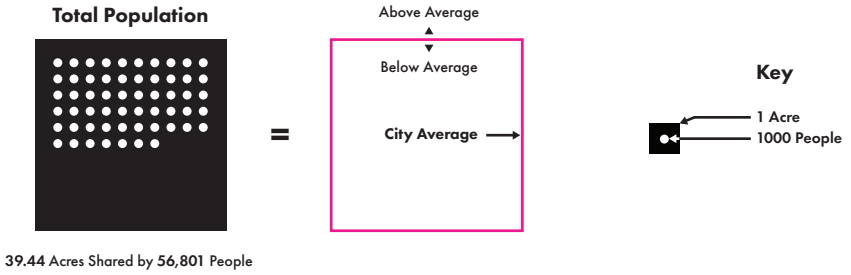
Hillsboro's 7 community parks account for 149.15 total acres of parkland. This would provide 1.41 community park acres per 1,000 people, but this doesn't account for the distribution of parks and park service areas. Community parks range in size from 8.6 acres to 57.4 acres, with an average size of 20.9 acres. Community parks serve 97% of residents within a two-mile drive indicating that there are few residents who are not served. Residents, on average, have access to 39.44 community park acres within a two-mile drive from their residence and share these acres with 56,801 people.

Across race and ethnicity groups, the Hispanic and Latine community has the most community park acres, with an average of 43.04 acres within a two-mile drive from their residence, and they share these acres with an above-average number of people, 57,894. The Asian community has the least amount of community park acres, with an average of 37.90 acres within a two-mile drive from their residence, and they share these acres with an above-average number of people, 57,430.

Across socio-economic groups, individuals over 25 with no higher education have the most community park acres, with an average of 42.16 acres within a two-mile drive from their residence, and share these acres with a below-average number of people, 56,223. Those living in rental housing have the least community park acres, with an average of 37.11 acres within a two-mile drive from their residence, and share these acres with a below-average number of people, 59,329.

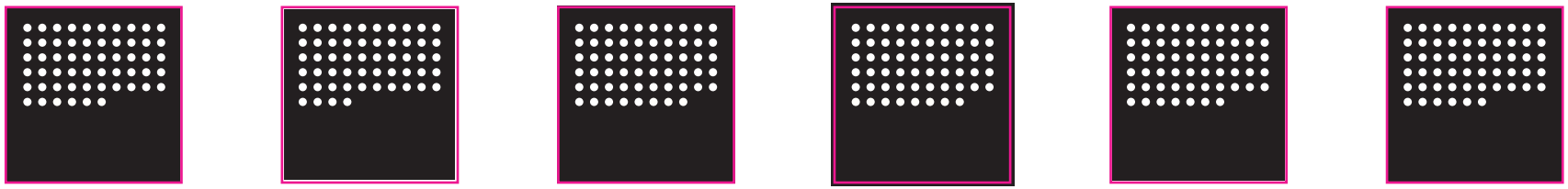
Across health and ability groups, seniors (over 65) have the most community park acres, with an average of 40.67 acres within a two-mile drive from their residence, and share these acres with close to the average number of people, 56,856. Youth (under 18) have the least community park acres, with an average of 38.51 acres within a two-mile drive from their residence, and share these acres with a below-average number of people, 55,867.

Are Community Parks Shared Equitably?



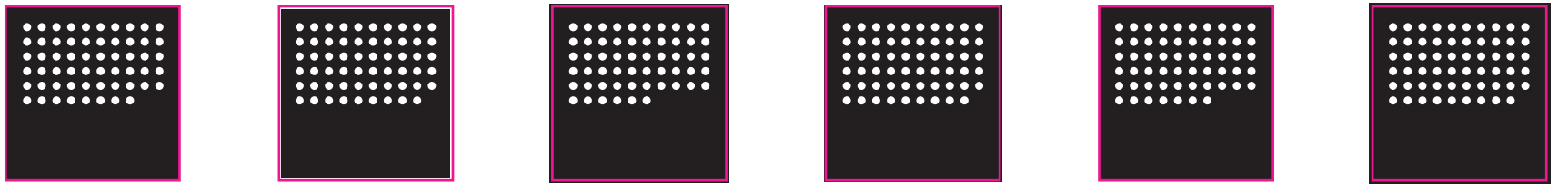
39.44 Acres Shared by 56,801 People

Race



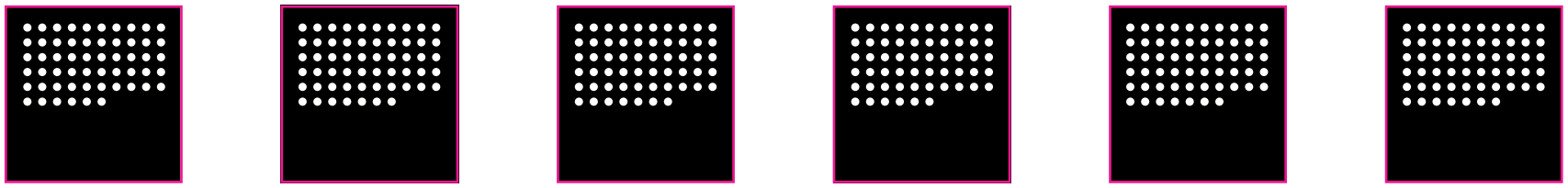
White	Black	Native American	Hispanic and Latine	Asian	Pacific Islander
38.42 Acres shared by 56,319 People	37.27 Acres shared by 53,606 People	40.49 Acres shared by 58,240 People	43.04 Acres shared by 57,894 People	37.90 Acres shared by 57,430 People	38.54 Acres shared by 56,358 People

Socio-Economics



2x Federal Poverty	Living in Rental Housing	Over 25 with No Higher Ed	Individuals Born Abroad	Limited English Language	Individuals with No Healthcare
39.92 Acres shared by 57,779 People	37.11 Acres shared by 59,329 People	42.16 Acres shared by 56,223 People	41.13 Acres shared by 58,525 People	39.77 Acres shared by 56,737 People	43.11 Acres shared by 58,772 People

Health & Ability



Youth (under 18)	Seniors (over 65)	Mental Health	Individuals with Diabetes	Individuals with Ashthma	Combined Disabilities
38.51 Acres shared by 55,867 People	40.67 Acres shared by 56,856 People	39.32 Acres shared by 56,746 People	40.35 Acres shared by 56,469 People	39.42 Acres shared by 56,744 People	39.96Acres shared by 56,529 People

ARE NATURE PARKS SHARED EQUITABLY?

Hillsboro's 3 nature parks account for 542.4 total acres of parkland. This would provide 6.88 nature park acres per 1,000 people, but this doesn't account for the distribution of parks and park service areas. Na-ture parks range in size from 38.4 acres to 459.1 acres, with an average size of 180.7 acres. Nature parks serve 59% of residents within a two-mile drive, indicating that there are some gaps in the system and substantial areas of the city that are not served. Residents, on average, have access to 116.66 na-ture park acres within a two-mile drive from their residence and share these acres with 24,875 people.

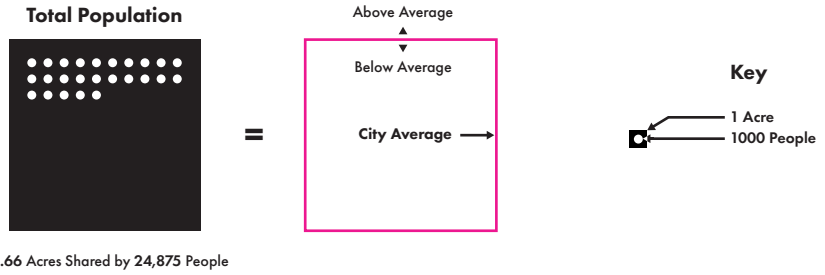
Across race and ethnicity groups, the Hispanic and Latine community has the most nature park acres, with an average of 181.42 acres within a two-mile drive from their residence, and they share these acres with a below-average number of people (22,533). The Asian community has the least nature park acres, with an average of 69.62 acres within a two-mile drive from their residence, and they share these acres with an above-average number of people (34,408).

Across socio-economic groups, individuals with no healthcare have the most nature park acres, with an average of 183.54 acres within a two-mile drive from their residence, and they share these acres with a below-average number of people (22,518). Individuals living in rental housing have the least nature park acres, with an average of 122.69 acres within a two-mile drive from their residence, and they share these acres with a below-average number of people (24,646).

Across health and ability groups, individuals with a disability have the most nature park acres, with an average of 136.07 acres within a two-mile drive from their residence, and they share these acres with a below-average number of people (23,674). Seniors (over 65) have the least nature park acres, with an average of 117.69 acres within a two-mile drive from their residence, and they share these acres with a below-average number of people (24,509).

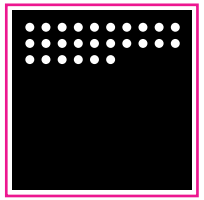
These infographics summarized the inputs to the level of service analysis and demonstrate the difficulty in comparing park size only in order to understand park service. For example, which provides a higher level of service, a larger park used by more people or a smaller park used by fewer people? This is why the metric of parks per capita is necessary to understand equity in level of service across Hillsboro, which follows in the next section.

Are Nature Parks Shared Equitably?



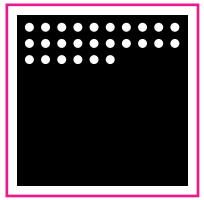
116.66 Acres Shared by 24,875 People

Race



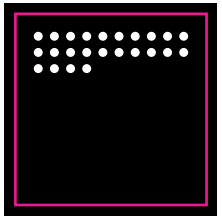
White

103.16 Acres shared by 25,491 People



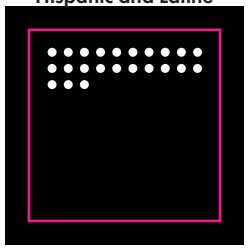
Black

93.14 Acres shared by 26,415 People



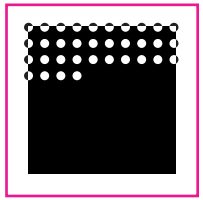
Native American

143.65 Acres shared by 23,584 People



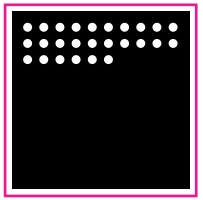
Hispanic and Latine

181.42 Acres shared by 22,533 People



Asian

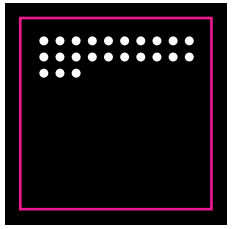
69.62 Acres shared by 34,408 People



Pacific Islander

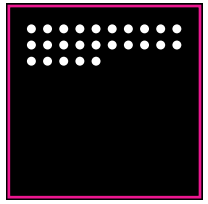
100.25 Acres shared by 26,370 People

Socio-Economics



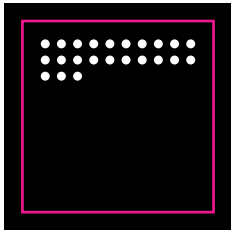
2x Federal Poverty

156.56 Acres shared by 22,916 People



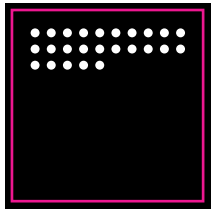
Living in Rental Housing

122.69 Acres shared by 24,646 People



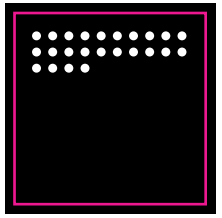
Over 25 with No Higher Ed

163.83 Acres shared by 22,783 People



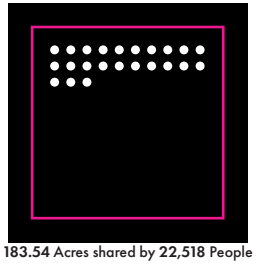
Individuals Born Abroad

134.80 Acres shared by 24,796 People



Limited English Language

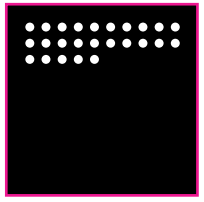
141.31 Acres shared by 23,541 People



Individuals with No Healthcare

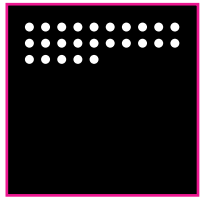
183.54 Acres shared by 22,518 People

Health & Ability



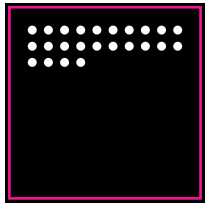
Youth (under 18)

118.50 Acres shared by 24,471 People



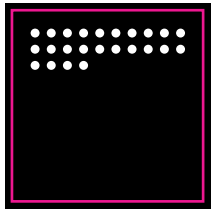
Seniors (over 65)

117.69 Acres shared by 24,509 People



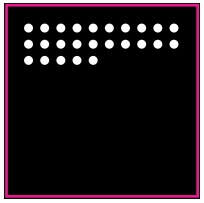
Mental Health

127.47 Acres shared by 24,179 People



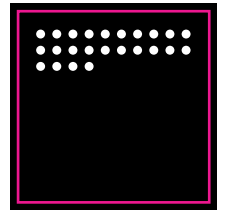
Individuals with Diabetes

134.75 Acres shared by 23,743 People



Individuals with Ashthma

121.86 Acres shared by 24,488 People



Combined Disabilities

136.07 Acres shared by 23,674 People

HOW DO COMMUNITY'S LEVEL OF SERVICE COMPARE?

To understand community level of service, we needed to consider park acres per capita, in this case using a common metric, acres per 1,000 people. The following section summarizes the level of service for each demographic group. To calculate the level of service, the total population within park service areas was calculated and divided by the total number of acres for each park. This was then used to create a spatial weighted average which results in the average number of park acres per person for each group. Table X provides acres per 1,000 people and the differences from the city average for all park types and groups.

Neighborhood parks show substantial differences in acres per person, with the lowest level of service being 0.68 acres per 1,000 people (88% of the city average (Hispanic and Latine community)) and the highest level of service being 0.89 acres per 1,000 people (114% of the city average (Asian community)). Socio-economic factors are slightly less varied, with the lowest level of service being 0.68 acres for individuals without healthcare and the highest being 0.81 acres per 1,000 people for those living in rental housing. Health and ability factors are more evenly distributed across populations, and therefore, the resulting metrics are closer to the mean.

Community parks show a lower range of difference in acres per person than other park types, but the differences in community park acres per person are greater than differences seen in community park acres alone. By race and ethnicity, the highest level of service in community park acres per 1,000 people is 0.74 (107% of the city average (Hispanic and Latine community) while the lowest level of service is 0.66 acres per 1,000 people (95% of the city average (Asian community)). The primary drivers for this are two-fold; 1) the Hispanic and Latine community largely lives in an area of the city that has overlapping service areas for multiple community parks while the Asian community lives in an area with fewer community park acres served, and 2) the Asian community lives in a higher density area of the city than the Hispanic and Latine community. Individuals living in rental housing have the lowest level of community park acres per 1,000 people with only 0.63 (90% of the city average), and individuals over 25 with no higher education have the most with 0.75 acres per 1,000 people (108% of the city average). Health and ability adhere close to the city average.

Nature parks have the widest range of differences for any park type. The patterns observed in the level of service analysis become more exaggerated when we calculate acres per person. In a broad sense, this is a result of the uneven distribution of nature park acres compounded by an inverse relationship with population density; where there are more nature park acres, there is generally lower population density, and where there are fewer nature park acres there is higher population density - especially when weighted by specific groups.

Hispanic and Latine community members have 8.05 nature park acres per 1,000 people (172% of the city average), while Asian communities have 2.02 acres per 1,000 people (43% of the city average). This dramatic difference is driven heavily by the proximity of the Hispanic and Latine community to Jackson Bottom Wetland Preserve. Jackson Bottom is not only large (12 times the size of Orenco Woods and 10 times the size of Noble Woods), but it is positioned at the edge of the city limits and urban growth boundary with only two points of access. This results in a smaller service area with fewer people. As stated in the previous section, Jackson Bottom is not entirely accessible for use as a nature park, and therefore, its contribution to these estimates is accompanied by an asterisk.

ACRES PER 1000 PEOPLE	Neighborhood Parks		Community Parks		Nature Parks	
City of Hillsboro	**Acres/1000**	**Diff**	**Acres/1000**	**Diff**	**Acres/1000**	**Diff**
Population Overall	0.77	0%	0.69	0%	4.69	0%
Race	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**
White	0.78	+1%	0.68	-2%	4.05	-14%
Black	0.76	-2%	0.70	0%	3.53	-25%
Native American	0.76	-1%	0.70	0%	6.09	+30%
Hispanic or Latine	0.68	-12%	0.74	+7%	8.05	+72%
Asian	0.89	+14%	0.66	-5%	2.02	-57%
Pacific Islander	0.76	-2%	0.68	-2%	3.80	-19%
Socio-Economics	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**
2x Federal Poverty Line	0.74	-5%	0.69	0%	6.83	+46%
Living in Rental Housing	0.81	+4%	0.63	-10%	4.98	+6%
Over 25 with No Higher Ed	0.78	+1%	0.75	+8%	7.19	+53%
Individuals Born Abroad	0.75	-3%	0.70	+1%	5.44	+16%
Limited English Language	0.79	+2%	0.70	+1%	6.00	+28%
No Healthcare	0.68	-13%	0.73	+6%	8.15	+74%
Health & Ability	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**	**Acres/1000**	**% Diff**
Youth	0.76	-2%	0.69	-1%	4.84	+3%
Seniors	0.81	+4%	0.72	+3%	4.80	+2%
Mental Health	0.78	+1%	0.69	0%	5.27	+12%
Diabetes	0.77	-1%	0.71	+3%	5.68	+21%
Asthma	0.78	0%	0.69	0%	4.98	+6%
Combined Disabilities	0.79	+2%	0.71	+2%	5.75	+23%

HOW DO COMMUNITY'S LEVEL OF SERVICE COMPARE?

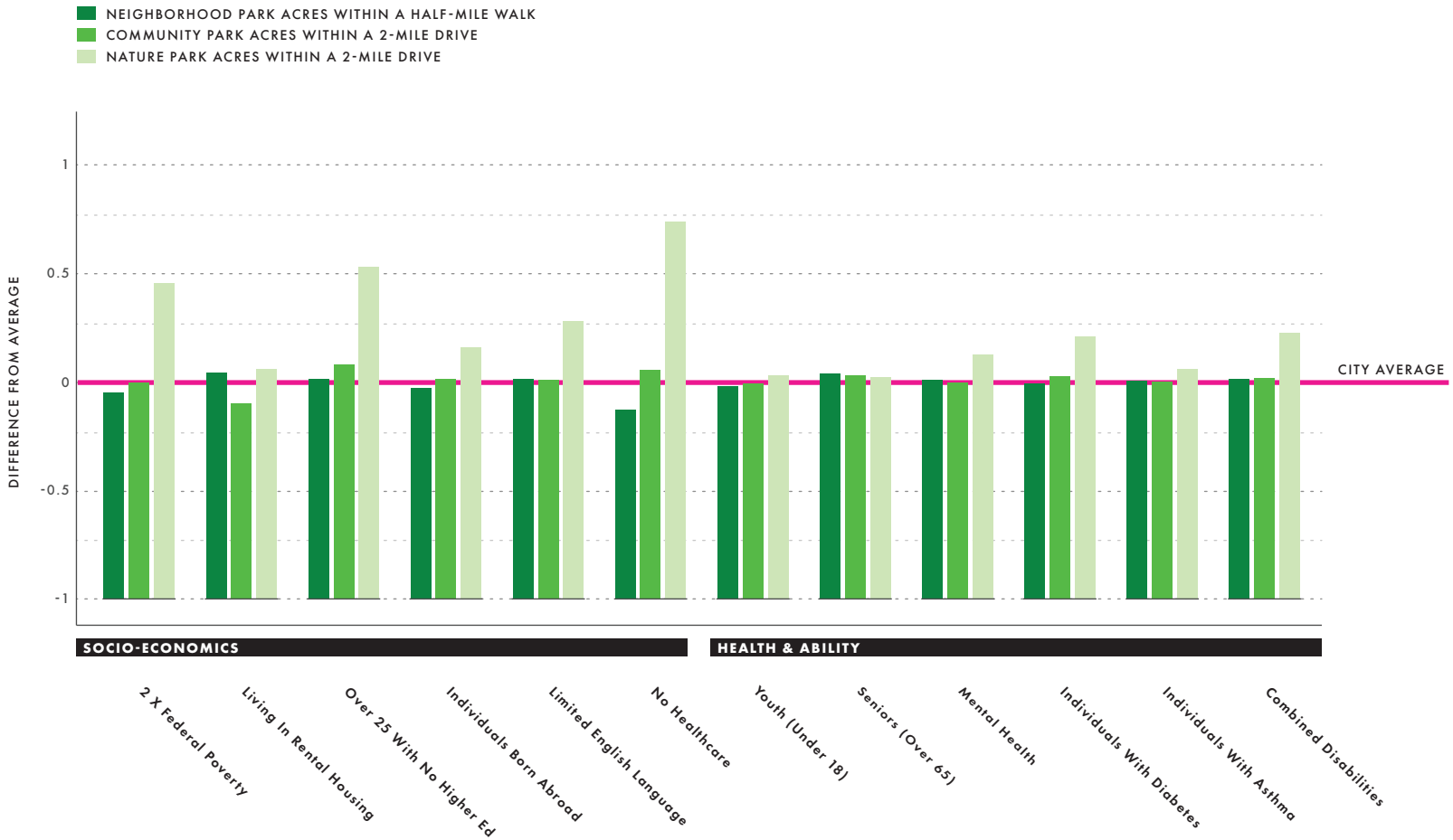
In order to observe patterns across all park types, we have normalized the park acres per person based on the city-wide averages such that we can compare the difference from the mean. We can see from these results that Hispanic and Latine people still have the lowest level of neighborhood park service per person, but that Black and Asian populations share their accessible park acres with more people on average. Thus, population density moderates the higher park acres for the Black and Asian communities, leaving the Black community 2 percentage points below the city average for neighborhood parks per capita. In contrast, the lower park acres for the Hispanic/Latine community are only slightly moderated, highlighting an inequitable neighborhood park gap even after accounting for (relatively) lower population density. Socio-economic disparities nearly disappear, except for individuals without healthcare, who remain significantly underserved (-13 percentage points).

For community parks, disparities persist for the Asian community and renters, even after considering population density. This is evident when considering the distribution of neighborhood parks, population density and communities. Community park acres are widely distributed across the city where people live, so we don't see as much variance in service when we weight accessible community park acres by population.

We see a different result for nature parks, where due to the high variance in acres compounded by a spatial correlation between lower nature park service and higher density populations, the gap between the highest level of service and lowest level of service becomes even more exaggerated. Thus, for nature parks, existing disparities worsen, indicating a critical opportunity to address park needs in vulnerable communities through targeted programming in nature parks, since these communities tend to be overserved by these more passive use parks.

ACRES PER 1000 PEOPLE

% DIFFERENCE FROM CITY AVERAGE BY RACE AND ETHNICITY



SYSTEM EQUITY ANALYSIS KEY FINDINGS

RECOMMENDATIONS:

i. Improve distribution of neighborhood parks and neighborhood park functions using mutliple strategies.

ii. Consider adding neighborhood functions to nature parks near high-density underserved communities.

iii. Pursue new in-fill park typologies, such as pocket parks and urban plazas, in areas with limited neighborhood park service.

iv. Preserve and improve neighborhood park functions along greenways in areas underserved by neighborhood parks and those underserved by nature parks.

v. Invest in improving park acre quality in areas with limited park acre service.

vi. Increase and improve park functions at Jackson Bottom Wetland Preserve. Future investments should focus on leveraging Jackson Bottom as important asset by making it more accessible to those without a car and ensuring that it is useable as a nature park year round

vii. Evaluate how vulnerable communites, communiti es with disabilites and socio-economic distress experience nature parks to ensure they have access to this amenity they have in abundance.

viii. Improve the distribution of nature parks and nature park functions using multiple strategies to close visible or invisible service gaps.

ix. Preserve and improve nature functions to community parks and neighborhood parks in areas underserved by nature parks, since they are well distributed and positioned to serve communities currently under served by nature parks.

x. Improve connectivity and reduce barriers to walking and biking access to parks. This may be a way to incrrease accessible park acres and connection to existing parks.

xi. Consider programming to address structured play in areas underserved by neighborhood parks and nature connection in areas underserved by nature parks.

xii. Develop a strategy for investing in future parks in areas that are not in expansion areas.

xiii. Standardize maintenance practices and investments across the system to ensure high quality across the parks system