

## CHAPTER 5: ANALYSIS



City of Detroit  
**Parks & Recreation Strategic Plan**  
2022-2032



## OVERVIEW

Detroit Parks & Recreation Division (DPRD) developed a series of Capital Plans that indicate how limited resources can best be allocated over the next 10 years. In order to create these capital plans, DPRD completed an in-depth analysis process to prioritize investments across the parks and rec system's existing spaces, facilities, and amenities. This analysis began with the creation of walksheds, which are service areas for each park, then the calculation of composite scores for each park comprised of population characteristics, access, and public health and environmental factors. DPRD used an equity framework to ensure that this process delivers park investments to those who need them most. This chapter reviews:

1. Mapping the Gaps in Access
2. Developing the Metric
3. The Prioritization Process



# TABLE OF CONTENTS

## *for this chapter*

	pg.
<b>Mapping the Gaps</b>	
What are Walksheds, Overlap & Gaps?.....	5
Gaps in Park Access.....	6
Walksheds & Overlap	
Existing Gap Areas	
The Vision for Filling the Gaps	
Gaps in Rec Center Access.....	9
Service Areas & Overlap	
The Vision for Filling the Gaps	
Gaps in Pool Access.....	11
<b>Developing the Metric</b>	
Overview.....	13
1. Population.....	15
1.1 Total Population	
1.2 Youth	
1.3 Senior	
1.4 Low-Income	
1.5 People of Color	
2. Access.....	20
3. Health.....	21
4.1 Low Physical Activity	
4.2 Poor Mental Health	
4. Environment.....	23
3.1 Air Quality	
3.2 Urban Heat Island Effect	
<b>Prioritizing Process.....</b>	<b>25</b>

### **Data Acknowledgement**

DPRD adapted the Trust for Public Land’s 2021 methodology for an equity-centering park system assessment, using data and variables representative of Detroit’s unique population. This document and the Urban Heat Island map were produced using data, in whole or in part, provided by The Trust for Public Land.



## MAPPING THE GAPS

One of DPRD's priorities is to increase access to parks for all Detroiters so that any resident may access a park within 10-minutes of their home. To increase access, DPRD developed walksheds, as described in this section, to understand which areas have access and which do not. This process is the first step in prioritizing resources across the parks and rec system, focusing on currently underserved areas. This methodology contributes to the metric of park need as discussed in the following section.

1. Park Access and Gaps
2. Rec Center Access and Gaps
3. Pools Access



## What are Walksheds, Overlap & Gaps?

### Defining Walksheds, Overlap, and Gaps

Park access can be measured using different modes of travel. National standards dictate that residents should be able to reach a park on foot within 10 minutes from their home. The entire area that can be reached by the average pedestrian in 10 minutes, or approximately 1/2 mile, is the basis for the walkshed. When combined, many of Detroit's park walksheds overlap, revealing neighborhoods that have access to one or more parks. There are also areas outside of the reach of all current walksheds. These areas are considered gaps within the parks system. The City aims to provide access in these gap areas through new parks and partnerships, to create park access for all.

### Walkshed

areas served by a park, within a 10-minute walk, approximately 1/2 mile



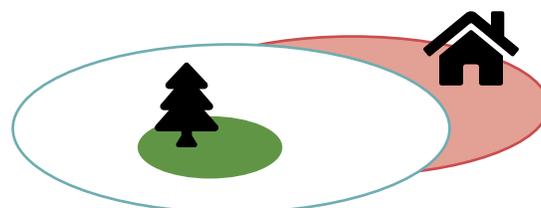
### Overlapped Walksheds

areas with access to 2 or more parks within a 10-minute walk



### Gap Area

areas without access to a park within a 10-minute walk



# GAPS IN PARK ACCESS

## WALKSHEDS & OVERLAP

### 10-minute Walksheds for All Detroit Parks

Park access is measured through 10-minute walksheds. The Trust for Public Land recommends that cities provide all residents with access to a park within a standard 10-minute walk. Typically, individuals can walk approximately 1/2 mile in 10-minutes. Rather than measuring a 1/2 mile as the crow flies from every park, the actual distance a resident could walk in 10 minutes was calculated by incorporating the real sidewalks, pathways, and pedestrian crossings that make up a resident's journey to their local park. As evidenced in the map below, 80% of Detroiters are within a 10-minute walk to a park and 33% are within 10 minutes of two or more parks.

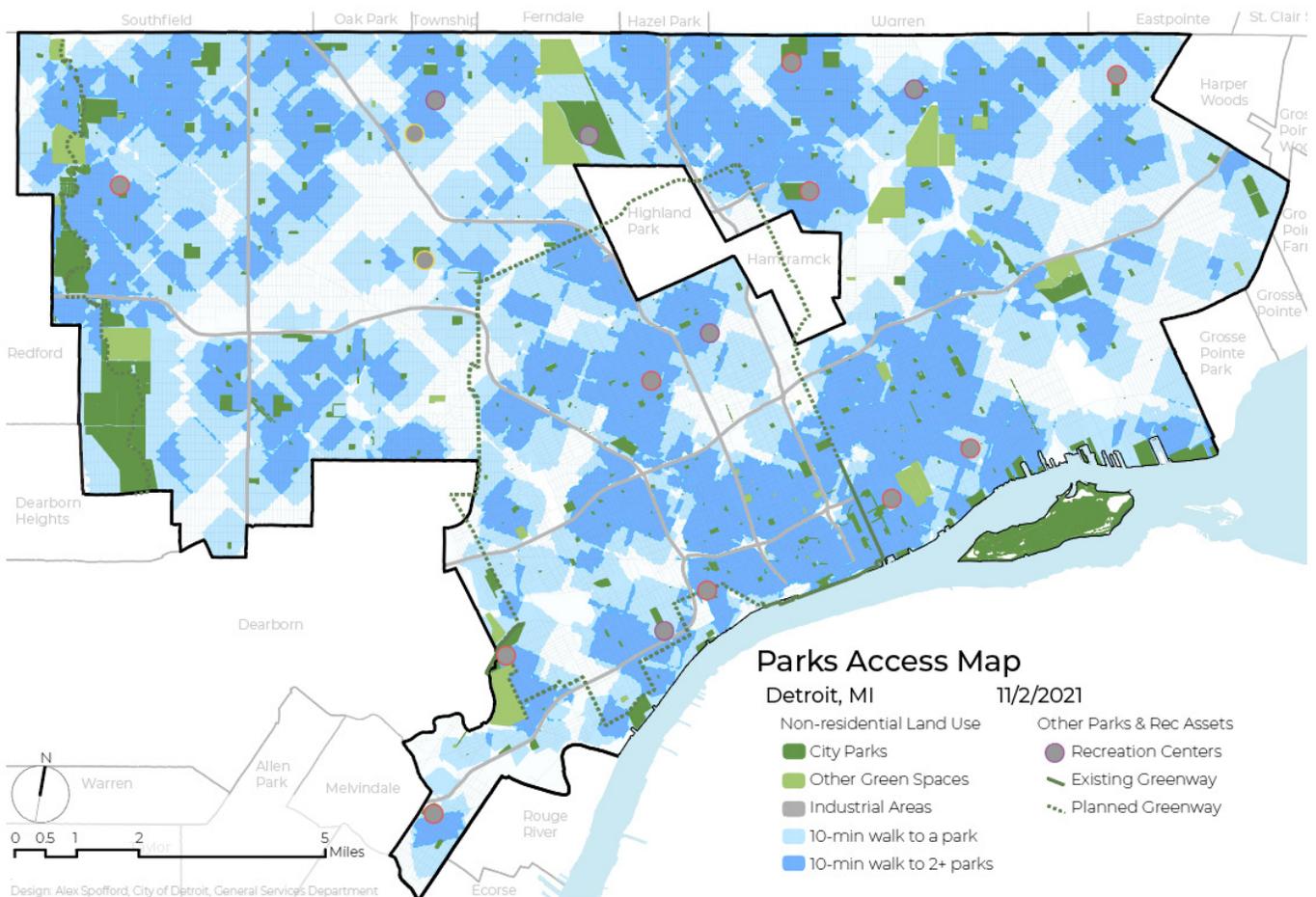


Figure 1.

# EXISTING GAP AREAS

## Areas Outside of 10-minute Park Walksheds

Areas outside of a 10-minute walkshed are considered park gap areas. Residents in these areas, indicated in pink on the maps below, cannot currently reach a park within a 10-minute walk, as defined on the previous page. DPRD strives to minimize these gaps and increase resident access to public parks and green spaces. Figure 2 shows the existing gaps in the parks system, while Figure 3 shows the potential reduction in gaps after the Strategic Plan is fully implemented. Going forward this analysis can be used to locate new parks and park expansions, prioritizing the most underserved areas.

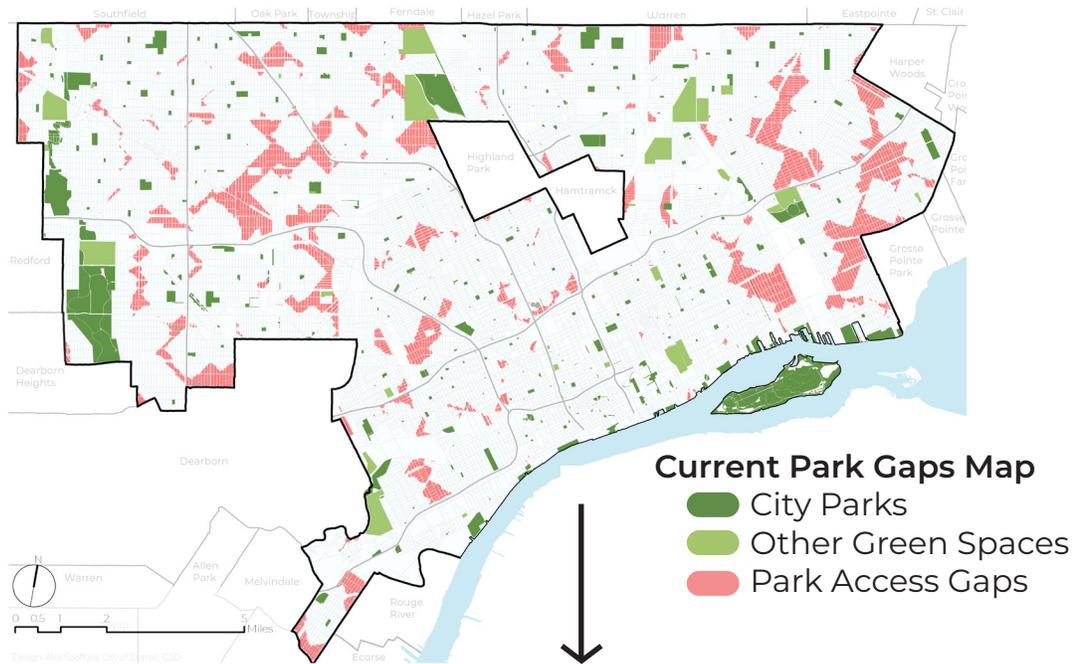


Figure 2.

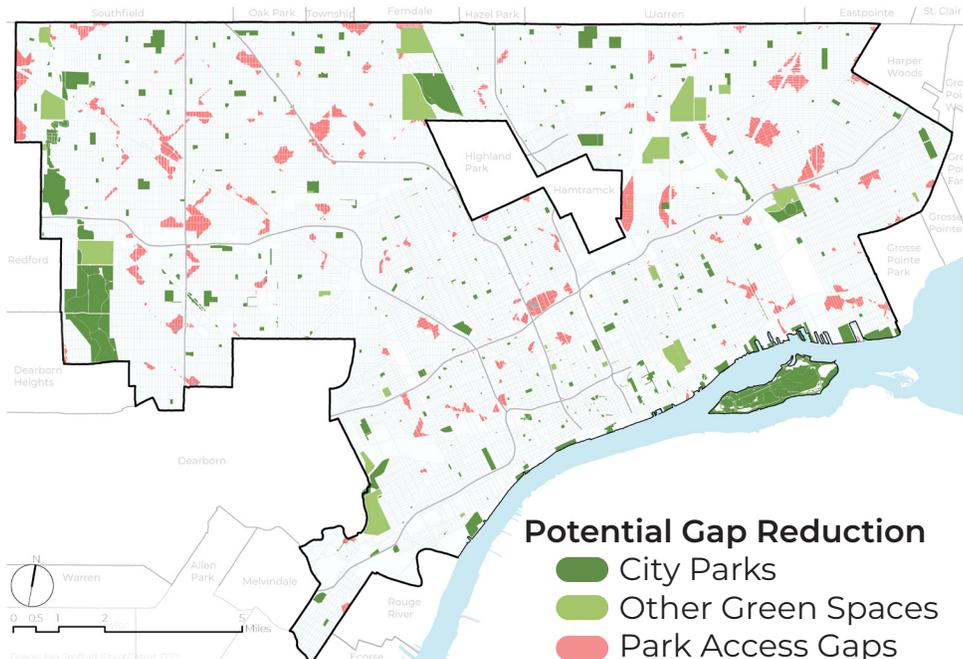


Figure 3.

# THE VISION FOR FILLING THE GAPS

## Increased Access through Greenways, New Parks, and Partnerships

The map below shows how DPRD proposes to address current gap areas through the Strategic Plan. The metrics and gap analysis was used to envision new parks and partnerships in areas of highest need. With the realization of recommended greenway segments, new parks, and partnerships as shown, Detroit could attain a reduction of gap areas by 75%. In this projection, nearly 95% of Detroiters could have access to a park within a 10-minute walk by 2032. Increasing park access improves equity, expands recreational opportunities, and preserves valuable green spaces.

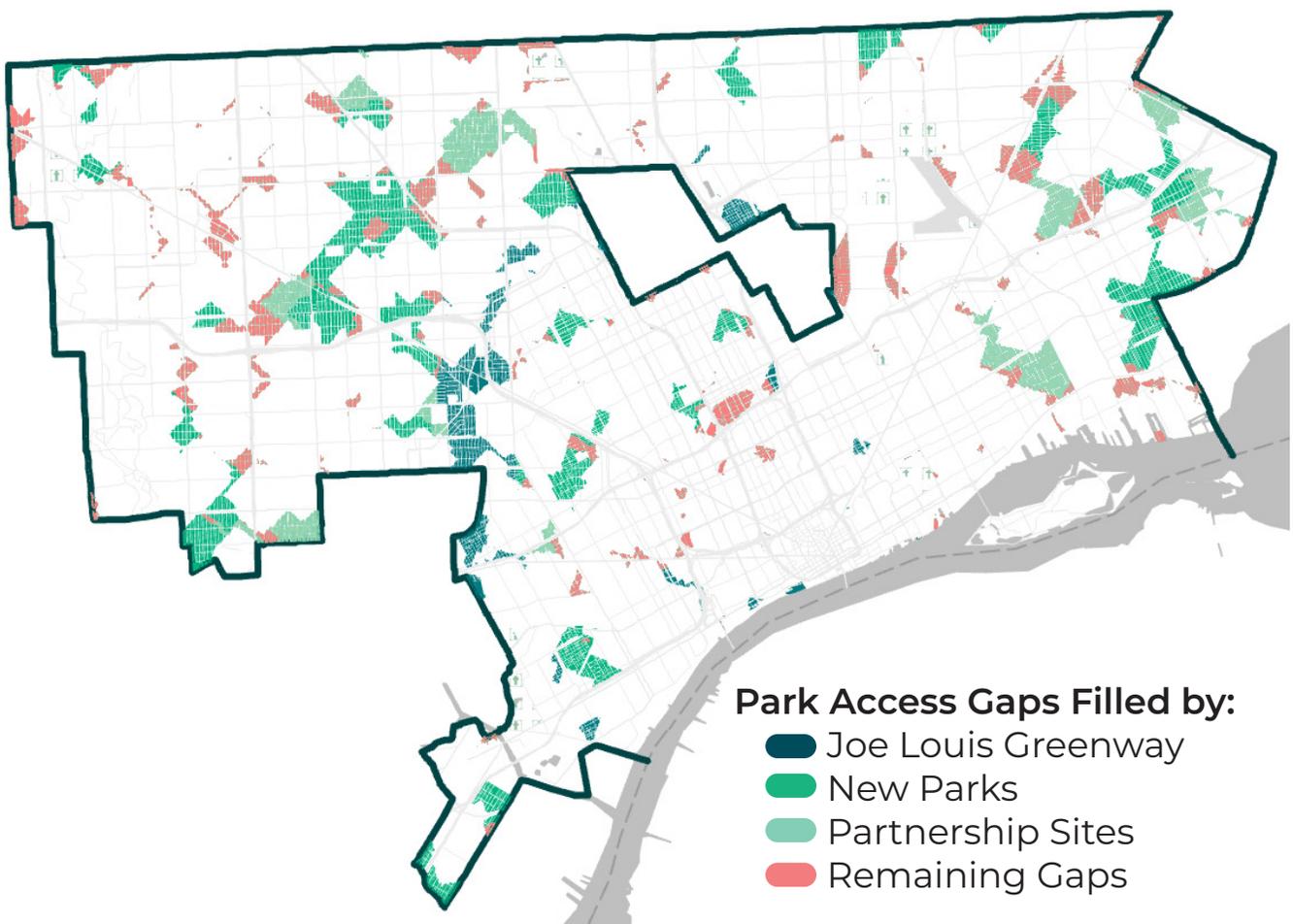


Figure 4.

# GAPS IN REC CENTER ACCESS

## REC ACCESS: SERVICE AREAS & OVERLAP

### 1.5 Mile Service Areas of Detroit Rec Centers

DPRD strives to provide year-round, indoor recreational opportunities to all residents. The City owns 17 rec centers across Detroit, operated by the City or by partner organizations. Each Detroit rec center offers a unique assortment of amenities and programs geared toward the needs and desires of the surrounding community. Some rec centers draw residents from all across the city with amenities like pools and ice rinks. Many residents remember when they had access to over 30 City rec centers. While reaching this historic number is not feasible within the current plan, DPRD's goal is to increase residents' access to recreational opportunities near their homes. This map shows neighborhoods within the service areas of current rec centers, estimated to be a 1.5 mile bus or car ride from home.

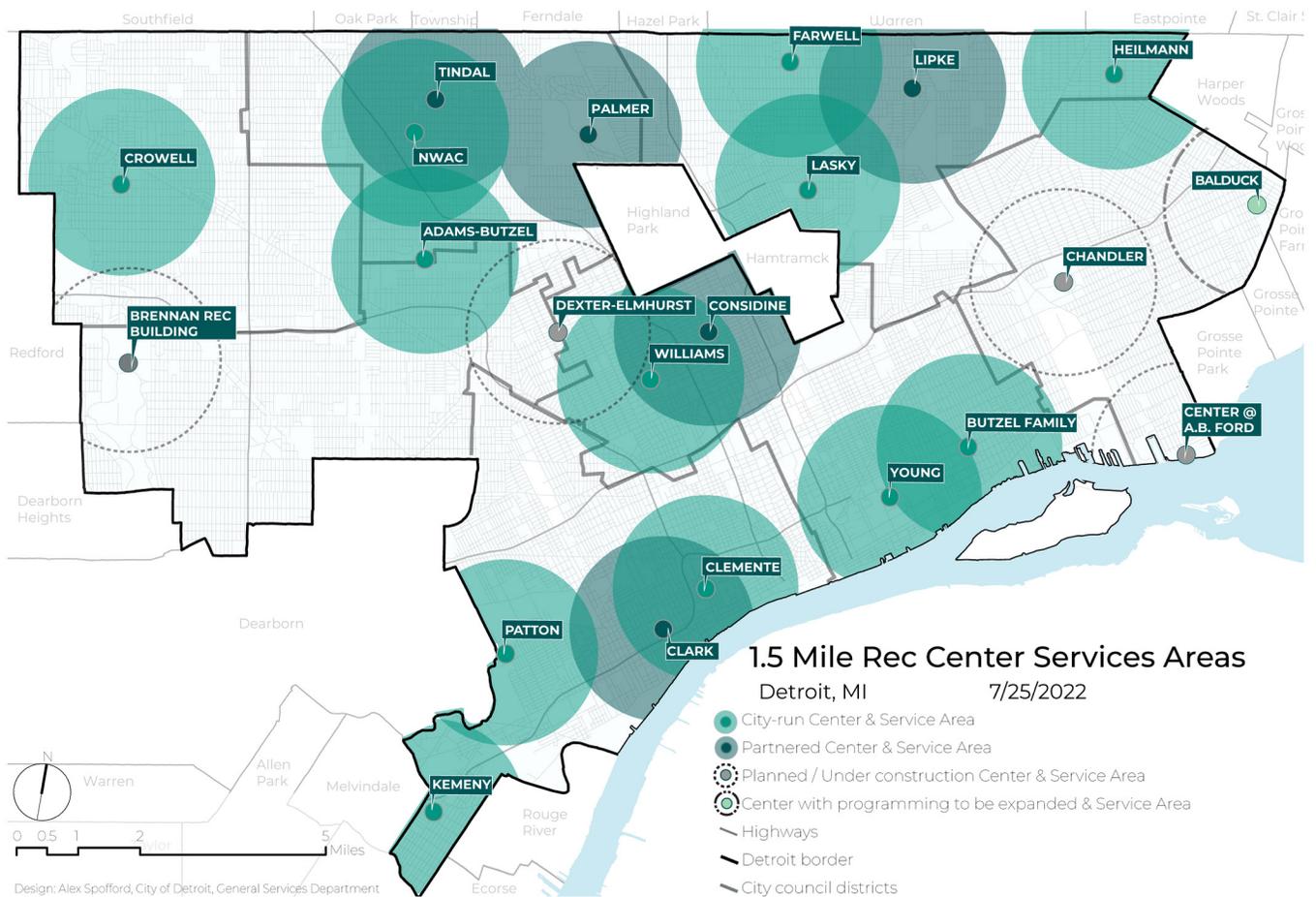


Figure 5.

# THE VISION FOR FILLING THE GAPS

## Increasing Rec Center Access

DPRD strives toward the long-term goal of increased access to year-round, indoor recreational opportunities for all Detroiters. According to the Community Needs Assessment, Detroiters will travel between 15 to 25 minutes for their most desired recreational amenities, such as computer labs, gyms, and pools. Analysis shows that the below areas in pink are outside of an estimated easy transit ride from Detroit's rec centers. Using this analysis, DPRD will continue to identify sites for future recreational partnerships and programming to increase access throughout the city. The Strategic Plan envisions a potential reduction of recreation gaps from Figure 6 to Figure 7 through expansion of existing facilities and partnership efforts.

Figure 6.

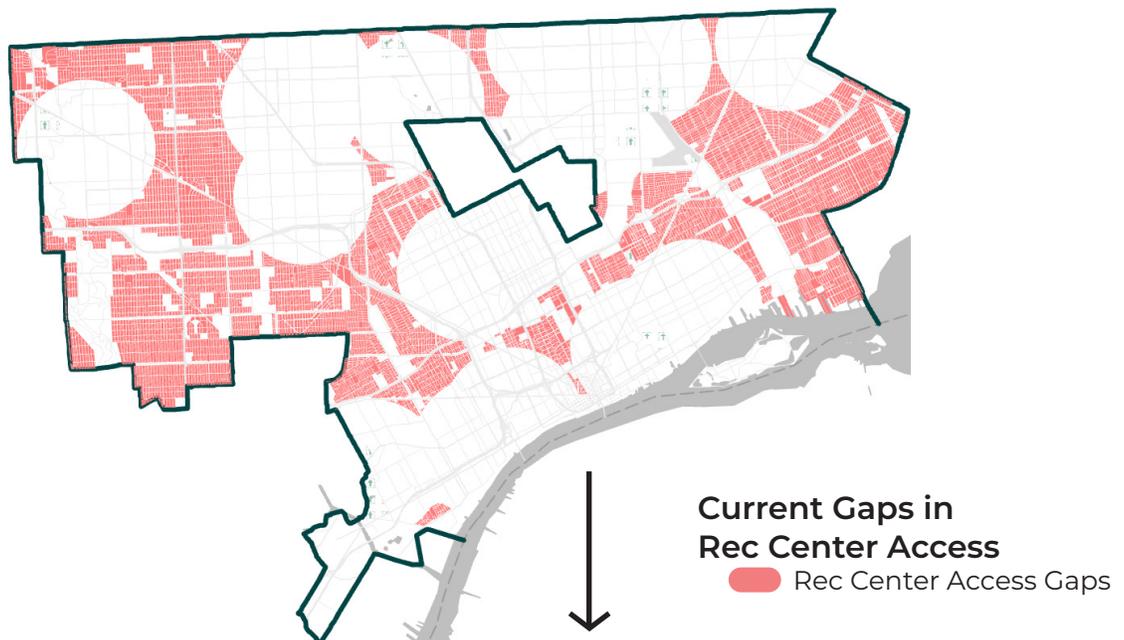
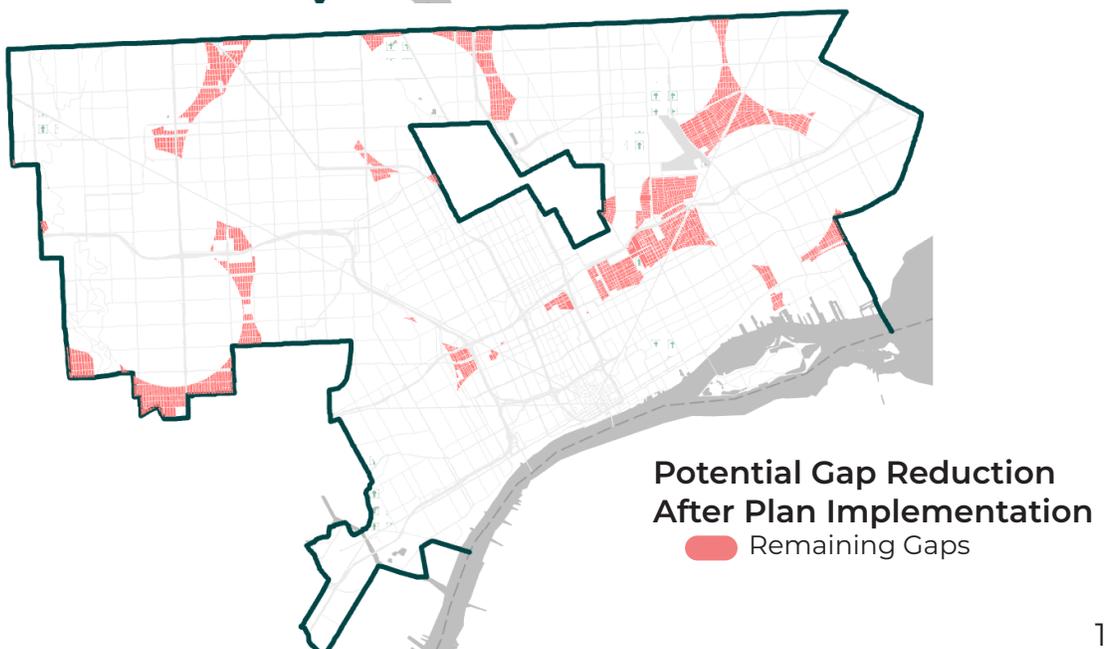


Figure 7.



# POOLS

## POOL ACCESS & GAPS

### Areas in Need of Expanded Pool & Swim Access

DPRD recognizes that public pool access and swim lessons are vital resources to Detroit residents. Pools can serve as an access point to learning the vital life-saving skill of swimming, as well as a place for fun and healthy exercise for all ages, and a way to cool off on hot days. The map below shows the access to public pools in Detroit, with 2.5 mile service sheds for each pool in teal. As part of DPRD's targets for success, Detroit aims to expand pool and swim lesson access through partnerships across the city. Potential for pool access is an important factor when evaluating potential partner sites.

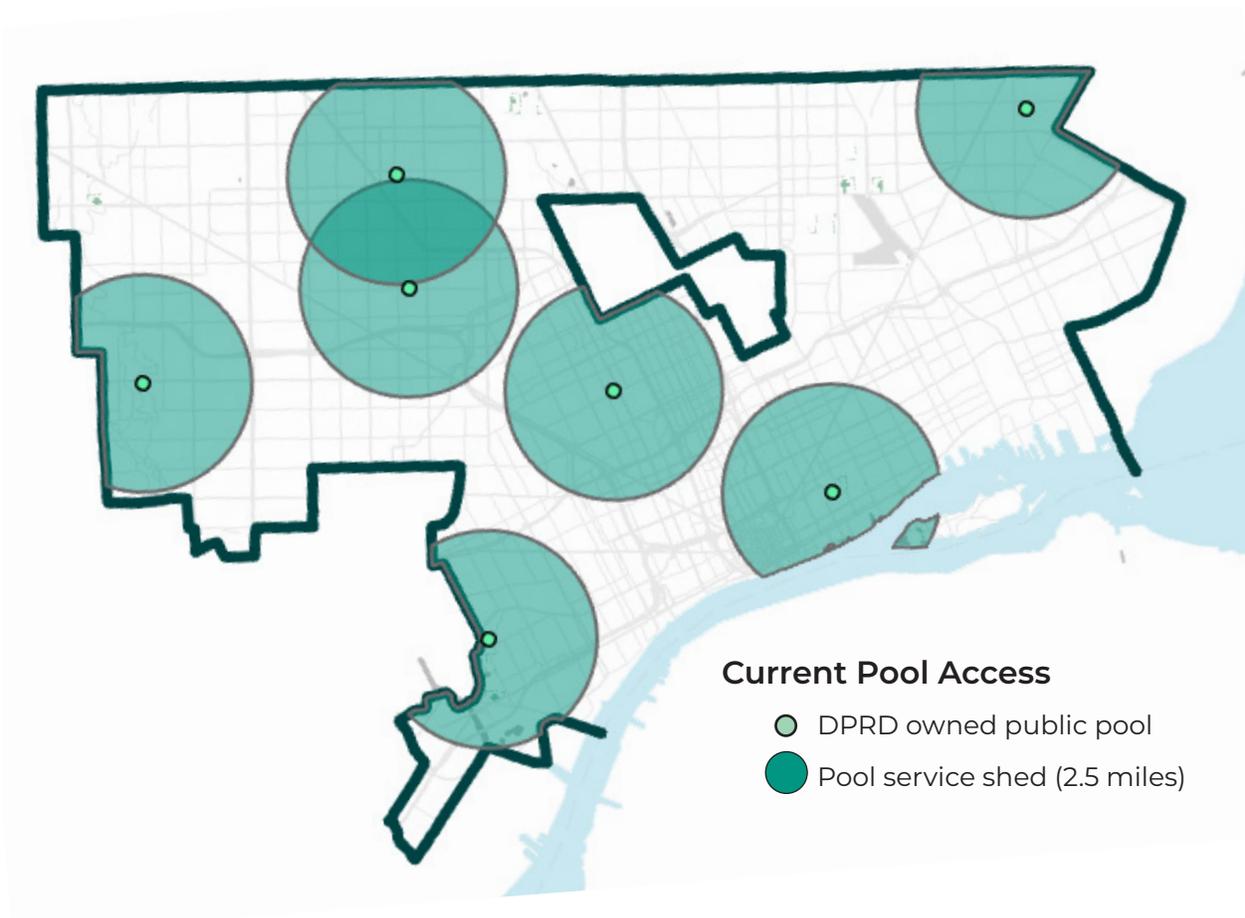


Figure 8.





## DEVELOPING THE METRIC

In order to most equitably distribute investments across the parks and recreation system, DPRD created a metric based on national best practices, to ensure that the greatest number of residents with the greatest need are prioritized. This metric uses an equity framework established by the Trust for Public Land, adapted by DPRD to prioritize investments in parks that serve our most vulnerable populations, including youth, seniors, people of color and low-income households. DPRD's metric considers these factors in addition to indicators of poor environmental and public health. This section includes:

**Population Maps:** Total Population Density, Youth, Seniors, Low Income, and BIPOC  
**Access to Parks Map**

**Health Maps:** Poor Mental Health, Low Activity Level

**Environment Maps:** Poor Air Quality, Urban Heat Island Effects



## Analyzing Park Need & Prioritizing Equity

### **Developing the Metric**

DPRD developed 1/2 mile walksheds, indicating residential areas served by parks, to which residents could reasonably walk or roll within 10 minutes. After determining a walkshed for each park, 10 factors were analyzed for the population within the walksheds to create a metric of park need. Each park received a score between 1 to 5, where 5 represents highest park need, for every factor. These scores then contributed to the overall metric of need. The parks are then sorted from highest to lowest total metric, allowing DPRD to understand which parks have the greatest need for improvement. This process is modeled on the standard process used by the Trust for Public Land.

### **Incorporating Equity**

DPRD's metric considers resident needs in several ways. Detroit was mapped by population characteristics including income and race. By understanding the diversity of Detroit's population, DPRD can address any inequities among traditionally disadvantaged populations and residents with community-specific needs. For example, low-income populations may have less ability to pay for private recreational resources. Therefore, low-income areas will benefit more directly from greater public investment.

### **Incorporating Our Goals: Public Health, Nature, & Connectivity**

DPRD incorporated its core goals within the metric by analyzing health, environmental quality, and accessibility data. Mapping these indicators allows DPRD to make informed investments to benefit communities with the greatest need and best address their specific needs. For example, parks have been shown to improve the mental and physical health of those near them. By mapping areas of poor health, DPRD can better address this concern by providing natural spaces for play, community, and restful enjoyment of nature.

# POPULATIONS METRICS

## 1.1 TOTAL POPULATION DENSITY

### Density of Residential Areas

Total Population Density measures the number of individuals living in residential areas of Detroit. Lighter shaded areas represent low density neighborhoods, while darker blue areas represent higher density neighborhoods. When evaluating which parks to improve and where to locate new parks, it is important to consider where residents live, so that DPRD is serving and benefiting the greatest number of Detroiters with its investments in new or improved parks.

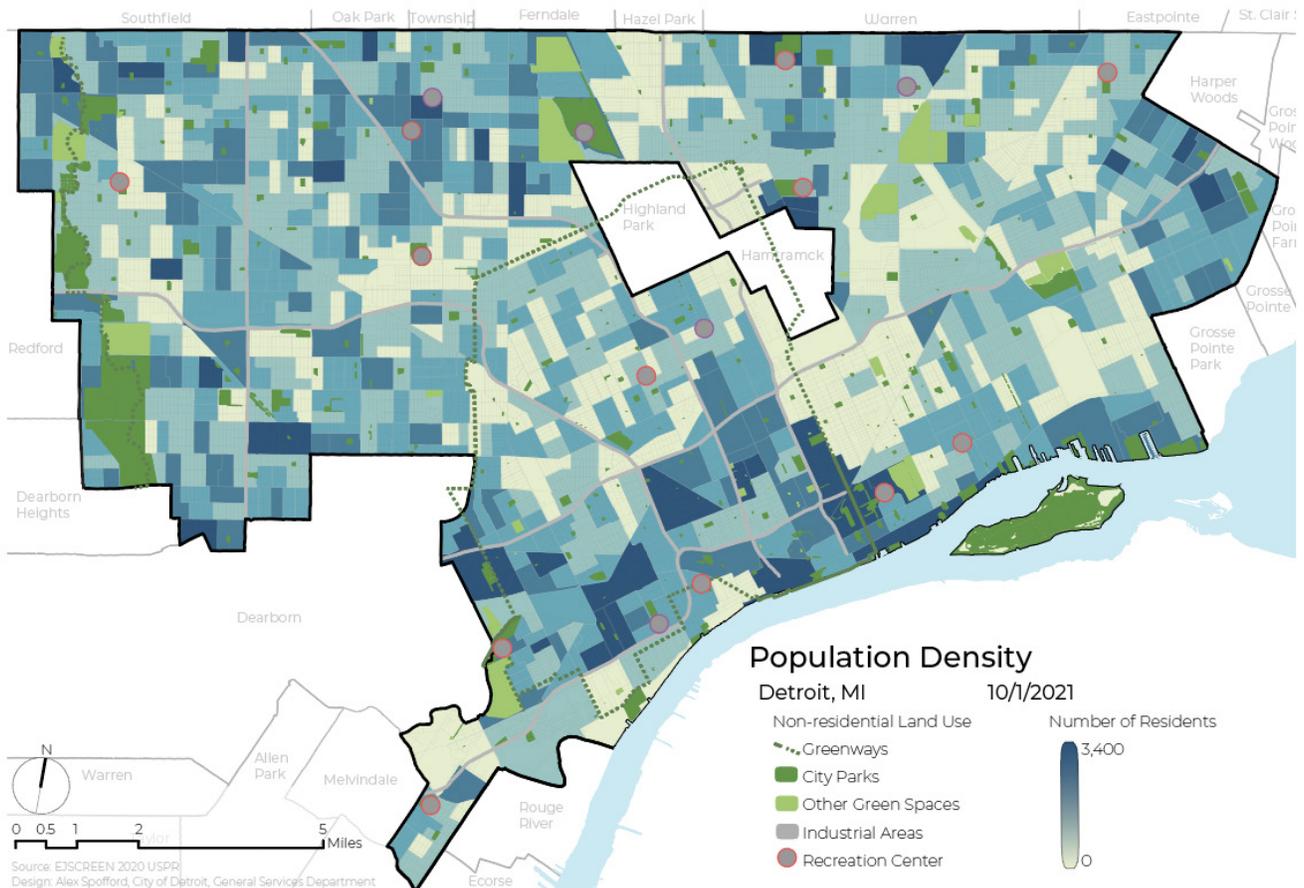


Figure 9.

## 1.2 YOUTH POPULATION DENSITY

### Percent of Population 19 & Under

It is especially important for youth to have access to parks, because youth are some of the most vulnerable population and can benefit greatly from investment in green spaces. Parks provide significant health & developmental benefits for children. Youth Population Density measures the percent of residents who are 19 years of age or younger within a 10-minute walk of each park. Residents within this age range are very likely to be residing with family members, attending school, and not yet earning income. This can mean limited access to transportation and specific amenity and park use. Analyzing youth population density helps DPRD address the needs of Detroit's youth.

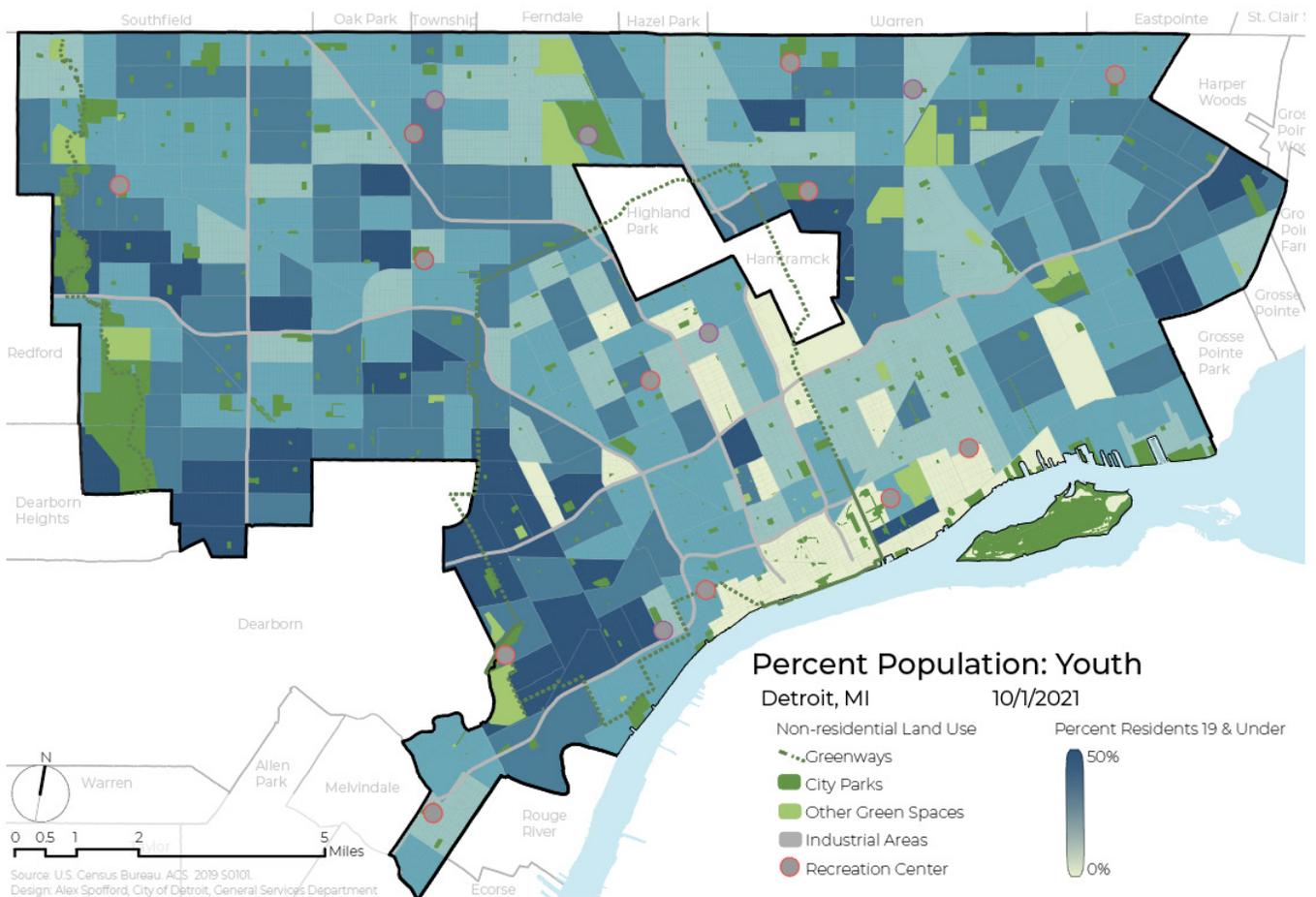


Figure 10.

# 1.3 SENIOR POPULATION DENSITY

## Percent of Population 64 & Over

Senior Population Density measures the percent of residents 64 years of age or older by census tract. It is important to consider the presence of senior residents when planning for new parks and amenities to provide appropriate amenities. Seniors can often be frequent park visitors. They may use the space for relaxation, physical activity, and socialization. Areas of high senior population density may be suitable for walking loops and outdoor fitness equipment to encourage healthy activity.

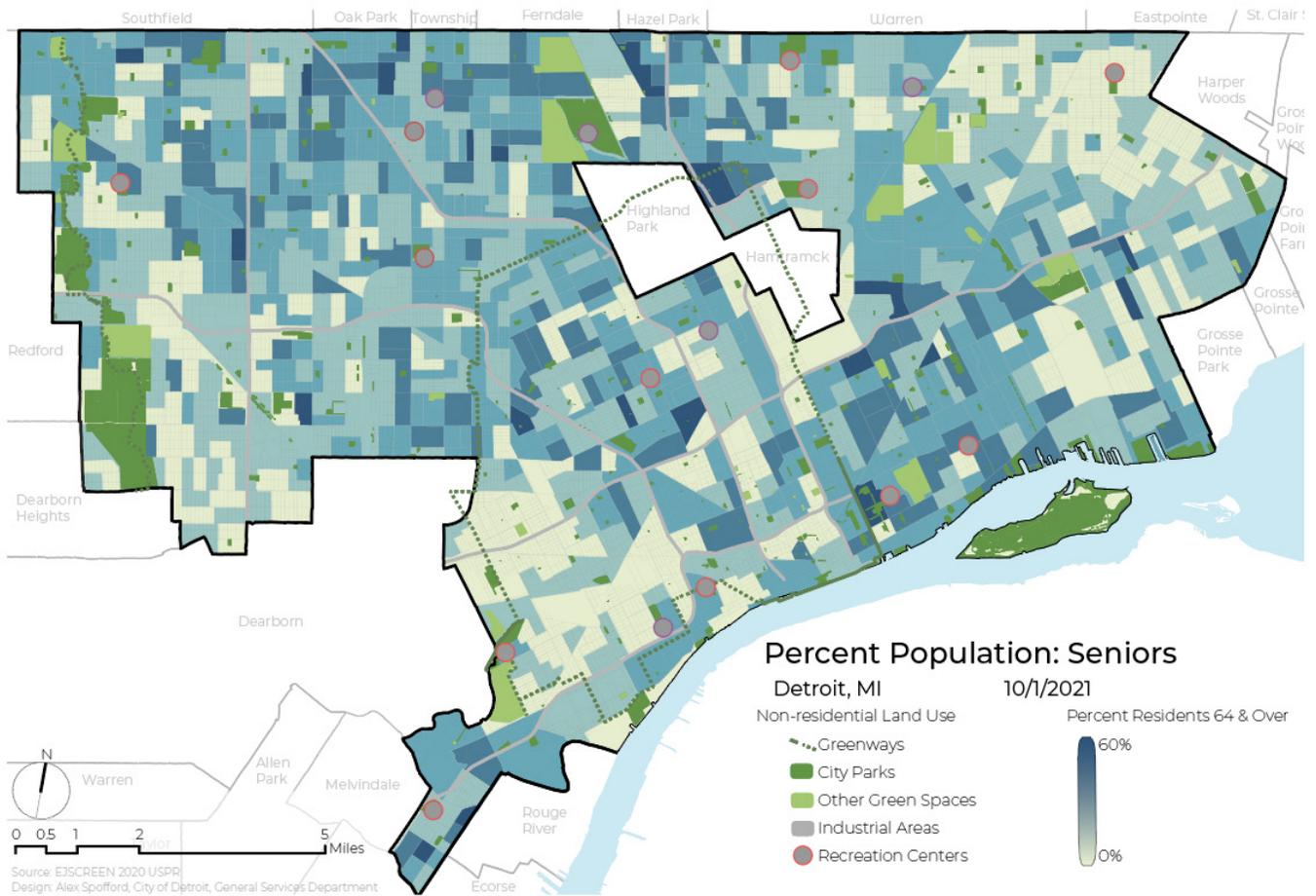


Figure 11.

# 1.4 DENSITY OF LOW INCOME HOUSEHOLDS

## Percent of Population with Low Income Status

Density of Low Income Households measures the percent of residents that qualify as low income in each block group according to the US Census. Low income is defined as earning less than 80% of the Area Median Income (AMI) for Detroit. As of Spring 2022, Detroit's AMI for a two person household is \$62,800. The lightest shaded areas contain between 0 and 28% low income households. The darkest blue areas contain between 80 and 100% low income households. Low income areas are prioritized, because studies show that low-income communities receive the greatest positive impact from investment in public resources.

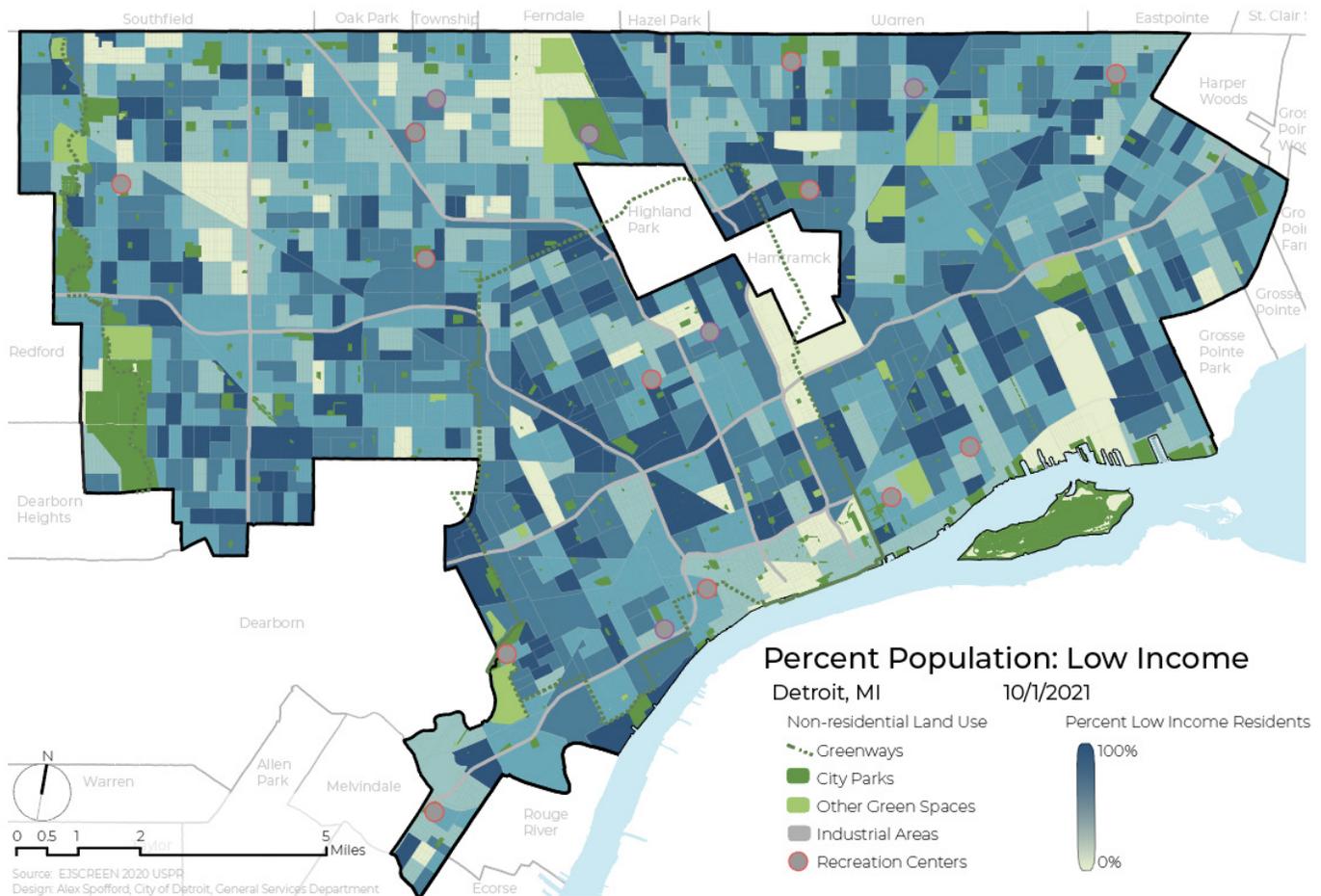


Figure 12.

# 1.5 DENSITY OF PEOPLE OF COLOR

## Percent of Population that are Persons of Color

Density of People of Color measures the percent of the residents who identify as people of color, defined as non-white individuals. The lightest shaded areas contain the lowest percent of population, while the darkest blue areas contain the highest percent of the population identifying as people of color. Given that Detroit is a majority-minority city, in which people of color make up the majority of Detroit's population, much of the map is dark blue. It is important to prioritize improvements in communities that have historically had less access to parks and other recreational resources.

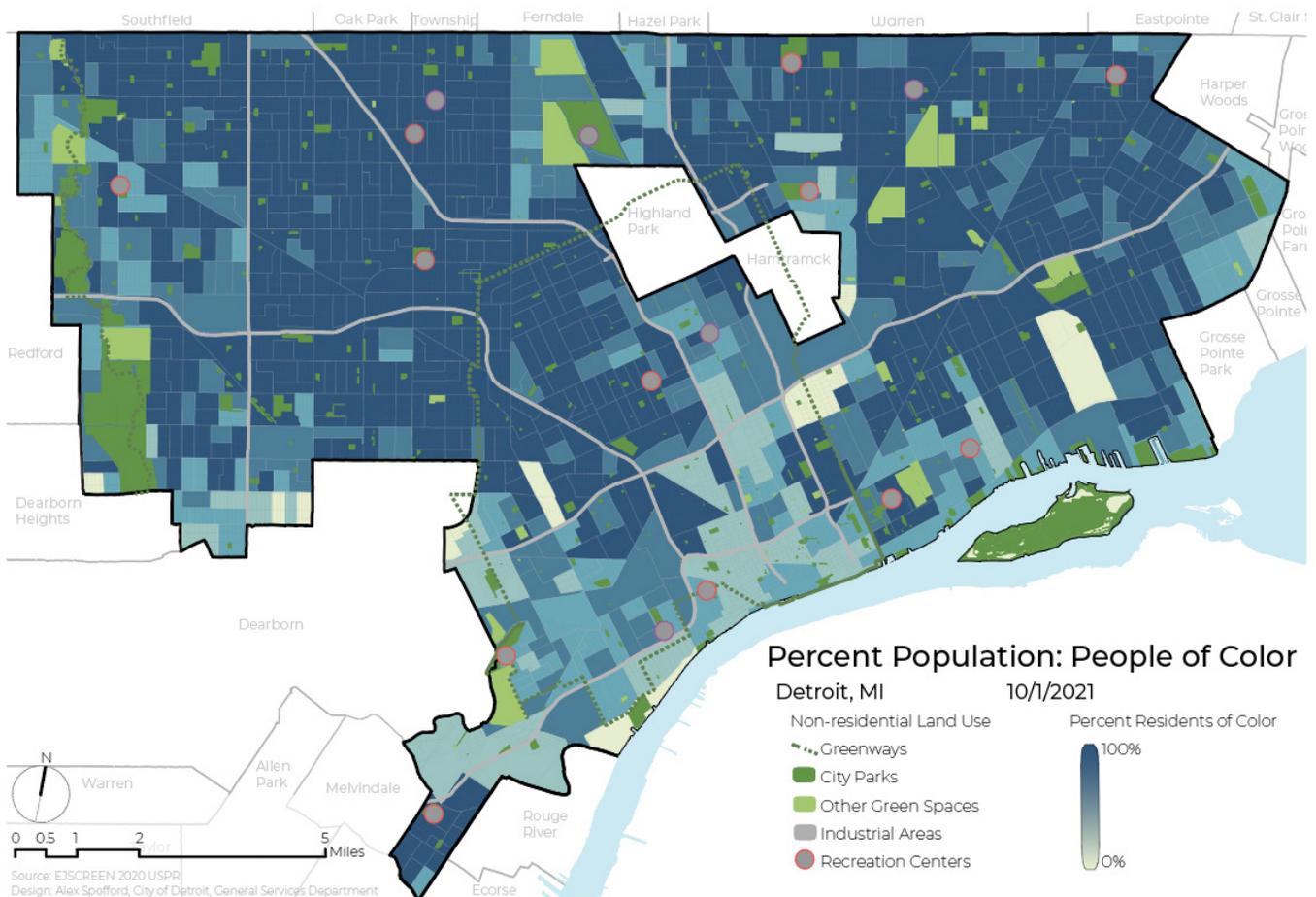


Figure 13.

# ACCESS METRIC

## 2. ACCESS TO PARKS

### Proximity of Parks to One Another

Detroit strives to increase access to parks and works toward enabling all Detroiters to live within a 10 minute walk of a park. Each park's "walkshed" is drawn at a 10-minute walk from its border, or approximately 1/2 mile. This map shows which areas have overlapping walksheds and which areas have gaps. By considering the accessibility of Detroit's current parks, DPRD can plan for park amenities, improvements, and new parks, to maximize the opportunities available to all Detroiters. For more information about walksheds, see page 5.

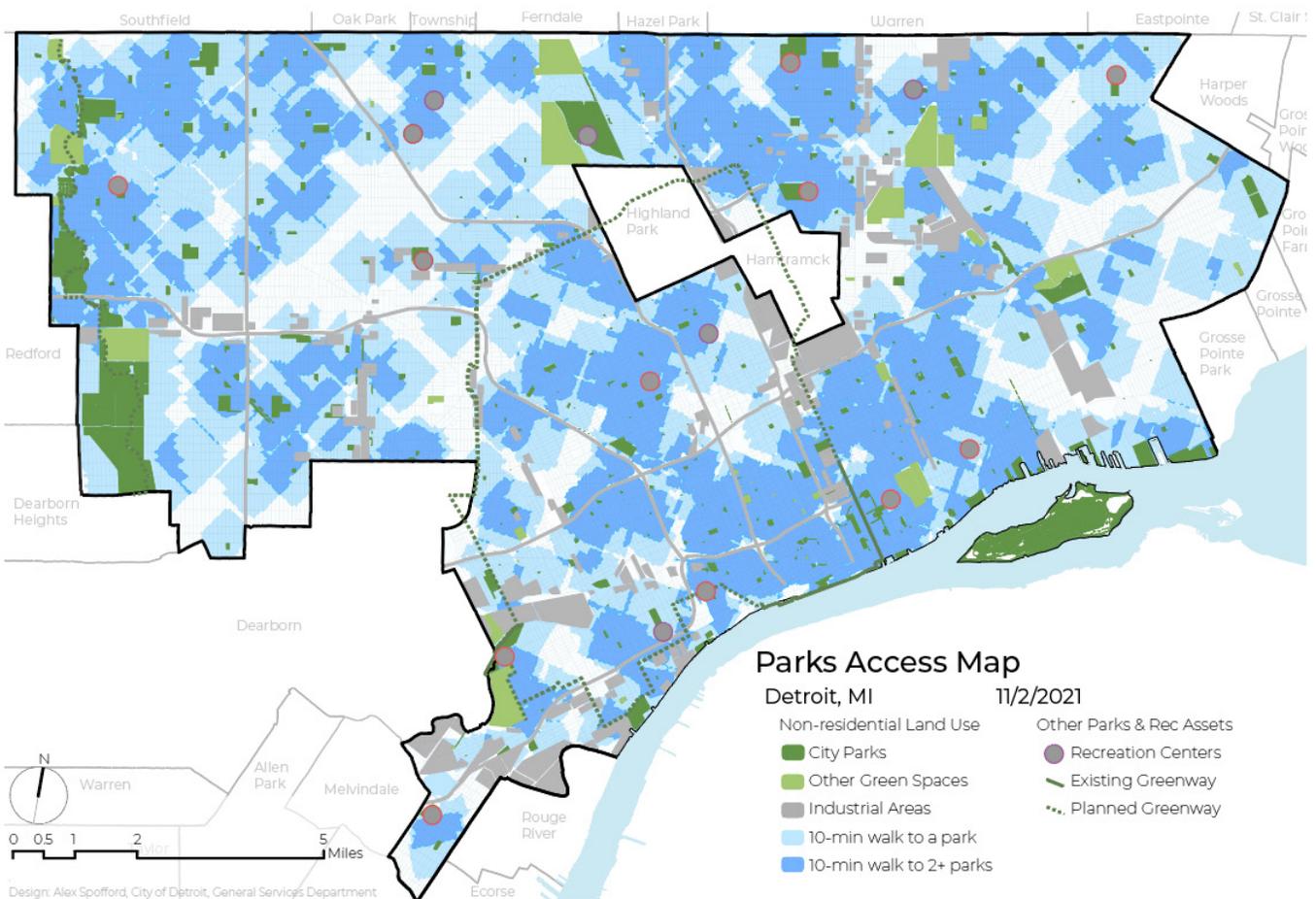


Figure 14.

# HEALTH METRICS

## 3.1 LOW PHYSICAL ACTIVITY

### Percent with Low Leisure-Time Physical Activity

Low Physical Activity measures the percent of residents who reported little to no physical activity outside of activities required by their employment, when surveyed in 2018 by the CDC. This part of the metric helps DPRD understand the physical health of Detroiters. Parks are an integral resource for encouraging physical activity through play, sports, walking, and other outdoor activities. Areas with low physical activity may benefit from further investment to encourage residents to exercise and spend time outdoors.

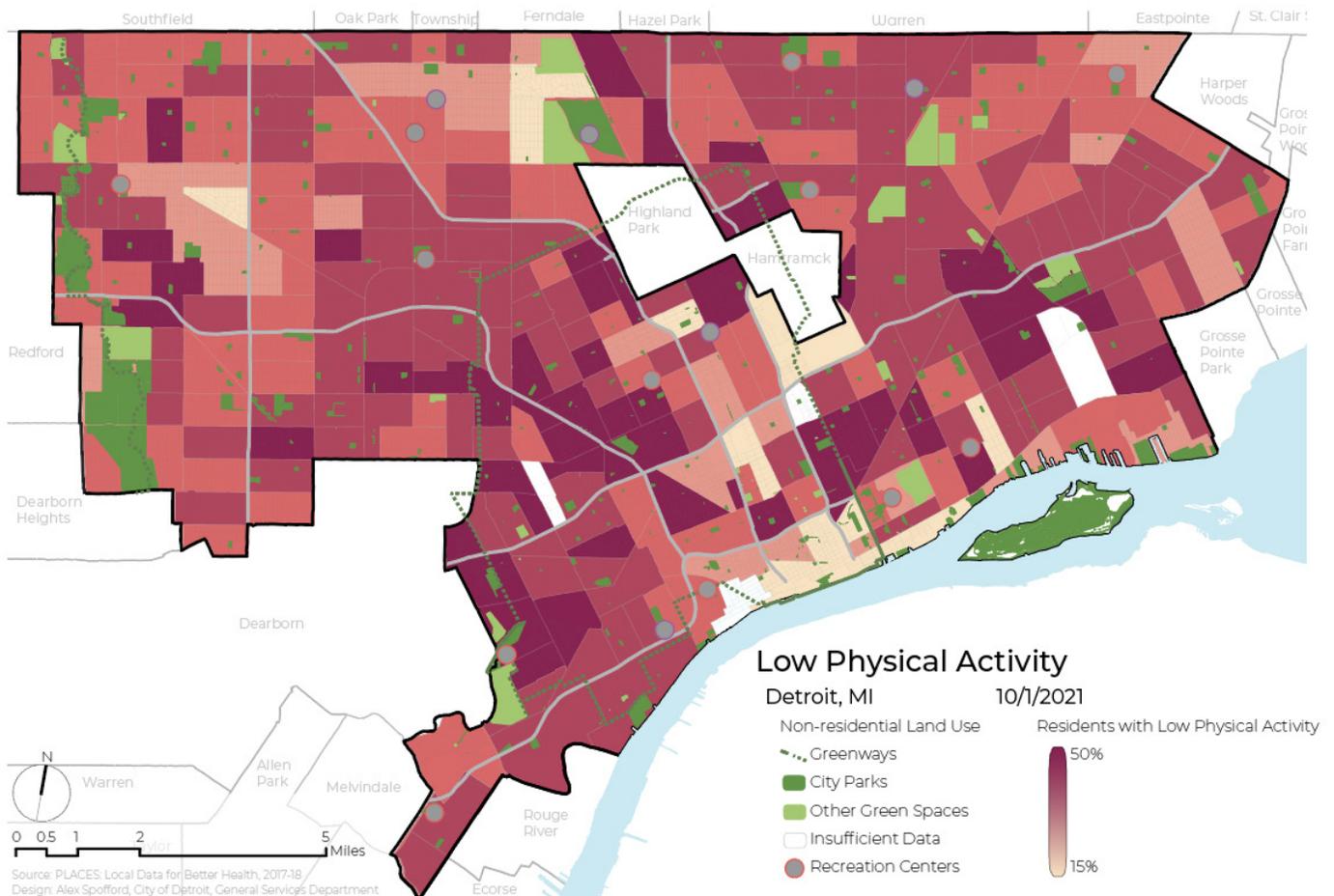


Figure 15.

## 3.2 POOR MENTAL HEALTH

### Percent Experiencing Frequent Poor Mental Health

Poor Mental Health measures the percent of residents who reported experiencing 14 or more consecutive days of poor mental health, when surveyed in 2018 by the CDC. Studies show that physical activity, socialization, and time spent outdoors can improve mental health by lowering stress and mitigating anxiety and depression. Green space and parks have played an even greater role during the Covid-19 pandemic, providing safe places to socialize and enjoy nature. For more information about the health benefits of parks, see the Design Insight about health on pages 17-18 in Chapter 3: Strategies.

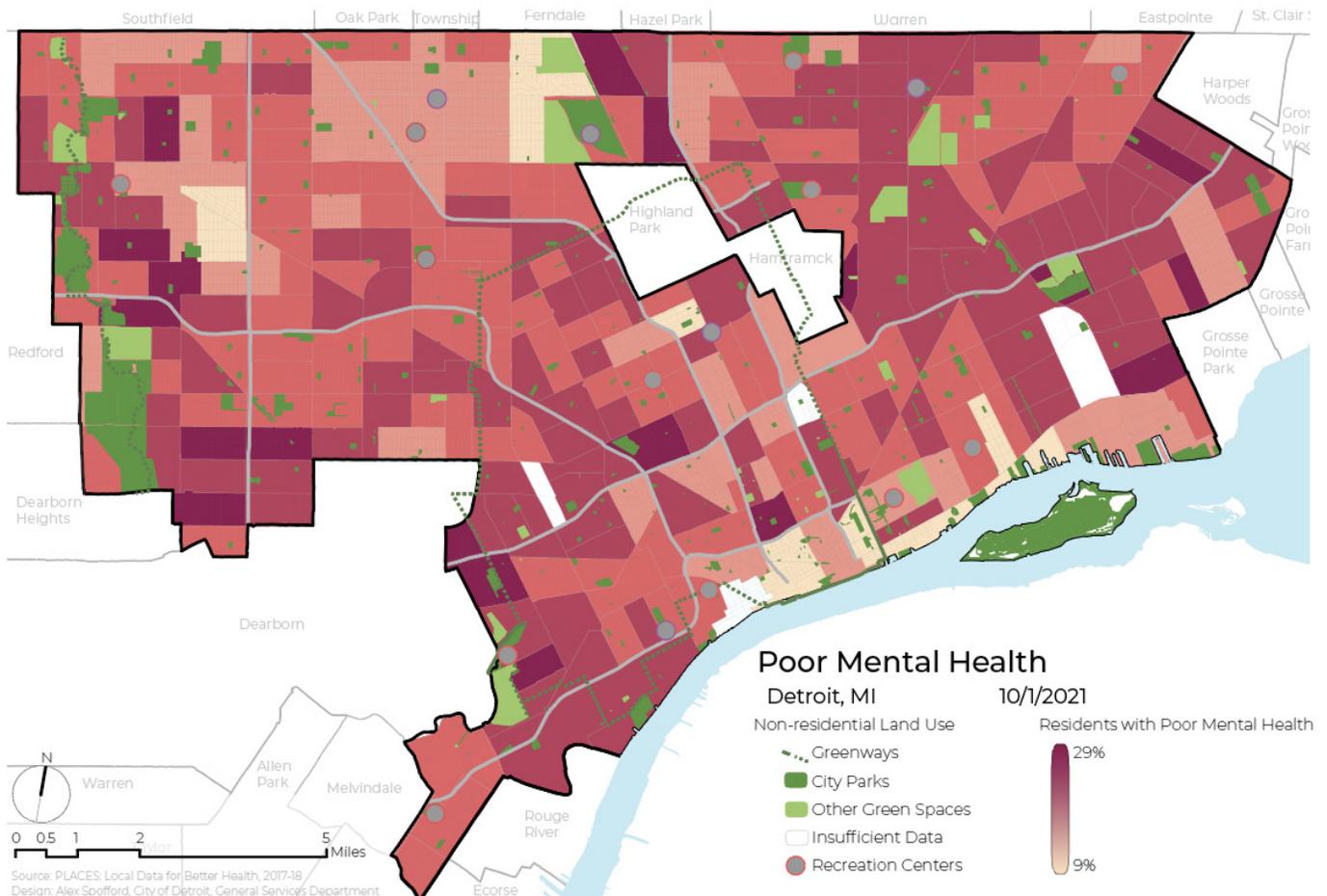


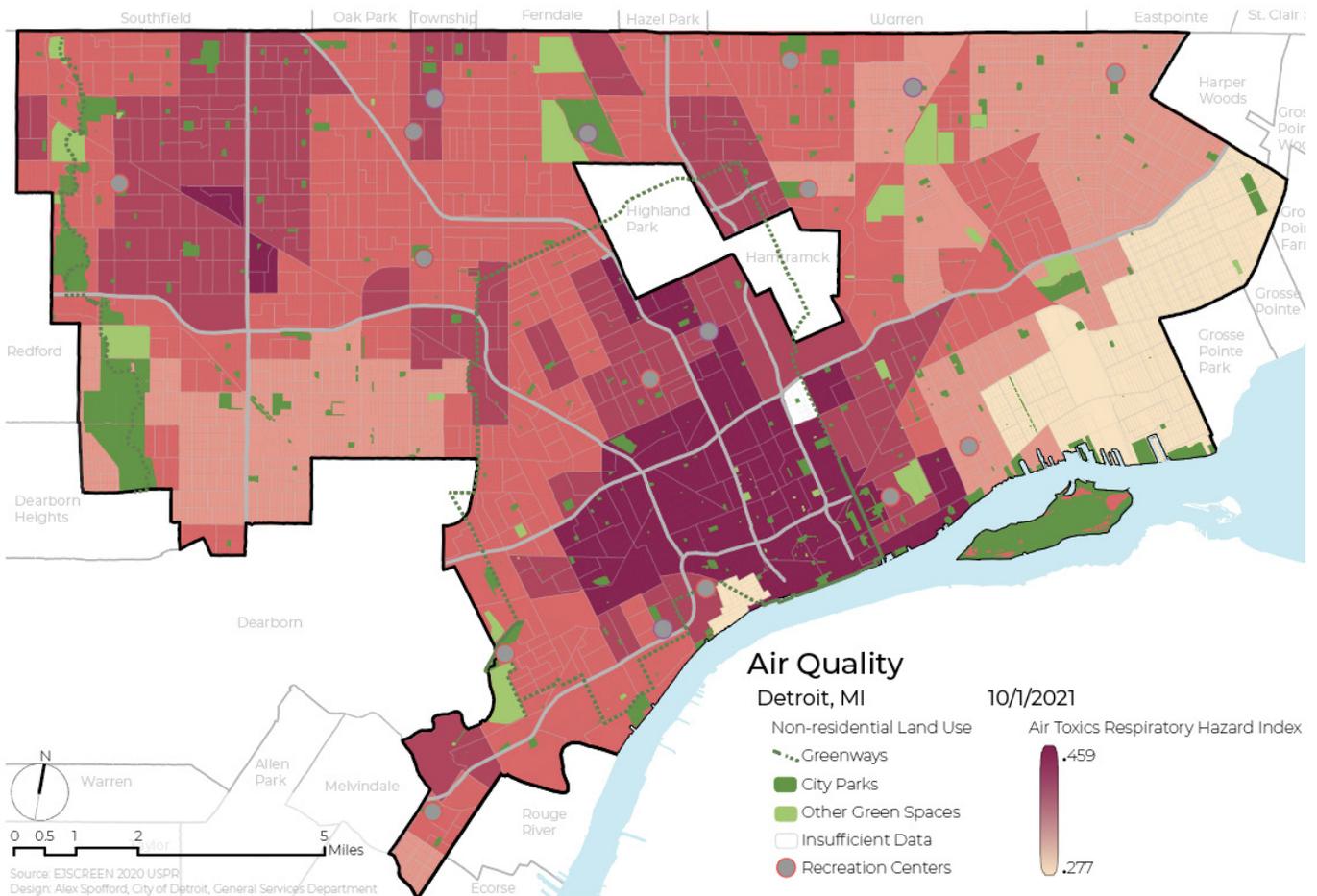
Figure 16.

# ENVIRONMENT METRICS

## 5.1 AIR QUALITY

### Areas of Poor Air Quality & High Respiratory Distress

Air Quality measures the level of respiratory hazards in Detroit's air. Respiratory hazards include any particle small enough to enter the lungs, that may cause serious damage. These may be airborne toxins such as dust, fumes, and gases from pollution, industry, decomposition, and other sources. Poor air quality can be dangerous, especially in areas where Detroiters spend significant time, including at home and at work. Vegetation in parks and other green spaces play an integral role in mitigating pollution by filtering the air. This type of analysis can identify where the highest risk areas are and where DPRD can prioritize future tree plantings and green buffers. It is important to evaluate air quality periodically, as it can vary over time.



**Figure 17.**  
23

## 5.2 HEAT RISK

### Areas of Increased Temperature due to Urban Heat Island

Urban Heat Island Effect measures the increase in temperatures in urban areas, as shown below, ranging from 1, slightly above Detroit's mean temperature, to 5, significantly above the mean. Parks are a vital part of the city's green infrastructure by contributing cooling green spaces, which can also mitigate flooding (see Chapter 3 pages 24-26). Higher temperatures lead to poor health outcomes, like heat stroke. It is important to understand where the hottest areas of the city are so DPRD can prioritize interventions that reduce temperatures. Parks near high temperature areas can be targeted for increased vegetation and tree canopy cover to decrease temperatures and provide shade. They can also be a good target for cooling amenities such as splash pads or water play.

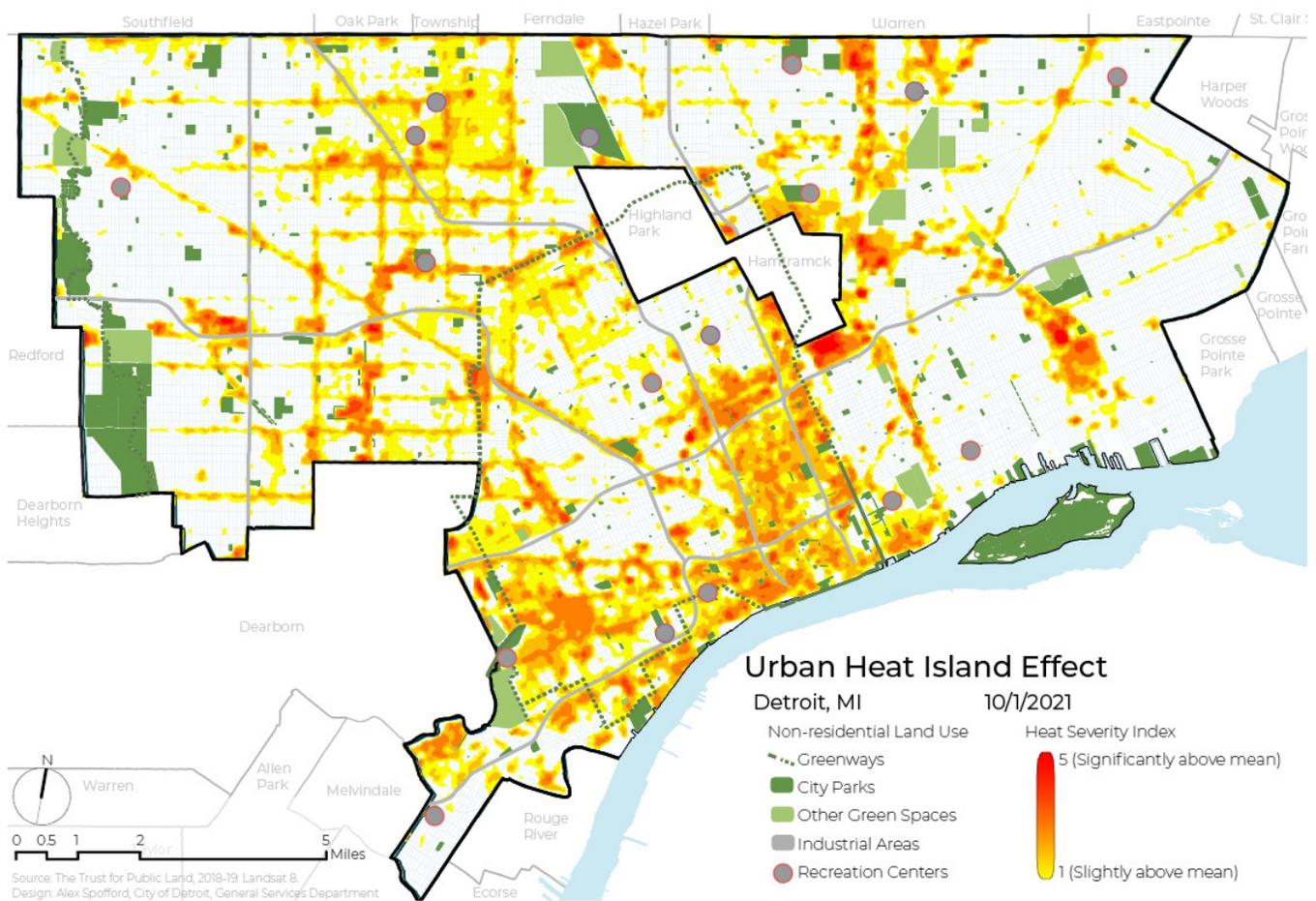


Figure 18.



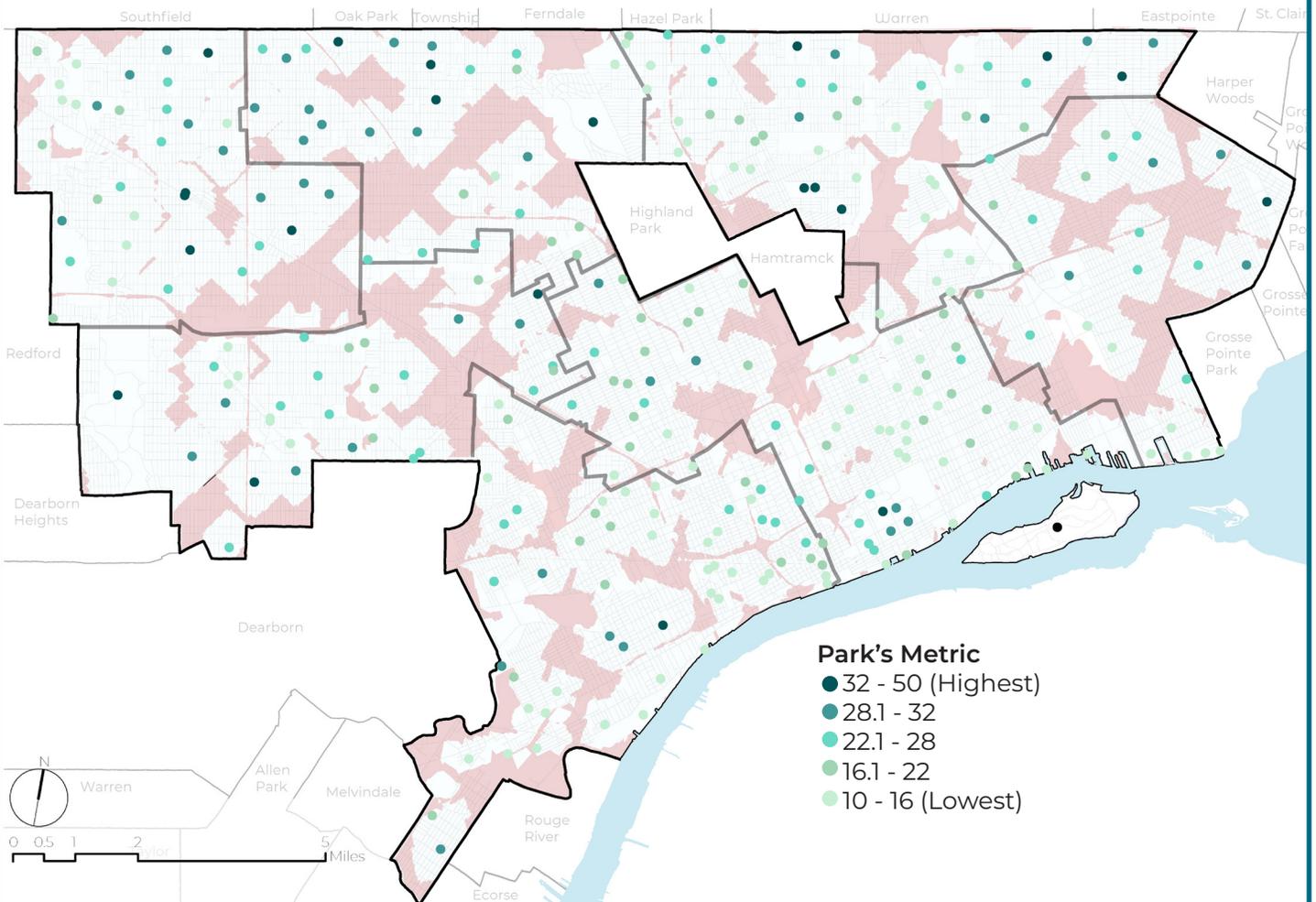
Artist Hubert Massey at Stoepel No. 1,  
Grandmont Rosedale Development Corporation

## **PRIORITIZATION**

The analysis created a need-based metric to prioritize park capital improvements. This section conveys metric scores for Detroit's parks and explains the prioritization process. More information about phasing and investment types can be found in the next chapter, Chapter 6: Capital Plans, for parks, as well as other park and rec assets including marinas, cemeteries, golf courses, greenways, recreation centers, and cultural sites. The complete collection of scores, metrics, and phases is available in the appendices.

# FIND YOUR PARK!

## PARKS BY METRIC



Currently Detroit's parks and rec system has over 300 parks, and DPRD is faced with the challenge of allocating limited resources. DPRD calculated a score from 1 through 5 for each of the 10 metric components, which combined to form the metric, shown above for each park. This is the first step to prioritizing investments equitably in communities with the greatest need of them. Additional adjustments are made to ensure fair distribution across the city and to balance fiscal expenditures, as shown on the next page.

# PROCESS OF PRIORITIZING

Compiling scores & allocating investments equitably

## Step by Step Process



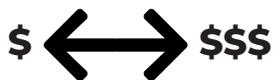
**1. Calculate each park's metric** by awarding each characteristic a score between 1 and 5, then adding them together for a total out of 50.



**2. Order parks by metric** to prioritize equity of park need. Highest scores indicate the greatest need for park investment.



**3. Consider distribution across the city, such as by district.** Make adjustments to ensure spatial equity across Detroit's districts, so that all 7 districts will receive significant improvements in the initial phases.



**4. Incorporate even distribution of improvement types.** There are three types of investments: Minor, major, and full renovations, which are determined by current condition, identified need, and recent investments. Adjustments are made to ensure that totals are similar for each phase for consistent budgeting and fundraising targets.

### Example: Stoepel No. 1 Park

Population Characteristics	Population	4
	Youth	4
	Seniors	4
	BIPOC	4
	Low-Income	3
Access	10-min Walkshed	4
Public Health	Physical Health	4
	Mental Health	4
Environmental Health	Air Quality	5
	Urban Heat Island Effects	4
Metric		40
District		1
Phase		1

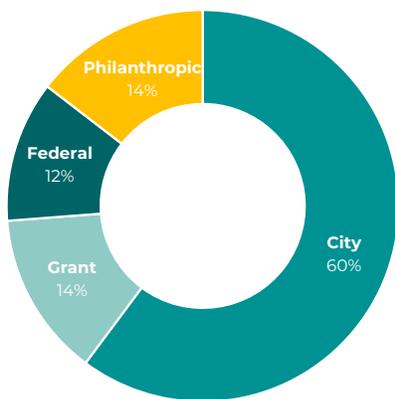
## How does the plan affect DPRD's budget?

The equity metric is the first and most important step in prioritizing which parks to improve when. However, there are other considerations including the type of improvement needed, the balance of needed investment across all seven districts, and the balance of improvements across the ten phases. This enables DPRD to creating annual budgets, as well as ensures that maintenance costs and capacity are accounted for.

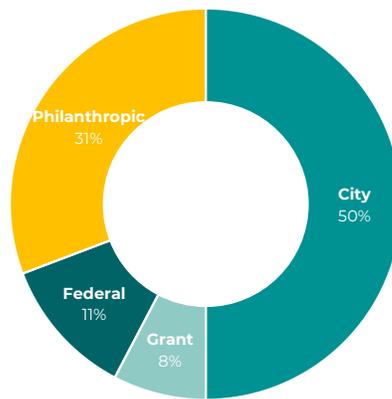
DPRD determined the estimates for necessary park investments based on each park's condition and capacity reports, input gathered from community engagement, and recent investments. Improvement types range from minor renovations, for parks that have recently received investment, but still have unfunded critical amenities, to full renovations, for parks that will be entirely renovated in one phase, to major renovations, typically for larger parks that require several large investments over time to improve different areas of the park.

Each of the seven Council districts of the city has a different number of parks, and thus it is not always possible to invest in the same number of parks in each district, in every phase of the plan. However in the first five phases, the most critical phases of the plan, all efforts were made to invest evenly across the city. Typically, four parks per district will receive improvements in each of the initial five phases.

For each of the first five phases, the estimated need for "Walkable" parks is approximately \$10.3 million, and "Destination" parks is around \$6.5 million per phase. This plan proposes that a portion of that budget will be fundraised through grants, philanthropic, federal, and other non-City sources. Since Destination parks tend to have greater resources for fundraising, these parks may rely less on City funding than Walkable parks.



**WALKABLE PARKS** CAPITAL NEEDS



**DESTINATION PARKS** CAPITAL NEEDS

Continue to Chapter 6: Capital Plans for more information on capital needs.