Richmond, California

Indicators Report

by
The National Economic Education Delegation (NEED)

April 20, 2024

Exploring the economics, demographics, and well-being of Richmond and its residents through indicators.

This report was produced by the:

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Executive Summary

Assessing the City with Indicators

About this Report

This report provides background or summary information for the city of Richmond (the City) in the form of indicators.

Using this Report

Indicators are measures of various aspects of a regional economy. They help to provide an indication of the quality of life in a region and progress toward improving conditions in the local economy. This report focuses on indicators for changing demographics, incomes, housing markets, commute patterns, and employment in Richmond. These indicators are compared to Contra Costa County (the County) as a whole, a broader region where one is well defined, California, and the United Sates.

This report is vital for understanding trends in the underlying economy. It does not provide forecasts, but Rob Eyler and Jon Haveman at Economic Forensics and Analytics are available to provide them if that is of interest.

Topics Covered:

- **Demographics:** A detailed snopshot of Richmond demographics is presented. This provides evidence on the size, age and sex, income and poverty status, race and ethnicity, housing status, living arrangements, education, health, and transportation choices of the population. Beyond the current population level, data on trends in local population growth, in comparison with other broader regions is presented, in both tabular and graphical form.
- **Employment Report:** Here, we provide a brief snapshot or employment and unemployment in Richmond and how the City's experience differs from broader regions.
- Income and Earnings: Vital to understanding the prosperity of a city relative to its surrounding
 area is information on income and earnings. We provide a ranking of the City's income relative to
 all cities in California as well as growth relative to local regions. Inequality and poverty status are
 also important indicators for the level of equity in the community. We provide evidence of trends
 in both, not only for all residents, but also for children separately.
- Housing: This section provides evidence on the cost and availability of housing. Both median home values and rental costs are included, along with detailed information on home ownership, by age and income, in particular. Further, evidence is provided on the housing burden in the City, again, in comparison with other broader regions. We also provide evidence on the rate at which new buildings and units are permitted along with a broader housing picture. Finally, we provide evidence on the age of the housing stock in Richmond, along with information on how long the City's residents have been in place.
- **Transportation:** Increasingly important, in the wake of the pandemic, is an understanding of the transportation patterns and choices of local residents. We provide detailed evidence on the proprotion of residents who work from home and on the various transportation choices of those who head to the office. This information is also provided for those who work in Richmond, but do not necessarily live in Richmond.
- **Migration:** Population changes comes primarily through organic causes: births and deaths. Migration between regions also plays a significant role in population growth. A final section of the report provides evidence on migration into and out of the City.

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Demographics

Definition:

Data on the demographics of a city indicate the nature of the population, with a focus on age, gender, race and ethnicity, as well as household compositon.

Why is it important?

The characteristics and growth of Richmond's population are fundamental indicators of the city's growth potential.

A Demographic Snapshot

Statistic	2022	2019
POPULATION		
Population Estimate (#, 5yr)	115,619.0	109,884.0
Veterans (#, 5yr)	2,515.0	3,231.0
Foreign born persons (%, 5yr)	34.4	35.2
Population age 25+ (#, 5yr)	79,781.0	75,470.0
AGE AND SEX		
Persons under 5 years (%, 5yr)	5.4	6.2
Persons under 18 years (%, 5yr)	21.4	21.8
Persons 65 years and over (%, 5yr)	14.3	13.4
Female persons (%, 5yr)	50.6	50.8
INCOME AND POVERTY		
Median household income (\$, 5yr)	86,618.0	68,472.0
Per capita income in past 12 months (\$, 5yr)	38,522.0	31,089.0
Persons in poverty (%, 5yr)	14.3	14.7
Children age less than 18 in poverty (#, 5yr)	5,604.0	5,072.0
Children age less than 18 in poverty (%, 5yr)	23.0	21.4
RACE AND ETHNICITY		
White alone (%, 5yr)	24.2	36.5
African American alone (%, 5yr)	18.3	20.2
American Indian or Alaska Native alone (%, 5yr)	1.2	0.5
Asian alone (%, 5yr)	14.2	15.4
Native Hawaiian and Other Pacific Islander alone (%, 5yr)	0.5	0.4
Two or More Races (%, 5yr)	13.3	5.7
Hispanic or Latino (%, 5yr)	44.0	42.5
White alone, not Hispanic or Latino (%, 5yr)	17.5	17.8
HOUSING		
Housing units (#, 5yr)	41,566.0	39,643.0
Owner-occupied housing units (%, 5yr)	51.9	49.8
Median value of owner-occupied housing units (\$, 5yr)	624,800.0	462,600.0
Median selected monthly owner costs-with a mortgage (\$, 5yr)	2,613.0	2,181.0
Median selected monthly owner costs-without a mortgage (\$, 5yr)	693.0	562.0
Median gross rent (\$, 5yr) FAMILIES AND LIVING ARRANGEMENTS	1,853.0	1,509.0
Households (#, 5yr)	20 619 0	27 000 0
Persons per household (#, 5yr)	39,618.0 2.9	37,088.0 2.9
Living in same house 1 year ago, % of persons age 1+ (5yr)	90.0	2.9 87.4
EDUCATION		
High school graduate or higher, % of persons age 25+ (5yr)	79.4	78.4
Bachelor's degree or higher, % of persons age 25+ (5yr)	32.1	28.2
HEALTH		
With a disability, under age 65 years (#, 5yr)	6,352.0	8,051.0
Persons without health insurance, under age 65 years (%, 5yr) LABOR FORCE	7.9	9.9
In civilian labor force, persons age 16+ (%, 5yr)	66.6	65.6
In civilian labor force, women age 16+ (%, 5yr)	62.9	60.1
Employed, persons age 16+ (%, 5yr)	59.8	59.5
Self employed (%, 5yr)	9.3	10.7
TRANSPORTATION		
Mean travel time to work, workers age 16+ (Mins., 5yr)	30.5	34.0
Drive alone in private vehicle (%, 5yr)	62.8	62.5
Using public transportation (%, 5yr)	15.0	20.3
Worked from home (%, 5yr)	11.1	4.5

Source: American Community Survey, Summary Files
Note: Data are from the 1-year files unless indicated by the notation 5yr.

Current Population

The data in these two tables and the following two graphs are from the CA Department of Finance (DOF). The DOF produces population estimates for geographies around California twice a year: January and July. As estimates for cities are only available in January, these two tables are based on the January data. The remaining figures are from the American Community Survey (ACS), provided annually by the U.S. Bureau of the Census.

Table 1. Population Change by Region

(Thousands, January to January)

	2023		% Char	nge						
Region	Population	1 Year	3 Year	5 Year						
City										
Richmond	113,518	-0.88	2.93	3.08						
(County and Br	oader Reg	jions							
Contra Costa County	1,147,653	-0.36	-0.19	-0.02						
Bay Area	7,548,792	-0.45	-2.58	-2.62						
California	38,940,231	-0.35	-1.79	-2.01						

Source: CA DOF; Calculations by National Economic Education Delegation

Table 2. County Population Change by City

(Thousands, January to January) % Change 2023 Local City Bay Area California ${\bf Contra~Costa~County} \quad 1,151.8$ 1,147.7-0.36-0.45-0.35Concord -0.84123.1122.1Antioch 115.40.94 114.4 Richmond 113.5 -0.88114.5San Ramon 83.6 82.9 -0.86Pittsburg 74.774.80.16Walnut Creek 69.669.2-0.51Brentwood 64.20.4664.5Oakley 44.3 45.0 1.67 Danville -0.7943.242.8 Martinez 36.5 36.8 -0.67Pleasant Hill 33.733.4-0.89San Pablo 31.631.3-1.02Hercules 26.31.36 El Cerrito 25.7 25.5-0.88Lafavette 25.1 25.0-0.46Orinda 19.3 19.2 -0.52Pinole 18.4 18.2-1.07Moraga 17.116.9 -0.95

Source: CA DOF; Calculations by National Economic Education Delegation

10.7

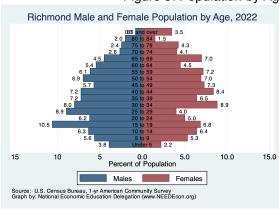
-1.08

10.8

Figure 1: Population Growth (1) 10 Percent Change from 2010 0 -10 -20 1990 2000 2010 2020 2030 Year, through 2023 Richmond (9.4%) Contra Costa County (9.5%) California (4.6%) Source: CA, Department of Finance Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 2: Population Growth (2) (Over 1, 5 and 32 years, through 2023) Annual Growth Rate (%), to 2023 1.5 1.0 0.5 0.0 -0.29 -0.36 -0.35 -0.5 32 Years 1 Year 5 Years Richmond Contra Costa County California Source: U.S. Bureau of Economic Analysis Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 3: Population by Age - Detailed Age Categories



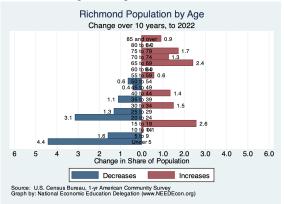
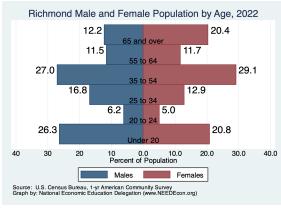


Figure 4: Population by Age - Broad Age Categories



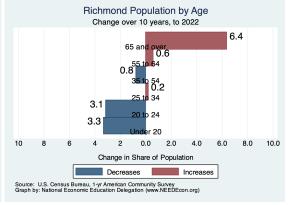


Figure 5: Population by Educational Attainment

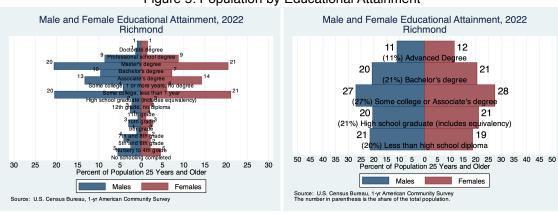


Figure 6: Population by Race/Ethnicity

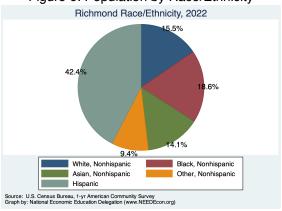
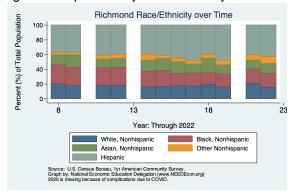


Figure 7: Population by Race/Ethnicity Over Time



Employment Report

Citywide Employment and Unemployment

Definition:

Each month, California's Employment Development Division (EDD) publishes an update on employment in California and in MSAs, counties, and cities all across the state. The report focuses primarily on non-farm employment, providing estimates of changes in em-

ployment by industry as well as unemployment in each region. Data for cities is limited to aggregate employment, labor force, and unemployment data. Those are reported below.

Why is it important?

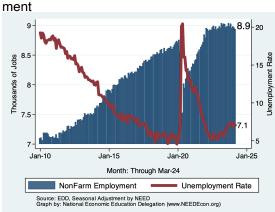
Employment growth is a fundamental indicator of the health of an economy.

Table 3. Richmond Summary for March, 2024

	Change From:							
Category	Current Value	Last Month	2 Months Ago	Last Year				
Employment	8,924	-30	-53	-103				
Labor Force	9,644	9	15	96				
Number Unemployed	678	-4	21	97				
Unemployment Rate	7.0	-0.0	0.2	0.9				

Source: EDD, National Economic Education Delegation

Figure 8: Historical Employment and Unemploy- Figure 9: Employment and Unemployment - Last



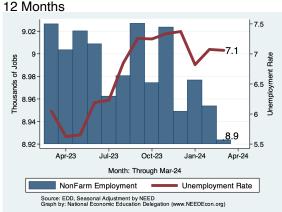
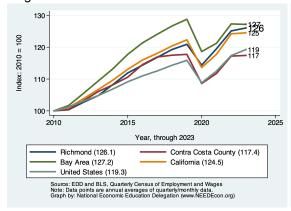
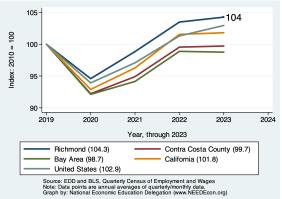


Figure 10: Relative Employment Growth Across Figure 11: Relative Employment Growth Across Regions - since 2010 Regions - since 2019





County Employment by Industry

California's Employment Development Division (EDD) does not regularly produce data on employment by industry for cities. However, we are able to report industry-level employment data for Contra Costa County. The following table provides the latest data for the County.

Table 4. Employment Growth by Industry in Contra Costa County for March, 2024

			Empl		% Grov	vth - Ann	ualized	Rate	
Industry	Employment	Share	Growth	Month	Qtr	6mo	1yr	3yr	5yr
Total Nonfarm	377,913	100.0	902.6	2.9	0.4	1.1	1.1	2.8	0.2
Goods Producing	39,893	10.6	198.5	6.2	-6.0	-3.2	-1.6	-0.0	-0.9
Mining, Logging and Construction	26,863	7.1	445.0	22.2	-8.4	-3.0	0.4	1.2	1.0
Manufacturing	13,478	3.6	-3.7	-0.3	-3.8	-2.7	-3.0	-1.1	-3.3
Durable Goods	6,291	1.7	-1.8	-0.3	-4.6	-3.2	-3.7	0.2	-0.6
Non-Durable Goods	7,225	1.9	-2.6	-0.4	-3.0	-1.6	-1.0	-1.8	-5.1
Service Providing	338,565	89.6	542.6	1.9	1.4	1.9	1.6	3.2	0.4
Trade, Trans & Utilities	63,677	16.8	-192.2	-3.6	-0.7	-1.6	-0.9	1.0	0.4
Wholesale Trade	7,775	2.1	-57.8	-8.5	-1.0	-3.3	-3.1	-1.6	-3.3
Retail Trade	41,830	11.1	-41.9	-1.2	0.9	0.7	0.4	0.9	0.1
Information	5,383	1.4	20.9	4.8	-4.5	-7.5	-6.9	-2.5	-5.3
Financial Activities	23,466	6.2	25.5	1.3	-4.7	-4.2	-2.5	-2.3	-2.6
Finance & Insurance	15,858	4.2	149.1	12.0	1.3	-1.2	-2.4	-4.6	-3.8
Real Estate & Rental & Leasing	7,522	2.0	-69.5	-10.5	-12.3	-6.0	-2.8	3.7	0.3
Professional & Business Srvcs	56,006	14.8	69.1	1.5	1.0	0.9	0.2	0.0	-0.0
Prof, Sci, & Tech	26,070	6.9	70.2	3.3	2.9	3.3	1.8	1.4	1.6
Educational & Health Srvcs	84,354	22.3	453.2	6.7	4.7	5.8	6.1	5.8	3.3
Education Srvcs	7,747	2.1	63.0	10.3	-4.3	2.8	1.9	6.1	0.1
Health Care & Social Assistance	76,581	20.3	378.1	6.1	5.2	6.1	6.6	5.7	3.6
Leisure & Hospitality	43,027	11.4	-80.7	-2.2	1.5	2.8	1.9	12.7	0.1
Arts, Entertainment & Recreation	8,421	2.2	133.5	21.1	13.1	12.9	7.0	32.8	4.4
Accommodation & Food Srvcs	34,960	9.3	-113.2	-3.8	1.8	2.0	0.8	9.3	-0.6
Other Srvcs	13,060	3.5	184.7	18.6	-5.0	1.1	4.0	5.3	-1.0
Government	49,364	13.1	103.8	2.6	2.2	3.1	2.4	2.7	-0.5
Federal	4,772	1.3	0.0	0.0	-3.0	0.0	0.8	-0.9	0.3
State	1,616	0.4	-2.1	-1.5	-1.4	2.3	1.0	-1.6	0.2
Local	43,222	11.4	142.9	4.1	3.6	3.4	3.0	3.6	-0.5

Source: EDD, National Economic Education Delegation (NEED)

Some Employee Detail

Employed in Richmond

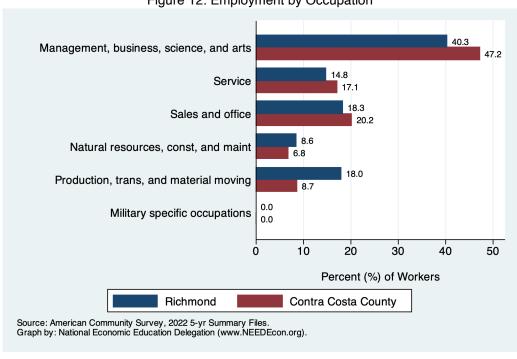
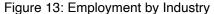
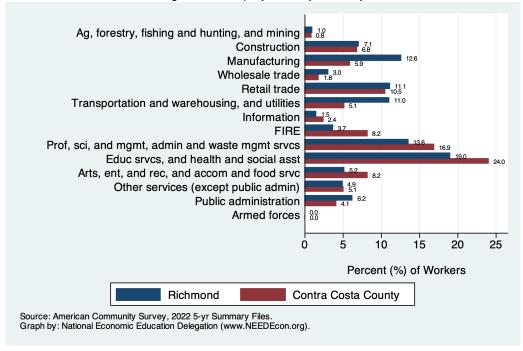


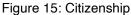
Figure 12: Employment by Occupation

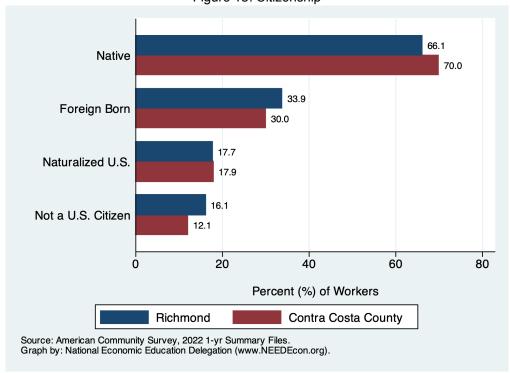




Speak only English Speak Spanish (SS) 12.0 SS - English very well 10.7 SS - English less than very well 7.5 19.1 Speak other languages (SOL) 18.0 12.2 SOL - English very well 12.3 7.0 SOL - English less than very well 20 40 60 Percent (%) of Workers Richmond Contra Costa County Source: American Community Survey, 2022 1-yr Summary Files. Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 14: Language Spoken at Home





Employed Residents of Richmond

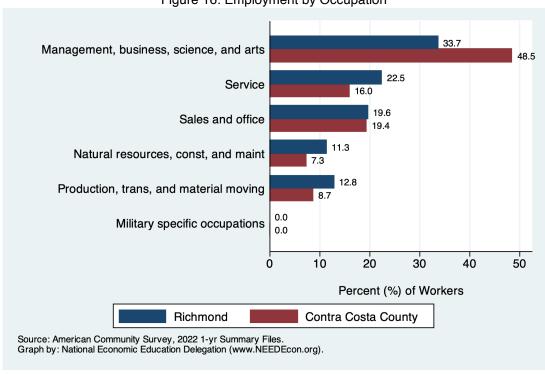
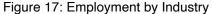
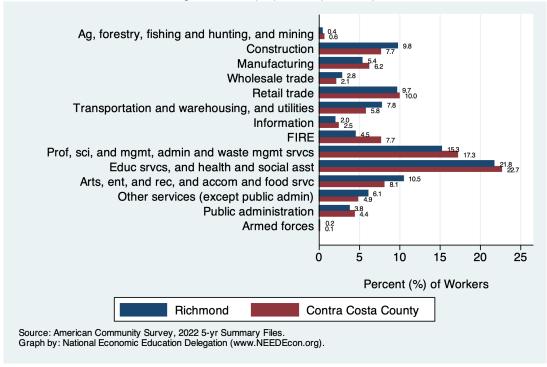


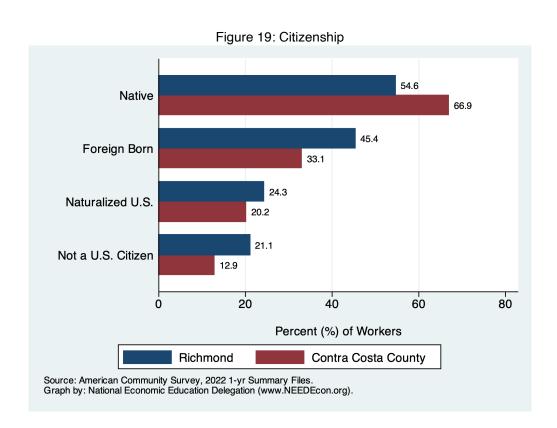
Figure 16: Employment by Occupation





43.5 Speak only English 60.5 Speak Spanish (SS) 18.0 SS - English very well 18.3 SS - English less than very well 20.2 Speak other languages (SOL) 20.1 SOL - English very well 13.8 9.2 SOL - English less than very well 20 40 60 Percent (%) of Workers Richmond Contra Costa County Source: American Community Survey, 2022 1-yr Summary Files. Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 18: Language Spoken at Home

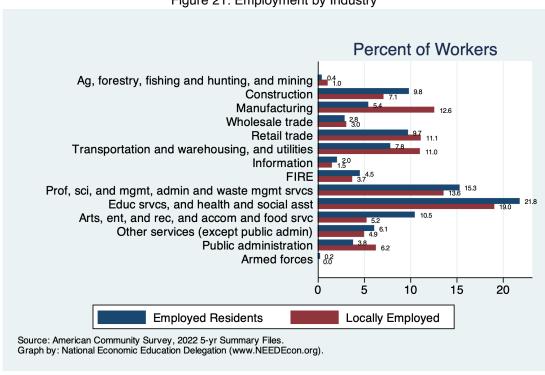


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Figure 20: Employment by Occupation



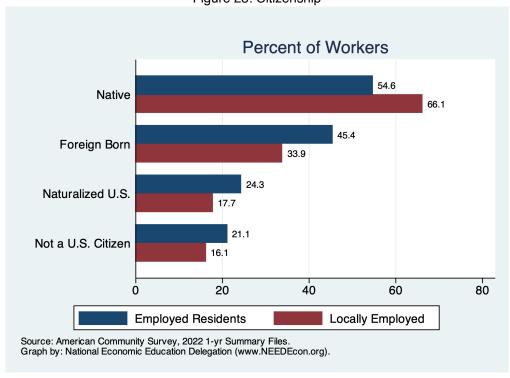
Figure 21: Employment by Industry



Percent of Workers Speak only English 58.4 36.3 Speak Spanish (SS) SS - English very well 12.0 SS - English less than very well Speak other languages (SOL) SOL - English very well 9.2 SOL - English less than very well 7.0 40 60 20 0 **Employed Residents** Locally Employed Source: American Community Survey, 2022 1-yr Summary Files. Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 22: Language Spoken at Home





Income and Earnings

Per Capita Income Growth

Definition:

Per capita income is the average income per person in Richmond. Personal income is the income received by, or on behalf of, all persons from all sources: from participation as laborers in production, from owning a home or unincorporated business, from the ownership of financial assets, and from government and business in the form of transfer receipts. Noncash government benefits are not included.

Why is it important?

Income is the money that is available to persons for consumption expenditures, taxes, interest payments, transfer payments to governments and the rest of the world, or for saving. As such, it is an important indicator of economic well-being in a community.

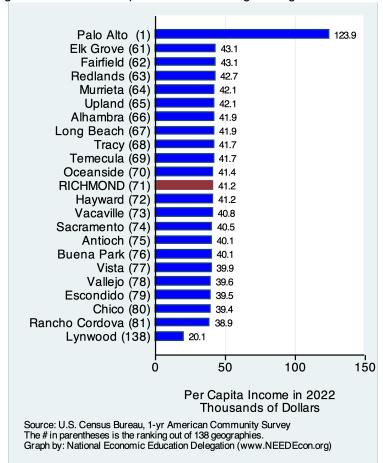
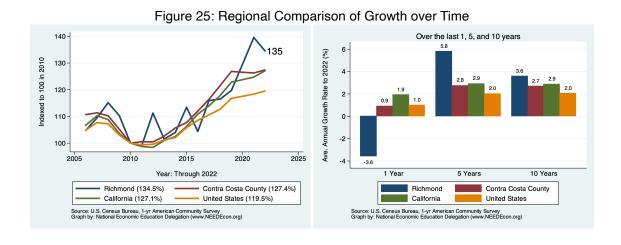
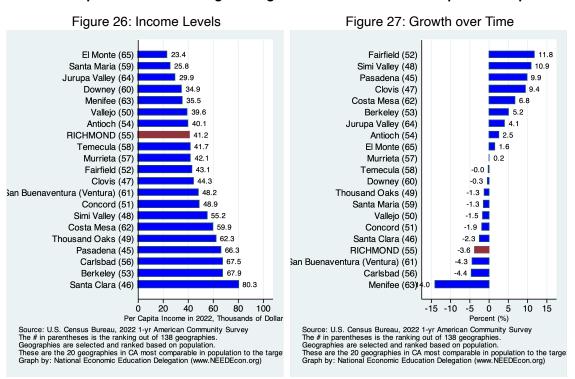


Figure 24: Real Per Capita Income Ranking Among California Cities

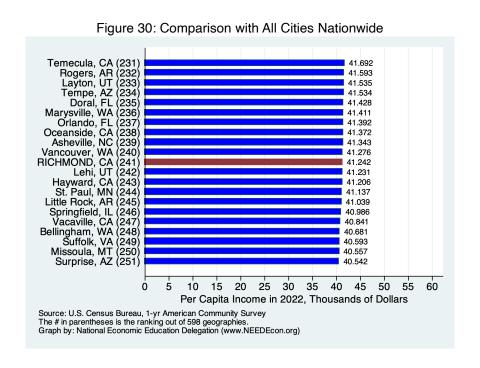


Real Per Capita Income Ranking Among California Cities - w/Comparable Populations



Real Per Capita Income Ranking Among Cities in Contra Costa County

Figure 29: Growth over Time Figure 28: Income Levels Pittsburg (7) 36.6 San Ramon (1) 16.4 Antioch (6) Walnut Creek (2) 13.2 RICHMOND (5) Pittsburg (7) Concord (4) Antioch (6) Brentwood (3) Concord (4) Walnut Creek (2) RICHMOND (5) San Ramon (1) 20 20 40 60 80 100 5 10 Per Capita Income in 2022, Thousands of Dollars Percent (%) Source: U.S. Census Bureau, 2022 1-yr American Community Survey
The # in parentheses is the ranking out of 7 geographies.
Geographies are selected and ranked based on population.
These are the cities in the same county as the target city.
Graph by: National Economic Education Delegation (www.NEEDEcon.org) Source: U.S. Census Bureau, 2022 1-yr American Community Survey The # in parentheses is the ranking out of 7 geographies. Geographies are selected and ranked based on population. These are the cities in the same county as the target city. Graph by: National Economic Education Delegation (www.NEEDEcon.org)



Poverty and Inequality

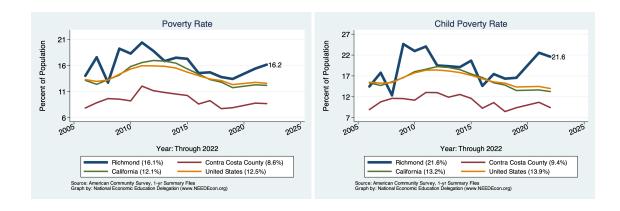
Definition:

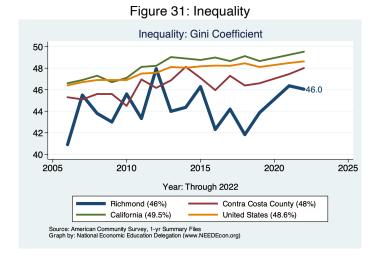
The local poverty rate provides an indication of the well-being of those at the bottom of the income distribution. The federal poverty rate measures the proportion of households in the region that are classified as living in poverty. Also included are measures of the extent to which the City's children are impoverished. Measures of the income distribution provide

further evidence on disparities in income in the region and how those disparities have changed over time.

Why is it important?

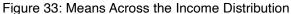
It is important to track measures of poverty and inequality to assess the extent of income disparities in the region, with an eye toward understanding how well the local economy is performing for all of its citizens.

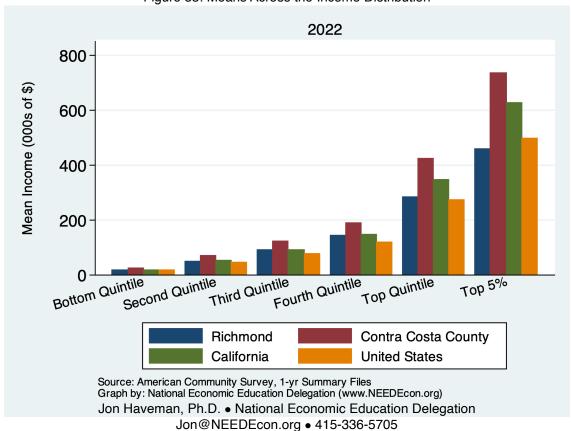




2022 50 Percent of All Income 40 30 20 10 0 Third Quintile Bottom Quintile Second Quintile Fourth Quintile Top Quintile Top 5% Richmond Contra Costa County California **United States** Source: American Community Survey, 1-yr Summary Files Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 32: Shares Across the Income Distribution





Housing

Housing Costs and Affordability

Definition:

Housing costs are measured in several different ways. First, we provide evidence on the evolution of median home prices, median rental price, and finally through evidence on the housing burden in the city and comparison regions. Housing burden is defined as a household needing to commit more than 30% of their household income toward housing costs. The median value is the amount in the middle. Fifty percent of units are above the median and 50 percent are below.

Why is it important?

Housing is one of three fundamental necessities, along with food and clothing. A measure of the cost of housing is an integral part of the measurement of the cost of living in a specific community. This is particularly true in cities and regions throughout the Bay Area, where housing costs are high relative to income.

Cost of Housing in Richmond and Broader Regions

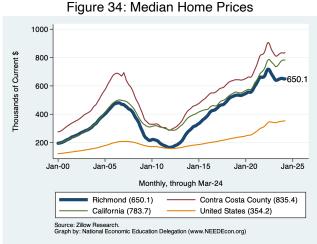


Figure 35: Median Rents 3.0 Thousands of Current \$ 2.5 2.0 1.5 Jan-26 Jan-14 Jan-16 Jan-18 Jan-20 Jan-22 Jan-24 Monthly, through Mar-24 Richmond (2.7) Contra Costa County (2.9) United States (2.0) Source: Zillow Research. Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Housing Ownership in Richmond and Broader Regions

Figure 36: Home Ownership Rates

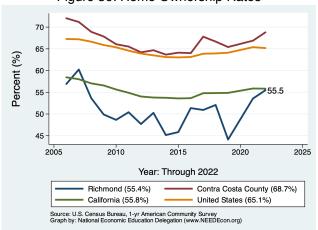


Figure 37: Home Ownership by Age

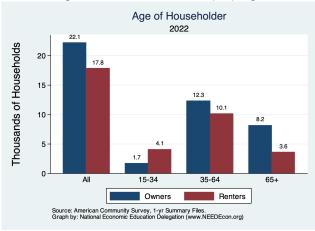


Figure 38: Income by Tenure

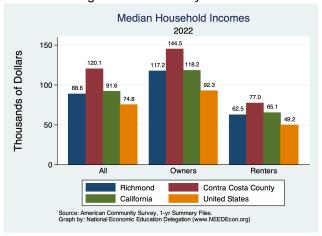


Figure 39: Income Distribution by Tenure

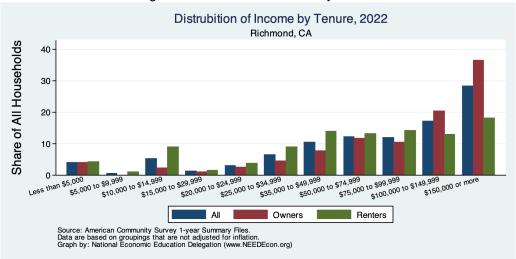


Figure 40: Income Distribution of Home Owners

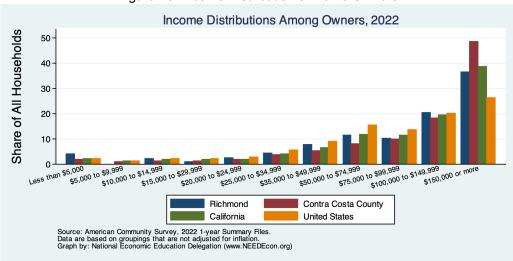
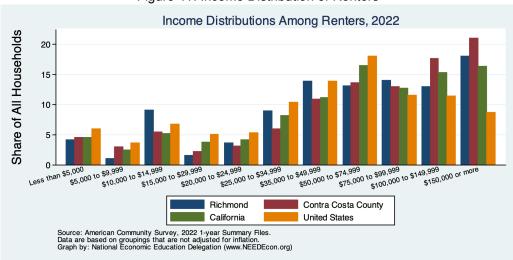


Figure 41: Income Distribution of Renters



Housing Burden in Richmond and Broader Regions

Figure 42: Home Owners w/ A Mortgage

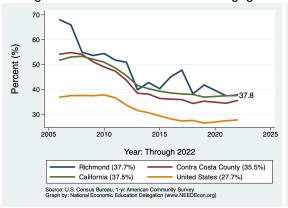


Figure 43: Home Owners w/o A Mortgage

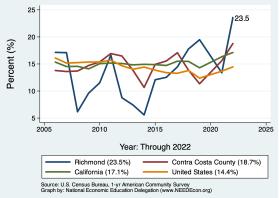


Figure 44: Renters

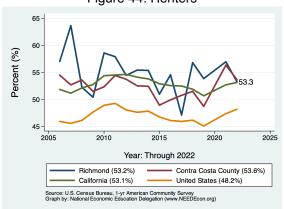
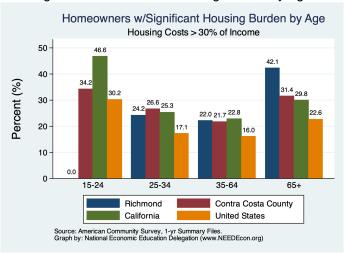


Figure 45: Homeowner Housing Burden by Age



Housing Picture

Definition:

Housing costs are measured in several different ways. First, we provide evidence on the evolution of median home prices, median rental price, and finally through evidence on the housing burden in the city and comparison regions. The median value is the amount in the middle. Fifty percent of units are above the median and 50 percent are below.

Why is it important?

In areas where the rate of population growth exceeds the rate of housing growth, this is likely to reflect a tightening housing market. A tightening housing market will also likely be reflected in lower vacancy rates and higher occupancy rates. It may also be reflected in higher numbers of people per household.

Table 5. Housing Market Indicators

				% Cha	nge from
Indicator	2023	2019	2010	2019	2010
Total Population	113,518.0	110,793.0	103,701.0	2.5	9.5
Total # of Homes	40,871.0	39,786.0	39,328.0	2.7	3.9
# Occupied Units	39,245.0	37,058.0	36,093.0	5.9	8.7
Persons per Household	2.9	3.0	2.8	-3.4	0.8
Vacancy Rate (%)	4.0	6.9	8.2	-42.0	-51.6

Source: CA DOF; Calculations by the National Economic Education Delegation

Figure 46: Housing Growth

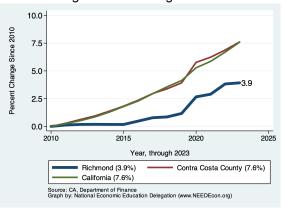


Figure 47: Persons per Household

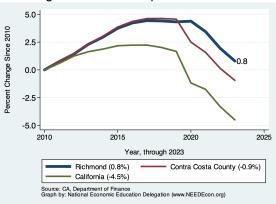


Figure 48: Vacancy Rates

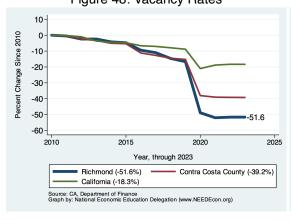
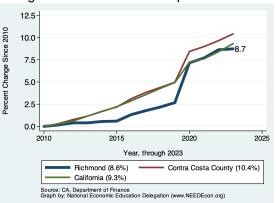


Figure 49: Number of Occupanied Units



Trends in the Growth of Housing by Housing Type

Figure 50: Single Detached Homes

10.0 Percent Change Since 2010 7.5 5.0 2.5 0.0 -2.5 2010 2015 2020 2025 Year, through 2023 Richmond (2.1%) Contra Costa County (7.5%) California (5.8%) Source: CA, Department of Finance Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 51: Single Attached Homes

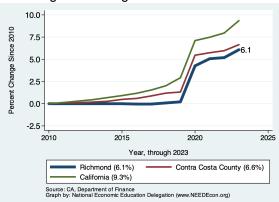
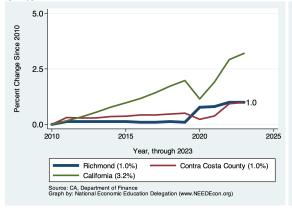
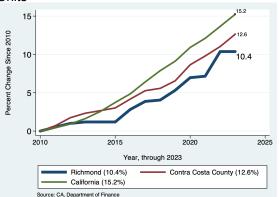


Figure 52: Housing in Buildings with Two to Four Figure 53: Housing in Buildings with Five or More Units

Units



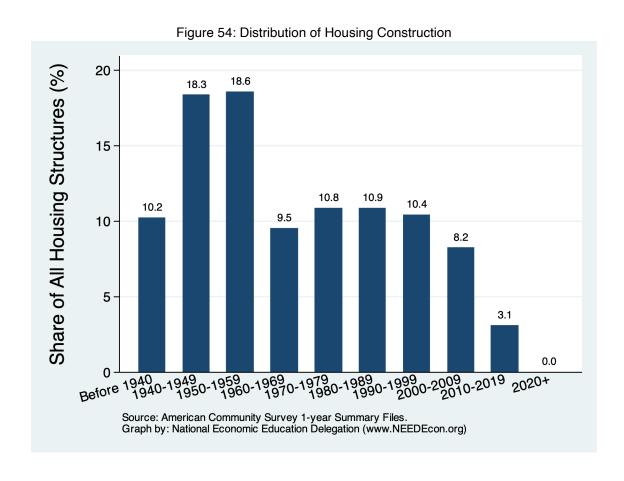


Vintage of Residential Housing

Why is it important?

This section provides evidence on the year in which residential housing in Richmond was built. We break it down into owned versus rented residences and provide a comparison across Contra Costa County and broader regions. A sense of the age of housing in a region provides an indication of the urgency with which a region might pursue additional hous-

ing. As the housing stock ages, an urgency with which renovations and rebuilds are permitted might result. All things equal, more recently constructed housing will be more likely to meet current codes and standards. Remodeling of existing units will be more desirable when existing units are, on average, older.



Jon Haveman, Ph.D. ◆ National Economic Education Delegation Jon@NEEDEcon.org ◆ 415-336-5705

Figure 55: Housing Vintage across Regions

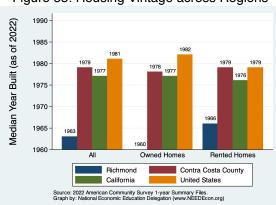


Figure 56: Housing Vintage by Tenure

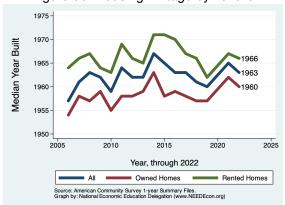


Figure 57: Vintage of Owned Residences

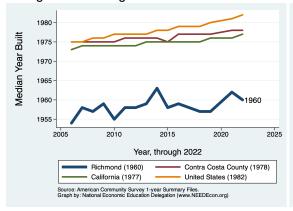


Figure 58: Vintage of Rented Residences

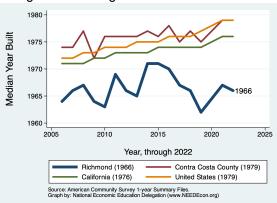
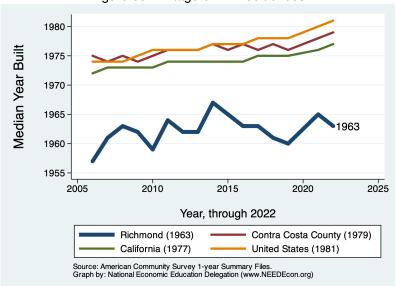


Figure 59: Vintage of All Residences



Occupation of Residential Housing

Why is it important?

The duration of residence in a city is important for developing future policies regarding growing the local population. If a region is highly mobile, evidenced by most residences having been recently occupied, a city might propose policies to reduce that mobility, or ask why the mobility happens. Policies could be put in place to either reduce or increase migration.

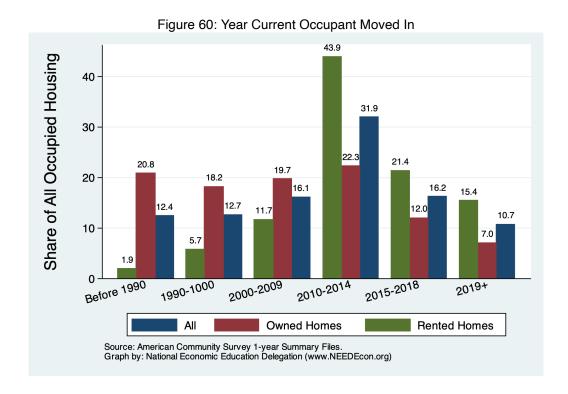


Figure 61: Year Occupied by Current Residents Figure 62: Year Occupied by Current Residents across Regions by Tenure

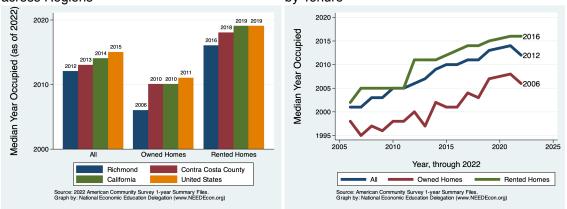


Figure 63: Year Occupied by Current Residents Figure 64: Year Occupied by Current Residents for Owned Housing for Rented Housing

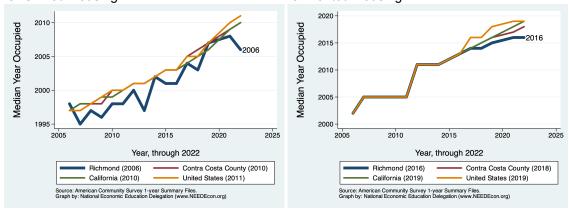


Figure 65: Year Occupied by Current Residents for All Housing 2015 Median Year Occupied 2010 2005 2000 2010 2015 2020 2025 2005 Year, through 2022 Contra Costa County (2013) Richmond (2012) United States (2015) California (2014) Source: American Community Survey 1-year Summary Files. Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Residential Permitting

Definition:

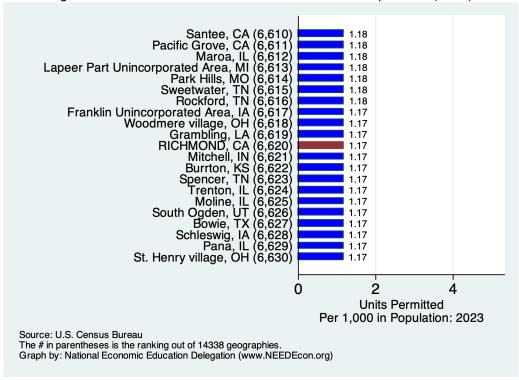
This indicator provides evidence on the number of residential buildings that are permitted for construction each year. Permit data for Richmond is compared with data from Contra Costa County as a whole and broader regions. The statistic provided scales the number of permits by population. This is done to facilitate comparisons across regions.

Why is it important?

Building permits are the best indicator available of new units coming on the market. In order for a region's population to grow and flourish, new residential properties must be added to the existing stock. Building, both in the City and in the County more generally, is an indication of the extent to which new residences accommodate new residents or are affecting prices through increased supply.

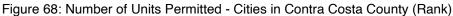
Richmond - Ranking Among Comparables

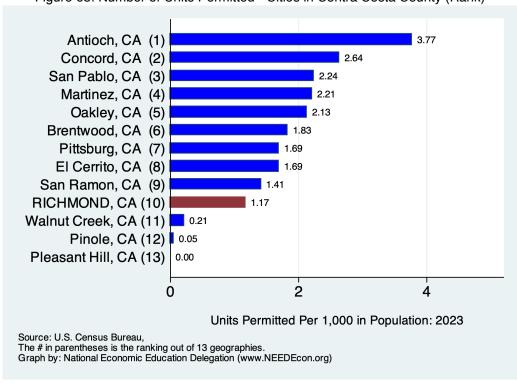
Figure 66: Number of Units Permitted - Nationwide Comparables (Rank)



Paradise town, CA Campbell, CA 1.25 Glendale, 1.25 Modesto, 1.24 Canyon Lake, 1.24 Upland, 1.22 Belmont, Capitola, 1.20 Santee, 1.18 Pacific Grove 1.18 RICHMOND, 1.17 Kern Unincorporated Area, Buena Park, 1.16 Alameda Unincorporated Area, Oakland, 1.13 1.13 Weed, 1.12 Los Altos, 1.12 Garden Grove, CA 1.12 La Canada Flintridge, CA Santa Cruz Unincorporated Area, CA 1.12 309 1.11 Tulelake, CA 0.00 (515)0 10 20 30 40 50 60 70 80 90 **Units Permitted** Per 1,000 in Population: 2023 Source: U.S. Census Bureau. The # in parentheses is the ranking out of 515 geographies. Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 67: Number of Units Permitted - California Comparables (Rank)





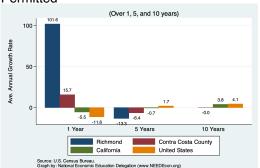
Richmond - Permitting Activity

Annual Units Permitted - Per Capita in Richmond

Figure 69: Units Permitted Each Year



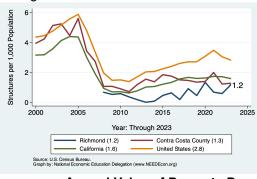
Figure 70: Average Annual Growth in Units Permitted

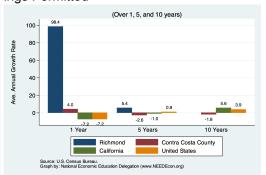


Annual Number of Buildings Permitted - Per Capita in Richmond

Figure 72: Average Annual Growth in Buildings Permitted

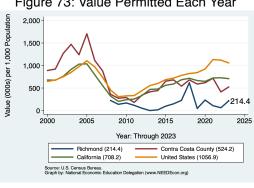
Figure 71: Units Permitted Each Year





Annual Value of Property Permitted - Per Capita in Richmond

Figure 73: Value Permitted Each Year



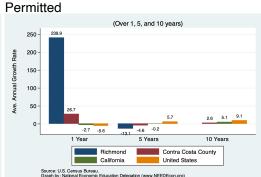


Figure 74: Average Annual Growth in Value

Commute Patterns

During the recovery from the Great Recession, the period from 2010 to 2019, the Bay Area economy, and Silicon Valley in particular, has been growing at a pace roughly double that of the state as a whole and triple that of the nation. This growth has precipitated a tight hous-

ing market and also brought about some significant changes in commute patterns, many of which have been reversed by the pandemic. Recent years have seen significant changes in both the mode of transportation and commute times.

Mode of Transportation

Figure 75: Percent of Workers Commuting by Figure 76: Percent of Workers Commuting by Car Alone Carpool

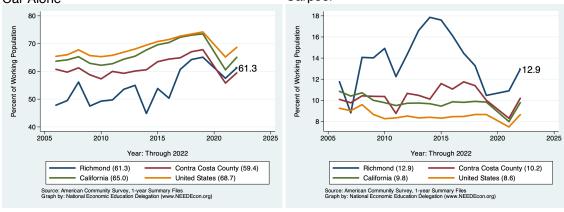
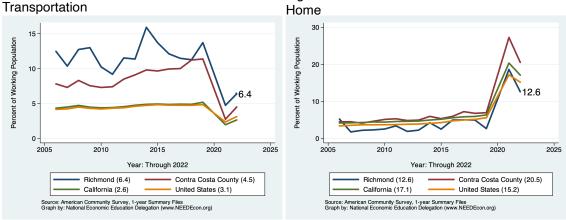


Figure 77: Percent of Workers using Public Figure 78: Percent of Workers Who Work From



The first table on this page presents data for those who LIVE in Richmond. The second provides data on those who work, but do not necessarily live in Richmond. The final two columns provide for a comparison of commute mode choices of people locally with those in California more broadly.

Table 6. SEX OF WORKERS BY MODE OF TRANSPORTATION TO WORK

	Ma	ale	Fem	ale	All Wo	All of CA	
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van:	24, 782	79.1	16,920	60.9	41,702	74.2	75.3
Drove Alone	19,915	63.5	14,516	52.3	34,431	61.3	65.5
Carpooled:	4,867	15.5	2,404	8.7	7,271	12.9	9.8
In 2-person carpool	3,086	9.8	2,169	7.8	5,255	9.4	7.0
In 3-person carpool	1,647	5.3	235	0.8	1,882	3.3	1.7
In 4-or-more-person carpool	134	0.4	0	0.0	134	0.2	1.2
Public Transportation (excl Taxi):	1,950	6.2	1,644	5.9	3,594	6.4	2.7
Bus or Trolley Bus	800	2.6	398	1.4	1,198	2.1	1.8
Streetcar or Trolley Car	869	2.8	966	3.5	1,835	3.3	0.5
Subway or Elevated	114	0.4	84	0.3	198	0.4	0.2
Railroad	0	0.0	45	0.2	45	0.1	0.1
Ferryboat	167	0.5	151	0.5	318	0.6	0.1
Bicycle	200	0.6	169	0.6	369	0.7	0.7
Walked	328	1.0	231	0.8	559	1.0	2.4
Taxicab, Motorcycle, or other	492	1.6	211	0.8	703	1.3	1.7
Worked at Home	3,589	11.5	3,498	12.6	7,087	12.6	17.2
Total:	31, 341	100.0	22,673	81.6	54,014	96.1	

Source: 2022 1-year American Community Survey, Summary File

Table 7. SEX OF WORKERS BY MODE OF TRANSPORTATION TO WORK FOR WORKPLACE GEOGRAPHY

	Ma	le	Female		All W	orkers	All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van:	21,702	77.7	14, 403	71.8	36, 105	77.1	75.3
Drove Alone	19,233	68.8	12,346	61.6	31,579	67.4	65.5
Carpooled:	2,469	8.8	2,057	10.3	4,526	9.7	9.8
In 2-person carpool	1,274	4.6	1,732	8.6	3,006	6.4	7.0
In 3-person carpool	889	3.2	110	0.5	999	2.1	1.7
In 4-or-more-person carpool	306	1.1	215	1.1	521	1.1	1.2
Public Transportation (excl Taxi):	490	1.8	726	3.6	1,216	2.6	2.6
Bus or Trolley Bus	368	1.3	410	2.0	778	1.7	1.8
Streetcar or Trolley Car	77	0.3	166	0.8	243	0.5	0.5
Subway or Elevated	0	0.0	150	0.7	150	0.3	0.2
Railroad	0	0.0	0	0.0	0	0.0	0.1
Ferryboat	45	0.2	0	0.0	45	0.1	0.1
Bicycle	199	0.7	159	0.8	358	0.8	0.7
Walked	991	3.5	287	1.4	1,278	2.7	2.4
Taxicab, Motorcycle, or other	159	0.6	637	3.2	796	1.7	1.7
Worked at Home	3,589	12.8	3,498	17.4	7,087	15.1	17.2
Total:	27, 130	97.1	19,710	98.3	46,840	100.0	

Source: 2022 1-year American Community Survey, Summary File

The results in this table are for those who work in the region, regardless of the location of their residence.

Commute Times for Employed Residents

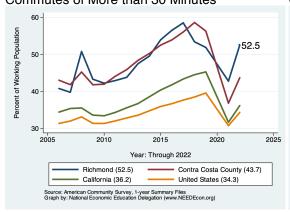
Table 8. SEX OF WORKERS BY TRAVEL TIME TO WORK

	Mal	е	Fer	nale	All Wo	All of CA	
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Less than 5 minutes	453	1.6	227	0.9	680	1.3	2.1
5 to 9 minutes	733	2.6	738	3.0	1,471	2.8	7.8
10 to 14 minutes	2,953	10.4	1,890	7.6	4,843	9.3	12.4
15 to 19 minutes	2,706	9.6	3,221	12.9	5,927	11.3	15.4
20 to 24 minutes	2,770	9.8	2,046	8.2	4,816	9.2	14.8
25 to 29 minutes	573	2.0	1,156	4.6	1,729	3.3	6.4
30 to 34 minutes	5,060	17.9	2,962	11.9	8,022	15.3	15.2
35 to 39 minutes	801	2.8	1,400	5.6	2,201	4.2	2.9
40 to 44 minutes	2,550	9.0	1,376	5.5	3,926	7.5	4.1
45 to 59 minutes	3,533	12.5	807	3.2	4,340	8.3	8.2
60 to 89 minutes	4,962	17.5	2,583	10.3	7,545	14.4	7.2
90 or more minutes	658	2.3	769	3.1	1,427	2.7	3.6
Total:	27,752	98.1	19,175	76.8	46,927	89.7	

Source: 2022 1-year American Community Survey, Summary File

Figure 79: Percent of Employed Population With Figure 80: Percent of Employed Population With Commutes of More than 30 Minutes

Commutes of More than 90 Minutes



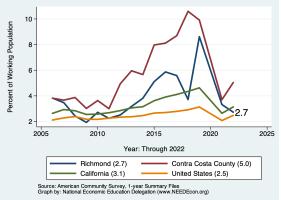
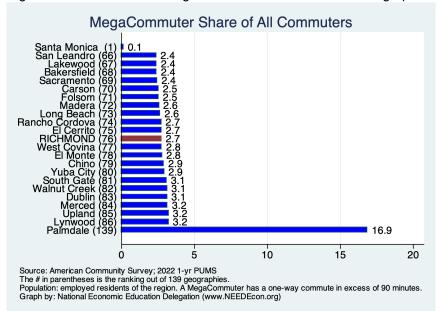


Figure 81: Rank: Share of MegaCommuters Across Similar Geographies



Commute Times for Those Employed in the City

Table 9. SEX OF WORKERS BY TRAVEL TIME TO WORK FOR WORKPLACE GEOGRAPHY

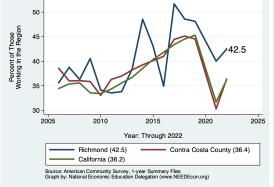
WURKPLA	CE GEOGN	APHI					
	Mal	е	Fen	Female		All Workers	
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Less than 5 minutes	308	1.2	0	0.0	308	0.7	2.1
5 to 9 minutes	1,139	4.3	1,120	6.0	2,259	5.1	7.8
10 to 14 minutes	2,702	10.3	3,588	19.3	6,290	14.3	12.4
15 to 19 minutes	2,550	9.7	2,308	12.4	4,858	11.0	15.3
20 to 24 minutes	2,387	9.1	2,856	15.4	5,243	11.9	14.8
25 to 29 minutes	1,402	5.3	676	3.6	2,078	4.7	6.4
30 to 34 minutes	4,509	17.1	1,644	8.9	6,153	14.0	15.2
35 to 39 minutes	1,026	3.9	444	2.4	1,470	3.3	2.9
40 to 44 minutes	880	3.3	350	1.9	1,230	2.8	4.1
45 to 59 minutes	2,808	10.7	1,747	9.4	4,555	10.3	8.2
60 to 89 minutes	3,292	12.5	1,051	5.7	4,343	9.9	7.2
90 or more minutes	538	2.0	428	2.3	966	2.2	3.6
Total:	23,541	89.4	16,212	87.4	39,753	90.2	

Source: 2022 1-year American Community Survey, Summary File

The results in this table are for those who work in the region, regardless of the location of their residence.

Figure 82: Percent of Local Employees With Figure 83: Percent of Local Employees With Commutes of More than 30 Minutes

Commutes of More than 90 Minutes



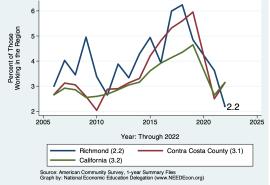
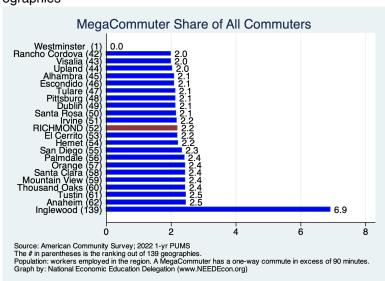


Figure 84: Rank: Share of MegaCommuters Across Similar Geographies



Place of Work

This section provides evidence on where workers living in Richmond work. As evidenced in the first table, some of Richmond's employed workers work in the City, but many do not. The first table and graph pair provide evidence at the county level while the second provide evidence with regard to working outside of the Richmond city boundary.

Table 10. SEX OF WORKERS BY PLACE OF WORK-STATE AND COUNTY LEVEL

	Male		Female		All Workers		All of CA
Place of Work	#	(%)	#	(%)	#	(%)	(%)
Worked in state of residence:	31, 341	100.0	22,636	81.5	53,977	96.1	99.6
Worked in county of residence	13,745	43.9	11,104	40.0	24,849	44.2	85.3
worked outside of county of residence	17,596	56.1	11,532	41.5	29,128	51.8	14.3
Worked outside state of residence	0	0.0	37	0.1	37	0.1	0.4
Total:	31, 341	100.0	22,673	81.6	54,014	96.1	

Source: 2022 1-year American Community Survey, Summary File

Figure 85: Percent of Workers Employed Outside of Their County of Residence

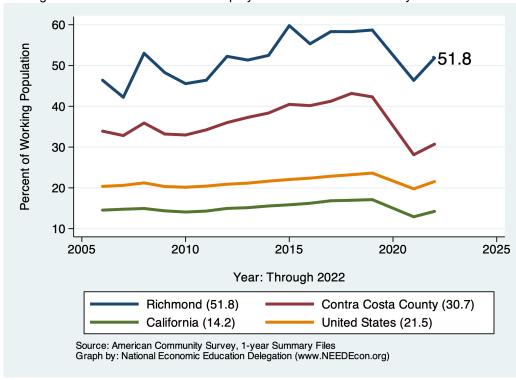
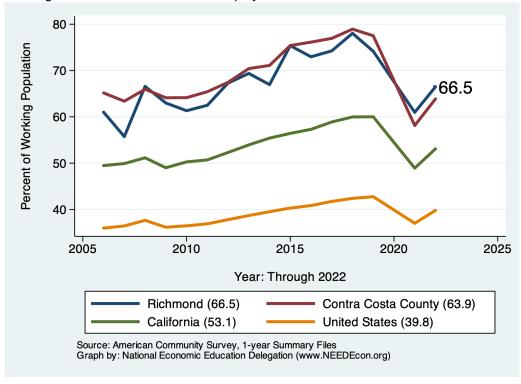


Table 11. SEX OF WORKERS BY PLACE OF WORK-PLACE LEVEL

	Male		Female		All Workers		All of CA	
Place of Work	#	(%)	#	(%)	#	(%)	(%)	
Living in a place:	31, 341	100.0	22,673	81.6	54,014	96.1	95.8	
Worked in place of residence	8,871	28.3	7,784	28.0	16,655	29.6	42.3	
Worked outside place of residence	22,470	71.7	14,889	53.6	37,359	66.5	53.4	
Not living in a place	0	0.0	0	0.0	0	0.0	4.2	
Total:	31, 341	100.0	22,673	81.6	54,014	96.1		

Source: 2022 1-year American Community Survey, Summary File

Figure 86: Percent of Workers Employed Outside of Their Place of Residence



Commute Mode by Income

Table 12. MEDIAN EARNINGS IN THE PAST 12 MONTHS BY MEANS OF TRANSPORTATION TO WORK

	City California			United Sta	tes
	Median	Median	Ratio	Median	Ratio
Car, truck, or van - drove alone	44, 159	48, 335	95.6	45,677	94.1
Car, truck, or van - carpooled	36,357	35,926	105.9	34,518	102.5
Public transportation (excluding taxicab)	41,850	34,625	126.4	41,443	98.3
Walked	52,064	30,552	178.3	27,247	186.0
Taxicab, motorcycle, bicycle, or other means	51,493	40,631	132.6	36,218	138.4
Worked from home	100, 160	79,738	131.4	69,180	141.0
Total:	47,621	49,818	95.6	46,365	102.7

Source: 2022 1-year American Community Survey, Summary File

Notes: 1) Ratio = the ratio of the regional median to either the CA or US median, relative to the Total ratio. Values above 100 imply a high local median. Values below 100 imply a low local median. For example, a value of 200 means that the local mean is 2x higher than would be expected. For "Total:", ratio is simply the ratio of the medians.

Table 13. MODE OF TRANSPORTATION TO WORK BY WORKERS' EARNINGS

	< \$25	,000	\$25,000-	\$74,999	\$75,0	00+	Al	I	All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	8,863	39.5	13,332	63.3	8,572	54.9	35,356	62.9	68.4
Car, Truck, or Van: Carpooled	2,330	10.4	1,963	9.3	1,273	8.2	6,414	11.4	9.5
Public Transportation (excl Taxi)	1,173	5.2	1,969	9.4	1,911	12.2	5,564	9.9	3.6
Walked	390	1.7	295	1.4	70	0.4	862	1.5	2.4
Taxicab, Motorcycle, or other	347	1.5	517	2.5	304	1.9	1,339	2.4	2.4
Worked at Home	1,280	5.7	1,619	7.7	2,865	18.4	6,214	11.1	13.6
Total:	14, 383	64.1	19,695	93.6	14,995	96.1	55,749	99.3	100.0

Source: 2022 5-year American Community Survey, Summary File

Table 14. MODE OF TRANSPORTATION TO WORK BY WORKERS' EARNINGS FOR WORKPLACE GEOGRAPHY

	< \$25	5,000	\$25,000-	\$74,999	\$75,0	00+	Al		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	6, 380	47.3	10,933	66.2	11,943	69.8	32, 208	63.7	68.5
Car, Truck, or Van: Carpooled	1,213	9.0	1,586	9.6	1,517	8.9	4,996	9.9	9.5
Public Transportation (excl Taxi)	373	2.8	415	2.5	176	1.0	1,085	2.1	3.6
Walked	270	2.0	205	1.2	256	1.5	881	1.7	2.4
Taxicab, Motorcycle, or other	442	3.3	343	2.1	358	2.1	1,212	2.4	2.4
Worked at Home	1,280	9.5	1,619	9.8	2,865	16.7	6,214	12.3	13.6
Total:	9,958	73.8	15, 101	91.4	17, 115		46,596	92.2	

Source: 2022 5-year American Community Survey, Summary File

The results in this table are for those who work in the region, regardless of the location of their residence.

²⁾ For regions with more than one geography, the medians are averages weighted by working population.

Commute Mode by Poverty Status

Table 15. MODE OF TRANSPORTATION TO WORK BY POVERTY STATUS

	In Po	verty	100-149	% of Pov	>150%	of Pov	Al		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	2, 159	46.7	2,273	40.4	30,924	62.2	35, 356	62.9	68.7
Car, Truck, or Van: Carpooled	470	10.2	508	9.0	5,452	11.0	6,430	11.4	9.5
Public Transportation (excl Taxi)	280	6.1	294	5.2	4,990	10.0	5,564	9.9	3.6
Walked	102	2.2	152	2.7	608	1.2	862	1.5	2.1
Taxicab, Motorcycle, or other	82	1.8	28	0.5	1,229	2.5	1,339	2.4	2.4
Worked at Home	205	4.4	190	3.4	5,827	11.7	6,222	11.1	13.6
Total:	3, 298	71.3	3,445	61.3	49,030	98.7	55, 773	99.3	

Source: 2022 5-year American Community Survey, Summary File

Table 16. MODE OF TRANSPORTATION TO WORK BY POVERTY STATUS FOR WORKPLACE GEOGRAPHY

	In Po	verty	100-149	% of Pov	>150%	of Pov	Al		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	1,094	40.1	1, 295	49.6	29, 794	69.8	32, 183	69.2	68.7
Car, Truck, or Van: Carpooled	216	7.9	355	13.6	4,425	10.4	4,996	10.7	9.5
Public Transportation (excl Taxi)	56	2.1	126	4.8	876	2.1	1,058	2.3	3.6
Walked	49	1.8	89	3.4	723	1.7	861	1.9	2.1
Taxicab, Motorcycle, or other	114	4.2	38	1.5	1,055	2.5	1,207	2.6	2.4
Worked at Home	205	7.5	190	7.3	5,827	13.6	6,222	13.4	13.6
Total:	1,734	63.6	2,093	80.2	42,700		46, 527		

Source: 2022 5-year American Community Survey, Summary File

The results in this table are for those who work in the region, regardless of the location of their residence.

Migration

Overall Migration Flows

Definition:

The United States is a country with an increasingly mobile population. People move, migrate, from one place to another with increasing frequency.

Why is it important?

Having a handle on whether or not Richmond is a net recipient (migration inflows) or donor (migration outflows) of population is very important for understanding trends in the City's development. This section outlines migration patterns by age, education, income, marital status, and housing tenure. Understanding recent trends is very important for making policy, investment, and other decisions about the future. Also, understanding the extent to which the population is stable, or experiences significant turnover each year is helpful for planning purposes.

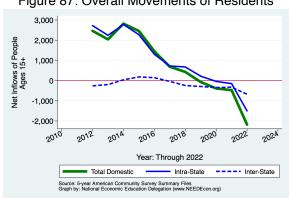


Figure 87: Overall Movements of Residents

Table 17: Migration by Income

				e State		_
•			W/in	Between	Across	From
Category	Population	All Migration	County	Counties	States	Abroad
No income	15, 192	-549	-308	-133	-232	124
With income	80,346	-1,270	-484	-576	-446	236
\$1 to \$9,999 or loss	10,495	-493	-103	-390	-16	16
\$10,000 to \$14,999	7,600	-342	-187	-216	24	37
\$15,000 to \$24,999	9,436	-6	-158	75	20	57
\$25,000 to \$34,999	9,404	-172	47	-134	-93	8
\$35,000 to \$49,999	10,867	-546	-10	-295	-303	62
\$50,000 to \$64,999	9,423	268	89	137	31	11
\$65,000 to \$74,999	4,557	8	-58	133	-67	0
\$75,000 or more	18,564	13	-104	114	-42	45
All:	95,538	-1,819	-792	-709	-678	360

Source: 2022 5-year American Community Survey, Summary File

Note: The data in this and other tables in this section are limited in that there is no information on the City's population that has moved abroad.

The "From Abroad" column is gross movements into the City from abroad.

Figure 88: Overall Movements of Low Income Residents

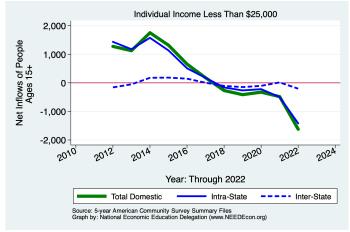


Figure 89: Overall Movements of Middle Income Residents

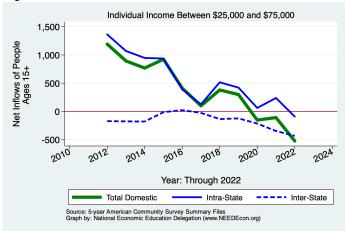
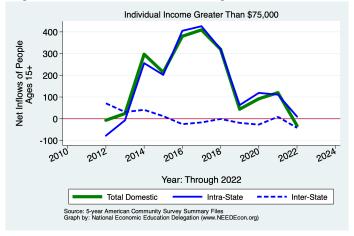


Figure 90: Overall Movements of High Income Residents



Demographics of Migration Flows

Table 18: Migration by Marital Status

		N	et Inflows			
			Sam	e State		-
			W/in	Between	Across	From
Category	Population	All Migration	County	Counties	States	Abroad
Never married	40,331	-687	-546	-196	-34	89
Now married, except separated	40,374	-517	3	-77	-697	254
Divorced	9,354	-68	-99	-38	69	0
Separated	1,699	-438	-105	-333	0	0
Widowed	3,780	-109	-45	-65	-16	17
Total:	95, 538	-1,819	-792	-709	-678	360

Source: 2022 5-year American Community Survey, Summary File

Table 19: Migration by Tenure

		Net Inflows				
			Same State			_
			W/in	Between	Across	From
Category	Population	All Migration	County	Counties	States	Abroad
Householder lived in owner-occupied housing units	59,594	-314	-472	-380	-96	634
Householder lived in renter-occupied housing units	52,298	-2,942	-1,415	-672	-1,663	808
Total:	111,892	-3,256	-1,887	-1,052	-1,759	1,442

Source: 2022 1-year American Community Survey, Summary File

Figure 91: Domestic Movements of Residents by Tenure

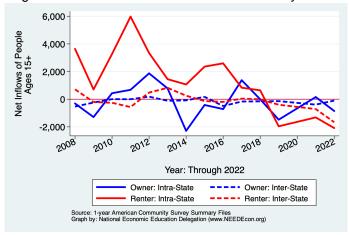


Table 20: Migration by Age

	Net Inflows					
			Same	State		_
			W/in	Between	Across	From
Category	Population	All Migration	County	Counties	States	Abroad
1 to 4 years	4,785	-252	-98	-132	-58	36
5 to 17 years	18,527	-182	-416	139	0	95
18 and 19 years	3,511	-386	-105	-163	-134	16
20 to 24 years	7,591	-655	-162	-482	-17	6
25 to 29 years	8,325	-84	-262	-66	91	153
30 to 34 years	9,861	-93	41	114	-261	13
35 to 39 years	8,249	-151	-88	99	-188	26
40 to 44 years	8,283	-245	-151	-36	-98	40
45 to 49 years	8,306	334	41	166	58	69
50 to 54 years	7,267	-227	-42	-109	-76	0
55 to 59 years	6,259	-109	46	-112	-63	20
60 to 64 years	6,723	-12	15	-35	8	0
65 to 69 years	6,718	79	-12	69	22	0
70 to 74 years	4,124	-41	6	-60	13	0
75 years and over	5,666	-170	-61	-93	-33	17
Total Population:	114, 195	-2,194	-1,248	-701	-736	491

Source: 2022 5-year American Community Survey, Summary File

Table 21: Migration by Educational Attainment

			Net Inflows			
			Same	State		_
			W/in	Between	Across	From
Category	Population	All Migration	County	Counties	States	Abroad
Less than high school graduate	16, 337	-115	-275	162	-144	142
High school graduate (includes equiv)	16,787	-1,162	-206	-449	-825	318
Some college or assoc. degree	22,130	-1,097	-438	-682	-54	77
Bachelor's degree	16,602	-729	-383	-94	-364	112
Graduate or professional degree	9,035	332	-25	-111	157	311
Total:	80, 891	-2,771	-1,327	-1,174	-1,230	960

Source: 2022 1-year American Community Survey, Summary File

Table 22: Median Income of Migration Flows

Flow	In-Migration	Out-Migration
Same House 1 Year Ago	39,489	39,489
Moved Within Same County	31,692	28,288
Moved to Different County, Same State	46,750	31,032
Moved Between States	50,172	44,539
Moved from Abroad	35,000	
Total Population:	39, 223	38,754

Source: 2022 5-year American Community Survey, Summary File

Table 23: Median Age of Migration Flows

Flow	In-Migration	Out-Migration
Same House 1 Year Ago	40.4	40.4
Moved Within Same County	31.8	30.6
Moved to Different County, Same State	35.2	30.6
Moved Between States	25.6	31.7
Moved from Abroad	32.0	
Total Population:	39.5	38.9

Source: 2022 1-year American Community Survey, Summary File

References and Sources

The majority of the data presented in this report are from the American Community Survey (ACS). For larger geographies, the 1-year Summary Files provide the data. For smaller communities, roughly those with less than 65,000 in population in 2021, the 5-year Summary Files provide the data.

The ACS data are supplemented by building permit data from the U.S. Census Bureau, population and housing data from the California Department of Finance, and home price and rental rates from Zillow.

U.S. Census Bureau. American Community Survey 1-year and 5-year Summary Files. https://www.census.gov/programs-surveys/acs/data/data-via-ftp.html. The 1-year data are released in September each year and the 5-year data are relased in January.

Zillow Research Data https://www.zillow.com/research/data/

U.S. Census Bureau. Building Permits Data, updated annually in February. https://www.census.gov/construction/bps/current.html

State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1. Sacramento, California, May. https://dof.ca.gov/forecasting/demographics/estimates/

State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year, July 1, 2010-2021. Sacramento, California, December. https://dof.ca.gov/forecasting/demographics/

State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1. Sacramento, California, May. https://dof.ca.gov/forecasting/demographics/