PREPARED FOR:

Stanislaus Council of Governments

REGIONAL EARLY ACTION PLANNING GRANTS OF 2021 (REAP 2.0)

Disadvantaged Communities Identification Methodology

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INTRODUCTION

Disadvantaged communities (DACs) are communities that experience a combination of social, economic, health, and environmental burdens, often resulting from historic disinvestment and systemic inequities. In California, the identification and inclusion of DACs in transportation planning is not only a matter of regulatory compliance, but a critical step toward achieving more equitable and effective outcomes. Statewide policies—including those related to greenhouse gas reduction, vehicle miles traveled (VMT) mitigation, and environmental justice—prioritize equity as a core objective, recognizing that transportation infrastructure plays a significant role in shaping access to opportunity, public health, and community resilience.

The concept of environmental justice and the term "disadvantaged communities" are rooted in the civil rights movement. Studies starting in the 1970's demonstrated that hazardous waste sites and polluting industries were disproportionately located in minority and low-income areas. In the 1980's, increasing protests and activism brought national attention to this environmental inequality. Initially, the environmental justice movement primarily focused on the intersection of race and poverty in the context of environmental burdens. However, the movement and the understanding of who constitutes a "disadvantaged community" has expanded over time to include other intersecting factors such as health impacts, reduced access to resources, tribal resources, and other factors. Considering a broader range of factors provides a more holistic approach to understanding inequalities and the impacts of transportation policies. In current planning efforts, the term environmental justice is often used to describe the policies addressing equity and disadvantaged communities is used to describe the people who are most vulnerable to policy decisions.

Incorporating equity considerations into planning helps address long-standing disparities in mobility access, safety, and infrastructure quality that disproportionately affect low-income communities and communities of color. Prioritizing DACs in the planning process helps to ensure that transportation investments do not perpetuate inequality or contribute to displacement but instead support inclusive economic growth and climate resilience.

This report documents the process undertaken to identify disadvantaged communities within the Stanislaus Council of Government (StanCOG) planning area, while maintaining compliance with State funding requirements and ensuring to take into consideration all available local, state, and federal resources. The methodology integrates state and federal guidance, region-specific indicators, and best-practices developed across multiple geographies to create a comprehensive assessment matrix that reflects the full scope and existing conditions of communities across the StanCOG region. The goal is to support equitable decision-making by highlighting communities facing the highest levels of disadvantage, thereby ensuring that regional transportation planning efforts are inclusive, responsive, and just.

DEFINITIONS AND CONSIDERATIONS

The approach for defining DAC areas for this project follows the Regional Early Action Planning Grants Program (REAP 2.0) Guidelines and an assessment of local planning priorities. The REAP 2.0 guidelines defines DACs using as set of quantitative and qualitative criteria, referencing data provided through the Census, the Department of Housing and Community Development (HCD), and several other state and federal programmatic definitions of DACs, including the Safe Streets and Roads for All grant program (SS4A), CalEnviroScreen 4.0 (CES4), California State Senate Bill 535, and Assembly Bill 1550 definitions.

Regional Early Action Planning Grant Program (REAP 2.0)

REAP 2.0 provides state funding through HCD to support planning initiatives that accelerate housing production, reduce VMT, and advance equity and climate goals across California. REAP 2.0 objectives include "Affirmatively Furthering Fair Housing" (AFFH), measured by the impact of housing policy and development on disadvantaged and historically underserved communities. REAP 2.0 guidelines define disadvantaged and historically underserved communities as those included under the following criteria:

- Areas of concentrated poverty;
- Areas of high segregation, poverty, and low to moderate access to opportunity (using California Tax Credit Allocation Committee/HCD Opportunity Area Maps);
- Communities of concern, disadvantaged communities, and low-income communities pursuant to Senate Bill 535 and Assembly Bill 1550 (using SB 535 disadvantaged Communities Map);
- Areas of high housing cost burdens;
- Areas with high vulnerability of displacement;
- Areas related to Tribal Entities;
- Other areas experiencing disproportionate impacts of California's Housing and climate crisis (CalEnviroSreen mapping indicators).

REAP 2.0 also allows applications to propose alternative definitions to disadvantaged and historically underserved communities in consultation with HCD and the State collaborative partners.

California Tax Credit Allocation Committee/HCD Opportunity Area Maps

The 2025 TCAC/HCD Opportunity Map is designed to highlight neighborhoods in California that provide strong economic, educational, and health outcomes, particularly for low-income families.

The map is a key tool for affirmatively furthering fair housing goals by guiding investment in affordable housing toward areas of higher opportunity. Regions are defined consistent with TCAC's LIHTC framework, and while census tracts are used in most places, rural areas are analyzed at the smaller block group level to avoid masking local variation. Certain areas are excluded, such as places with unreliable data, very low population density, or populations dominated by institutions like prisons or the military.

Neighborhoods are evaluated across nine indicators grouped into economic, educational, and environmental categories. Economic measures include poverty levels, employment, home values, and educational attainment, while educational factors cover test scores, graduation rates, and student poverty rates. Environmental burden is drawn from CalEnviroScreen, focusing on proximity to pollution sources. Each neighborhood earns points for being above the regional median on these measures, and points are deducted if they fall in the most environmentally burdened areas. Scores are then grouped into four resource categories—ranging from "Highest Resource" to "Low Resource"—to reflect opportunity levels. An additional overlay highlights neighborhoods with both high poverty rates and racial segregation.

Senate Bill 535 Disadvantaged Communities Maps

California State Senate Bill (SB) 535 (2012) established that money generated by California's cap-and-trade system must allocate a minimum amount of funding to initiatives that support disadvantaged communities, tasking the California Environmental Protection Agency (CalEPA) to identify and designate disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria. Assembly Bill (AB) 1550 (2016) reinforced these requirements, ensuring that minimum quantities of Climate investments must benefit low-income households and disadvantaged communities. CalEPA developed the CalEnviroScreen (CES) mapping tool to identify these communities, incorporating numerous indicators weighing individual census tracts' pollution burden and population characteristics.

While the most recent version of CalEnviroScreen, 4.0 (CES4), was published in 2021, CalEPA's current definition of disadvantaged communities included under SB 535 include census tracts that meet any of the following criteria based on CES4 as well as previous iterations of CalEnviroScreen:

- Census tracts receiving the highest 25-percent of overall scores in CES4; or
- Census tracts lacking overall scores in CES4 due to data gaps but receiving the highest 5-percent of CES4 cumulative pollution burden scores; or
- Census tracts identified in the 2017 DAC designation as disadvantaged, regardless of their scores in CES4; or
- Lands under the control of federally recognized Tribes.

As SB 535 defines disadvantaged communities based on CalEnviroScreen overall scores, pollutions scores, and federally recognized Tribes as an aggregated measure of disadvantage, several indicators included within REAP 2.0 requirements are subject to overlap. As described below,

CalEnviroScreen overall scores consider socioeconomic data (such as concentrations of poverty, employment, linguistic isolation, educational attainment and housing burden), health data (asthma and cardiovascular disease risk), and environmental data (pollution burden). To ensure that each indicator included in the REAP 2.0 definition is given equal weight, and using the most recently available data, it was determined that analyzing these indicators on a case-by-case basis is the most effective use of the data available rather than utilizing SB 535 maps. Indicators using socioeconomic and demographic data was sourced using the most recently available American Community Survey (ACS) 5-Year datasets, federally recognized Tribes were identified using the 2020 Decennial Census, and environmental data pursuant to SB 535 was sourced using CalEnviroScreen 4.0.

CalEnviroScreen 4.0 Mapping and Indicators

The individual indicators employed by CalEPA to develop the CalEnviroScreen mapping tool are listed below, incorporating numerous indicators weighing individual census tracts' pollution burden, socioeconomic and demographic characteristics.

Pollution indicators include the prevalence and risk of:

- Ozone
- Airborne PM 2.5
- Disel particulate matter
- Drinking water contaminates
- Children's lead risk from housing
- Pesticides
- Toxic releases from facilities
- Traffic impacts
- Cleanup sites
- Groundwater threats
- Hazardous waste

Population characteristics consider the prevalence, risk, or deficit of the following factors:

- Asthma
- Cardiovascular disease
- Low birth weight
- Education
- Housing burden (cost of housing relative to income)
- Linguistic isolate
- Poverty
- Unemployment

Additional Factors Considered

In addition to programmatic guidelines addressing equity, additional factors specific to the StanCOG region were identified and taken into consideration to develop a definition of DAC that responds to local planning needs and context. Using the most recently available Five-Year ACS datasets, the following characteristics were analyzed:

- Prevalence of zero-car households: households without vehicles are dependent on alternative modes and may lose access to critical services, jobs and resources without ongoing investments in transit, rideshare, and active transportation.
- Concentration of disabled populations: households with disabled persons are often fully or at least partially reliant on transit and paratransit services. Understanding the

concentrations of populations with this need can help direct or prioritize funding for transit services.

METHODOLOGY

To assess the status of disadvantaged communities in the StanCOG region, a standardized methodology was developed to compile and analyze data using different geographies, spatial formats, scales, and measurement methods. The resulting recommendations were developed using the methodology described below.

Spatial Analysis and Geographic Conversion

To adequately analyze communities at a granular level and to maintain consistency with the various projects actively in progress within the StanCOG region, all analyses were conducted at the Traffic Analysis Zone (TAZ) level, as defined in StanCOG's travel demand model (StanCOG TDM).

The indicators and criteria considered, however, are provided as both Census Tract and Block Group geographies. To convert these larger geographies to the TAZ level, TAZs were assigned a weighted score for each indicator proportional to the percentage of occupied housing units falling within different geographies. Initially, assessor level parcel data was considered as the method for aggregating and disaggregating data across geographies. However, parcel land use coding and zoning maps did not provide the specificity required to accurately distribute data at the TAZ level. Specifically, parcels without up-to-date vacant designations or non-specific residential categories caused larger Block Groups and Census Tracts to inaccurately show as highly concentrated areas for applicable indicators. Instead, parcel data was sourced from Urban Footprint[1], a land use planning platform that uses a variety of private and public datasets, including assessor data, Census data, and real estate industry databases. Based on observed ground-truthed data the parcel data from Urban Footprint produced highly detailed and accurate assessments of existing land use conditions including detailed records of total dwelling units as well as households (occupied dwelling units), allowing data to be disaggregated accurately.

Scoring Development

Once TAZs were assigned proportional scores for each indicator, each indicator was scored on a scale of one to five, representing quintiles. TAZs within the 80th percentile were assigned a score of five, representing the top 20-percent of at-risk communities for that indicator. TAZs within the 60th to 80th percentile were given a score of four, and so on. Each indicator's scores were given equal weight, summed, and assigned a final quintile ranking for the final DAC score.

Aerial Validation Process

As previously discussed, certain areas reflecting high DAC scores were identified as regions of minimal development or non-residential land. While using detailed parcel level data provided a

1 https://urbanfootprint.com/, accessed August 25, 2025

greater level of accuracy, minimizing errors in distribution, several vacant or commercial TAZs were identified with persistently high DAC scores.

To validate the analysis results, TAZs located in these regions of no or low development were analyzed with aerial overlays. In general, large TAZs on the periphery of the StanCOG region were found to contain small, sparse communities. In these cases, scores were not adjusted. In some TAZs, no development or communities were observed. In these cases, scores were reduced to the lowest level, indicating no disadvantaged communities were present. Future analysis may be aided by refining the geography, dividing large TAZs into smaller geographic areas, providing increased accuracy and granularity for small rural communities near the edge of the StanCOG region, particularly in the rural eastern portion of the region.

INDIVIDUAL INDICATORS

The following figures depict each individual indicator considered during the analysis process. A comprehensive breakdown of each indicator used its data source and vintage are displayed in Table 1. Each indicator's source, description of its measurement, and satisfaction of REAP requirements is described below in Figure 1 through Figure 16.

Table 1 – Disadvantaged Communities Indicators

REAP 2.0 Criteria	Indicator	Source	Vintage
Concentrated Areas of Poverty	Income Less than or Equal to 200% of the Federal Poverty Line	ACS 5-Year Estimate	2023
Areas of High Segregation, Poverty, and Low to Moderate Access to Opportunity	Opportunity Maps	TCAC/HCD	2025
	Segregation Maps (No Overlap with StanCOG Region)		
Areas of High Housing Cost Burdens	High Housing Burden	ACS 5-Year Estimate	2023
	Low-Income and Very High Housing Burden	CalEnviroScreen 4.0	2021
Areas with High Vulnerability to Displacement	Linguistic Isolation	ACS 5-Year Estimate	2023
	Tenancy		
	Concentration of People of Color		
	Bachelors' Degree Attainment		
	SNAP or Cash Assistance		
	Distance to Civic Infrastructure	Google Maps API Services	2025
	Distance to Core Services		
Areas Related to Tribal Entities	Tribal Lands Recognized in US Census (No Overlap with StanCOG Region)	US Decennial Census	2020
Areas Experiencing Disproportionate Impacts of California's	Pollution Burden	CalEnviroScreen 4.0	2021
	Asthma Risk		

REAP 2.0 Criteria	Indicator	Source	Vintage
Housing and Climate Crisis	Cardiovascular Disease Risk		
Communities of Concern, Disadvantaged Communities, and Low-Income Communities pursuant to Senate Bill 535 and Assembly Bill 1550	Considered as an aggregate measure based on indicators selected for above categories, as SB 535 and AB 1550 maps utilize overlapping datasets		
Other Local Considerations	Zero-Car Households	ACS 5-Year Estimate	2023
	Disability		

Figure 1 shows the concentration of households within each TAZ with an annual income of less than 200% of the Federal Poverty line, as reported by ACS 5-Year estimates from 2019-2023. This indicator was included to satisfy the REAP requirement to identify concentrated areas of poverty.

Figure 1 – Concentrated Areas of Poverty: Concentration of Poverty

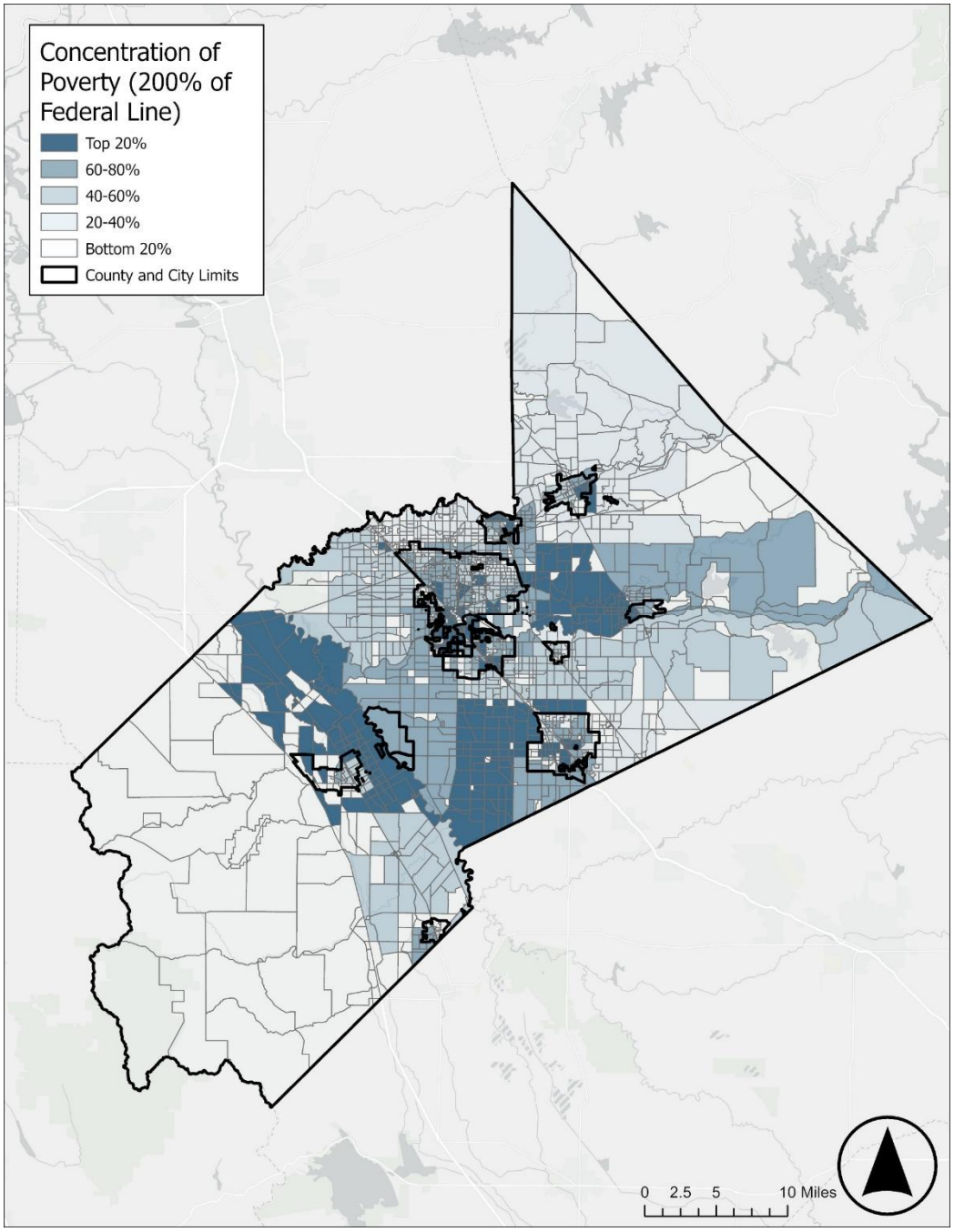


Figure 2 shows areas of low opportunity, measured as the weighted opportunity score within each TAZ as reported by The California State Treasurer (TCAC) and HCD in 2025. TCAC opportunity scores are based on poverty, educational attainment, employment, median home value, environmental burden, math proficiency, reading proficiency, and student poverty rates, and its inclusion is a direct requirement of the REAP 2.0 program to identify areas of high segregation, poverty, and low to moderate access to opportunity.

Figure 2 – Areas of High Segregation, Poverty, and Low to Moderate Access to Opportunity: TCAC Areas of Opportunity

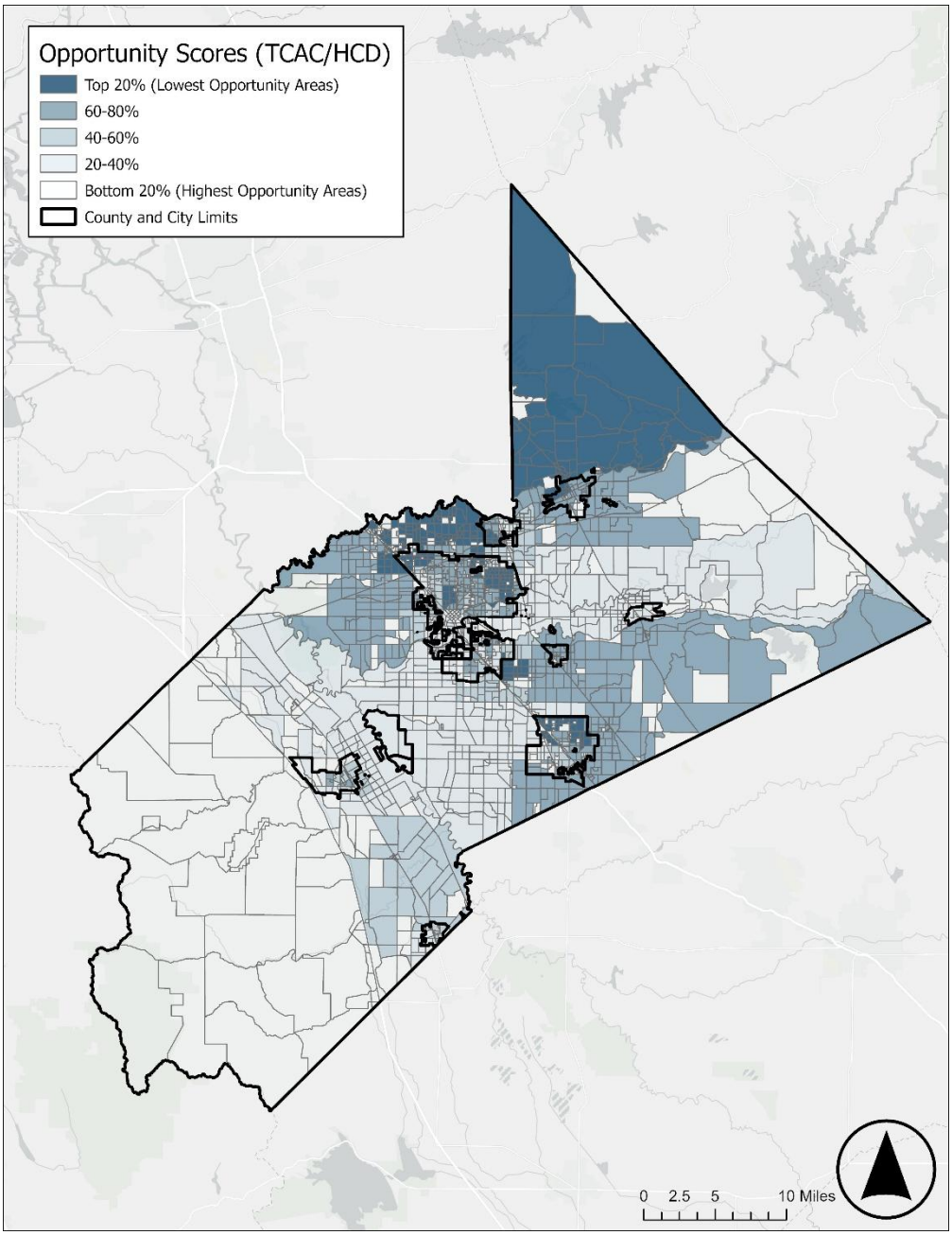


Figure 3 shows the concentration of households facing a high housing burden, measured as the proportion of households paying 30-percent or more of annual income to housing costs as reported by ACS 5-Year estimates from 2019-2023. This measure was included to satisfy the REAP 2.0 requirement to identify area with high housing cost burdens.

Figure 3 – Areas of High Housing Cost Burdens: Overall Concentration of Housing Burden

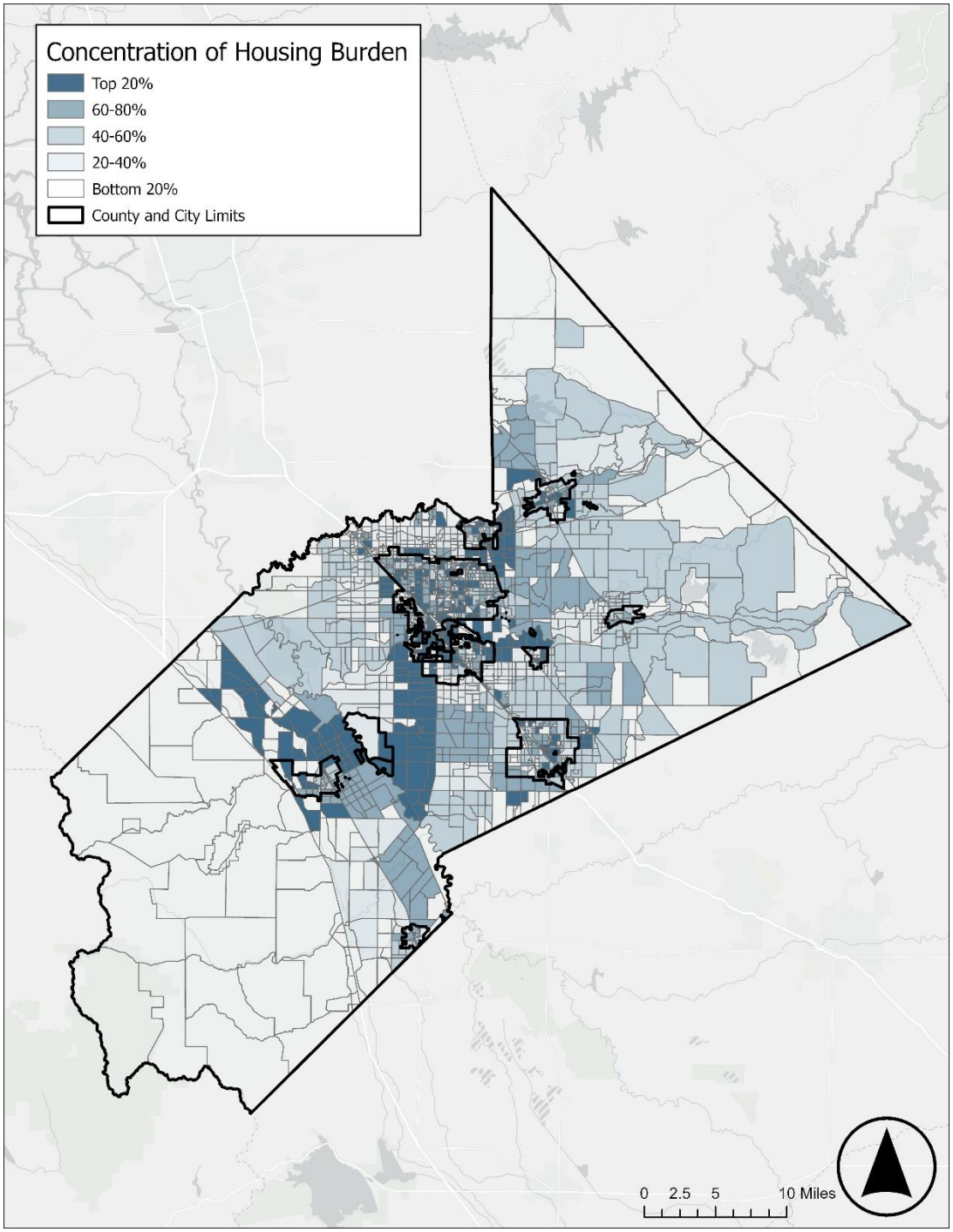


Figure 4 shows the concentration of low-income households with a high housing burden, measured as low-income households paying greater than or equal to 50-percent of household income towards housing based on HUD 5-Year estimates from 2013-2017 as reported by CalEnviroScreen 4.0 (2021). This indicator was included to satisfying the REAP requirement to identify areas facing disproportionate impacts of California's housing crisis.

Figure 4 – Areas of High Housing Cost Burdens: Concentration of Low-Income High-Housing Burden

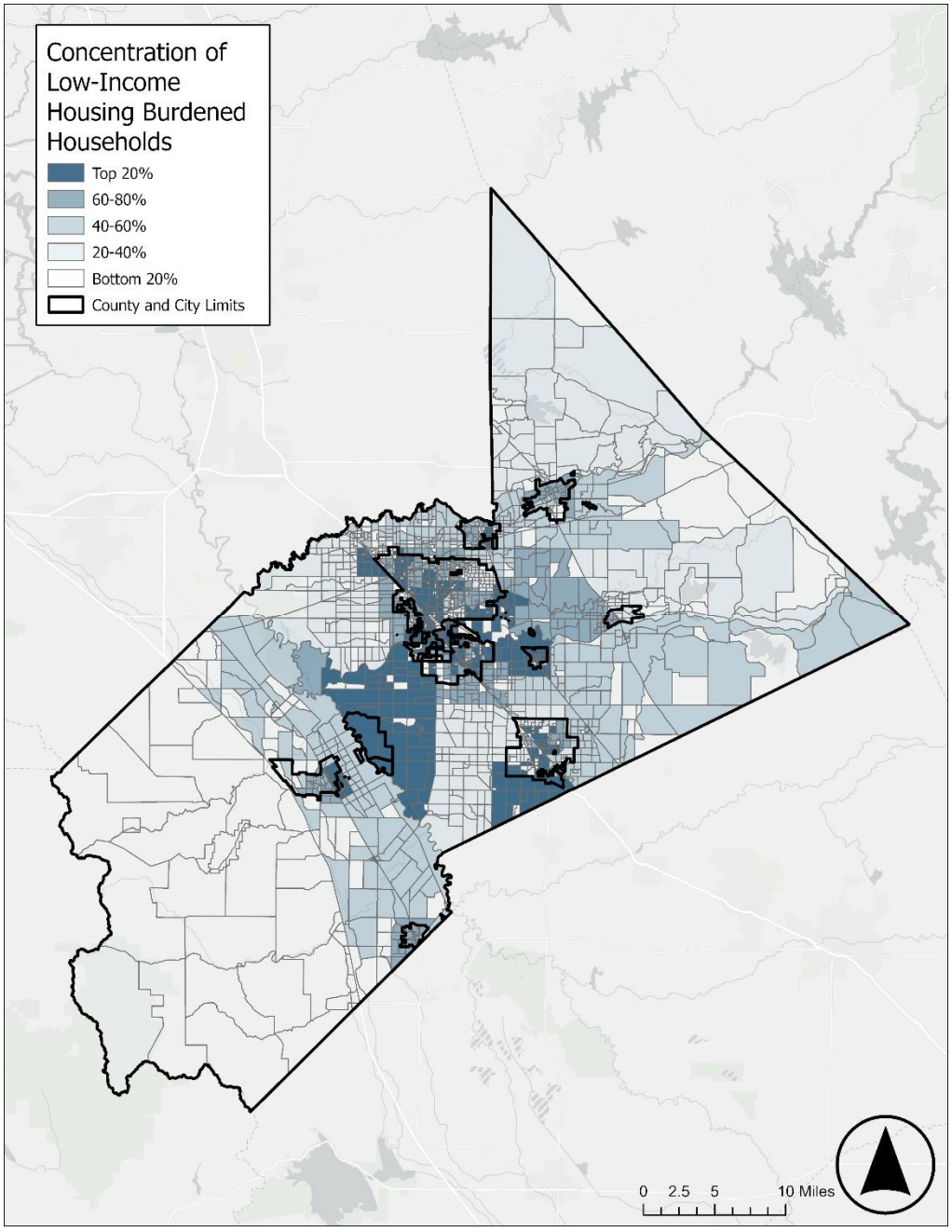


Figure 5 shows the concentration of linguistically isolated households, as measured by the proportion of households where no residents above the age of 14 speak English as a primary language, as reported by ACS 5-Year estimates from 2019-2023. Linguistic Isolation was included as a measure of vulnerability to displacement to satisfy REAP 2.0 requirements.

Figure 5 – Areas with High Vulnerability to Displacement: Concentration of Linguistic Isolation

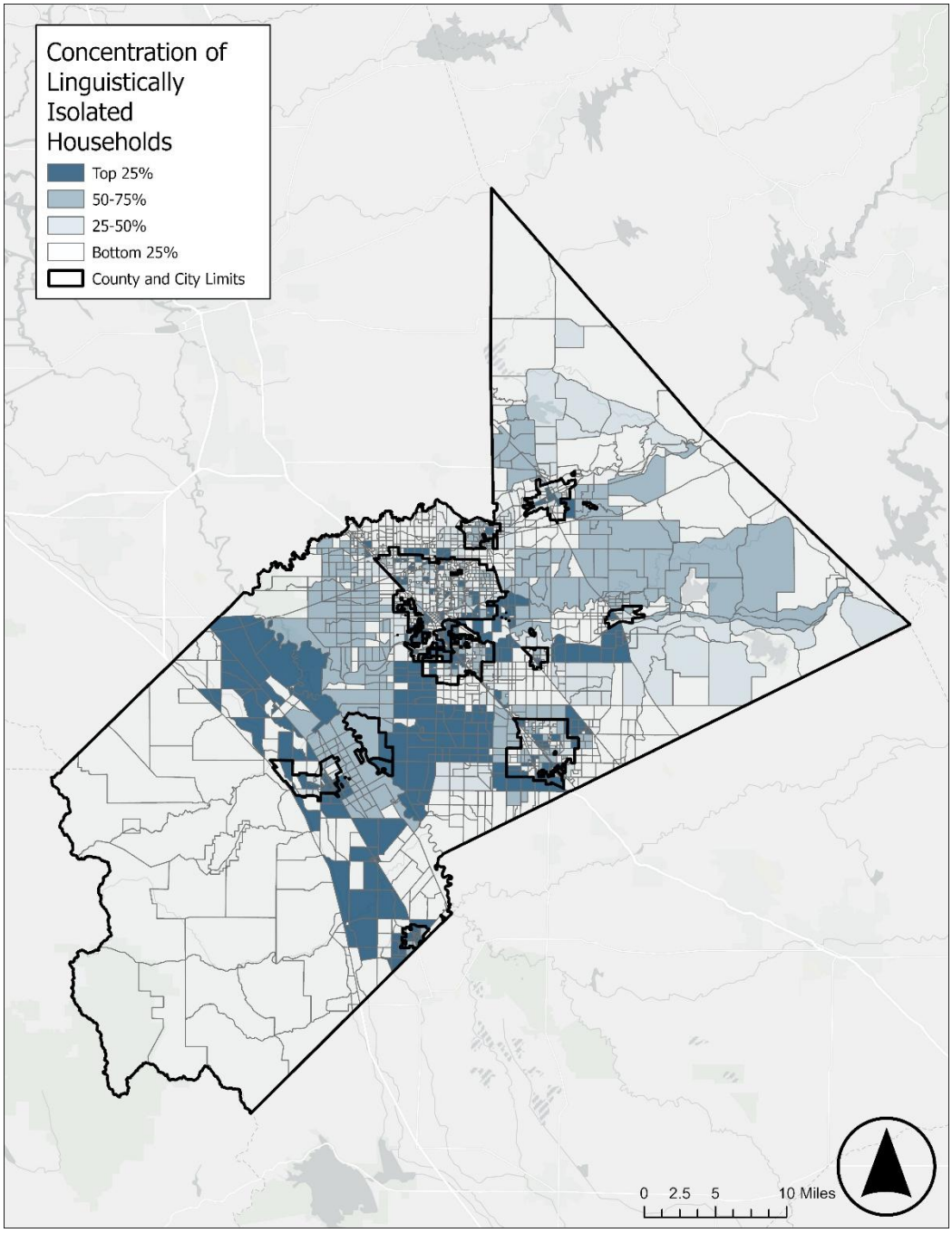


Figure 6 shows the concentration of households in each TAZ that are tenants as opposed to property owners as reported by ACS 5-Year estimates from 2019-2023. This indicator was included as a measure of the REAP 2.0 requirement to identify areas vulnerable to displacement, as high tenancy and low property ownership rates may reduce community resilience to displacement as economic conditions change.

Figure 6 – Areas with High Vulnerability to Displacement: Concentration of Tenancy

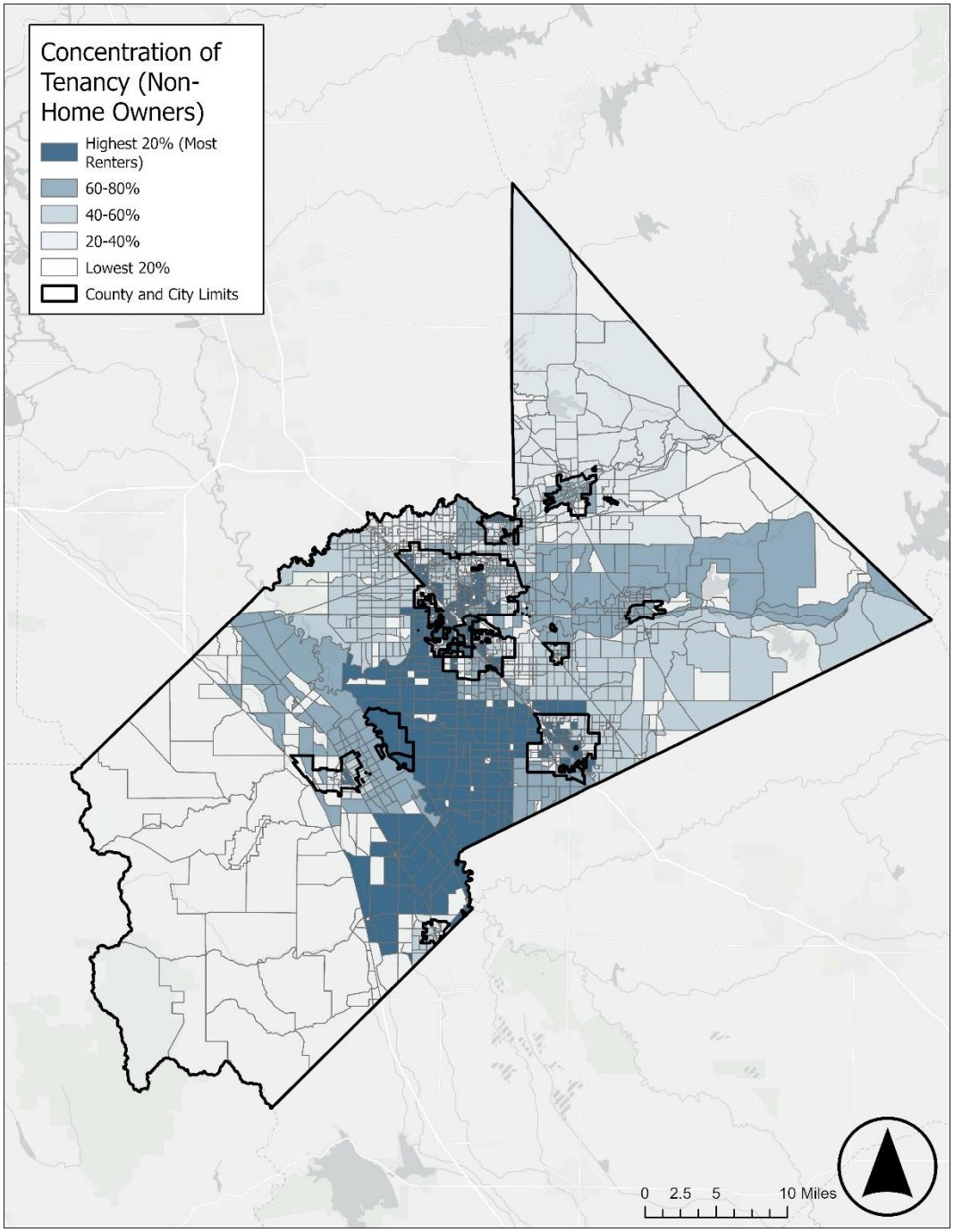


Figure 7 shows the concentration of people of color, measured as the proportion of non-white residents within each TAZ as reported by ACS 5-Year estimates from 2019-2023. This indicator was included as a measure of communities with a high-historical vulnerability to displacement and unfair housing practices, used to satisfy the REAP 2.0 requirement to identify areas vulnerable to displacement.

Figure 7 – Areas with High Vulnerability to Displacement: Concentration of People of Color

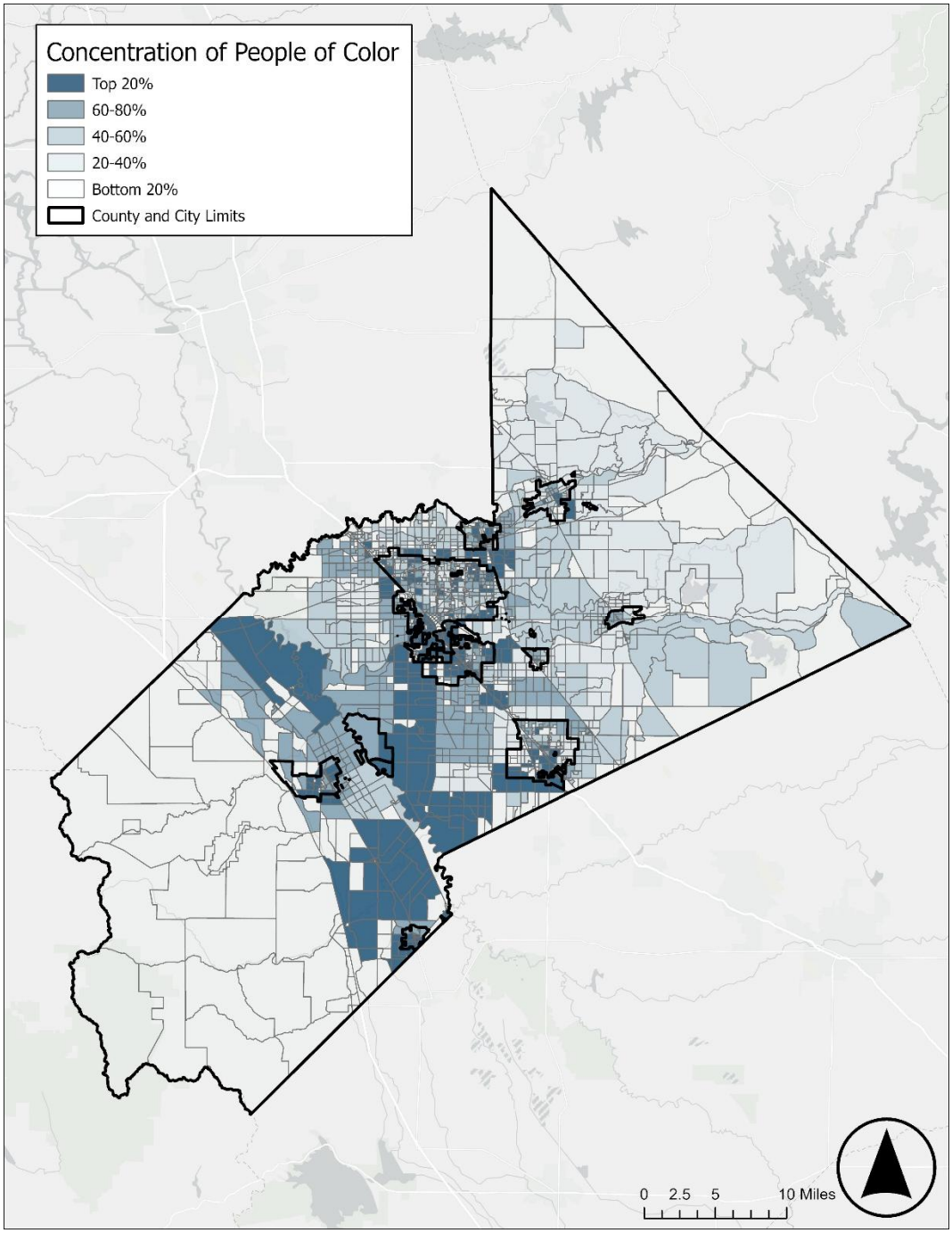


Figure 8 shows the concentration of Bachelors' Degree attainment measured using ACS 5-Year Estimates from 2019-2023. The balance of the population attaining a Bachelors' Degree divided by the total population was computed for each provided geography. Higher education attainment was used as a measure of community resilience to displacement to satisfy REAP 2.0 requirements, identifying areas with high vulnerability of displacement.

Figure 8 – Areas with High Vulnerability to Displacement: Concentration of Bachelors' Degree Attainment

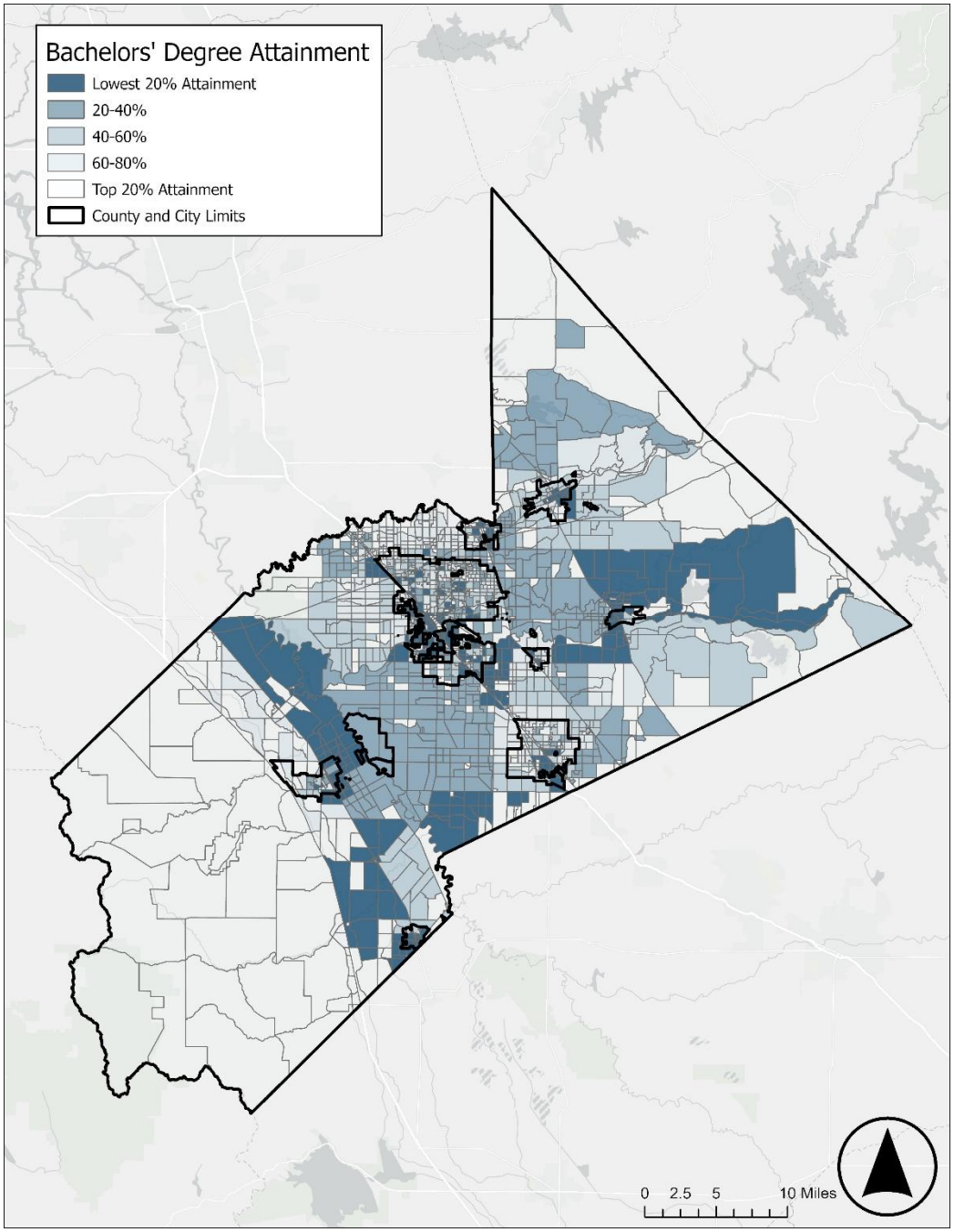


Figure 9 shows the concentration of households within each TAZ receiving SNAP benefits or other cash assistance programs as reported by ACS 5-Year estimates from 2019-2023. This indicator was included as a measure of areas with high economic need, to satisfy the REAP 2.0 requirement to identify concentrated areas of poverty.

Figure 9 – Areas with High Vulnerability to Displacement: Concentration of SNAP or Cash Assistance Recipient Households

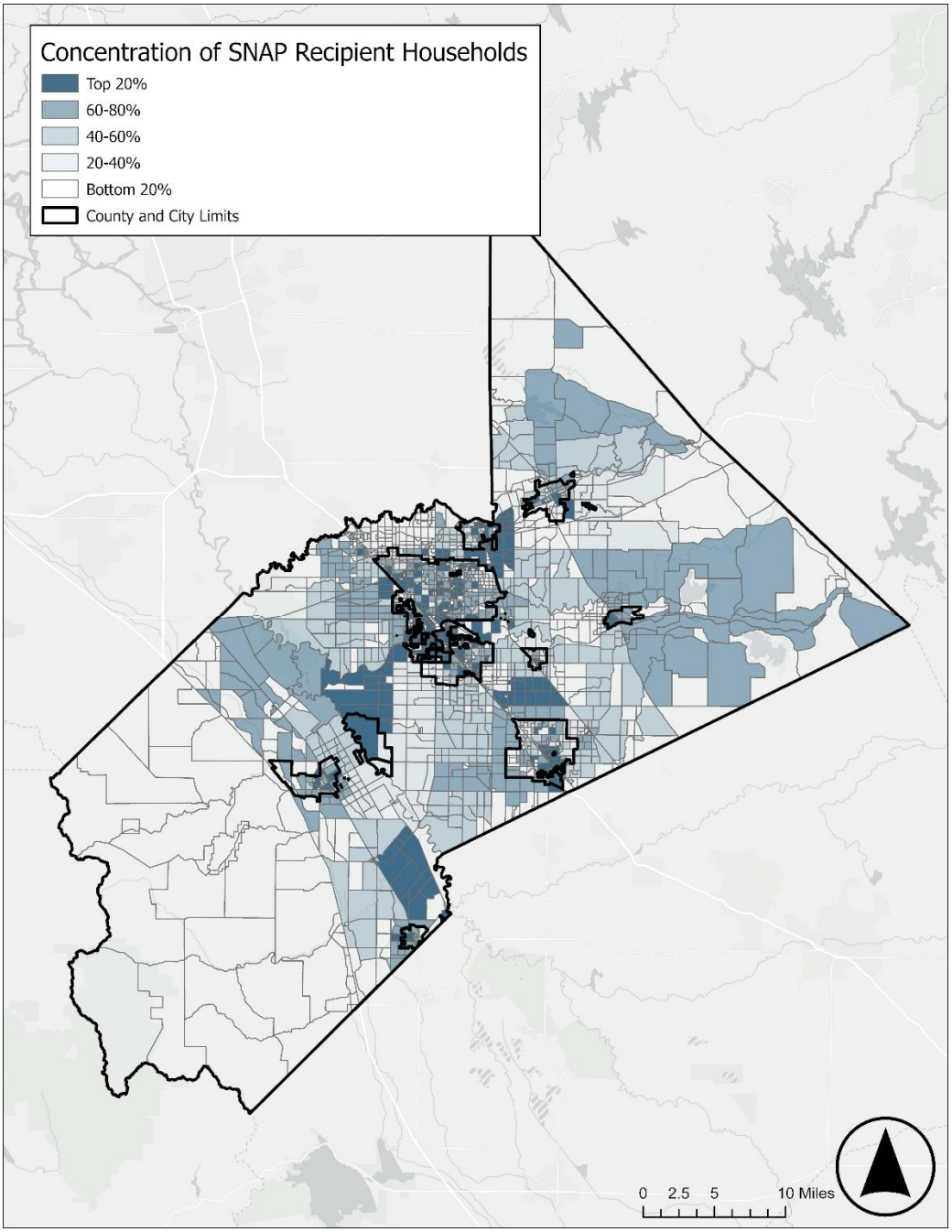


Figure 10 shows the breakdown of proximity from each TAZ center to the closest civic infrastructure (including parks and schools) as a measure of access to community resources and essential services. This was used as a measure of community resilience to displacement satisfying the REAP 2.0 requirement to identify areas vulnerable to displacement, as higher proximity to civic infrastructure may indicate lower travel burden and higher opportunity.

Figure 10 – Areas with High Vulnerability to Displacement: Distance to Civic Infrastructure

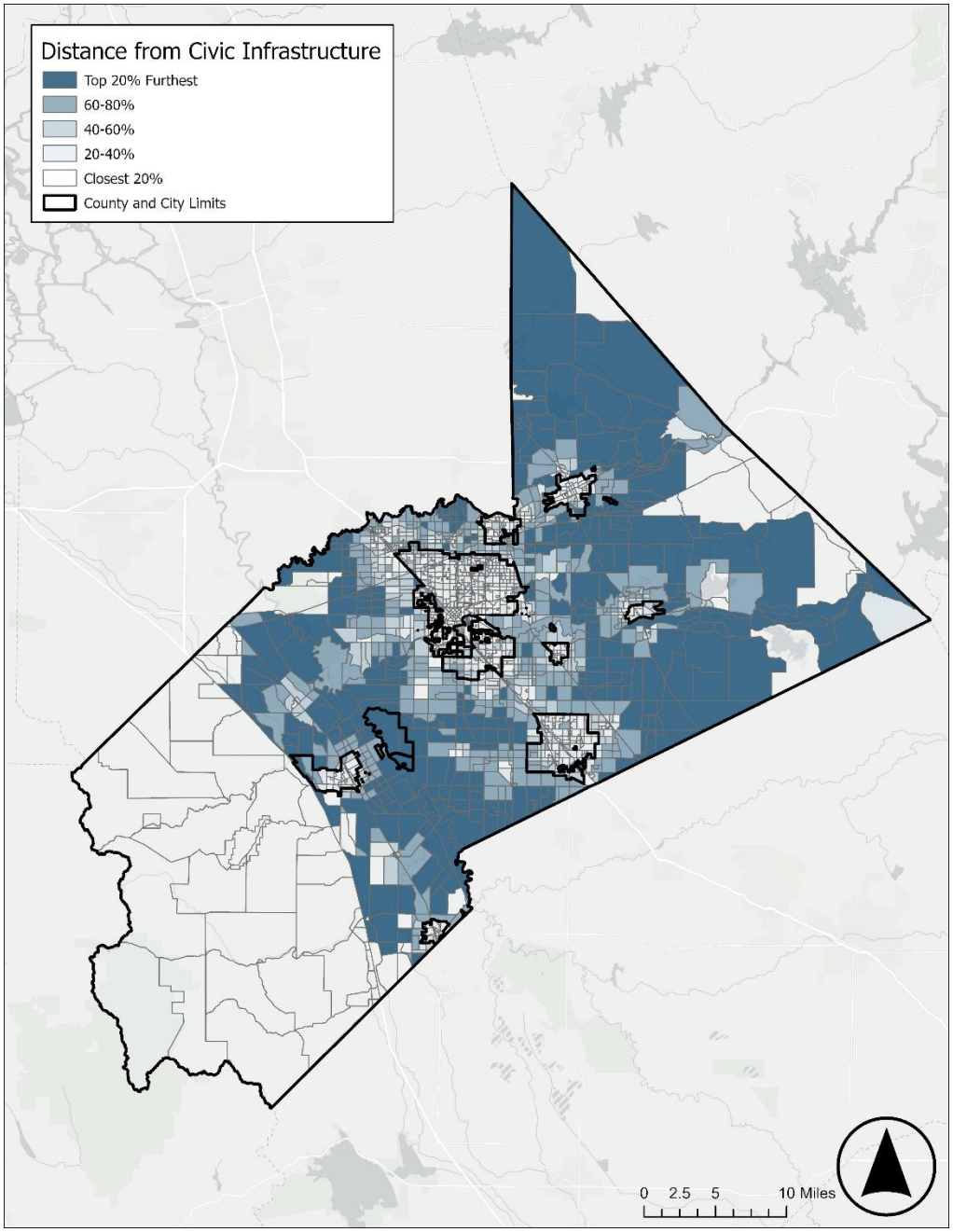


Figure 11 shows the breakdown of proximity from each TAZ center to the closest core services (including groceries, supermarkets, pharmacies, and restaurants) as a measure of access to community resources, essential services, and leisure activities as a proxy for quality of life and community resilience to displacement, satisfying the REAP 2.0 requirement to identify areas vulnerable to displacement.

Figure 11 – Areas with High Vulnerability to Displacement: Distance to Core Services

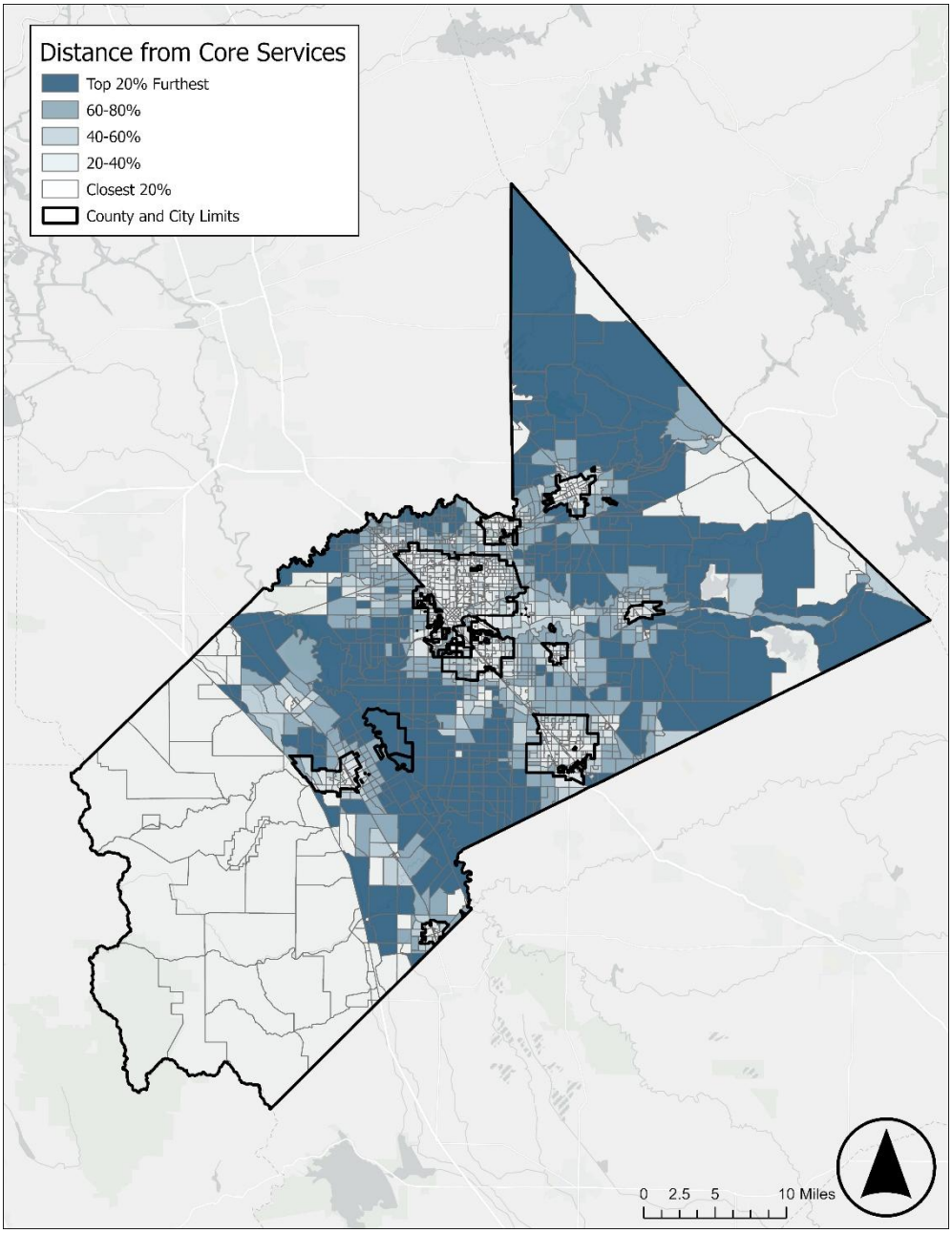


Figure 12 shows the pollution burden across the StanCOG region measured as the percent of each TAZ located within areas of high impact for pollution hazards as reported by CalEnviroScreen 4.0 (2021), measured by air and water concentrations of ozone, particulate matter, diesel, lead, pesticides, toxic chemicals, groundwater threats, and hazardous waste. Additional considerations include proximity to solid waste facilities, high-traffic density areas, and cleanup sites. This indicator was included to account for the disparate impact of the climate crisis in Californian communities satisfying REAP 2.0 requirements.

Figure 12 – Areas Experiencing Disproportionate Impacts of California's Housing and Climate Crisis: Concentration of Pollution Burden

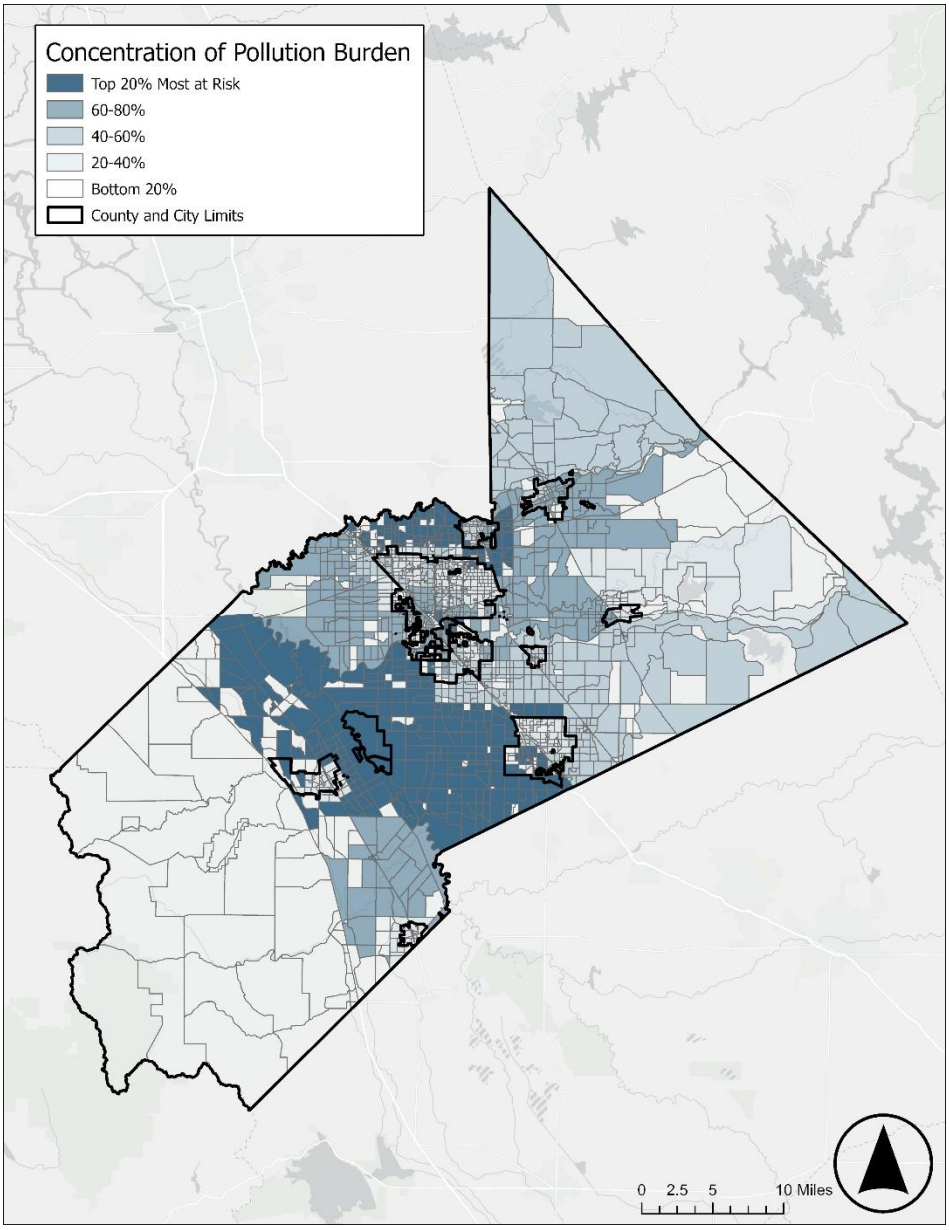


Figure 13 shows the prevalence of Asthma and Asthma risk, measured as the reported cases of Asthma within each TAZ as reported by CalEnviroScreen 4.0 (2021). This indicator was used as a proxy for environmental impacts on health to satisfy the REAP 2.0 requirement to identify areas experiencing disproportionate impacts of California's Housing and Climate Crisis.

Figure 13 – Areas Experiencing Disproportionate Impacts of California's Housing and Climate Crisis: Concentration of Asthma Risk

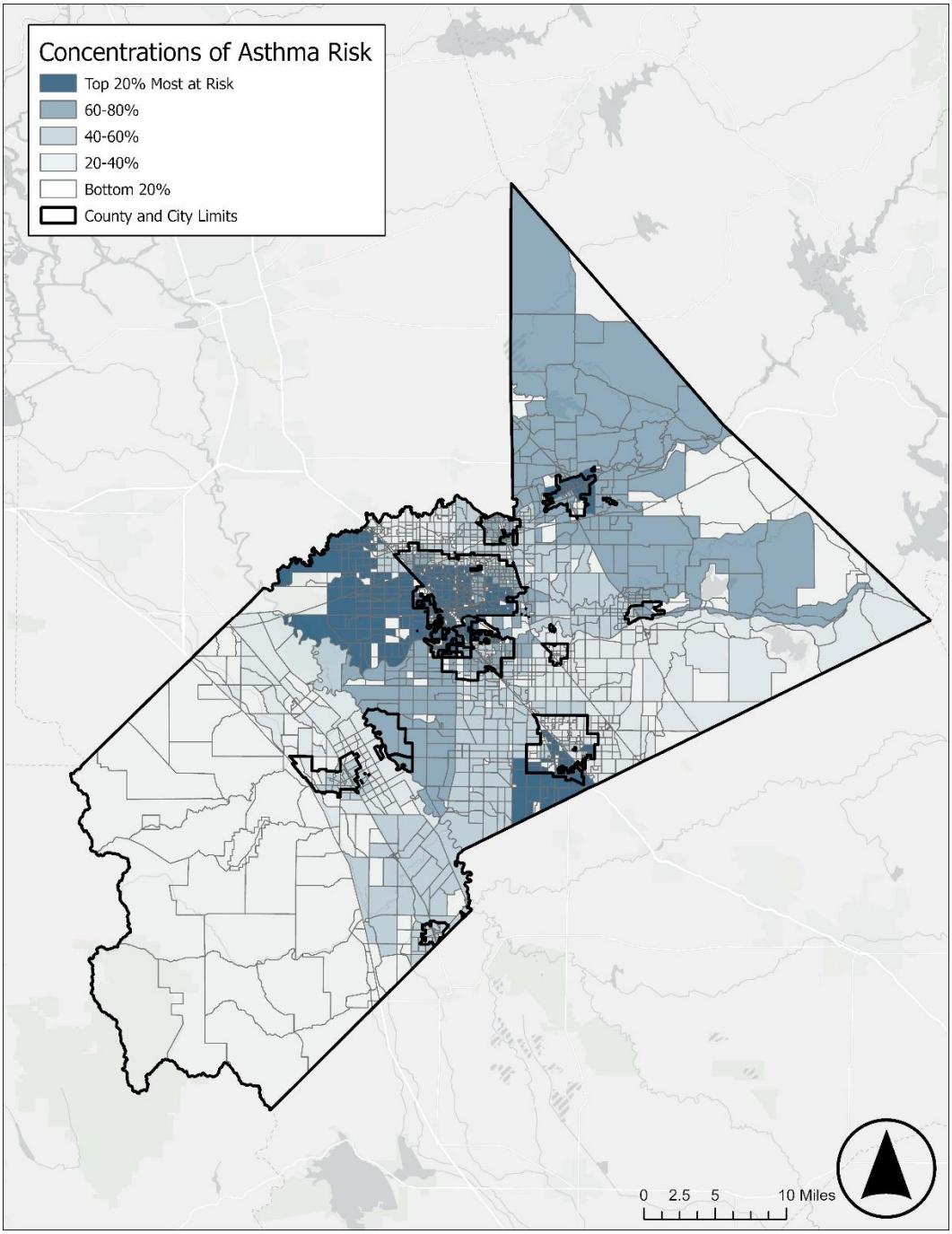


Figure 14 shows the prevalence of Cardiovascular Disease and Disease risk, measured as the reported cases of Cardiovascular Disease within each TAZ as reported by CalEnviroScreen 4.0 (2021). This indicator was used as a proxy for environmental impacts on health to satisfy the REAP 2.0 requirement to identify areas experiencing disproportionate impacts of California's Housing and Climate Crisis.

Figure 14 – Areas Experiencing Disproportionate Impacts of California's Housing and Climate Crisis: Concentration of Cardiovascular Disease Burden

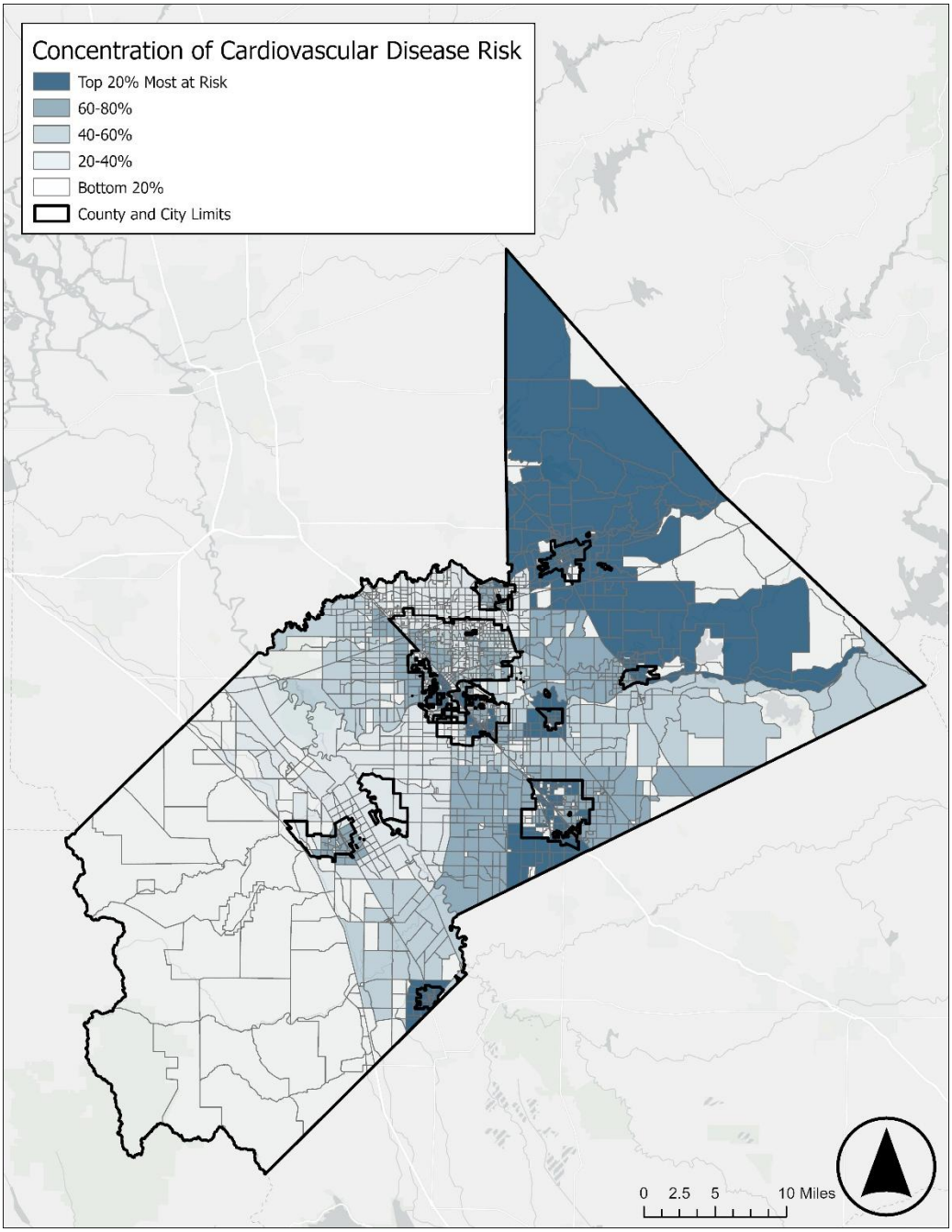


Figure 15 shows the concentration of zero-car households within each TAZ as reported by ACS 5-Year estimates from 2019-2023. This indicator was included as a supplement to address local planning conditions, identifying areas with low mobility and access to transportation.

Figure 15 – Other Considerations: Concentration of Zero-Car Households

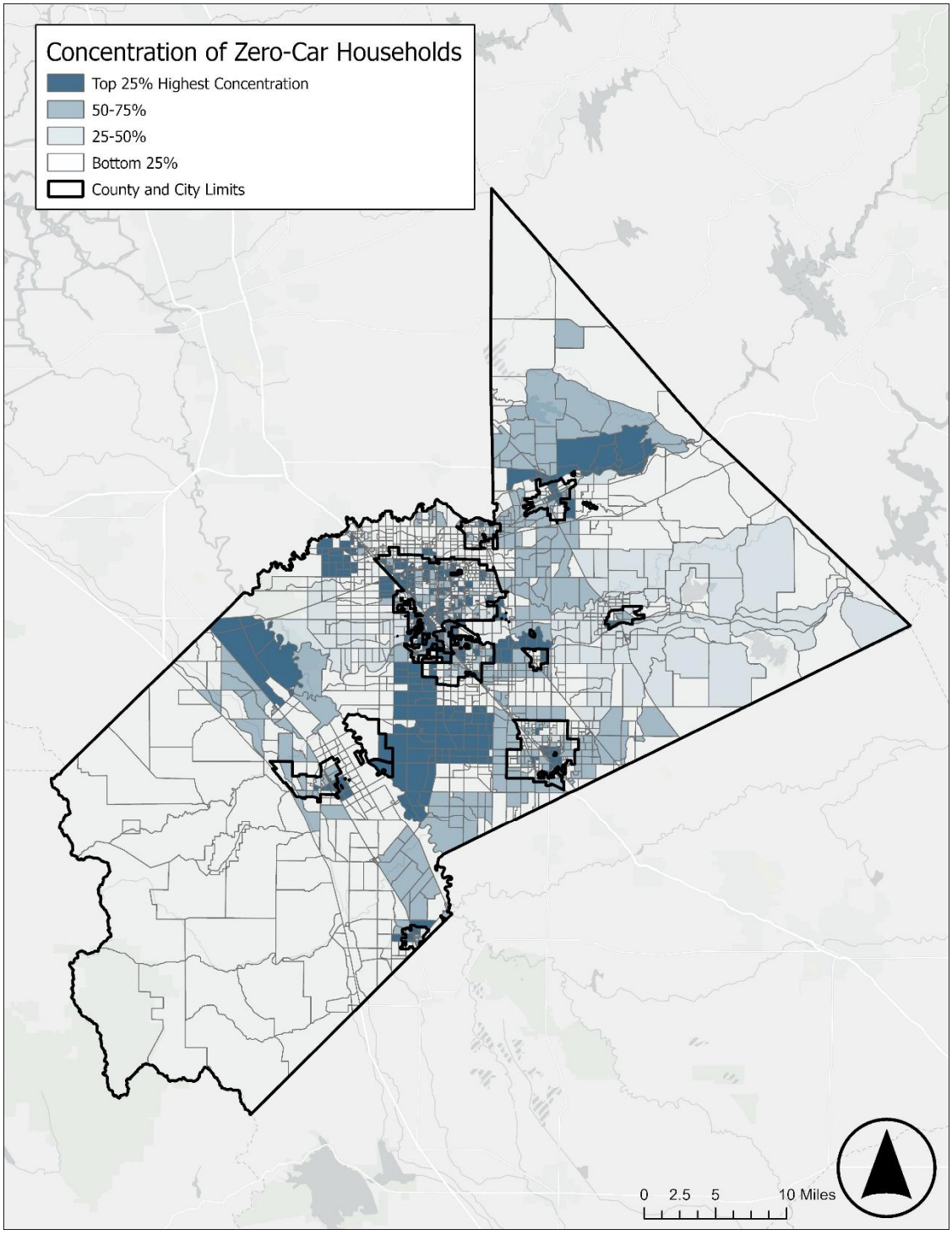
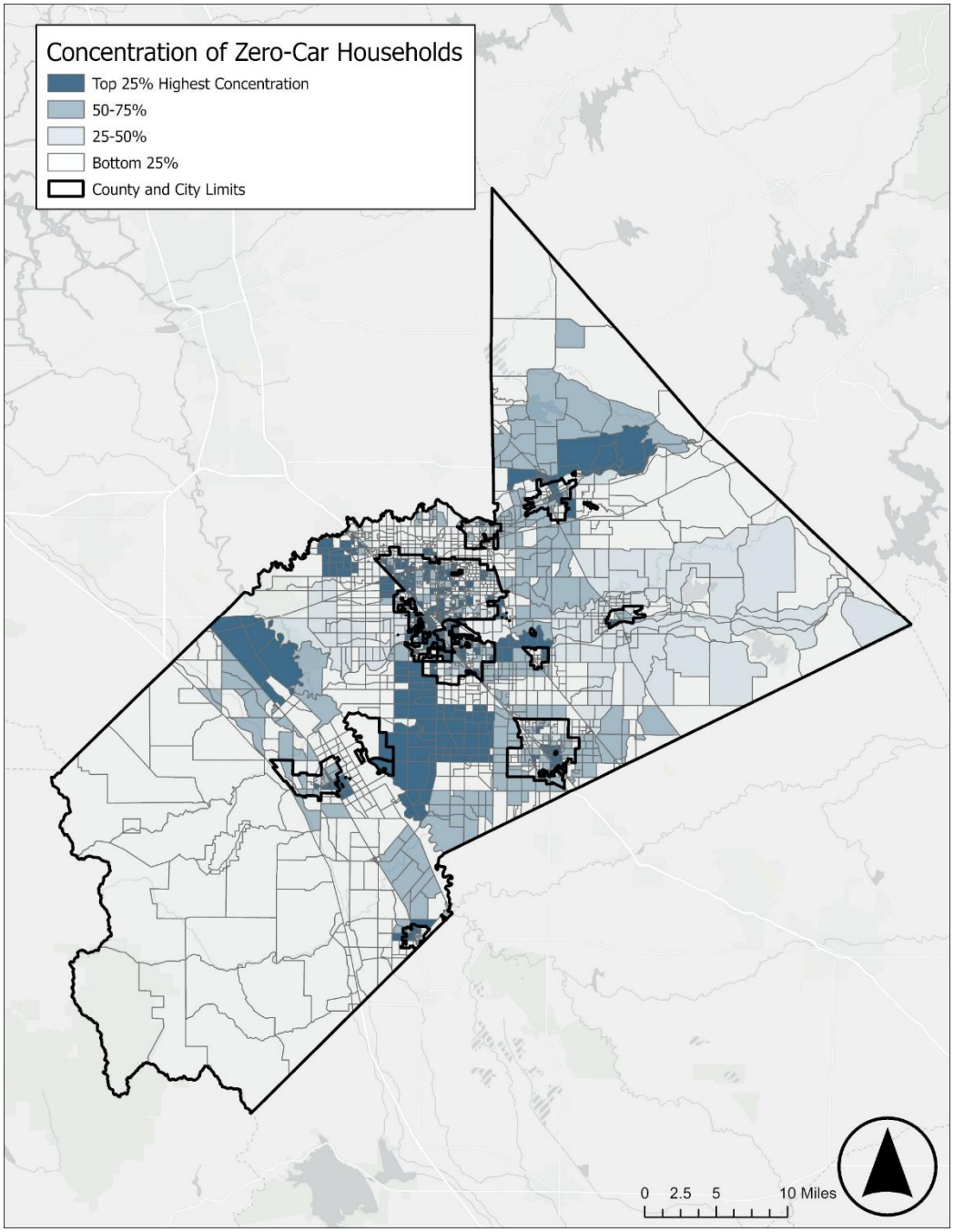


Figure 16 shows the concentration of disabled population relative to the total population in each TAZ as reported by ACS 5-Year estimates from 2019-2023. This indicator was used as a supplement to other REAP 2.0 requirements as a way to address local planning needs. High disability rates can be used as a measure of communities with a potentially aging population, high burden of impacts from environmental factors, low-access to essential healthcare services, among other factors.

Figure 16 – Other Considerations: Concentration of Disability



FINDINGS

The final DAC scores, calculated as the aggregated scores from the above indicators, are presented for the full StanCOG area in Figure 17 below. Each member city government and its immediate vicinity is displayed in Figure 18 through Figure 26.

Figure 17 – Overall Disadvantaged Communities Index

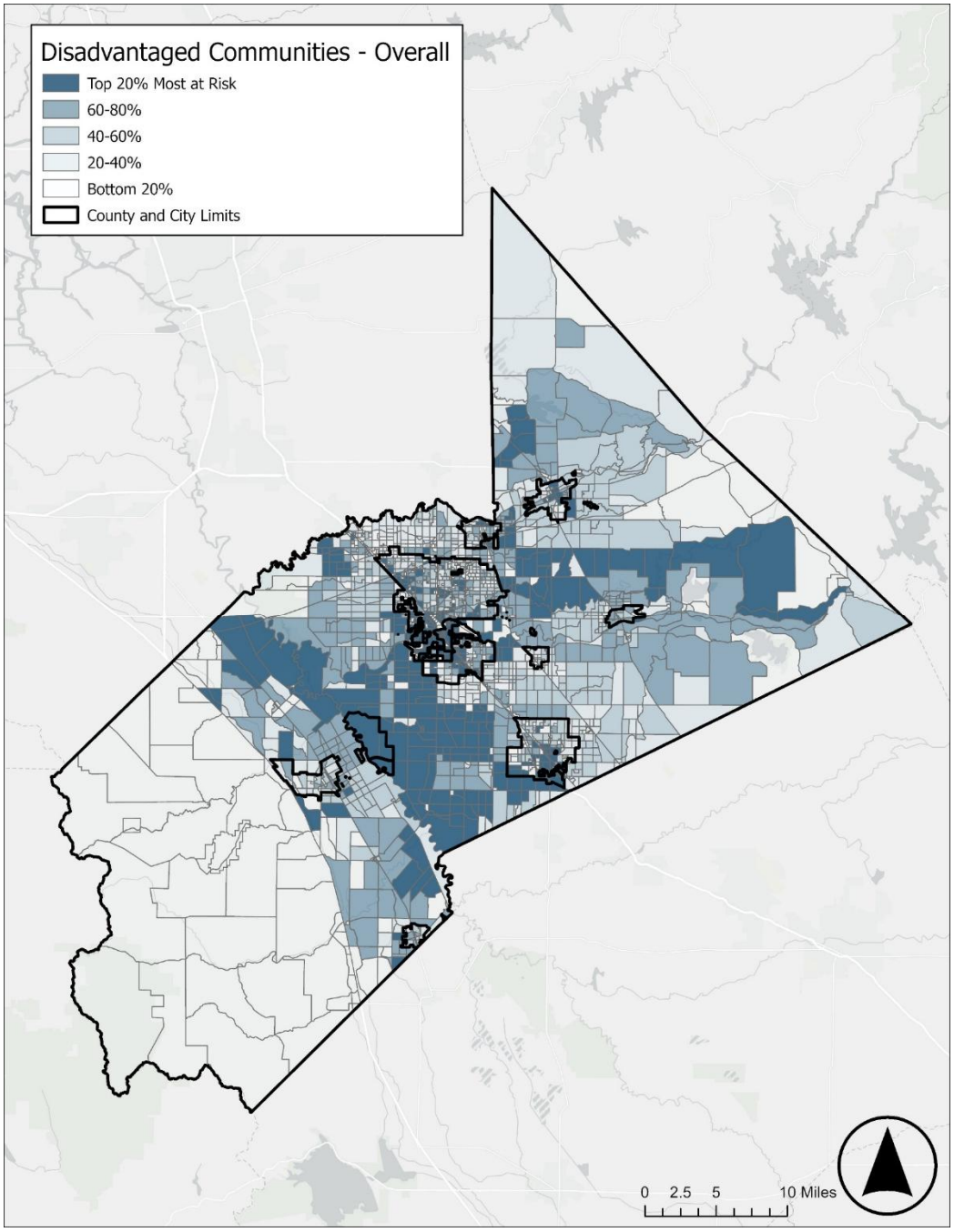


Figure 18 – Modesto

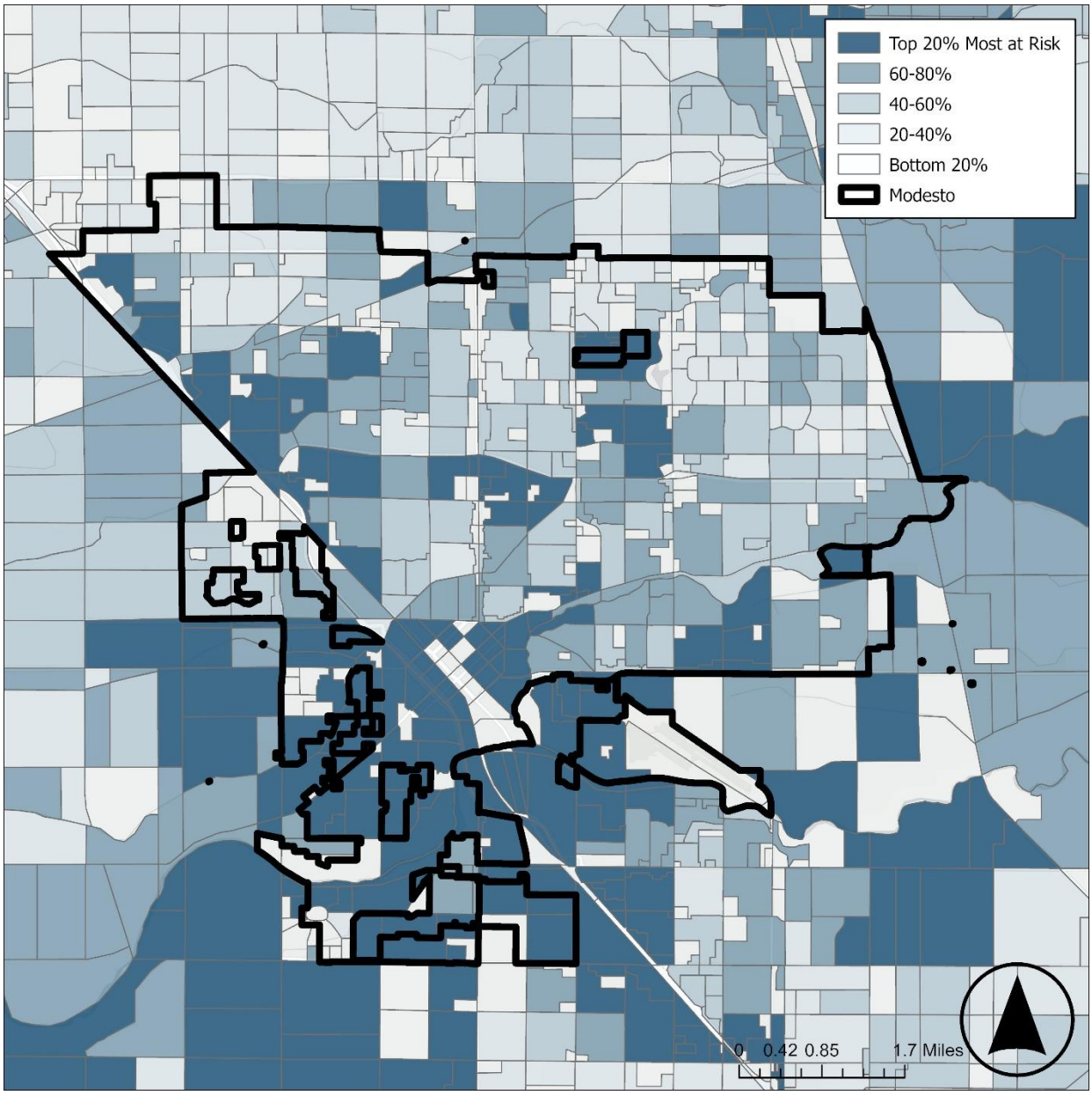


Figure 19 – Turlock

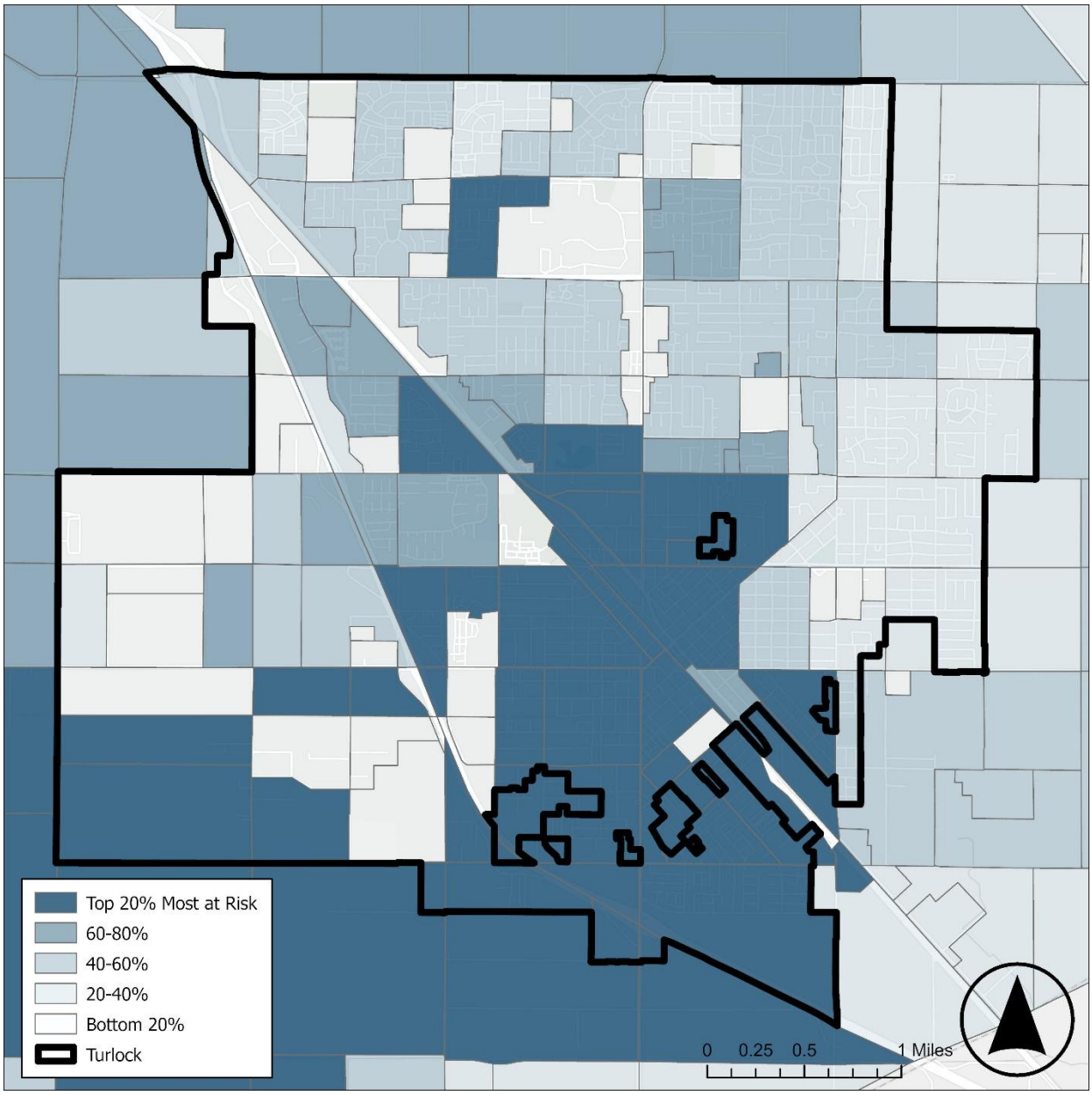


Figure 20 – Ceres

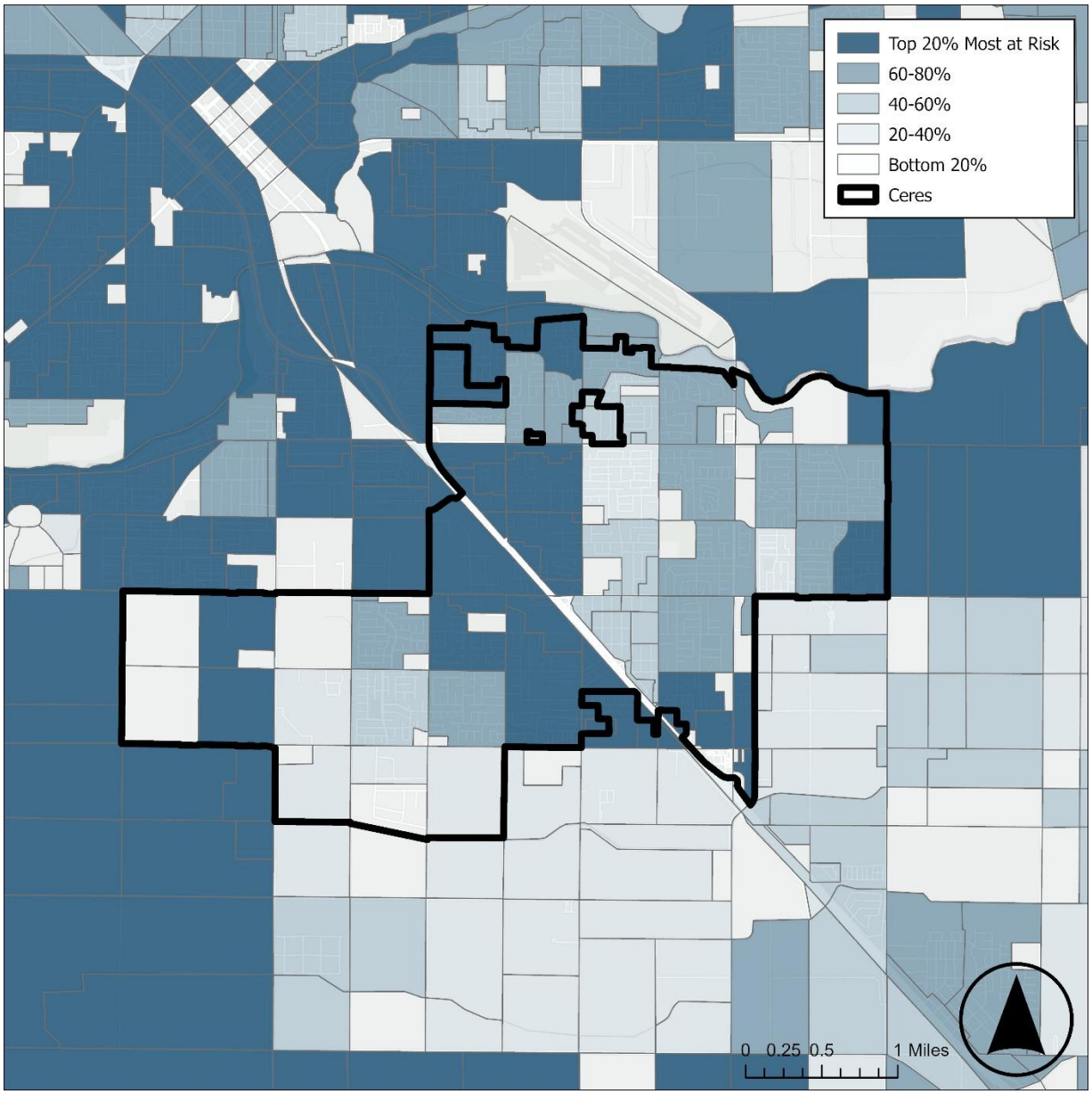


Figure 21 – Riverbank

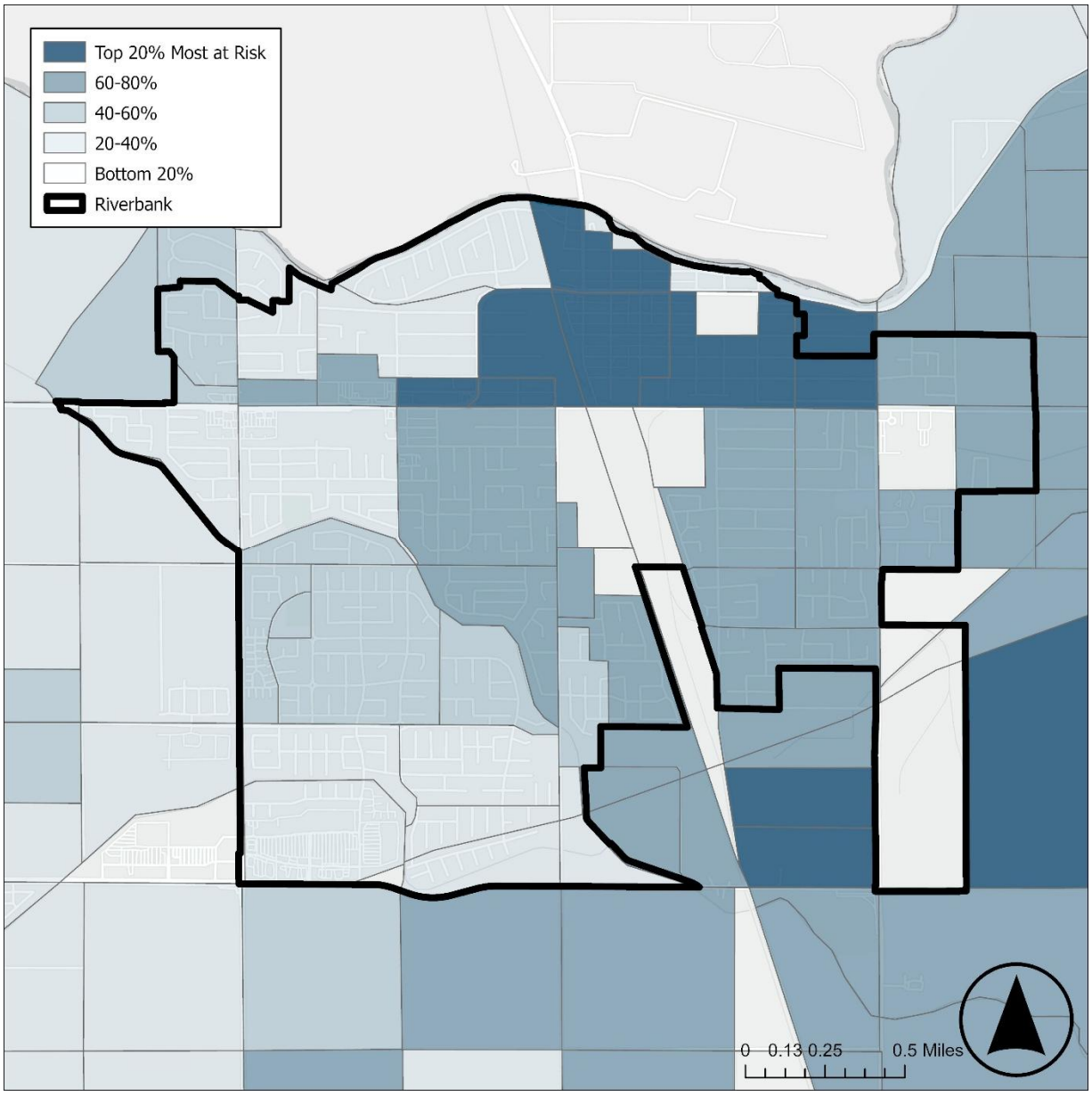


Figure 22 – Oakdale

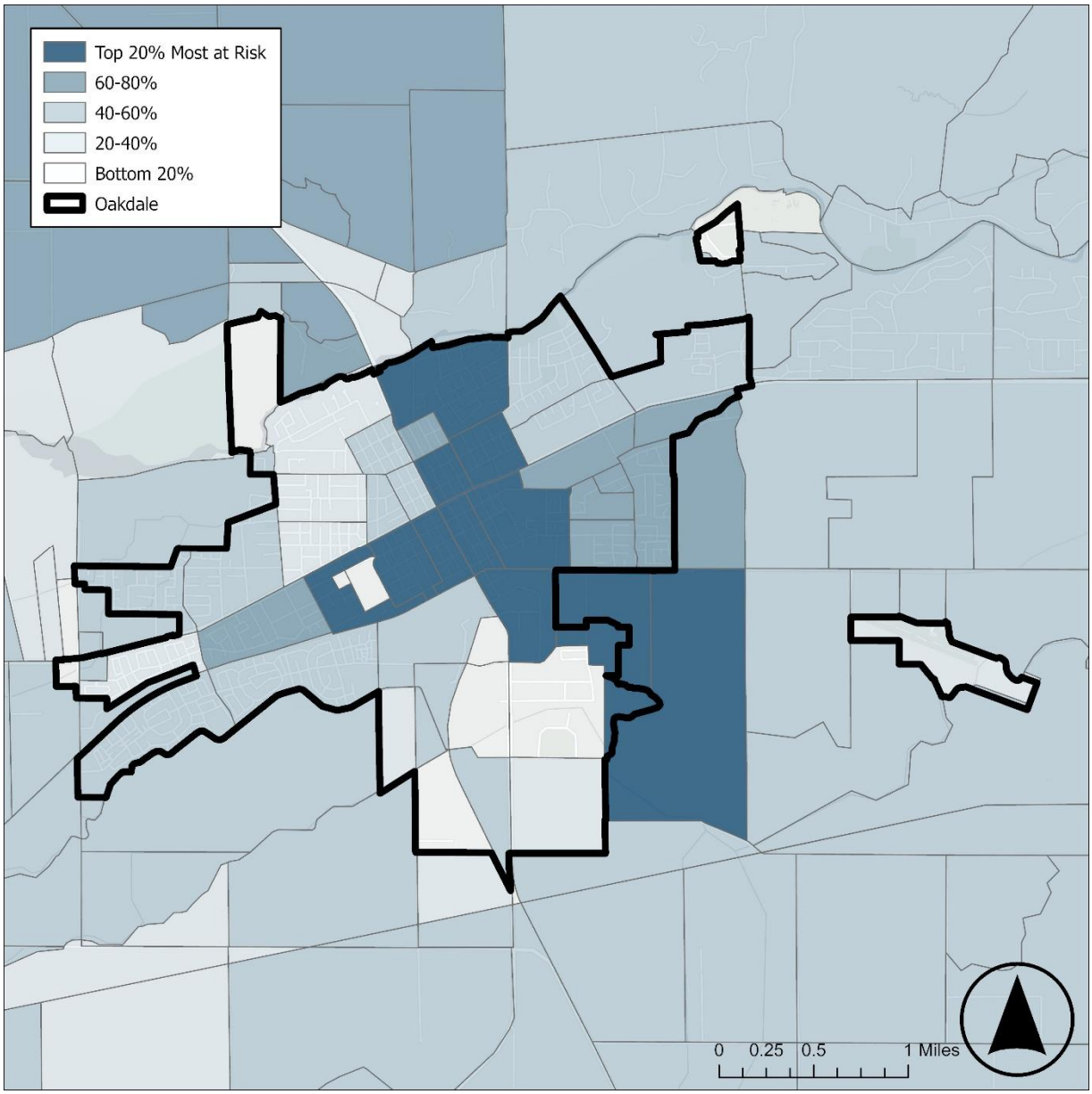


Figure 23 – Patterson

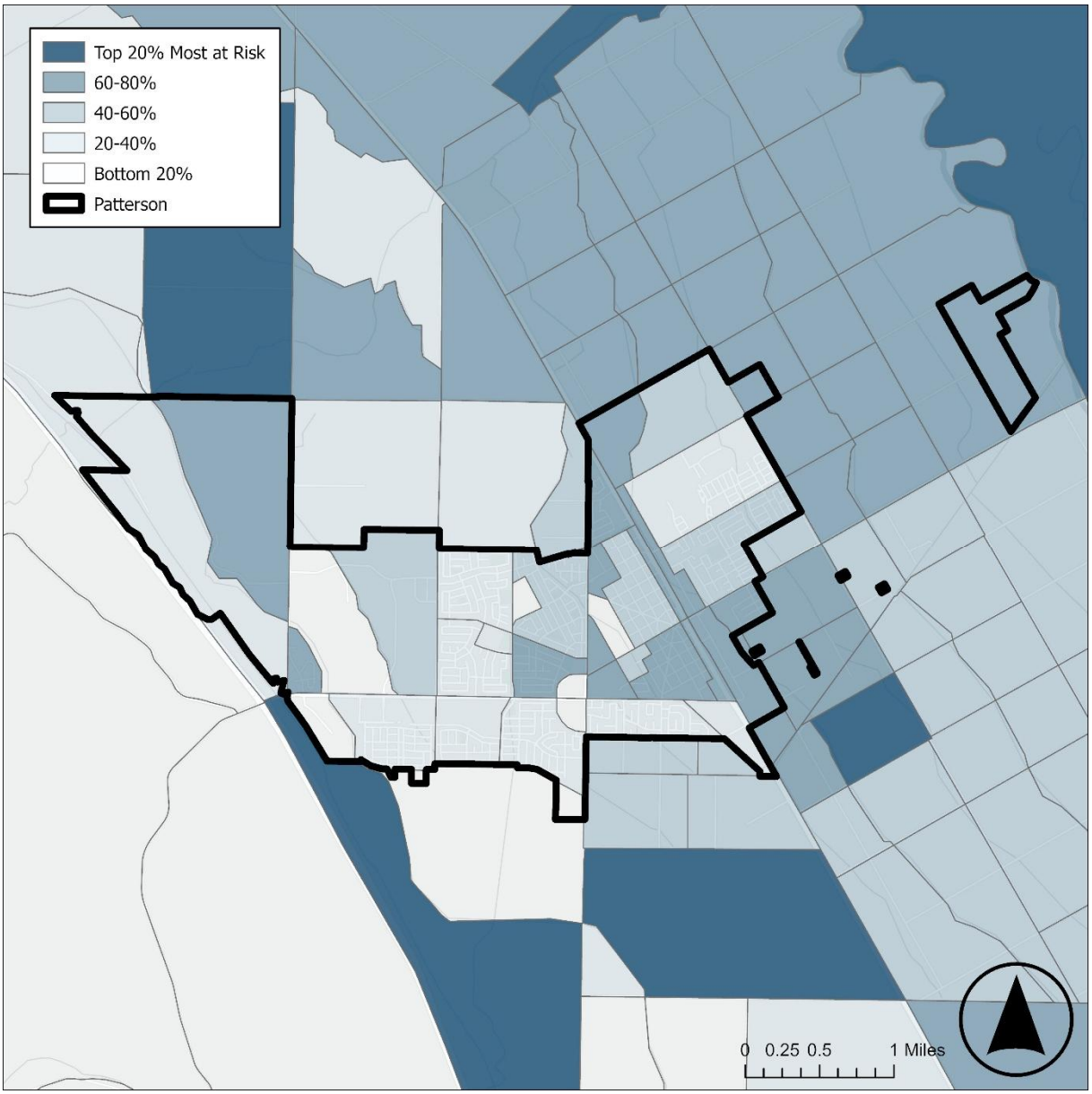


Figure 24 – Newman

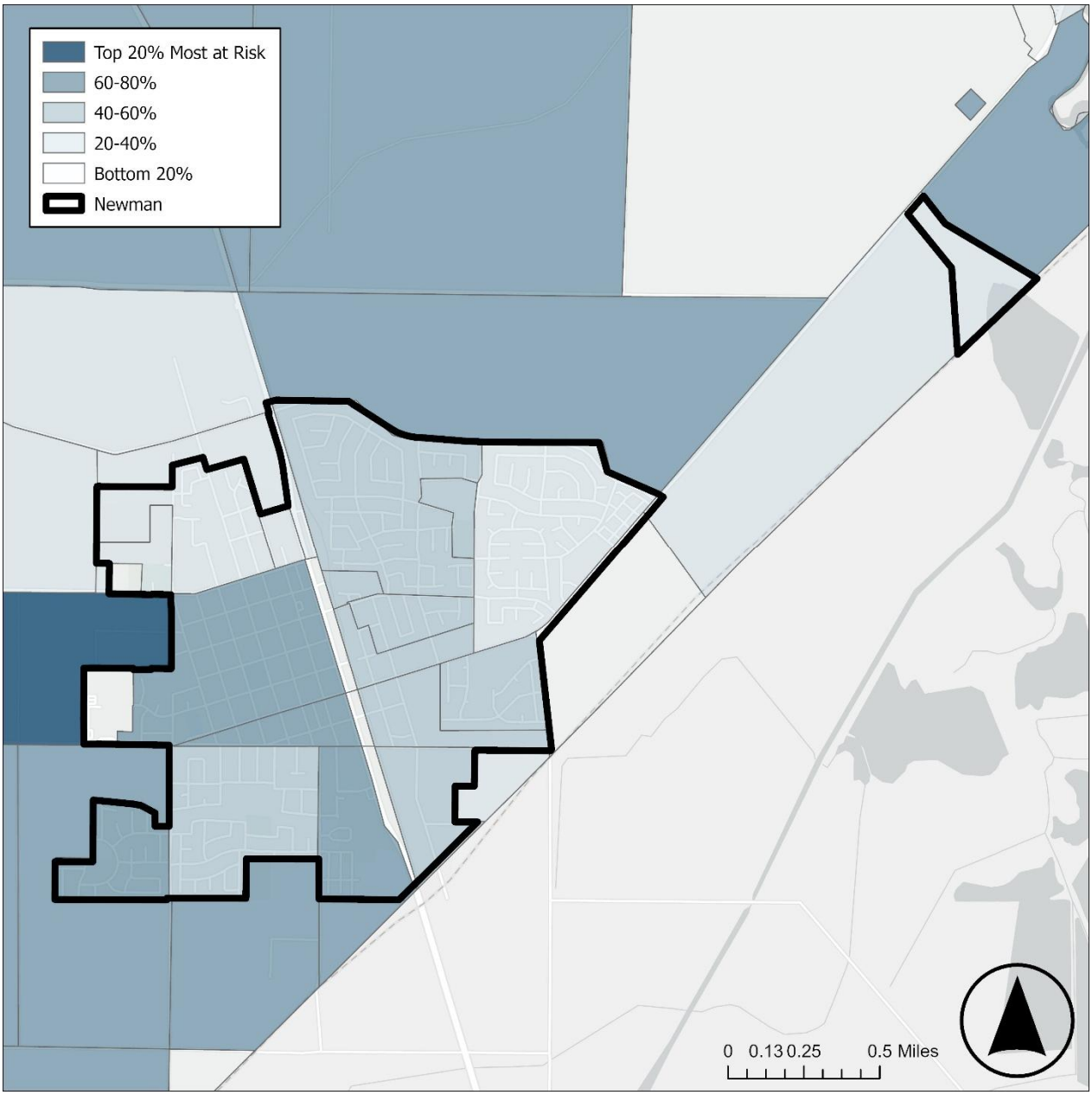


Figure 25 – Waterford

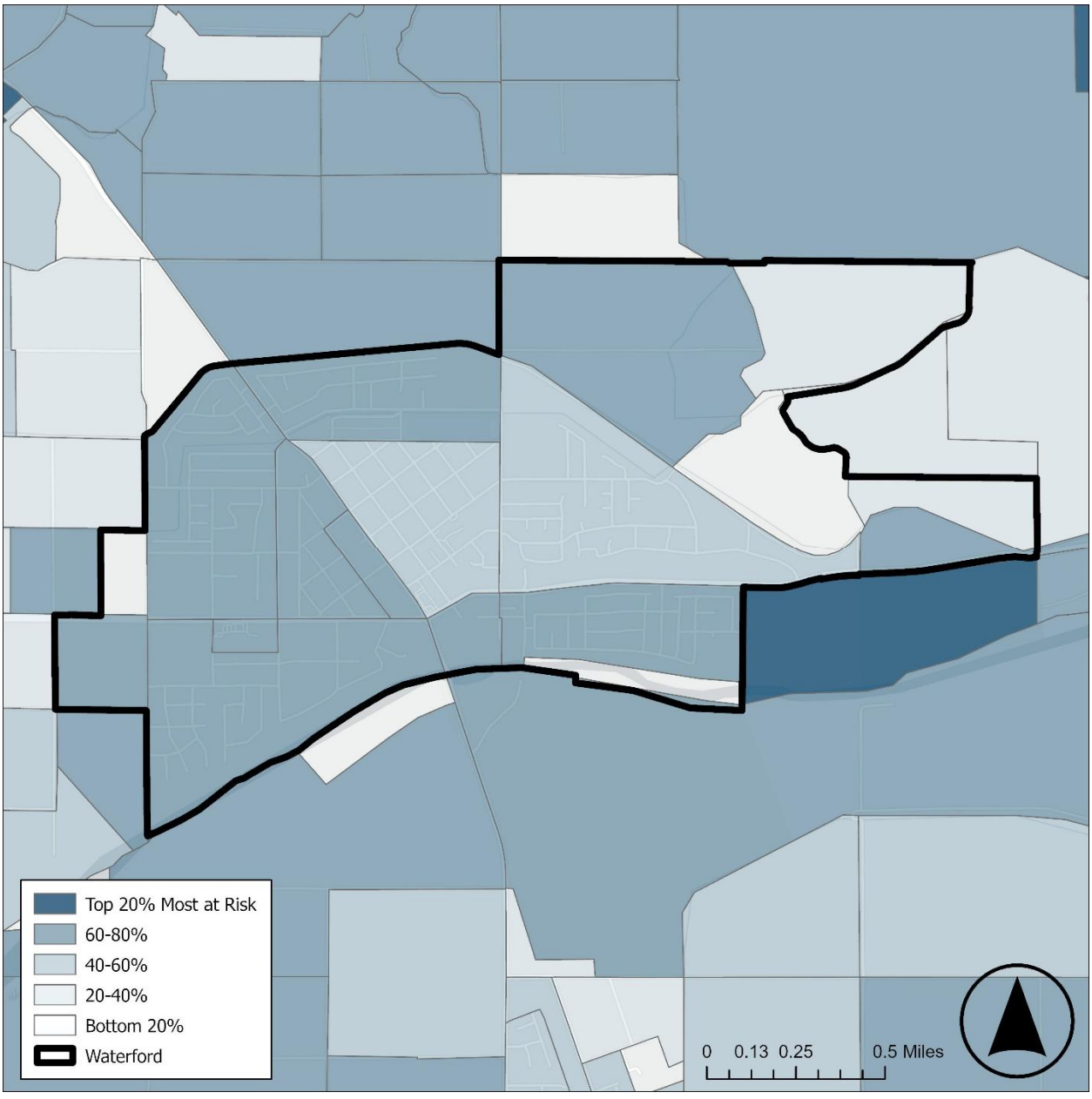


Figure 26 – Hughson