SOCIAL DETERMINANTS OF HEALTH: INFANT MORTALITY IN OHIO

WHAT ARE THE SOCIAL DETERMINANTS OF HEALTH?

The social determinants of health (SDOH) are defined as the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems that shape these conditions of daily life (1). The SDOH calls us to look beyond the individual and assess the environments that surround them to better understand and improve their health.

DO THE SOCIAL DETERMINANTS OF HEALTH IMPACT MATERNAL AND INFANT HEALTH?

Infant mortality is the rate at which babies die within their first year of life. Black infants are 2.8 times more likely to die in Ohio during their first year of life compared to White infants (2).

Disparities in social determinants of health account for much of the racial and ethnic disparities in infant mortality (3-7). Researchers have linked infant mortality and poor birth outcomes to maternal education, maternal experiences of stress and discrimination, living in poverty, lack of access to healthy foods, lack of stable housing, and lack of access to prenatal/medical care.

Two-thirds of mothers who experienced an infant death in 2019 lived in one of nine Ohio counties; a disproportionate number of these mothers were Black. These nine counties, and two others, are the focus for this Eliminating Disparities Task Force. The counties include Allen, Butler, Cuyahoga, Franklin, Hamilton, Loraine, Lucas, Mahoning, Montgomery, Stark, and Summit counties.

This document contains a profile of the social determinants of health for each of the counties.

HEALTHY PEOPLE 2030 GROUPS SDOH ACROSS 5 DOMAINS:

ECONOMIC STABILITY

This domain includes issues of poverty, employment status, access to employment opportunities, and housing stability (e.g. homelessness, evictions, foreclosure).

EDUCATION ACCESS & QUALITY

This domain includes issues such as high school graduation rates, school policies that support health promotion, school environments that are safe, and conducive to learning and enrollment in higher education.

SOCIAL & COMMUNITY CONTEXT

This domain includes family structure, social cohesion, perceptions of discrimination and equity, civic participation, and incarceration/institutionalization rates.

HEALTHCARE ACCESS & QUALITY

This domain includes access to health services and primary care, access to the health technology that is available, and health insurance.

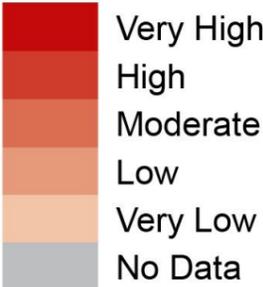### NEIGHBORHOOD & BUILT ENVIRONMENT

This domain includes quality of housing, access to transportation, availability of healthy foods, air and water quality and neighborhood crime and violence.

HEALTH OPPORTUNITY INDEX
FOR THE STATE OF OHIO

Health Opportunity Index

- Very High
- High
- Moderate
- Low
- Very Low
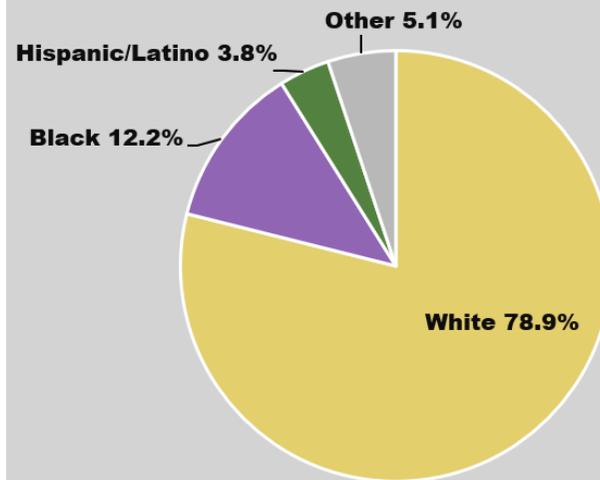- No Data
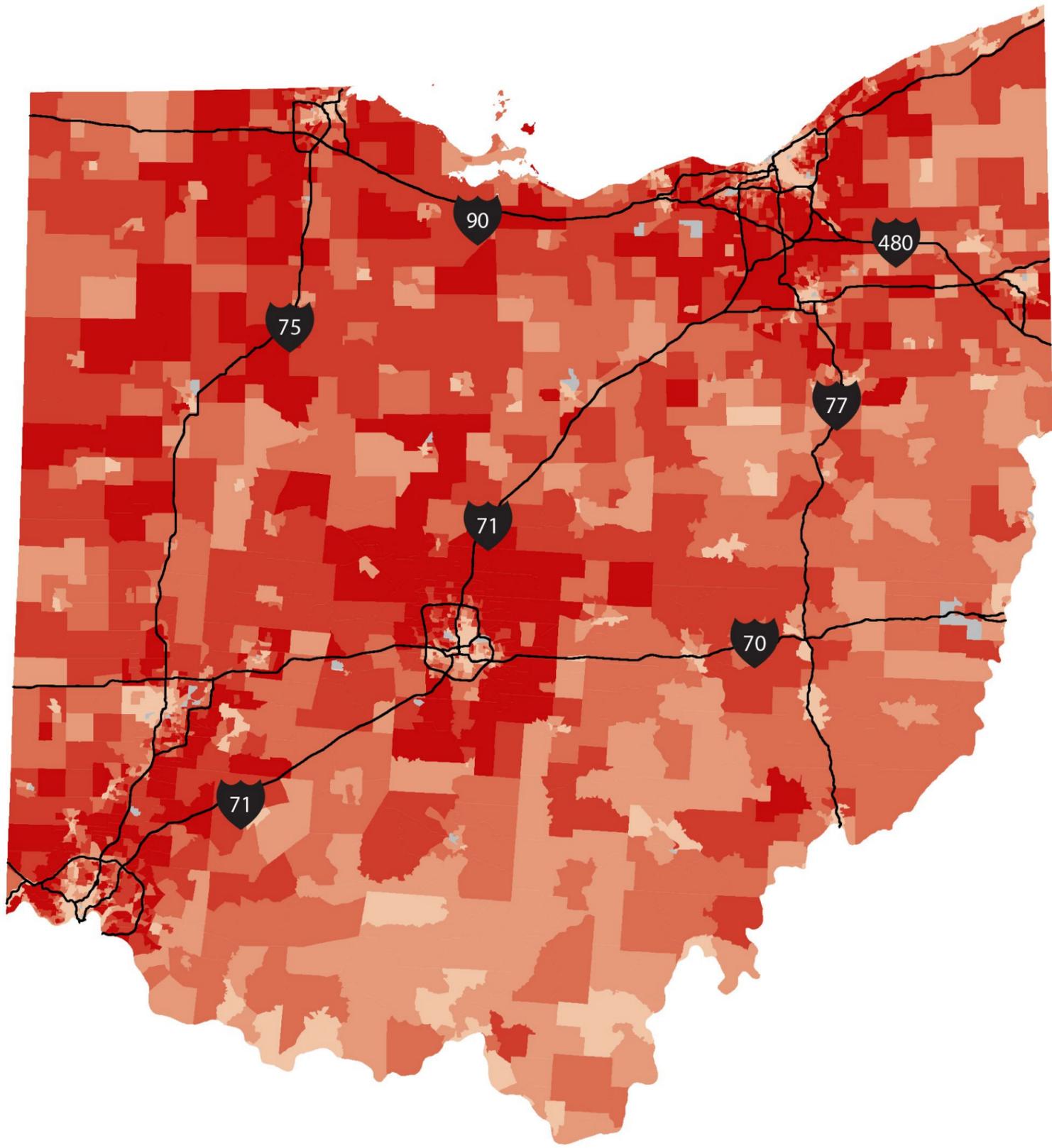
SOCIAL DETERMINANTS IN OHIO

HEALTH OPPORTUNITY INDEX

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.
(More information about the HOI indices can be found in the Appendix.)

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

Other 5.1%
Hispanic/Latino 3.8%
Black 12.2%
White 78.9%

DEMOGRAPHICS

POPULATION	▶	11,655,397
AVERAGE HOUSEHOLD SIZE	▶	2.4
RACIAL & ETHNIC COMPOSITION	▶	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	▶	$61,427 WHITE $33,158 BLACK
UNEMPLOYMENT RATE	▶	3.4%
CHILDREN UNDER 18 LIVING IN POVERTY	▶	19.9%
HOME OWNERSHIP	▶	72.24% WHITE 35.59% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	▶	20.8% RENTERS 6.7% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	▶	8.7% WHITE 14.1% BLACK
HIGH SCHOOL DIPLOMA	▶	33.7% WHITE 32.7% BLACK
BACHELOR'S DEGREE OR HIGHER	▶	29.2% WHITE 17.2% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	▶	6.1%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	▶	76.22
PRENATAL CARE DURING FIRST TRIMESTER	▶	71.3% WHITE 60.7% BLACK

INFANT HEALTH

PRETERM BIRTHS	▶	9.6% WHITE 13.9% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	▶	5.3 WHITE 14.6 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

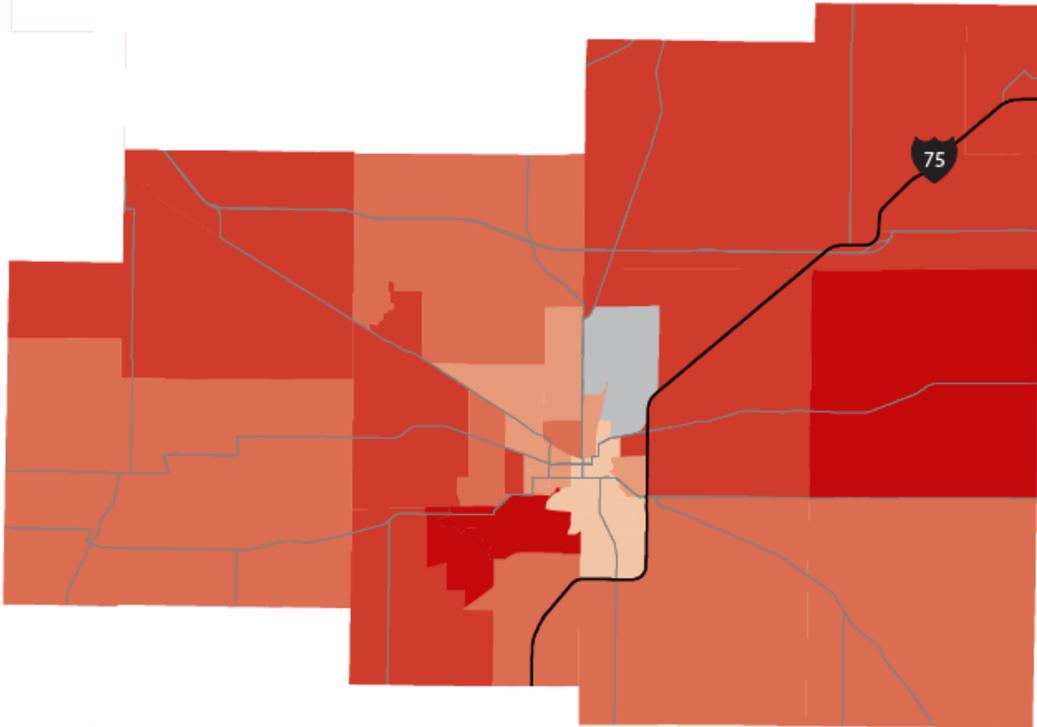|		
VACANCY RATE OF HOUSING UNITS	▶	10.1%
NO ACCESS TO A VEHICLE	▶	8.0%
AVERAGE COMMUTE TIME TO WORK	▶	24 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE (PER 100,000 POPULATION)	▶	299.8
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	▶	67

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS
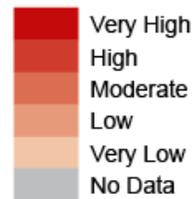
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SOCIAL DETERMINANTS IN ALLEN COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

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Racial & Ethnic Composition (Pie Chart)
- Other 4.4%
- Hispanic/Latino 3.1%
- Black 11.8%
- White 80.7%

DEMOGRAPHICS

POPULATION	103,175
AVERAGE HOUSEHOLD SIZE	2.44
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$56,833 WHITE $28,988 BLACK
UNEMPLOYMENT RATE	6.6%
CHILDREN UNDER 18 LIVING IN POVERTY	20.6%
HOME OWNERSHIP	73.02% WHITE 37.37% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	22.0% RENTERS 5.4% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	8.3% WHITE 15.7% BLACK
HIGH SCHOOL DIPLOMA	39.4% WHITE 39.6% BLACK
BACHELOR'S DEGREE OR HIGHER	19.9% WHITE 10.4% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	8.7%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	65.89
PRENATAL CARE DURING FIRST TRIMESTER	71.8% WHITE 57.2% BLACK

INFANT HEALTH

PRETERM BIRTHS	9.4% WHITE 15.1% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	6.0 WHITE 11.8 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	9.8%
NO ACCESS TO A VEHICLE	8.0%
AVERAGE COMMUTE TIME TO WORK	20 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE (PER 100,000 POPULATION)	395.33
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	53

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

SOCIAL DETERMINANTS IN BUTLER COUNTY
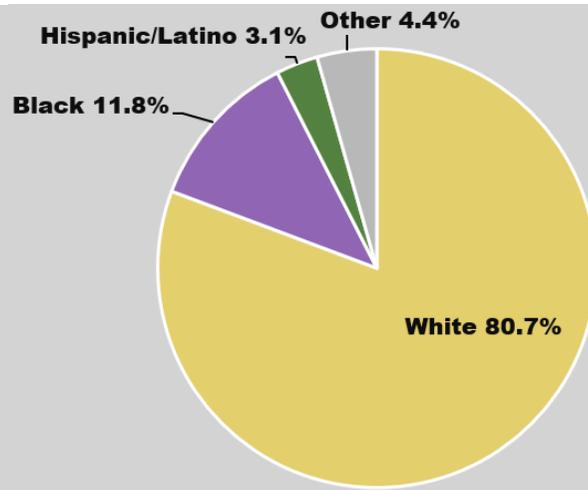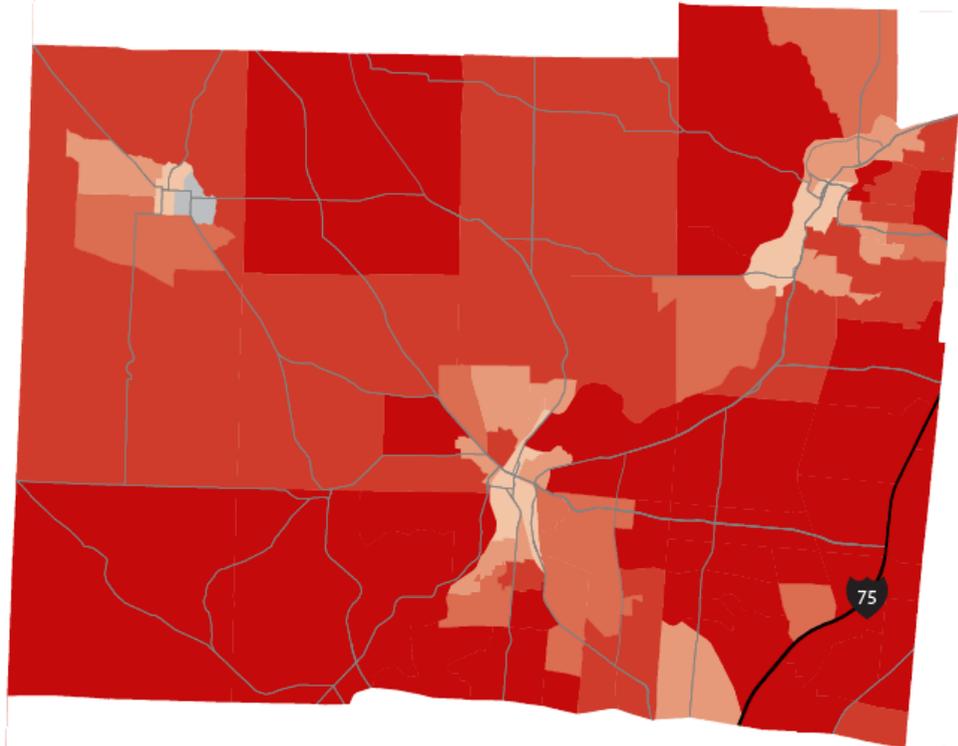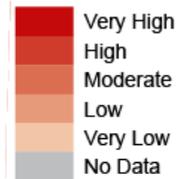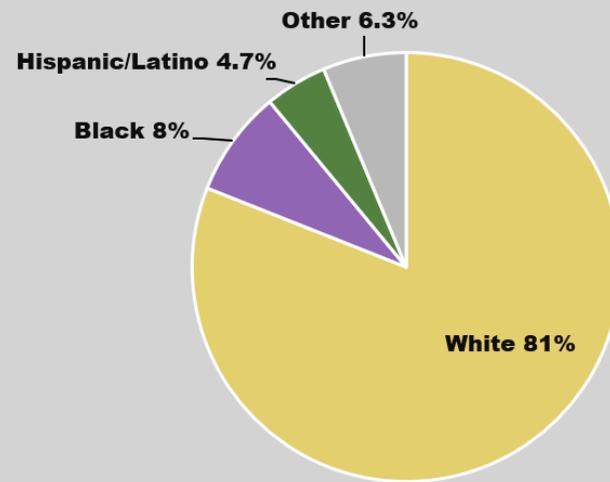
HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

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Racial & Ethnic Composition

- White 81%
- Black 8%
- Hispanic/Latino 4.7%
- Other 6.3%

DEMOGRAPHICS

POPULATION	380,019
AVERAGE HOUSEHOLD SIZE	2.65
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$68,440 WHITE $48,840 BLACK
UNEMPLOYMENT RATE	6.2%
CHILDREN UNDER 18 LIVING IN POVERTY	16.3%
HOME OWNERSHIP	72.02% WHITE 41.40% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	22.1% RENTERS 6.3% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	8.8% WHITE 9.5% BLACK
HIGH SCHOOL DIPLOMA	33.9% WHITE 30.7% BLACK
BACHELOR'S DEGREE OR HIGHER	29.8% WHITE 29.6% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	5.6%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	54.12
PRENATAL CARE DURING FIRST TRIMESTER	69.4% WHITE 63.7% BLACK

INFANT HEALTH

PRETERM BIRTHS	10.2% WHITE 13.3% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	5.2 WHITE 17.1 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

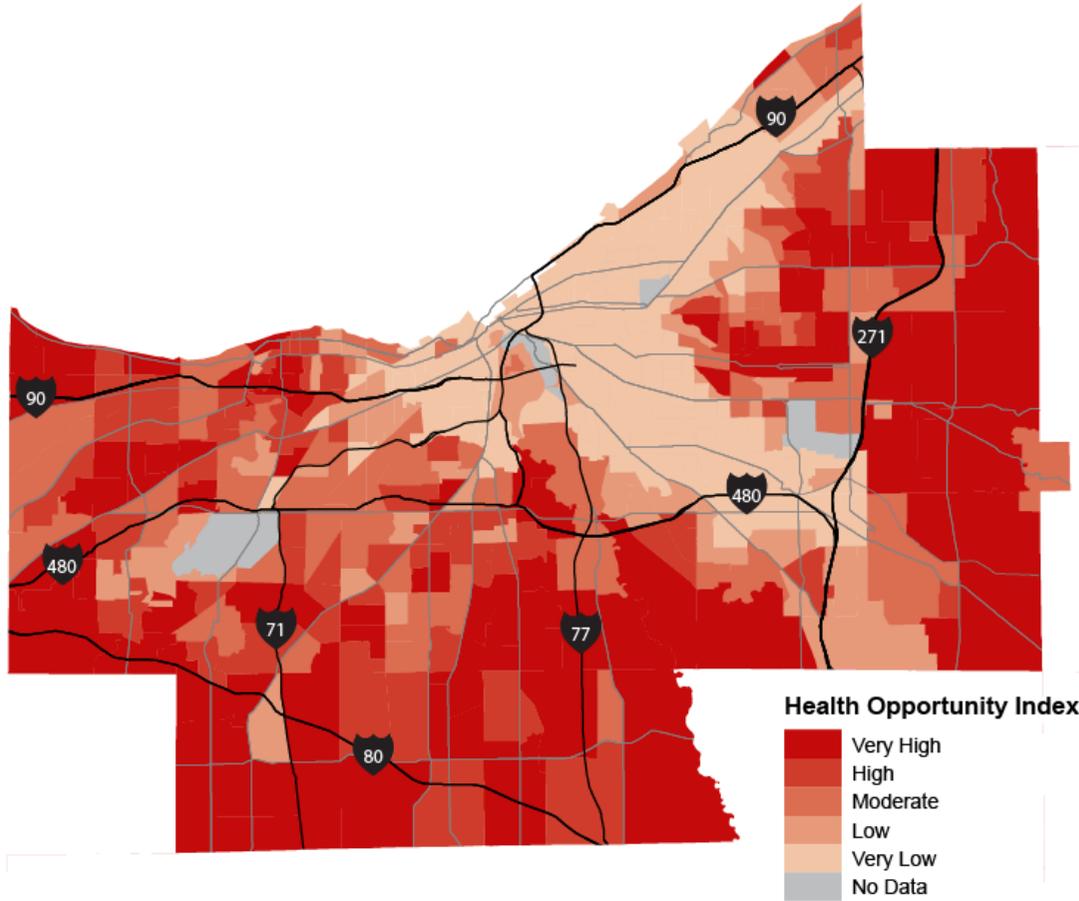|	
VACANCY RATE OF HOUSING UNITS	8.4%
NO ACCESS TO A VEHICLE	5.2%
AVERAGE COMMUTE TIME TO WORK	25 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	270.01
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	41

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS
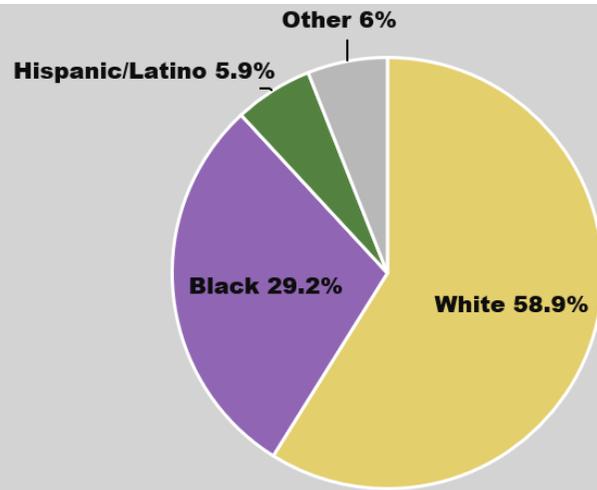
SOCIAL DETERMINANTS IN CUYAHOGA COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

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Pie chart:
- Other 6%
- Hispanic/Latino 5.9%
- Black 29.2%
- White 58.9%

DEMOGRAPHICS

POPULATION	1,247,451
AVERAGE HOUSEHOLD SIZE	2.25
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$62,176 WHITE $31,123 BLACK
UNEMPLOYMENT RATE	6.1%
CHILDREN UNDER 18 LIVING IN POVERTY	25.5%
HOME OWNERSHIP	70.68% WHITE 36.31% BLACK
EXTREME HOUSING COST BURDEN (SPEND 50% OR MORE OF INCOME ON HOUSING)	23.7% RENTERS 8.4% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	7.6% WHITE 14.9% BLACK
HIGH SCHOOL DIPLOMA	26.7% WHITE 32.3% BLACK
BACHELOR'S DEGREE OR HIGHER	38.9% WHITE 15.1% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	5.4%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	111.17
PRENATAL CARE DURING FIRST TRIMESTER	77.5% WHITE 63.5% BLACK

INFANT HEALTH

PRETERM BIRTHS	9.2% WHITE 14.8% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	3.9 WHITE 15.9 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

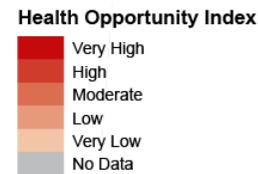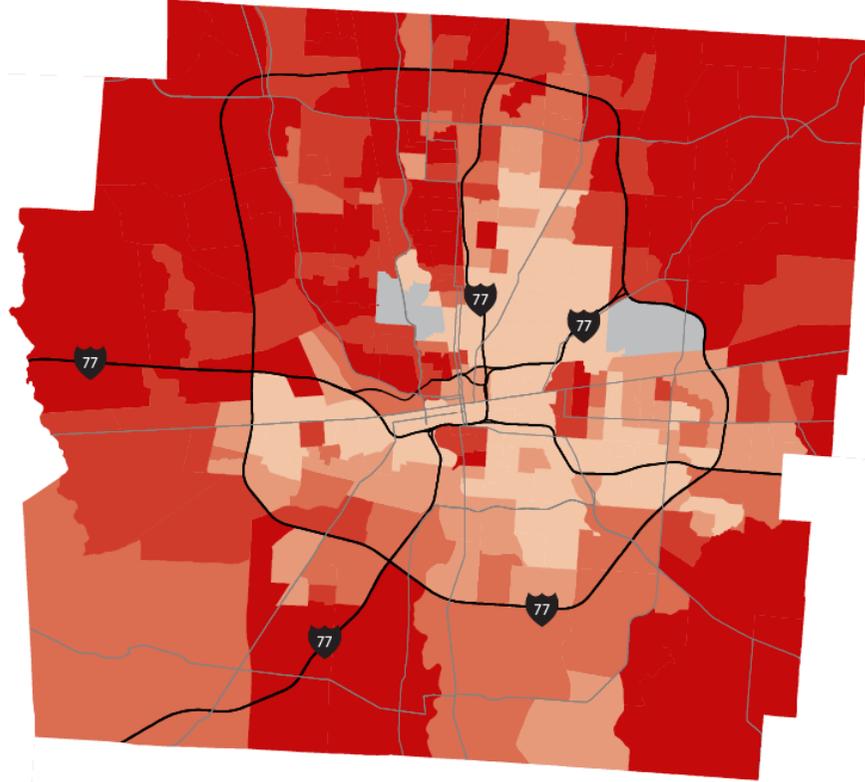|	
VACANCY RATE OF HOUSING UNITS	12.5%
NO ACCESS TO A VEHICLE	12.8%
AVERAGE COMMUTE TIME TO WORK	24 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	654.99
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	72

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS
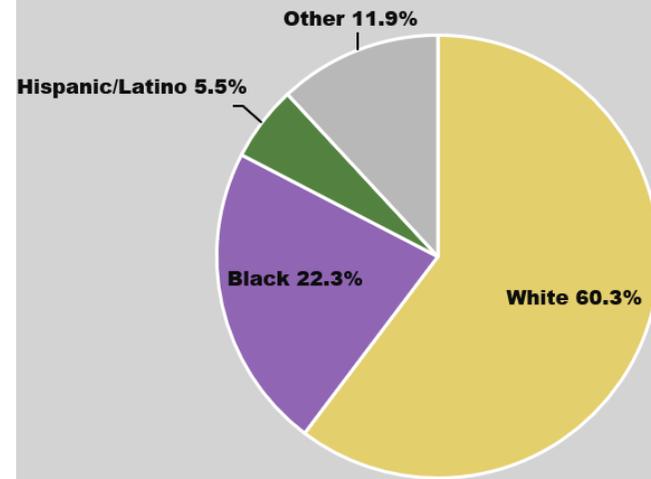
SOCIAL DETERMINANTS IN FRANKLIN COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

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- Other 11.9%
- Hispanic/Latino 5.5%
- Black 22.3%
- White 60.3%

DEMOGRAPHICS

POPULATION	▷	1,290,360
AVERAGE HOUSEHOLD SIZE	▷	2.47
RACIAL & ETHNIC COMPOSITION	▷	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	▷	$70,353 WHITE $38,664 BLACK
UNEMPLOYMENT RATE	▷	7.6%
CHILDREN UNDER 18 LIVING IN POVERTY	▷	22.7%
HOME OWNERSHIP	▷	62.58% WHITE 31.96% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	▷	20.5% RENTERS 7% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	▷	7% WHITE 12.6% BLACK
HIGH SCHOOL DIPLOMA	▷	23.1% WHITE 32.4% BLACK
BACHELOR'S DEGREE OR HIGHER	▷	44.6% WHITE 21% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	▷	7.6%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	▷	100.39
PRENATAL CARE DURING FIRST TRIMESTER	▷	76.7% WHITE 58.9% BLACK

INFANT HEALTH

PRETERM BIRTHS	▷	9.6% WHITE 13.6% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	▷	5.3 WHITE 12.6 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	▷	7.9%
NO ACCESS TO A VEHICLE	▷	7.4%
AVERAGE COMMUTE TIME TO WORK	▷	22 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	▷	422.59
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	▷	55

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

SOCIAL DETERMINANTS IN HAMILTON COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

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Racial & Ethnic Composition (Pie Chart)
- White 65.2%
- Black 25.4%
- Hispanic/Latino 3.3%
- Other 6.1%

DEMOGRAPHICS

POPULATION	813,589
AVERAGE HOUSEHOLD SIZE	2.33
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$69,579 WHITE $32,166 BLACK
UNEMPLOYMENT RATE	6.2%
CHILDREN UNDER 18 LIVING IN POVERTY	23.4%
HOME OWNERSHIP	69.30% WHITE 32.69% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	23.2% RENTERS 7.9% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	6.5% WHITE 13.9% BLACK
HIGH SCHOOL DIPLOMA	24.7% WHITE 33% BLACK
BACHELOR'S DEGREE OR HIGHER	43.8% WHITE 17.8% BLACK

HEALTHCARE ACCESS & QUALITY

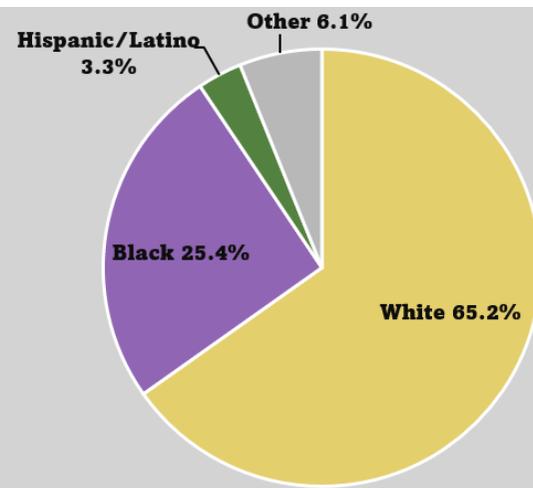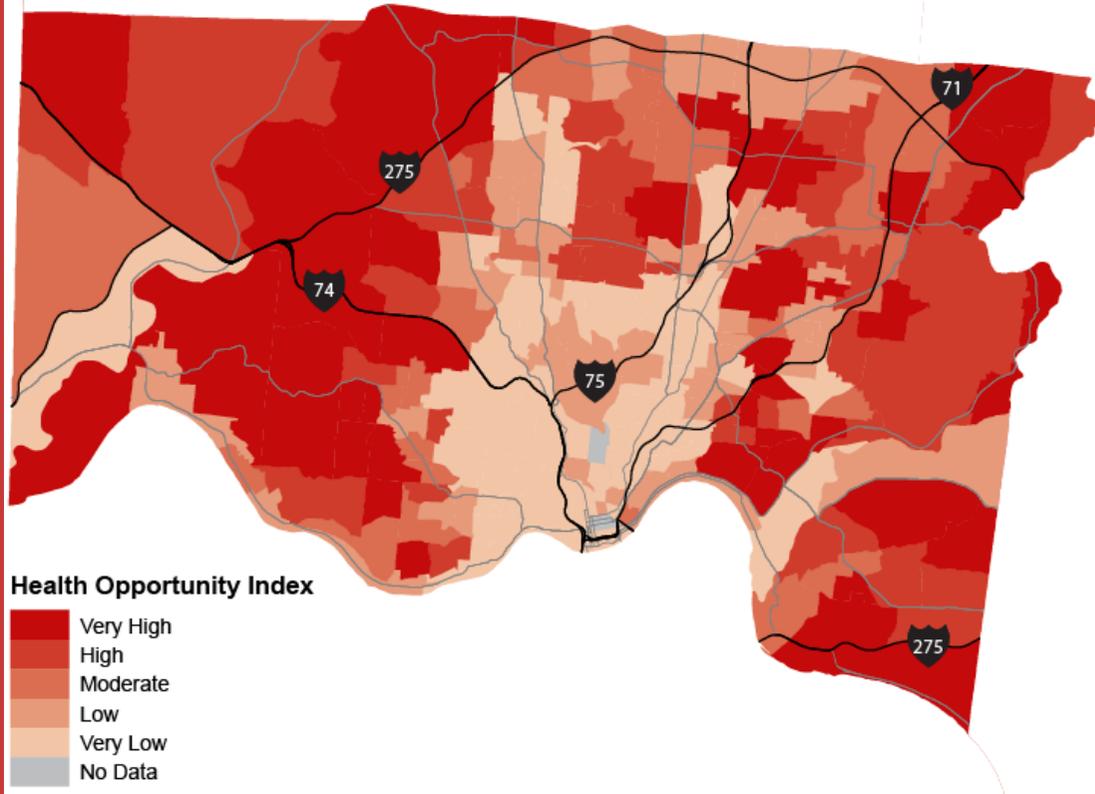|	
NO HEALTH INSURANCE COVERAGE	5.7%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	110.22
PRENATAL CARE DURING FIRST TRIMESTER	71.1% WHITE 62.1% BLACK

INFANT HEALTH

PRETERM BIRTHS	9.1% WHITE 13.5% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	4.8 WHITE 16.6 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	9.9%
NO ACCESS TO A VEHICLE	11.3%
AVERAGE COMMUTE TIME TO WORK	24 MINUTES

SOCIAL & CONTEXT

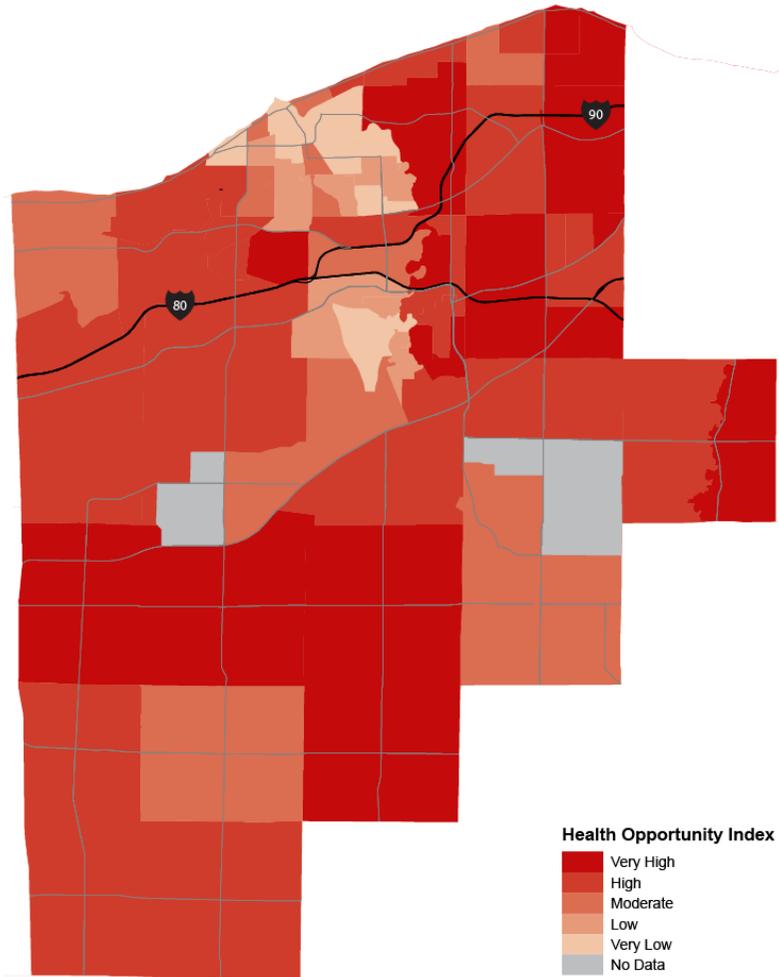|	
VIOLENT CRIME RATE PER 100,000 POPULATION	468.48
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	62

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

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SOCIAL DETERMINANTS IN LORAIN COUNTY
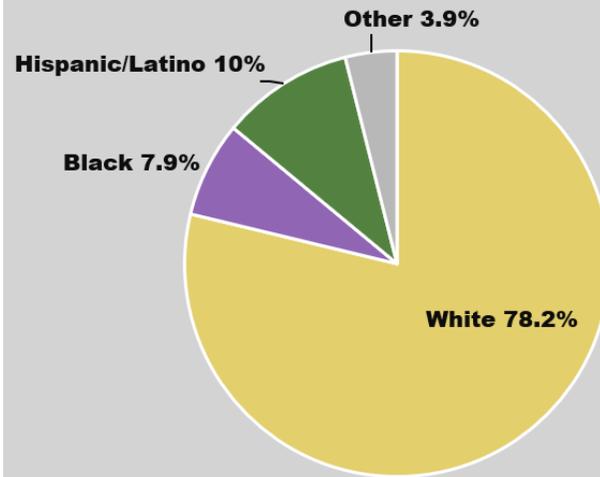
HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

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- Other 3.9%
- Hispanic/Latino 10%
- Black 7.9%
- White 78.2%

DEMOGRAPHICS

POPULATION	307,670
AVERAGE HOUSEHOLD SIZE	2.48
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$61,601 WHITE $31,432 BLACK
UNEMPLOYMENT RATE	6.7%
CHILDREN UNDER 18 LIVING IN POVERTY	20.6%
HOME OWNERSHIP	78.12% WHITE 37.98% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	24.1% RENTERS 6.7% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	9.5% WHITE 16% BLACK
HIGH SCHOOL DIPLOMA	31.7% WHITE 29% BLACK
BACHELOR'S DEGREE OR HIGHER	25.7% WHITE 13.5% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	5.1%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	52.94
PRENATAL CARE DURING FIRST TRIMESTER	69.1% WHITE 48.7% BLACK

BIRTH OUTCOMES & INFANT HEALTH

PRETERM BIRTHS	10.5% WHITE 12.3% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	4.5 WHITE 14.3 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

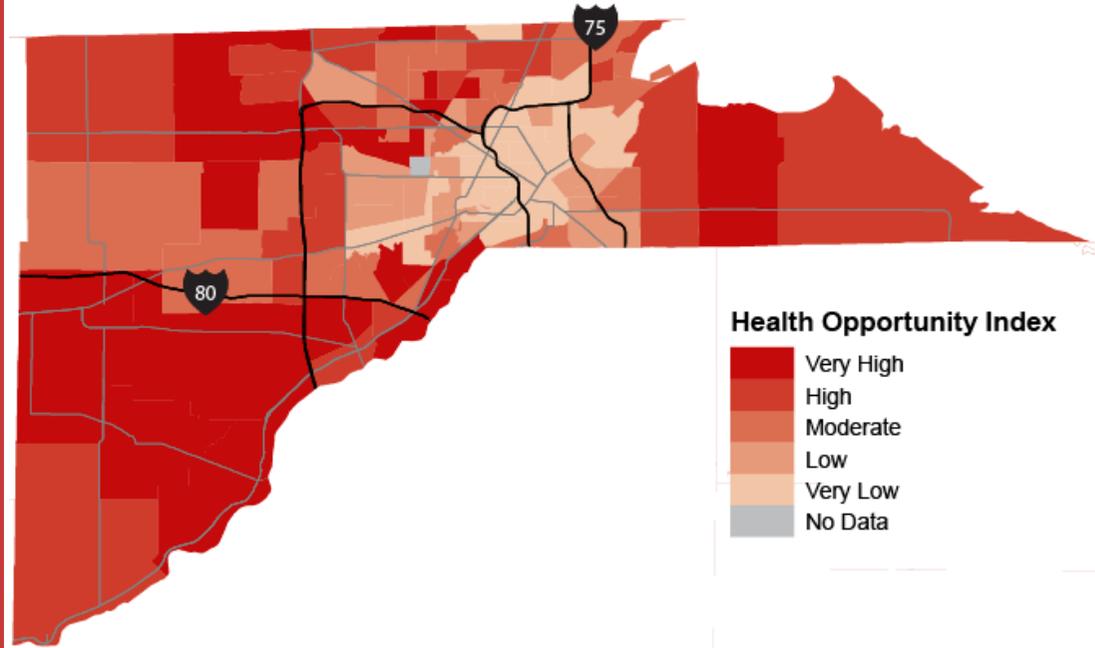|	
VACANCY RATE OF HOUSING UNITS	8.3%
NO ACCESS TO A VEHICLE	6.8%
AVERAGE COMMUTE TIME TO WORK	25 MINUTES

SOCIAL & CONTEXT

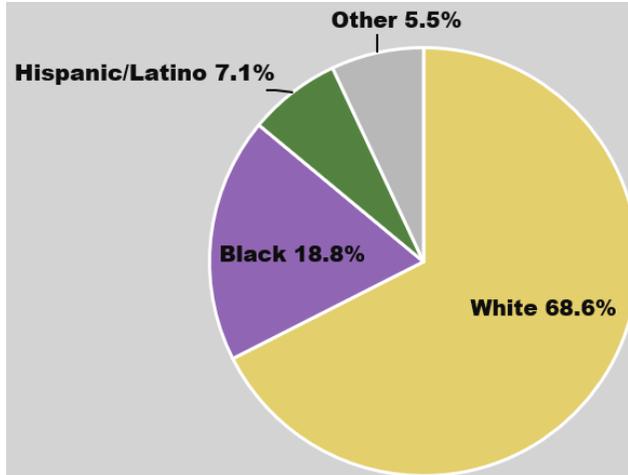|	
VIOLENT CRIME RATE PER 100,000 POPULATION	163.67
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	54

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

SOCIAL DETERMINANTS IN LUCAS COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

Racial & Ethnic Composition (Pie Chart)
- Other 5.5%
- Hispanic/Latino 7.1%
- Black 18.8%
- White 68.6%

DEMOGRAPHICS

POPULATION	431,102
AVERAGE HOUSEHOLD SIZE	2.34
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

INFANT HEALTH

PRETERM BIRTHS	10.1% WHITE 14.9% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	6.0 WHITE 15.7 BLACK

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$56,687 WHITE $27,445 BLACK
UNEMPLOYMENT RATE	6.7%
CHILDREN UNDER 18 LIVING IN POVERTY	26.5%
HOME OWNERSHIP	69.26% WHITE 32.39% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	21.5% RENTERS 7.9% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	8.2% WHITE 19.3% BLACK
HIGH SCHOOL DIPLOMA	29.7% WHITE 31.3% BLACK
BACHELOR'S DEGREE OR HIGHER	25.7% WHITE 13.5% BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	11.5%
NO ACCESS TO A VEHICLE	10.2%
AVERAGE COMMUTE TIME TO WORK	21 MINUTES

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	6%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	91.90
PRENATAL CARE DURING FIRST TRIMESTER	71.6% WHITE 49% BLACK

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	824.39
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	56

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

SOCIAL DETERMINANTS IN MAHONING COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

Racial & Ethnic Composition (Pie Chart)
- Other 6.5%
- Hispanic/Latino 6%
- Black 14.6%
- White 76%

DEMOGRAPHICS

POPULATION	▷	229,961
AVERAGE HOUSEHOLD SIZE	▷	2.27
RACIAL & ETHNIC COMPOSITION	▷	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	▷	$51,295 WHITE $25,892 BLACK
UNEMPLOYMENT RATE	▷	5.9
CHILDREN UNDER 18 LIVING IN POVERTY	▷	27.8%
HOME OWNERSHIP	▷	75.02% WHITE 40.79% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	▷	20% RENTERS 6.5% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	▷	7.5% WHITE 16.1% BLACK
HIGH SCHOOL DIPLOMA	▷	38% WHITE 31.3% BLACK
BACHELOR'S DEGREE OR HIGHER	▷	26.5% WHITE 10.4% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	▷	4.7%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	▷	103.13
PRENATAL CARE DURING FIRST TRIMESTER	▷	81.6% WHITE 74.4% BLACK

INFANT HEALTH

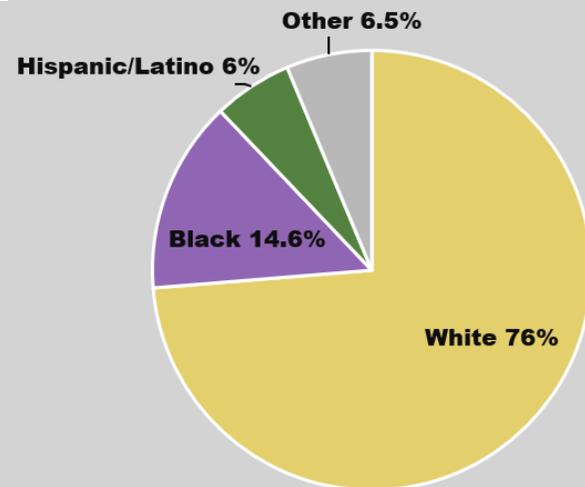|		
PRETERM BIRTHS	▷	11.4% WHITE 19.2% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	▷	4.2 WHITE 16.4 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	▷	11.6%
NO ACCESS TO A VEHICLE	▷	8.5%
AVERAGE COMMUTE TIME TO WORK	▷	22 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	▷	278.90
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	▷	66

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

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SOCIAL DETERMINANTS IN MONTGOMERY COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

- Other 6%
- Hispanic/Latino 3%
- Black 20.3%
- White 70.7%

DEMOGRAPHICS

POPULATION	▶	531,670
AVERAGE HOUSEHOLD SIZE	▶	2.29
RACIAL & ETHNIC COMPOSITION	▶	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	▶	$58,205 WHITE $32,140 BLACK
UNEMPLOYMENT RATE	▶	6.8%
CHILDREN UNDER 18 LIVING IN POVERTY	▶	25.2%
HOME OWNERSHIP	▶	68.93% WHITE 38.86% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	▶	21.1% RENTERS 7.2% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	▶	8.7% WHITE 13.4% BLACK
HIGH SCHOOL DIPLOMA	▶	38% WHITE 37.1% BLACK
BACHELOR'S DEGREE OR HIGHER	▶	29.3% WHITE 19.6% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	▶	6.6%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	▶	93.50
PRENATAL CARE DURING FIRST TRIMESTER	▶	70.2% WHITE 60.6% BLACK

INFANT HEALTH

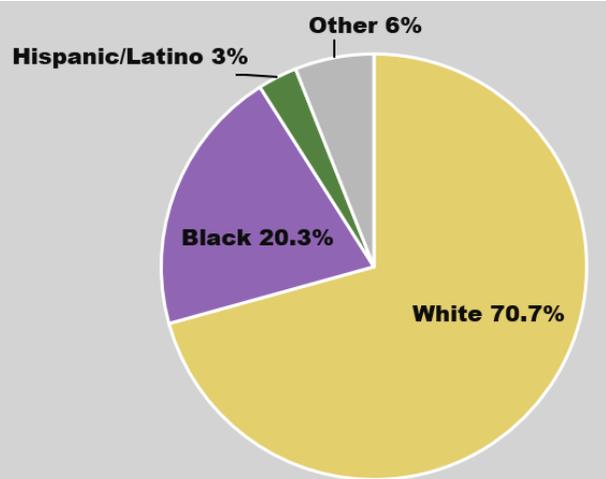|		
PRETERM BIRTHS	▶	9.7% WHITE 14% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	▶	5.5 WHITE 13.5 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

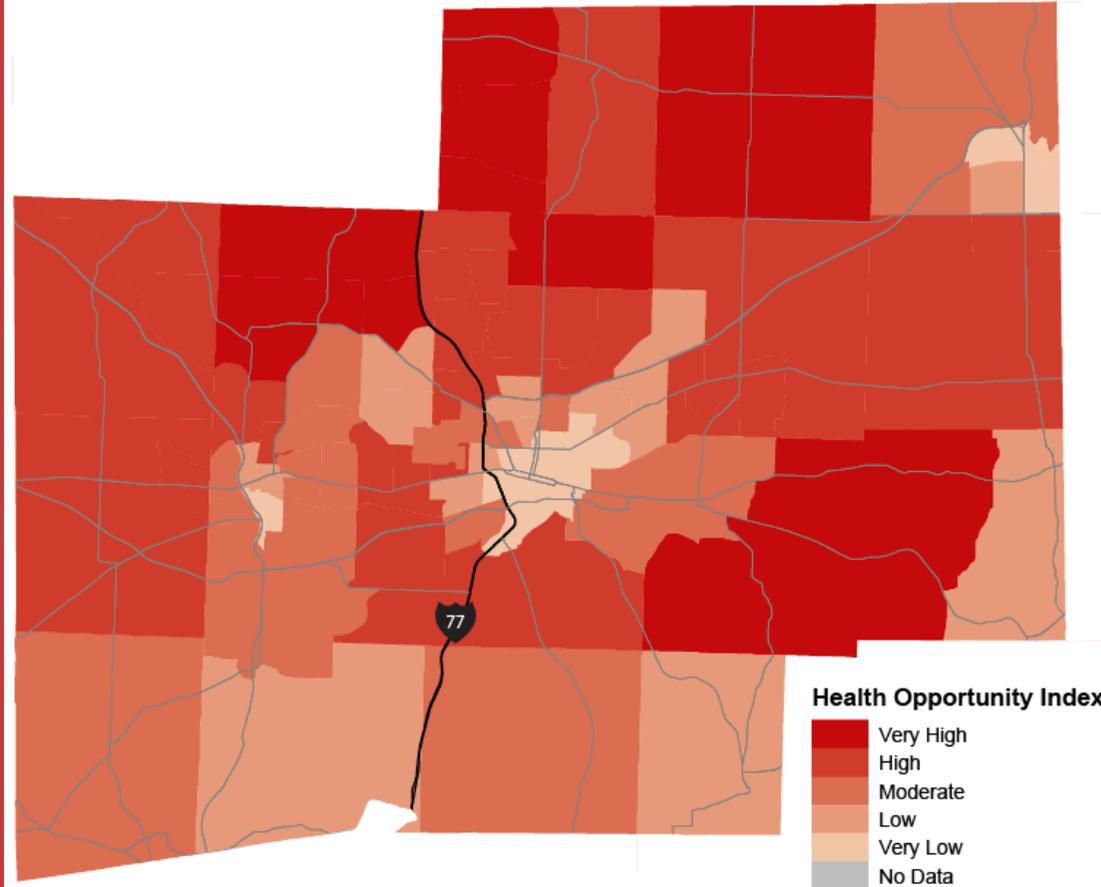|		
VACANCY RATE OF HOUSING UNITS	▶	12%
NO ACCESS TO A VEHICLE	▶	9.5%
AVERAGE COMMUTE TIME TO WORK	▶	22 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	▶	399.29
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	▶	66

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS
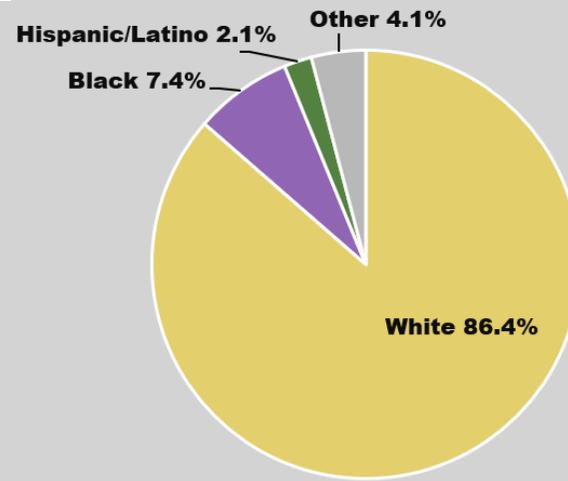
SOCIAL DETERMINANTS IN STARK COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data

Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

Hispanic/Latino 2.1%
Other 4.1%
Black 7.4%
White 86.4%

DEMOGRAPHICS

POPULATION	372,404
AVERAGE HOUSEHOLD SIZE	2.37
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$56,918 WHITE $26,504 BLACK
UNEMPLOYMENT RATE	6.5%
CHILDREN UNDER 18 LIVING IN POVERTY	21.4%
HOME OWNERSHIP	72.21% WHITE 32.98% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	19% RENTERS 5.6% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	7.7% WHITE 13.7% BLACK
HIGH SCHOOL DIPLOMA	38.6% WHITE 38% BLACK
BACHELOR'S DEGREE OR HIGHER	23.6% WHITE 11.2% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	5.7%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	80.26
PRENATAL CARE DURING FIRST TRIMESTER	68.0% WHITE 56.7% BLACK

INFANT HEALTH

PRETERM BIRTHS	9% WHITE 10.5% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	6.4 WHITE 11.2 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

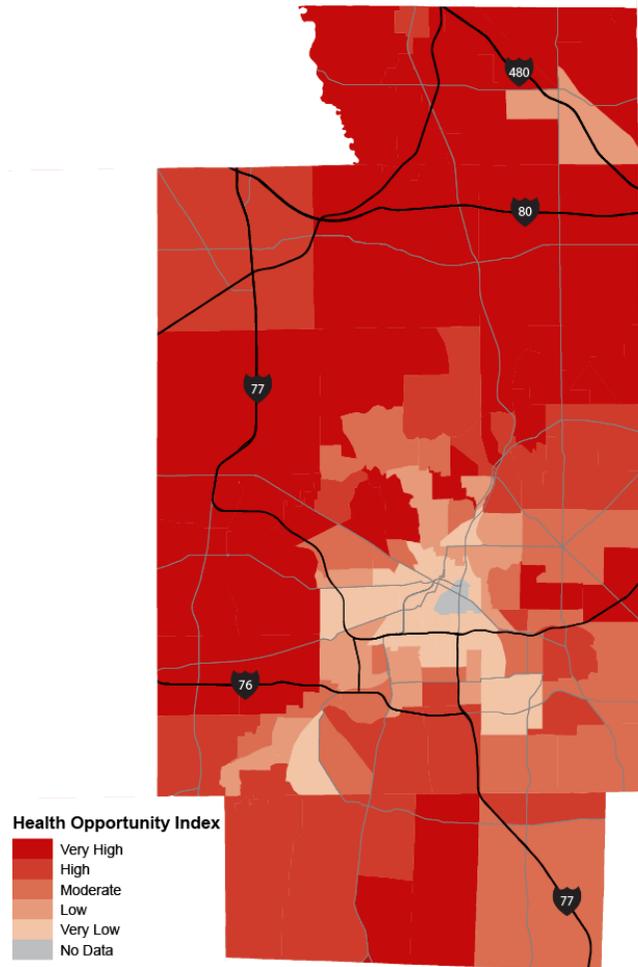|	
VACANCY RATE OF HOUSING UNITS	8%
NO ACCESS TO A VEHICLE	7.0%
AVERAGE COMMUTE TIME TO WORK	22 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	327.60
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	56

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

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SOCIAL DETERMINANTS IN SUMMIT COUNTY

HEALTH OPPORTUNITY INDEX

Health Opportunity Index
- Very High
- High
- Moderate
- Low
- Very Low
- No Data
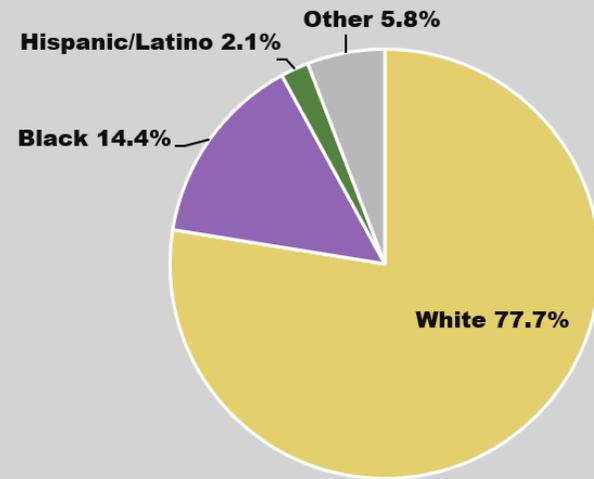
Health Opportunity Index (HOI) is a tool to understand the impact of social determinants of health on health outcomes (8). HOI scores are calculated for each census tract using 13 indices: affordability, income inequality, Townsend Deprivation, job participation, employment access, education, population churning, population-weighted density, segregation, food accessibility, walkability, access to care, and environmental quality index.

HOI provides public health practitioners, policy makers, and local organizations with a tool to assess the social determinants of health at the census tract level. The map above depicts the HOI for the county. Census tracts with darker colors indicate areas with higher health opportunity level.

- Other 5.8%
- Hispanic/Latino 2.1%
- Black 14.4%
- White 77.7%

DEMOGRAPHICS

POPULATION	541,334
AVERAGE HOUSEHOLD SIZE	2.37
RACIAL & ETHNIC COMPOSITION	REFER TO PIE CHART

ECONOMIC STABILITY

MEDIAN HOUSEHOLD INCOME	$62,863 WHITE $31,657 BLACK
UNEMPLOYMENT RATE	6%
CHILDREN UNDER 18 LIVING IN POVERTY	19.2%
HOME OWNERSHIP	72.58% WHITE 36.71% BLACK
EXTREME HOUSING COST BURDEN (SPENDS 50% OR MORE OF INCOME ON HOUSING)	21.6% RENTERS 6.7% HOMEOWNERS

EDUCATION ACCESS & QUALITY

LESS THAN HIGH SCHOOL EDUCATION	6.8% WHITE 11.9% BLACK
HIGH SCHOOL DIPLOMA	30.1% WHITE 33.3% BLACK
BACHELOR'S DEGREE OR HIGHER	30.5% WHITE 16.1% BLACK

HEALTHCARE ACCESS & QUALITY

NO HEALTH INSURANCE COVERAGE	5.7%
PRIMARY CARE PHYSICIANS (PCP) RATE PER 100,000 POPULATION	94.78
PRENATAL CARE DURING FIRST TRIMESTER	74% WHITE 62.5% BLACK

INFANT HEALTH

PRETERM BIRTHS	9.4% WHITE 13.5% BLACK
MORTALITY RATE (PER 1,000 LIVE BIRTHS)	4.1 WHITE 15.2 BLACK

NEIGHBORHOOD & BUILT ENVIRONMENT

VACANCY RATE OF HOUSING UNITS	8.6%
NO ACCESS TO A VEHICLE	8.5%
AVERAGE COMMUTE TIME TO WORK	23 MINUTES

SOCIAL & CONTEXT

VIOLENT CRIME RATE PER 100,000 POPULATION	328.71
BLACK/WHITE RESIDENTIAL SEGREGATION INDEX*	58

* INDEX OF DISSIMILARITY WHERE HIGHER VALUES INDICATE GREATER RESIDENTIAL SEGREGATION BETWEEN BLACK AND WHITE COUNTY RESIDENTS

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COUNTY COMPARISONS

	Indicator	Allen	Butler	Cuyahoga	Franklin	Hamilton	Lorain
Infant Health	Preterm Birth	W (+) B (-)	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (-) B (+)
	Infant Mortality	W (-) B (+)	W (+) B (-)	W (+) B (-)	W (+) B (+)	W (+) B (-)	W (+) B (+)
Economic Stability	Median Household Income	W (-) B (-)	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (+) B (-)
	Unemployment Rate	(-)	(-)	(-)	(-)	(-)	(-)
	Children Under 18 Living in Poverty	(-)	(+)	(-)	(-)	(-)	(+)
	Home Ownership	W (+) B (+)	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (-) B (-)	W (+) B (+)
	Extreme Housing Cost Burden	R (-) H (-)	R (+) H (+)	R (-) H (-)	R (+) H (+)	R (-) H (-)	R (-) H (+)
Education Access & Quality	Less than High School education	W (-) B (+)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (-) B (-)
	High School Diploma	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (-) B (-)
	Bachelor's Degree or Higher	W (-) B (-)	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (-) B (-)
Neighborhood & Built Environment	Vacancy Rate of Housing Units	(-)	(+)	(+)	(+)	(+)	(+)
	No Access to a Vehicle	(-)	(+)	(-)	(+)	(-)	(+)
	Average Commute Time to Work	(-)	(-)	(+)	(+)	(+)	(-)
Healthcare Access & Quality	No Health Insurance Coverage	(-)	(+)	(+)	(-)	(+)	(+)
	Primary Care Physicians Rate	(-)	(-)	(+)	(+)	(+)	(-)
	Prenatal Care during First Trimester	W (+) B (-)	W (-) B (+)	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (-) B (-)
Social & Context	Violent Crime Rate	(-)	(+)	(-)	(-)	(-)	(+)
	Black/White Residential Segregation Rate	(+)	(+)	(-)	(+)	(+)	(+)

	Indicator	Lucas	Mahoning	Montgomery	Stark	Summit
Infant Health	Preterm Birth	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (+) B (+)
	Infant Mortality	W (-) B (-)	W (+) B (-)	W (+) B (-)	W (-) B (+)	W (+) B (-)
Economic Stability	Median Household Income	W (-) B (-)	W (+) B (+)	W (-) B (-)	W (-) B (-)	W (+) B (-)
	Unemployment Rate	(-)	(-)	(-)	(-)	(-)
	Children Under 18 Living in Poverty	(-)	(+)	(-)	(-)	(+)
	Home Ownership	W (+) B (+)	W (+) B (+)	W (-) B (+)	W (+) B (-)	W (+) B (+)
	Extreme Housing Cost Burden	R (-) H (-)	R (+) H (+)	R (+) H (-)	R (+) H (+)	R (-) H (+)
Education Access & Quality	Less than High School education	W (-) B (+)	W (+) B (+)	W (+) B (+)	W (+) B (+)	W (+) B (+)
	High School Diploma	W (+) B (+)	W (+) B (-)	W (+) B (+)	W (+) B (+)	W (+) B (+)
	Bachelor's Degree or Higher	W (-) B (-)	W (+) B (-)	W (+) B (+)	W (-) B (-)	W (+) B (+)
Neighborhood & Built Environment	Vacancy Rate of Housing Units	(-)	(-)	(-)	(+)	(+)
	No Access to a Vehicle	(-)	(+)	(-)	(+)	(-)
	Average Commute Time to Work	(-)	(+)	(+)	(+)	(+)
Healthcare Access & Quality	No Health Insurance Coverage	(-)	(+)	(+)	(+)	(-)
	Primary Care Physicians Rate	(-)	(+)	(+)	(+)	(+)
	Prenatal Care during First Trimester	W (+) B (-)	W (+) B (+)	W (-) B (+)	W (-) B (-)	W (+) B (+)
Social & Context	Violent Crime Rate	(-)	(+)	(-)	(-)	(-)
	Black/White Residential Segregation Rate	(+)	(+)	(+)	(+)	(+)

Key:

"W" White Population   "R" Renters   (-) Performing worse than the state of Ohio

"B" Black Population   "H" Homeowners   (+) Performing better than or the same as the state of Ohio

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DATA SOURCES

	Indicator	Data Source	Year
Demographics	Population	American Community Survey 5-Year Estimates	2015-2019
	Average Household Size	American Community Survey 5-Year Estimates	2015-2019
	Racial & Ethnic Composition	American Community Survey 5-Year Estimates	2015-2019
Infant Health	Preterm Birth	Ohio Department of Health	2017-2019
	Infant Mortality	Ohio Department of Health	2019
Economic Stability	Median Household Income	American Community Survey 5-Year Estimates	2015-2019
	Unemployment Rate	American Community Survey 5-Year Estimates	2015-2019
	Children Under 18 Living in Poverty	American Community Survey 5-Year Estimates	2015-2019
	Home Ownership	American Community Survey 5-Year Estimates	2015-2019
	Extreme Housing Cost Burden	American Community Survey 5-Year Estimates	2015-2019
Education Access & Quality	Less than high school education	American Community Survey 5-Year Estimates	2015-2019
	High School Diploma	American Community Survey 5-Year Estimates	2015-2019
	Bachelor's Degree or Higher	American Community Survey 5-Year Estimates	2015-2019
Neighborhood & Built Environment	Vacancy Rate of Housing Units	American Community Survey 5-Year Estimates	2015-2019
	No Access to a Vehicle	American Community Survey 5-Year Estimates	2015-2019
	Average Commute Time to Work	American Community Survey 5-Year Estimates	2015-2019
Healthcare Access & Quality	No Health Insurance Coverage	American Community Survey 5-Year Estimates	2015-2019
	Primary Care Physicians Rate	Health Data 2020 (SE), Health Data 2020 Release, Social Explorer; County Health Rankings & Roadmaps	2014 & 2016
	Prenatal Care during First Trimester	Ohio Department of Health	2019
Social & Context	Violent Crime Rate	Uniform Crime Reporting - FBI	2014 & 2016
	Black/White Residential Segregation Rate	American Community Survey 5-Year Estimates	2015-2019

APPENDIX:
EXPLANATION OF HEALTH OPPORTUNITY INDEX (HOI)

A brief explanation of the indices used to developed the Health Opportunity Index are provided in the table below.

HOI Indices	Description
Affordability	Measures the proportion of a neighborhood's income that is spent on housing and transportation costs.
Access to Care	Measures an area's access to healthcare using provider-to-population ratios and the percent of the population who is uninsured.
Walkability	Measures the walkability of an area based on the built environment that promotes or discourages walking as a mode of transportation.
Employment Access	Measures the accessibility of jobs in a particular area and includes factors such as distance between jobs and where residents live and transportation availability.
Population-Weighted Density	Measures the concentration of people per square mile.
Environmental Quality Index	Assesses the level of air pollution by census tract.
Education	Measures the average education level attained by the adult population in an area.
Food Accessibility	Measures low access to grocery stores, supermarket, and other suppliers of healthy foods.
Townsend Deprivation	Measures the material deprivation in a neighborhood by assessing unemployment, car ownership, home ownership and overcrowding.
Job Participation	Measure of the percentage of working adults ages 16 – 64 years in the active labor force.
Segregation	Measures how the racial composition of a population in a census tract compares to that of the rest of the state
Income Inequality	Measures economic inequality by assessing the diversity of actual earned income of a neighborhood.
Population Churning	Measures the migration of individuals into a neighborhood.

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