

Palo Alto, California

Indicators Report

by
The National Economic Education Delegation (NEED)

April 20, 2024

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

This report was produced by the:

National Economic Education Delegation
271 Arias St.
San Rafael, CA 94903
415-336-5705
www.NEEDEcon.org
Contact: Jon@NEEDEcon.org

Executive Summary

Assessing the City with Indicators

About this Report

This report provides background or summary information for the city of Palo Alto (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 Palo Alto. These indicators are compared to Santa Clara County (the County) as a whole, a broader region where one is well defined, California, and the United States.

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 snapshot of Palo Alto 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 of employment and unemployment in Palo Alto 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 Palo Alto, 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 proportion 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 Palo Alto, but do not necessarily live in Palo Alto.
- **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.

Contents

Executive Summary	1
Assessing the City with Indicators	1
Demographics	3
A Demographic Snapshot	3
Current Population	5
Employment Report	8
Citywide Employment and Unemployment	8
County Employment by Industry	9
Some Employee Detail	10
Income and Earnings	16
Per Capita Personal Income Growth	16
Poverty and Inequality	19
Housing	21
Housing Costs and Affordability	21
Housing Picture	25
Vintage of Residential Housing	27
Occupation of Residential Housing	29
Residential Permitting	31
Commute Patterns	34
Mode of Transportation	34
Commute Times for Employed Residents	36
Commute Times for Those Employed in the City	37
Place of Work	38
Commute Mode by Income	40
Commute Mode by Poverty Status	41
Migration	42
Overall Migration Flows	42
Demographics of Migration Flows	44
References and Sources	46

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 composition.

Why is it important?

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

A Demographic Snapshot

Statistic	2022	2019
POPULATION		
Population Estimate (#, 5yr)	67,901.0	66,573.0
Veterans (#, 5yr)	1,185.0	1,725.0
Foreign born persons (% , 5yr)	34.3	35.3
Population age 25+ (#, 5yr)	48,235.0	47,281.0
AGE AND SEX		
Persons under 5 years (% , 5yr)	4.8	5.0
Persons under 18 years (% , 5yr)	22.4	22.9
Persons 65 years and over (% , 5yr)	19.3	19.4
Female persons (% , 5yr)	51.7	51.5
INCOME AND POVERTY		
Median household income (\$, 5yr)	214,118.0	158,271.0
Per capita income in past 12 months (\$, 5yr)	117,476.0	92,590.0
Persons in poverty (% , 5yr)	4.7	6.1
Children age less than 18 in poverty (#, 5yr)	680.0	766.0
Children age less than 18 in poverty (% , 5yr)	4.5	5.0
RACE AND ETHNICITY		
White alone (% , 5yr)	50.9	58.9
African American alone (% , 5yr)	2.1	1.8
American Indian or Alaska Native alone (% , 5yr)	0.3	0.3
Asian alone (% , 5yr)	34.8	32.5
Native Hawaiian and Other Pacific Islander alone (% , 5yr)	0.2	0.1
Two or More Races (% , 5yr)	8.9	5.0
Hispanic or Latino (% , 5yr)	7.3	5.6
White alone, not Hispanic or Latino (% , 5yr)	48.7	54.9
HOUSING		
Housing units (#, 5yr)	29,065.0	28,050.0
Owner-occupied housing units (% , 5yr)	56.0	54.6
Median value of owner-occupied housing units (\$, 5yr)	2,000,001.0	2,000,001.0
Median selected monthly owner costs-with a mortgage (\$, 5yr)	4,001.0	4,001.0
Median selected monthly owner costs-without a mortgage (\$, 5yr)	1,188.0	905.0
Median gross rent (\$, 5yr)	3,169.0	2,569.0
FAMILIES AND LIVING ARRANGEMENTS		
Households (#, 5yr)	26,064.0	26,161.0
Persons per household (#, 5yr)	2.6	2.5
Living in same house 1 year ago, % of persons age 1+ (5yr)	84.0	82.6
EDUCATION		
High school graduate or higher, % of persons age 25+ (5yr)	96.8	97.4
Bachelor's degree or higher, % of persons age 25+ (5yr)	82.2	82.8
HEALTH		
With a disability, under age 65 years (#, 5yr)	1,448.0	1,458.0
Persons without health insurance, under age 65 years (% , 5yr)	1.9	2.0
LABOR FORCE		
In civilian labor force, persons age 16+ (% , 5yr)	63.4	62.0
In civilian labor force, women age 16+ (% , 5yr)	55.9	55.0
Employed, persons age 16+ (% , 5yr)	59.0	57.9
Self employed (% , 5yr)	10.6	12.2
TRANSPORTATION		
Mean travel time to work, workers age 16+ (Mins., 5yr)	17.4	23.4
Drive alone in private vehicle (% , 5yr)	50.4	63.8
Using public transportation (% , 5yr)	6.5	10.4
Worked from home (% , 5yr)	29.4	10.0

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)

Region	2023 Population	% Change		
		1 Year	3 Year	5 Year
City				
Palo Alto	67,287	-0.60	-1.26	-3.04
County and Broader Regions				
Santa Clara County	1,886,079	-0.26	-3.04	-3.17
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)

City	2022	2023	% Change		
			Local	Bay Area	California
Santa Clara County	1,891.0	1,886.1	-0.26	-0.45	-0.35
San Jose	963.7	959.3	-0.47		
Sunnyvale	156.4	156.3	-0.03		
Santa Clara	130.5	132.5	1.54		
Mountain View	83.9	83.6	-0.30		
Milpitas	80.9	81.1	0.25		
Palo Alto	67.7	67.3	-0.60		
Gilroy	59.7	60.1	0.62		
Cupertino	59.7	59.2	-0.87		
Morgan Hill	46.2	45.9	-0.67		
Campbell	43.1	42.7	-0.88		
Los Gatos	33.2	33.1	-0.20		
Los Altos	31.3	31.0	-0.76		
Saratoga	30.8	30.6	-0.62		
Los Altos Hills	8.4	8.4	-0.40		
Monte Sereno	3.5	3.5	1.09		

Source: CA DOF; Calculations by National Economic Education Delegation

Figure 1: Population Growth (1)

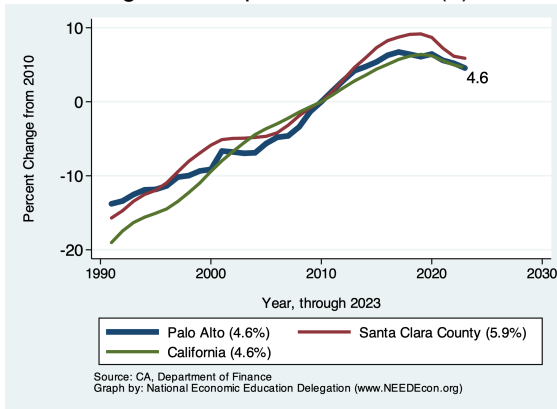


Figure 2: Population Growth (2)

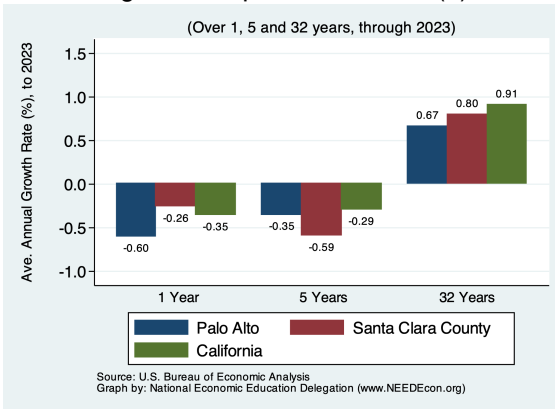


Figure 3: Population by Age - Detailed Age Categories

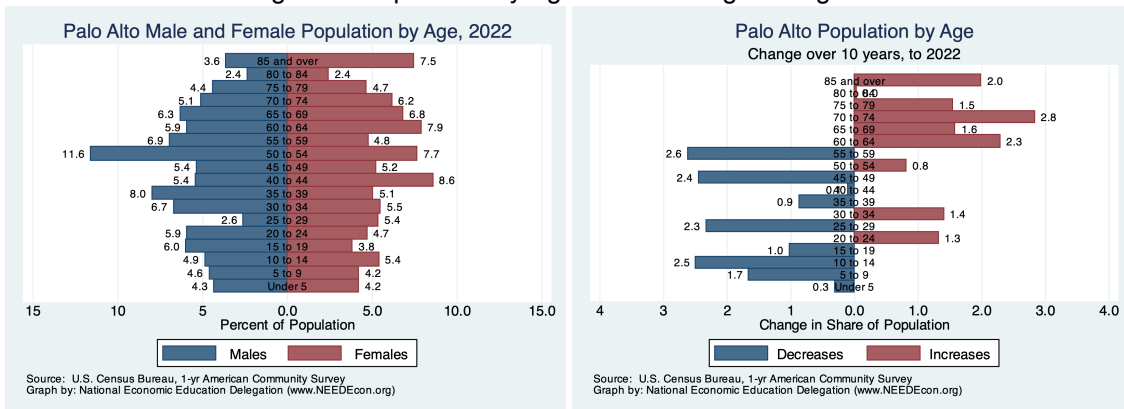


Figure 4: Population by Age - Broad Age Categories

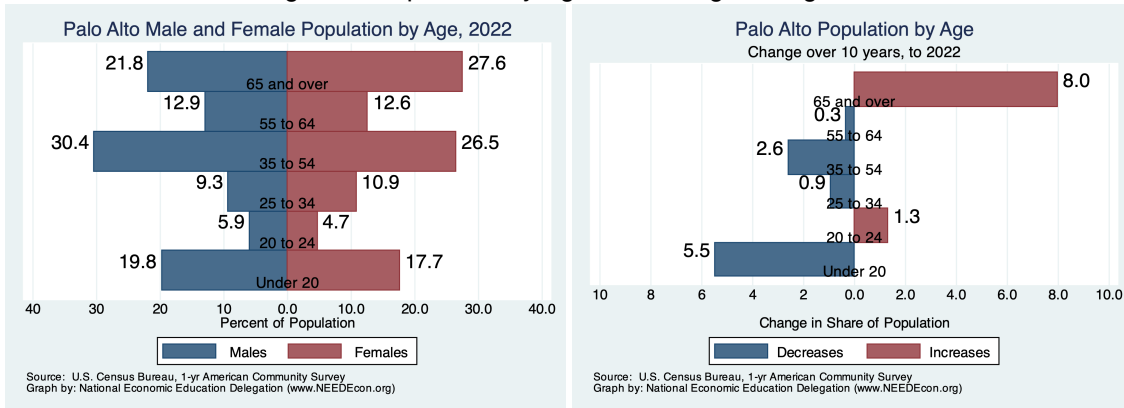


Figure 5: Population by Educational Attainment

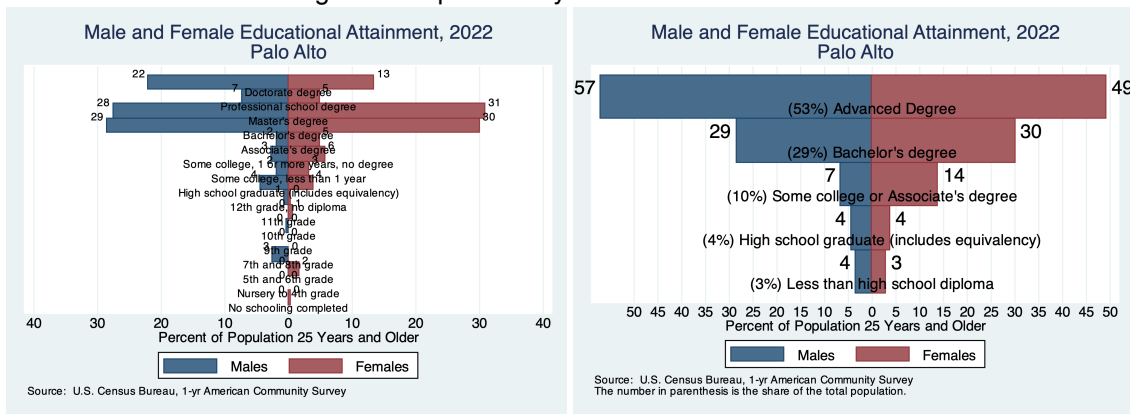


Figure 6: Population by Race/Ethnicity

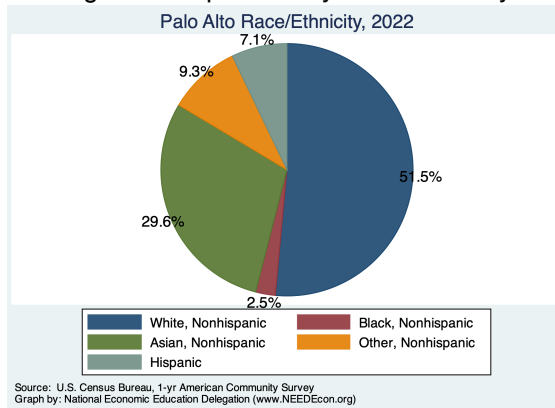
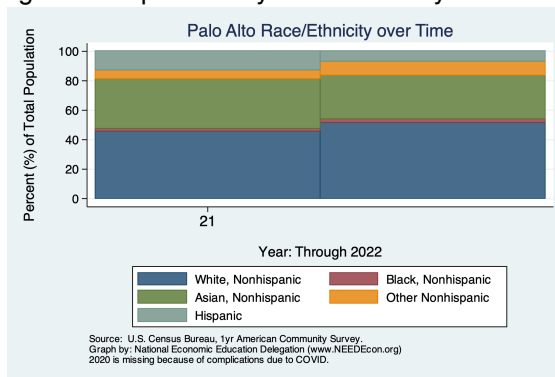


Figure 7: Population by Race/Ethnicity Over Time



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?

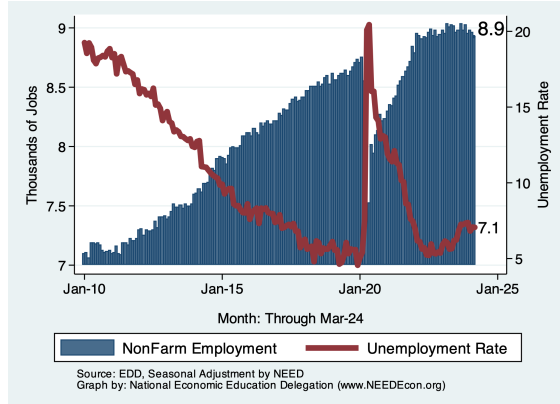
Employment growth is a fundamental indicator of the health of an economy.

Table 3. Palo Alto Summary for March, 2024

Category	Current Value	Change From:		
		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

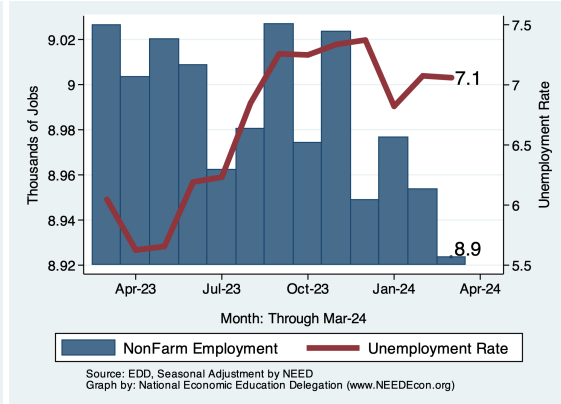
Source: EDD, National Economic Education Delegation

Figure 8: Historical Employment and Unemployment - Last 12 Months



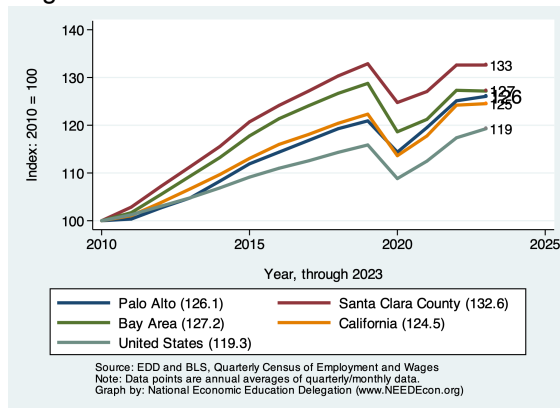
Source: EDD, Seasonal Adjustment by NEED
Graph by: National Economic Education Delegation (www.NEEDecon.org)

Figure 9: Employment and Unemployment - Last 12 Months



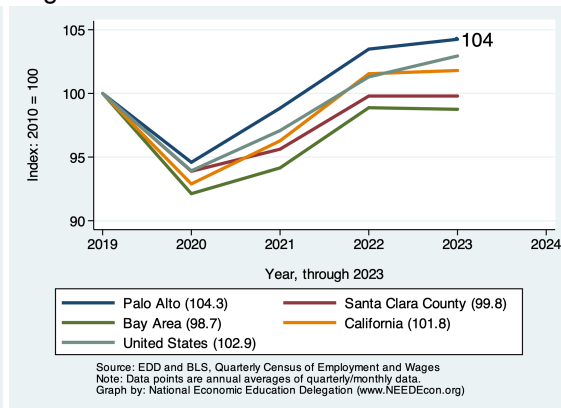
Source: EDD, Seasonal Adjustment by NEED
Graph by: National Economic Education Delegation (www.NEEDecon.org)

Figure 10: Relative Employment Growth Across Regions - since 2010



Source: EDD and BLS, Quarterly Census of Employment and Wages
Note: Data points are annual averages of quarterly/monthly data.
Graph by: National Economic Education Delegation (www.NEEDecon.org)

Figure 11: Relative Employment Growth Across Regions - since 2019



Source: EDD and BLS, Quarterly Census of Employment and Wages
Note: Data points are annual averages of quarterly/monthly data.
Graph by: National Economic Education Delegation (www.NEEDecon.org)

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 Santa Clara County. The following table provides the latest data for the County.

Table 4. Employment Growth by Industry in Santa Clara County for March, 2024

Industry	Employment	Share	Empl Growth	% Growth - Annualized Rate					
				Month	Qtr	6mo	1yr	3yr	5yr
Total Nonfarm	1,160,919	100.0	3,973.9	4.2	1.6	1.5	0.2	3.0	0.5
Goods Producing	228,703	19.7	278.5	1.5	-4.9	-2.6	-2.1	2.6	0.7
Mining and Logging	200	0.0	0.0	0.0	0.0	0.0	100.0	33.3	0.0
Construction	53,354	4.6	517.3	12.4	-7.2	-4.8	-2.0	2.0	1.0
Manufacturing	174,825	15.1	-383.1	-2.6	-4.9	-2.1	-2.1	2.6	0.5
Durable Goods	167,204	14.4	-401.3	-2.8	-5.0	-2.3	-2.5	2.7	1.0
Non-Durable Goods	7,374	0.6	11.1	1.8	-2.3	0.9	4.3	1.3	-6.7
Service Providing	933,606	80.4	4,375.2	5.8	3.2	2.5	0.7	3.2	0.5
Trade, Trans & Utilities	118,031	10.2	204.7	2.1	-0.6	-1.4	-1.2	0.3	-1.8
Wholesale Trade	27,780	2.4	-2.5	-0.1	-2.6	-4.7	-3.5	-0.1	-2.4
Retail Trade	72,175	6.2	106.5	1.8	0.2	-0.1	0.1	-0.4	-2.6
Information	96,423	8.3	225.9	2.9	-10.1	-7.7	-7.4	-2.9	-0.1
Financial Activities	37,808	3.3	5.0	0.2	0.1	-1.0	-0.8	-0.2	0.6
Finance & Insurance	21,366	1.8	35.0	2.0	-0.0	-3.1	-1.8	-2.7	-0.2
Real Estate & Rental & Leasing	16,408	1.4	-34.9	-2.5	0.5	2.6	0.6	3.6	1.6
Professional & Business Svcs	250,804	21.6	2,129.1	10.8	5.5	4.3	-0.2	1.4	0.9
Prof, Sci, & Tech	169,093	14.6	753.2	5.5	0.5	1.7	-1.9	0.8	0.8
Educational & Health Svcs	204,231	17.6	1,015.2	6.2	6.9	6.3	6.1	6.0	3.2
Education Svcs	50,684	4.4	58.2	1.4	3.6	3.6	4.0	6.5	0.7
Health Care & Social Assistance	152,533	13.1	1,088.1	9.0	6.5	7.8	6.9	5.5	3.8
Leisure & Hospitality	102,403	8.8	572.1	7.0	4.6	3.8	1.8	17.3	-0.4
Other Svcs	24,284	2.1	261.2	13.9	-10.1	-3.0	-1.2	4.9	-3.1
Government	97,358	8.4	697.2	9.0	6.8	4.5	3.6	3.4	0.5
Federal	9,920	0.9	13.7	1.7	1.2	-0.5	-0.1	-1.3	0.4
State	6,856	0.6	25.0	4.5	6.8	1.4	1.3	2.3	0.5
Local	80,812	7.0	630.7	9.9	7.8	5.2	4.2	4.2	0.5

Source: EDD, National Economic Education Delegation (NEED)

Some Employee Detail

Employed in Palo Alto

Figure 12: Employment by Occupation

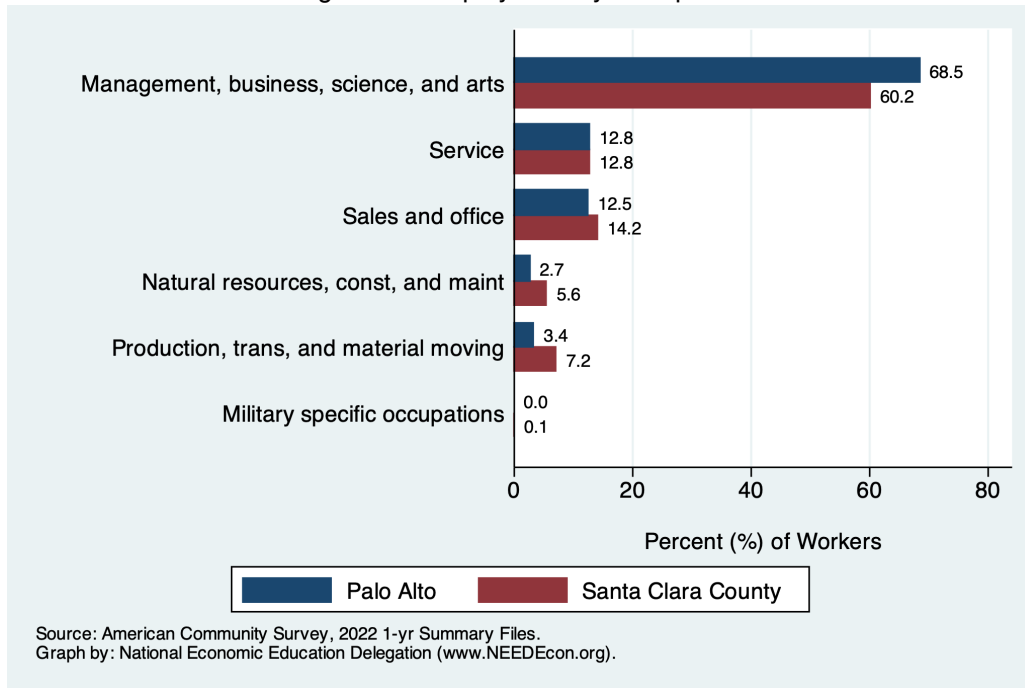


Figure 13: Employment by Industry

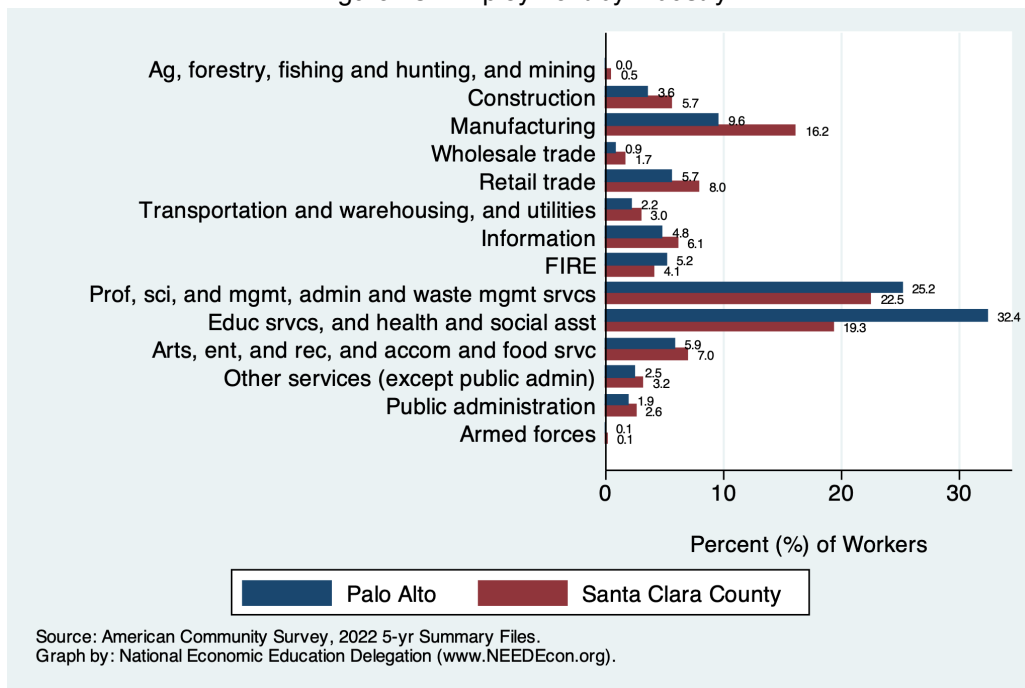
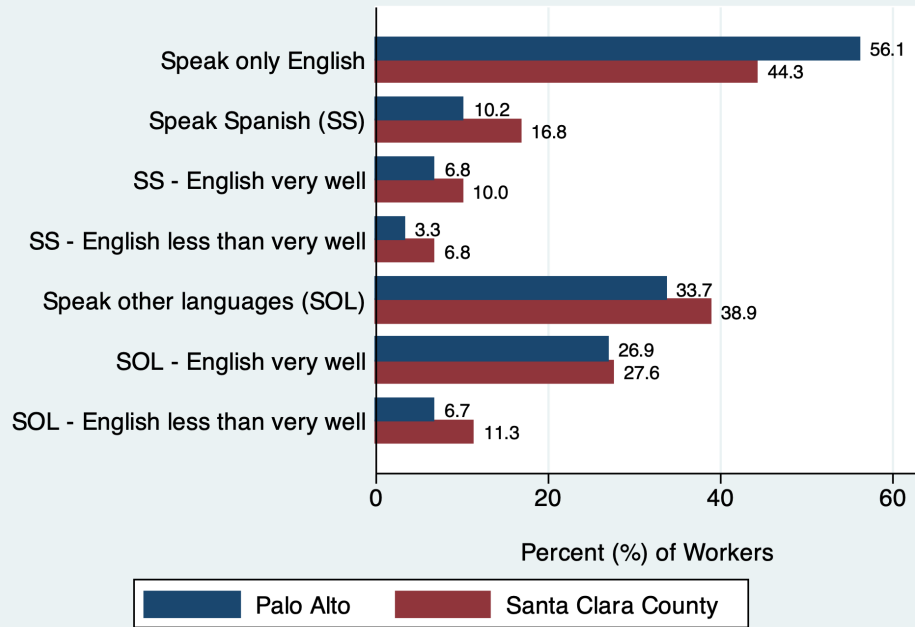
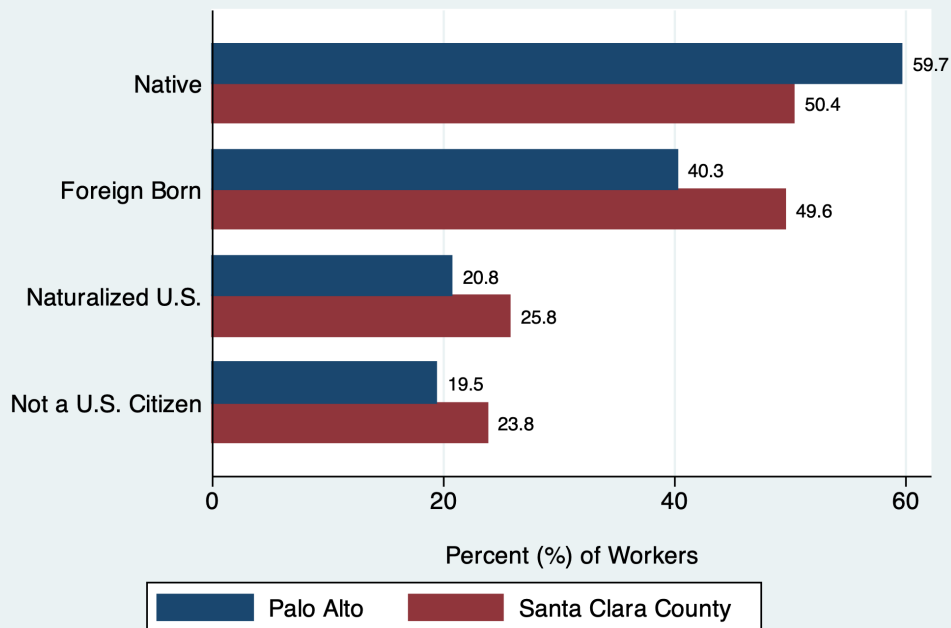


Figure 14: Language Spoken at Home



Source: American Community Survey, 2022 1-yr Summary Files.
 Graph by: National Economic Education Delegation (www.NEEDecon.org).

Figure 15: Citizenship



Source: American Community Survey, 2022 1-yr Summary Files.
 Graph by: National Economic Education Delegation (www.NEEDecon.org).

Employed Residents of Palo Alto

Figure 16: Employment by Occupation

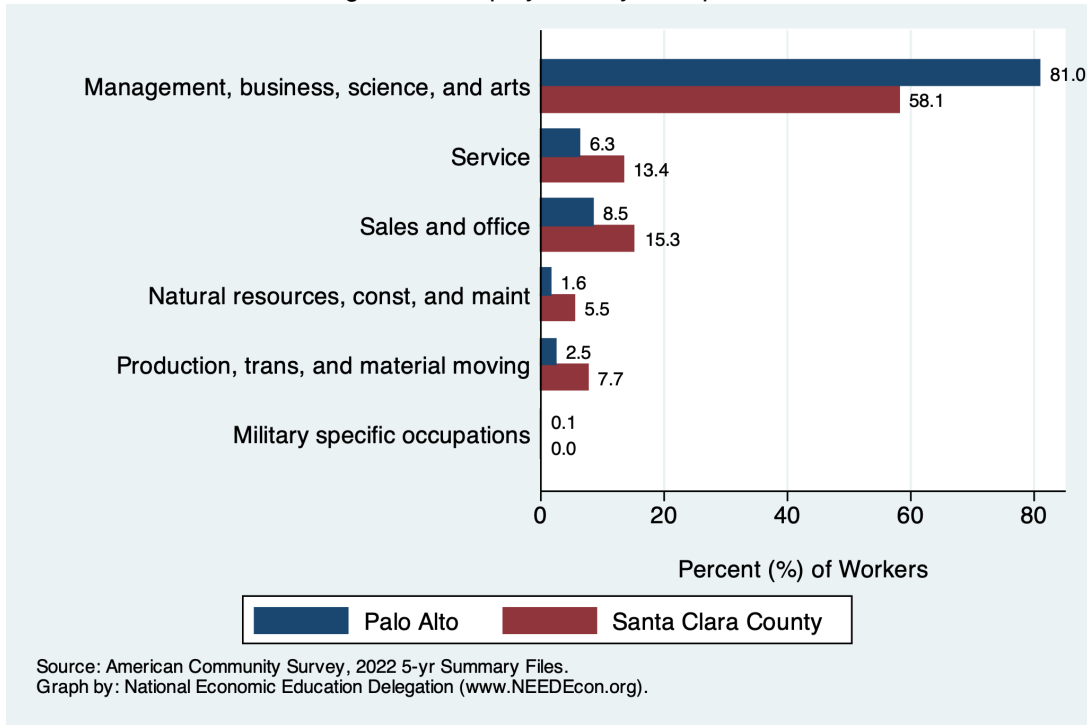


Figure 17: Employment by Industry

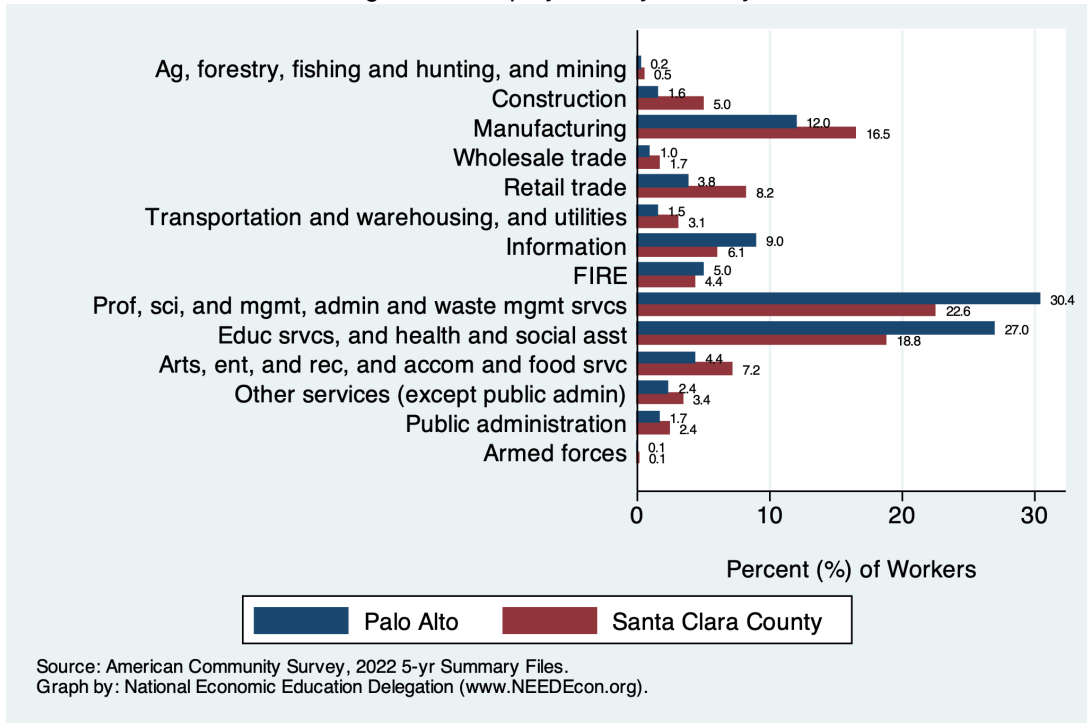
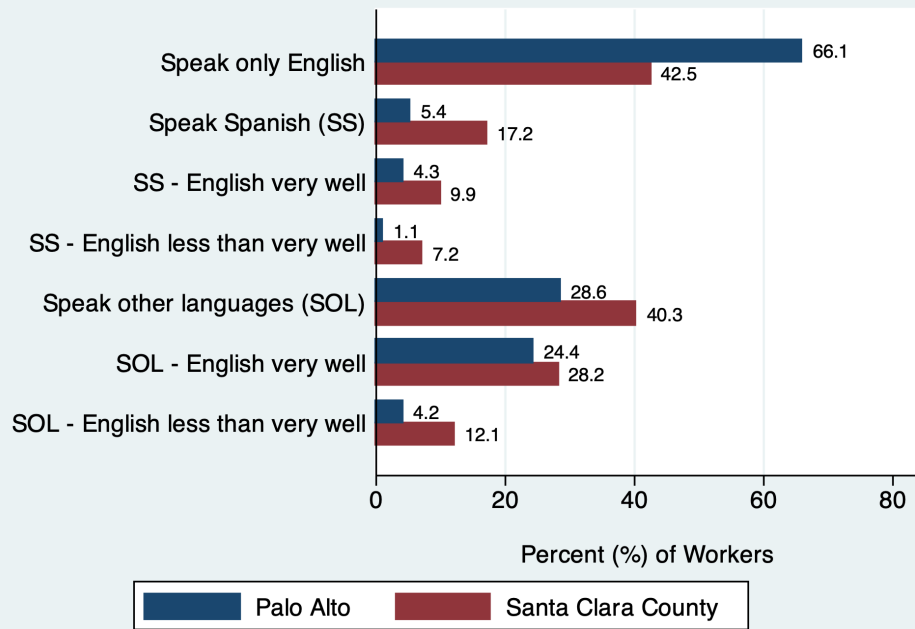
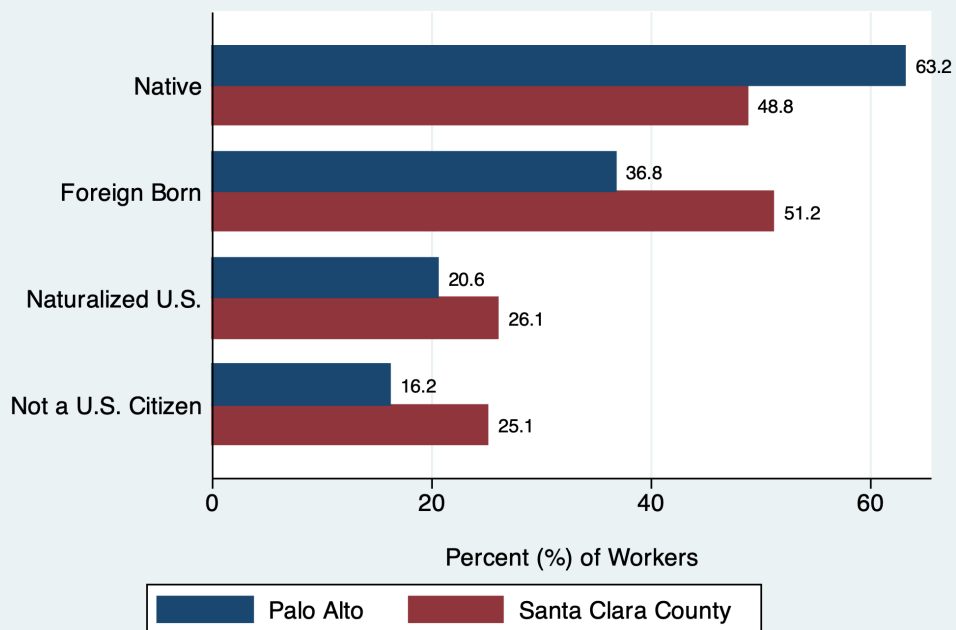


Figure 18: Language Spoken at Home



Source: American Community Survey, 2022 1-yr Summary Files.
 Graph by: National Economic Education Delegation (www.NEEDecon.org).

Figure 19: Citizenship



Source: American Community Survey, 2022 1-yr Summary Files.
 Graph by: National Economic Education Delegation (www.NEEDecon.org).

Employed Residents vs Workers in Palo Alto

Figure 20: Employment by Occupation

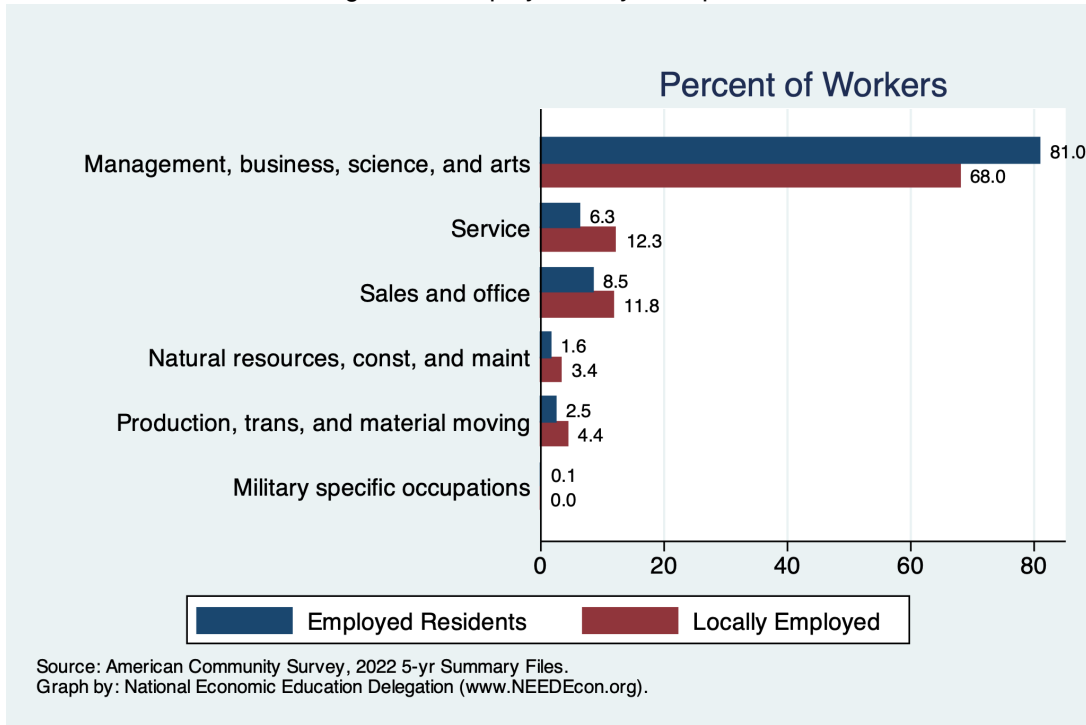


Figure 21: Employment by Industry

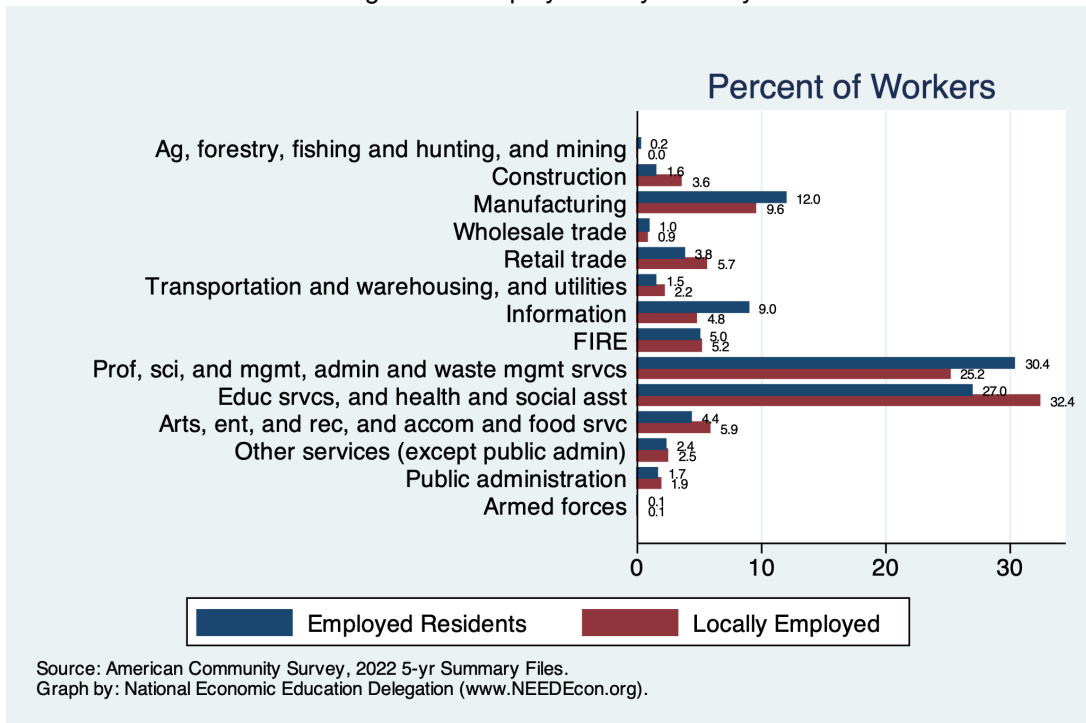


Figure 22: Language Spoken at Home

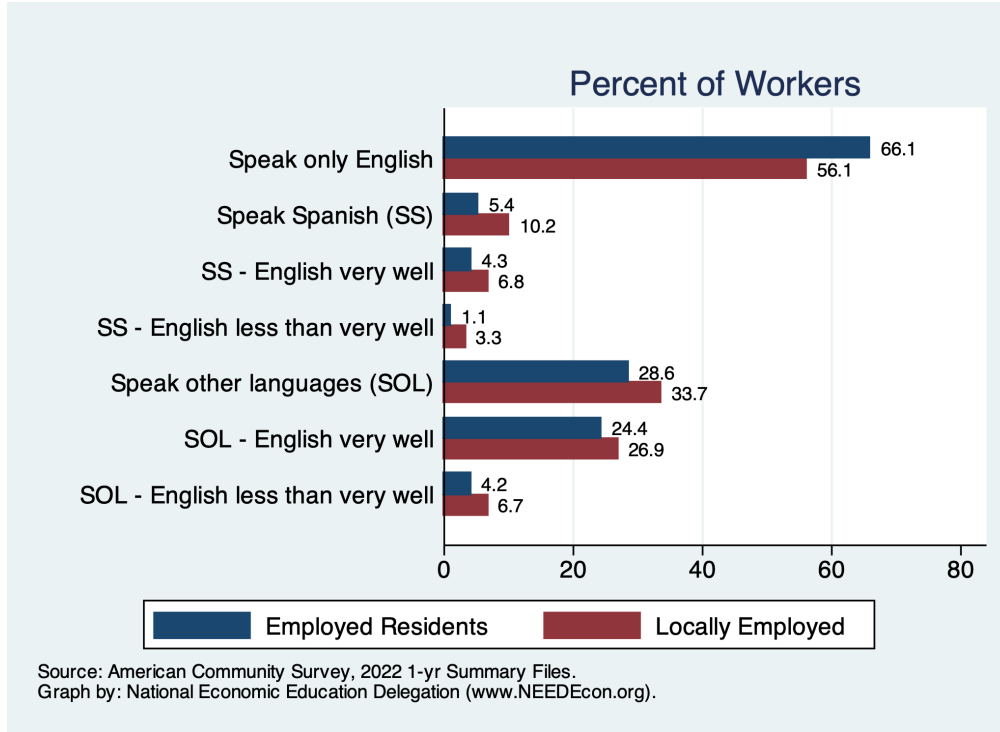
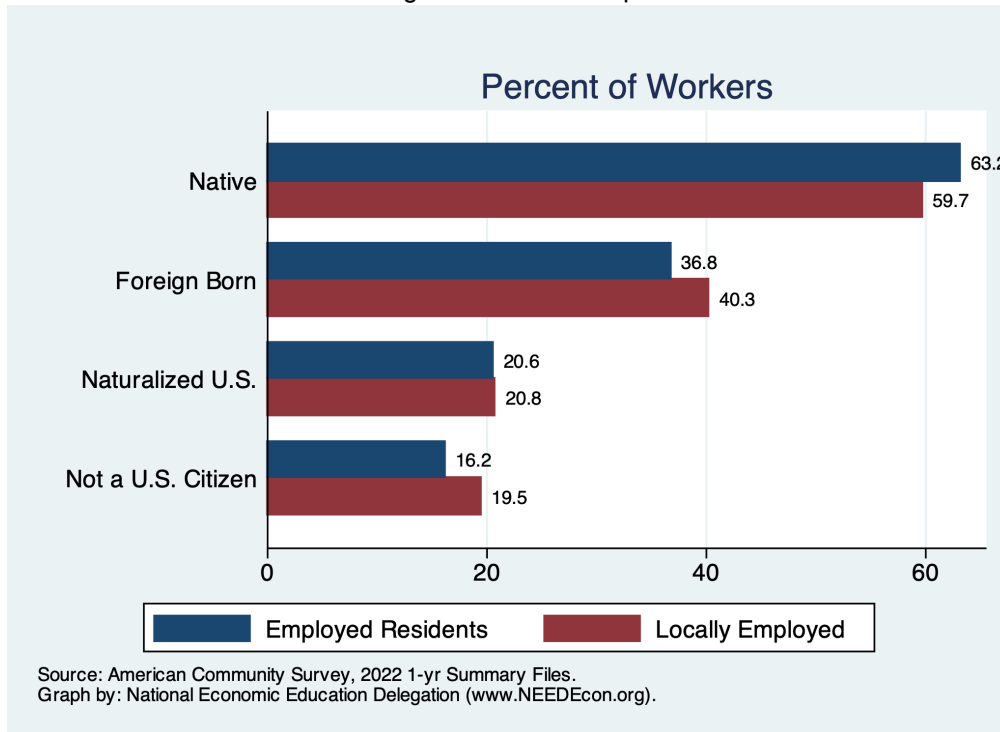


Figure 23: Citizenship



Income and Earnings

Per Capita Income Growth

Definition:

Per capita income is the average income per person in Palo Alto. 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

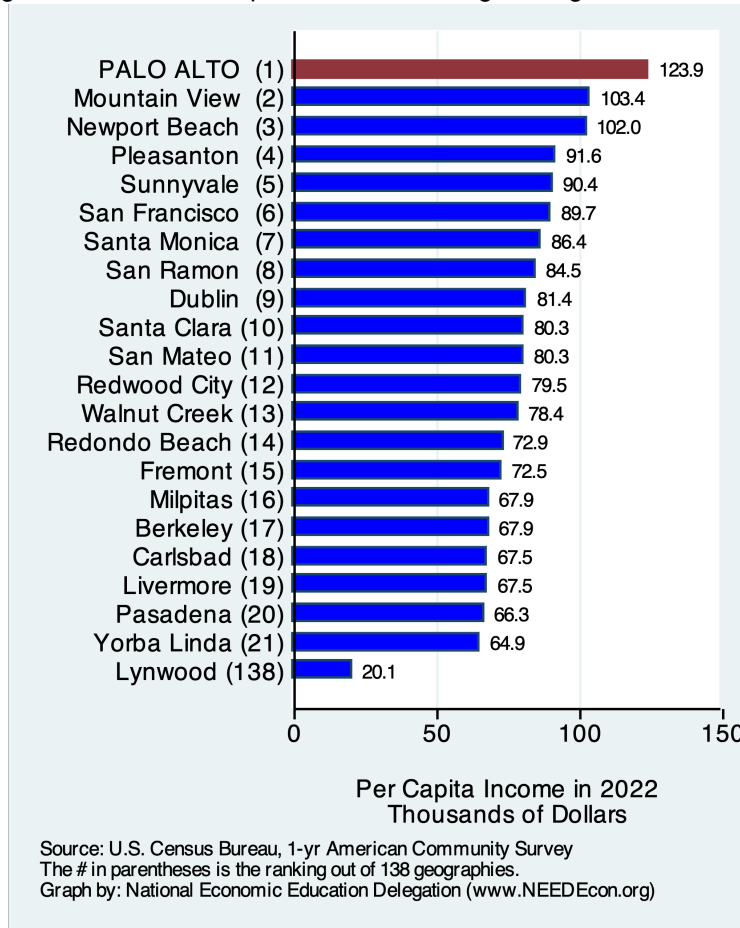
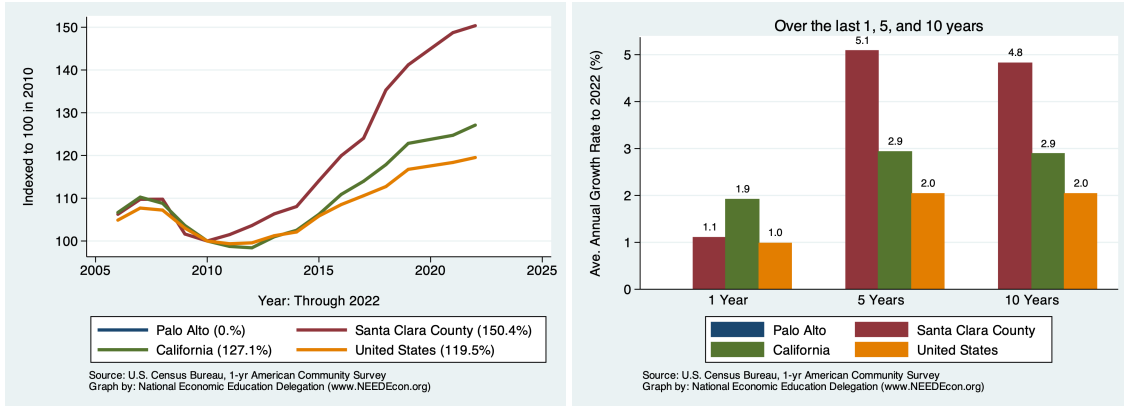


Figure 25: Regional Comparison of Growth over Time



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

Figure 26: Income Levels

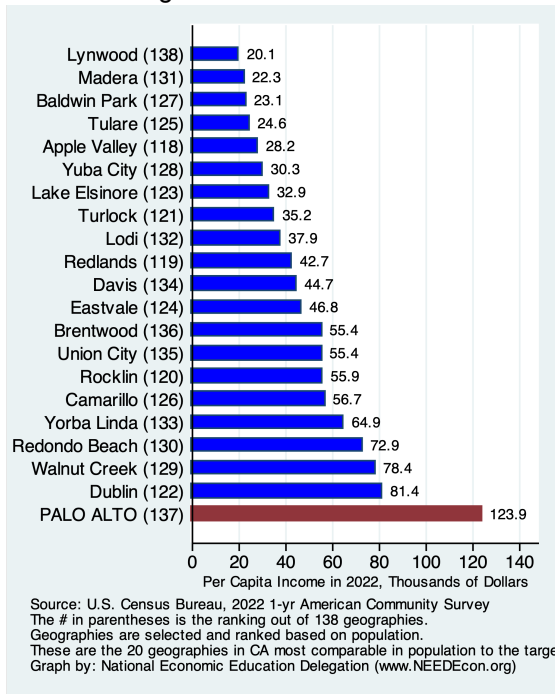
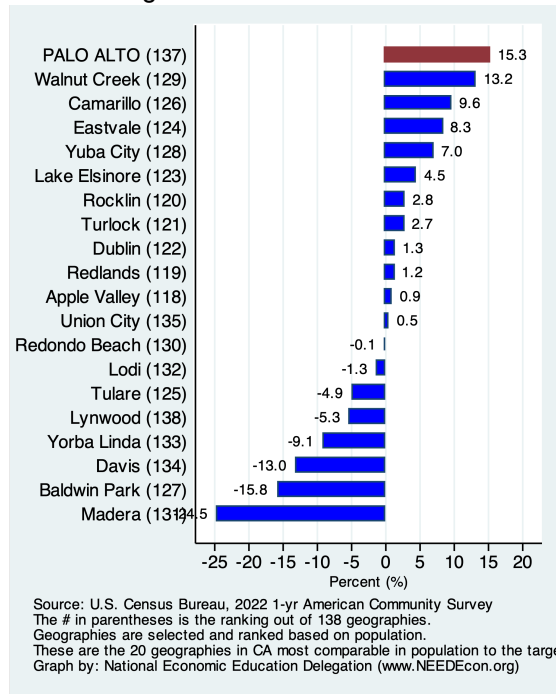


Figure 27: Growth over Time



Real Per Capita Income Ranking Among Cities in Santa Clara County

Figure 28: Income Levels

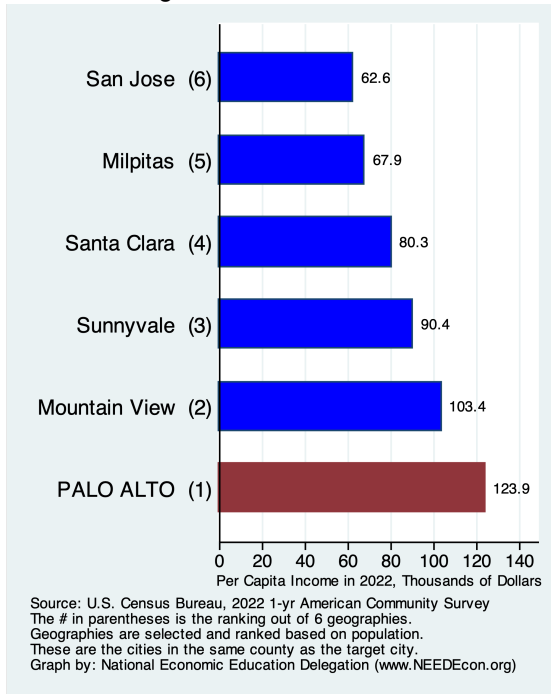


Figure 29: Growth over Time

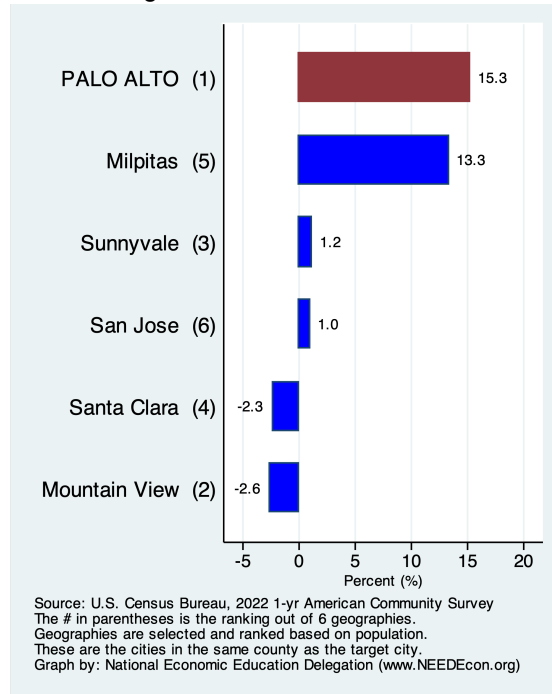
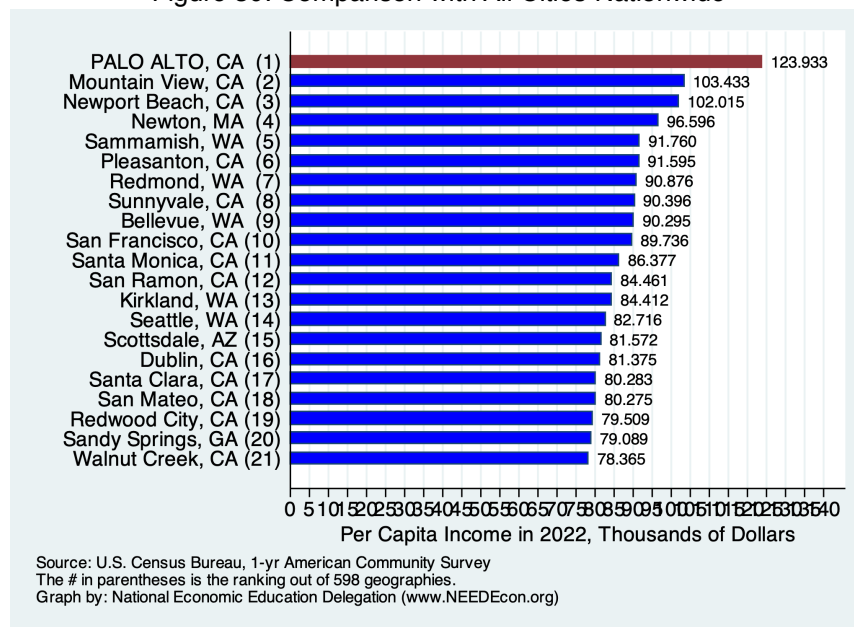


Figure 30: Comparison with All Cities Nationwide



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.

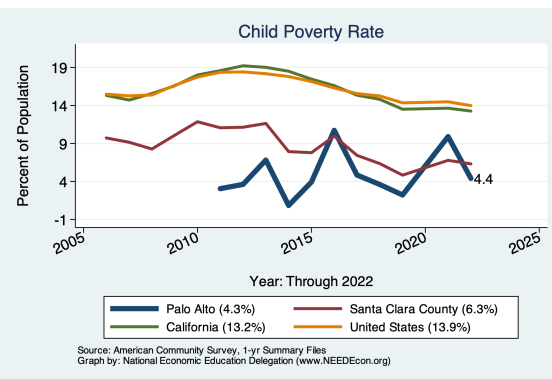
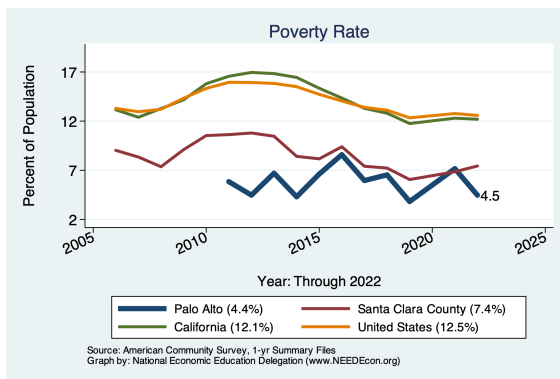


Figure 31: Inequality

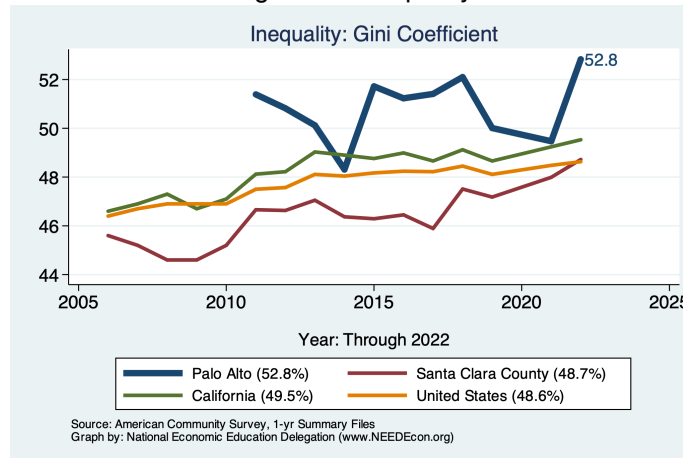


Figure 32: Shares Across the Income Distribution

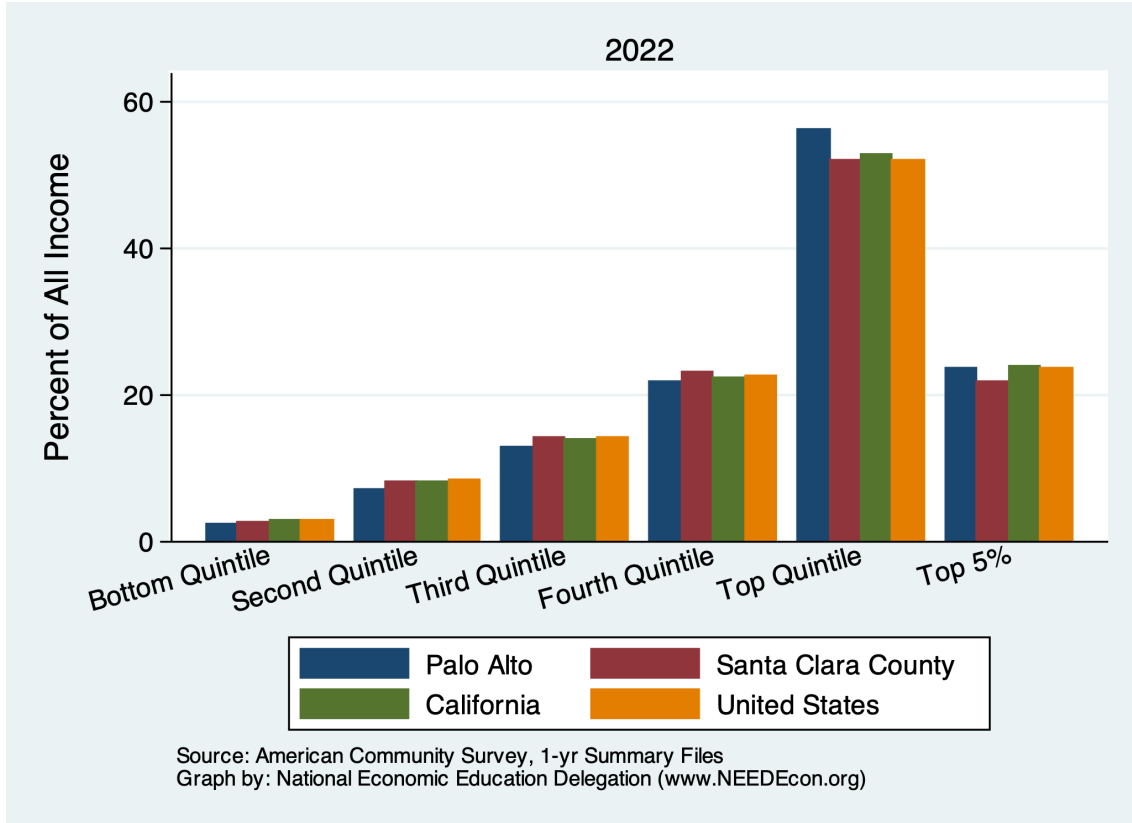
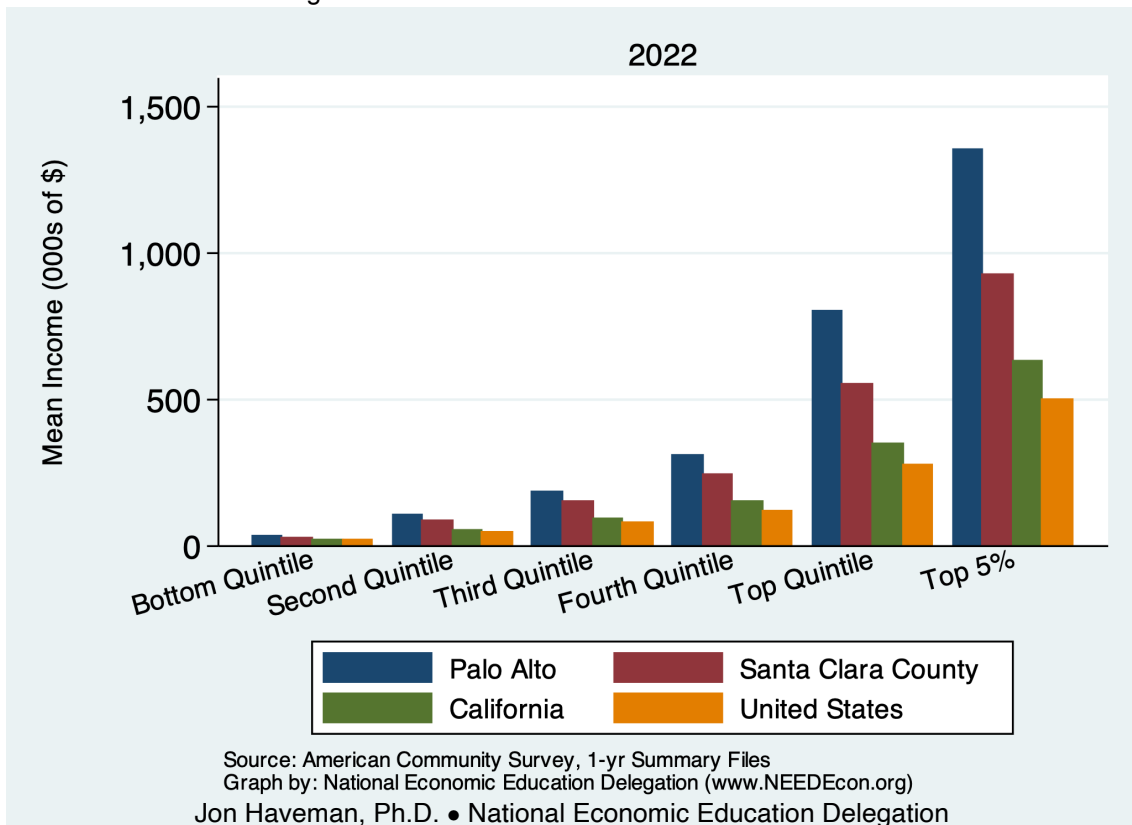


Figure 33: Means Across the Income Distribution



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 Palo Alto and Broader Regions

Figure 34: Median Home Prices

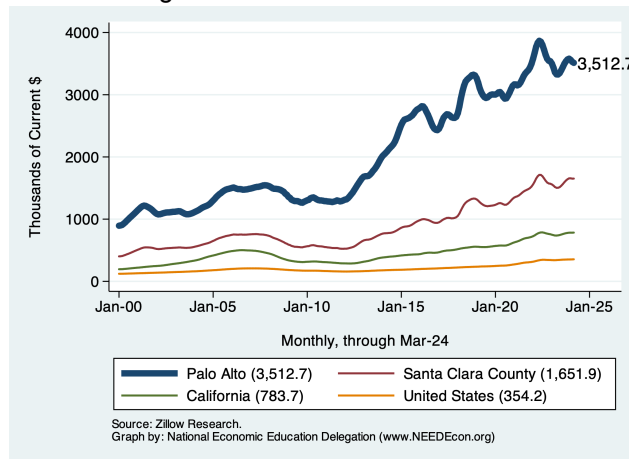
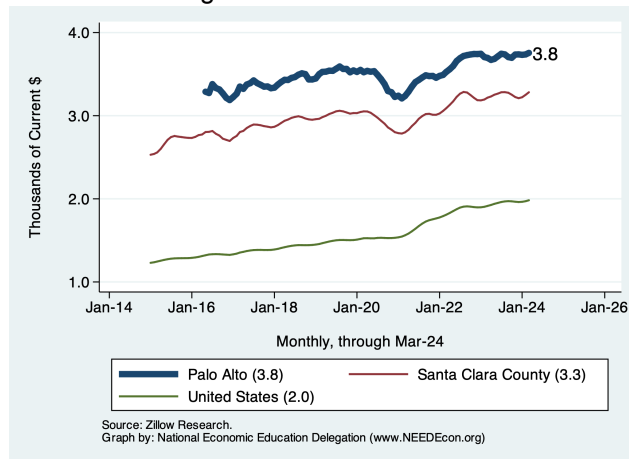


Figure 35: Median Rents



Housing Ownership in Palo Alto and Broader Regions

Figure 36: Home Ownership Rates

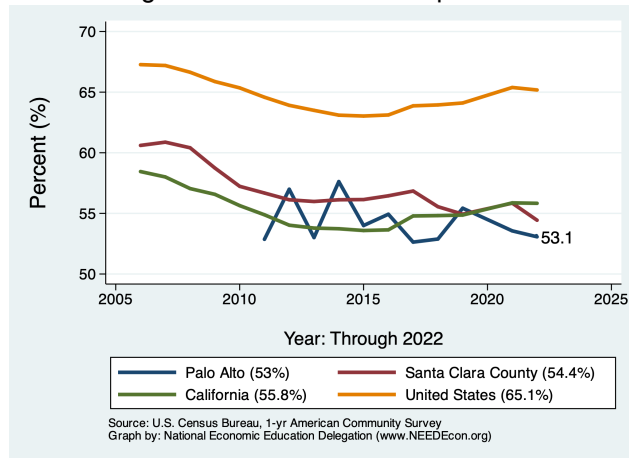


Figure 37: Home Ownership by Age

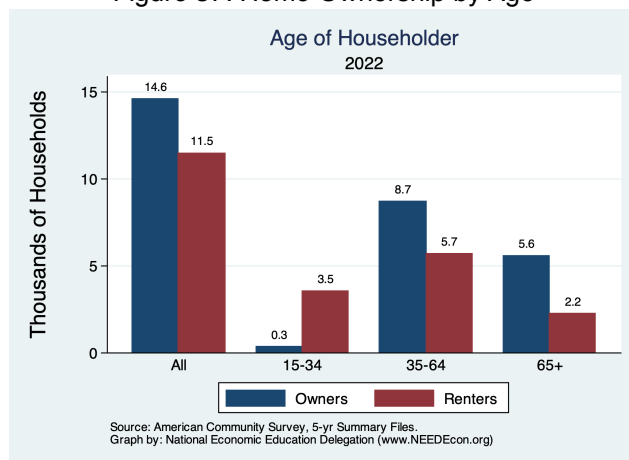


Figure 38: Income by Tenure

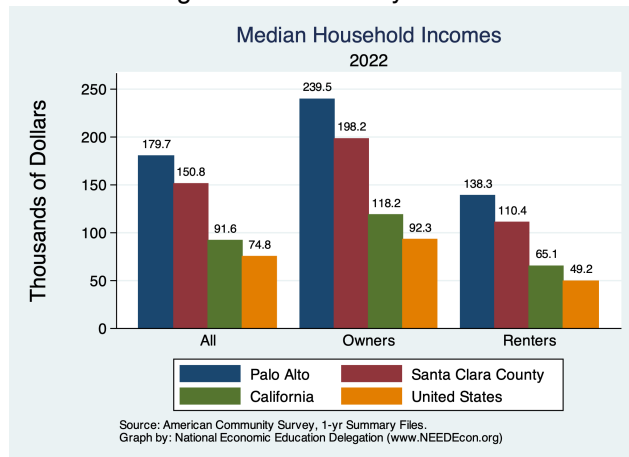


Figure 39: Income Distribution by Tenure

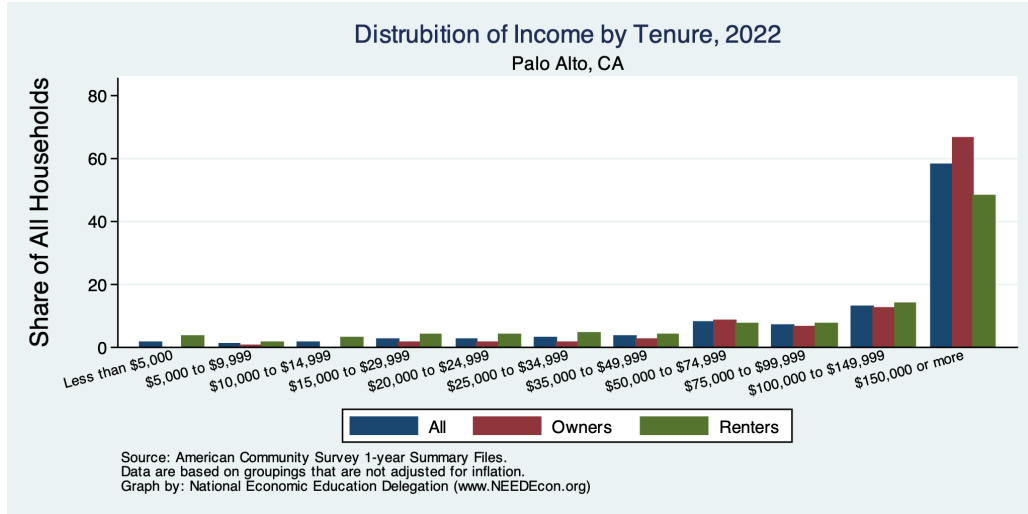


Figure 40: Income Distribution of Home Owners

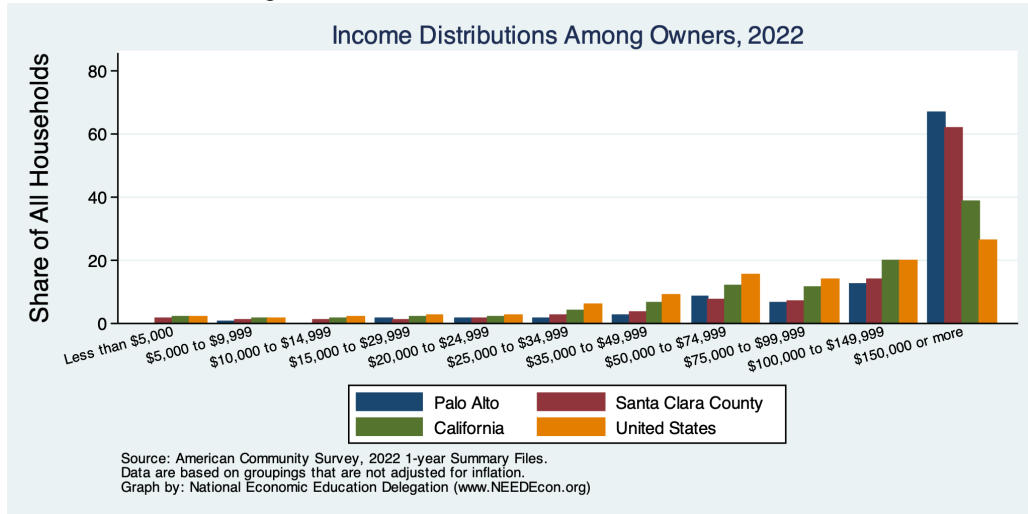
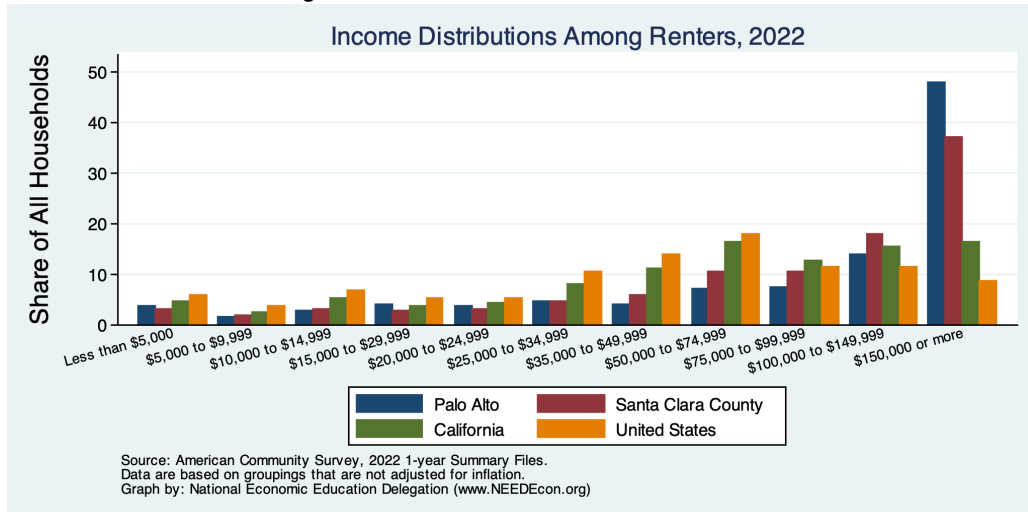


Figure 41: Income Distribution of Renters



Housing Burden in Palo Alto and Broader Regions

Figure 42: Home Owners w/ A Mortgage

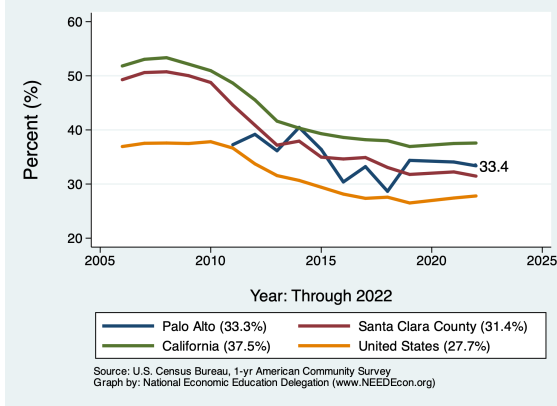


Figure 43: Home Owners w/o A Mortgage

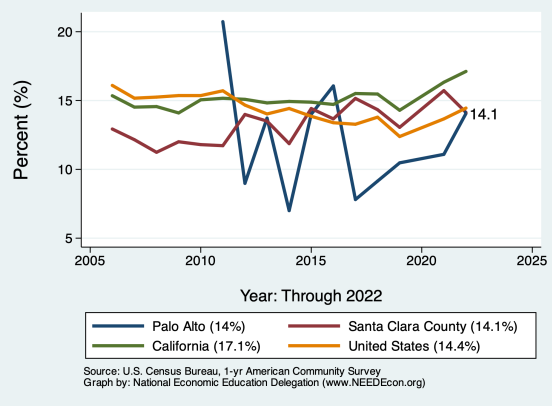


Figure 44: Renters

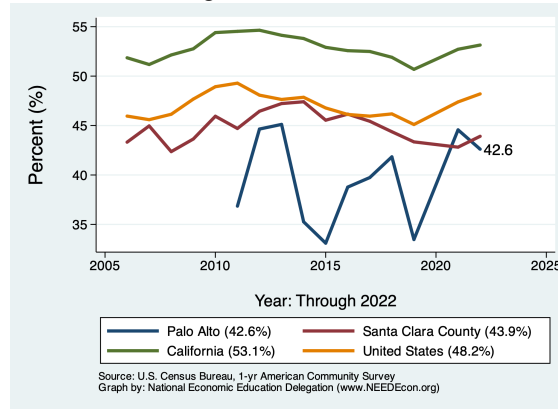
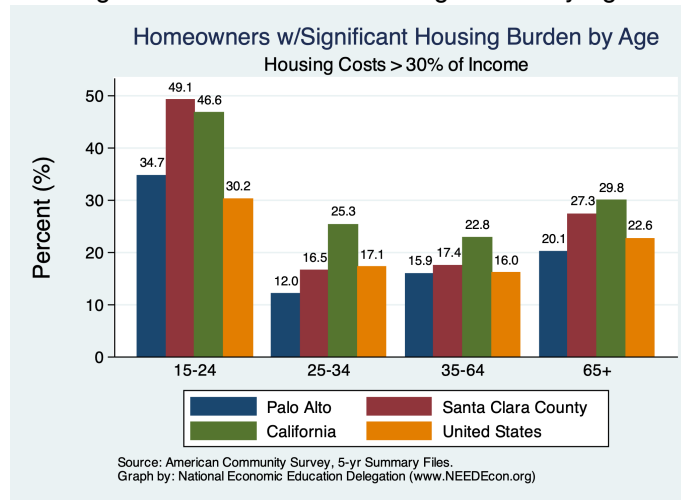


Figure 45: Homeowner Housing Burden by Age



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

Indicator	2023	2019	2010	% Change from	
				2019	2010
Total Population	67,287.0	69,109.0	64,403.0	-2.6	4.5
Total # of Homes	29,285.0	29,228.0	28,216.0	0.2	3.8
# Occupied Units	26,901.0	27,601.0	26,493.0	-2.5	1.5
Persons per Household	2.5	2.5	2.4	-0.2	2.9
Vacancy Rate (%)	8.1	5.6	6.1	46.2	33.3

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

Figure 46: Housing Growth

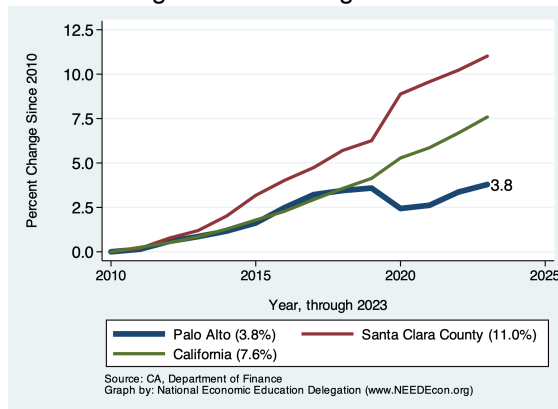


Figure 47: Persons per Household

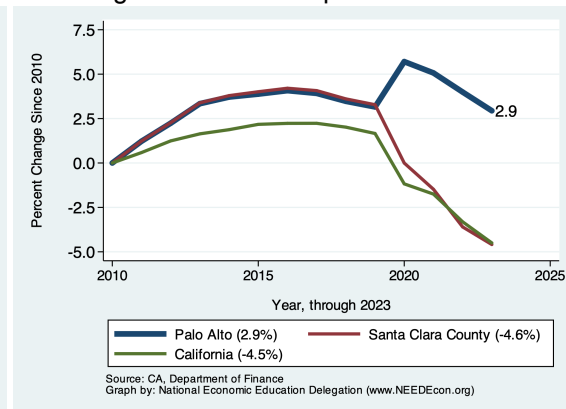


Figure 48: Vacancy Rates

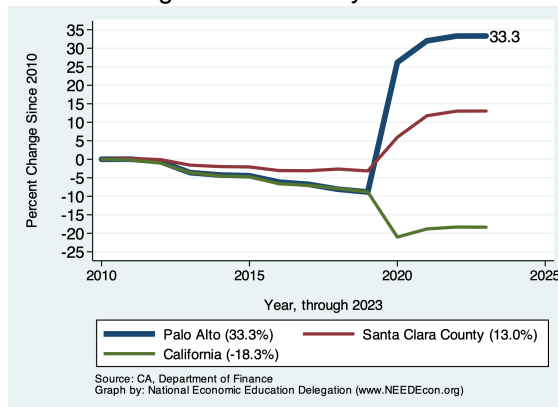
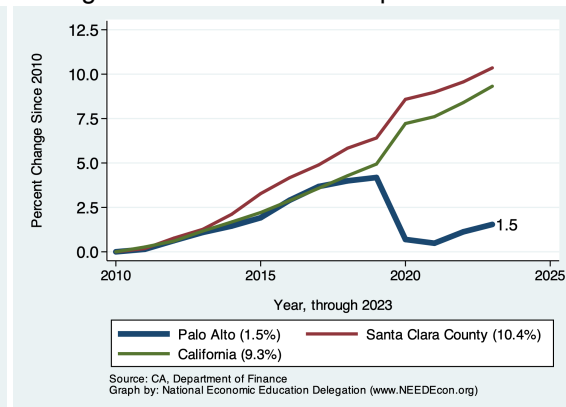


Figure 49: Number of Occupanied Units



Trends in the Growth of Housing by Housing Type

Figure 50: Single Detached Homes

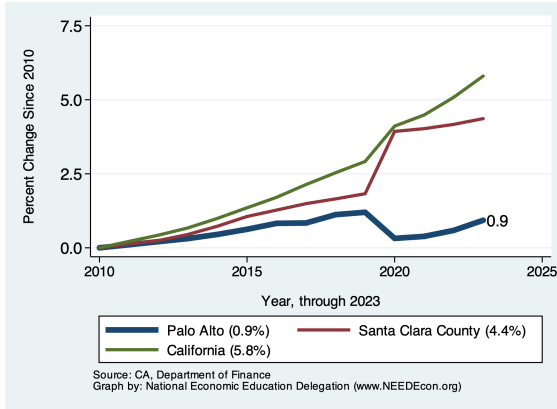


Figure 51: Single Attached Homes

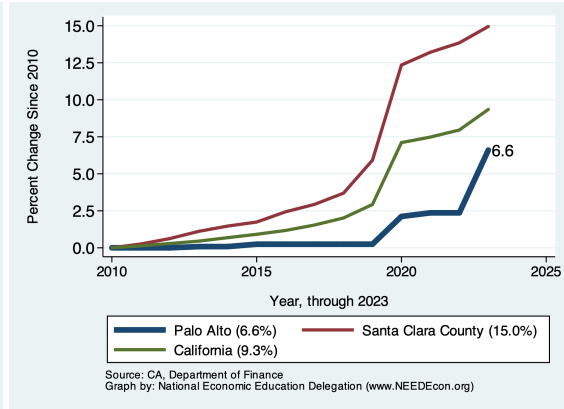


Figure 52: Housing in Buildings with Two to Four Units

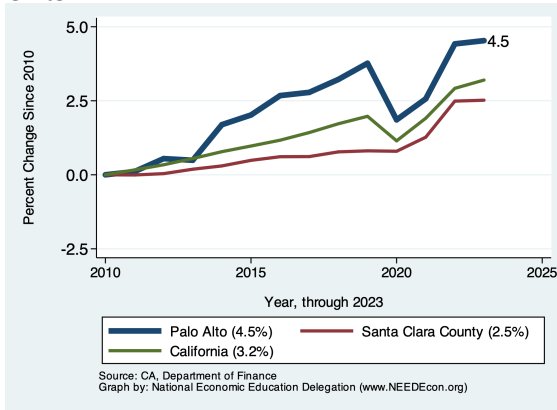
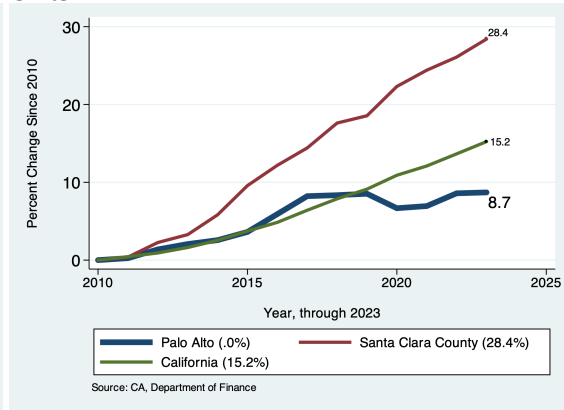


Figure 53: Housing in Buildings with Five or More Units



Vintage of Residential Housing

Why is it important?

This section provides evidence on the year in which residential housing in Palo Alto was built. We break it down into owned versus rented residences and provide a comparison across Santa Clara 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.

Figure 54: Distribution of Housing Construction

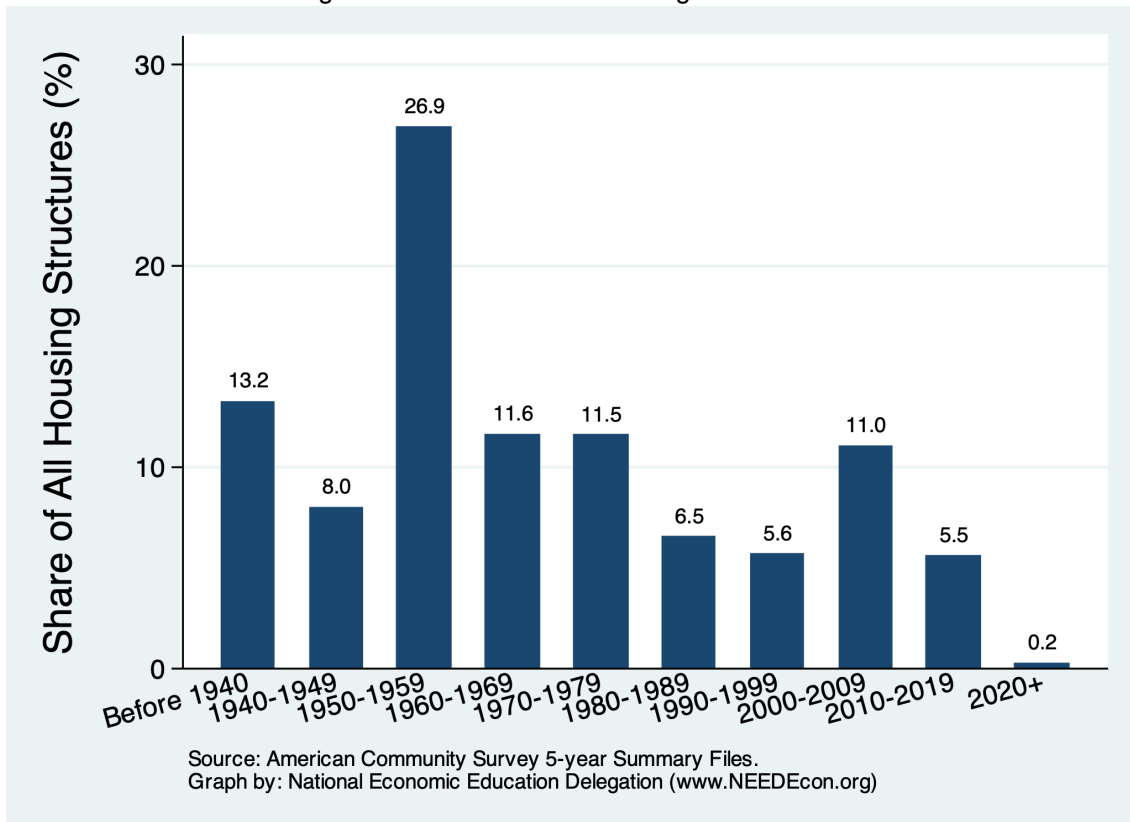


Figure 55: Housing Vintage across Regions

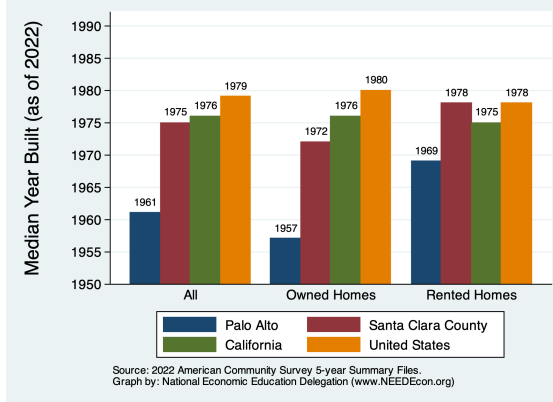


Figure 56: Housing Vintage by Tenure

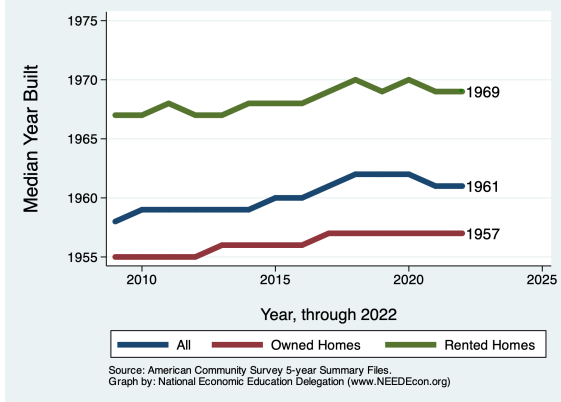


Figure 57: Vintage of Owned Residences

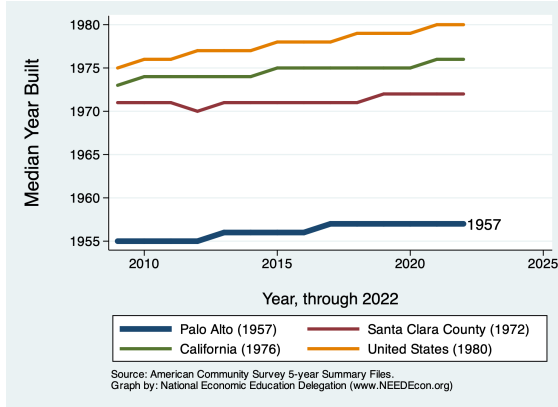


Figure 58: Vintage of Rented Residences

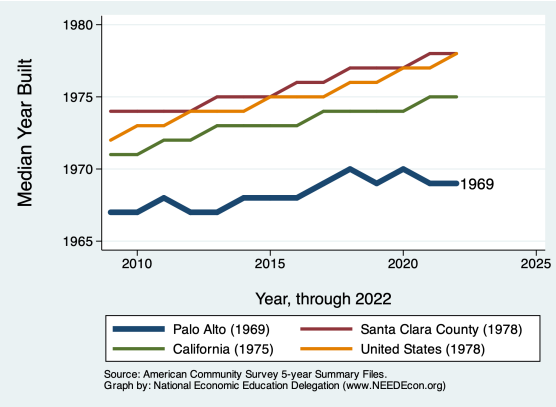
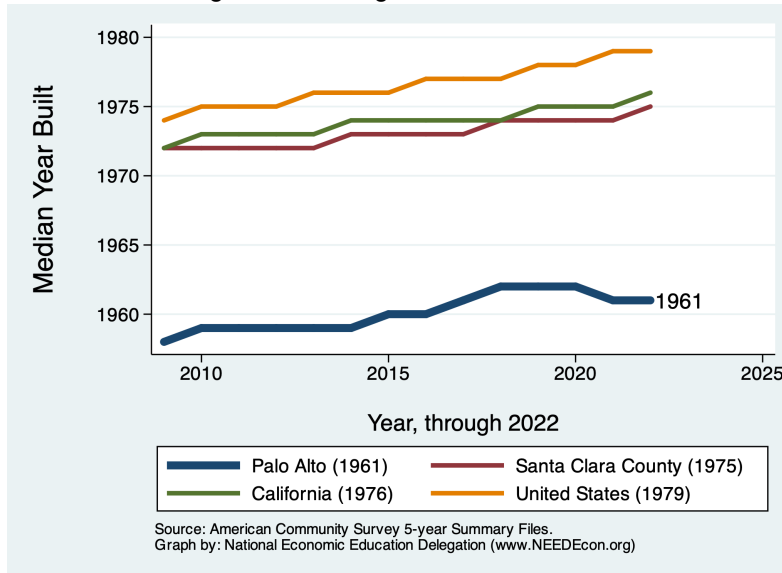


Figure 59: Vintage of All Residences



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 60: Year Current Occupant Moved In

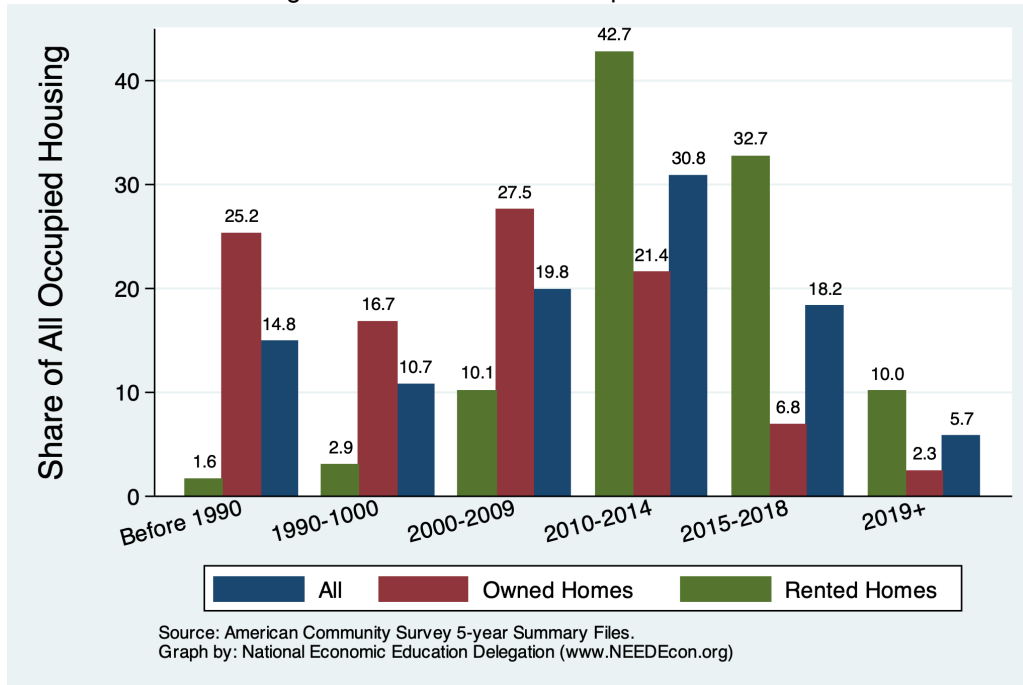


Figure 61: Year Occupied by Current Residents across Regions

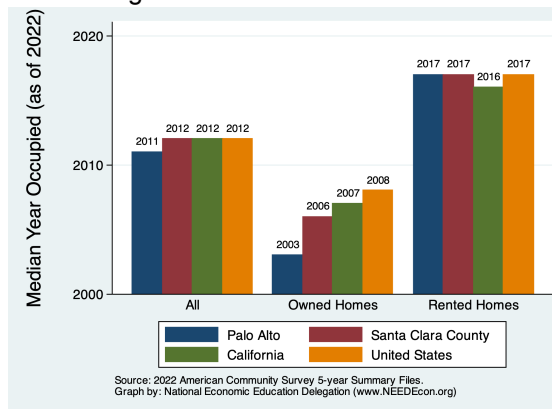


Figure 62: Year Occupied by Current Residents by Tenure

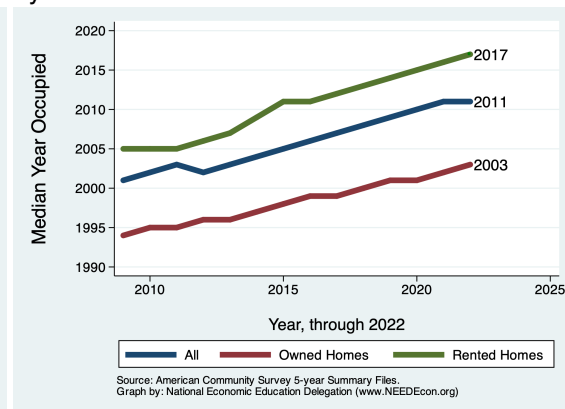


Figure 63: Year Occupied by Current Residents for Owned Housing

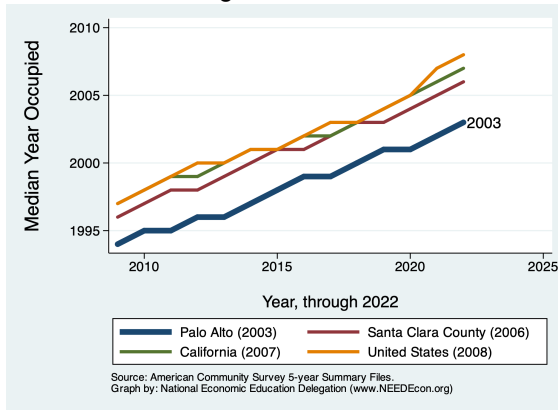


Figure 64: Year Occupied by Current Residents for Rented Housing

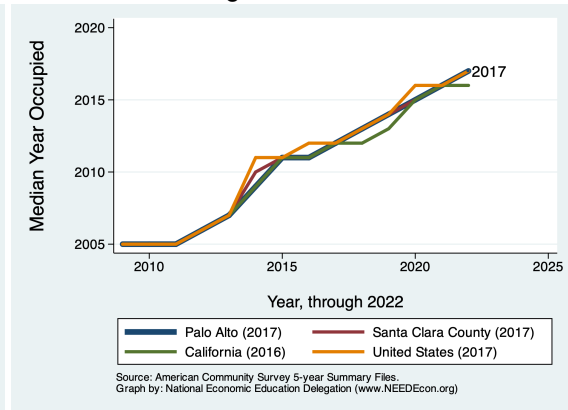
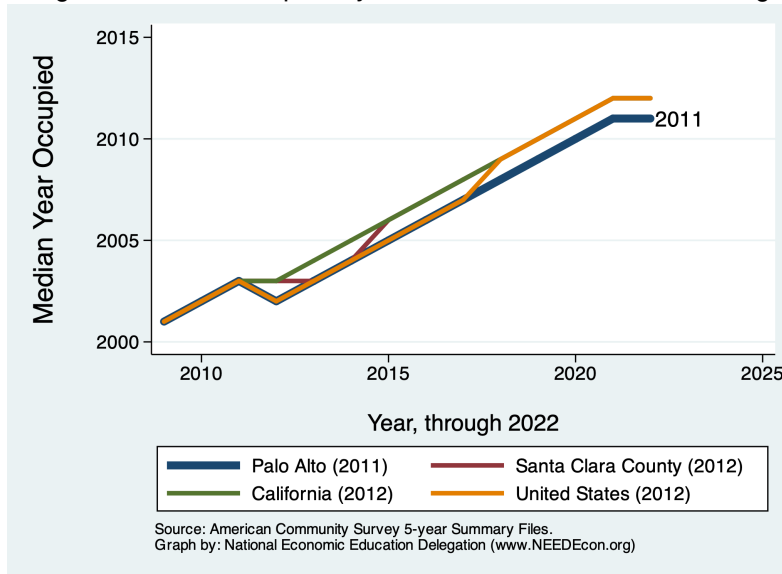


Figure 65: Year Occupied by Current Residents for All Housing



Residential Permitting

Definition:

This indicator provides evidence on the number of residential buildings that are permitted for construction each year. Permit data for Palo Alto is compared with data from Santa Clara 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.

Palo Alto - Ranking Among Comparables

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

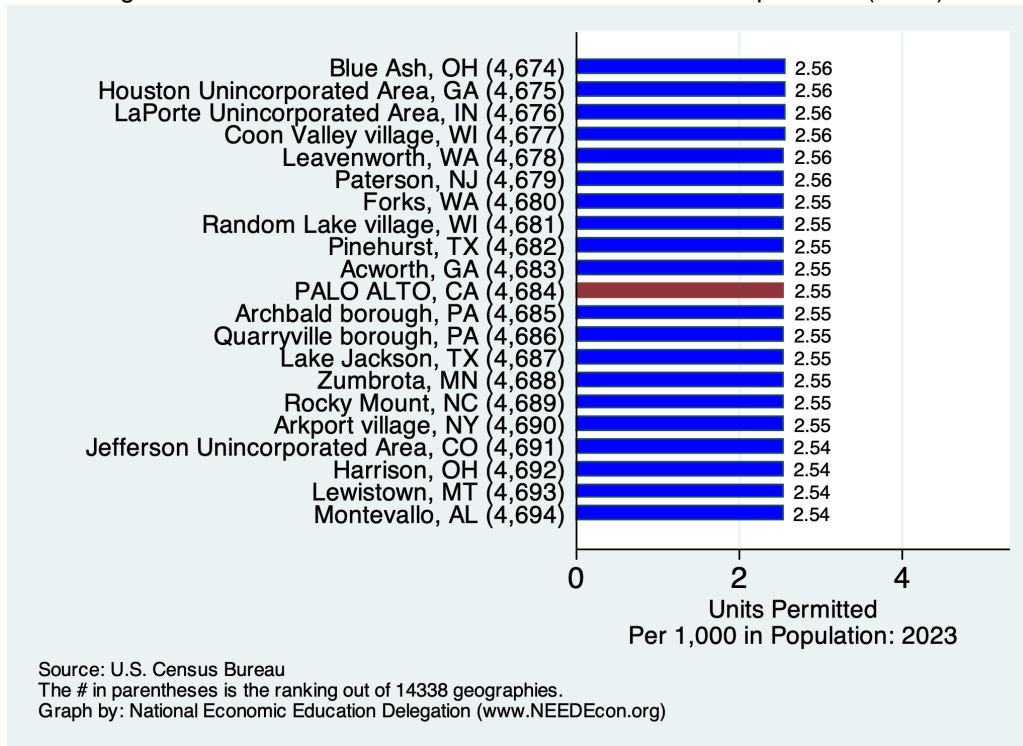
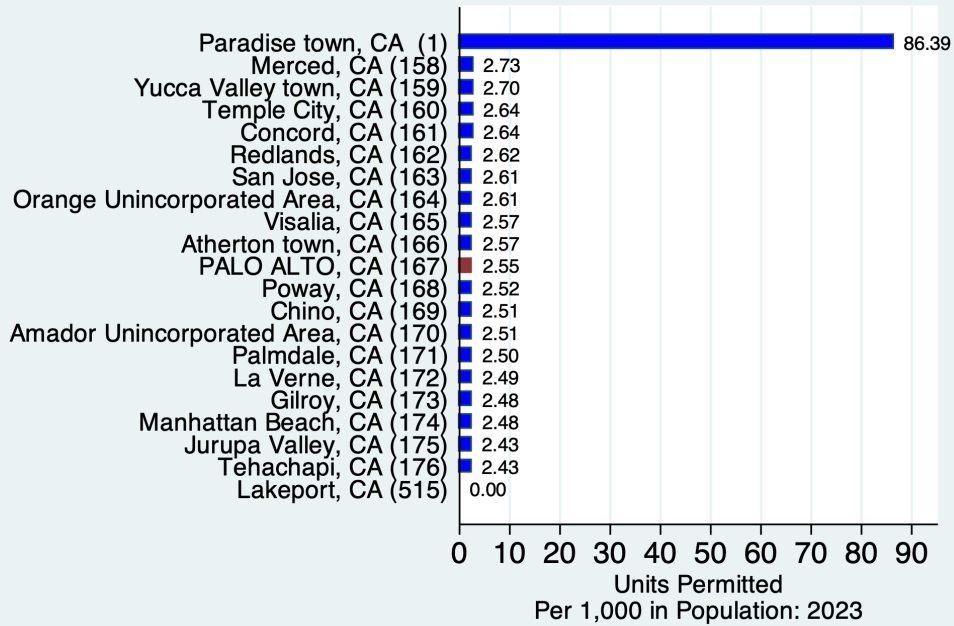
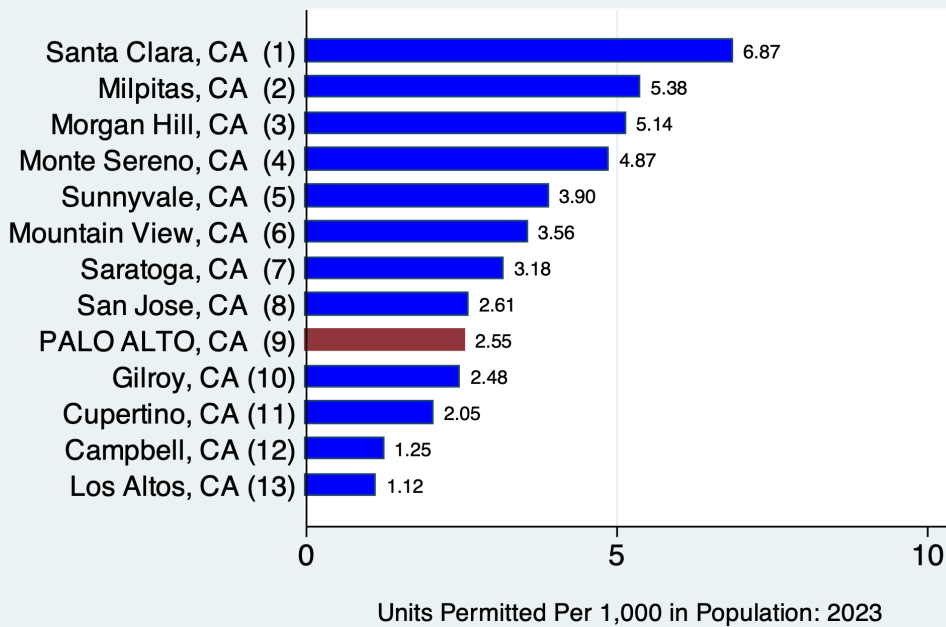


Figure 67: Number of Units Permitted - California Comparables (Rank)



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 68: Number of Units Permitted - Cities in Santa Clara County (Rank)



Source: U.S. Census Bureau,
 The # in parentheses is the ranking out of 13 geographies.
 Graph by: National Economic Education Delegation (www.NEEDecon.org)

Palo Alto - Permitting Activity

Annual Units Permitted - Per Capita in Palo Alto

Figure 69: Units Permitted Each Year

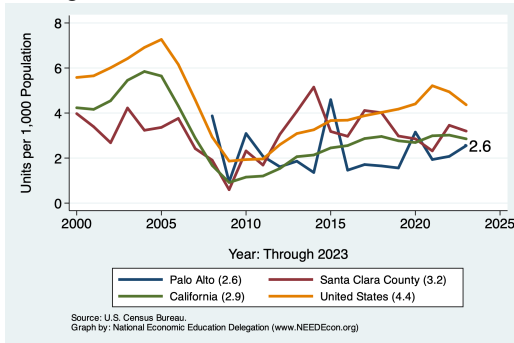
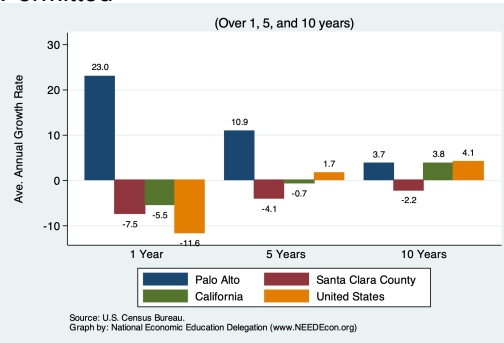


Figure 70: Average Annual Growth in Units Permitted



Annual Number of Buildings Permitted - Per Capita in Palo Alto

Figure 71: Units Permitted Each Year

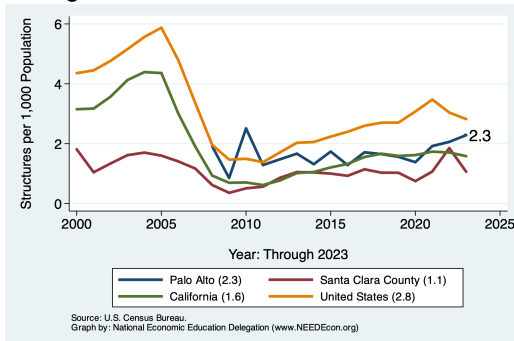
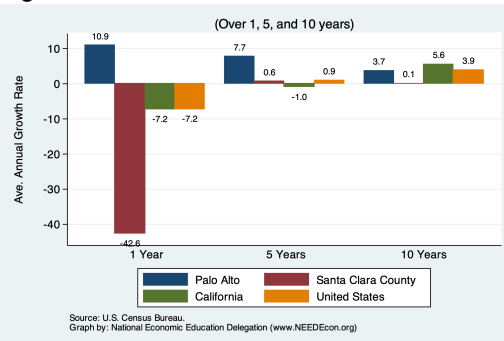


Figure 72: Average Annual Growth in Buildings Permitted



Annual Value of Property Permitted - Per Capita in Palo Alto

Figure 73: Value Permitted Each Year

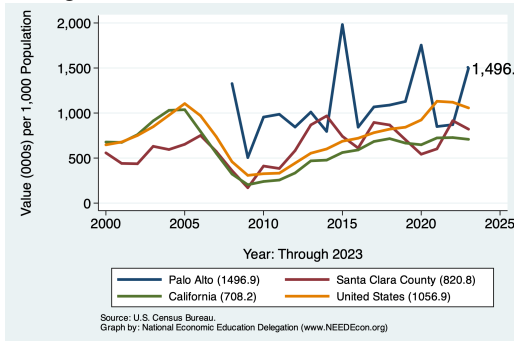
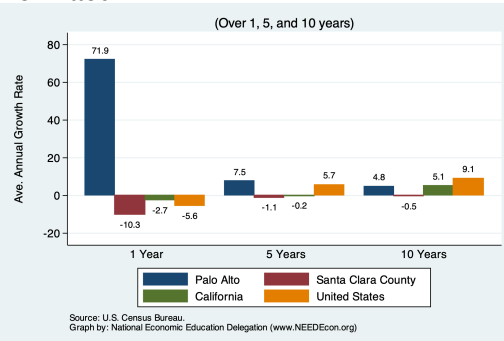


Figure 74: Average Annual Growth in Value Permitted



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 Car Alone

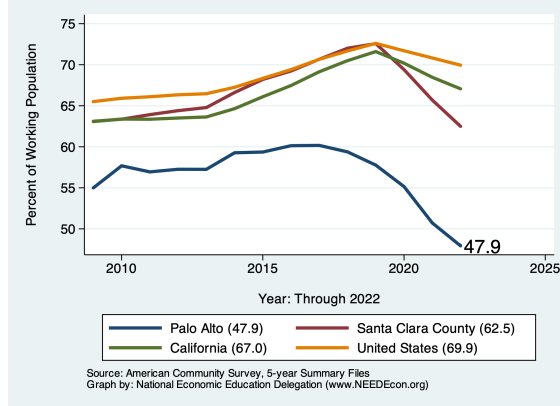


Figure 76: Percent of Workers Commuting by Carpool

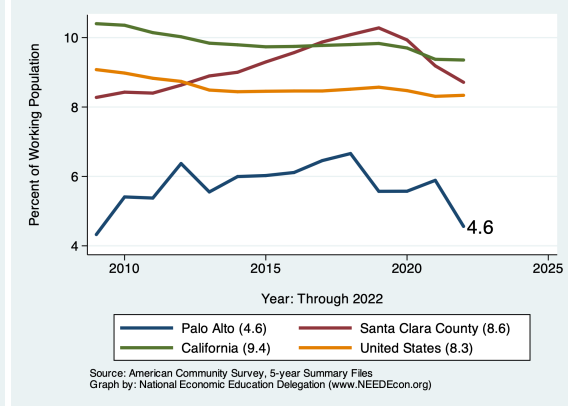


Figure 77: Percent of Workers using Public Transportation

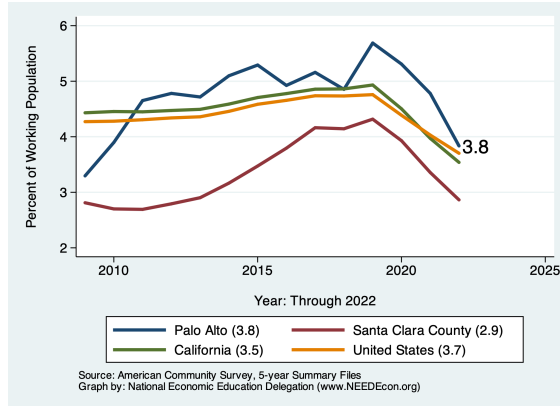
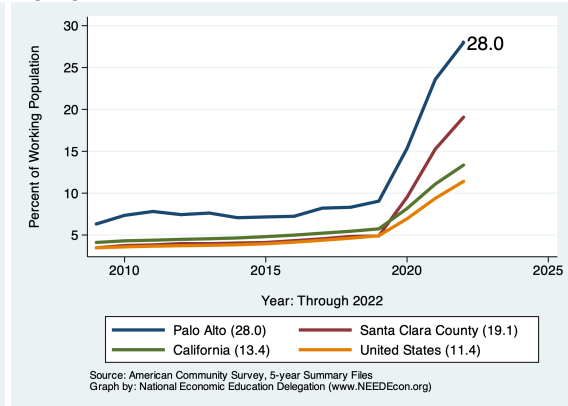


Figure 78: Percent of Workers Who Work From Home



The first table on this page presents data for those who LIVE in Palo Alto. The second provides data on those who work, but do not necessarily live in Palo Alto. 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

Mode of Transit	Male		Female		All Workers		All of CA (%)
	#	(%)	#	(%)	#	(%)	
Car, Truck, or Van:	9,304	48.3	8,583	53.5	17,887	52.5	78.0
Drove Alone	8,411	43.7	7,922	49.4	16,333	47.9	68.4
Carpooled:	893	4.6	661	4.1	1,554	4.6	9.5
In 2-person carpool	686	3.6	433	2.7	1,119	3.3	6.9
In 3-person carpool	93	0.5	147	0.9	240	0.7	1.5
In 4-or-more-person carpool	114	0.6	81	0.5	195	0.6	1.1
Public Transportation (excl Taxi):	803	4.2	504	3.1	1,307	3.8	3.6
Bus or Trolley Bus	200	1.0	283	1.8	483	1.4	2.3
Streetcar or Trolley Car	52	0.3	62	0.4	114	0.3	0.8
Subway or Elevated	551	2.9	159	1.0	710	2.1	0.3
Railroad	0	0.0	0	0.0	0	0.0	0.2
Ferryboat	0	0.0	0	0.0	0	0.0	0.1
Bicycle	1,562	8.1	956	6.0	2,518	7.4	0.7
Walked	975	5.1	401	2.5	1,376	4.0	2.4
Taxicab, Motorcycle, or other	267	1.4	218	1.4	485	1.4	1.7
Worked at Home	5,006	26.0	4,525	28.2	9,531	28.0	13.6
Total:	17,917	93.1	15,187	94.6	33,104	97.2	

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

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

Mode of Transit	Male		Female		All Workers		All of CA (%)
	#	(%)	#	(%)	#	(%)	
Car, Truck, or Van:	29,336	54.4	29,183	59.9	58,519	57.9	75.3
Drove Alone	26,446	49.0	25,314	51.9	51,760	51.2	65.5
Carpooled:	2,890	5.4	3,869	7.9	6,759	6.7	9.8
In 2-person carpool	1,857	3.4	2,610	5.4	4,467	4.4	7.0
In 3-person carpool	304	0.6	1,028	2.1	1,332	1.3	1.7
In 4-or-more-person carpool	729	1.4	231	0.5	960	0.9	1.2
Public Transportation (excl Taxi):	1,698	3.1	2,060	4.2	3,758	3.7	2.6
Bus or Trolley Bus	574	1.1	470	1.0	1,044	1.0	1.8
Streetcar or Trolley Car	301	0.6	155	0.3	456	0.5	0.5
Subway or Elevated	823	1.5	1,435	2.9	2,258	2.2	0.2
Railroad	0	0.0	0	0.0	0	0.0	0.1
Ferryboat	0	0.0	0	0.0	0	0.0	0.1
Bicycle	2,110	3.9	1,265	2.6	3,375	3.3	0.7
Walked	1,483	2.8	401	0.8	1,884	1.9	2.4
Taxicab, Motorcycle, or other	781	1.4	635	1.3	1,416	1.4	1.7
Worked at Home	5,913	11.0	5,098	10.5	11,011	10.9	17.2
Total:	41,321	76.6	38,642	79.3	79,963	79.1	

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

Mode of Transit	Male		Female		All Workers		All of CA
	#	(%)	#	(%)	#	(%)	(%)
Less than 5 minutes	0	0.0	79	0.5	79	0.2	2.1
5 to 9 minutes	1,234	6.9	588	4.1	1,822	5.7	7.8
10 to 14 minutes	1,144	6.4	2,248	15.6	3,392	10.7	12.4
15 to 19 minutes	2,884	16.1	2,460	17.0	5,344	16.8	15.4
20 to 24 minutes	2,353	13.1	1,640	11.3	3,993	12.5	14.8
25 to 29 minutes	1,202	6.7	997	6.9	2,199	6.9	6.4
30 to 34 minutes	2,003	11.2	853	5.9	2,856	9.0	15.2
35 to 39 minutes	61	0.3	47	0.3	108	0.3	2.9
40 to 44 minutes	315	1.8	968	6.7	1,283	4.0	4.1
45 to 59 minutes	691	3.9	138	1.0	829	2.6	8.2
60 to 89 minutes	546	3.0	141	1.0	687	2.2	7.2
90 or more minutes	0	0.0	160	1.1	160	0.5	3.6
Total:	12,433	69.4	10,319	71.4	22,752	71.5	

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

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

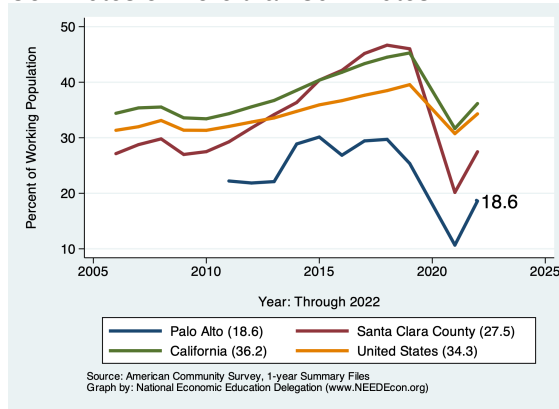


Figure 80: Percent of Employed Population With Commutes of More than 90 Minutes

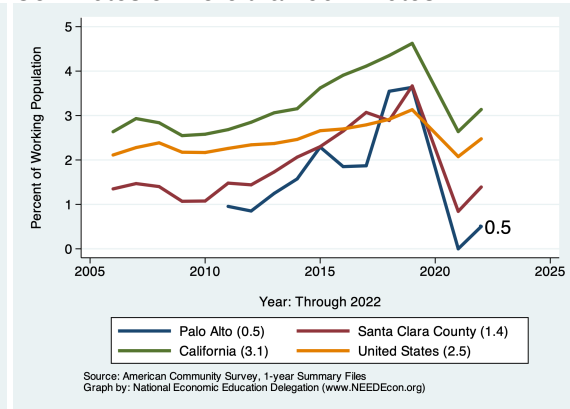
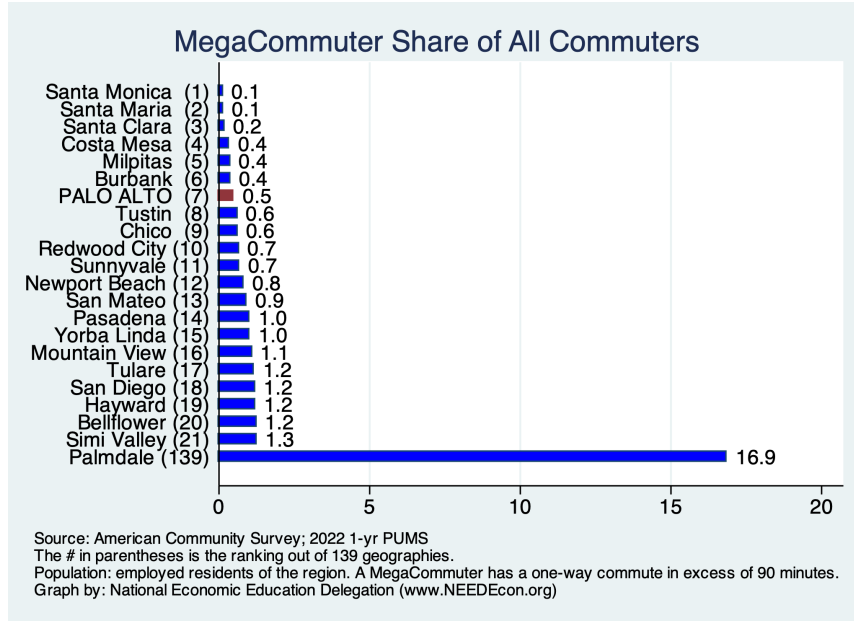


Figure 81: Rank: Share of MegaCommuters Across Similar Geographies



Commute Times for Those Employed in the City

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

Mode of Transit	Male		Female		All Workers		All of CA (%)
	#	(%)	#	(%)	#	(%)	
Less than 5 minutes	52	0.1	118	0.3	170	0.2	2.1
5 to 9 minutes	1,848	3.5	1,625	3.5	3,473	3.5	7.8
10 to 14 minutes	2,204	4.2	2,986	6.4	5,190	5.3	12.4
15 to 19 minutes	3,599	6.8	3,344	7.1	6,943	7.1	15.3
20 to 24 minutes	5,703	10.8	4,276	9.1	9,979	10.2	14.8
25 to 29 minutes	3,004	5.7	2,957	6.3	5,961	6.1	6.4
30 to 34 minutes	7,517	14.2	6,607	14.1	14,124	14.4	15.2
35 to 39 minutes	1,471	2.8	1,330	2.8	2,801	2.9	2.9
40 to 44 minutes	1,922	3.6	1,831	3.9	3,753	3.8	4.1
45 to 59 minutes	3,778	7.1	4,195	8.9	7,973	8.1	8.2
60 to 89 minutes	3,237	6.1	2,472	5.3	5,709	5.8	7.2
90 or more minutes	1,073	2.0	1,803	3.8	2,876	2.9	3.6
Total:	35,408	66.8	33,544	71.6	68,952	70.3	

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 Commutes of More than 30 Minutes

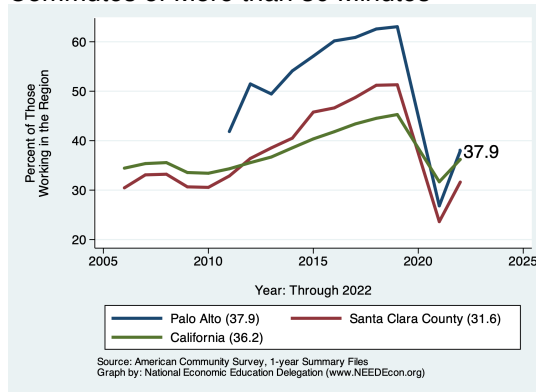


Figure 83: Percent of Local Employees With Commutes of More than 90 Minutes

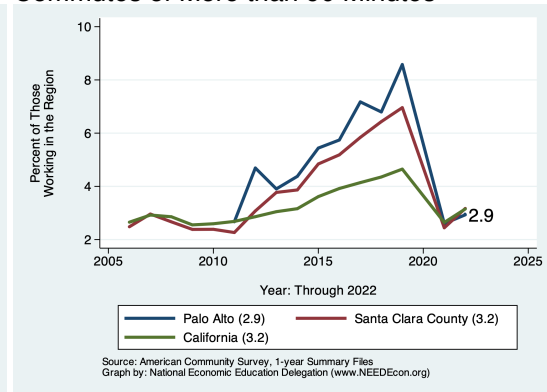
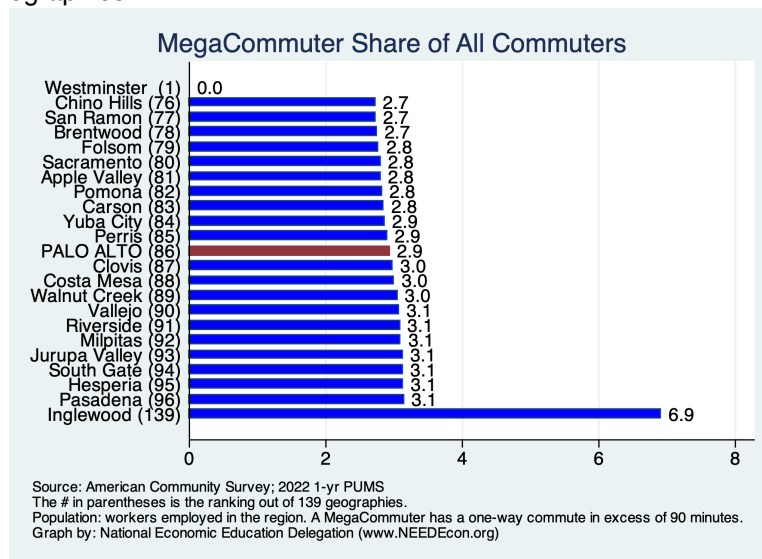


Figure 84: Rank: Share of MegaCommuters Across Similar Geographies



Place of Work

This section provides evidence on where workers living in Palo Alto work. As evidenced in the first table, some of Palo Alto'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 Palo Alto city boundary.

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

Place of Work	Male		Female		All Workers		All of CA (%)
	#	(%)	#	(%)	#	(%)	
Worked in state of residence:	18,173	94.4	15,417	96.1	33,590	98.6	99.6
Worked in county of residence	15,954	82.9	12,948	80.7	28,902	84.8	85.3
worked outside of county of residence	2,219	11.5	2,469	15.4	4,688	13.8	14.3
Worked outside state of residence	173	0.9	0	0.0	173	0.5	0.4
Total:	18,346	95.3	15,417	96.1	33,763	99.1	

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

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

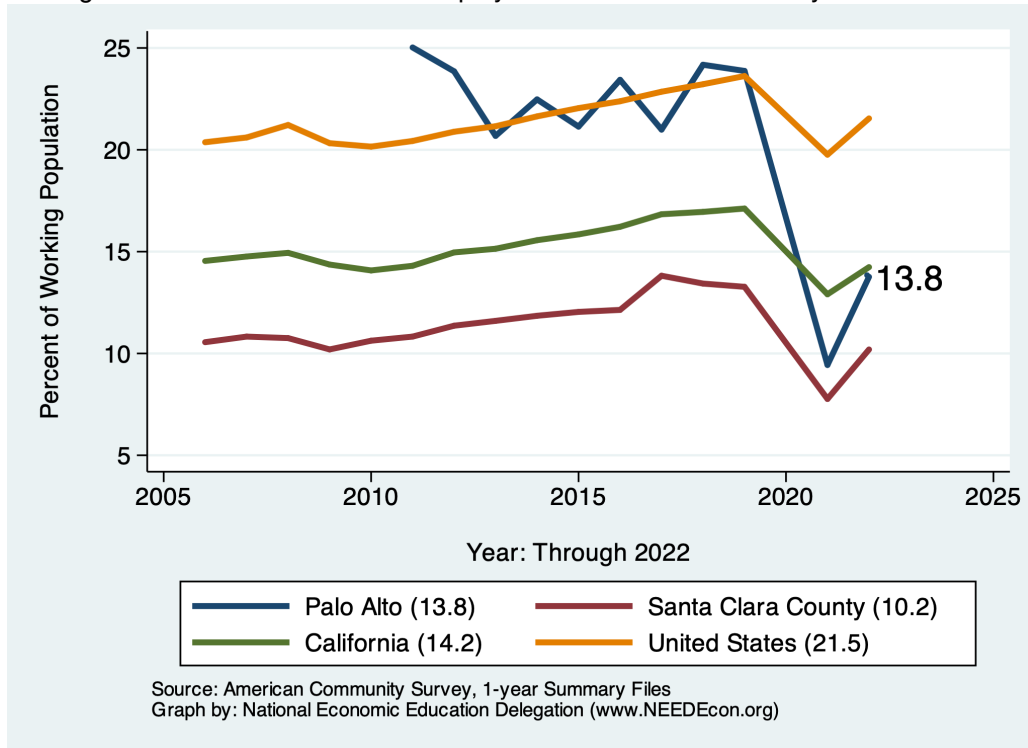
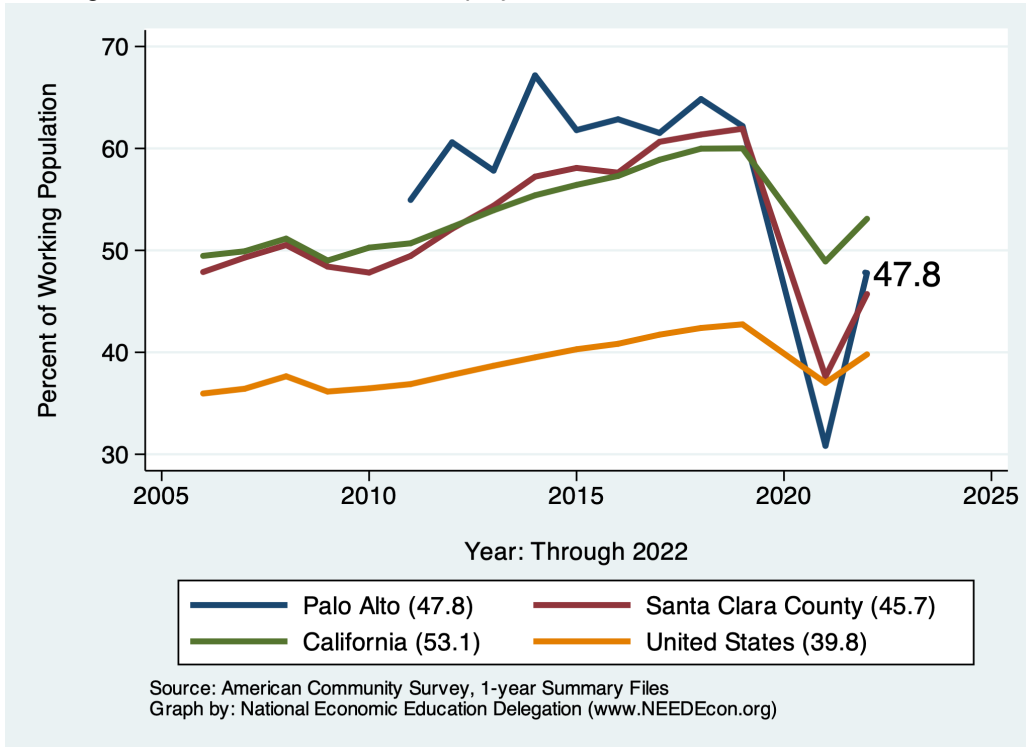


Table 11. SEX OF WORKERS BY PLACE OF WORK-PLACE LEVEL

Place of Work	Male		Female		All Workers		All of CA (%)
	#	(%)	#	(%)	#	(%)	
Living in a place:	18,346	95.3	15,417	96.1	33,763	99.1	95.8
Worked in place of residence	9,944	51.7	7,538	47.0	17,482	51.3	42.3
Worked outside place of residence	8,402	43.7	7,879	49.1	16,281	47.8	53.4
Not living in a place	0	0.0	0	0.0	0	0.0	4.2
Total:	18,346	95.3	15,417	96.1	33,763	99.1	

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	Ratio	United States	
	Median	Median		Median	Ratio
Car, truck, or van - drove alone	114,586	48,335	100.6	45,677	99.1
Car, truck, or van - carpooled	250,001	35,926	295.3	34,518	286.1
Public transportation (excluding taxicab)	250,001	34,625	306.4	41,443	238.3
Walked	69,049	30,552	95.9	27,247	100.1
Taxicab, motorcycle, bicycle, or other means	84,846	40,631	88.6	36,218	92.5
Worked from home	131,291	79,738	69.9	69,180	75.0
Total:	117,377	49,818	235.6	46,365	253.2

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.

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

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

Mode of Transit	< \$25,000		\$25,000-\$74,999		\$75,000+		All		All of CA
	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	1,805	31.9	2,630	39.4	11,430	51.2	16,333	49.0	68.4
Car, Truck, or Van: Carpooled	337	6.0	290	4.3	903	4.0	1,554	4.7	9.5
Public Transportation (excl Taxi)	137	2.4	134	2.0	979	4.4	1,307	3.9	3.6
Walked	138	2.4	234	3.5	835	3.7	1,376	4.1	2.4
Taxicab, Motorcycle, or other	635	11.2	631	9.5	1,568	7.0	3,003	9.0	2.4
Worked at Home	1,008	17.8	1,517	22.7	6,605	29.6	9,519	28.6	13.6
Total:	4,060	71.8	5,436	81.4	22,320		33,092	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**

Mode of Transit	< \$25,000		\$25,000-\$74,999		\$75,000+		All		All of CA
	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	7,231	36.3	11,507	43.4	31,112	54.1	52,726	52.2	68.5
Car, Truck, or Van: Carpooled	1,449	7.3	1,678	6.3	3,426	6.0	7,162	7.1	9.5
Public Transportation (excl Taxi)	656	3.3	920	3.5	2,978	5.2	4,803	4.8	3.6
Walked	211	1.1	217	0.8	716	1.2	1,423	1.4	2.4
Taxicab, Motorcycle, or other	804	4.0	719	2.7	2,215	3.8	3,913	3.9	2.4
Worked at Home	1,008	5.1	1,517	5.7	6,605	11.5	9,519	9.4	13.6
Total:	11,359	57.1	16,558	62.4	47,052	81.8	79,546	78.7	

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.

Commute Mode by Poverty Status

Table 15. MODE OF TRANSPORTATION TO WORK BY POVERTY STATUS

Mode of Transit	In Poverty		100-149% of Pov		>150% of Pov		All		All of CA (%)
	#	(%)	#	(%)	#	(%)	#	(%)	
Car, Truck, or Van: Drove Alone	198	23.2	225	45.5	15,910	49.3	16,333	49.0	68.7
Car, Truck, or Van: Carpooled	18	2.1	9	1.8	1,527	4.7	1,554	4.7	9.5
Public Transportation (excl Taxi)	6	0.7	3	0.6	1,298	4.0	1,307	3.9	3.6
Walked	63	7.4	1	0.2	1,312	4.1	1,376	4.1	2.1
Taxicab, Motorcycle, or other	101	11.9	35	7.1	2,867	8.9	3,003	9.0	2.4
Worked at Home	115	13.5	68	13.7	9,348	28.9	9,531	28.6	13.6
Total:	501	58.8	341	68.9	32,262	99.9	33,104	99.3	

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

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

Mode of Transit	In Poverty		100-149% of Pov		>150% of Pov		All		All of CA (%)
	#	(%)	#	(%)	#	(%)	#	(%)	
Car, Truck, or Van: Drove Alone	1,684	46.2	687	16.9	49,389	50.9	51,760	51.3	65.8
Car, Truck, or Van: Carpooled	153	4.2	474	11.7	6,132	6.3	6,759	6.7	9.8
Public Transportation (excl Taxi)	82	2.2	0	0.0	3,676	3.8	3,758	3.7	2.6
Walked	0	0.0	44	1.1	1,670	1.7	1,714	1.7	2.1
Taxicab, Motorcycle, or other	133	3.6	64	1.6	4,518	4.7	4,715	4.7	2.4
Worked at Home	18	0.5	15	0.4	10,978	11.3	11,011	10.9	17.2
Total:	2,070	56.8	1,284	31.6	76,363	78.7	79,717	79.0	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.

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 Palo Alto is a net recipient (migration inflows) or donor (mi-

gration 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

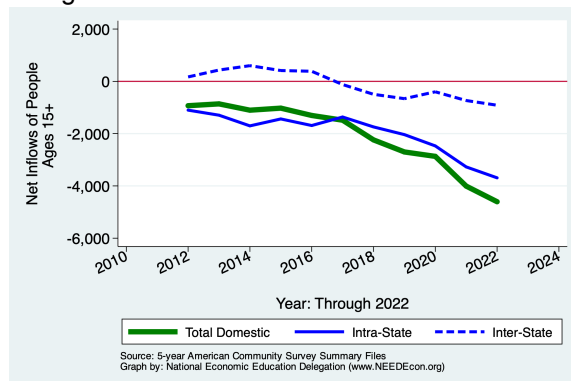


Table 17: Migration by Income

Category	Population	Net Inflows				
		All Migration	Same State			From Abroad
			W/in County	Between Counties	Across States	
No income	7,771	-362	-172	-411	-200	421
With income	48,305	-2,958	-617	-2,491	-714	864
\$1 to \$9,999 or less	4,510	-1,022	-70	-681	-365	94
\$10,000 to \$14,999	2,202	-171	-13	-211	-13	66
\$15,000 to \$24,999	3,344	-8	10	73	-128	37
\$25,000 to \$34,999	2,357	-103	-120	-242	204	55
\$35,000 to \$49,999	3,222	-251	81	-415	-11	94
\$50,000 to \$64,999	3,134	10	1	-166	56	119
\$65,000 to \$74,999	2,160	-96	-65	-31	-31	31
\$75,000 or more	27,376	-1,317	-441	-818	-426	368
All:	56,076	-3,320	-789	-2,902	-914	1,285

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

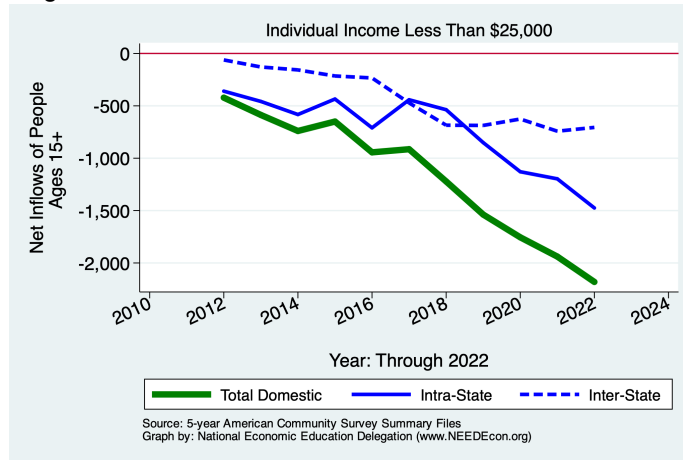


Figure 89: Overall Movements of Middle Income Residents

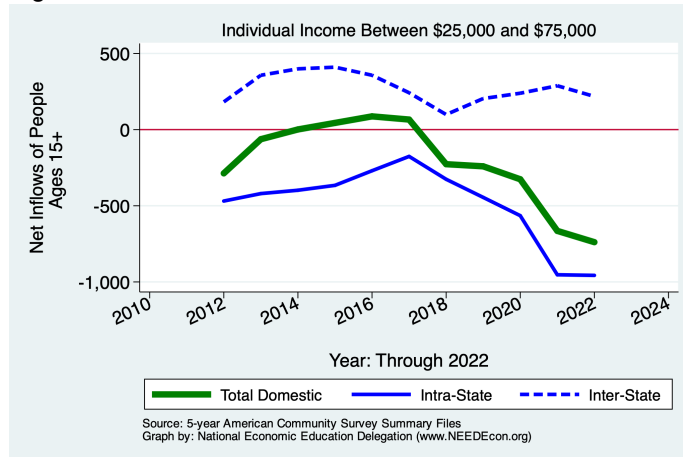
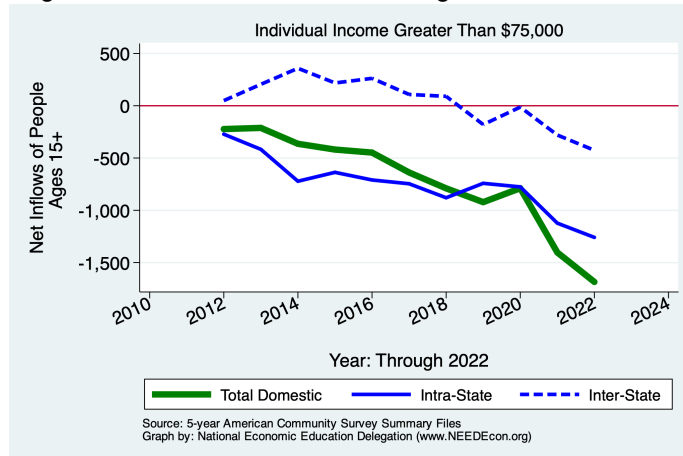


Figure 90: Overall Movements of High Income Residents



Demographics of Migration Flows

Table 18: Migration by Marital Status

Category	Population	Net Inflows					From Abroad
		All Migration	Same State		Across States		
			W/in County	Between Counties			
Never married	16,574	-2,834	-168	-2,060	-1,152	546	
Now married, except separated	31,440	1,376	633	354	-390	779	
Divorced	4,088	298	205	208	-115	0	
Separated	723	-55	0	-55	0	0	
Widowed	4,076	245	91	-56	62	148	
Total:	56,901	-970	761	-1,609	-1,595	1,473	

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

Table 19: Migration by Tenure

Category	Population	Net Inflows					From Abroad
		All Migration	Same State		Across States		
			W/in County	Between Counties			
Householder lived in owner-occupied housing units	38,027	655	1,083	-236	-672	480	
Householder lived in renter-occupied housing units	26,880	-236	-106	-622	-414	906	
Total:	64,907	419	977	-858	-1,086	1,386	

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

Figure 91: Domestic Movements of Residents by Tenure

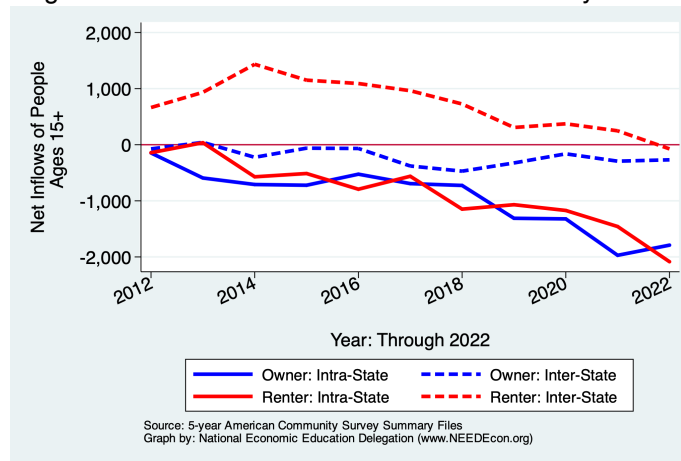


Table 20: Migration by Age

Category	Population	Net Inflows				
		All Migration	Same State		Across States	From Abroad
			W/in County	Between Counties		
1 to 4 years	2,617	25	-110	-14	78	71
5 to 17 years	11,967	-44	-18	-350	19	305
18 and 19 years	1,264	-928	-125	-369	-442	8
20 to 24 years	3,185	-277	28	-339	-90	124
25 to 29 years	3,965	-885	-293	-557	-147	112
30 to 34 years	3,842	-694	-229	-415	-240	190
35 to 39 years	4,145	-31	30	-219	9	149
40 to 44 years	4,349	-279	-174	-309	7	197
45 to 49 years	4,832	-65	-34	-170	20	119
50 to 54 years	5,116	-159	-89	-4	-106	40
55 to 59 years	4,919	-228	-21	-297	-33	123
60 to 64 years	3,983	-179	-27	-117	-49	14
65 to 69 years	3,190	21	78	-48	-30	21
70 to 74 years	2,591	15	-39	-6	-9	69
75 years and over	7,303	276	89	-36	196	27
Total Population:	67,268	-3,432	-934	-3,250	-817	1,569

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

Table 21: Migration by Educational Attainment

Category	Population	Net Inflows				
		All Migration	Same State		Across States	From Abroad
			W/in County	Between Counties		
Less than high school graduate	1,626	-373	-170	-203	0	0
High school graduate (includes equiv)	2,065	29	-14	-42	-58	143
Some college or assoc. degree	5,192	0	169	45	-214	0
Bachelor's degree	14,710	-217	147	-551	-304	491
Graduate or professional degree	26,578	977	849	-154	-348	630
Total:	50,171	416	981	-905	-924	1,264

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	85,214	85,214
Moved Within Same County	70,284	63,473
Moved to Different County, Same State	91,594	112,679
Moved Between States	53,585	75,281
Moved from Abroad	126,411	
Total Population:	86,587	84,618

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

Table 23: Median Age of Migration Flows

Flow	In-Migration	Out-Migration
Same House 1 Year Ago	51.2	51.2
Moved Within Same County	35.6	30.2
Moved to Different County, Same State	33.4	30.1
Moved Between States	32.6	27.8
Moved from Abroad	33.9	
Total Population:	48.0	46.3

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 released 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/>