HEALTHY RETAIL ACCESS IN SACRAMENTO COUNTY

DATA ANALYSIS REPORT

SACRAMENTO COUNTY
PUBLIC HEALTH
Promote • Prevent • Protect
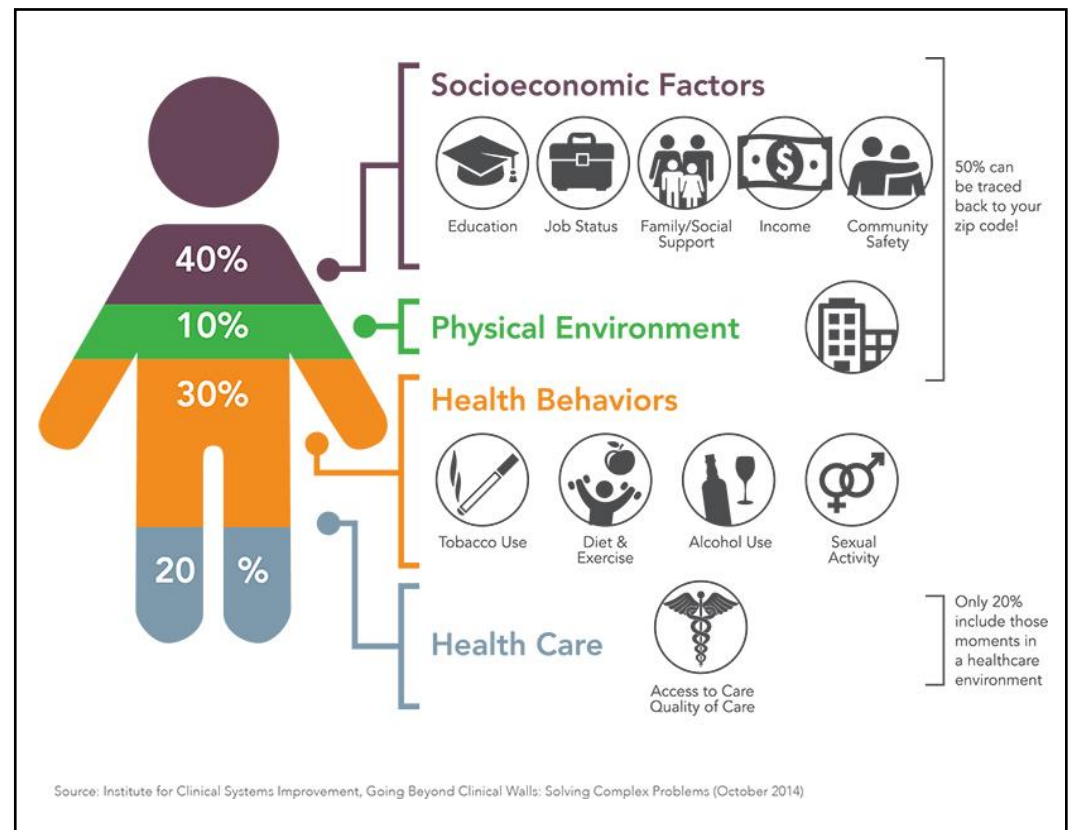
WALKSACRAMENTO

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INTRODUCTION

Sacramento County Public Health has identified two priority areas within Sacramento County as part of the Obesity Prevention Program for targeted interventions to improve public health. Physical exercise and a healthy diet are two important interventions that have been proven to have a positive impact on health. Specifically, this report focuses on healthy retail outlets as an opportunity for nutritional health and assesses potential barriers to accessing healthy retail. Limited access to healthy foods is measured by the percentage of the population that is low income and does not live close to a grocery store. Living close to a grocery store is defined differently in rural and urban areas; in rural areas, it means living less than ten miles from a grocery store; in urban areas, less than one mile. The United States Department of Agriculture (USDA) reports that an estimated 40 million people live in communities without access to fresh, affordable, and nutritious food options. Evaluating community access to healthy foods includes not only the density of supermarkets that sell fresh fruits and vegetables within a community, but also availability and quality of transportation options to those stores. Often, limited access to healthy foods in neighborhoods is highest in low-income neighborhoods where the need for transportation improvements and economic development is highest.

SOCIAL AND PHYSICAL DETERMINANTS OF HEALTH

Health is more than just the quality of care received. A variety of personal, biological, social, economic, and environmental factors also influence health outcomes. Health is often attributed to personal choice, including substance use, diet, and exercise. However, half of an individual's health outcomes are based on socioeconomic factors and built environment conditions that are directly impacted by policies and social structures, also known as the **social and physical determinants of health**.

Understanding and addressing the social and physical determinants of health can have positive impacts on public health outcomes. From a healthy retail access perspective, improving routes to healthy and affordable foods so that they are safe and convenient encourages more people to purchase healthy foods without requiring greater traveling distances. Rather than focusing solely on behavior change campaigns, policies and investments that target the social and physical determinants of health have the opportunity to influence community health significantly.

Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

SAFE ROUTES TO HEALTHY RETAIL OBJECTIVES

Traditionally, access to healthy retail has been viewed in terms of urban homes located within one mile from the nearest supermarket, supercenter, or large grocery store. While proximity is an important factor, it is not the end-all-be-all of accessibility. Residents may not be able to directly access healthy and affordable retail due to sound walls, high-speed streets, unsafe crossings, nonexistent sidewalks or bike facilities, and other barriers that make walking and biking unsafe, inconvenient, or uncomfortable.

In light of the various barriers to retail access, a Safe Routes to Healthy and Affordable Retail approach should aim to accomplish the following objectives[1]:
- Accessible via multiple modes of transportation for people of all ages and abilities
- Conveniently located within approximately one-half mile (10-minute walk) from where people live
- Safe from traffic and personal danger
- Comfortable and appealing places to walk or bicycle
- End at retail stores that have affordable, high quality healthy options

HOW TO USE THIS REPORT

Using the social and physical determinants of health framework, this report looks at several socioeconomic and physical environment characteristics in the North Sacramento and South Sacramento priority census tracts to justify why healthy and affordable retail access is important and to identify opportunities for improving access to healthy retail. The report begins with an assessment of the health outcomes that we see in these communities, followed by an understanding of the socioeconomic and environmental factors that influence these outcomes. Additionally, this report provides a high-level assessment of built environment conditions pertaining to the Safe Routes to Healthy Retail Objectives.

While this report focuses only on data for the North Sacramento and South Sacramento priority census tracts, the data indicators identified throughout the report can serve as a model for justifying healthy retail access improvements in other communities throughout Sacramento County. This report is intended for local agencies, decision-makers, health and transportation professionals, and community advocates to better understand the connections between health, socioeconomic factors, and the built environment, and to provide data that can be used to justify investments and pursue funding for improving healthy and affordable retail access in these communities.

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[1] Source: Adapted from Safe Routes National Partnership. https://www.saferoutespartnership.org/healthy-communities/saferoutestoparks

North Sacramento Priority Census Tracts

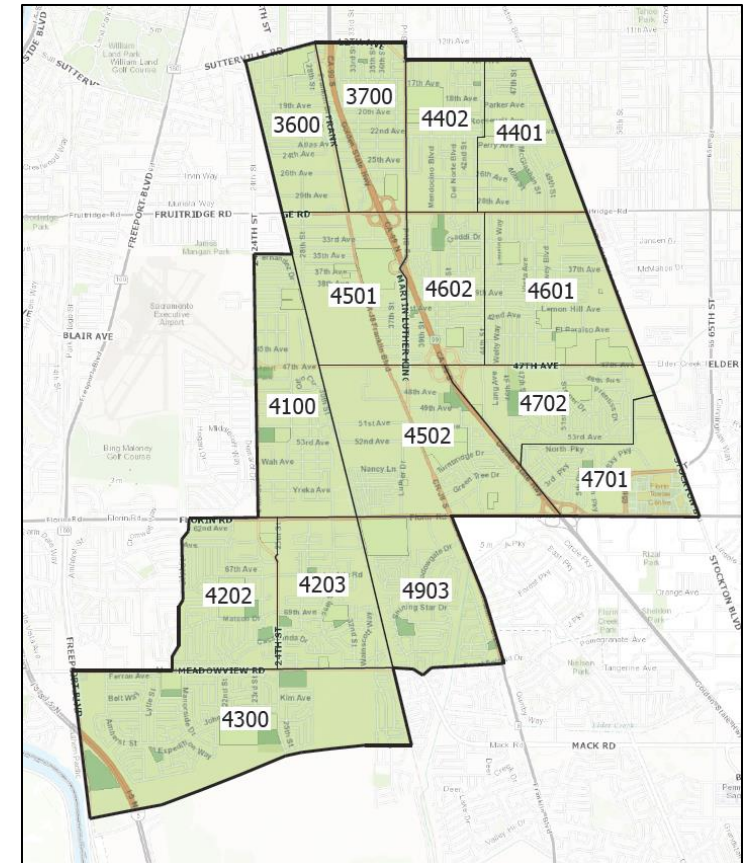## South Sacramento Priority Census Tracts
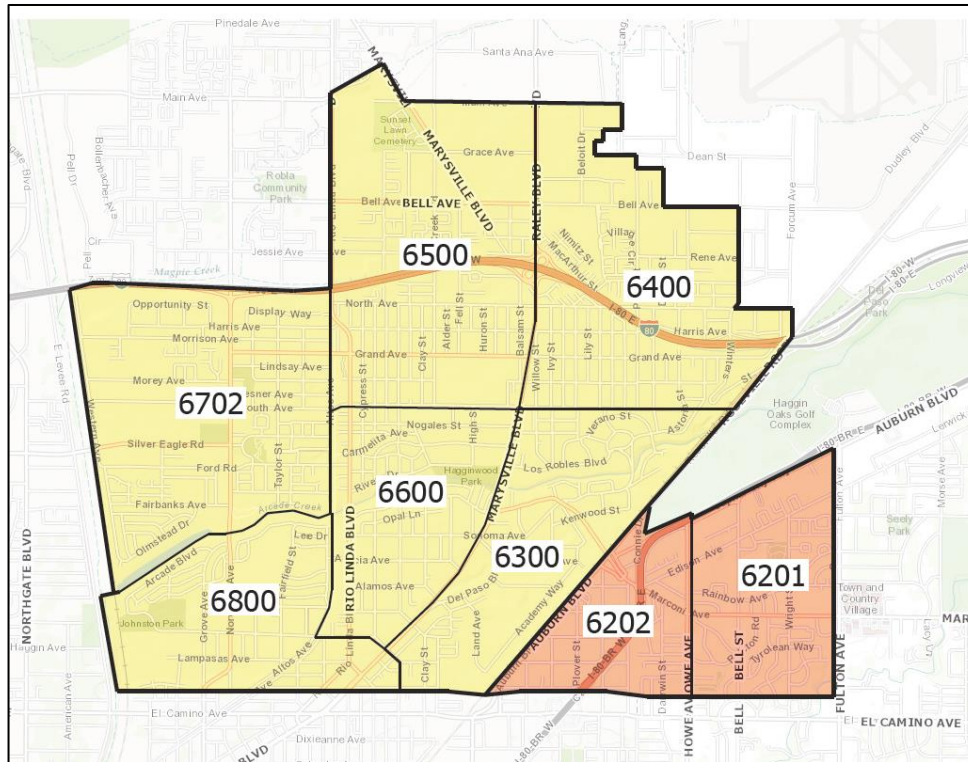
Legend

North Sacramento/Del Paso
Heights Neighborhood
(6702, 6500, 6400, 6600, 6300, & 6800)

Arden Neighborhood
(6202 & 6201)

Legend

South Sacramento
Neighborhood
(3600, 3700, 4100, 4202, 4203, 4300,
4401, 4402, 4501, 4502, 4601, 4602,
4701, 4702 & 4903)

Table 1: Comparison of Selected Socioeconomic, Health, and Environmental Conditions Between Sacramento County and the North Sacramento and South Sacramento Priority Census Tracts

The following table summarizes the findings from this report by comparing health outcomes, socioeconomic demographics, and physical environment conditions to Sacramento County averages. Overall, the North Sacramento and South Sacramento priority census tracts experience lower healthier community conditions than Sacramento County, demonstrating a high need for improved healthy and affordable food access.

	North Sacramento Priority Census Tracts	South Sacramento Priority Census Tracts
Health Outcomes		
Health Outcomes		
Healthy Places Index Score	Lower	Lower
Asthma Diagnosis	Higher	Higher
Asthma ER Admissions	Higher	Higher
Diabetes Diagnosis	Higher	Higher
Heart Disease Diagnosis	Higher	Higher
Obesity	Higher	Higher
Socioeconomic Demographics		
Population Demographics		
Population Density	Higher	Higher
Children Ages 0-17	Higher	Higher
Adults Ages 65+	Lower	Lower
Population with Disability	Higher	Higher
Population Hispanic/Latino	Higher	Higher
Population Over 5 Years Old with Limited English Proficiency	Higher	Higher
Income and Economic Demographics		
Median Household Income	Lower	Lower
Poverty	Higher	Higher
Unemployment	Higher	Higher
Housing Cost Burden	Higher	Higher
Homeownership	Lower	Lower
Population Receiving SNAP Benefits	Higher	Higher
Children Eligible for Free/Reduced Price Lunch	Higher	Higher
Food Insecurity	Same	Same
No Motor Vehicle	Higher	Higher
Commute by Walk, Bike, Transit	Higher	Higher

Physical Environment Conditions		
Air Quality and Natural Environment		
CalEnviroScreen 3.0 Percentile	Higher	Higher
Ozone	Same	Same
Particulate Matter 2.5	Higher	Higher
Diesel Particulate Matter	Higher	Higher
Tree Canopy Coverage	Lower	Lower
Urban Heat	Higher	Lower
Food Access		
Fast Food Restaurants	Lower	Lower
Food Desert	Lower	Lower
Grocery Stores	Lower	Lower
SNAP Authorized Food Stores	Higher	Higher
Low Food Access	Lower	Lower
Low Income and Low Food Access	Lower	Lower
Liquor Store Access	Lower	Lower
Use of Public Transportation	Higher	Higher
Health Behaviors		
Health Behaviors		
Alcohol Consumption	N/A	N/A
Alcohol Expenditures	N/A	N/A
Fruit/Vegetable Consumption	N/A	N/A
Fruit/Vegetable Expenditures	N/A	N/A
Soda Consumption	N/A	N/A
Walking or Biking to Work	Higher	Higher

JURISDICTIONAL BOUNDARIES

North Sacramento

The North Sacramento priority area encompasses the Del Paso Heights and Hagginwood neighborhoods in the City of Sacramento and the Arden-Arcade neighborhood in the unincorporated County, as shown in the map to the right. The area falls within the jurisdictions of City of Sacramento Council District 2 and Sacramento County Board of Supervisors Districts 1 and 3.
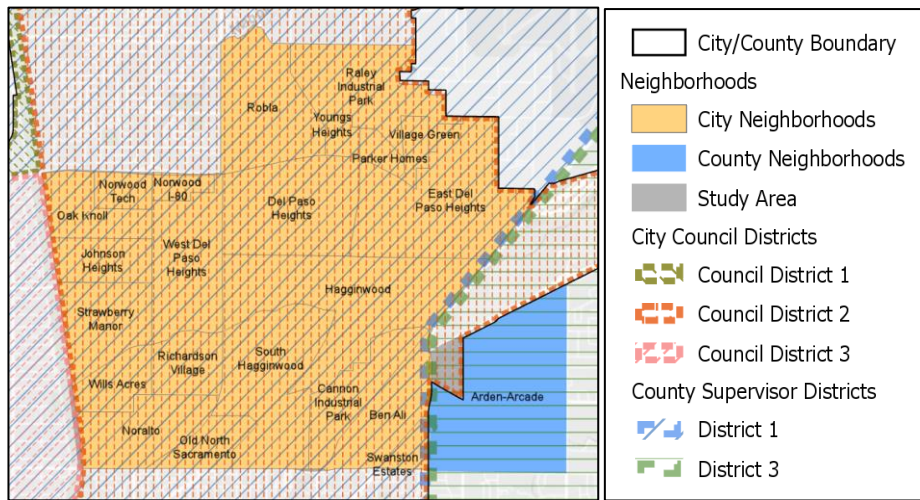
South Sacramento

The South Sacramento priority area contains the Meadowview and South Oak Park neighborhoods in the City of Sacramento as well as the Fruitridge Pocket and other neighborhoods in the unincorporated County. As shown in the map to the right, this area falls primarily within the City of Sacramento Council Districts 5 and 8 with small portions of Districts 6 and 7. The area is located within the Sacramento County Board of Supervisor Districts 1 and 2.

North Sacramento Jurisdictional Boundaries

South Sacramento Jurisdictional Boundaries
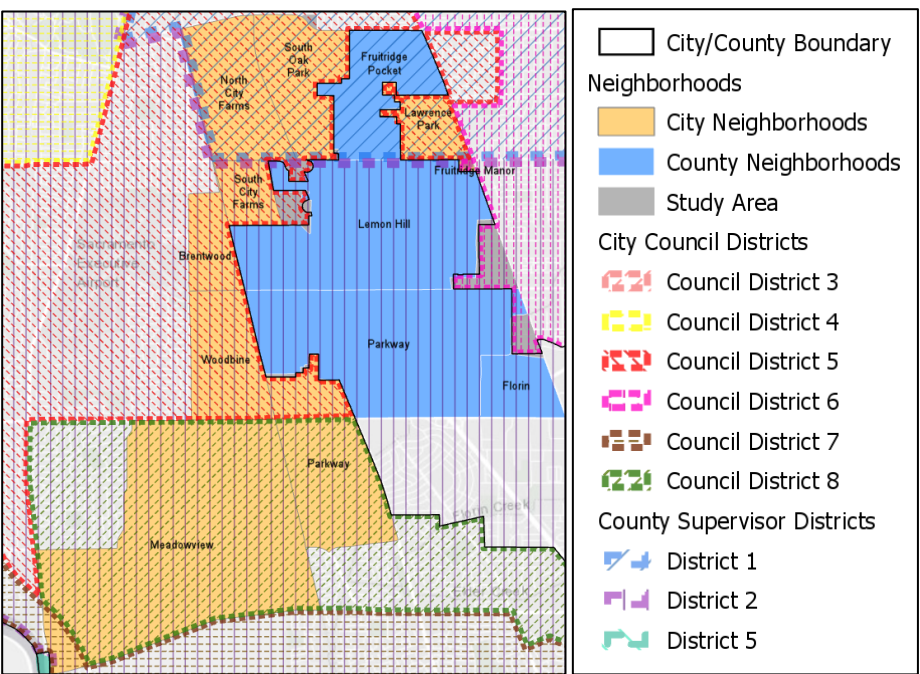
HEALTH OUTCOMES

One of the goals of improving healthy retail access is to provide more opportunities for consumers to purchase nutritional foods and improve long-term health. Identifying areas with higher rates of chronic diseases and poor health outcomes can help prioritize where investments are made. The following health data were collected:

Healthy Places Index

The Healthy Places Index (HPI) identifies community conditions that predict life expectancy, including economic, social, and environmental factors. The HPI scores communities down to the census tract level based on a scale of more or less healthy conditions and highlights existing community assets and opportunities for improvement. Higher scores indicate healthier community conditions whereas lower scores indicate less healthy community conditions.

Asthma

Asthma is a chronic health condition that is a combination of genetic and environmental factors. People with asthma are more vulnerable to air pollution and other illnesses such as pneumonia and the flu. Asthma is measured by prevalence (number of people diagnosed with asthma) and severity (rate of emergency department visits for asthma symptoms).

Diabetes

Diabetes is a chronic disease that is a combination of genetic, environmental, and behavioral factors. Regular physical activity and a healthy diet are some behaviors that can help lower the risk of developing diabetes. Improving pedestrian and bicycle access to healthy and affordable retail can provide more opportunities for physical activity by encouraging active travel to and from retail outlets. Areas with high rates of diabetes diagnoses are vulnerable to the impacts of diabetes on health and life expectancy and should be prioritized for interventions that focus on improving opportunities for healthy diet and physical activity.

Heart Disease

Heart disease is a chronic disease that involves blocked or narrowed blood vessels that can lead to a heart attack or other heart problems. Risk of heart disease is influenced by a number of factors including hereditary predisposition, behavior, and the environment. Eating a variety of nutrient-rich foods can help prevent heart disease and improve health for individuals diagnosed with heart disease. Areas with high rates of heart disease diagnoses are vulnerable to the impacts of heart disease on health and life expectancy and should be prioritized for interventions that focus on improving opportunities for healthy diet and physical activity.

Obesity

Obesity increases the risk of developing chronic diseases such as type 2 diabetes and heart disease, and can trigger other health conditions such as high blood pressure, high cholesterol, and strokes that impact quality of life and life expectancy. Obesity is caused by a number of factors including genetics, the environment, and behavior. Physical activity and a healthy diet are among the behaviors that can reduce obesity and improve health. Areas with high obesity rates are vulnerable to developing chronic health diseases and should be prioritized for interventions that focus on improving opportunities for healthy diet and physical activity.

Health Outcomes in the North Sacramento and South Sacramento Priority Census Tracts

The Healthy Places Index uses a percentile system that scores and compares communities based on a variety of socioeconomic and environmental indicators. According to the Healthy Places Index, the North Sacramento and South Sacramento priority census tracts have significantly less healthy conditions than Sacramento County's aggregated score. Additionally, both areas have higher rates of chronic health conditions and obesity, indicating greater existing health vulnerabilities and opportunities to target investments in the built environment that will improve nutritional health.

Table 2: Health Outcomes

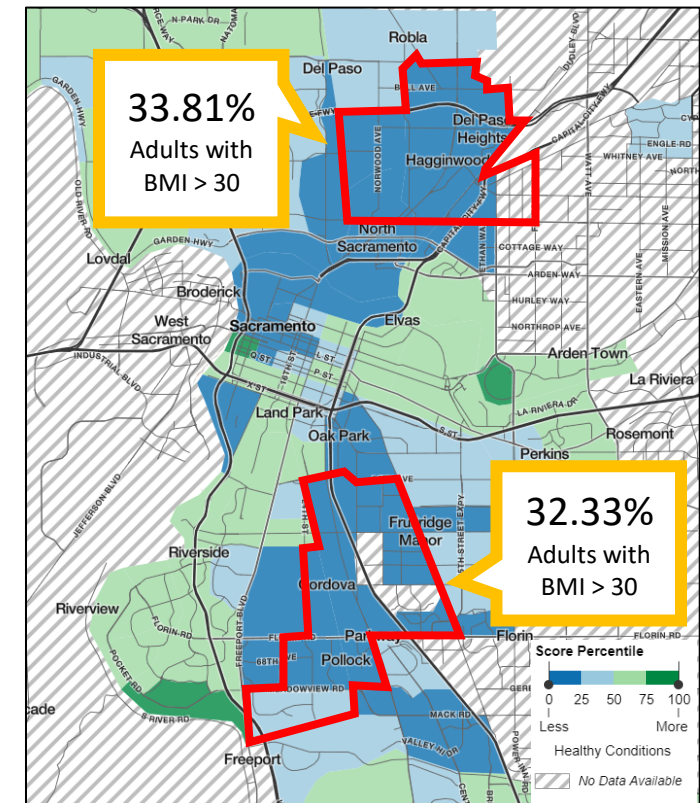|	North Sacramento	South Sacramento	Sacramento County
HPI Score[2]	5.4	9.9	57.1
Asthma Diagnosis[3]	11.31%	10.92%	9.16%
Asthma ER Admissions[4]	115.4 per 10,000 visits	100.09 per 10,000 visits	68.92 per 10,000 visits
Diabetes Diagnosis[3]	13.33%	13.53%	9.84%
Heart Disease Diagnosis[3]	6.74%	6.43%	4.3%
Obesity[3]	33.81%	32.33%	26.01%

KEY VULNERABILITIES
- Greater risk of developing chronic diseases.
- Shortened life expectancy from chronic diseases.

OPPORTUNITIES
- Develop and implement policies that address the social and physical determinants of health.
- Invest in safe active transportation infrastructure to create more opportunities for higher nutritional food consumption.

Adult Obesity Rates in Sacramento County
Healthy Places Index

33.81% Adults with BMI > 30

32.33% Adults with BMI > 30

Score Percentile
0 25 50 75 100
Less   More
Healthy Conditions
No Data Available

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[2] Source: Healthy Places Index. Accessed July 2018. http://healthyplacesindex.org/
[3] Source: Centers for Disease Control and Prevention, 500 Cities Dataset. Via Healthy Places Index. 2016. Accessed July 2018. http://healthyplacesindex.org/
[4] Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 3.0. Via Healthy Places Index. 2011-2013. Accessed July 2018. http://healthyplacesindex.org/

POPULATION AND SOCIOECONOMIC DEMOGRAPHICS

Understanding population and socioeconomic characteristics can help prioritize efforts in vulnerable communities and guide the types of policies and programs that would be most effective.

POPULATION DEMOGRAPHICS

The following population demographics were collected:

Population Density

Population density indicates the number of people per square mile. Areas with higher population densities may have a greater demand for healthy and affordable retail and are opportunities for new healthy retail siting, healthy retail conversion of existing stores, and programming to encourage more people to purchase healthier foods.

Age (under 18 and over 65)

Children and older adults are particularly vulnerable to being killed or seriously injured in traffic crashes while walking and biking, yet tend to rely on these alternative modes of transportation due to limited access to motor vehicles and varying ability or willingness to drive. Areas that have higher proportions of children and/or older adults may have a greater need for safe transportation options to healthy and affordable retail. Additionally, understanding the age demographics of an area can inform the type of retail outlets and programming that would be most engaging for different age groups.

Disability

People with disabilities tend to rely on active travel and transit as primary methods of transportation. Areas that have higher proportions of people with disabilities may have a greater need for safe transportation options to healthy retail and should be assessed for infrastructure and amenities that provide accessibility.

Race and Ethnicity

Understanding racial and ethnic demographics are important for ensuring equitable access to healthy and affordable foods. Historic disinvestment in communities of color has often led to health disparities and has put disadvantaged communities at greater risk for chronic diseases. Racial diversity should be considered when prioritizing healthy and affordable retail investments in order to improve racial and health equity.

Limited English Proficiency

Limited English proficiency is often a barrier for accessing services. Understanding whether there is a high proportion of individuals with limited English proficiency in an area, and what languages are most commonly spoken, can help remove language barriers that may be limiting knowledge of the benefits of healthy and affordable foods, retail locations, and programs.

Population Demographics in the North Sacramento and South Sacramento Priority Census Tracts

The North Sacramento and South Sacramento priority census tracts have higher proportions of children under 18, people with disabilities, and people with limited English proficiency than the County as a whole. Children and people with disabilities are more vulnerable to being killed or seriously injured in traffic crashes while using active transportation, yet tend to rely on these modes the most. These communities also have a greater proportion of people of color than the Countywide average, with approximately 40% of the population in both areas identifying as Hispanic or Latino and over 15% identifying as Black or African American. These demographics highlight a greater need for safe, accessible active transportation to parks in these areas, as well as programming focused on youth, families and multi-lingual groups.

Table 3: Selected Population Demographics[5]

	North Sacramento	South Sacramento	Sacramento County
Population Density (people/sq mi)	5658.88	7447.91	1533.05
Children 0-17	31%	31.8%	24.4%
Adults 65+	8.85%	9.16%	12.79%
Population with Disability	13.43%	14.64%	12.7%
Population Hispanic/Latino	40%	39.5%	22.5%
Population Over 5 Years Old with Limited English Proficiency	17.55%	28.43%	13.55%

Percent Population Age 0-17
ACS 2012-2016
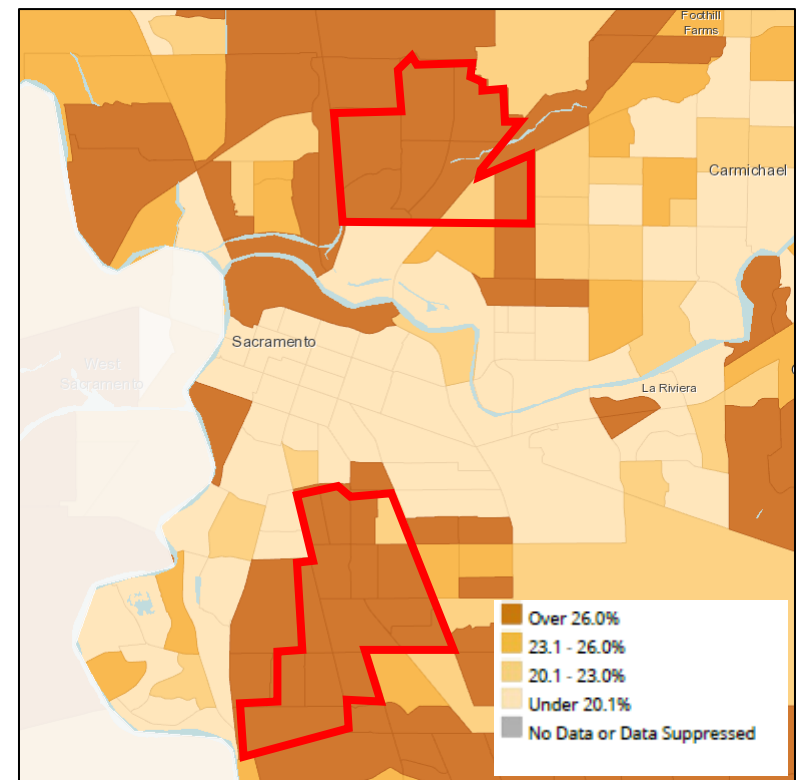
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[5] Source: US Census Bureau, American Community Survey. Via Community Commons. 2012-16. Accessed July 2018. https://www.communitycommons.org/

Table 4: Percent Population by Race

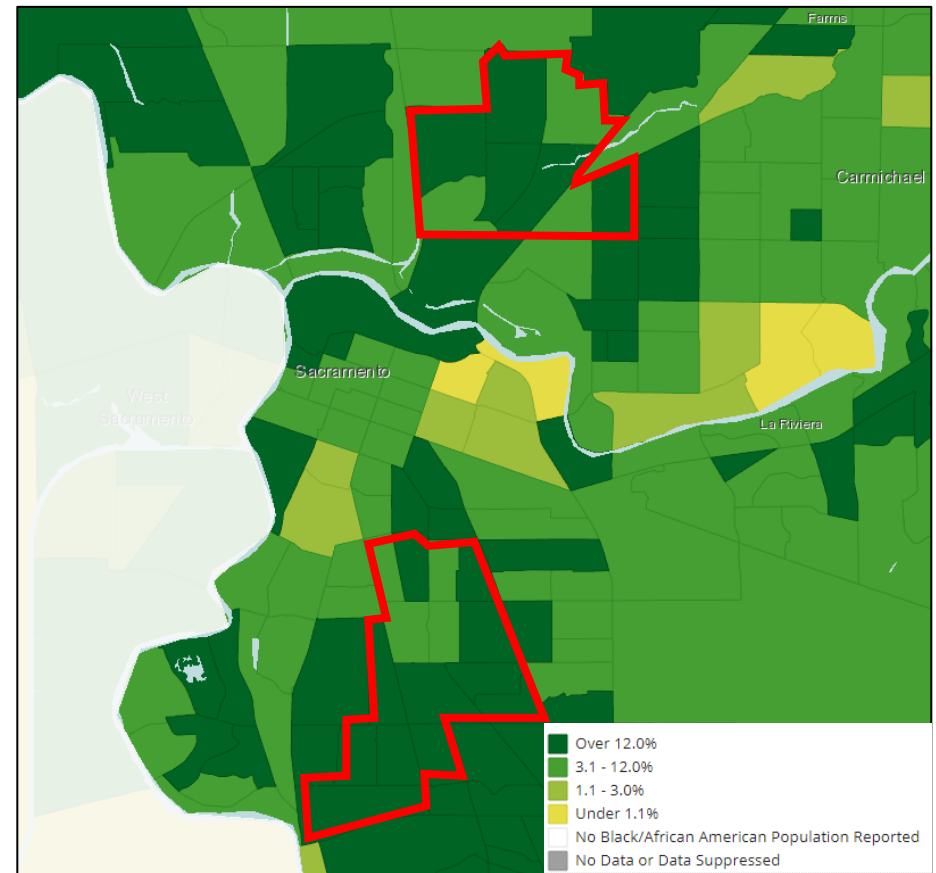|	North Sacramento	South Sacramento	Sacramento County
White	43.49%	37.1%	59.25%
Black or African American	15.14%	16.82%	9.9%
Asian	11.08%	21.07%	15.16%
Native American / Alaska Native	1.32%	0.81%	0.75%
Native Hawaiian / Pacific Islander	2%	3.22%	1.05%
Some Other Race	21.09%	13.5%	7.06%
Multiple Races	5.88%	7.47%	6.83%

KEY VULNERABILITIES

- Youth and people with disabilities are disproportionately more vulnerable to traffic injuries and fatalities.
- Communities of color tend to have lower access to opportunities due to historic disinvestment, leading to health disparities and inequities.

OPPORTUNITIES

- "Eight to eighty" infrastructure approach to create safer environments for children and young adults.
- ADA accessible infrastructure on routes to healthy and affordable retail sites.
- Programming geared towards youth, families, and multilingual groups.

Percent Population Black or African American
ACS 2012-2016

Over 12.0%
3.1 - 12.0%
1.1 - 3.0%
Under 1.1%
No Black/African American Population Reported
No Data or Data Suppressed

SOCIOECONOMIC DEMOGRAPHICS

The following socioeconomic demographics were collected:

Median Household Income and Poverty

Economic opportunity is one of the most powerful predictors of health, and research has shown that individuals living in or near poverty are more highly impacted by chronic health outcomes. Areas that have a lower Median Household Income and higher poverty levels may have a greater need for safe, affordable access to healthy and affordable foods in order to improve health equity. Due to high costs of living in California, the statewide best practice for measuring poverty levels is the percentage of the population living in households with a total income at or below 200% of the Federal Poverty Level.

Unemployment

Unemployment rates are another indicator of economic prosperity and health equity. Individuals who do not have stable incomes through employment are more vulnerable to chronic health outcomes, and therefore areas with higher unemployment rates may have a greater need for safe access to affordable healthy foods.

Housing Cost Burden

High housing costs restrict the ability of households to afford other necessities such as transportation, healthy food, and medical care. Households with housing costs that exceed 30% of total household income are more vulnerable to poor health outcomes and have a greater need to access healthy and affordable foods.

Homeownership Rate

Homeownership is another indicator of economic prosperity. Owning a home builds household wealth over time and can protect against rising rents and improve neighborhood stability. Lower homeownership rates can indicate lower economic opportunity and greater vulnerability to health impacts.

Population Receiving SNAP Benefit

The Supplemental Nutrition Assistance Program (SNAP) provides food-purchasing assistance to low-income and no-income people and is run by the U.S. Department of Agriculture. SNAP also provides nutritional education to recipients. In order to qualify for SNAP benefits, applicants must meet state and federal income requirements. Households receiving SNAP benefits may have a greater need for safe access to affordable healthy foods.

Households with No Motor Vehicles

Households that do not have motor vehicles must rely on sustainable modes of transportation such as walking, biking, and transit. Areas that have higher proportions of households without motor vehicles should be assessed for built environment conditions that accommodate safe travel for modes other than cars. Healthy and affordable foods should be safely and conveniently accessible by a variety of transportation modes.

Commute by Public Transportation, Walking, or Biking

People who commute by walking, biking, or public transportation are more likely to use sustainable transportation modes for other trips, whether by necessity or by choice. Areas with higher percentages of commuting by sustainable transportation may indicate a greater opportunity for investing in sustainable transportation to healthy and affordable foods.

Socioeconomic Demographics in the North Sacramento and South Sacramento Priority Census Tracts

The North Sacramento and South Sacramento priority census tracts have higher proportions of low-income households than the County, with significantly lower Median Household Income, higher poverty rates, and greater housing cost burdens. Limited economic opportunity indicates that these areas are particularly vulnerable to poor health outcomes. Additionally, lower vehicle ownership rates indicate that affordable transportation alternatives are necessary in order to improve access to parks for greater health equity.

Table 5: Socioeconomic Demographics

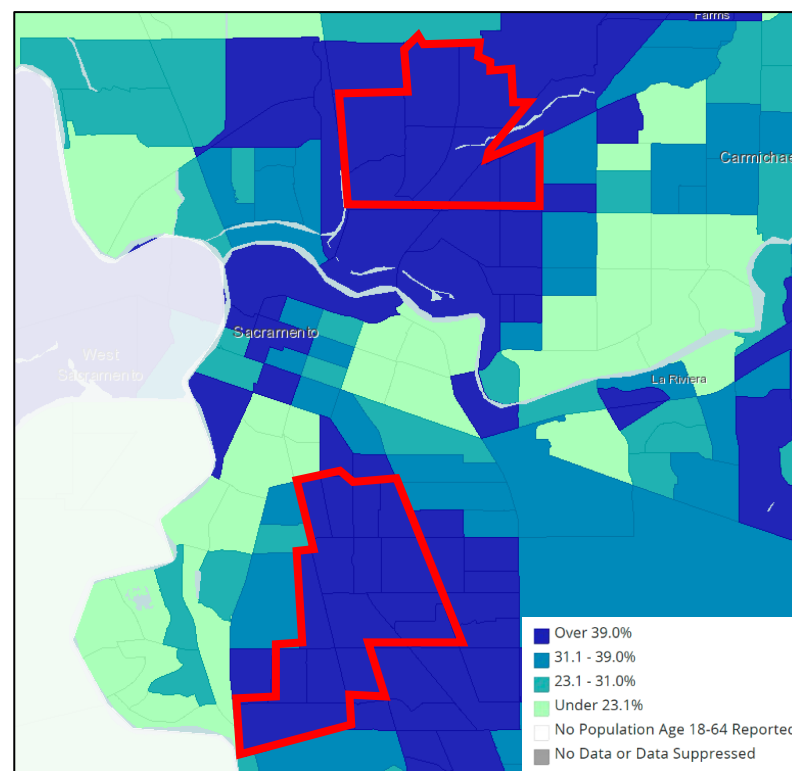|	North Sacramento	South Sacramento	Sacramento County
Median Household Income[6]	$29,154	$31,114	$67,305
Poverty[7]	68.23%	67.8%	37.05%
Unemployment[8]	5.7%	5.7%	3.9%
Housing Cost Burden[7]	56.66%	51.9%	39.76%
Homeownership[6]	39.06%	38.1%	56.9%
Receiving SNAP Benefits[7]	30.79%	30.44%	12.35%
No Motor Vehicle[7]	17.24%	13.76%	7.47%
Commute by Walk, Bike, Transit[7]	6.5%	7.9%	5.92%

KEY VULNERABILITIES

- Low-income individuals are less likely to afford health care services and healthy lifestyles, leading to greater risk of chronic diseases.
- Low vehicle ownership means greater reliance on public transit and active travel.

OPPORTUNITIES

- Investment in SNAP and affordable healthy foods can improve health for low-income households.
- Investment in active transportation infrastructure improves health through physical activity.

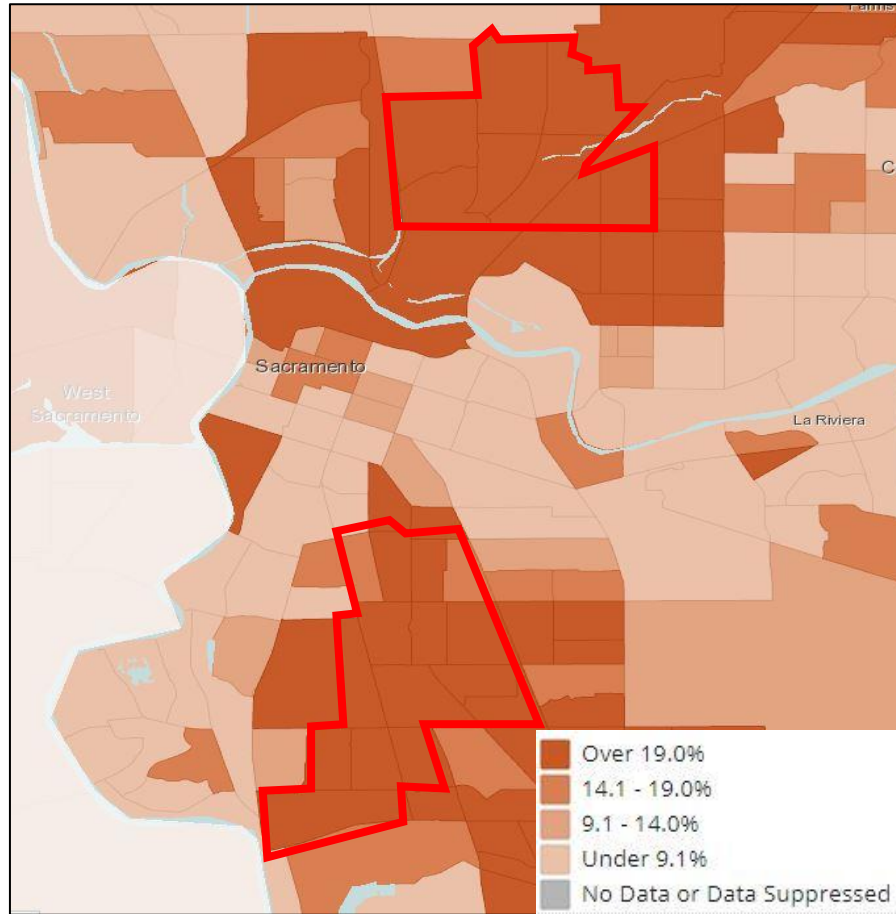**Percent Population Below 200% of Poverty Level ACS 2012-2016**

Legend:
- Over 39.0%
- 31.1 - 39.0%
- 23.1 - 31.0%
- Under 23.1%
- No Population Age 18-64 Reported
- No Data or Data Suppressed

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[6] Source: US Census Bureau, American Community Survey. Via Healthy Places Index. 2011-15. Accessed July 2018. http://healthyplacesindex.org/

[7] Source: US Census Bureau, American Community Survey. Via Community Commons. 2012-16. Accessed July 2018. https://www.communitycommons.org/

[8] Source: US Department of Labor, Bureau of Labor Statistics. Via Community Commons. 2018 – March. Accessed July 2018. https://www.communitycommons.org/

Percent Households Receiving SNAP Benefits
ACS 2012-2016

Percent Households with No Vehicle, ACS 2012-2016

Legend (left map):
- Over 19.0%
- 14.1 - 19.0%
- 9.1 - 14.0%
- Under 9.1%
- No Data or Data Suppressed

Legend (right map):
- Over 8.0%
- 6.1 - 8.0%
- 4.1 - 6.0%
- Under 4.1%
- No Data or Data Suppressed
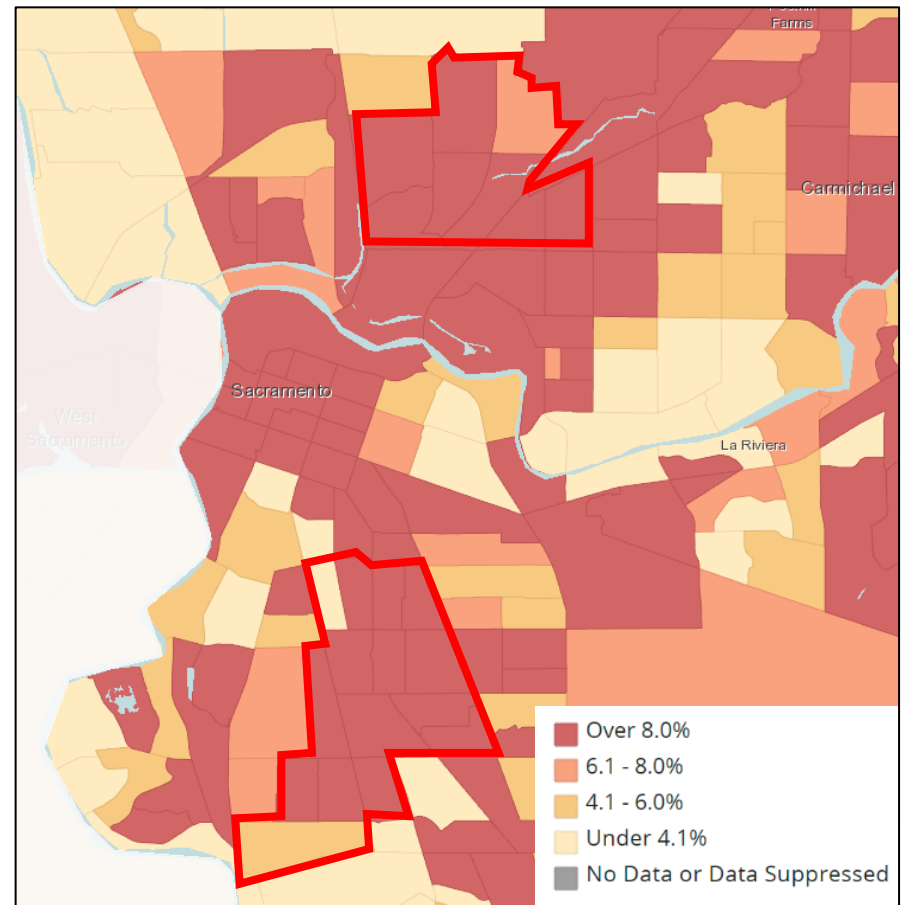
Households receiving SNAP benefits are inversely correlated to vehicle ownership, as demonstrated in the above maps. Households with lower incomes are less likely to own cars and are thus more reliant on public transit and active transportation to access parks, healthy and affordable foods, jobs, and other services. However, communities with a higher proportion of low-income households also tend to be more auto-oriented and less conducive to walking and biking, further restricting the ability of individuals to be physically active and access health services and opportunities.

PHYSICAL ENVIRONMENT CONDITIONS

Natural environment conditions, such as air quality, pollution, and extreme heat, directly impact health in communities. Land use, transportation, and other characteristics of the built environment contribute to these environmental conditions and also impact whether or not healthy retail sites are conveniently and safely accessible. Concentrations of unhealthy food stores and lack of healthy food options further contribute to poor health outcomes.

AIR QUALITY AND NATURAL ENVIRONMENT

The following natural environment conditions data were collected:

CalEnviroScreen

CalEnviroScreen identifies California communities that are disproportionately burdened by and vulnerable to pollution by calculating scores for each census tract based on a combination of environmental exposures, health outcomes, and population characteristics. Higher scores indicate higher vulnerabilities and disproportionate pollution burdens in communities.

Air Quality

Ozone, particulate matter, and diesel particulate matter are among the EPA's six criteria pollutants and can cause heart and lung disease as well as exacerbate asthma and other chronic health conditions. Communities located along highways and major transportation corridors are particularly burdened by vehicle air pollution.

Tree Canopy

Trees provide a multitude of benefits for both physical and mental health by improving air quality, providing shade, and reducing stress. In particular, trees along street corridors are important for improving comfort while walking or biking by protecting street users from direct sunlight and heat. Tree canopy coverage is measured by the amount of land with tree cover, weighted by number of people per acre. Areas with lower percentages of tree cover are vulnerable to air quality and heat impacts and should be assessed for urban greening opportunities.

Urban Heat Island Index (UHII)

The Urban Heat Island effect is a phenomenon that occurs when areas with a high surface area of pavement and dark building material feels hotter than the surrounding areas. In Sacramento, urban heat tends to be generated in the downtown core but the effects are felt in suburban and rural communities to the northeast, creating health inequities through heat stroke and other heat-related illnesses. Areas with higher UHII are more vulnerable to the impacts of heat.

Natural Environment Conditions in the North Sacramento and South Sacramento Priority Census Tracts

According to CalEnviroScreen, on average the North Sacramento and South Sacramento priority census tracts fall within the percentile range of 76-80%, indicating higher pollution burden and vulnerability. Overall, air quality is comparable to the County as a whole, however ozone concentrations throughout the County are on the higher end of the statewide range of 0.026-0.068 ppm. The two priority areas also have slightly higher diesel particulate matter emissions than the County, which may be due to major highways and trucking routes passing through these areas. Lower tree canopy coverage makes the North Sacramento and South Sacramento communities more vulnerable to the impacts of heat and can make active travel to healthy retail sites unsafe and uncomfortable.

Table 6: Environmental Conditions

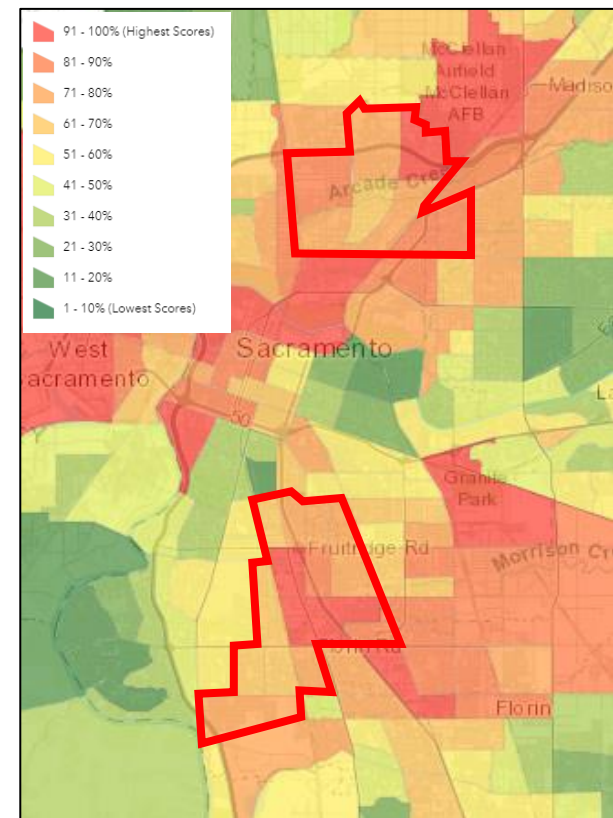|	North Sacramento	South Sacramento	Sacramento County
Ozone (ppm)[9]	0.05	0.05	0.05
Particulate Matter 2.5 (µg/m3)[9]	9.54	9.49	9.22
Diesel Particulate Matter (kg/day)[9]	15.71	15.02	13.06
Tree Canopy Coverage[10]	12.5%	10.95%	13.3%
Urban Heat (degree-hr)[11]	8873.79	3880.26	6220.34

KEY VULNERABILITIES

- Poor air quality increases risk of asthma and other chronic diseases.
- Children, the elderly, and low-income households are particularly vulnerable to heat.

OPPORTUNITIES

- Urban greening along streets can help mitigate the impacts of air quality and heat.

Sacramento County CalEnviroScreen 3.0 Results

Legend:
- 91 - 100% (Highest Scores)
- 81 - 90%
- 71 - 80%
- 61 - 70%
- 51 - 60%
- 41 - 50%
- 31 - 40%
- 21 - 30%
- 11 - 20%
- 1 - 10% (Lowest Scores)

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[9] Source: California Office of Environmental Health Hazard Assessment, CalEnviroScreen 3.0. Via Healthy Places Index. Accessed July, 2018. https://healthyplacesindex.org/
[10] Source: Sacramento Tree Foundation, Tree Cover Map. Accessed July, 2018. https://www.sactree.com/greenrx
[11] Source: California Environmental Protection Agency, Urban Heat Island Index. Via Healthy Places Index. Accessed July, 2018. https://healthyplacesindex.org/

BUILT ENVIRONMENT AND LAND USE

Communities with a mix of land uses and common destinations that are located nearby – such as grocery stores, schools, job centers, shopping, and parks – are more conveniently accessible by walking and biking. In particular, research has shown that adults with no supermarkets within a mile of their homes are less likely to have a healthy diet than those with supermarkets near their homes. Many studies continue to show that more accessible healthy and affordable foods is associated with increased consumption of those foods. Going beyond a measurement of distance, it is important to consider surrounding land uses that may affect the ability of residents to access healthy retail.

The following built environment and land use conditions were collected:

General Land Uses

The types of land uses around healthy retail affect whether it is accessible. Small markets that sell healthy foods may be located in neighborhoods and can act as an anchor for a community for frequent small trips. Land uses can prioritize healthy retail near transit and in neighborhoods.

Zoning categorizations from both the City of Sacramento and Sacramento County were used to determine the general land use characteristics in the North and South Sacramento priority areas.

Schools

Schools located near healthy and affordable retail are an opportunity for improving nutritional diets in children and young adults. The presence of schools within a half mile of healthy and affordable retail can inform potential programming to encourage purchasing of healthier foods by children, youth, and families.

Active Transportation Modes

Access to healthy foods by sustainable transportation such as transit, walking, and biking is important from both a health and equity perspective. Walking and biking increase physical activity levels, which improves overall health and reduces risk of developing chronic health conditions. People who take transit are also more likely to walk to and from transit stops, thereby gaining the benefits of physical activity. Walking, biking, and transit are also more affordable travel options that can be used by anyone, regardless of ability or desire to drive. Assessing proximity of healthy retail to transit and the conditions of pedestrian and bicycle infrastructure around parks are important factors influencing whether or not people can access healthy and affordable foods by alternative modes and if it feels safe, comfortable, and convenient to do so.

Transportation and Land Use in the North Sacramento and South Sacramento Priority Census Tracts

Land uses in the North Sacramento and South Sacramento priority census tracts are primarily low-density single family residential, with some commercial and heavy industrial. Most healthy retail locations are along arterial corridors in the City and unincorporated County.

Streets in the priority census tracts are generally characterized by high speed arterials that funnel traffic to major highways such as I-80, Business 80 (also known as the Capital City Freeway), and Highway 99. Arterial streets are not safe or comfortable for pedestrians due to long crossing distances at wide intersections, narrow sidewalks, and sparse safe crossing opportunities. Additionally, many of the arterial streets in these communities are City or County trucking routes.

Sidewalks are primarily a minimum width of 4-5 feet both within neighborhoods and along collector and arterial streets. In the North Sacramento census tracts, sidewalks are often not present in lower density residential neighborhoods such as Arden-Arcade. Bike infrastructure along arterial streets tends to include a narrow, unbuffered Class II bike lane, which does not provide adequate separation from high speed traffic.

The City of Sacramento has identified five corridors with the highest numbers of fatal and serious crashes involving pedestrians, bicyclists, and motorists, four of which are located with the priority census tracts. Several parks are located along these high injury corridors and arterial roadways, making walking and biking to these parks unsafe and uncomfortable in spite of their proximity to residential areas.

City of Sacramento High Injury Network and Top Five Corridors

Legend:
- High Injury Network
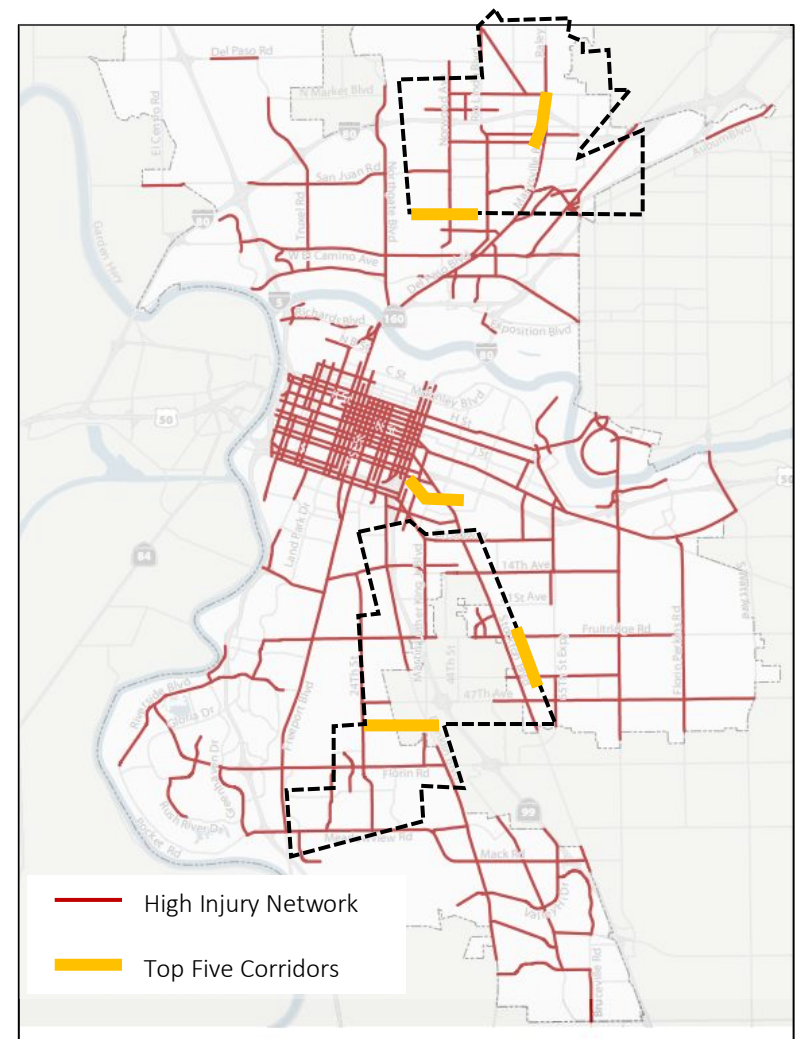- Top Five Corridors

KEY VULNERABILITIES

- High speed streets located along neighborhood routes make walking and biking unsafe.
- Poor connectivity makes walking and biking to healthy and affordable retail inconvenient.

OPPORTUNITIES

- Improve connectivity between existing healthy retail and neighborhoods to encourage access to healthy foods and physical activity.
- Prioritize neighborhood markets for healthy retail conversions.
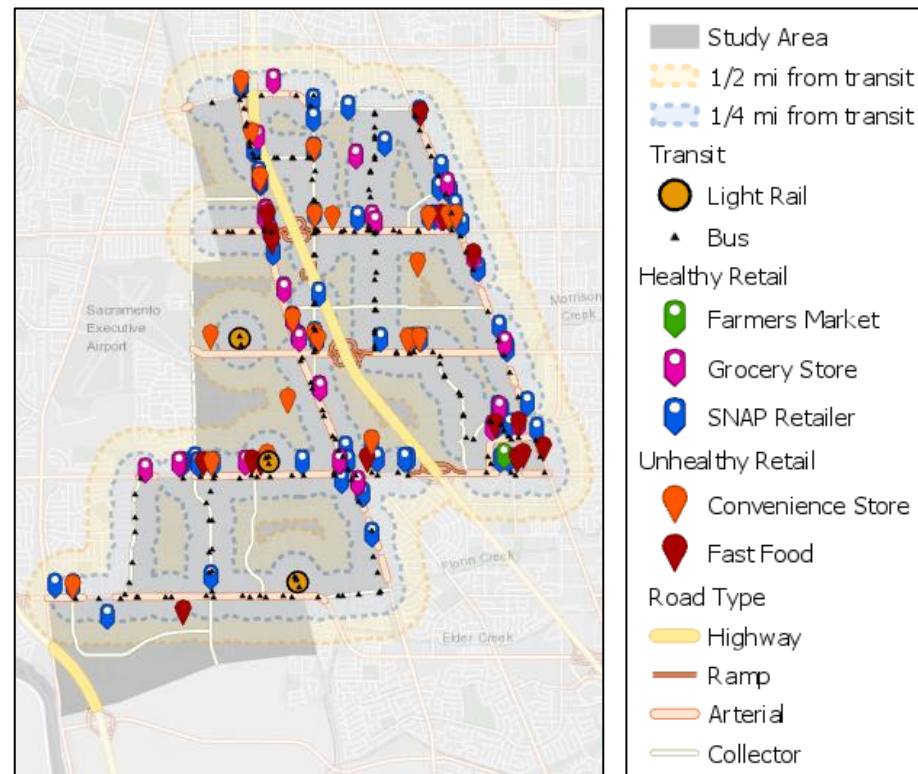
Retail Locations within a ½ Mile of Transit in North Sacramento Census Priority Tracts
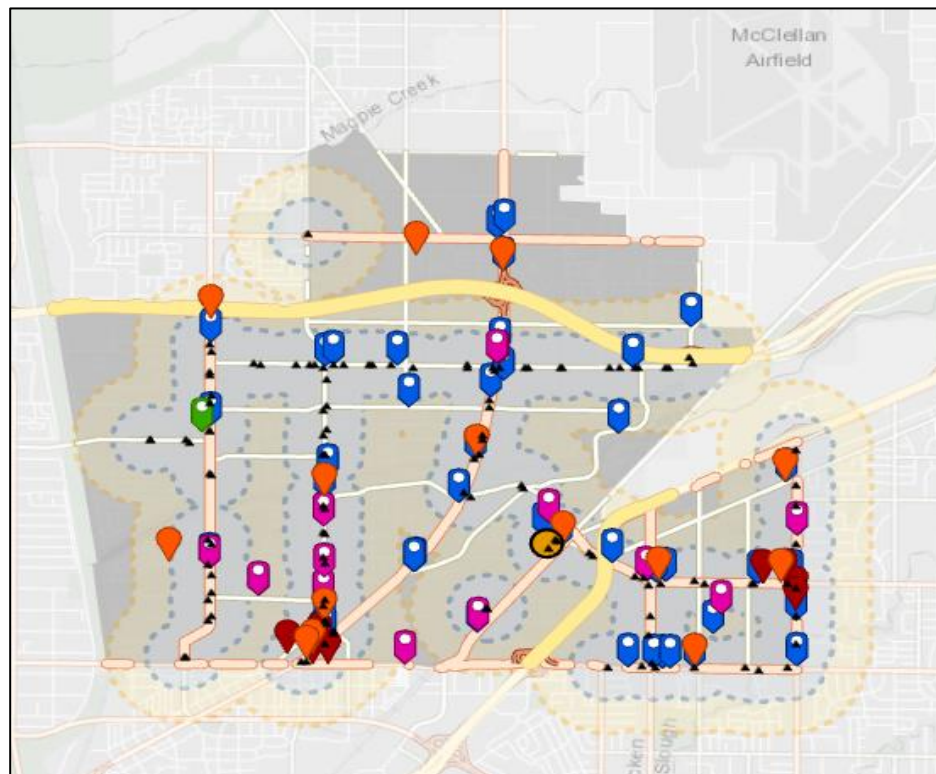
Retail Locations within a ½ Mile of Transit in South Sacramento Census Priority Tracts

As demonstrated in the above maps, a high proportion of land area in the North and South Sacramento priority census tracts is within half a mile of transit, indicating an opportunity for access to healthy food by transit through improved first mile and last mile connections. However, it should be noted that transit stops and routes are subject to change according to the 2019 Sacramento Regional Transit Forward Plan[12], which may result in discontinued routes, new routes, and higher frequency of service. Discontinued routes may limit park access by transit in some areas, whereas higher frequency routes may improve park access in other areas.

Most of the retail within a ½ mile of transit is located on arterial streets and less in surrounding residential neighborhoods. While there may be a high concentration of SNAP authorized retailers in the priority census tracts, many of these retailers are located along arterials, or high volume streets which may make access difficult for low-income residents who rely on SNAP and do not have access to reliable transportation.

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[12] Source: SacRT Forward: sacrtforward.com

Land Uses within a ¼ Mile of Retail in North Sacramento Priority Census Tracts

Land Uses within a ¼ Mile of Retail in South Sacramento Priority Census Tracts
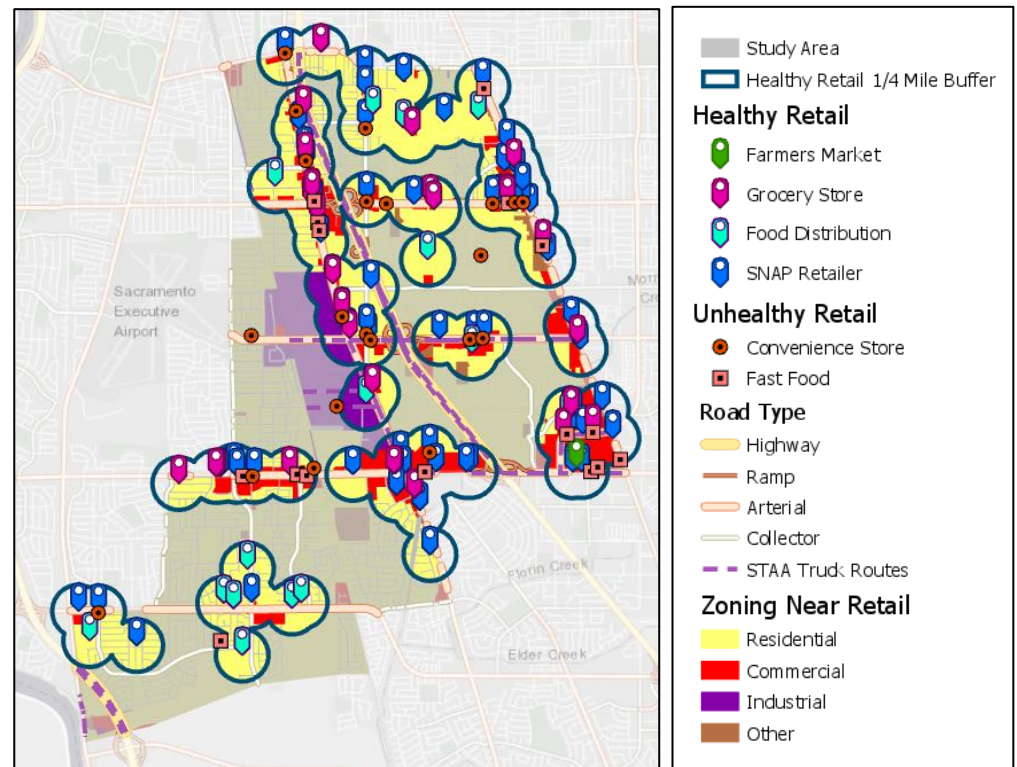
While healthy food access has traditionally been defined as being accessible within a one mile radius in urban areas, discussions with key stakeholders and community members revealed that a maximum radius of ¼ mile is ideal for access by active transportation modes. A shorter distance is preferable due to carrying groceries. Therefore, a ¼ mile radius has been used in this analysis in order to identify challenges and opportunities for access by walking and biking.

As demonstrated in the above maps, a high proportion of retail sites in the North and South Sacramento priority census tracts are concentrated along arterial roads with surrounding land uses being mainly residential. Clusters of retail locations correlate with a mix of land uses including commercial and residential. While there may be a high concentration of SNAP authorized retailers in the priority census tracts, many of these retailers are located along arterials, or high volume streets which may make access difficult for low-income residents who rely on SNAP, do not have access to reliable transportation, or live beyond the ¼ mile radius. The lack of healthy retail father out in to zoned residential indicates an opportunity for future neighborhood healthy retail markets and other food opportunities.

FOOD ACCESS

Specific food access measures identify the density of healthy food stores and where there are food deserts, as well as where there are "food swamps," or areas with an overabundance of unhealthy retail such as fast food restaurants. When looking at "healthy retail" in Sacramento County, one of the challenges is that there is no consistent criteria for healthy retail. SNAP-authorized stores are used as a proxy for healthy retail in this report, as stores must apply and be authorized through the USDA. The following food access conditions data were collected:

Fast Food Restaurants

Fast food restaurants are establishments where patrons generally order from a select menu and pay before receiving food. Fast food restaurants are often easy to access, convenient, and cheap and may compete with healthier food options. Areas with high density of fast food restaurants may indicate a need for improved access to more nutrient dense foods to support long-term health.

Food Desert Census Tracts

Neighborhoods that lack access to healthy food sources are defined as food deserts. Other indicators such as income, distance to nearest healthy store, or number of stores in an area, and access to family vehicle or public transportation are all indicators used to determine food deserts. Areas identified as food deserts may indicate a greater opportunity for investing in access to healthy and affordable foods.

Grocery Stores

Grocery stores are supermarkets or smaller stores primarily selling food products such as canned and frozen foods, fresh fruit and vegetables, and fresh and prepared meats, fish, and poultry. It is important to note that delicatessen establishments are included under the definition, however convenience stores and large general merchandise stores such as supercenters and warehouse club stores are not. Understanding the number of grocery store establishments is important to evaluate healthy and affordable food access and identify needs for greater investment to reduce barriers to access to these stores.

Low Food Access

Low food access identifies the percentage of population living in a census tract that is identified as a food desert. This indicator highlights populations who are at greater risk for food insecurity and face barriers to healthy and affordable foods needed for a nutritionally rich diet.

Low Income and Low Food Access

Low income and low food access populations includes the number of low income individuals living at or below 200 percent of the Federal poverty threshold for family size who also do not have access to a nearby grocery store. Areas identified as low income and low access may indicate a greater opportunity for investing in access to healthy and affordable foods.

SNAP-Authorized Food Stores

SNAP authorized food stores include the number of food stores at a rate per 10,000 population. Qualifying stores may include grocery stores, supercenters, specialty food stores, and convenience stores. Stores must apply through the USDA in order to become an authorized SNAP retailer and accept benefits.

Food Access in the North Sacramento and South Sacramento Priority Census Tracts

The North Sacramento and South Sacramento priority census tracts generally have similar distributions of fast food restaurants and grocery stores compared to the County. However, overall there is a much higher proportion of fast food restaurants than grocery stores, indicating that unhealthy retail options are far more prevalent than healthy options. Additionally, while the priority census tracts have higher proportions of SNAP-authorized retailers than the County, this indicates that there is a greater need for improving access to these stores in order to increase healthy food purchases.

Table 7: Physical Conditions

	North Sacramento	South Sacramento	Sacramento County
Fast Food Restaurants[13]	75.7%	75.7%	75.77%
Food Desert Census Tracts[13]	2	2	96
Grocery Stores[13]	19.3%	19.3%	19.38%
Low Food Access[13]	8.26%	12.66%	18.35%
Low Income and Low Food Access[13]	7.72%	10.75%	14.28%
SNAP Authorized Food Stores[13]	11.75%	10.96%	7.48%

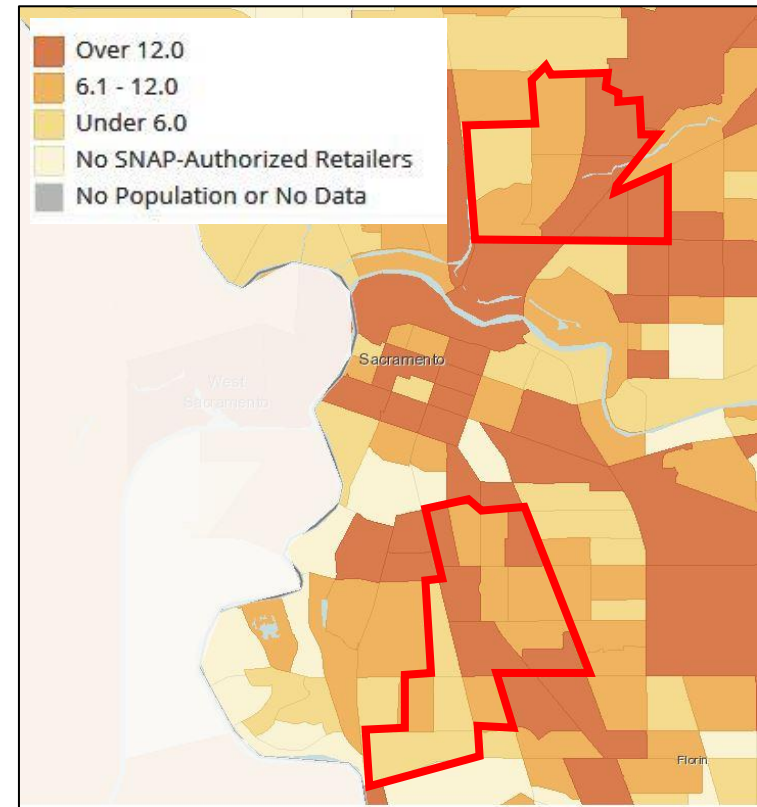SNAP Authorized Retailers, ACS 2012-2016

KEY VULNERABILITIES

- Although the number of households receiving SNAP benefits in the priority census tracts rank among the county's highest, the density of SNAP Authorized retailers varies from tract to tract.

OPPORTUNITIES

- Healthy food store conversions and improving SNAP authorized retailers.
- Investment in active transportation infrastructure improves safety and convenience for accessing healthy and affordable food, jobs, services, and other community assets.

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[13] Source: US Census Bureau, American Community Survey. Via Community Commons. 2012-16. Accessed July 2018. https://www.communitycommons.org/

HEALTH BEHAVIORS

Health behaviors are specific actions that individuals take that influence their health outcomes. Examples include the decision to purchase fresh fruits and vegetables, the decision to purchase unhealthy snacks and meals, and purchase and consumption of alcohol. Understanding current health behaviors can help identify whether behavior is a significant contributor to health outcomes and opportunities for policies, programs, or other incentives to guide healthier behaviors.

The following health behavior conditions data were collected:

Alcohol Consumption

Alcohol Consumption is self-reported as two drinks per day on average for men and one drink per day on average for women. Alcohol consumption can lead to influence future behavioral, mental, and physical health and costs.

Alcohol Expenditures

Alcohol expenditures are the annual expenditures for beverages purchased at home, as a percentage of total household expenditures. Alcohol expenditures can point to long term health behaviors and impact economic, health, and social costs to individuals and larger communities.

Fruit/Vegetable Consumption

The USDA recommends five servings a day of fruit and vegetables is needed to maintain a healthy diet. However, many adults do not meet the 5 servings a day recommendation. High Fruit and Vegetable consumption is correlated with lower risk of chronic disease and better physical and mental development. Fruit and vegetable intake shown to be especially low in communities of low-income due to less access to fresh and affordable fruit and vegetables where often higher rates of obesity and chronic diseases is reported[14]. This data reported shows the percentage of adults 18 or older who self-report having less than 5 servings of fruit and vegetables a day.

Fruit/Vegetable Expenditures

Fruit and Vegetable expenditures reports annual purchasing of fruits and vegetables for in-home consumption as a percentage of total food-at-home expenditures. High Fruit and Vegetable consumption is correlated with lower risk of chronic disease and better physical and mental development. Fruit and vegetable intake shown to be especially low in communities of low-income due to less access to fresh and affordable fruit and vegetables where often higher rates of obesity and chronic diseases is reported. This data reported shows the percentage of food-at-home expenditures.

Soda Expenditures

Soda or sugar-sweetened carbonated beverages are any liquid that is sweetened by various forms of sugar. These beverages can lead to significant long term health affects such as diabetes and obesity. Soda expenditures are the percentage of total food-at-home expenditures.

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[14] Kimberley, H. (2012). *PLANNING FOR FOOD ACCESS AND COMMUNITY-BASED FOOD SYSTEMS: A National Scan and Evaluation of Local Comprehensive and Sustainability Plans*. American Planning Association. Accessed September 2018.

Health Behavior Conditions in the North Sacramento and South Sacramento Priority Census Tracts

Health behavior data is often suppressed or unavailable to protect privacy of individuals. Because of this, it is difficult to analyze comparisons between Sacramento County and the priority census tracts. However, when comparing food expenditures to statewide averages, fruit and vegetable expenditures are lower than the statewide average of 14.05%, and soda expenditures are higher compared to statewide average of 3.62%. Alcohol expenditures in the priority census tracts are lower than statewide average of 12.93%.

Table 8: Health Behavior Conditions

|	North Sacramento	South Sacramento	Sacramento County
Alcohol Consumption[15]	Suppressed	Suppressed	18.2%
Alcohol Expenditures	11.21%	10.97%	Suppressed
Fruit/Vegetable Consumption	Suppressed	Suppressed	66.5%
Fruit/Vegetable Expenditures	13.09%	13.4%	Suppressed
Soda Expenditures	4.19%	4.04%	Suppressed

KEY VULNERABILITIES
- Low rates of fruit and vegetable consumption means greater vulnerability to developing chronic diseases.

OPPORTUNITIES
- Targeted marketing and programs can help improve fruit and vegetable consumption.
- Enact policies and work with retailers to promote healthy foods over unhealthy foods in increase purchase and consumption.

Fruit and Vegetable Expenditures, Nielsen Consumer Buying Power Site Reports 2014

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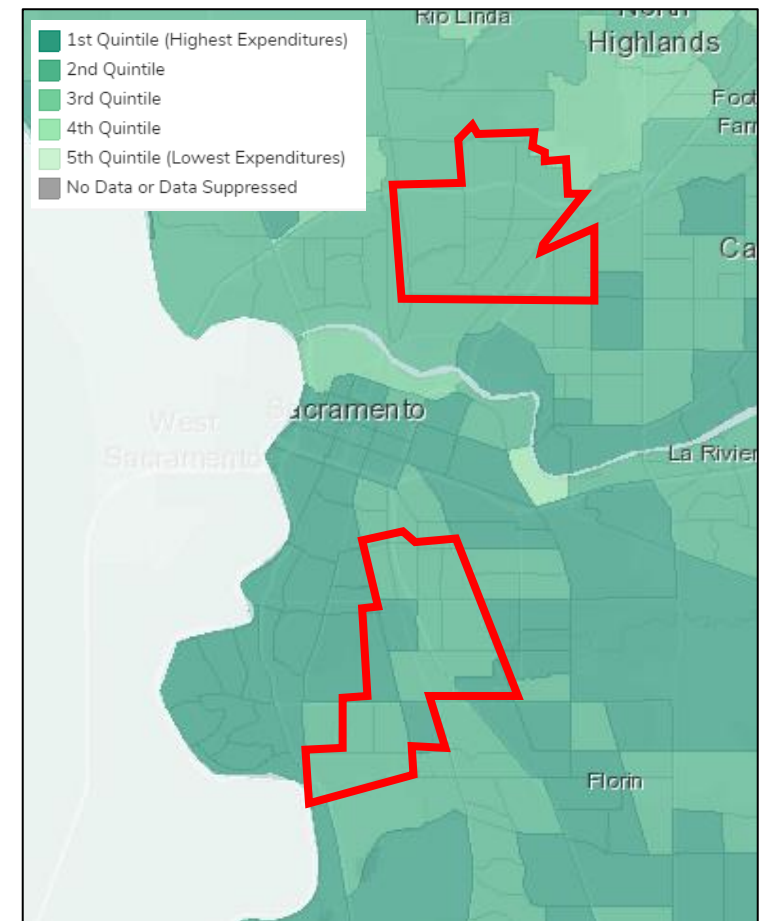
[15] Source: US Census Bureau, American Community Survey. Via Community Commons. 2012-16. Accessed July 2018.

SAFETY

Safety at and along routes to retail is often a key concern that impacts whether or not people will travel to a healthy retail location or if they will choose to use active travel modes. Perception of safety is as important as real safety, so even where crime rates are not high, perception and threat of crime can impact decisions to walk or bike. Crime rates and traffic injuries can help determine if safety might be a concern among community members and where investments or programming should be applied to improve safety.

PERSONAL SAFETY

The following data on personal safety were collected:

Crime[16]

Prevalence and perceptions of crime in communities is a key factor that influences whether people feel safe going to and healthy retail establishments. Crime data helps indicate the relative safety of an area. Similarly, the type of criminal activity that occurs can help inform street and park design, programming, and enforcement efforts to improve personal safety.

Vacancy Rates[17]

Vacant housing, particularly when left vacant for long periods of time, can contribute to a perceived lack of personal safety for active travel modes. Occupied homes provide a sense of security that there are "eyes on the street" to deter criminal activity. Conversely, vacant homes do not provide safety through "eyes on the street" and may serve as hiding places for criminal activity. Additionally, vacant homes or poorly maintained properties send a message that no one notices or cares what happens to the property, which spurs vandalism, dumping, and other crimes that communities may identify as barriers to accessing neighborhood retail.

TRAFFIC SAFETY

The following traffic safety data were collected:

Pedestrian and Bicycle Injuries[18]

Pedestrians and bicyclists are the most vulnerable road users and are disproportionately impacted in collisions. Collision data can highlight dangerous streets and intersections and indicate a need for traffic safety improvements.

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[16] Source: Community Crime Map. Accessed July 2018. https://communitycrimemap.com/
[17] Source: US Census Bureau, American Community Survey. Via Community Commons. 2012-16. Accessed July 2018. https://www.communitycommons.org/
[18] Source: UC Berkeley SafeTREC, Transportation Injury Mapping System. Accessed July 2018. https://tims.berkeley.edu/

Personal Safety in the North Sacramento and South Sacramento Priority Census Tracts

Between May 1, 2018 and June 1, 2018, approximately 350 crimes were reported in North Sacramento and approximately 405 in South Sacramento.

Aggravated assault, theft, and vandalism consisted of the majority of crime types. These types of criminal activity are perceived to occur when people are walking outside, which may deter walking and biking for fear of becoming a victim of crime. Most crimes were nonviolent offenses, including theft, vandalism, burglary, drug violations, robbery, prostitution, and disorderly conduct. Violent crimes tended to include assault, sexual assault, arson, and homicide.

In North Sacramento, crimes primarily occurred around the intersection of El Camino Avenue and Del Paso Boulevard and along the Del Paso Boulevard corridor. In South Sacramento, crimes primarily occurred along Stockton Boulevard with hotspots near the intersections with Florin Road and Fruitridge Road. The time of day that crimes typically occurred were in the afternoon through late evening on weekdays, which is after work hours when families, students, and others may wish to visit parks as a leisure activity.

Vacancy rates in the North Sacramento (11.11%) and South Sacramento (7.29%) priority census tracts are higher than the County vacancy rate of 6.17%. Higher vacancy rates, combined with higher occurrences of criminal activity that targets individuals who are walking outside, may contribute to an overall lack of personal safety and discourage use of parks.


KEY VULNERABILITIES

- Threat of crime while walking and biking to healthy retail may reduce physical activity.

OPPORTUNITIES

- Implement Crime Prevention Through Environmental Design strategies such as improved lighting and maintenance along routes to healthy retail stores.
- Implement Crime Prevention Through Environmental Design strategies such as improved lighting and maintenance on healthy retail properties.

Density of Crime Occurrences in North Sacramento May 1 - June 1, 2018
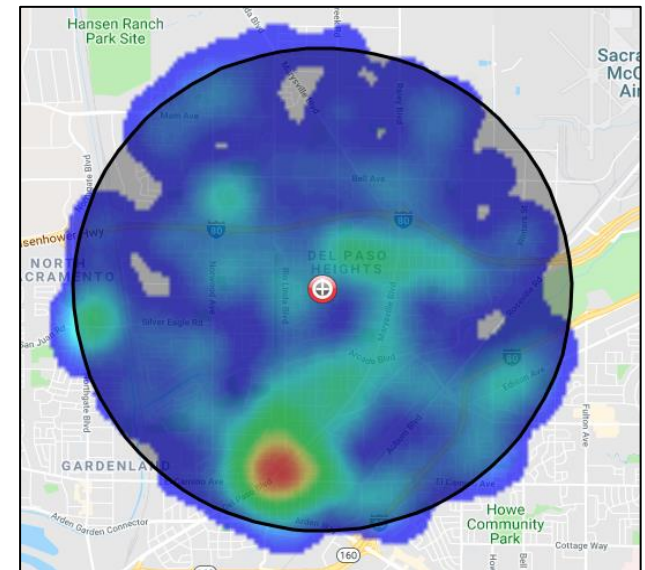
Density of Crime Occurrences in South Sacramento May 1 - June 1, 2018
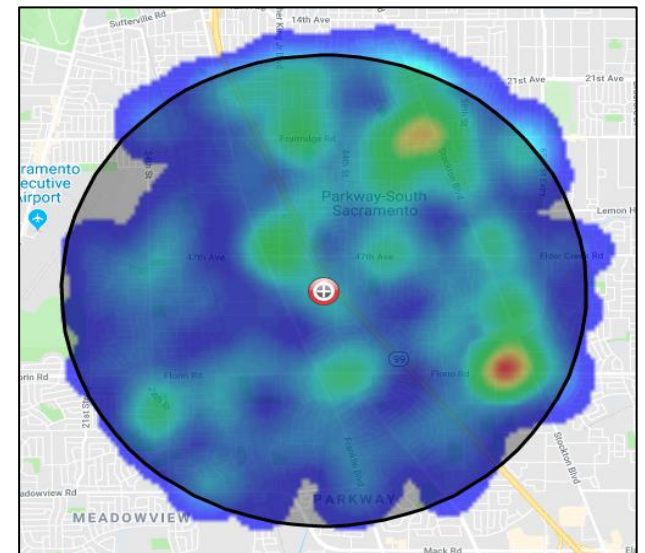
Traffic Safety in the North Sacramento and South Sacramento Priority Census Tracts

Over a five-year span from January 2012 to December 2016, there were 212 reported collisions involving motorists and non-motorists in the North Sacramento priority census tracts and 150 collisions in the South Sacramento priority census tracts. Collisions occurred most frequently along El Camino Avenue, Rio Linda Boulevard, Del Paso Boulevard, Fruitridge Road, Florin Road, and Meadowview Road, which are all high-speed corridors. These streets tend to have four wide travel lanes that facilitate fast moving traffic and create large intersections that increase crossing distances for pedestrians. While there are bike facilities in most places along these streets, the facilities are primarily Class II lanes or Class III shared routes which do not provide adequate separation from high-speed traffic.

Children ages 14 or younger consisted of the highest percentage of collision victims, followed by adults between ages 50-54. The majority of pedestrian collisions occurred due to crossing while not in a crosswalk, followed by crossing in a crosswalk at an intersection and walking in the road or shoulder. Far distances between crosswalks, wide intersections, noncontiguous sidewalks, and prevalence of unmarked crossings may be some of the contributing factors to these collisions.

Table 9: Total Injuries from 2012-2016

|	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
North Sacramento	12	39	76	85	212
South Sacramento	6	20	63	61	150

KEY VULNERABILITIES
- Youth and older adults are more vulnerable to traffic injuries and fatalities.
- Prevalence of high speed arterials and limited crossing opportunities increase risk of pedestrian collisions.
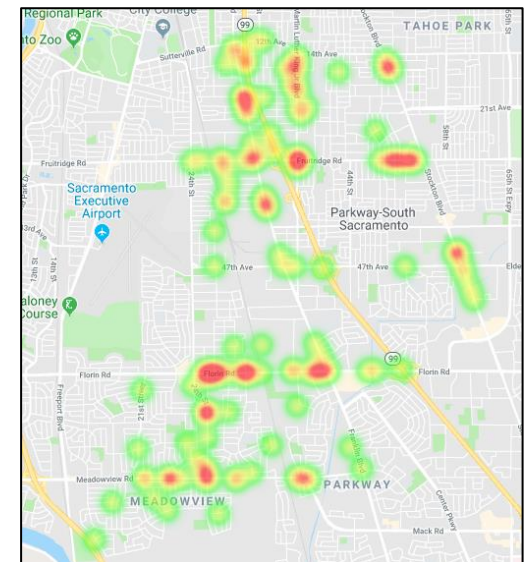
OPPORTUNITIES
- "Eight to eighty" infrastructure approach to create safer environments for children and young adults.
- Traffic calming and safe crossings along routes to healthy and affordable retail.
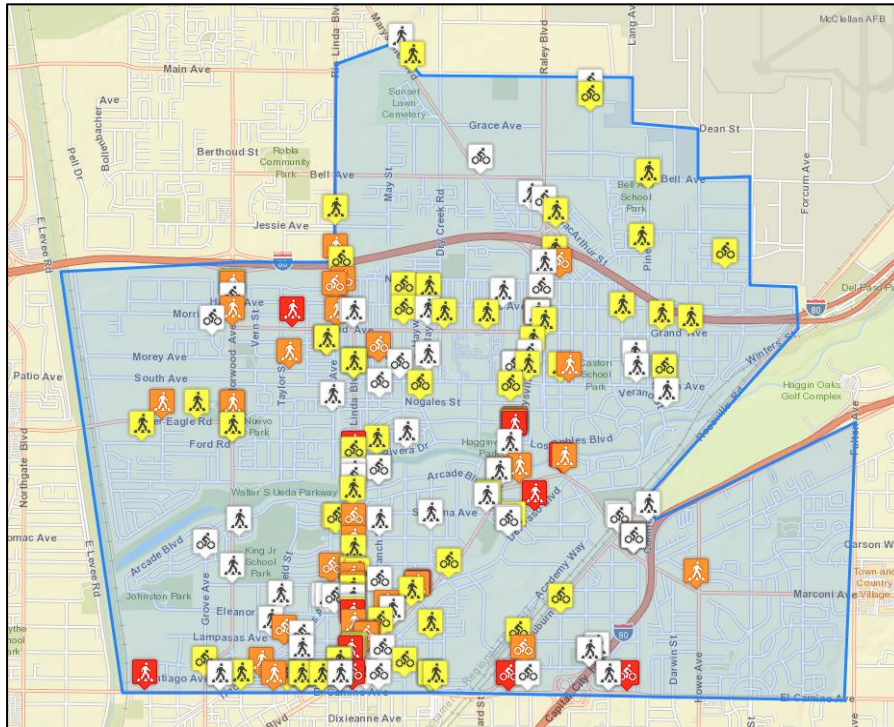

Collision Hotspots in North Sacramento, 2012-2016
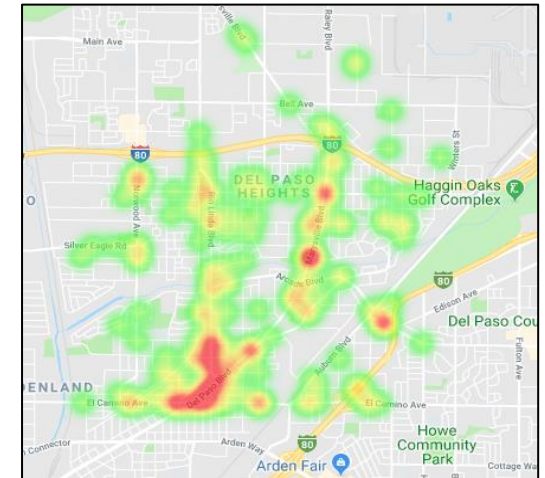
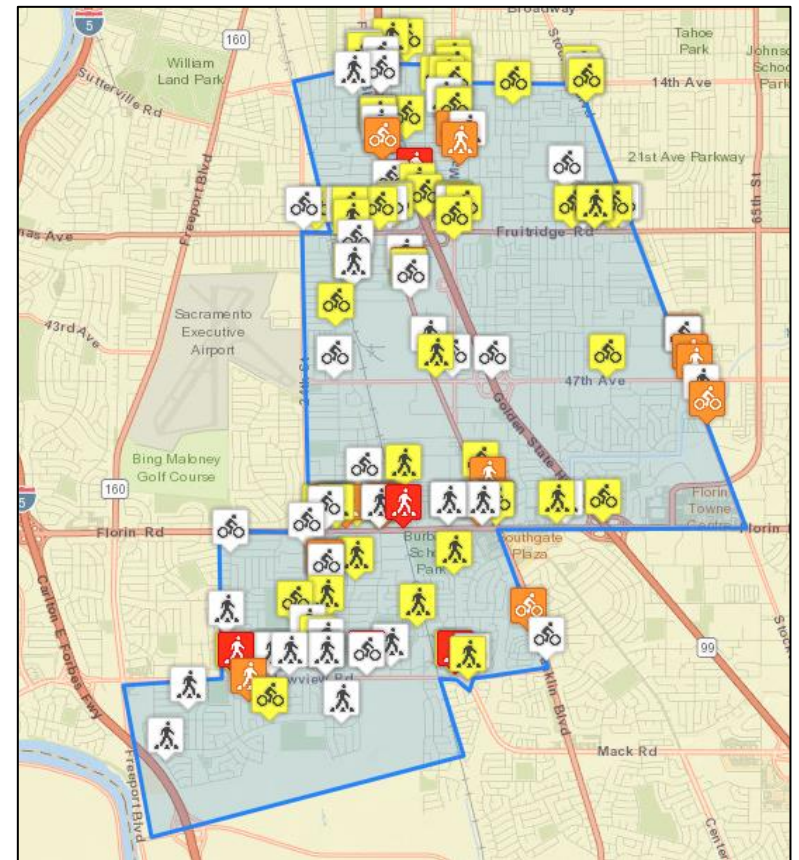
Collision Hotspots in South Sacramento, 2012-2016

Collisions Involving Pedestrians and Bicyclists 2012-2016
Transportation Injury Mapping System

North Sacramento Priority Census Tracts

South Sacramento Priority Census Tracts

Key

🟥	🟧	🟨	⬜	🚶	🚲
Fatal	Severe Injury	Visible Injury	Complaint of Pain	Pedestrian	Bicycle

CONCLUSION

Independent of healthy food access, the North Sacramento and South Sacramento priority census tracts are already vulnerable to poor health outcomes due to a variety of socioeconomic factors and physical environment characteristics. Low-income households are less able to afford healthcare and healthy lifestyles. Low-income households also tend to have lower car ownership and rely on public transit and active transportation more often, yet these communities are built for auto-oriented development and low-density land uses. Limited healthy and affordable retail access only exacerbates poor health outcomes in these communities by restricting opportunities for physical activity.

When looking at healthy retail access through the lens of physical proximity within a one mile radius, it appears at first glance that healthy retail access in these communities is good because most neighborhood are located within one mile of a SNAP-authorized store. However, a more comprehensive understanding of accessibility reveals that ¼ mile is a more appropriate measure of access to stores, especially by active transportation modes. Most SNAP-authorized stores are concentrated along high speed, high volume arterial streets, making active travel to these locations unsafe, uncomfortable, and inconvenient. Additionally, traffic collisions, poor connectivity, and real and perceived personal safety concerns pose significant barriers to access. Lack of affordable healthy food options in neighborhoods combined with an overabundance of unhealthy retail contributes to significant healthy food gaps in these communities. Addressing these barriers has potential to improve equitable healthy retail access and health through increased healthy food consumption and increased physical activity on the way to and from healthy retail.