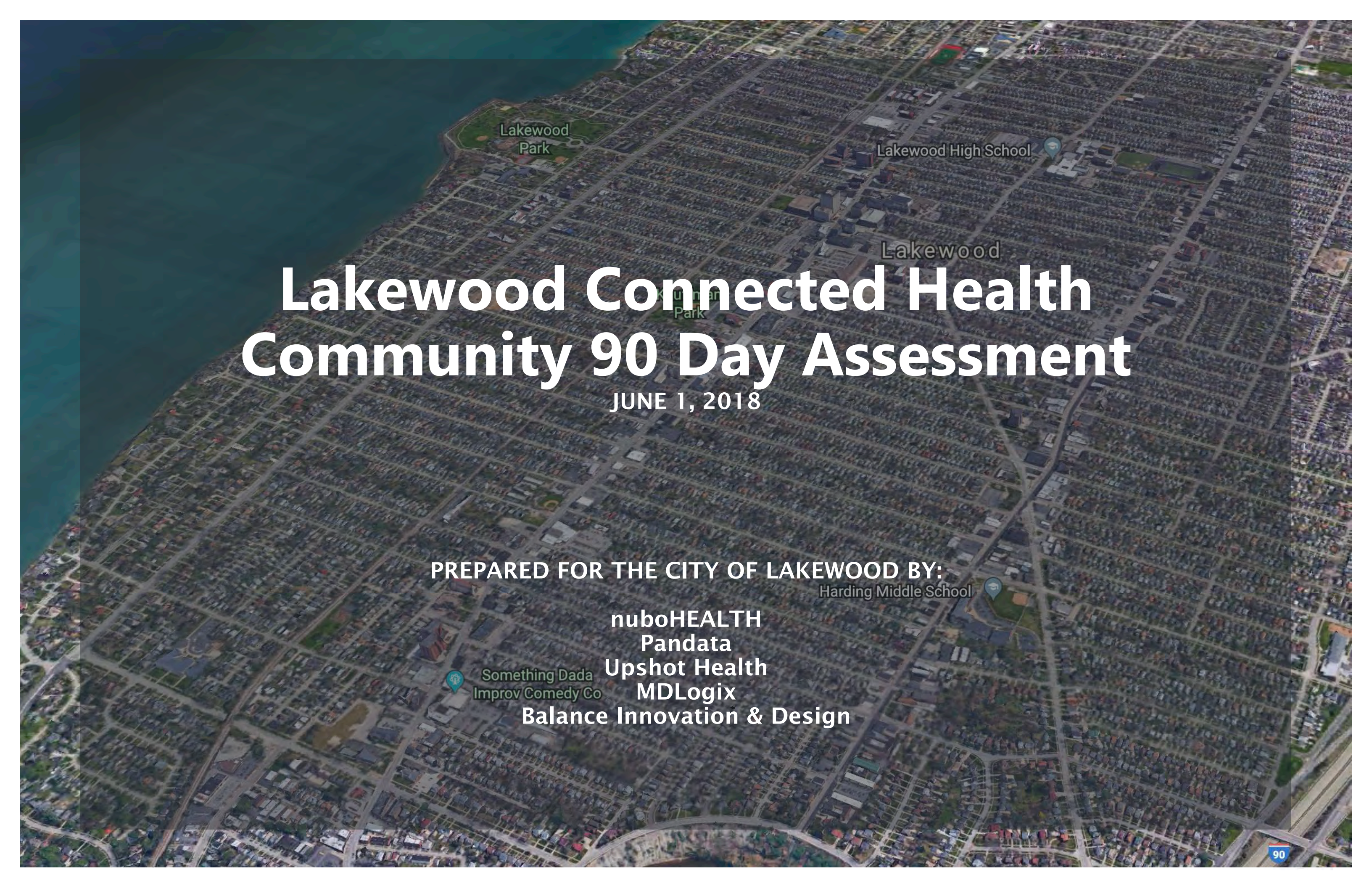




Lakewood Connected Health Community 90 Day Assessment

JUNE 1, 2018

PREPARED FOR THE CITY OF LAKEWOOD BY:

Harding Middle School

nuboHEALTH

Pandata

Upshot Health

MDLogix

Balance Innovation & Design

Something Dada
Improv Comedy Co

PROJECT OVERVIEW

Overview

Objectives & Goals

Perform an initial 90 Day Assessment on the current state of health and wellness in Lakewood

- Perform an initial data & IT review
- Identify and understand current health and wellness resources & challenges
- Draft a high level vision for a Connected Health Community
- Evaluate economic drivers for a Connected Health Community
- Perform a sample claims utilization review

Methodologies

- Quantitative Data Review
 - CAD data
 - Census data
 - Community Assessment data
 - Baseline 3rd party data scraping
- Qualitative Data Review
 - 25 individual stakeholder interviews
 - Community Forum
 - Chamber of Commerce Meeting
 - 2 business focus groups
 - Baseline 3rd party data scraping
- MMO Claims Utilization

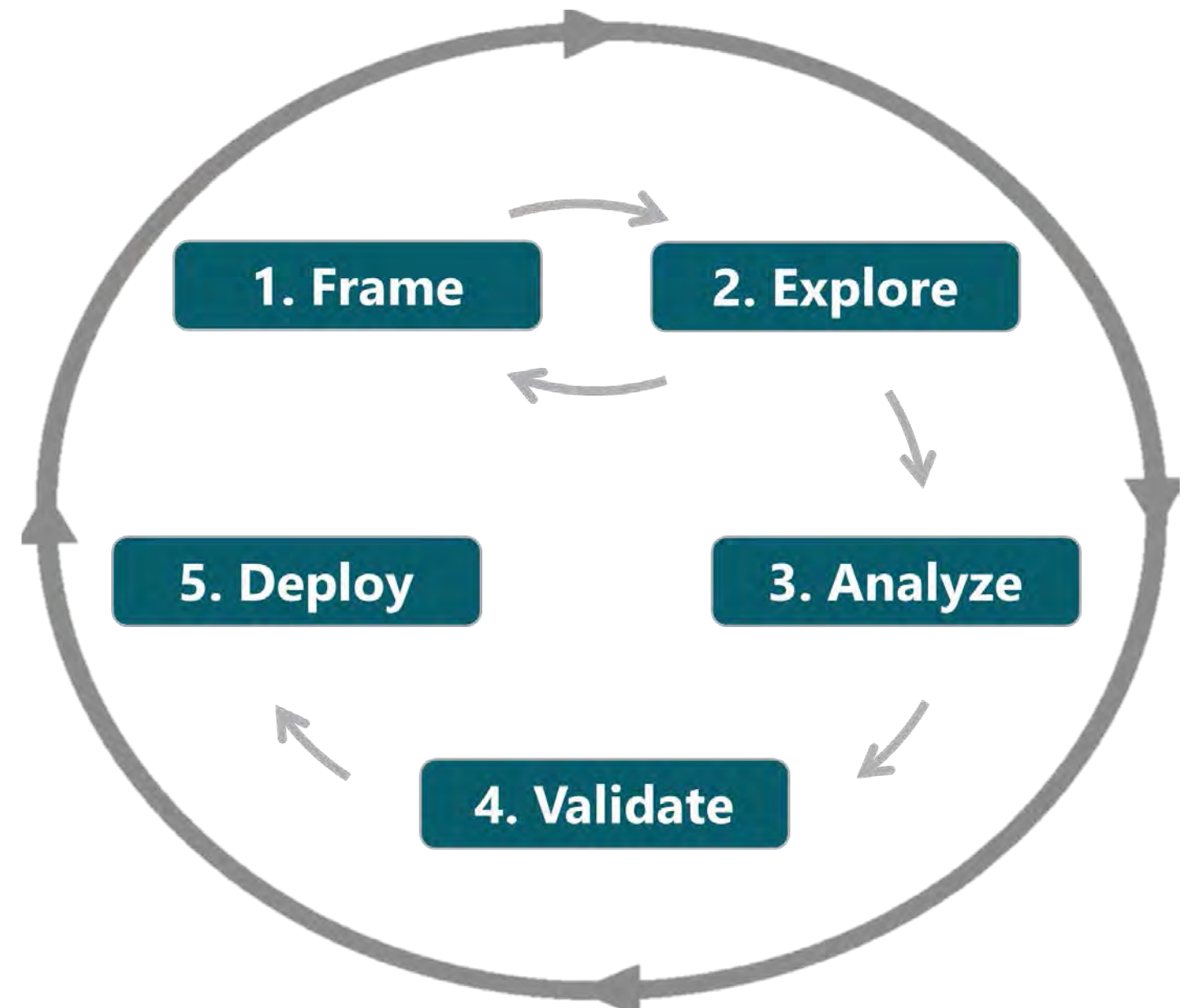
Stakeholder Interviews

- **Jim Hekman, MD- CC**
- **Brendan Patterson, MD- CC**
- **Jim Crawford- Lakewood Library**
- **Patty Ryan, Chamber**
- **Pam Gill, Recovery Resources**
- **Elizabeth Newman, Centers for Family and Children**
- **Jean Polster, Neighborhood Family Practice**
- **Kristin S. Warzocha, Cle Food Bank**
- **Rita Horwitz, Better Health Partnership**
- **Kristin Broadbent- Three Arches**
- **Maryann Crampton**
- **Jerry Frantz- JumpStart**

- **Gary Rick, YMCA**
- **Michael Coletta**
- **Justin McCaulley**
- **Ellen Brzytwa**
- **Lisa Bruening, Lakewood Schools**
- **Gina Gavlak, NorthCoast**
- **Matthew Miller, BioE/JumpStart**
- **Chief Malley, Lakewood Police**
- **Chief Gilman, Lakewood Fire**
- **Gordon Geiger**
- **Katie Kurtz, Human Services**
- **Ian Andrews, Lakewood Alive**
- **Kevin Butler**
- **Alex Harnouz**

Foundation: Data Science Methodology Approach

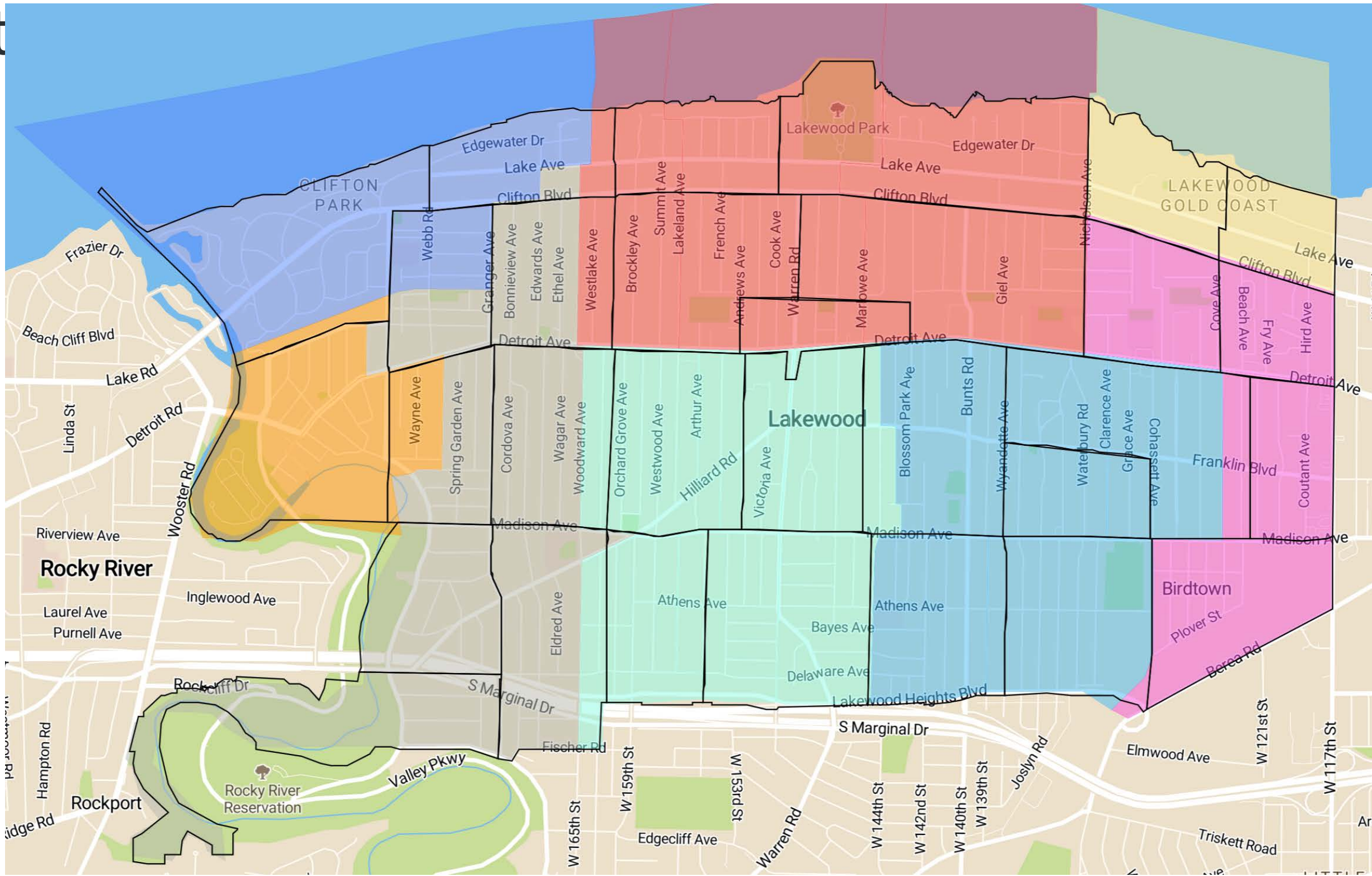
- **Identify Comparable Neighborhoods**
 - Tracts and Reporting Districts do not reflect culturally 'distinct' zones
 - All statistics reported as rates per 1,000 citizens per year
- **Develop call 'taxonomy'**
 - Police, EMS, and Fire use separate call codes
 - No built-in hierarchy data structure
- **Compare Neighborhoods**
 - CAD – 740,000+ records over 10 years
 - Census data – 5 files containing over 1,000 possible variables



Lakewood 90 Day Assessment

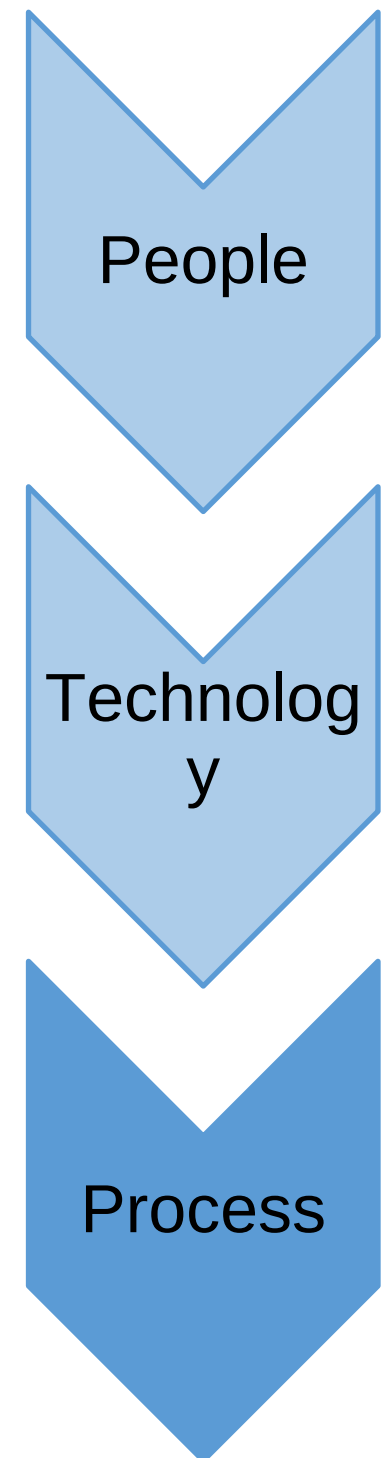
Foundation: Data Science

Met



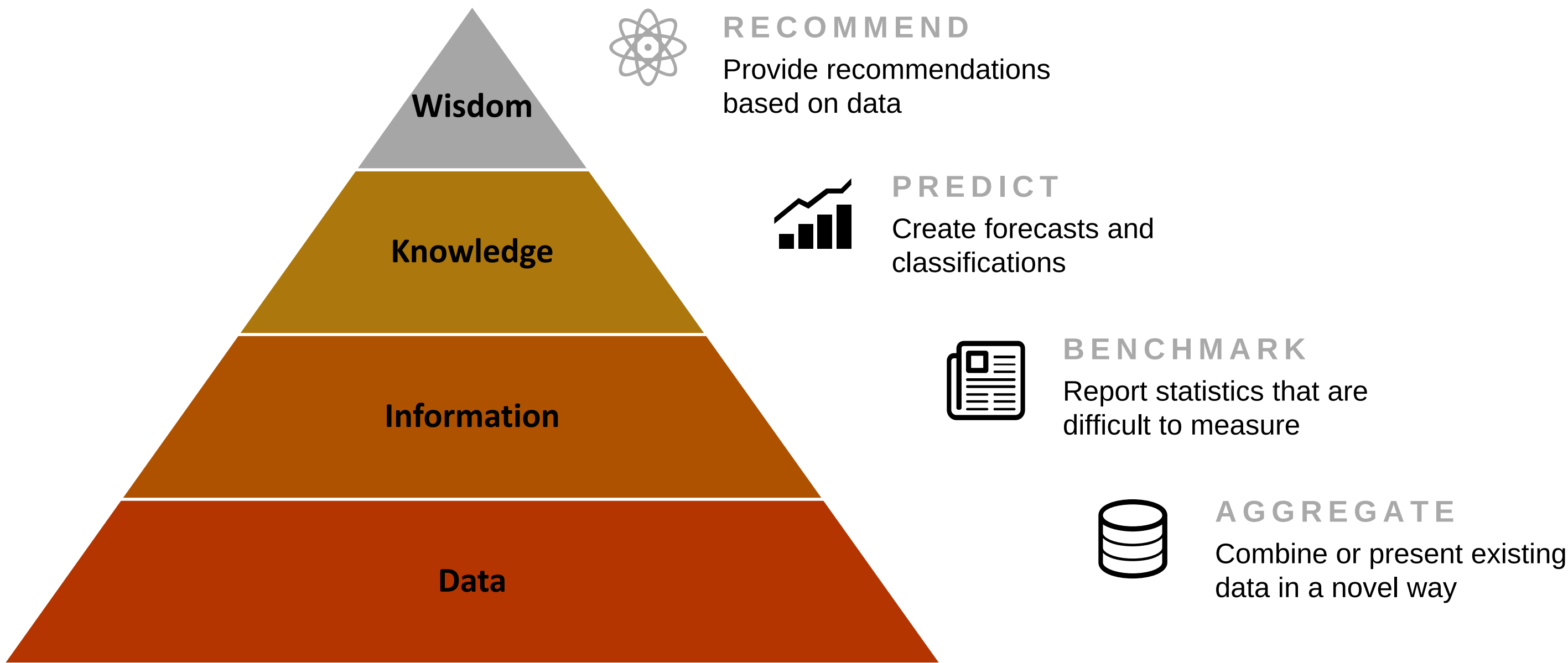
Foundation: Data Science-Step 1: Frame

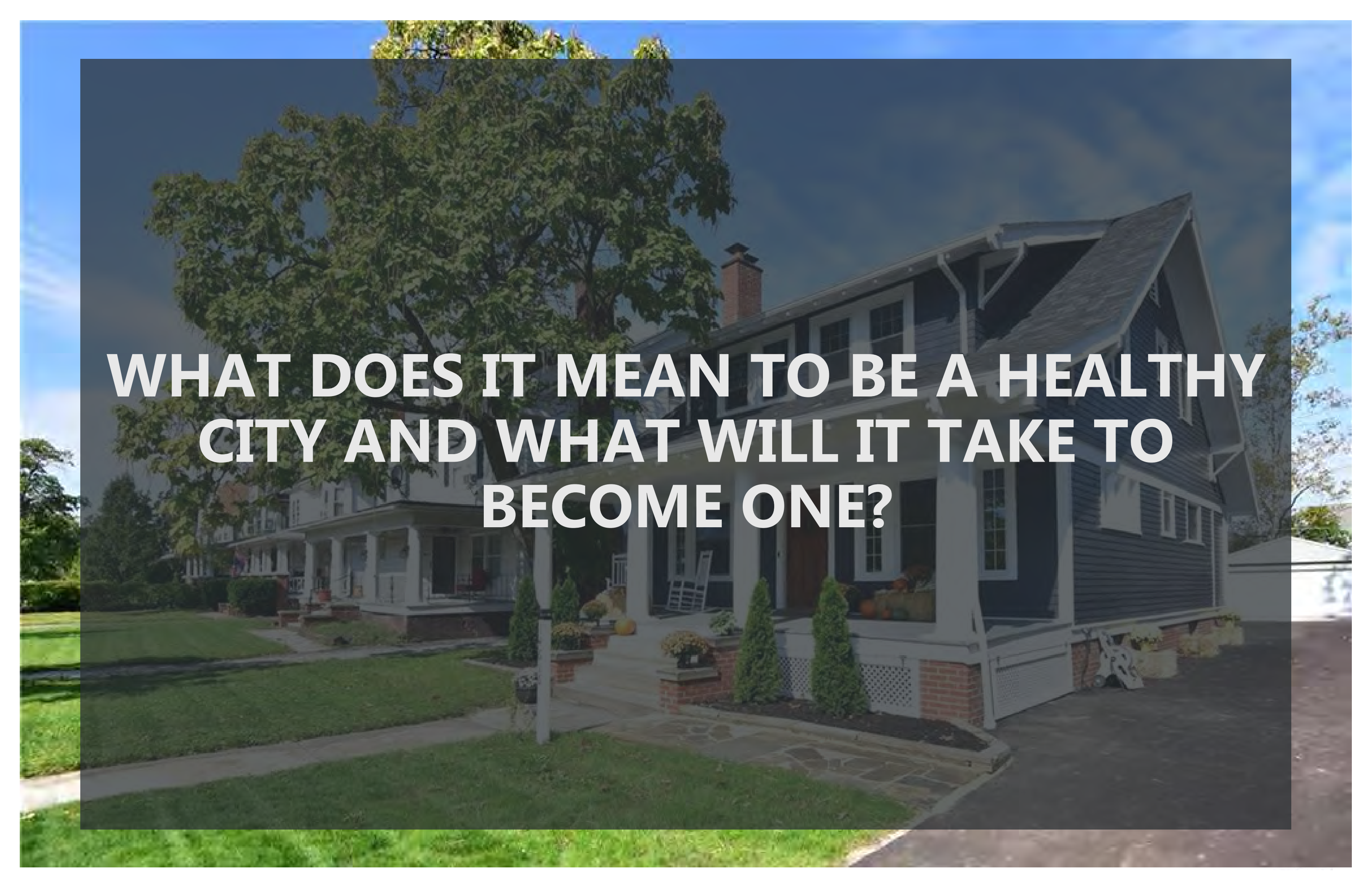
- Specific → **Related to a specific business goal**
- Measurable → **Can establish validation criteria**
- Achievable → **Tools, data, and resources available**
- Relevant → **Can result in action & has ROI**
- Timely → **Results in time for action**
- Novel → **Information doesn't already exist**
- Ethical



Foundation: Data Science

Data Solutions



A photograph of a row of houses, likely in a suburban neighborhood. A large, leafy green tree stands in the foreground on the left, partially obscuring the houses. The houses are two-story, with light-colored siding and dark shutters. A prominent house in the foreground has a white porch with columns and a red door. The sky is blue with some clouds. The text is overlaid on the image in a large, white, sans-serif font.

**WHAT DOES IT MEAN TO BE A HEALTHY
CITY AND WHAT WILL IT TAKE TO
BECOME ONE?**

Vision & Values

VISION

Make Lakewood the Healthiest City In America

To make Lakewood the healthiest city in America, we will create a connected community influenced by determinants of physical, social, mental, spiritual, intellectual and financial health. Where all members of the community will work in collaboration to support the community's full potential for health and wellness and build resiliency by connecting with each other and to resources.

VALUES

Accessibility- provide the ability to reach, use and/or understand health and wellness resources

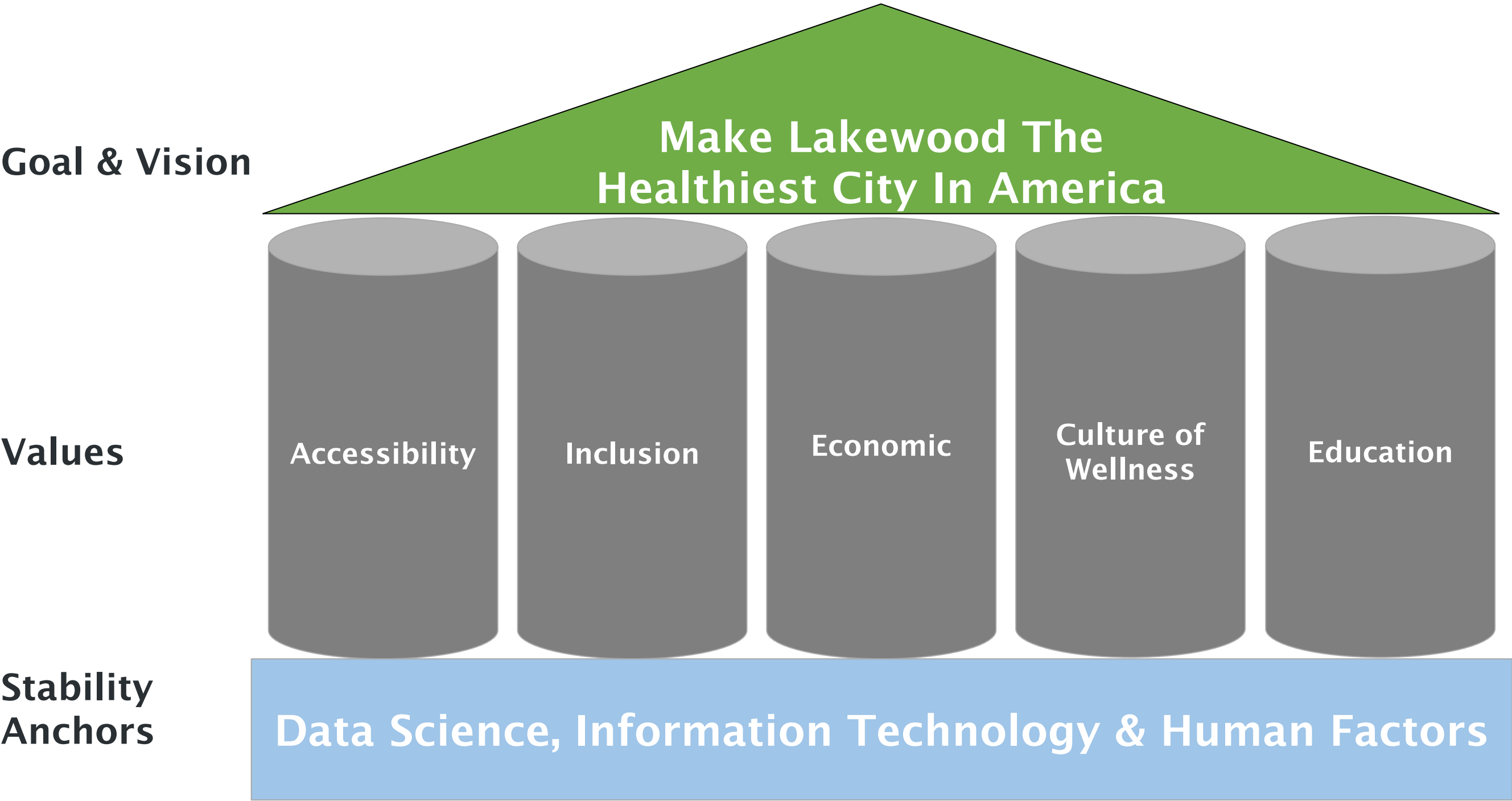
Inclusion- promote and sustain the recognition of all people in the need for varying health and wellness services

Economic-expand the accessibility of resources to create security, satisfaction, and personal fulfillment

Culture of Wellness-foster a community that encourages and promotes the well-being of all its residents

Education-nurture a sense of critical thinking, curiosity and knowledge transfer to intrinsically motivate good health and well being within the community

Modeling Health Using the House of LEAN



Lakewood: The Healthiest City in America

Accessibility

What are the health and wellness resources?

How accessible are these resources?

Inclusion

What are the challenges around diversity?

How are the unique needs of a diversified community supported?

Economic

What are the economic challenges of residents? Of businesses?

What are the economic challenges in supporting health & wellness?

Culture of Wellness

What is Lakewood's culture of Health & Wellness?

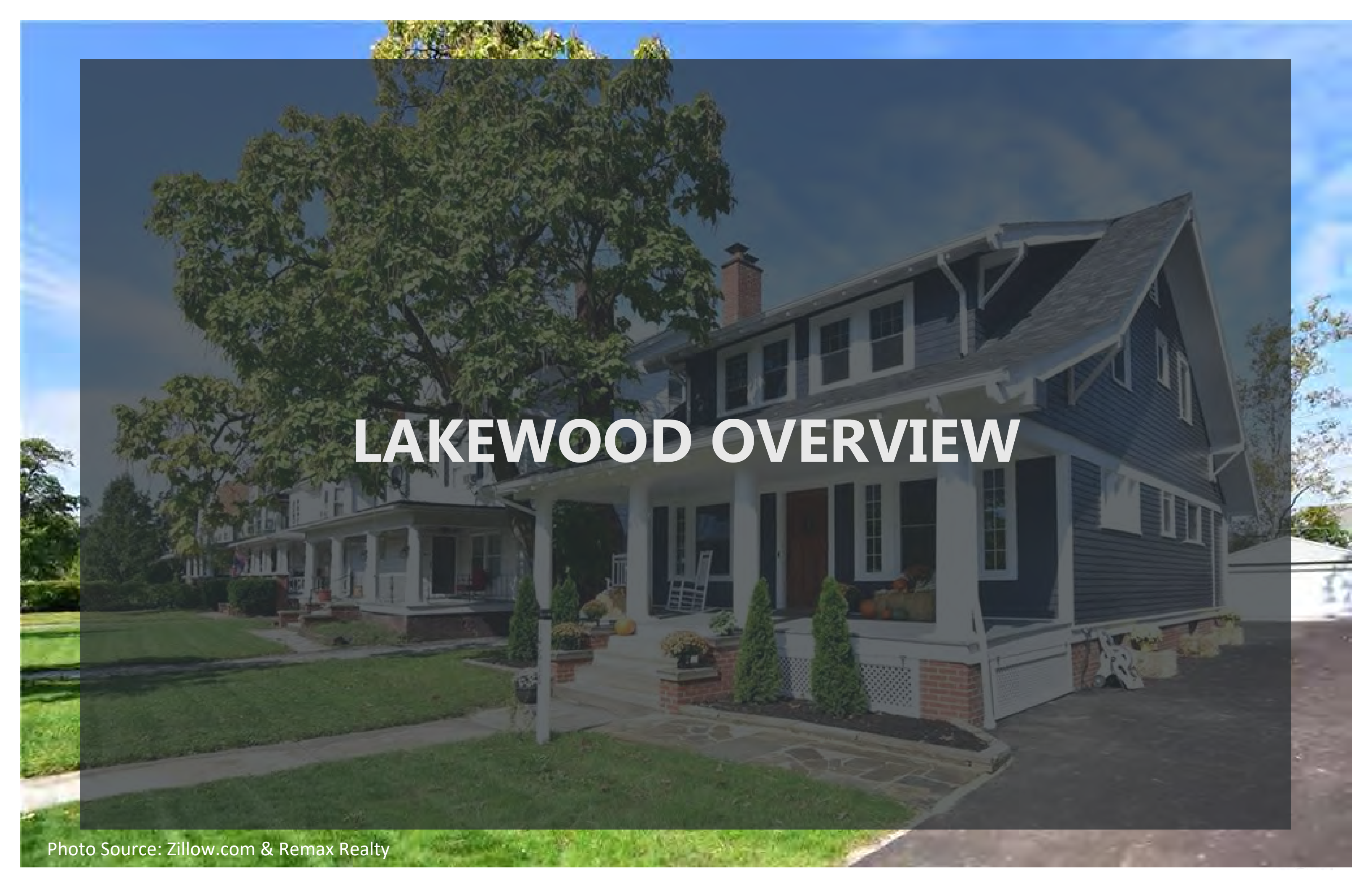
How is it supported?

Education

What is the base knowledge of being and staying healthy?

What supports the gaps in this knowledge?

The Foundation: Data Science, Information Technology, Human Factors

A large, two-story house with a prominent front porch supported by white columns. The house has dark blue horizontal siding and white trim around the windows and roofline. A large, leafy tree stands to the left of the house, partially obscuring the sky. The front yard is green with a concrete walkway leading to the porch. The sky is blue with some light clouds.

LAKEWOOD OVERVIEW

Photo Source: Zillow.com & Remax Realty

Community Need Index™

In Lakewood, the average CNI was 3.4, indicating that it was a “high need” area. Cuyahoga County as a whole also is considered “high need” based on its average CNI.

Factors:

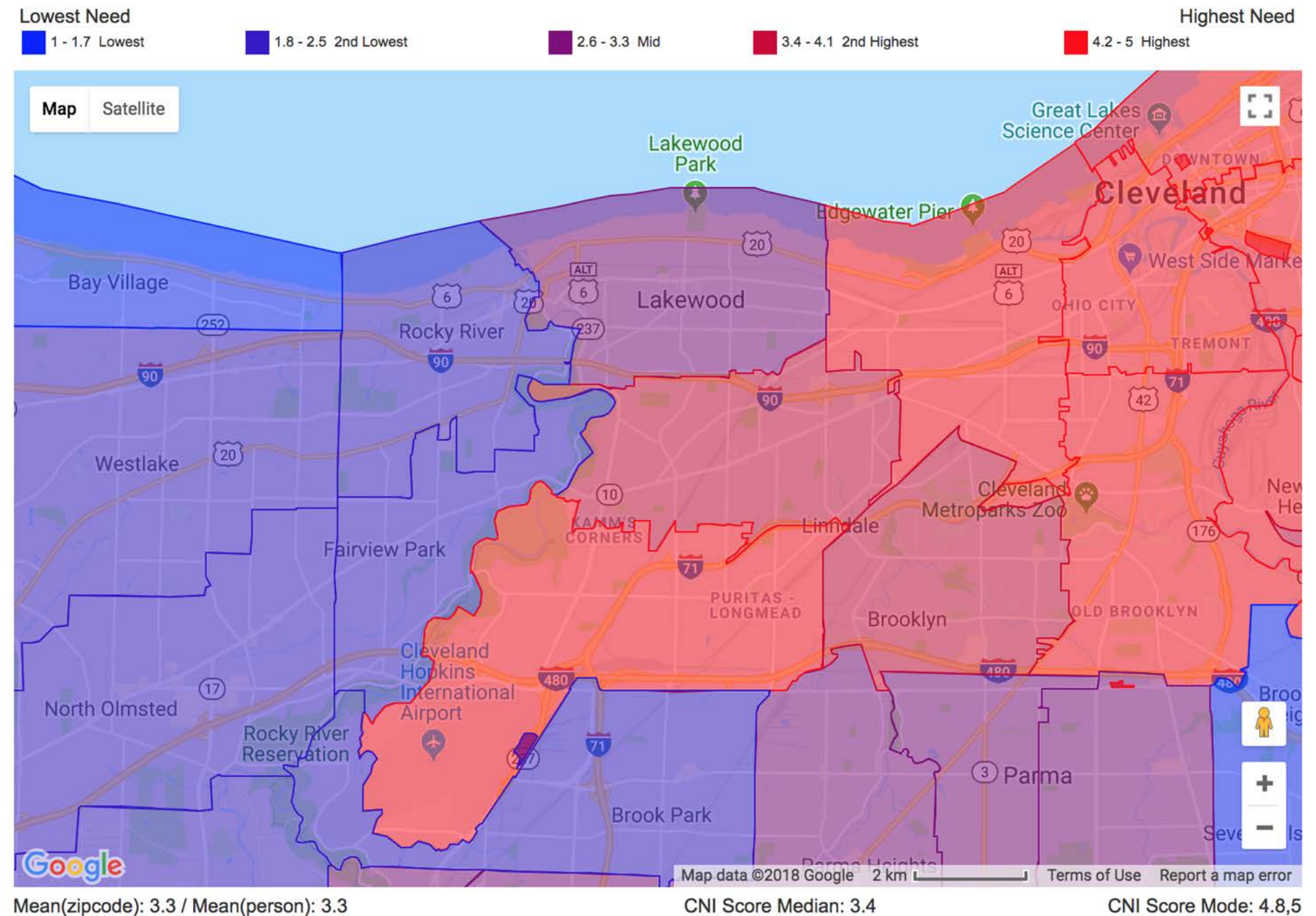
The percentage of elders, children, and single parents living in poverty

The percentage of adults over the age of 25 with limited English proficiency

The percentage of the population without a high school diploma;

The percentage of uninsured and unemployed residents;

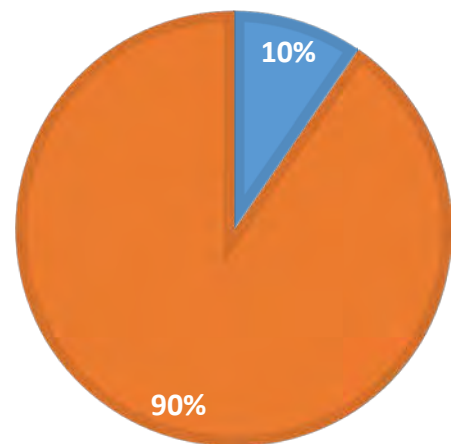
The percentage of the population renting houses.



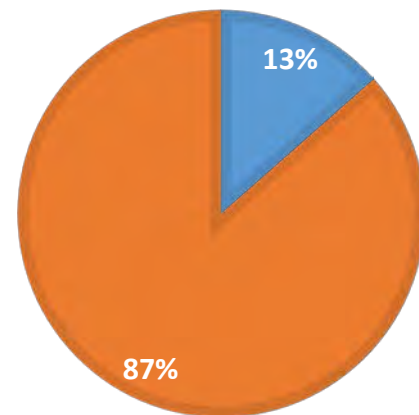
Overall Lakewood Health Gaps & Needs

MOBILITY

% DISABLED

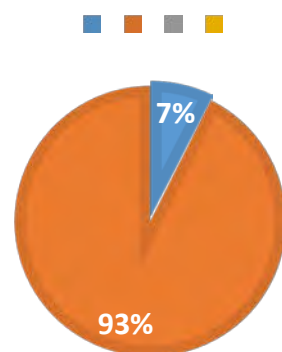


% WITHOUT VEHICLE



ACCESS TO CARE

% WITH/WITHOUT HEALTH INSURANCE

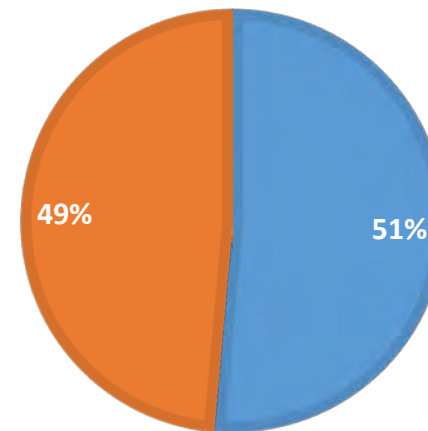


Lakewood has no shortages of Health Professionals

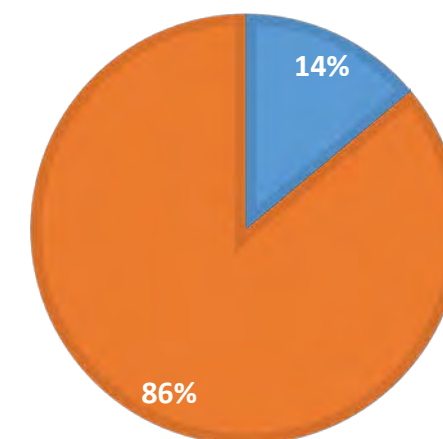
Lakewood has no medically underserved areas

POVERTY

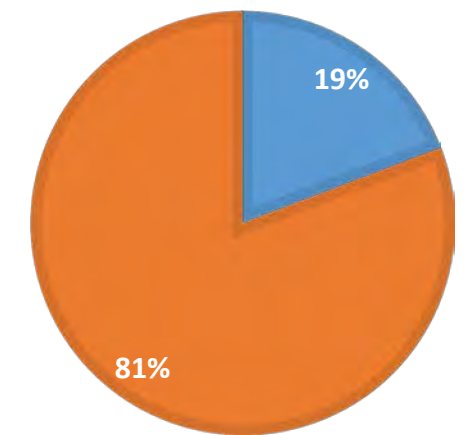
% BELOW OR AT POVERTY STATUS



% ON SNAP



% OF FOOD INSECURITY



1 in 3 people in Lakewood are eligible for SNAP-1 in 7 are enrolled

Lakewood has no designated Food Deserts

23% of children in Lakewood live in poverty-19% nationally

DETERMINANTS OF HEALTH

- Community Needs Index in Lakewood is 3.4 out of 5—HIGH NEED
- Behavior Risk Factor Surveillance-HIGH rates for Diabetes, Asthma & Smoking
- Ambulatory Care Sensitive Conditions-HIGH for Diabetes, CHF, COPD, Pneumonia, Dehydration, UTI and Angina w/o Procedure
- Chronic Diseases-HIGH for Obesity, Diabetes, Asthma, COPD and Smoking
- Prenatal-LOW birth weights, HIGH premature births
- Elderly-HIGHER RATE of falls, Prevalence of Alzheimer's
- Mental Health issues are on the rise for all cohorts especially children

Social Determinants of Health

We Can't Foster Healthy Communities Without Addressing
Social Determinants of Health



Behavioral Health

“Without **mental health** there can be no true **physical health**.”

Dr. Brock Chisholm, the first Director-General of the World Health Organization, 1954



29%

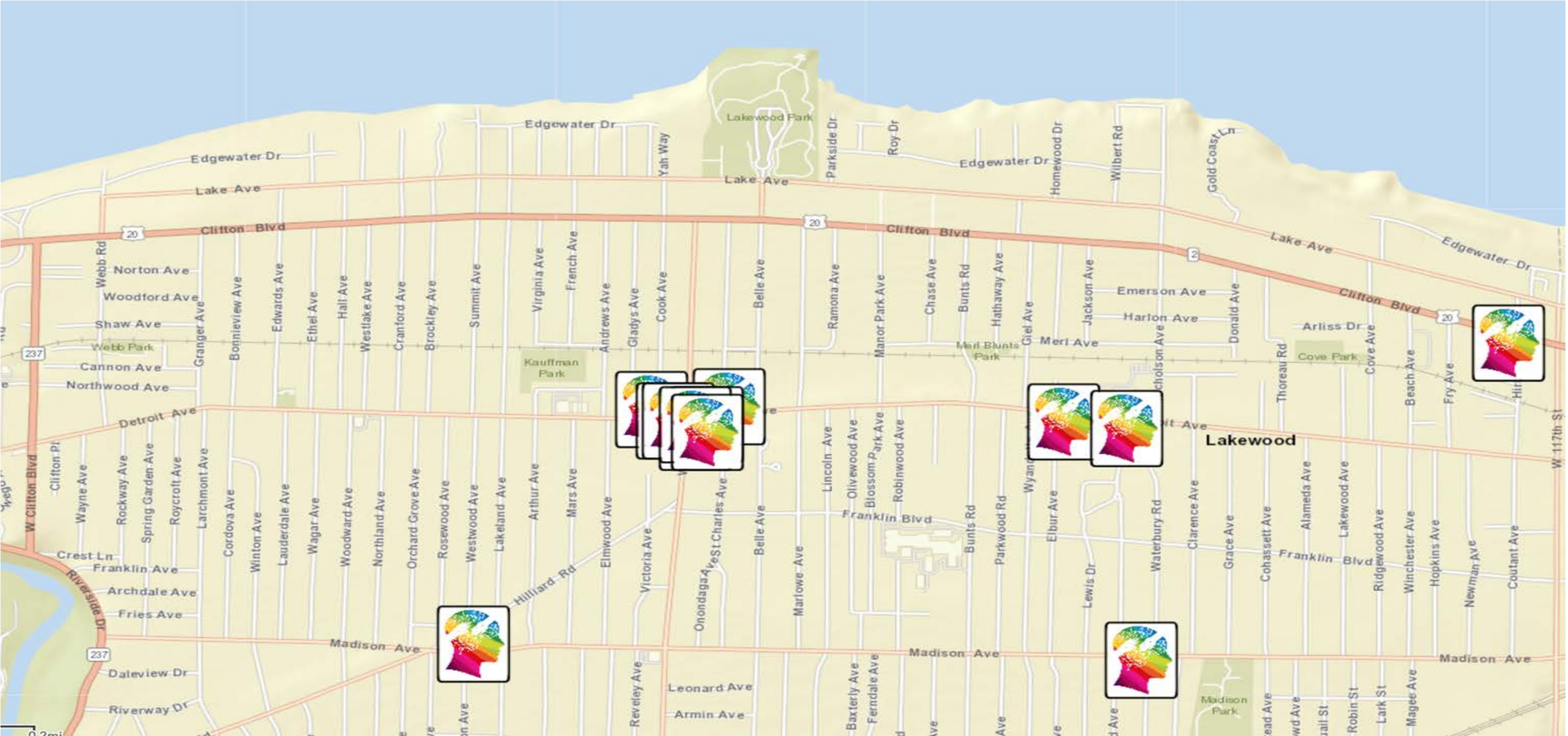
of adults with medical conditions also have mental health conditions



68%

of adults with mental health conditions also have medical conditions

Map of Behavioral Health Resources



Map of Wellness-Related Businesses



Foundation: Business Community Outreach

Conducted two focus groups with Lakewood business owners:

Health and Wellness related businesses*

- Sacred Hour
- Ride and Workout
- Pink Lotus

General Businesses**

- Geiger's
- Lion and Blue
- Plantation Home
- O'Neil Healthcare

* Organized by the Lakewood Chamber of Commerce

** Organized by LakewoodAlive

Major takeaways:

Only two of the business we spoke to provide health insurance. This is a major point of frustration.

Business owners that have tried to offer insurance in the past and failed weary of trying again – it's seen as a waste of time

Part-time businesses drain the energy and walkability of the business districts.

All of the wellness-related businesses rely heavily on contract workers. One mentioned that even though she has 30 people working for her, only 2 are full-time.



NEIGHBORHOOD ANALYSIS



CLIFTON PARK

NORTH PARK

GOLD COAST

THE EDGE & BIRDTOWN

WEST END

**SOUTHWEST
& THE ARTS**

DOWNTOWN WEST

DOWNTOWN EAST

BIRDTOWN

Lakewood
Park

Impett Park

Lakewood

W Clifton Blvd

Clifton Blvd

Sloan Ave

Detroit Rd

Valley Pkwy

Madison Ave

Hilliard Rd

McKinley Ave

Hilliard Rd

Warren Rd

Bunts Rd

Franklin Blvd

Madison Ave

Northwest Fwy

Northwest Fwy

Northwest Fwy

Warren Rd

W 140th St

Triskett Rd

Berea Rd

20

20

ALT
6

ALT
6

20

237

90

90

M

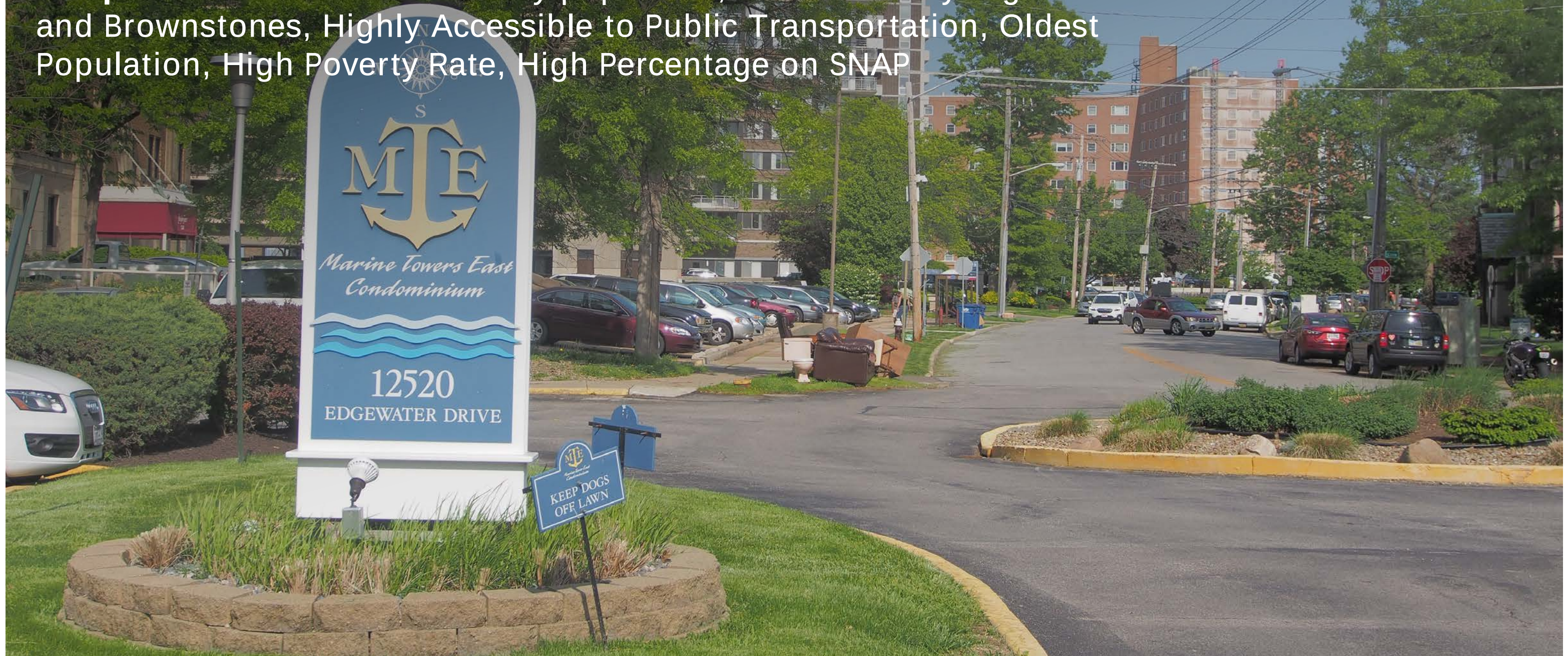
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Neighborhood Analysis

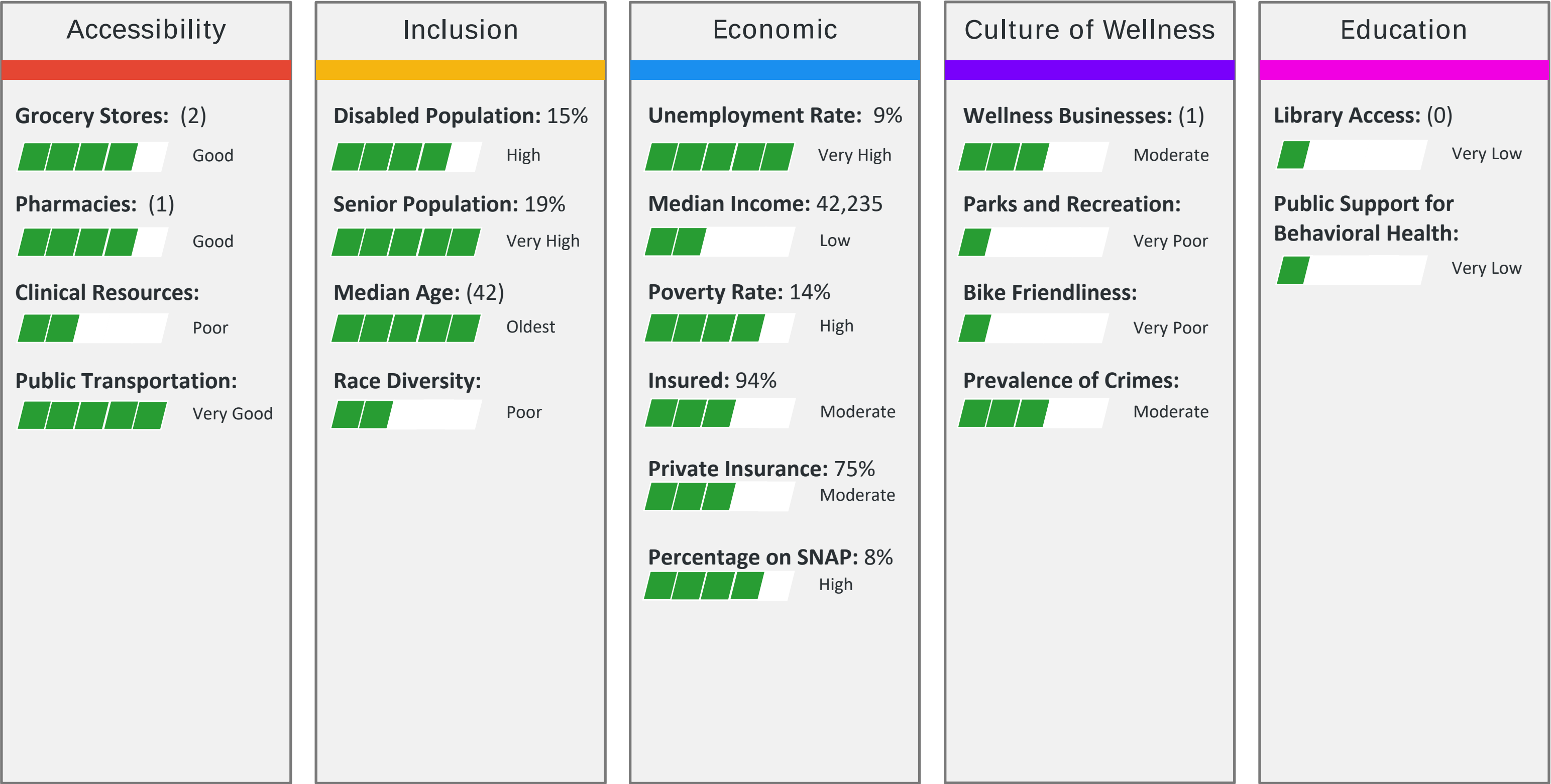
Gold Coast

Population: 5101 (10% of total population)

Unique Characteristics: Densely populated, Predominately High-Rises and Brownstones, Highly Accessible to Public Transportation, Oldest Population, High Poverty Rate, High Percentage on SNAP



Gold Coast

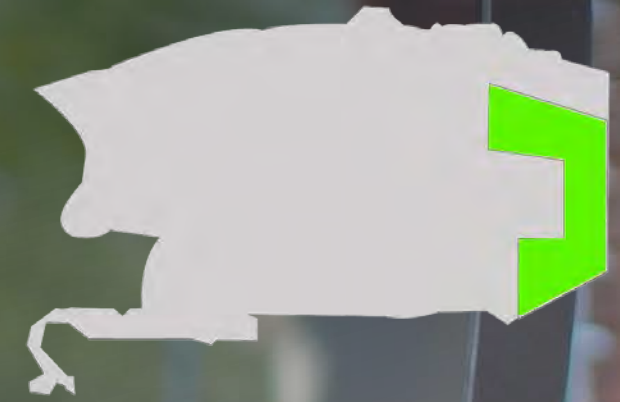


Neighborhood Analysis

Birdtown & The Edge

Population: 6370 (12.5% of total population)

Unique Characteristics: Lowest Income, Large Disabled Population, High Unemployment, Least Likely to Have Health Insurance, Most Likely to have Public Health Insurance, Highest Crime Rate, Very Bike Friendly, Youngest Population



Birdtown & The Edge



Neighborhood Analysis

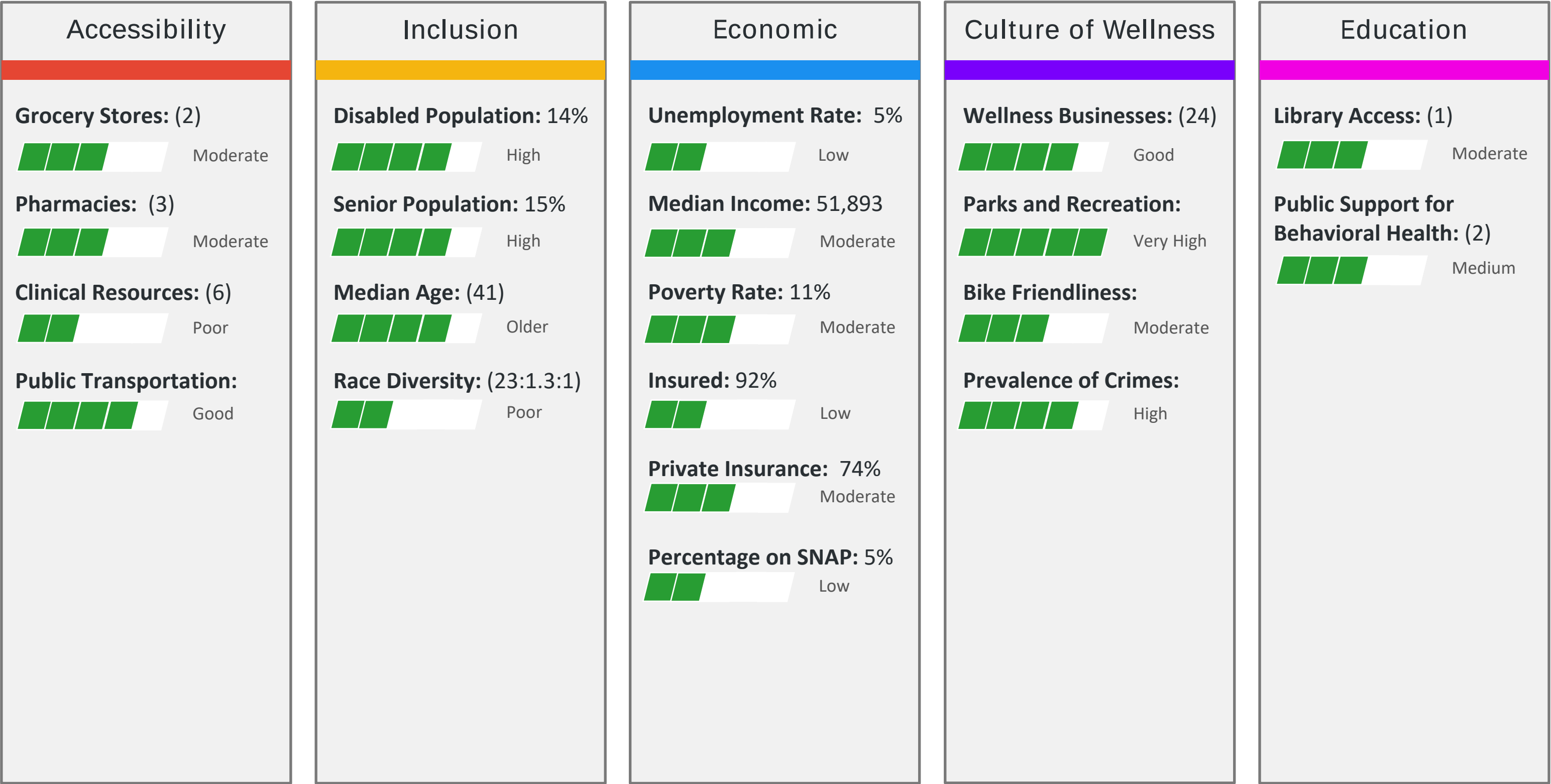
North Park

Population: 8617 (17% of total population)

Unique Characteristics: Close Access to Lakewood Park, Great Access to Activity Spaces, High Senior Population, High Disabled Population, Good Access to Public Transportation, Relatively Low Diversity



North Park



Neighborhood Analysis

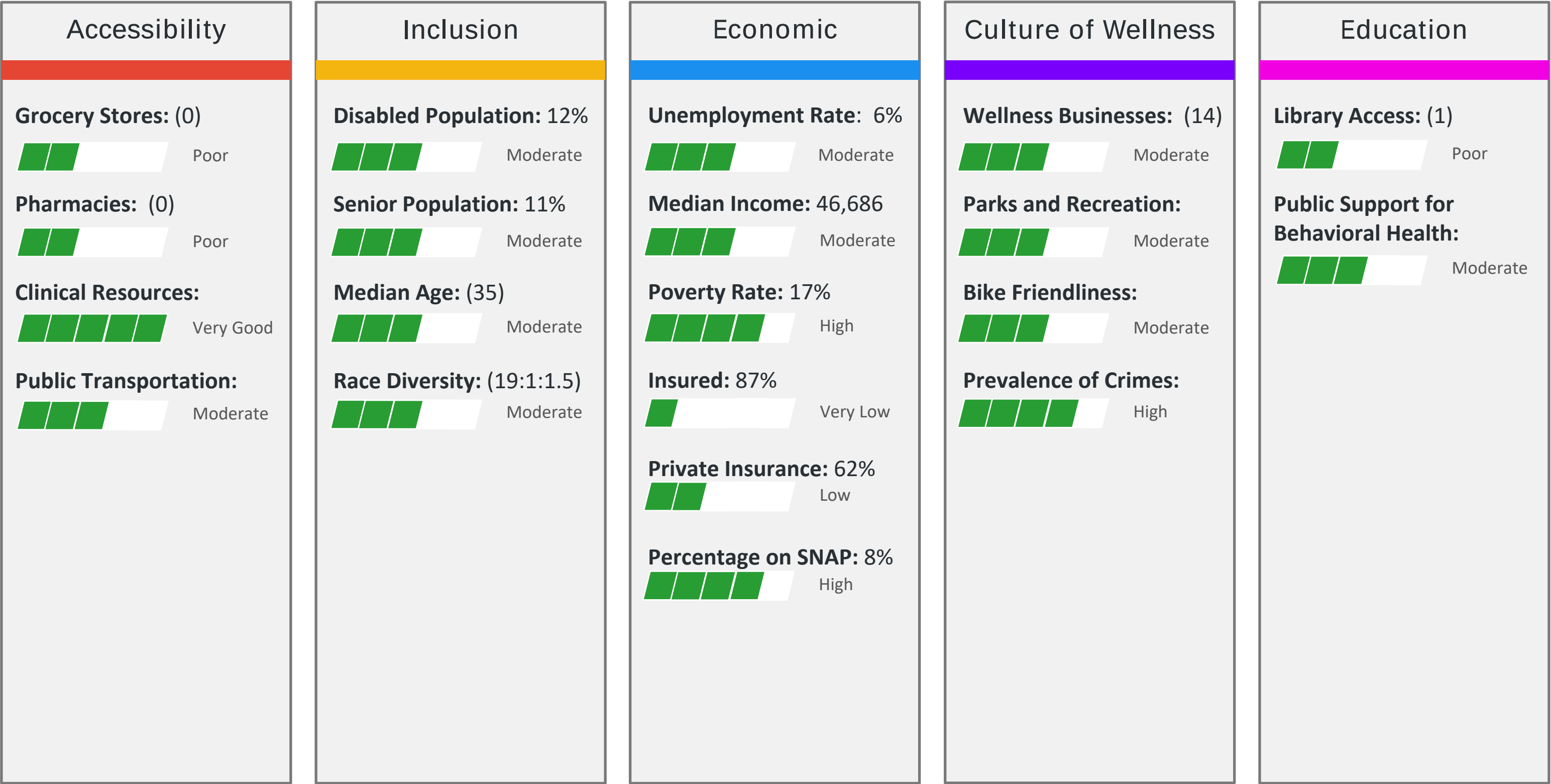
Downtown East

Population: 8943 (17.6% of total population)

Unique Characteristics: High Poverty Rate, Relatively High Crime, Low Access to Health Insurance, More Likely to be on Public Insurance, Very Good Access to Clinical Resources



Downtown East



Neighborhood Analysis

Downtown West

Population: 9307 (18.3% of total population)

Unique Characteristics: Close Access to Downtown Area and Businesses, Low Access to Parks and Recreation, Very Good Access to Wellness Related Businesses, Easy Access to Library, Good Access to Pharmacies

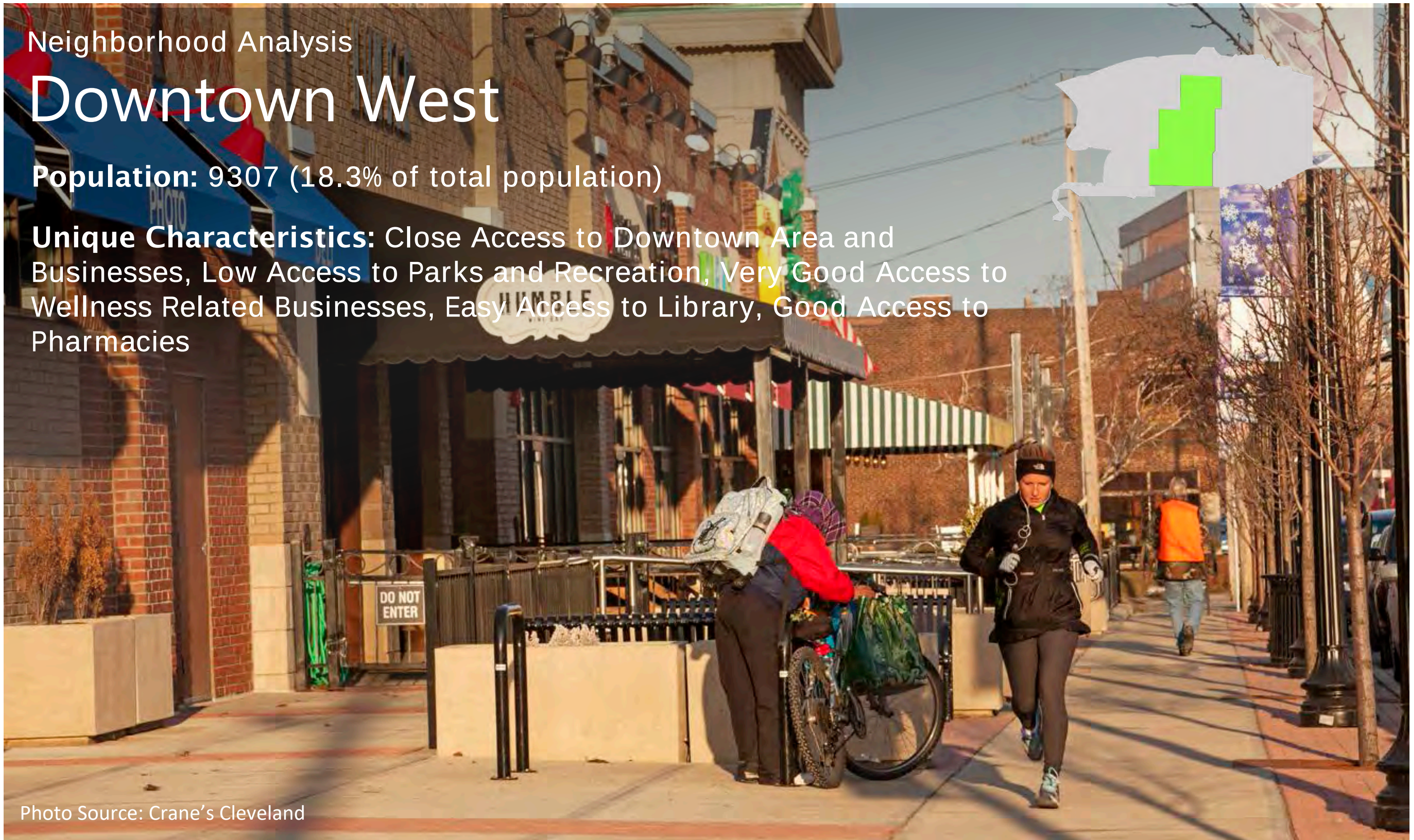


Photo Source: Crane's Cleveland

Downtown West



Neighborhood Analysis

Southwest & The Arts

Population: 7891 (15.6% of total population)

Unique Characteristics: Least Access to Grocery Stores, Borders Metroparks, Quick Access to the Rocky River, Longest North/South Gap Between Bus Lines, Young Population

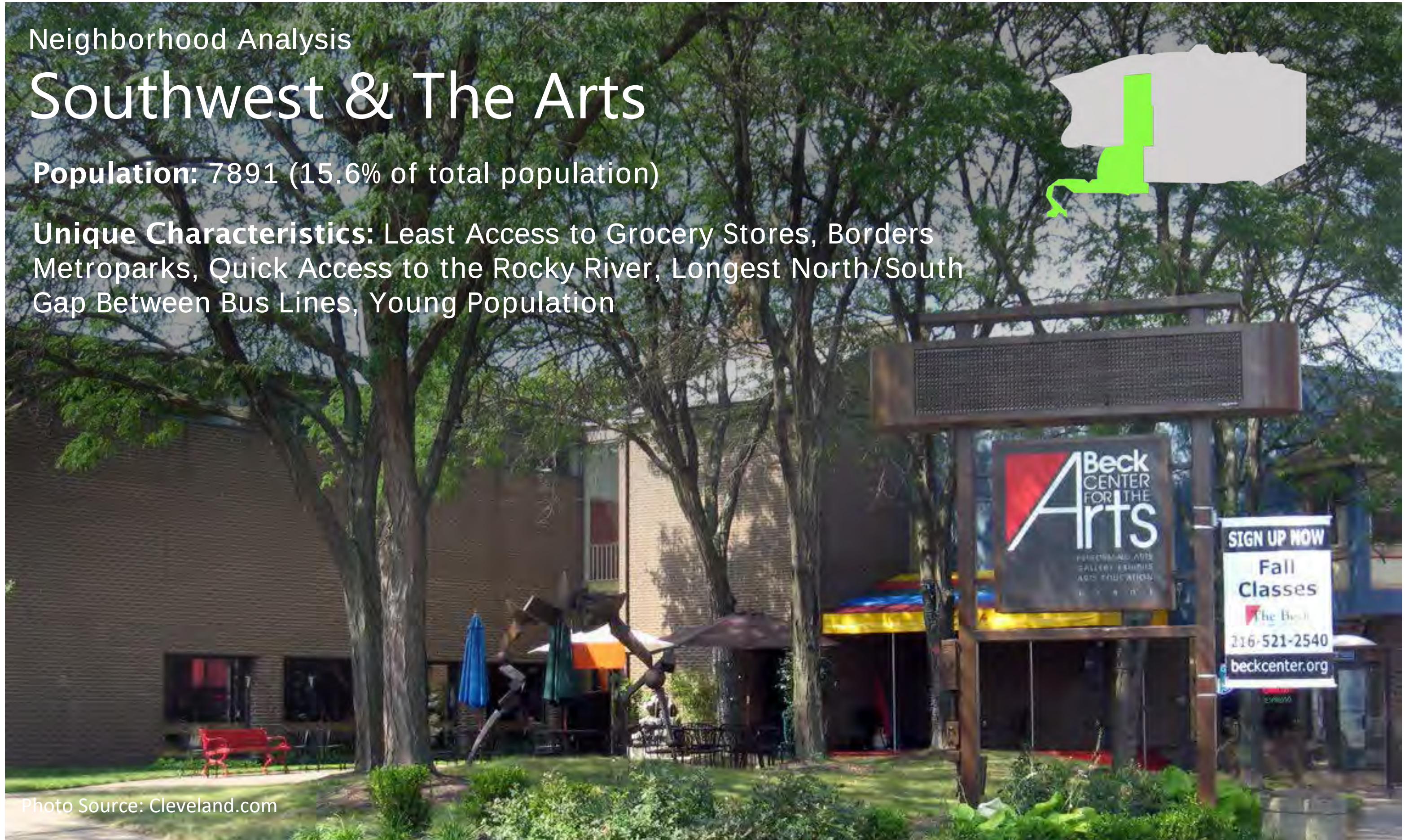
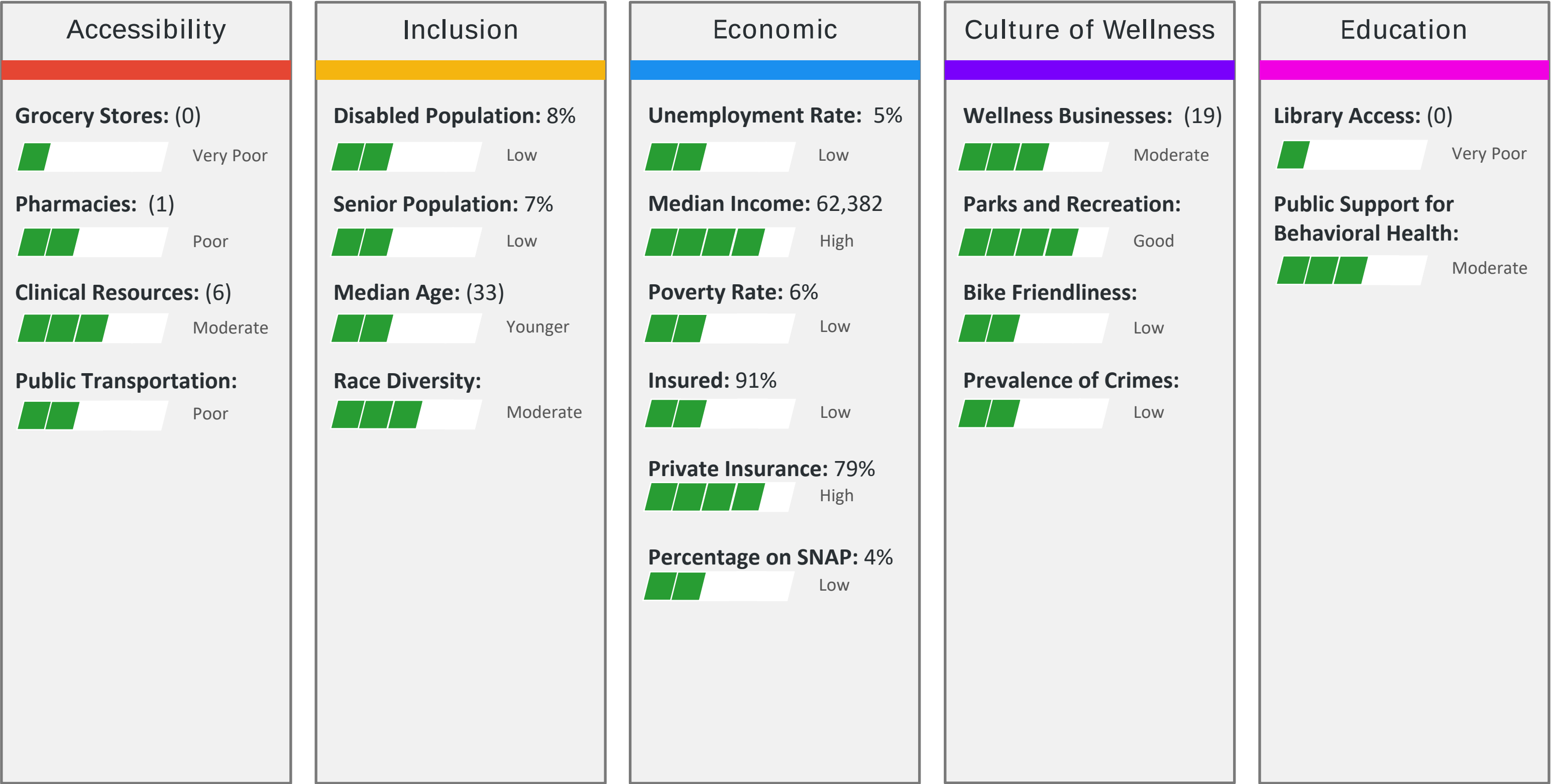


Photo Source: Cleveland.com

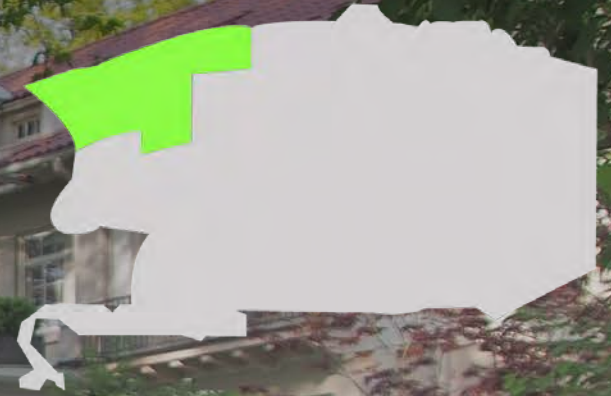
Southwest & The Arts



Neighborhood Analysis Clifton Park

Population: 1852 (3.6% of total population)

Unique Characteristics: Highest Income, Highest Insured Rate, Private Beach Club Available to All Residents, Poor Access to Pharmacies, Clinical and Wellness-related Resources, Least Diverse



Clifton Park

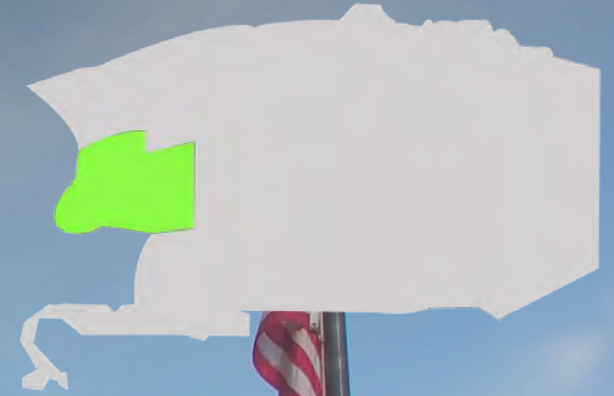


Neighborhood Analysis

West End

Population: 2527 (5% of total population)

Unique Characteristics: Access to Metroparks, Access to the Rocky River, Very Good Access to Public Transportation, Low Disabled Population, Low Senior Population, Very Diverse and Young Population



Neighborhood Analysis

West End

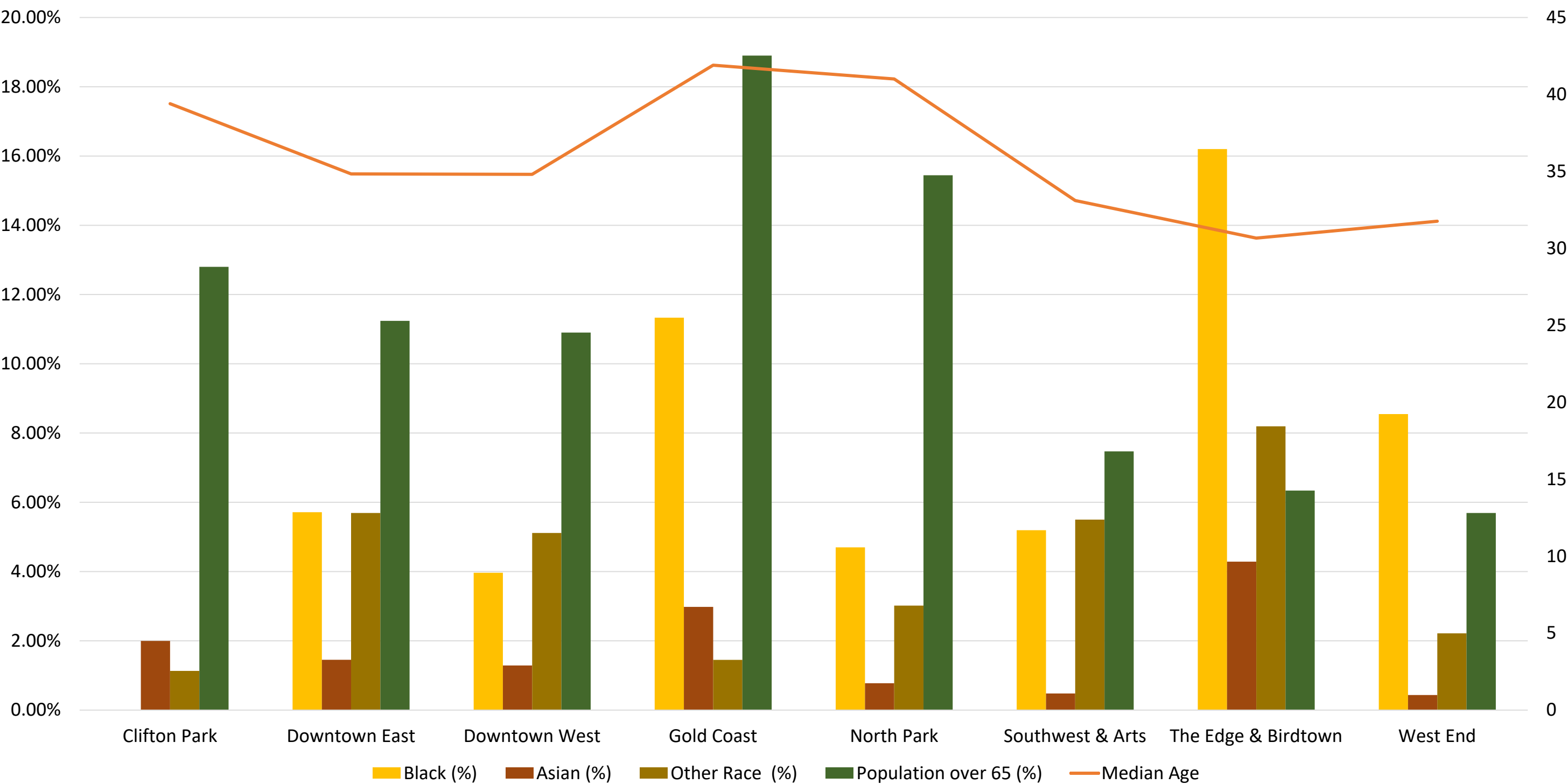




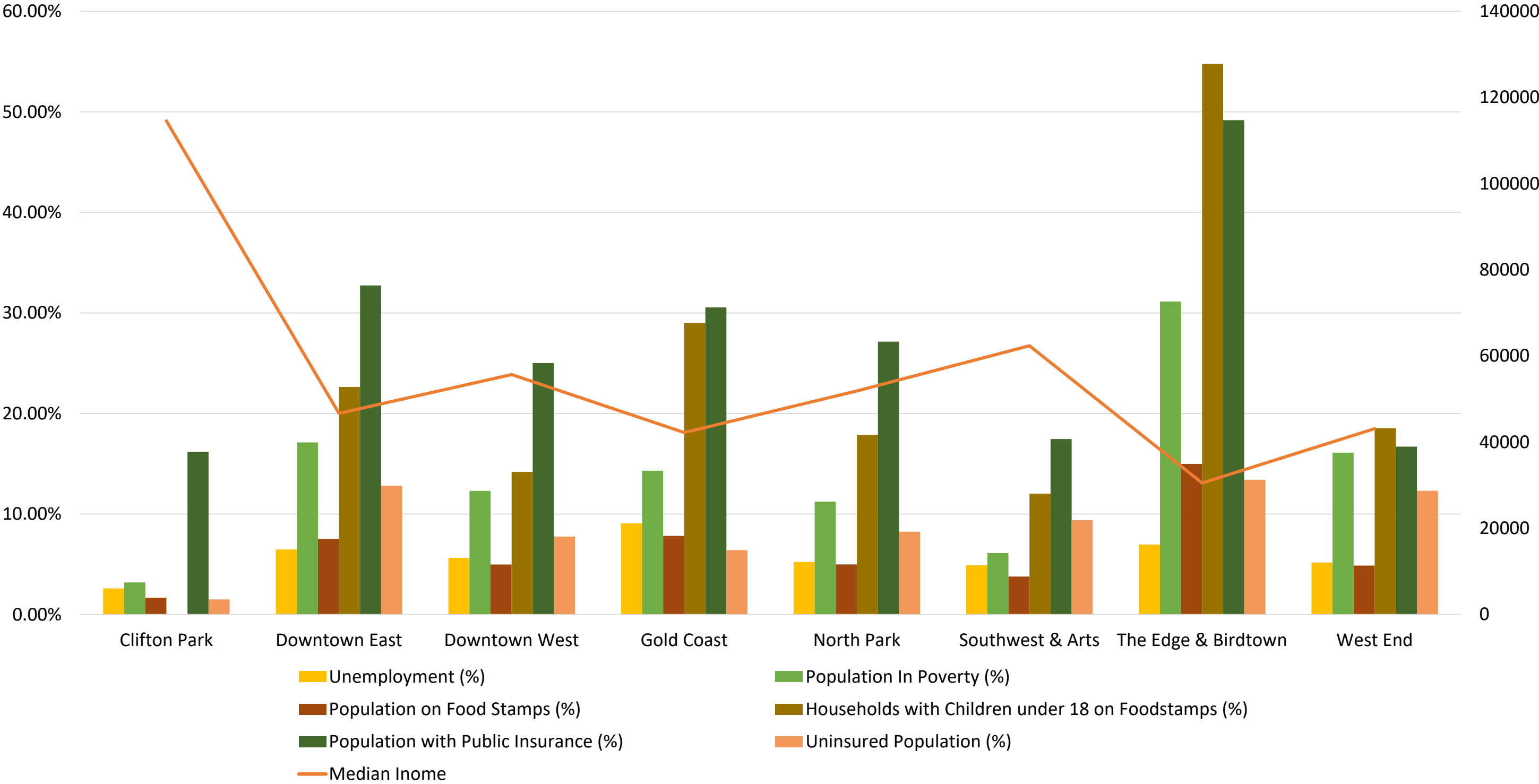
NEIGHBORHOOD DATA IN CONTEXT

Neighborhood Data In Context

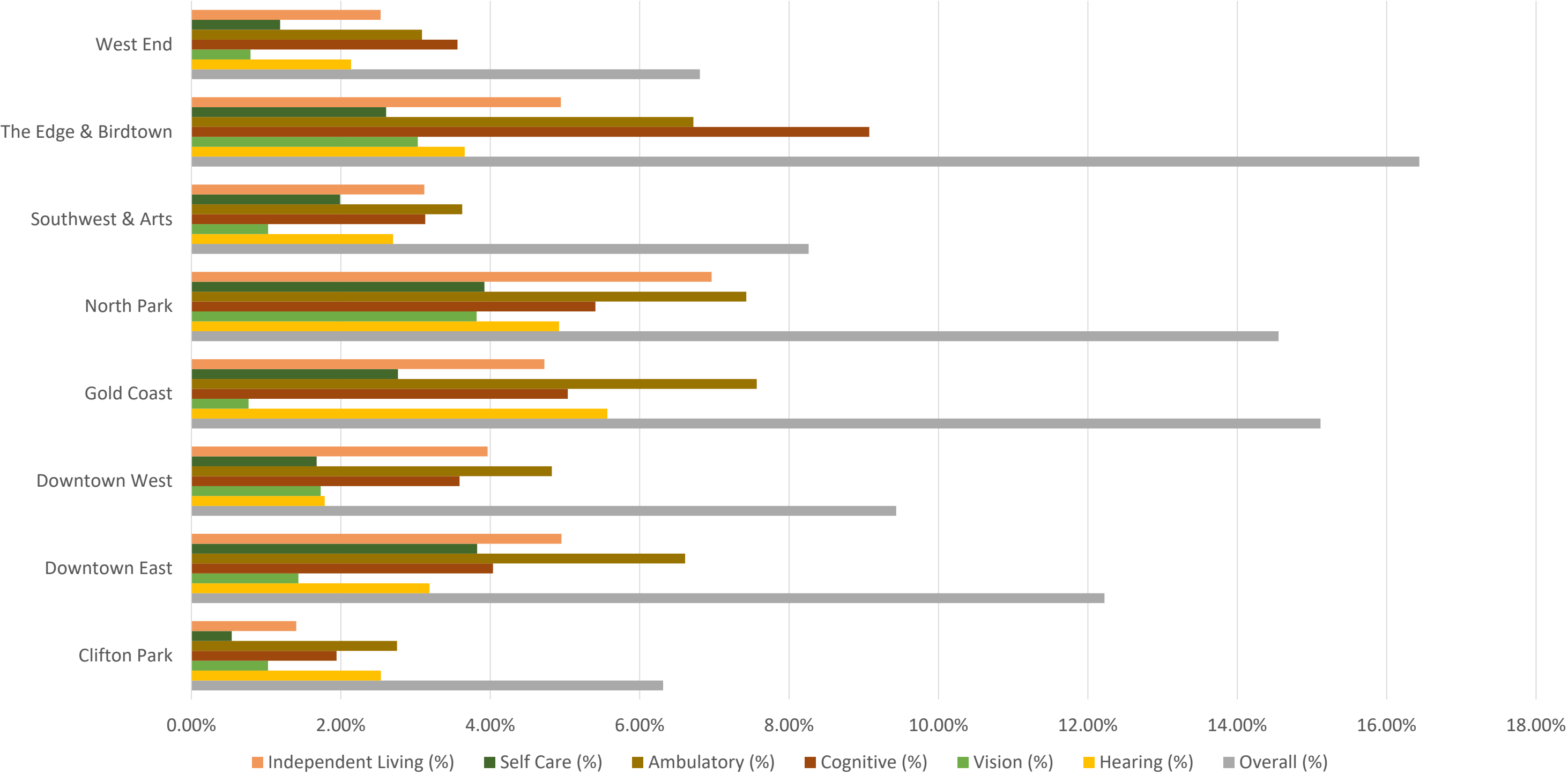
DEMOGRAPHICS



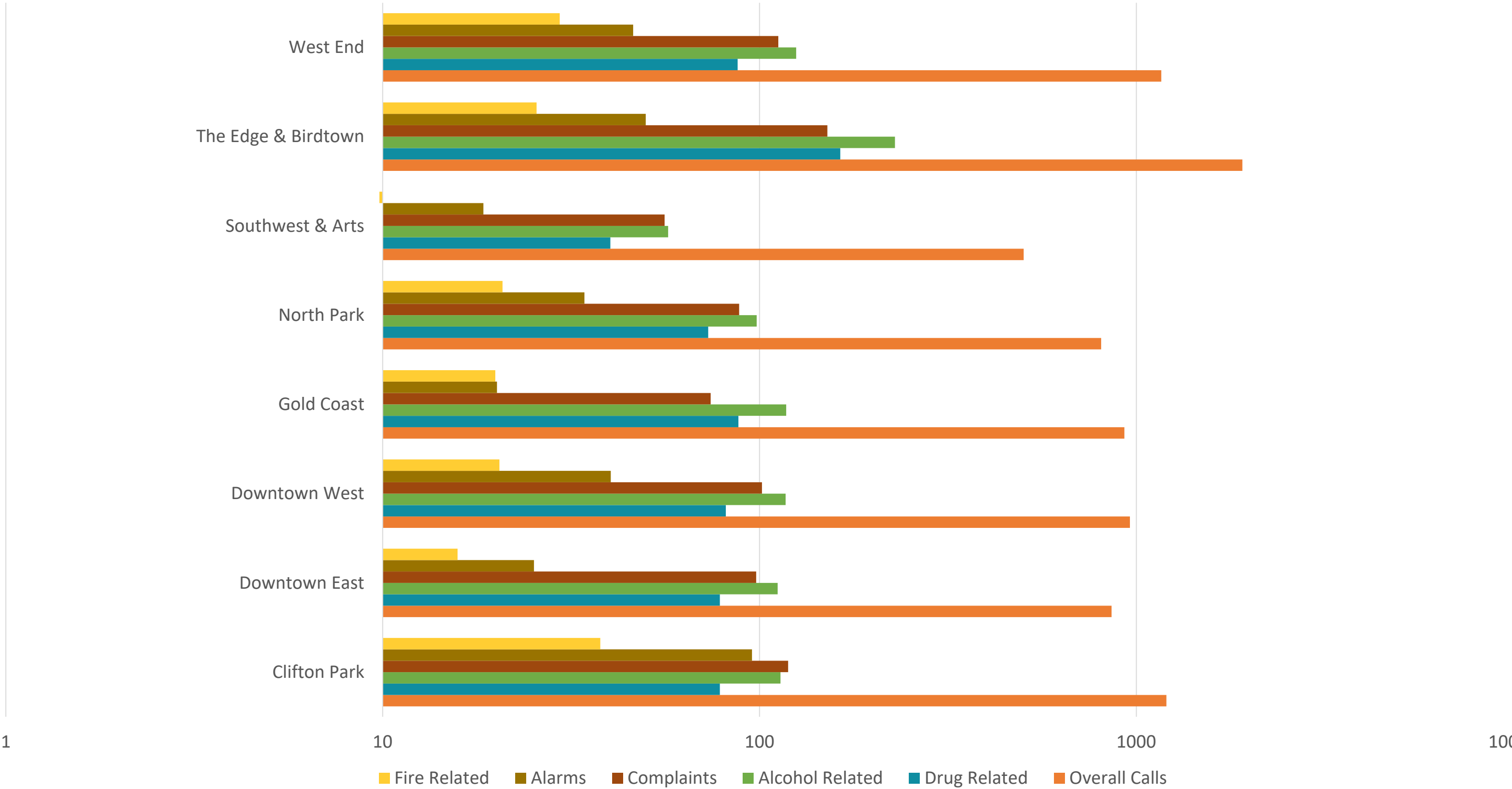
POVERTY



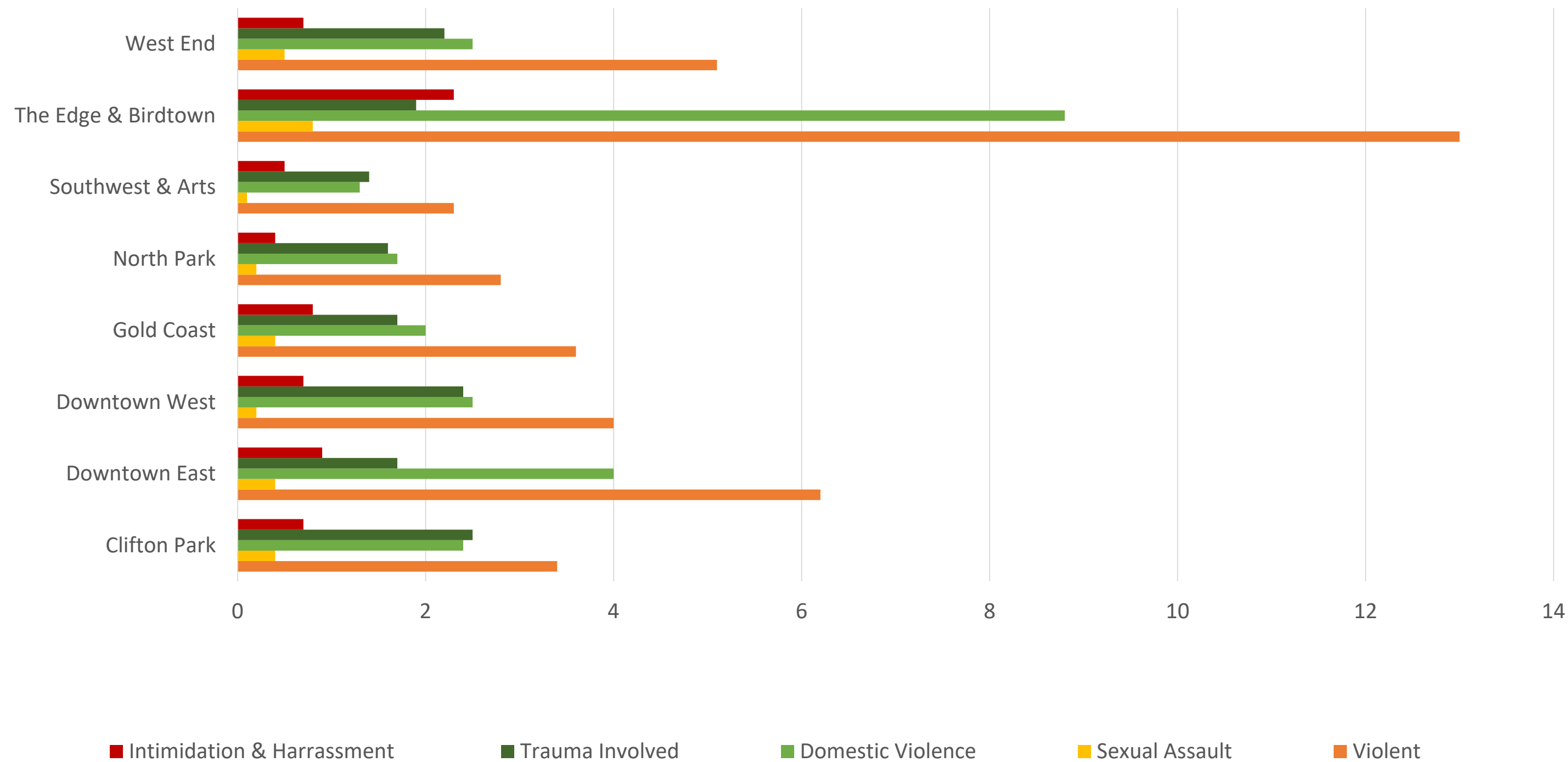
DISABILITY



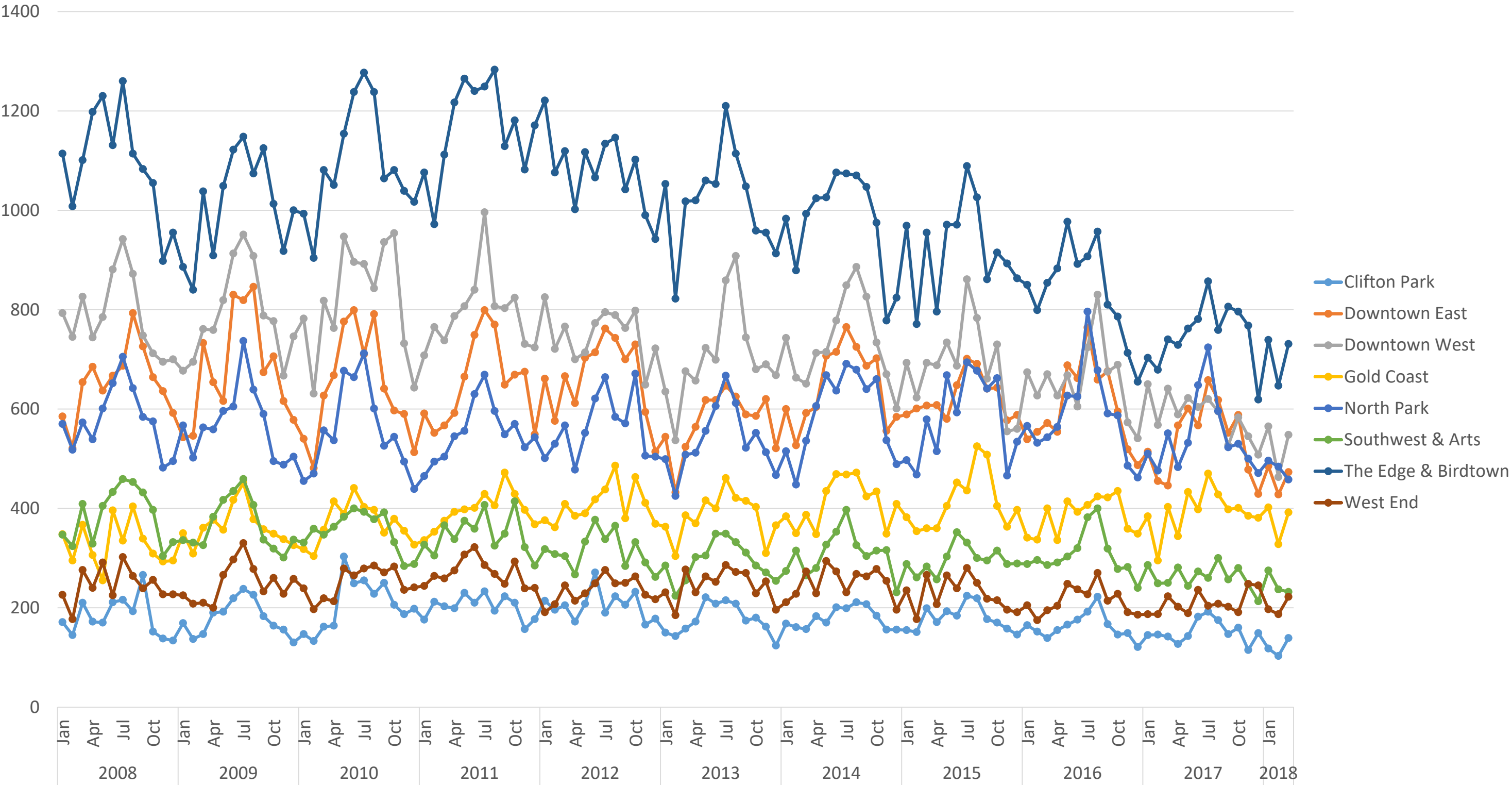
CRIME - COMMON



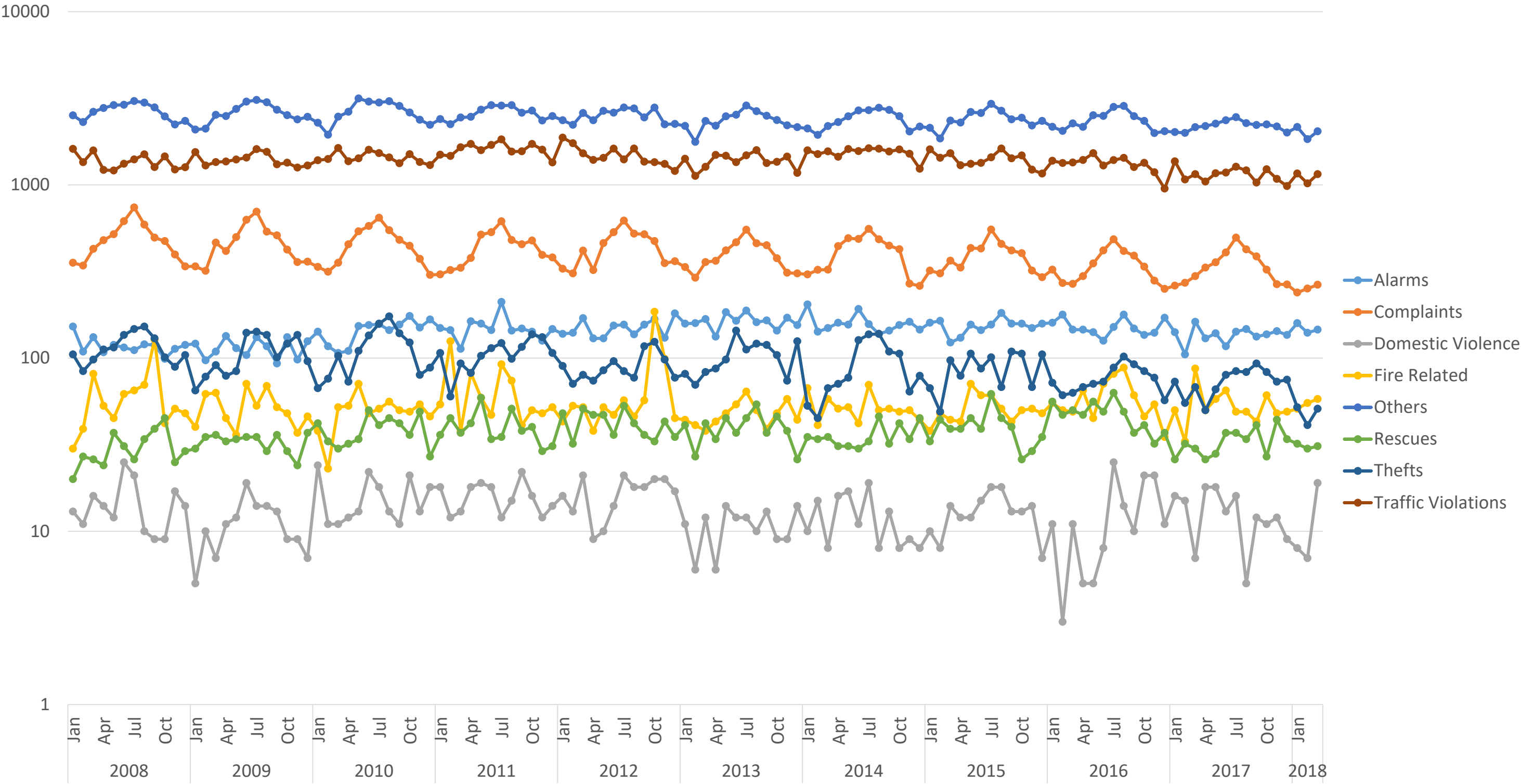
CRIME - VIOLENT



CALLS – BY AREA



CALLS – BY CATEGORY



OPPORTUNITIES & RECOMMENDATIONS

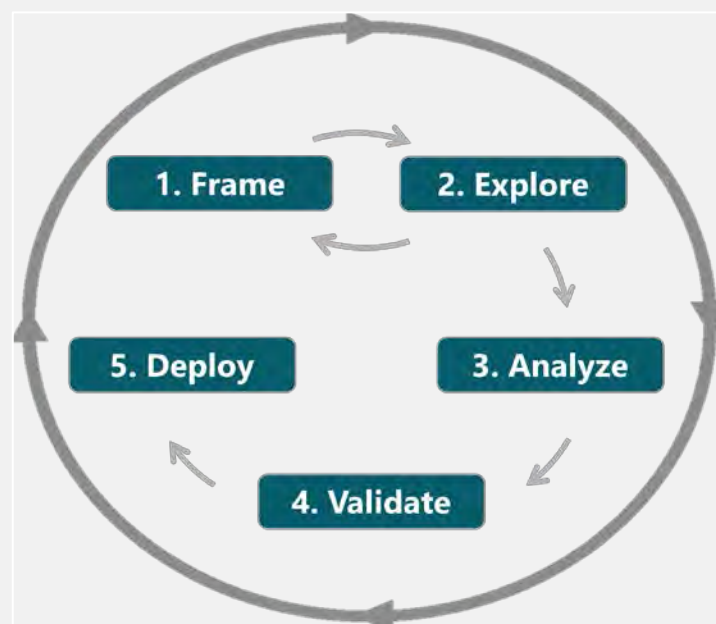
Opportunity and Recommendations (1)

Opportunity:

Create a baseline measure of health and wellness in Lakewood and identify data and metrics to measure ongoing needs and monitor intervention impact

Recommendation:

Develop a Data Strategy and Roadmap



Recommendation Details:

- Align data sources with local and national health and wellness objectives/initiatives
- Refine addressable data gaps needed for reporting and analytics
- Assess and prepare the Lakewood environment for reporting and analytics
- Create and deploy custom data science solutions that align with health and wellness objectives and measure progress
- Enrich current data with 3rd party sources (i.e. Socrata)

Opportunity and Recommendations (2)

Opportunity:

Identify opportunities that leverage the unique culture of Lakewood and drive change in the health and wellness of its residents

Recommendation:

Create and align human factor research with the data driven strategy to gain insights into the user experience of health and wellness services.

Recommendation Details:

- Develop an understanding by neighborhoods of end-user behaviors, motivations, attitudes, and needs to design better interventions with higher adoption rates
- Measure usability of health and wellness initiatives through concept testing and validation
- Provide continuous research for new insights and innovative solutions to health problems

Opportunity and Recommendations (3)

Opportunity:

Improve communication and collaboration between community, business, government and health providers by bringing a broad spectrum of partners together on a regular basis

Recommendations:

Capitalize on the current healthcare convergence in Lakewood by:

1. Establishing a Health and Wellness Advisory Board
2. Partner with local businesses to create an series of community based health and wellness forums
3. Position local businesses and providers to participate in an annual health assessment

Recommendation Details:

- Inform, educate, and empower the community about health issues
- Communicate and market health and wellness amongst stakeholders that impact change—i.e. business owners
- Engage businesses and health providers to continually assess the health of Lakewood residents and incorporate results in yearly planning efforts

Opportunity and Recommendations (4)

Opportunity:

Improve the effectiveness, accessibility, and quality of population-based health services associated with specific chronic conditions, behavioral based risk factors and social determinants of health.

Recommendations:

1. Partner with health providers to reduce the prevalence of preventable conditions through assessment, education, programming and care delivery
2. Build resiliency in Lakewood's communities to improve and manage health issues at a community level
3. Build a health and wellness legacy

Recommendation Details:

Areas of Focus:

- Behavioral Health
- Drug Addiction
- Diabetes
- Obesity
- Heart Disease
- Smoking
- Poverty

Opportunity and Recommendations (5)

Opportunity:

Identify and mobilize a network of residents to identify and help solve health problems within given Lakewood neighborhoods.

Recommendations:

1. Create a “block watch” model around health and wellness with Resident Health Ambassadors
2. Develop a training and incentivization program for Resident Health Ambassadors

Recommendation Details:

- Create engagement within the neighborhood by making “Checking On A Neighbor Visit ” to fellow neighbors to help connect people and encourage healthy living
- Connect with vulnerable populations such as the elderly, refugees, children, teens and pregnant women
- Foster interconnectedness through neighborhood activities-i.e. Get Out and Walk Day in the neighborhood
- Refer residents in need to a centralized Health Navigator partner (see next recommendation)

Opportunity and Recommendations (6)

Opportunity:

Link residents to needed health services and assure the provision of health care when otherwise unavailable

Recommendations:

1. Develop a centralized Connected Health Technology Platform
2. Establish a centralized Health Navigator Program to assist in coordinating services across organizational boundaries

Recommendation Details:

- Health Navigator(s)-Licensed healthcare professional w/ knowledge of Lakewood resources-unbiasedly match need to resource
- Connect Health Navigator(s) to Neighborhood Ambassadors and other end users
- Use technology platform to:
 - Create a personalized medicine resource—resident generated profile
 - Add on modular needs-BH assessment
 - Measure progress
 - Share information—across organizational boundaries

Opportunity and Recommendations (7)

Opportunity:

Develop healthcare solutions tailored to businesses

Recommendations:

1. Establish an initial onsite health center for one or multiple businesses in Lakewood
2. Create a risk pooled, Lakewood Business Health Insurance Plan

Recommendation Details:

- Perform ongoing claims review to better understand healthcare utilization and improve care delivery
- Engage employees in the management of their own care
- Identify and manage risk factors within the employee population
- Provide Lakewood businesses with a competitive advantage in recruiting and keeping talent
- Bring more diversified businesses to Lakewood

Opportunity and Recommendations (8)

Opportunity:

Develop government and public policies that support community health efforts

Recommendations:

1. Create a leadership position within the City of Lakewood (permanent or contracted) that oversees the business aspects of health and wellness
2. Develop, manage and measure health and wellness initiatives through an annual strategic vision/plan
3. Establish, track and monitor key performance indicators

Recommendation Details:

- Fosters partnering of health organizations and businesses
- Establishes a “go to” person in the City of Lakewood that connects health and wellness resources
- Promotes interconnectedness and transparency amongst citizens and government
- Emphasizes the commitment to the health and wellness of Lakewood
- Monitors progress around key initiatives- BH, diabetes, prenatal care

Opportunity and Recommendations (9)

Opportunity:

Establish business drivers to economically support community based health and wellness initiatives

Recommendations:

1. Commercialize the Connected Health Community concept and/or technology
2. Develop a center for health tech innovation and commerce
3. Establish a funding strategy

Recommendation Details:

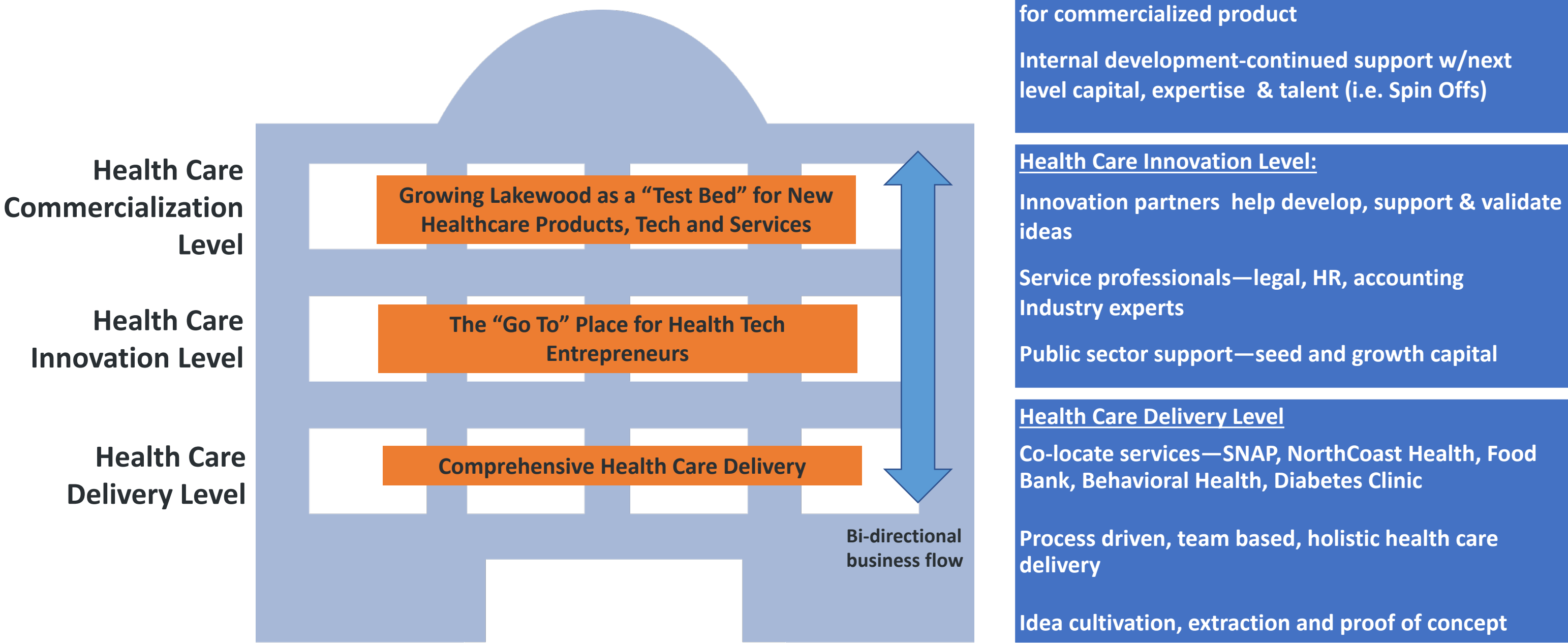
Center for Health Innovation & Commerce:

- Co-located health services—i.e. Primary Care, BH, SNAP, etc.
- Innovation, Development and Incubation
 - Improve tax base-attract health IT business into the city through incentives
- Healthcare Commercialization
 - Lakewood as a test bed
 - Lakewood as a 1st to use city

Funding Strategy:

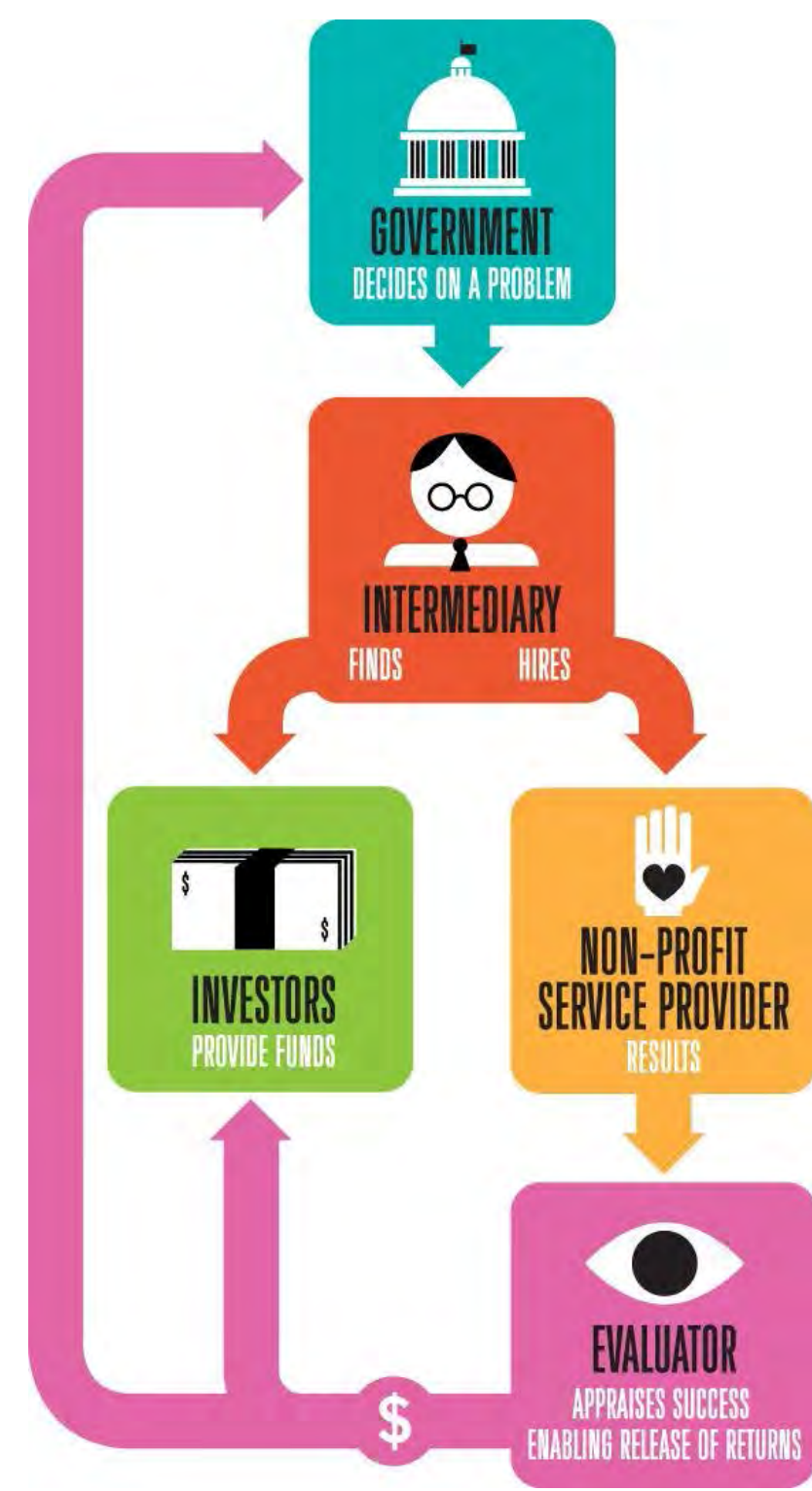
- Initial funding
- Ongoing funding -i.e. Grants, Social Impact, etc.
- Alignment of uses

Center for Health Innovation & Commerce

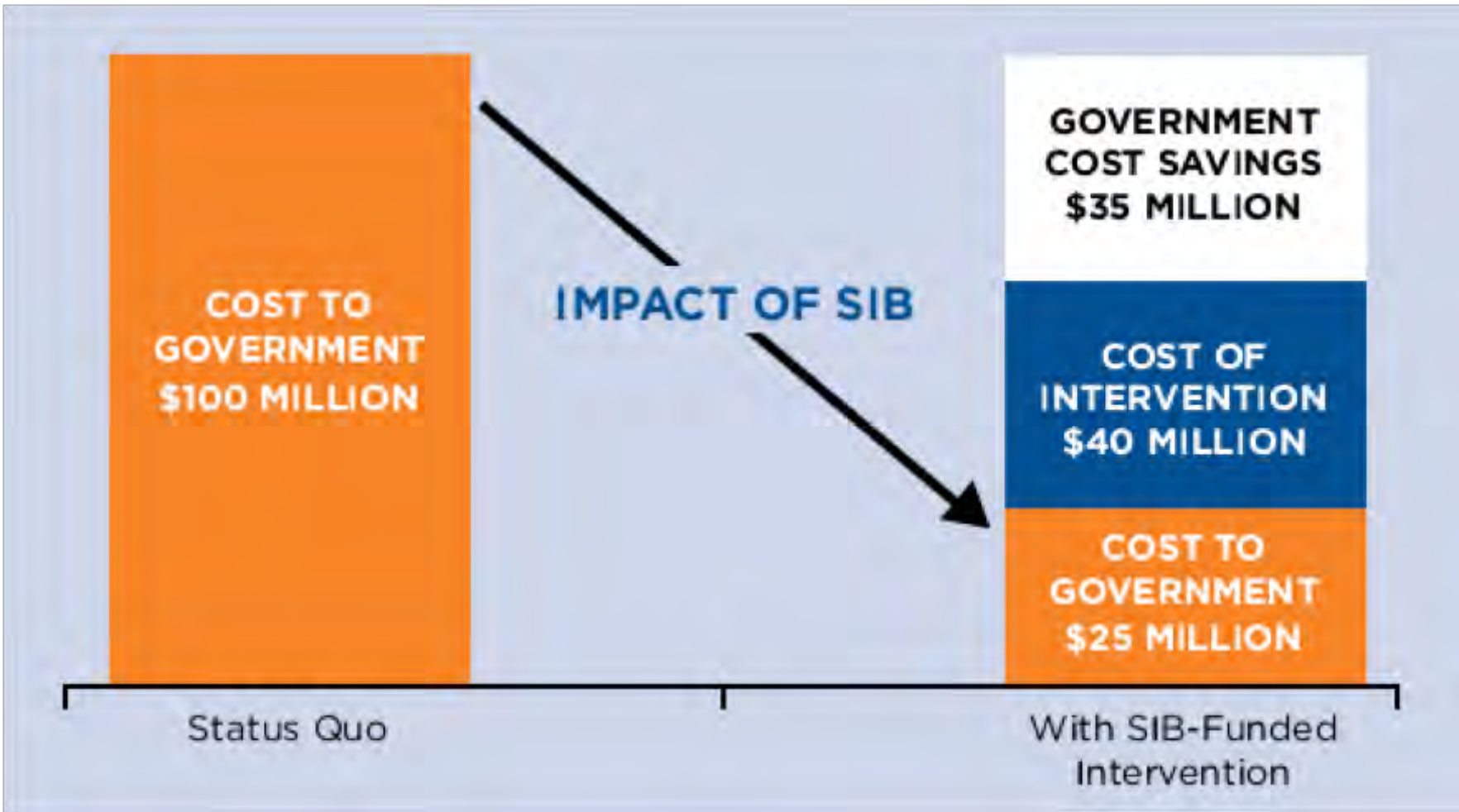


Lakewood 90 Day Assessment

Social Impact Bonds



A social impact bond is one potential financing option available to support Pay for Success programs. Social Impact Bonds brings together government, service providers and investors/funders to implement existing and proven programs designed to accomplish clearly defined outcomes. Investors/funders provide the initial capital support and the government agrees to make payments to the program only when outcomes are achieved.



NEXT STEPS

NEXT STEP RECOMMENDATIONS

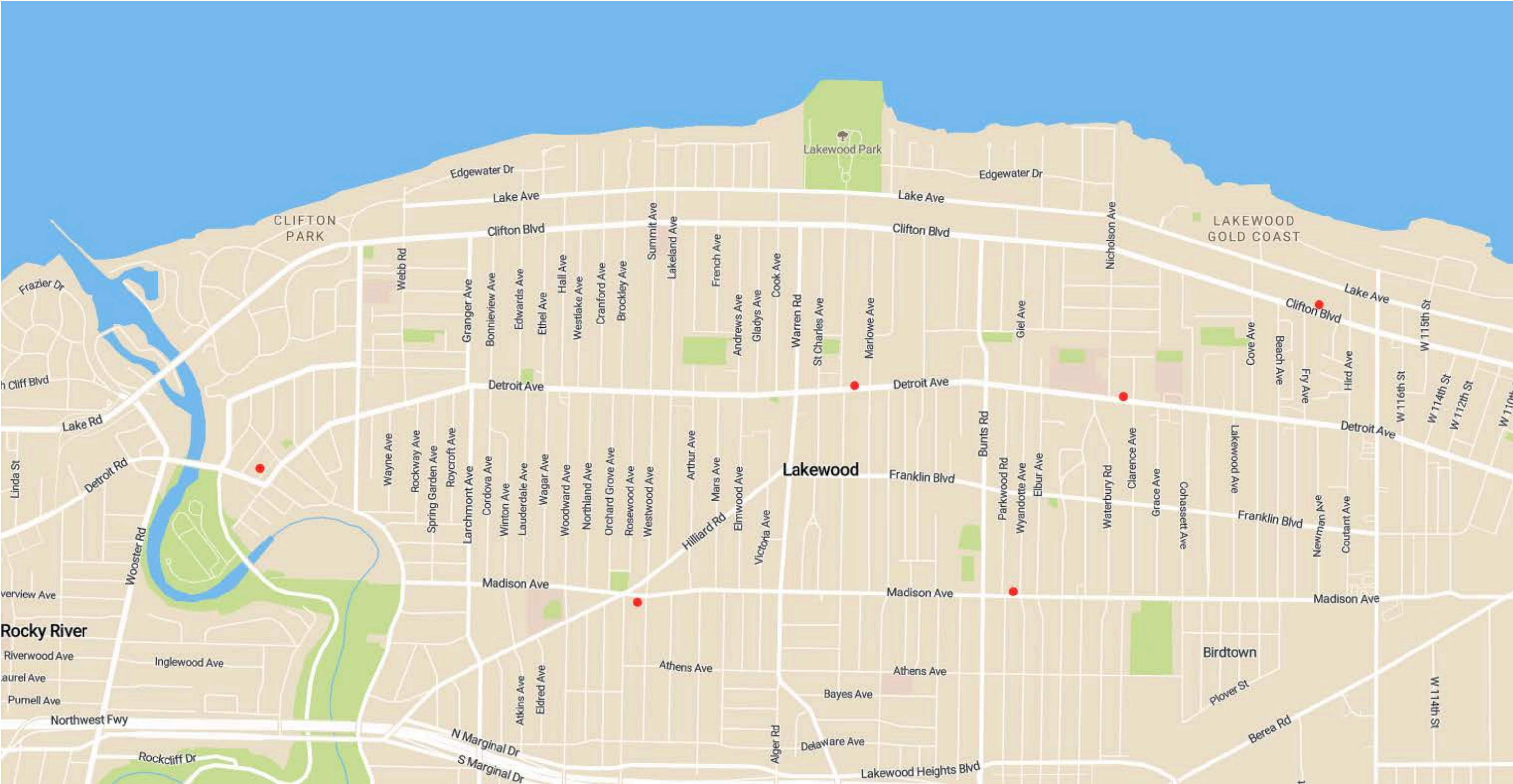
1. Present recommendations to the larger stakeholders group
2. Schedule a separate MMO presentation
3. Convene a strategic working group to establish recommendation priorities and evaluate feasibilities
 - Visioning
 - Resources
 - Timelines
 - Data Gaps
4. Quote from nuboHEALTH collaborative group based on decisions made in #3.

THANK YOU

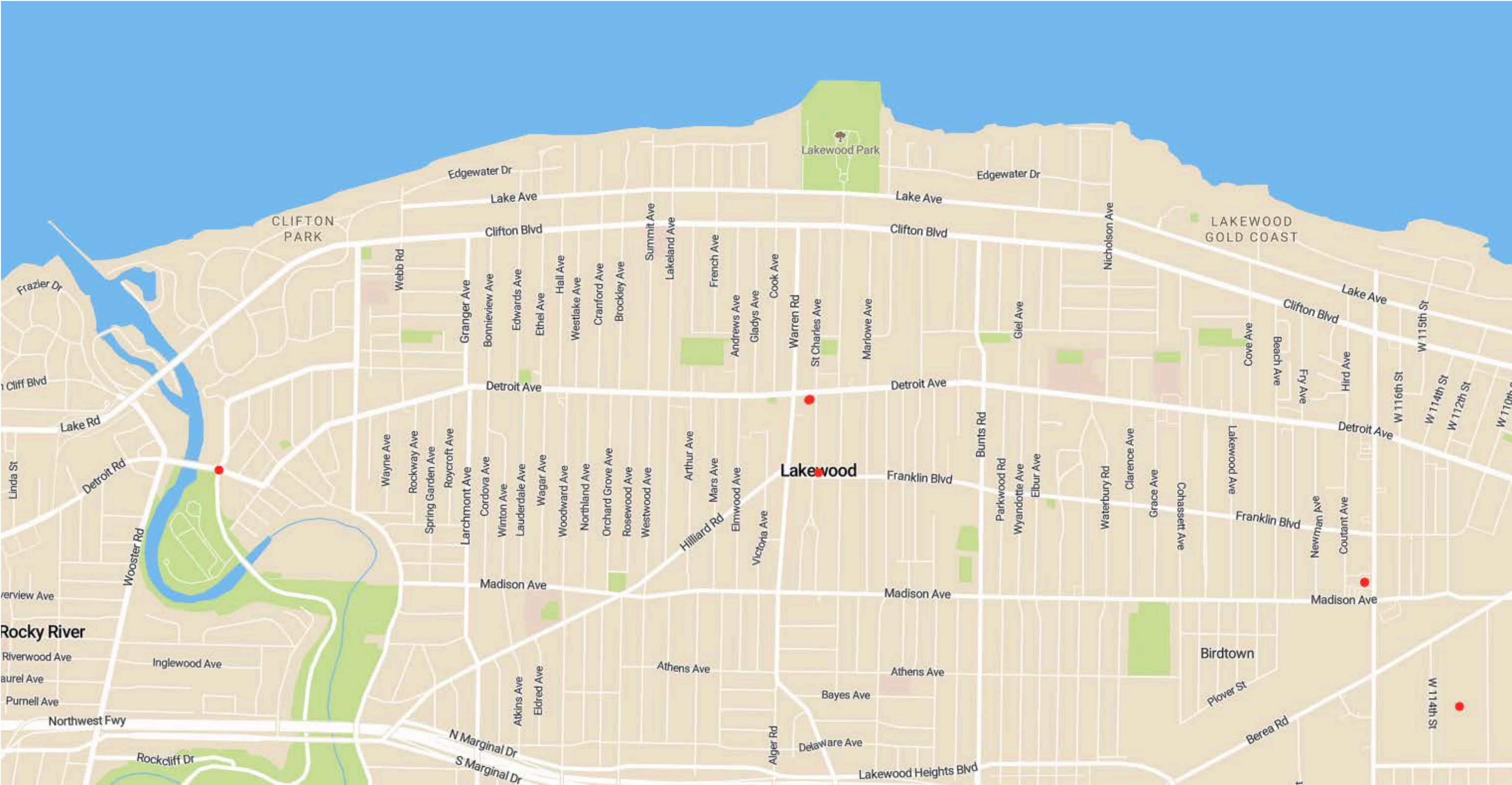
APPENDIX

Lakewood 90 Day Assessment

Map of Chiropractors



Map of Community Health Services



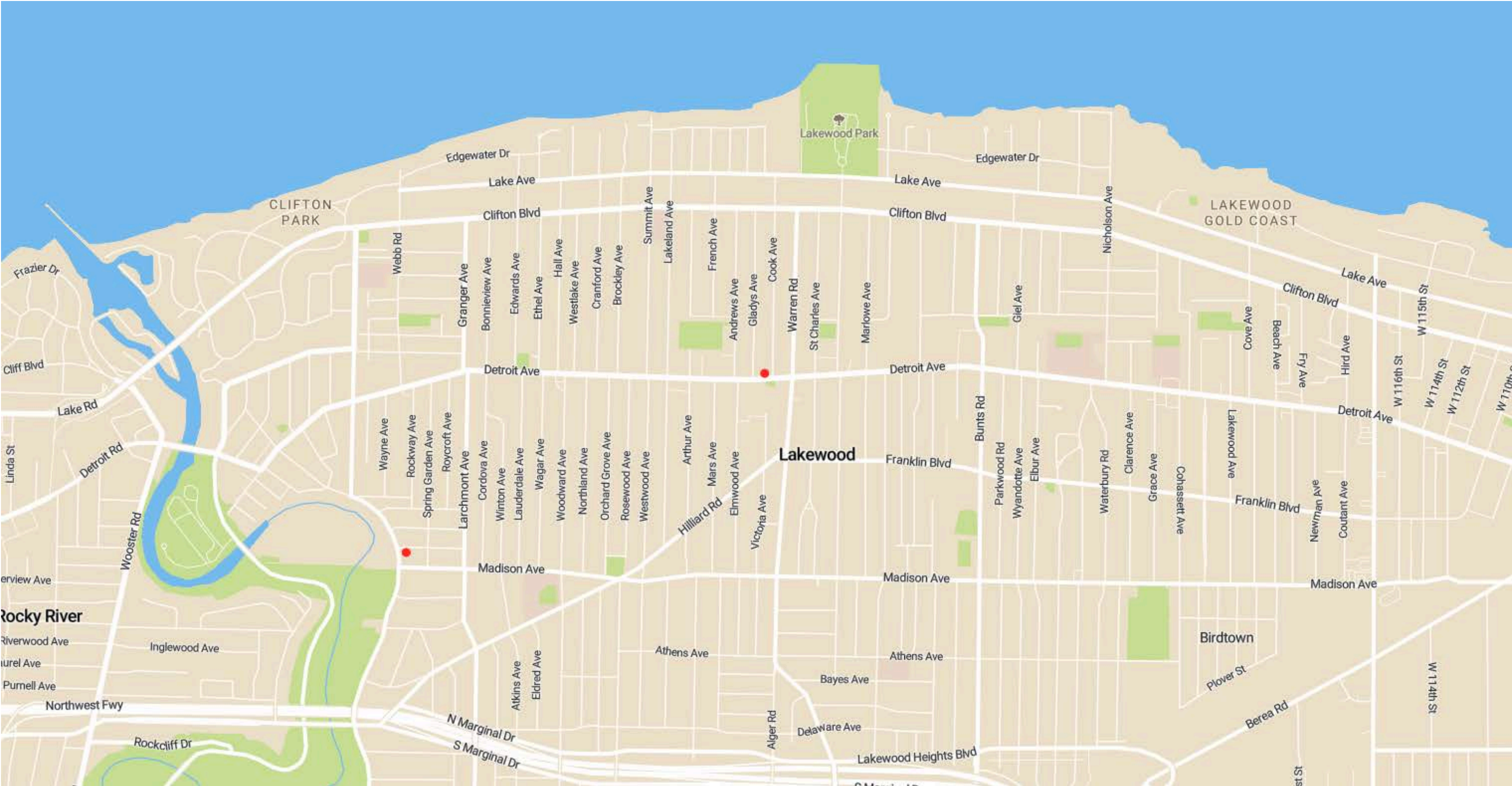
Lakewood 90 Day Assessment

Map of Dentistry's

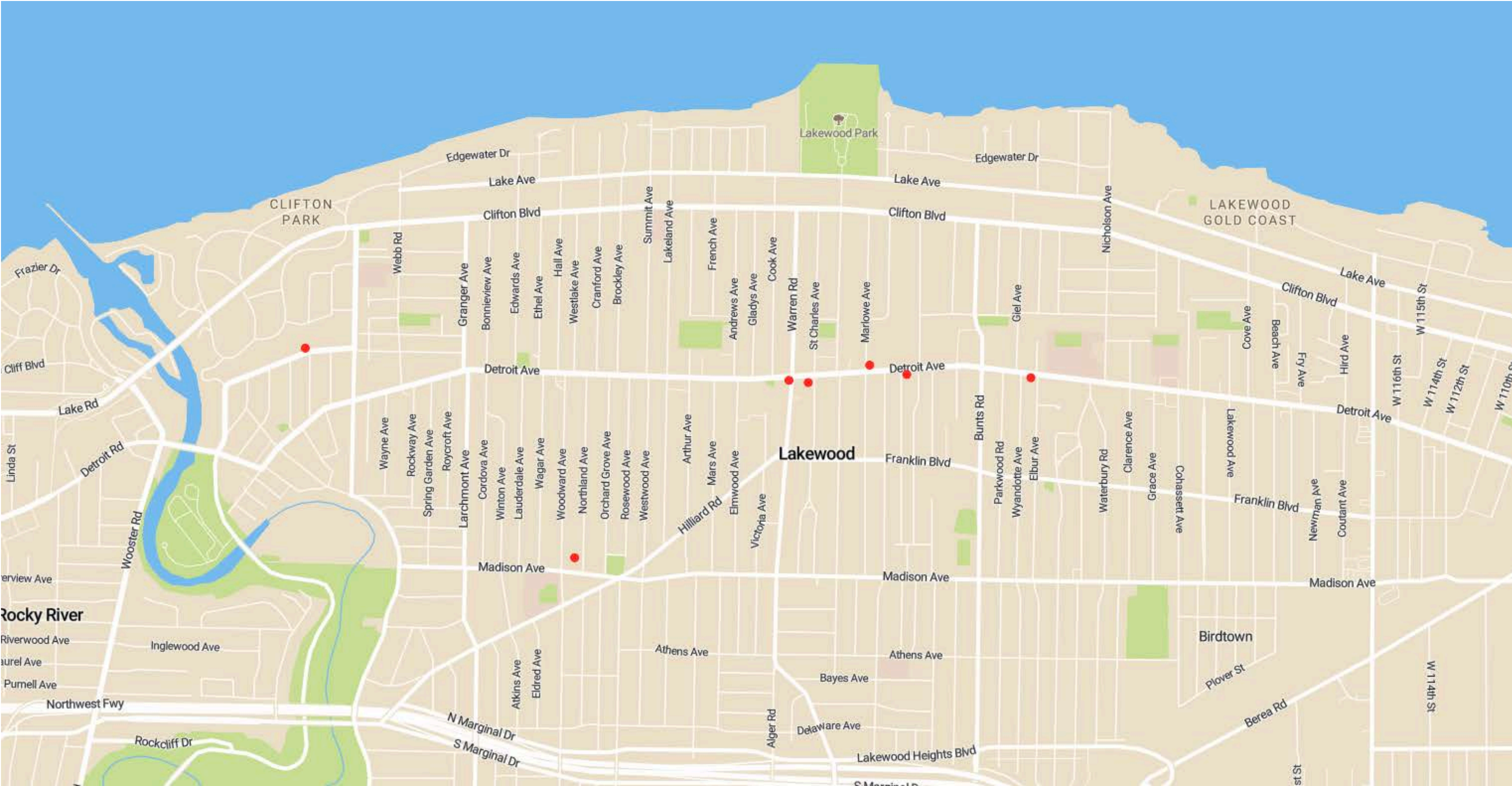


Lakewood 90 Day Assessment

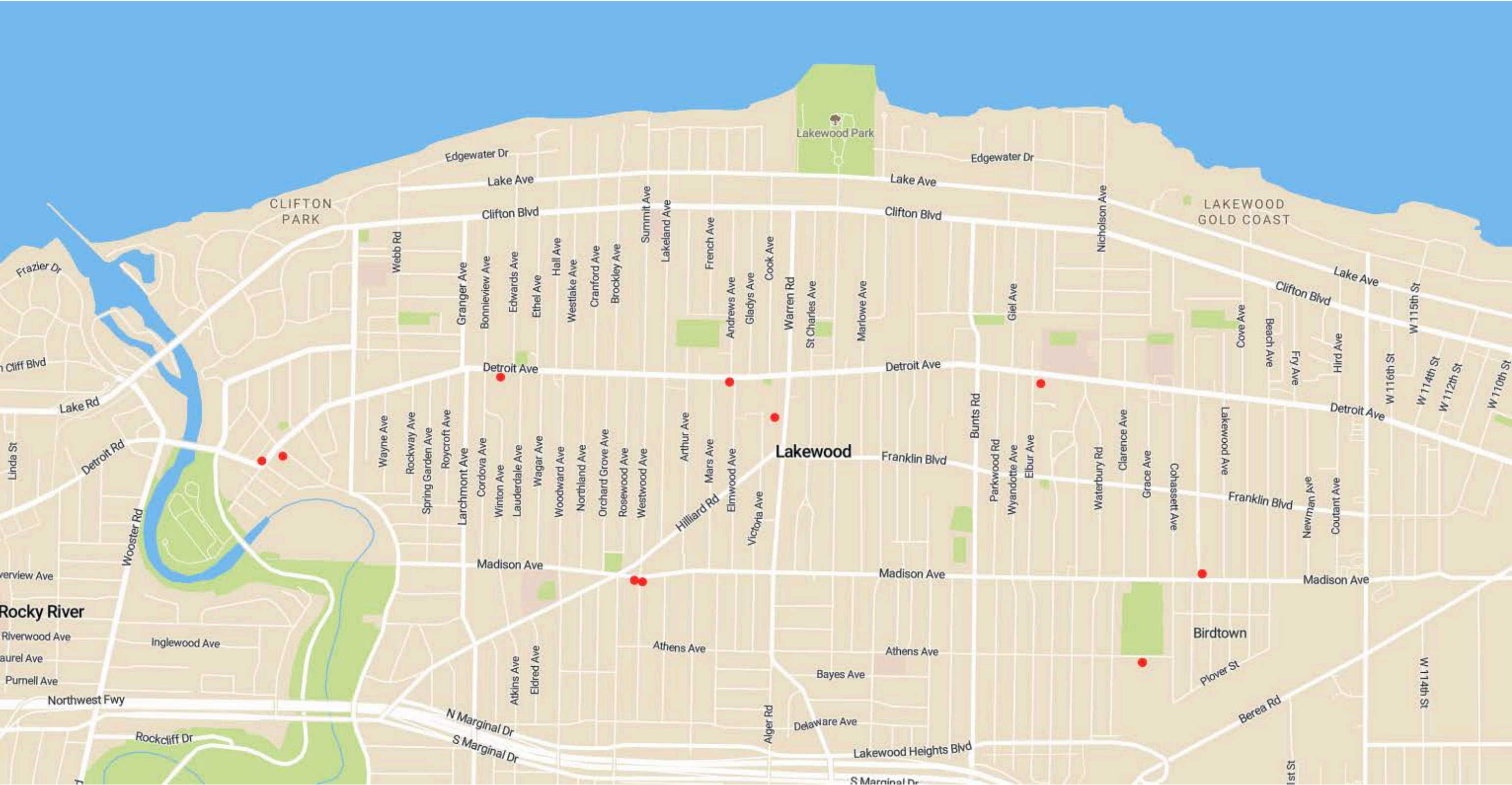
Map of Diet and Nutritionists



Map of Employment Education Centers



Map of Gymnasiums and Martial Arts



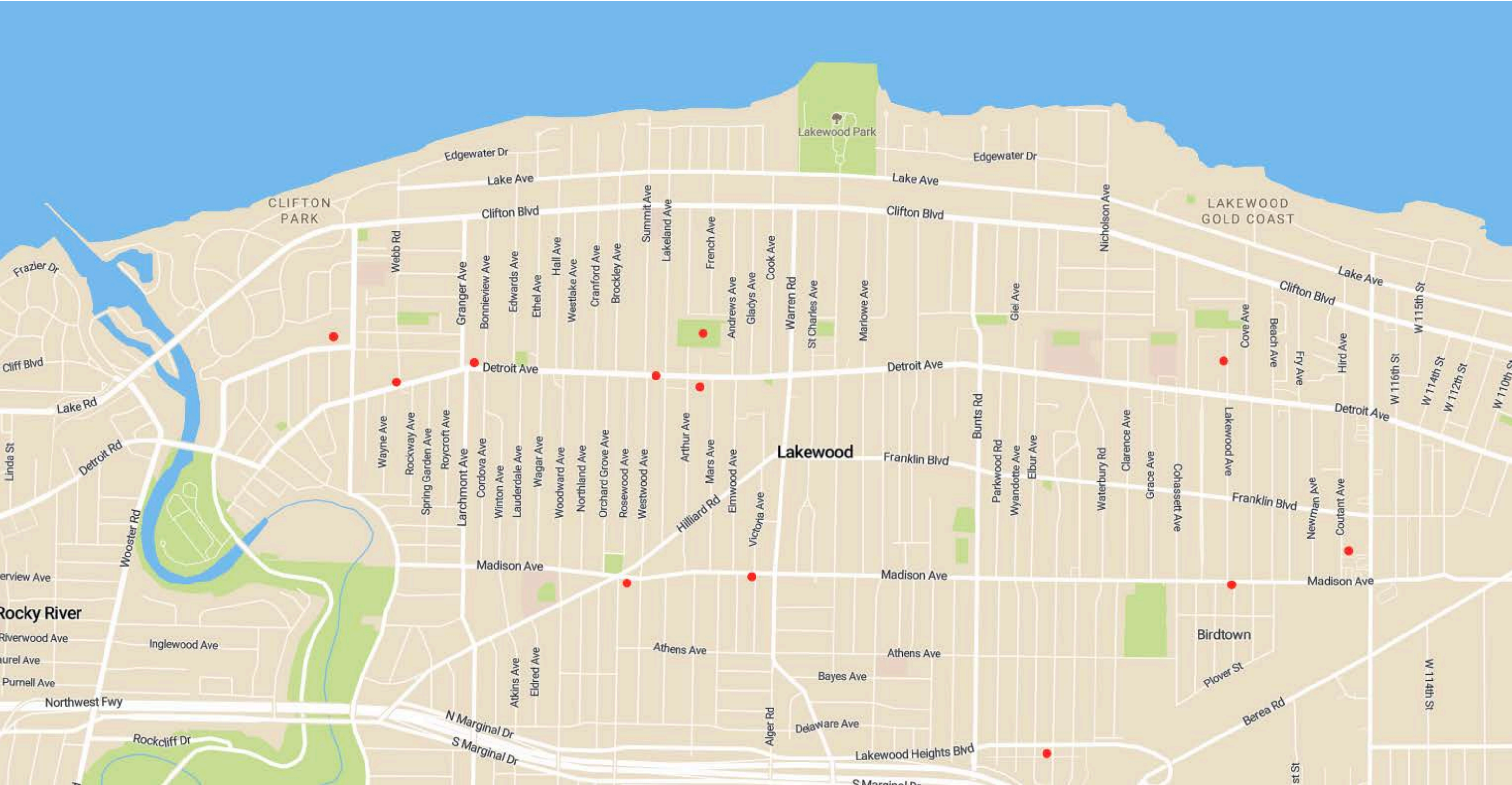
Lakewood 90 Day Assessment

Map of Health Care Facilities



Lakewood 90 Day Assessment

Map of Food Markets



Map of Massage/Reiki/Yoga

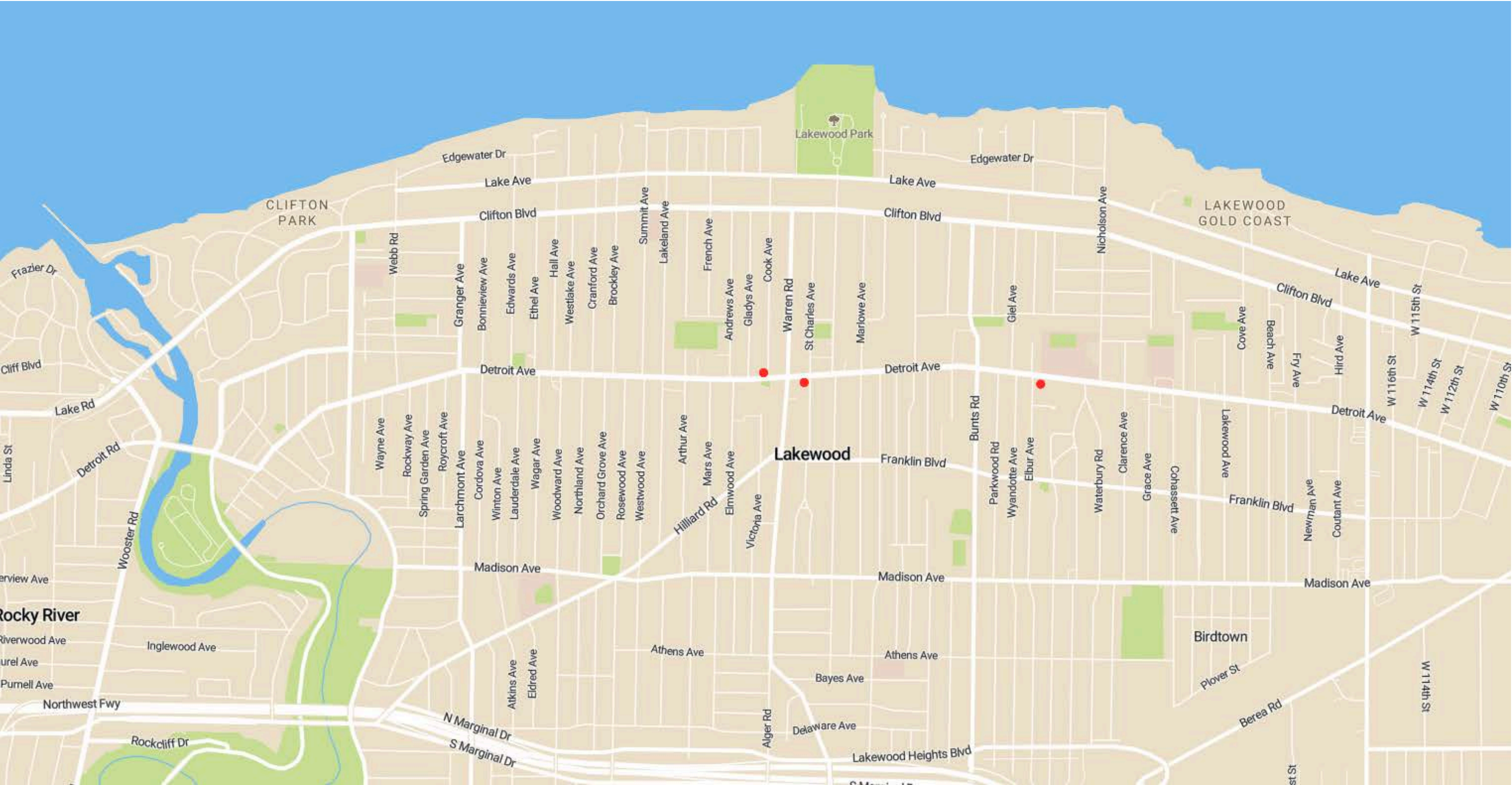


Lakewood 90 Day Assessment

Map of Medical Facilities



Map of Community Mental Health Support



Lakewood 90 Day Assessment

Map of Recreation



Map of Community Mental Health Support



Lakewood 90 Day Assessment

Map of Bus Lines



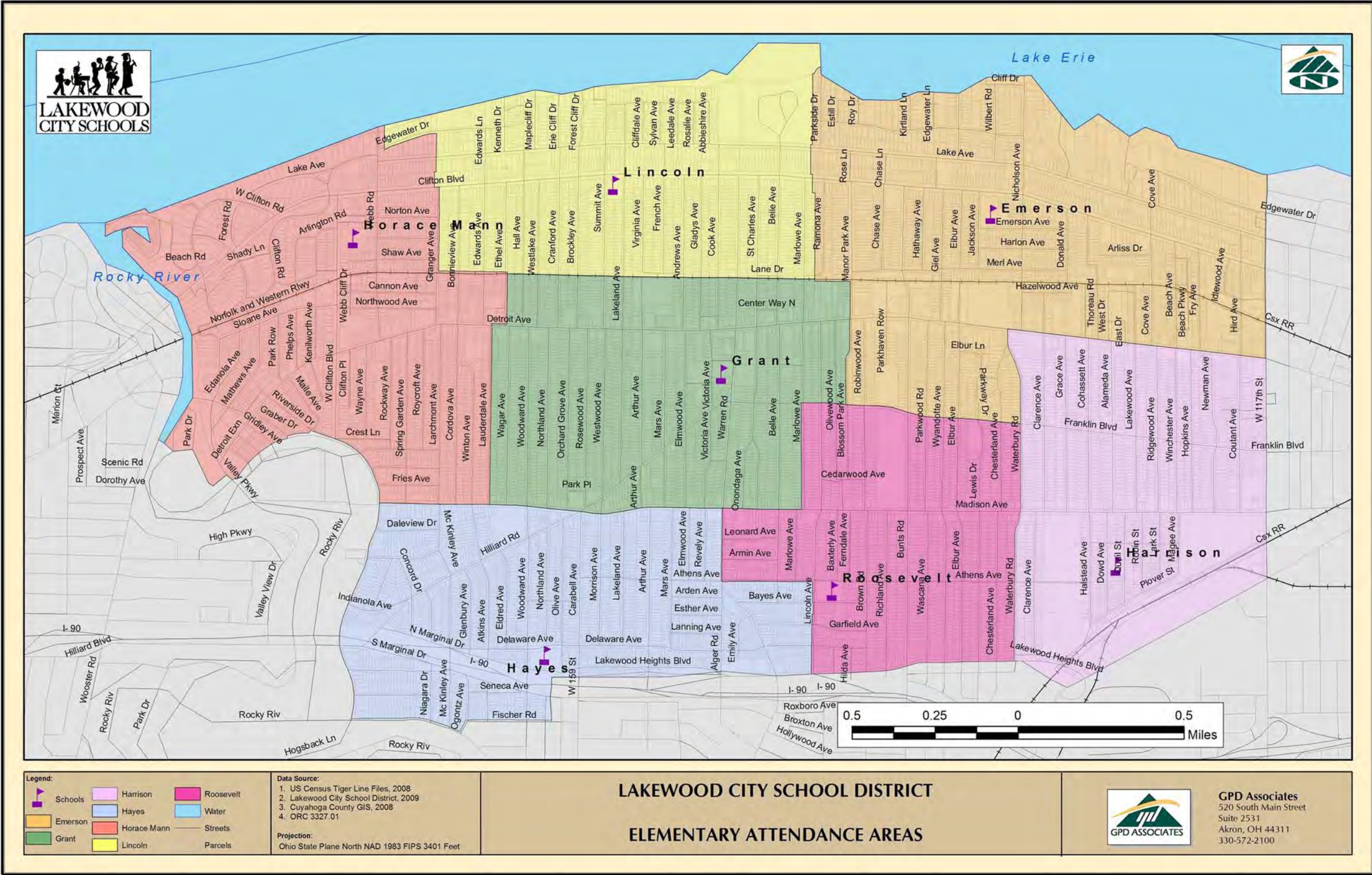
Lakewood 90 Day Assessment

Map of Food Deserts



Lakewood 90 Day Assessment

Map of School Districts



Map of Bike Lanes and Sharrows

