City of Atlanta Parks and Recreation Equity Data Tool



An Interactive Data-Driven Mapping Tool for Prioritizing Parks & Recreation Investments + Capital Improvements across the City of Atlanta.

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Methodology Report

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Introduction

Background

In December 2021, the City of Atlanta adopted <u>Activate ATL: Recreation & Parks for All</u>, the Department of Parks and Recreation (DPR) 10-Year Comprehensive Master Plan aimed at increasing access to exceptional recreational programming, fostering community connections to nature through parks and trails, and ultimately, improving the health, happiness, and resilience of all Atlantans, in all neighborhoods.

Many disparities exist across the city of Atlanta. For example, noncommunicable disease burdens such as heart disease, stroke, obesity, and diabetes vary significantly by neighborhood and census tract. Because of these differences, we also see large gaps in life expectancy across the city. In fact, there is a 24-year difference in life expectancy between some neighborhoods that are only a few miles apart. DPR recognizes the important role that parks and recreation can have on reducing disparities and improving overall health and quality of life for Atlantans. Thus, the DPR EDT was formed.

The DPR EDT is an online interactive mapping platform for evaluating hundreds of Atlanta's parks and recreation centers, while also evaluating neighborhood determinants of health for each of the census tracts in which the parks and recreation centers reside. The DPR EDT is a means for visualizing and communicating inequities and disparities across Atlanta's neighborhoods by showing which parks and rec centers have the greatest need for capital improvement and where exactly the need is located. The data includes a diverse group of indicators to help guide equitable prioritization of capital investment and improvement. The tool will also help monitor and evaluate DPR's efforts and impact over time.

DPR will analyze the diverse group of indicators and data within the tool to help guide prioritization of future investment and capital improvement. DPR will also use the tool to track baseline park evaluations, community perceptions, and health data to help monitor impact over time.

A tool for evaluating equity based on need

Data-driven mapping helping to prioritize parks, rec centers, and surrounding neighborhoods with the greatest need for park investment and capital improvement

Tracking the impact of DPR's efforts over time beginning at the baseline Furthermore, by connecting parks and recreation efforts to health equity and life expectancy, the tool can help the department develop specific park and rec recommendations that can in turn improve Atlantan's health and quality of life.

Data and Technology

Developing the Data Tool

The Parks and Recreation Equity Data Tool is the result of a three-year partnership between the City of Atlanta Department of Parks and Recreation and Bloomberg Associates to advance park equity across the City of Atlanta. To help the City achieve its goal of prioritizing neighborhood parks and recreation centers with the greatest need for investment and capital improvement, Bloomberg Associates created this interactive mapping tool to help guide these efforts.

The final design of the Parks and Recreation Equity Data Tool was created after careful consultation with parks and public health experts and reviewing dozens of similar parks equity plans and methodologies. Then, the project team narrowed down a list of indicators and developed a specific methodology for analyzing all data. Finally, (7) maps were created to visualize the data via a data tool.

Data Collection

The indicators created for this methodology are comprised of various pieces of data, with each data stemming from different sources including DPR collected data, American Community Survey data, Georgia Electronic Accident Reporting System (GEARS), and many others. The maps in the data tool are produced using data from these datasets, which are downloaded as CSV files into Microsoft Excel.

To visualize the data on different geographic levels, layers for Atlanta census tract boundaries, park and recreation centers, and DPR maintenance districts are uploaded onto ArcGIS Online. ArcGIS Online is the online mapping software used to analyze and visualize all data and scores in this methodology. All data is downloaded, cleaned, and normalized prior to uploading onto ArcGIS Online

Listed on the following pages are the details on the data within each indicator.



Park Conditions Indicators	Data Included	Geographic Level	Data Source	Temporal Year
Proximity, Access, and Linkages	Visibility from a Distance	Park Level	DPR	2020
	Ease in Walking to the Park	Park Level	DPR	2020
	Clarity of Information/Signage	Park Level	DPR	2020
	Multi-Modal Capacity	Park Level	DPR	2020
	Lighting	Park Level	DPR	2020
Comfort and Image	Cleanliness / Overall Quality of Maintenance (Exterior Site)	Park Level	DPR	2020
	Condition and Effectiveness of any Equipment or Operating Systems	Park Level	DPR	2020
	Evidence of Management / Stewardship	Park Level	DPR	2020
	First Impression / Overall Attractiveness	Park Level	DPR	2020
	Feeling of Safety	Park Level	DPR	2020
	Comfort of Places to Sit	Park Level	DPR	2020
Uses, Activities and Sociability	Mix of Uses / Things to Do	Park Level	DPR	2020
	Level of Activity	Park Level	DPR	2020
	Sense of Pride / Ownership	Park Level	DPR	2020
	Marketing or Promotional Efforts for the Facility or Activities	Park Level	DPR	2020
	Branding	Park Level	DPR	2020
Park Capital Improvement Funding	Public capital improvement funding	Park Level	DPR	2015-2020
	Private capital improvement	Park Level	Private/ Philanthropic	2015-2020

Recreation Center Conditions Indicators	Data Included	Geographic Level	Data Source	Temporal Year
Recreation Center	Aesthetics	Rec Level	DPR	2020
Conditions	Clarity of Entry	Rec Level	DPR	2020
	Interior Finishes Rec Lev		DPR	2020
	Functioning Dimensions	Rec Level	DPR	2020
	Building Structure	Rec Level	DPR	2020
Recreation Center Funding	Public capital improvement funding	Rec Level	DPR	2015-2020
	Private capital improvement	Rec Level	DPR	2015-2020

Level of Service Indicators	Data Included	Geographic Level	Data Source	Temporal Year
Access Level of Service	Census tract area	Census tract	<u>Atlanta</u> <u>Regional</u> <u>Commission</u>	2014-2018 5-Year ACS
	Area of geographic access	Census tract	ActivateATL Analysis	2020
	Percentage of greenspace access	Census tract	ActivateATL Analysis	2020
Acreage Level of Service	Census tract area	Census tract	<u>Atlanta</u> <u>Regional</u> <u>Commission</u>	2014-2018 5-Year ACS
	Greenspace area	Census tract	DPR, Atlanta Regional Commission, Dekalb County	2020
	Percent greenspace	Census tract	ActivateATL Analysis	2020
	Population	Census tract	<u>Atlanta</u> <u>Regional</u> <u>Commission</u>	2018

Community Indicators	Data Included	Geographic Level	Data Source	Temporal Year
Concentration of Vulnerable Age	Adults age 65 and older	Census tract	<u>American</u> <u>Community Survey</u>	2018
Groups	Children age 5 and younger	Census tract	<u>American</u> <u>Community Survey</u>	2018
Racial and Ethnic Diversity	Racial and ethnic diversity	Census tract	<u>American</u> <u>Community Survey</u>	2019
Income and Educational Disparities	High school completion	Census tract	<u>American</u> <u>Community Survey</u>	2018
	School enrollment	Census tract	<u>Atlanta Regional</u> <u>Commission</u>	2018
	Income inequality	Census tract	<u>American</u> <u>Community Survey</u>	2018
Vulnerable Housing Conditions	Housing values	Census tract	<u>Atlanta Regional</u> <u>Commission</u>	2018
	Housing unaffordability	Census tract	<u>Atlanta Regional</u> <u>Commission</u>	2018
	Gross rent above \$1,500	Census tract	<u>Atlanta Regional</u> <u>Commission</u>	2018
	Household income under \$25,000	Census tract	<u>Atlanta Regional</u> <u>Commission</u>	2018
Levels of Public Safety Concerns	Violent crime	Data points	<u>Atlanta Police</u> <u>Department</u>	2021
Transportation Environments	Vehicle only involved accidents	Data points	<u>Georgia Electronic</u> <u>Accident Reporting</u> <u>System (GEARS)</u>	2020
	Bicycle involved accidents	Data points	<u>Georgia Electronic</u> <u>Accident Reporting</u> <u>System (GEARS)</u>	2020
	Pedestrian involved accidents	Data points	Georgia Electronic Accident Reporting System (GEARS)	2020

Environmental Health	Invironmental Lead exposure		<u>American</u> <u>Community Survey</u>	2019
	Particulate matter exposure	Census tract	<u>Community</u> <u>Multiscale Air</u> <u>Quality model, US</u> <u>Environmental</u> <u>Protection Agency</u>	2016
Street Connectivity	Walk Score	Neighborhood	<u>Redfin Real Estate</u> <u>in Atlanta</u>	2013
	Bike Score	Neighborhood	<u>Redfin Real Estate</u> <u>in Atlanta</u>	2013
	Transit Score	Neighborhood	<u>Redfin Real Estate</u> <u>in Atlanta</u>	2013
	Concentration of sidewalks (near parks)	Data points	Atlanta City Planning	2020
Food Environment	Farmer's market	Data points	<u>USDA</u>	2019
	Grocery retail locations	Data points	Nielsen TDLinx	2016
	Low USDA food access	Data points	<u>USDA</u>	2015
Life Expectancy	Life expectancy	Census tract	<u>National Center for</u> <u>Health Statistics</u>	2018

Maintenance District Level Indicators	Data Included	Geographic Level	Data Source	Temporal Year
Community Perceptions	Park and recreation needs	Maintenance District	DPR	2020
	Reasons discouraging use of parks	Maintenance District	DPR	2020
	Quality of parks and recreation activities and events	Maintenance District	DPR	2020
	Physical condition of parks and recreation	Maintenance District	DPR	2020
	Greatest park concerns	Maintenance District	DPR	2020

Methodology

The DPR EDT takes raw data from various geographic levels and normalizes them to score parks and recreation centers across the City of Atlanta based on need for improvements.

- 1. Collecting and Cleaning Data
- 2. Normalizing the Data
- 3. Round, Flip, and Weight the Data
- 4. Creating Composite Scores

Collecting and Cleaning Data

Data is first downloaded from databases such as <u>ARC</u>. <u>Open Data Hub</u>, <u>Policy Map</u>, <u>City Health Dashboard</u>, <u>American Community Survey or others</u>. Then, the data is cleaned, which refers to removing excess columns and data from your dataset that are not required to complete your analysis, along with census tracts that are located outside of the City of Atlanta. Next, you normalize the data, which is a very important step in this process.

Normalizing the Data

Normalizing data allows you to standardize various pieces of data onto one standard scale. All data included in the methodology is normalized in order to convert the raw data to fit within a uniform scoring system designed for the tool. All data is reassigned with a value on a scale of 1 – 5 (1 indicating the lowest exposure or vulnerability, 5 indicating the highest exposure or vulnerability).

Round, Flip, and Weight the Data

- 1. Round the normalized data to the nearest integer
- 2. "Flip" any numbers as appropriate so that a higher number indicates a higher vulnerability
- 3. Add up any categories to generate a raw score
- 4. Weight the scores based upon application for prioritization (improvements v. land acquisition)
- 5. Weighted scores are added together to generate the Total Park and Rec Center Need Scores

Creating Composite Scores + Total Need Scores

Each category (park conditions and funding, community need, level of service, and community perception) has a composite score that is derived from the normalized data. Each composite score is added together to allow each park to have a total possible need score of 300 and each recreation center to have a total possible need score of 275.







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Scoring

Park Need Score						
Total Score	300 points					
	Breakdown of Scores					
Park Conditions and Funding Score	125 pts	75 pts: Park Conditions Indicators 50 pts: Park Funding				
Level of Service Score	50 pts	25 pts: Access level of service 25 pts: Acreage level of service				
Community Need Score	100 pts	 10 pts: Concentration of vulnerable age groups 10 pts: Racial and ethnic diversity 10 pts: Income and educational disparities 10 pts: Vulnerable housing conditions 10 pts: Level of public safety concerns 10 pts: Transportation environments 10 pts: Environmental health 10 pts: Street connectivity 10 pts: Food environment 10 pts: Life expectancy 				
Community Perceptions Score	25	5 pts: Park and recreation needs 5 pts: Reasons discouraging use of parks 5 pts: Quality of parks and recreation activities and events 5 pts: Physical condition of parks and recreation 5 pts: Greatest park concerns				

Recreation Need Score				
Total Score	275 points			
		Breakdown of Scores		
Rec Conditions and Funding Score	100 pts	50 pts: Recreation Center Condition Indicators 50 pts: Funding		
Level of Service Score	50 pts	25 pts: Access level of service 25 pts: Acreage level of service		
Community Need Score	100 pts	 10 pts: Concentration of vulnerable age groups 10 pts: Racial and ethnic diversity 10 pts: Income and educational disparities 10 pts: Vulnerable housing conditions 10 pts: Level of public safety 10 pts: Transportation environments 10 pts: Environmental health 10 pts: Street connectivity 10 pts: Food environment 10 pts: Life expectancy 		
Community Perceptions Score	25	5 pts: Park and recreation needs 5 pts: Reasons discouraging use of parks 5 pts: Quality of parks and recreation activities and events 5 pts: Physical condition of parks and recreation 5 pts: Greatest park concerns		

Outputs

The primary output of this methodology is the Parks and Recreation Equity Data Tool. The data tool itself includes (7) data maps and need scores for each park and recreation center evaluated. Each of the maps are displayed on different geographic levels.

Mapping the Data

To visualize the data on different geographic levels, layers for Atlanta census tract boundaries, park and recreation centers, and maintenance districts are uploaded onto ArcGIS Online. ArcGIS online is the online mapping software used to analyze and visualize all data and scores in this methodology.

ATL Parks Map

This map shows the total need score for each of the evaluated parks across Atlanta. The map also shows the scores for all four of the scoring categories via a series of gear dials in the tool (park conditions and funding, level of service, community need, and community perceptions.) The community need score is doubled for this map, while the level of service score is halved.

ATL Rec Center Map

This map shows the total need score for each of the evaluated recreation centers across Atlanta. The map also shows the scores for all four of the scoring categories via a series of gear dials in the tool (recreation center conditions and funding, community need, level of service, and community perceptions.) The community need score is doubled for this map, while the level of service score is halved.

Community Need Map

The Community Need map visualizes the community need score for each Atlanta census tract. Community need is evaluated by adding composite scores of 10 indicators that are used to measure several neighborhood environmental determinants of health. This map shows the unweighted raw community need scores.

Level of Service Map

The Level of Service map shows level of service scores for each of Atlanta's census tracts. Level of service is scored by evaluating access and acreage of green space per census tract. Level of access measures the amount of access to greenspace per census tract based on population. Level of Acreage measures the total amount of greenspace in each census tract. This map shows the unweighted raw level of service scores.

Health Map and Life Expectancy

The Health map is comprised of 12 measurable health outcomes and 4 measurable health behaviors all derived from the CDC 500 cities tool, which is comprised of <u>Behavior Risk Factor</u> <u>Surveillance (BRRFS)</u> data from 2017.

Community Perspective Map

This map shows Atlantan's perceptions of their parks and recreation system by maintenance district. Atlantan's perceptions were evaluated through a statistically valid survey disseminated to Atlanta residents in 2020 with questions regarding their use and perceptions of the park and recreation system. Five questions from this survey are included in the perception evaluation.

ATL Park Need Map



The **ATL Park Need map** is created using (4) of the scoring categories: Park Conditions and Funding, Community Need, Level of Service, and Community Perceptions.

ATL Recreation Need Map



The **ATL Recreation Need map** is created using 4 of the scoring categories: Recreation Center Conditions and Funding, Community Need, Level of Service, and Community Perceptions.

Community Need Map



The **Community Need map** is created using 10 indicators: concentration of vulnerable age groups, racial and ethnic diversity, income and educational disparities, vulnerable housing conditions, level of public safety, transportation environments, environmental health, street connectivity, food environment, and life expectancy.

Level of Service Map



The **Level of Service map** is created using 2 composite indicators: access level of service and acreage level of service. Level of access measures the amount of access to greenspace per census tract based on population. Level of Acreage measures the total amount of greenspace in each census tract.

Health and Life Expectancy Map



The **Health and Life Expectancy map** is created using 16 metrics from the CDC's <u>Behavioral Risk Factor</u> <u>Surveillance System (BRFSS)</u>. As with the other maps, a higher score and darker red color used here indicates a census tract with a higher vulnerability.

Metrics include life expectancy, asthma, high cholesterol, COVID-19 risk, mental health, stroke, diabetes, coronary heart disease, obesity, high blood pressure, chronic obstructive pulmonary disease, and chronic kidney disease (health outcomes); physical inactivity, smoking, sleep less than 7 hours, and binge drinking (health behaviors).

Community Perceptions Map



The **Community Perceptions map** is created using 5 metrics from questions in the Activate ATL statistically valid survey: park and recreation needs, reasons discouraging use of parks, quality of parks and recreation activities and events, physical condition of parks and recreation, and greatest park concerns.

Conclusion

Limitations of the Methodology

Parks and Recreation Center Need Scores are based on point-in-time data that is evaluated on a continual basis. This data serves as a baseline, supplemented by on the ground review (or information or examination), with the goal of delivering a more equitable parks and recreation system.

Not all parks or recreation centers were scored and included for the purposes of the DPR Equity Data Tool. Some parks in the DPR inventory may not be included in this tool in consideration of certain key factors such as park classification, acreage, usage, environmental conditions, etc.

Several parks and recreation centers are still pending evaluation and score assignment. The DPR Equity Data Tool is a living, breathing tool. The Department will continuously use, update, adjust, and monitor the data tool as updated information is made available.

Other criteria will be considered and evaluated during the prioritization process. This prioritization criteria includes consideration of key issues such as health, safety, and welfare, preserving/replacing facilities, community needs, unique benefits, and projects with other funding sources.

In addition, the data used to capture life expectancy reflects census tracts where there is missing data. The National Center for Health Statistics has established guidelines that preclude the release of life expectancy estimates for areas where deaths are based on fewer than 20 deaths or the population size is fewer than 5,000 people.

Application of the Equity Data Tool

Both the Parks and Recreation Equity Data Tool and the scores that are derived from this methodology are presently used by the City of Atlanta Department of Parks and Recreation as part of the prioritization of <u>Activate ATL.</u>

The DPR EDT is a means to support equitable prioritization and implementation of Activate ATL by helping the City to make data-driven decisions for improving parks and their surrounding communities. It will help to track our impact, allocate funding, build collaborative efforts across the city, and support cross-departmental and organizational collaboration.

The data within this tool can also be used by other agencies, partners, and the public to support their analysis of equity in Atlanta. The Parks and Recreation Equity Data Tool is publicly available to community members, organizations, partners, park advocates, other City of Atlanta agencies, and Friends like you!

Appendix

References

Vital and Health Statistics, Series 2, Number 181 (cdc.gov)