

Market Context Card: Population Metrics Deep Dive

Executive Summary

This document provides a detailed breakdown of the metrics selected for the CapMatch Population Context card. The guiding philosophy was to move beyond simple population counts and growth rates to provide a holistic, multi-faceted view of a market’s demographic and economic landscape.

By integrating data on growth drivers, socio-economic indicators, and housing trends, the card empowers institutional lenders and real estate borrowers with the nuanced intelligence needed to assess a market’s stability, potential, and risk profile. Each metric was chosen for its direct relevance to real estate investment analysis, sourced from credible, publicly available APIs, and presented in an intuitive, actionable format.

The report is structured to mirror the user interface, detailing the metrics found in each tab of the application: **Overview**, **Demographics**, **Economics & Drivers**, and **Housing**.

I. Overview & Core Metrics

This section provides a high-level snapshot of the selected market, focusing on the most critical, at-a-glance indicators.

Metric	Why it’s important	Details & Calculation	Data Source(s)
Population	The foundational metric for market size. It’s the basis for all demand-side analysis.	The total number of residents in the census tract. The value displayed is the most recent estimate available.	U.S. Census Bureau: American Community Survey (ACS) 5-Year Estimates, Table B01003, Variable B01003_001E (Estimate) & B01003_001M (Margin of Error).
5-Yr CAGR	Measures the smoothed, annualized growth rate, which is a better indicator of	The Compound Annual Growth Rate is calculated over the last 5 years of available data. Formula:	U.S. Census Bureau: Historical ACS 5-Year population data for the tract.

Metric	Why it's important	Details & Calculation	Data Source(s)
	long-term trends than volatile year-over-year changes.	$((\text{End Pop} / \text{Start Pop})^{(1/\text{Years})}) - 1.$	
Density	Indicates the urbanicity of an area (urban, suburban, rural) and can signal development potential or market saturation.	Calculated by dividing the total population by the land area of the census tract in square miles.	U.S. Census Bureau: Population from ACS Table B01003 and Land Area (ALAND) from the TIGERweb Geographies API.
Walk Score®	A proxy for urban amenities, neighborhood vibrancy, and appeal to demographics that prefer walkable lifestyles (e.g., young professionals).	A score from 0-100 measuring the walkability of an address. Higher scores mean daily errands do not require a car.	Walk Score® API: walkscore and description fields.
Transit Score®	Measures accessibility and connectivity, which is crucial for transit-oriented developments and for residents who rely on public transportation.	A score from 0-100 measuring how well an address is served by public transit.	Walk Score® API: transit.score and transit.description fields.

Metric	Why it's important	Details & Calculation	Data Source(s)
Median Age	Reveals the demographic profile of an area—whether it's attracting young professionals, families, or retirees, which impacts housing demand.	The median age of all residents in the census tract.	U.S. Census Bureau: ACS 5-Year Estimates, Table B01002, Variable B01002_001E (Estimate) & B01002_001M (Margin of Error).

II. Demographics

This section dives into the composition of the population, providing insights into the area’s wealth, educational attainment, and household structure.

Metric	Why it's important	Details & Calculation	Data Source(s)
Median Income	A primary indicator of the area’s economic health and the purchasing power of its residents, directly impacting rent affordability and retail viability.	The median household income in the past 12 months, adjusted for inflation to the latest data year.	U.S. Census Bureau: ACS 5-Year Estimates, Table B19013, Variable B19013_001E (Estimate) & B19013_001M (Margin of Error).
Bachelor’s+	A proxy for a skilled workforce. High educational attainment	The percentage of the population aged 25 and over that	U.S. Census Bureau: ACS 5-Year Estimates, Table B15003.

Metric	Why it's important	Details & Calculation	Data Source(s)
	is often correlated with economic resilience, higher incomes, and demand for premium housing.	holds a bachelor's degree or higher. Calculated by summing variables for Bachelor's, Master's, Professional, and Doctorate degrees and dividing by the total population 25+.	
Avg. Household Size	Informs the type of housing in demand. Smaller sizes suggest demand for studios/1-beds, while larger sizes suggest demand for multi-bedroom units.	The average number of people per household.	U.S. Census Bureau: ACS 5-Year Estimates, Table B25010, Variable B25010_001E (Estimate) & B25010_001M (Margin of Error).

Demographic Visualizations

- **Age Distribution:** A bar chart visualizing the population breakdown into key cohorts (Under 18, 18-34, 35-64, 65+). This quickly shows whether a market skews young, is family-oriented, or is a retirement area.
- **Sex Distribution:** A pie chart showing the male/female split, a basic but fundamental demographic indicator.
- **Household Composition:** A pie chart illustrating the percentage of family vs. non-family households, helping to understand the social fabric of the community.

- **Race & Ethnicity:** A pie chart displaying the racial and ethnic diversity of the area, which can be a factor in community development and retail planning.
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III. Economics & Population Drivers

This section analyzes the underlying forces of population change and the local economic context. **Crucially, migration and natural increase data are provided at the county level**, as this data is more reliable and often a better indicator of broad regional trends that affect the local tract.

Metric	Why it's important	Details & Calculation	Data Source(s)
Poverty Rate	An indicator of economic distress. High or rising poverty can signal risk for investment and impact an area's long-term stability.	Percentage of the population with income below the poverty level in the past 12 months.	U.S. Census Bureau: ACS 5-Year Subject Tables, Table S1701, Variable S1701_C03_001E.
Labor Force Participation	Measures the economic activity of the population. A high rate suggests a healthy job market and an economically active populace.	The percentage of the population aged 16+ that is in the labor force (employed or actively seeking work).	U.S. Census Bureau: ACS 5-Year Estimates, Table B23025.
Mean Commute	Reflects the area's infrastructure and proximity to employment centers. Longer	The average travel time to work in minutes for workers 16+ who do not work from home.	U.S. Census Bureau: ACS 5-Year Data Profiles, Table DP03, Variable DP03_0025E.

Metric	Why it's important	Details & Calculation	Data Source(s)
	commute times can detract from an area's appeal.		
Migration Drivers (County)	This is the "why" behind population change. It shows whether growth is driven by people moving in (net migration) or by births outpacing deaths (natural increase). Migration-driven growth is often a stronger signal of economic opportunity.	A series of metrics for the surrounding county, including: Net Migration, Inflows vs. Outflows, and Domestic vs. International migration.	U.S. Census Bureau: Population Estimates Program (PEP) Components of Change & ACS Migration Flows data.
Natural Increase (County)	Complements migration data by showing the organic population change from births and deaths within the county.	The difference between births and deaths in the county over the latest reporting period.	U.S. Census Bureau: Population Estimates Program (PEP) Components of Change data.

IV. Housing Market

This section provides key metrics on the local housing stock, directly relevant to real estate valuation and investment strategy.

Metric	Why it's important	Details & Calculation	Data Source(s)
% Renter Occupied	A critical metric for multi-family investors. A high percentage indicates a strong rental market.	The percentage of occupied housing units that are renter-occupied.	U.S. Census Bureau: ACS 5-Year Estimates, Table B25003.
Median Home Value	Gauges the health and affordability of the for-sale housing market, which can influence rental demand.	The median value of owner-occupied housing units.	U.S. Census Bureau: ACS 5-Year Estimates, Table B25077.
Median Gross Rent	A direct input for rental income projections and market comparisons.	The median gross rent for renter-occupied units, which includes contract rent plus estimated utility costs.	U.S. Census Bureau: ACS 5-Year Estimates, Table B25064.
Median Year Built	Indicates the age of the local housing stock. An older stock may present opportunities for value-add	The median year in which housing structures in the tract were built.	U.S. Census Bureau: ACS 5-Year Estimates, Table B25035.

Metric	Why it's important	Details & Calculation	Data Source(s)
	renovations or new development.		
Vacancy Rates	A key supply/demand indicator. High vacancy can signal oversupply or low demand, while low vacancy indicates a tight market.	Includes Overall, Rental, and Homeowner vacancy rates, calculated from multiple ACS tables to provide a granular view.	U.S. Census Bureau: ACS 5-Year Estimates, Tables B25002, B25003, B25004.

Housing Visualizations

- **Housing Tenure:** A pie chart showing the split between owner-occupied and renter-occupied households, providing a quick visual of the market's composition.

Conclusion

The Population Context card is designed to be a powerful, data-rich tool that provides a comprehensive market narrative. By layering core stats, demographic profiles, economic drivers, and housing data, it equips users with the necessary intelligence to make informed, confident real estate decisions.