Livermore, California

Indicators Report

by
The National Economic Education Delegation (NEED)

April 20, 2024

Exploring the economics, demographics, and well-being of Livermore 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 Livermore (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 Livermore. These indicators are compared to Alameda 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 Livermore 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 Livermore 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 Livermore, 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 Livermore, but do not necessarily live in Livermore.
- **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.

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

Contents

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

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 Livermore's population are fundamental indicators of the city's growth potential.

A Demographic Snapshot

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

Statistic	2022	2019
POPULATION		
Population Estimate (#, 5yr)	87,154.0	89,699.0
Veterans (#, 5yr)	3,598.0	4,103.0
Foreign born persons (%, 5yr)	19.0	15.7
Population age 25+ (#, 5yr)	61,635.0	62,945.0
AGE AND SEX		
Persons under 5 years (%, 5yr)	6.7	7.2
Persons under 18 years (%, 5yr)	22.8	23.6
Persons 65 years and over (%, 5yr)	14.4	13.5
Female persons (%, 5yr)	50.6	51.2
INCOME AND POVERTY		
Median household income ($, 5yr)	152,590.0	127,452.0
Per capita income in past 12 months ($, 5yr)	67,965.0	54,813.0
Persons in poverty (%, 5yr)	4.3	4.5
Children age less than 18 in poverty (#, 5yr)	540.0	1,004.0
Children age less than 18 in poverty (%, 5yr)	2.8	4.8
RACE AND ETHNICITY		
White alone (%, 5yr)	62.1	75.9
African American alone (%, 5yr)	1.7	1.8
American Indian or Alaska Native alone (%, 5yr)	0.7	0.3
Asian alone (%, 5yr)	16.1	11.6
Native Hawaiian and Other Pacific Islander alone (%, 5yr)	0.5	0.5
Two or More Races (%, 5yr)	12.4	6.4
Hispanic or Latino (%, 5yr)	22.6	19.8
White alone, not Hispanic or Latino (%, 5yr)	53.7	61.9
HOUSING		
Housing units (#, 5yr)	31,770.0	32,883.0
Owner-occupied housing units (%, 5yr)	72.7	72.4
Median value of owner-occupied housing units ($, 5yr)	965,600.0	744,200.0
Median selected monthly owner costs-with a mortgage ($, 5yr)	3,701.0	2,993.0
Median selected monthly owner costs-without a mortgage ($, 5yr)	838.0	652.0
Median gross rent ($, 5yr)	2,482.0	2,063.0
FAMILIES AND LIVING ARRANGEMENTS		
Households (#, 5yr)	30,666.0	31,747.0
Persons per household (#, 5yr)	2.8	2.8
Living in same house 1 year ago, % of persons age 1+ (5yr)	87.2	87.3
EDUCATION		
High school graduate or higher, % of persons age 25+ (5yr)	94.2	93.7
Bachelor's degree or higher, % of persons age 25+ (5yr)	48.7	44.0
HEALTH		
With a disability, under age 65 years (#, 5yr)	3,942.0	3,799.0
Persons without health insurance, under age 65 years (%, 5yr)	2.7	2.9
LABOR FORCE		
In civilian labor force, persons age 16+ (%, 5yr)	69.8	70.2
In civilian labor force, women age 16+ (%, 5yr)	63.5	64.1
Employed, persons age 16+ (%, 5yr)	65.2	65.7
Self employed (%, 5yr)	9.7	8.0
TRANSPORTATION		
Mean travel time to work, workers age 16+ (Mins., 5yr)	25.8	31.2
Drive alone in private vehicle (%, 5yr)	66.3	77.7
Using public transportation (%, 5yr)	4.1	6.9
Worked from home (%, 5yr)	18.3	6.1

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

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

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	% Change 3 Year	% Change 5 Year
City				
Livermore	84,793	−1.25	−6.90	−6.16
County and Broader Regions				
Alameda County	1,636,194	−0.49	−1.62	−1.25
Bay Area	7,548,792	−0.45	−2.58	−2.62
California	38,940,231	−0.35	−1.79	−2.01

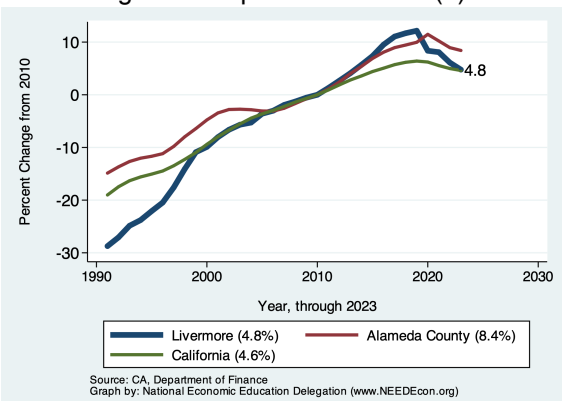
Source: CA DOF; Calculations by National Economic Education Delegation

Table 2. County Population Change by City
(Thousands, January to January)

City	2022	2023	% Change Local	% Change Bay Area	% Change California
Alameda County	1,644.2	1,636.2	−0.49	−0.45	−0.35
Oakland	421.8	419.6	−0.53		
Fremont	229.1	229.5	0.15		
Hayward	160.1	159.8	−0.18		
Berkeley	123.2	123.6	0.30		
San Leandro	88.1	87.5	−0.66		
Livermore	85.9	84.8	−1.25		
Alameda	77.4	77.3	−0.19		
Pleasanton	77.5	76.5	−1.37		
Dublin	72.4	71.8	−0.86		
Union City	67.7	66.8	−1.40		
Newark	47.1	47.5	0.66		
Albany	21.5	21.4	−0.57		
Emeryville	12.5	12.6	1.06		
Piedmont	10.9	10.8	−1.10		

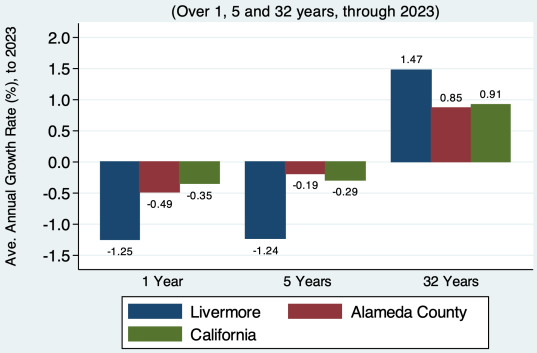
Source: CA DOF; Calculations by National Economic Education Delegation

Figure 1: Population Growth (1)



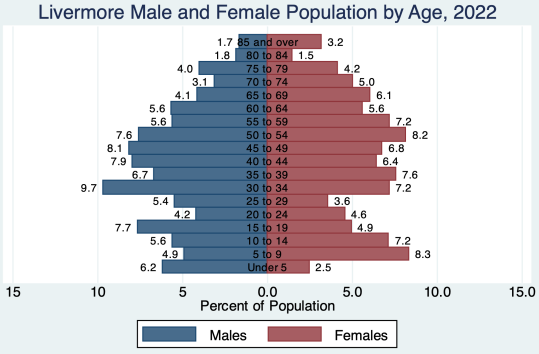
Source: CA, Department of Finance
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 2: Population Growth (2)

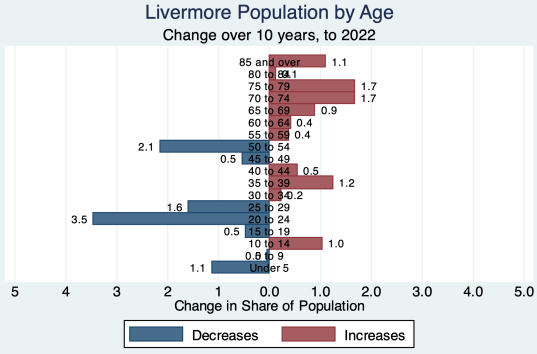


Source: U.S. Bureau of Economic Analysis
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 3: Population by Age - Detailed Age Categories

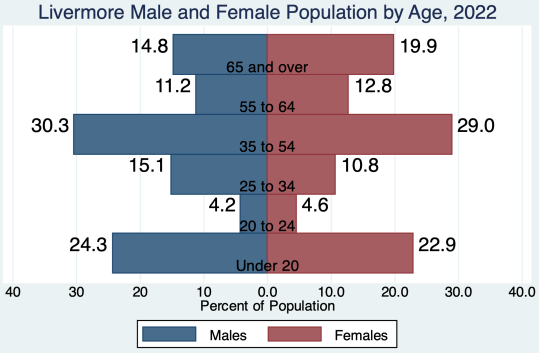


Source: U.S. Census Bureau, 1-yr American Community Survey
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

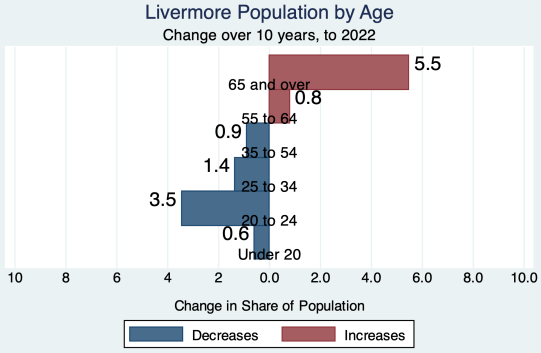


Source: U.S. Census Bureau, 1-yr American Community Survey
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 4: Population by Age - Broad Age Categories



Source: U.S. Census Bureau, 1-yr American Community Survey
Graph by: National Economic Education Delegation (www.NEEDEcon.org)



Source: U.S. Census Bureau, 1-yr American Community Survey
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

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

Figure 5: Population by Educational Attainment

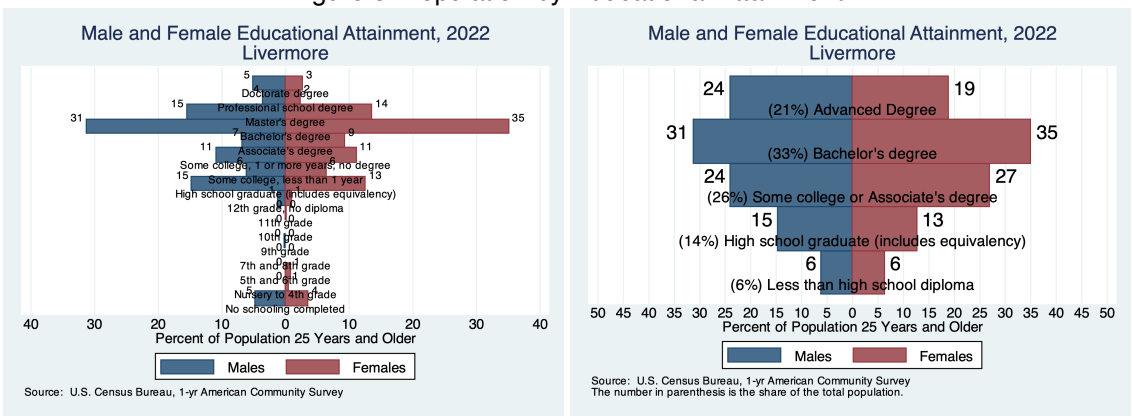


Figure 6: Population by Race/Ethnicity

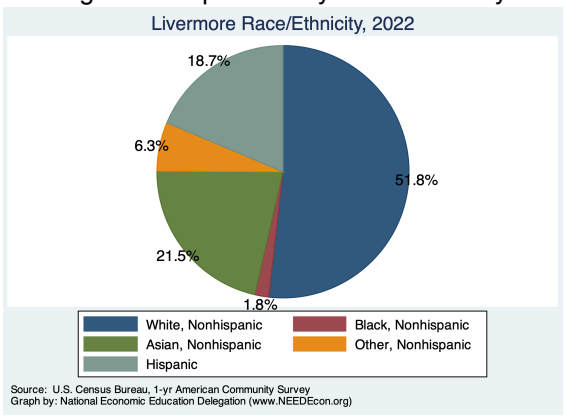
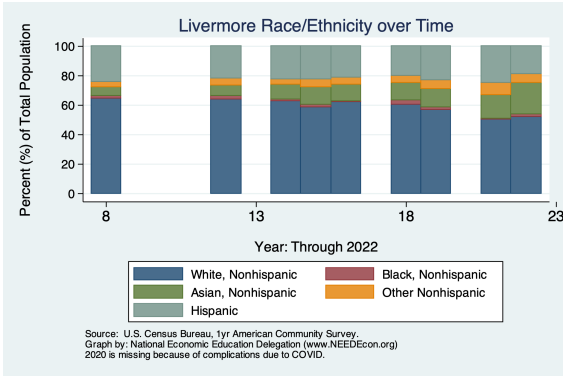


Figure 7: Population by Race/Ethnicity Over Time



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

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 employment 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. Livermore Summary for March, 2024

Category	Current Value	Change From: Last Month	Change From: 2 Months Ago	Change From: 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

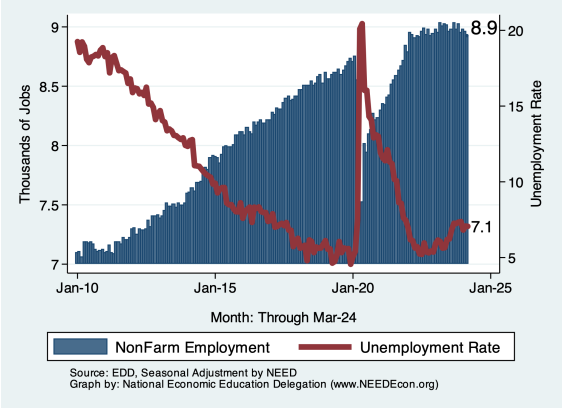


Figure 9: Employment and Unemployment - Last 12 Months

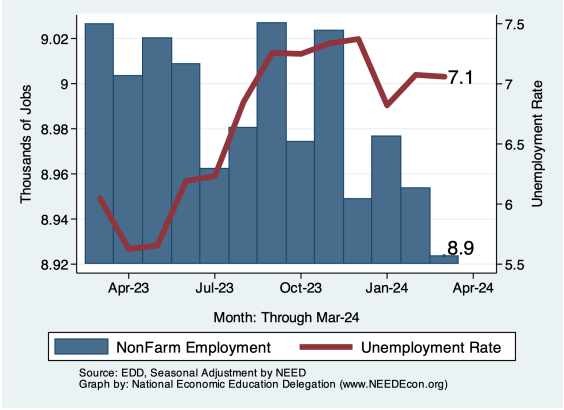


Figure 10: Relative Employment Growth Across Regions - since 2010

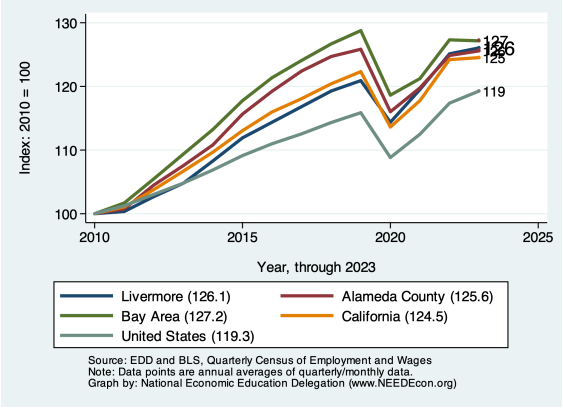
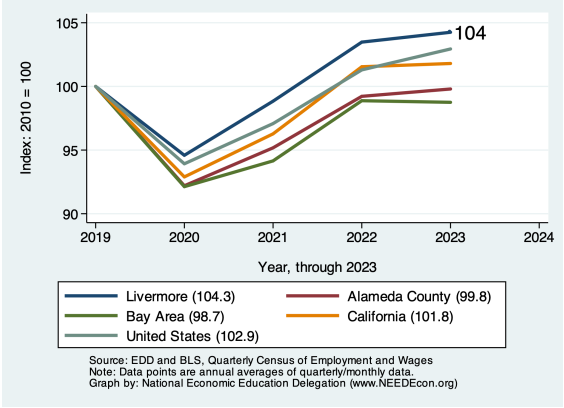


Figure 11: Relative Employment Growth Across Regions - since 2019



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

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 indsutry-level employment data for Alameda County. The following table provides the latest data for the County.

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

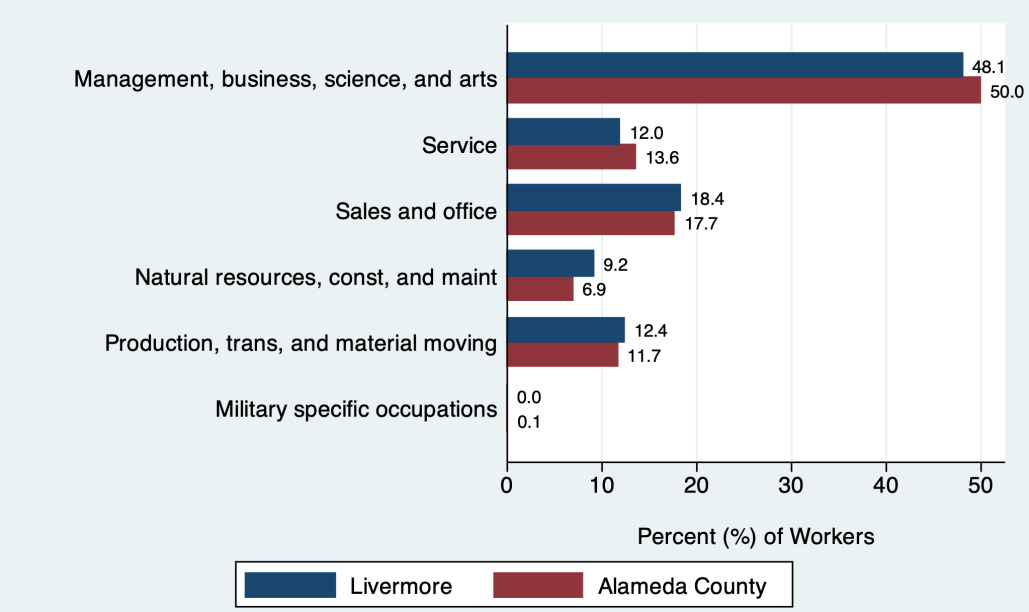
Industry	Employment	Share	Empl Growth	% Growth - Annualized Rate					
				Month	Qtr	6mo	1yr	3yr	5yr
Total Nonfarm	823,371	100.0	1,966.6	2.9	0.4	1.1	1.1	2.7	0.3
Goods Producing	144,737	17.6	720.1	6.2	−6.0	−3.2	−1.6	1.3	1.6
Mining, Logging and Construction	48,272	5.9	799.6	22.2	−8.4	−3.0	0.4	−0.4	−0.5
Manufacturing	96,442	11.7	−26.5	−0.3	−3.8	−2.7	−3.0	2.0	2.7
Durable Goods	75,317	9.1	−21.0	−0.3	−4.6	−3.2	−3.7	2.6	4.5
Non-Durable Goods	20,938	2.5	−7.6	−0.4	−3.0	−1.6	−1.0	−0.0	−2.3
Service Providing	677,573	82.3	1,085.9	1.9	1.4	1.9	1.6	3.0	−0.0
Trade, Trans & Utilities	137,119	16.7	−413.9	−3.6	−0.7	−1.6	−0.9	1.0	−0.3
Wholesale Trade	32,689	4.0	−243.2	−8.5	−1.0	−3.3	−3.1	−0.5	−2.1
Retail Trade	63,503	7.7	−63.7	−1.2	0.9	0.7	0.4	−0.7	−2.0
Information	17,440	2.1	67.7	4.8	−4.5	−7.5	−6.9	−2.0	−2.8
Financial Activities	26,656	3.2	28.9	1.3	−4.7	−4.2	−2.5	−0.1	−1.2
Finance & Insurance	15,416	1.9	145.0	12.0	1.3	−1.2	−2.4	−3.1	−2.3
Real Estate & Rental & Leasing	11,378	1.4	−105.1	−10.5	−12.3	−6.0	−2.8	5.6	0.7
Professional & Business Srvcs	137,542	16.7	169.7	1.5	1.0	0.9	0.2	1.4	0.3
Prof, Sci, & Tech	82,593	10.0	222.4	3.3	2.9	3.3	1.8	3.1	1.8
Educational & Health Srvcs	143,220	17.4	769.5	6.7	4.7	5.8	6.1	5.4	2.8
Education Srvcs	16,300	2.0	132.5	10.3	−4.3	2.8	1.9	6.7	−0.2
Health Care & Social Assistance	126,957	15.4	626.8	6.1	5.2	6.1	6.6	5.3	3.3
Leisure & Hospitality	70,978	8.6	−133.1	−2.2	1.5	2.8	1.9	13.4	−1.7
Arts, Entertainment & Recreation	12,293	1.5	194.9	21.1	13.1	12.9	7.0	32.6	−0.3
Accommodation & Food Srvcs	59,226	7.2	−191.8	−3.8	1.8	2.0	0.8	11.3	−1.8
Other Srvcs	28,484	3.5	402.7	18.6	−5.0	1.1	4.0	8.9	0.7
Government	115,339	14.0	242.6	2.6	2.2	3.1	2.4	0.1	−1.4
Federal	8,514	1.0	0.0	0.0	−3.0	0.0	0.8	−0.5	−0.5
State	27,661	3.4	−35.9	−1.5	−1.4	2.3	1.0	−7.4	−5.4
Local	77,889	9.5	257.5	4.1	3.6	3.4	3.0	3.5	0.2

Source: EDD, National Economic Education Delegation (NEED)

Some Employee Detail

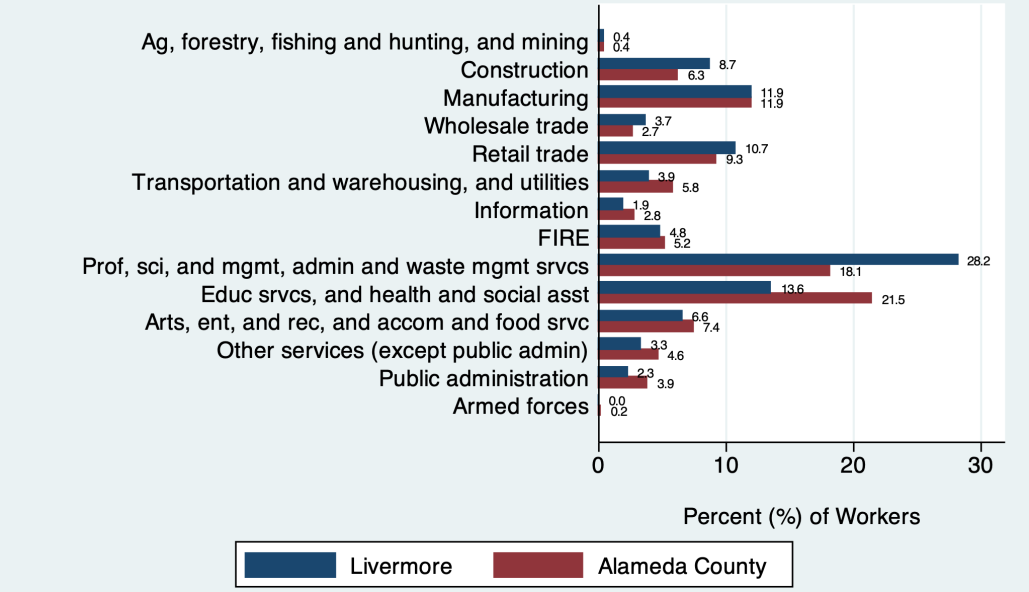
Employed in Livermore

Figure 12: Employment by Occupation



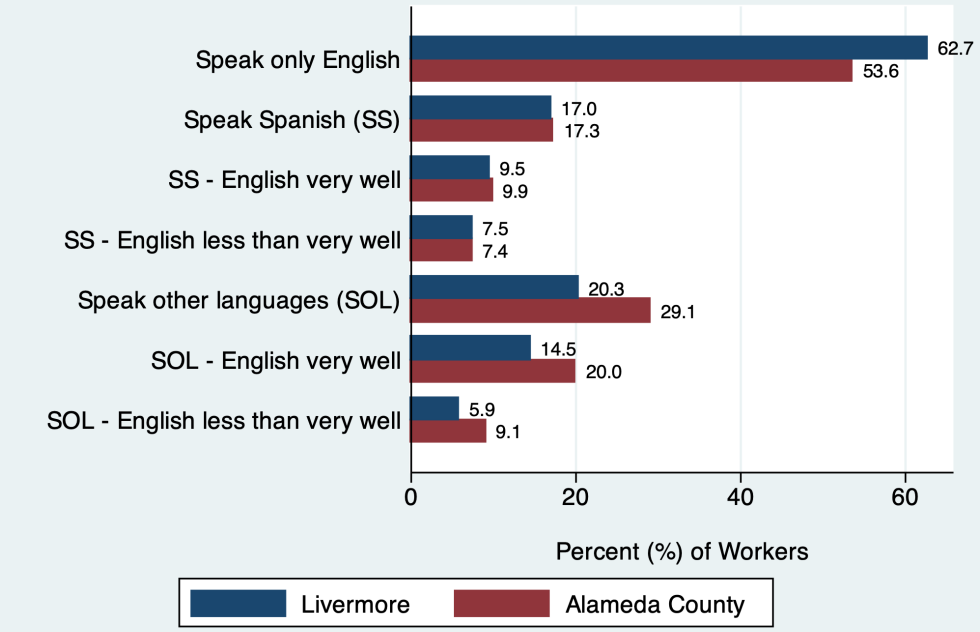
Source: American Community Survey, 2022 5-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 13: Employment by Industry



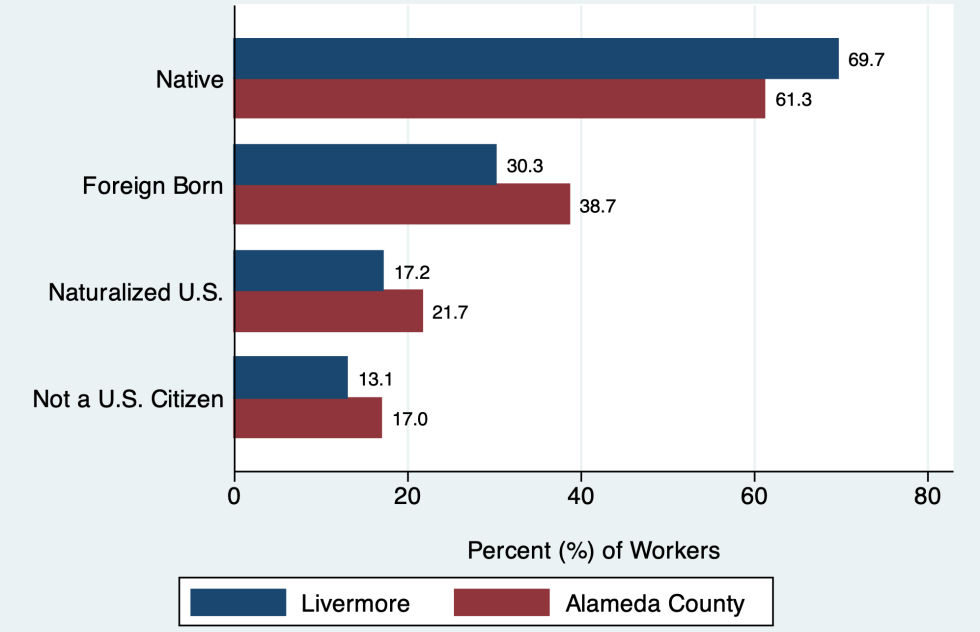
Source: American Community Survey, 2022 5-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 14: Language Spoken at Home



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

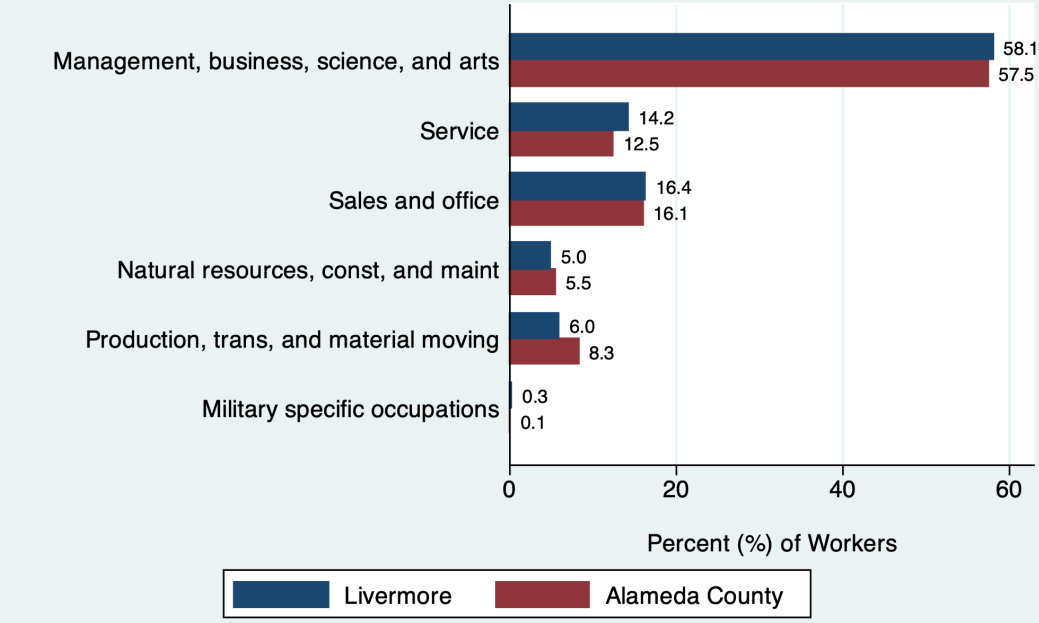
Figure 15: Citizenship



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

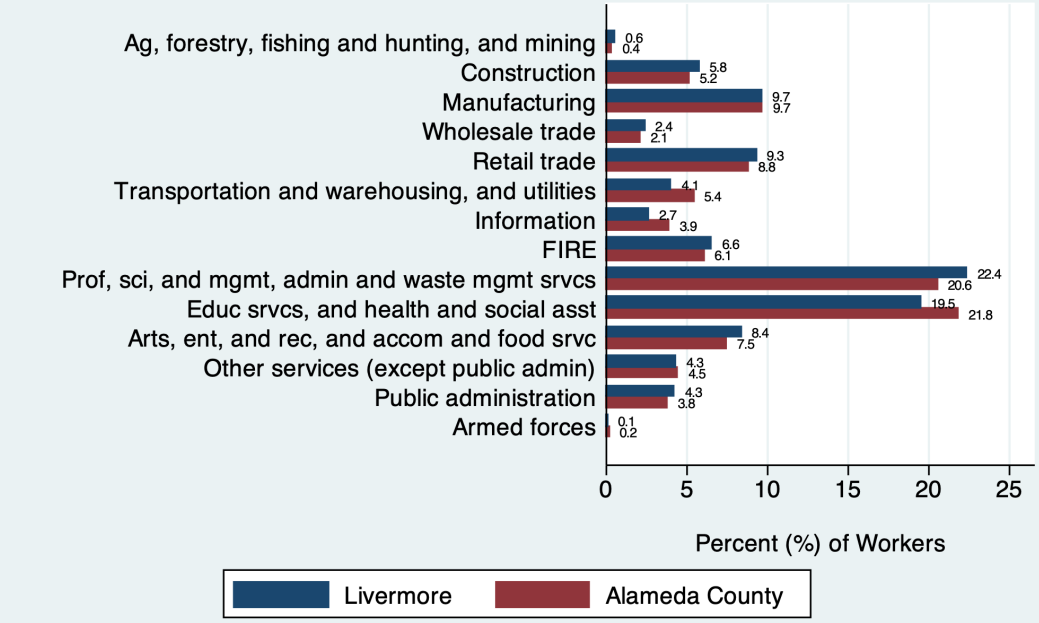
Employed Residents of Livermore

Figure 16: Employment by Occupation



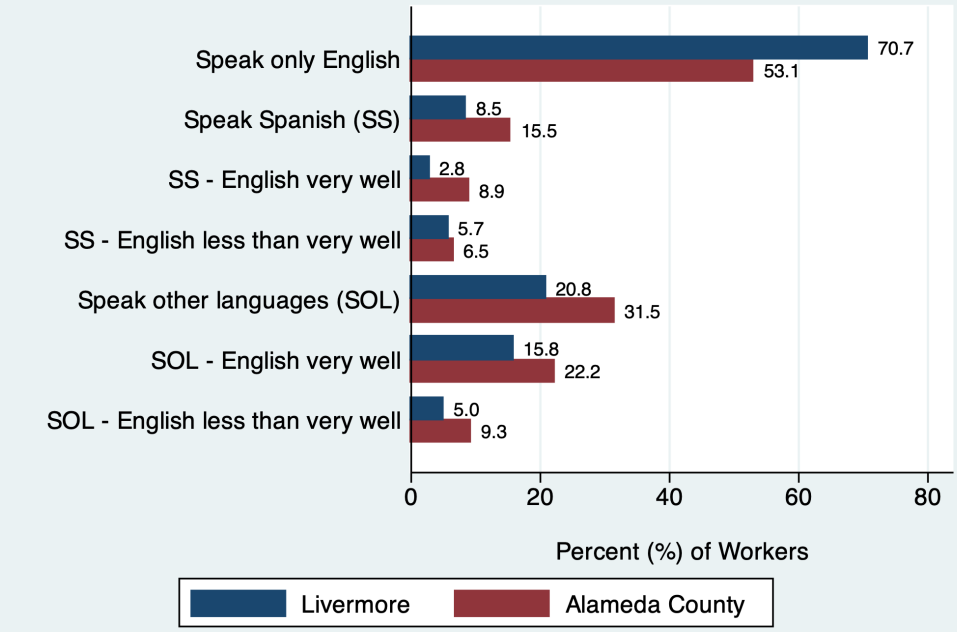
Source: American Community Survey, 2022 1-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 17: Employment by Industry



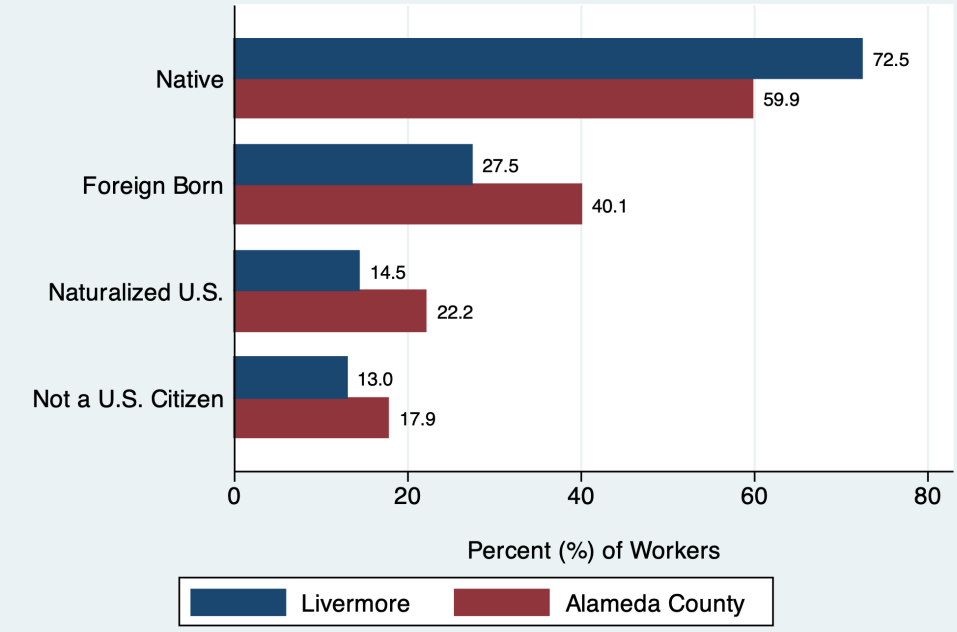
Source: American Community Survey, 2022 5-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

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



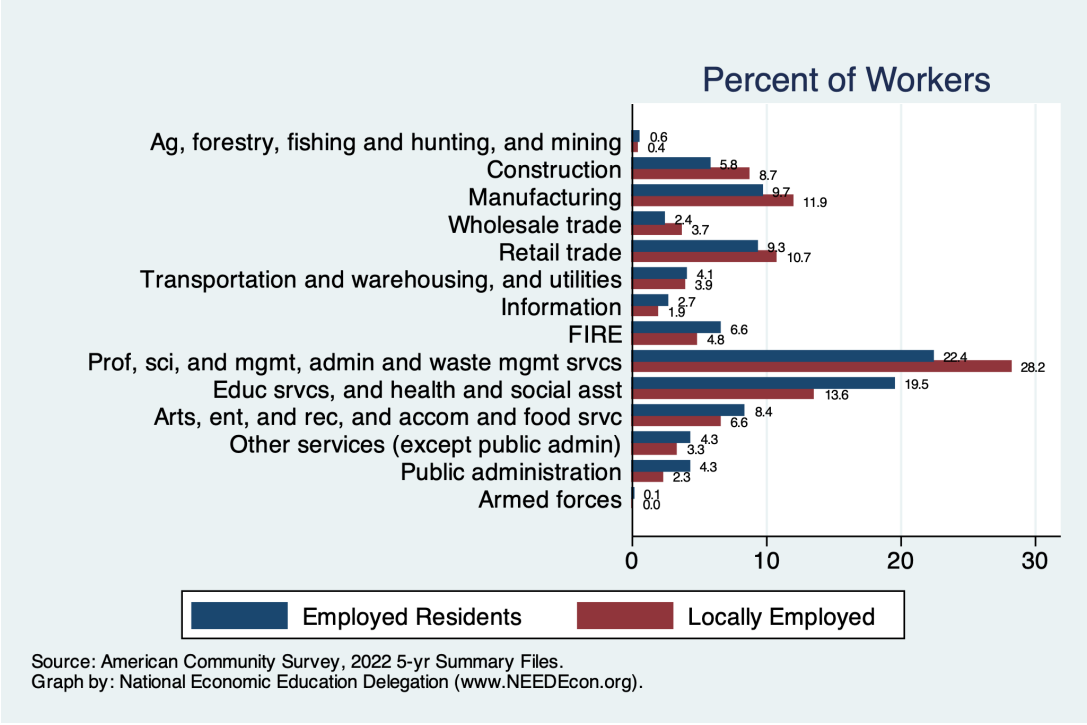
Source: American Community Survey, 2022 1-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Employed Residents vs Workers in Livermore

Figure 20: Employment by Occupation

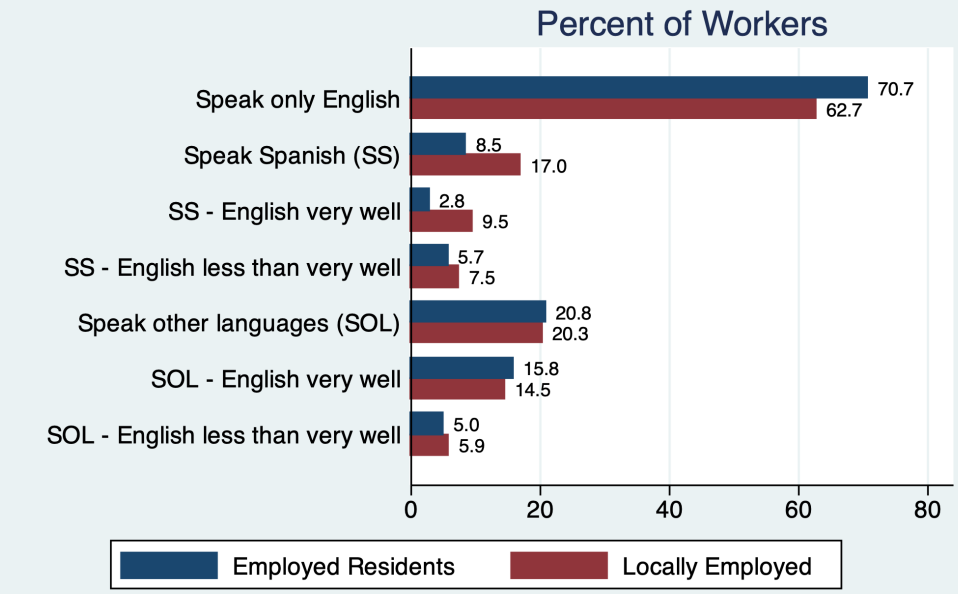
N/A

Figure 21: Employment by Industry



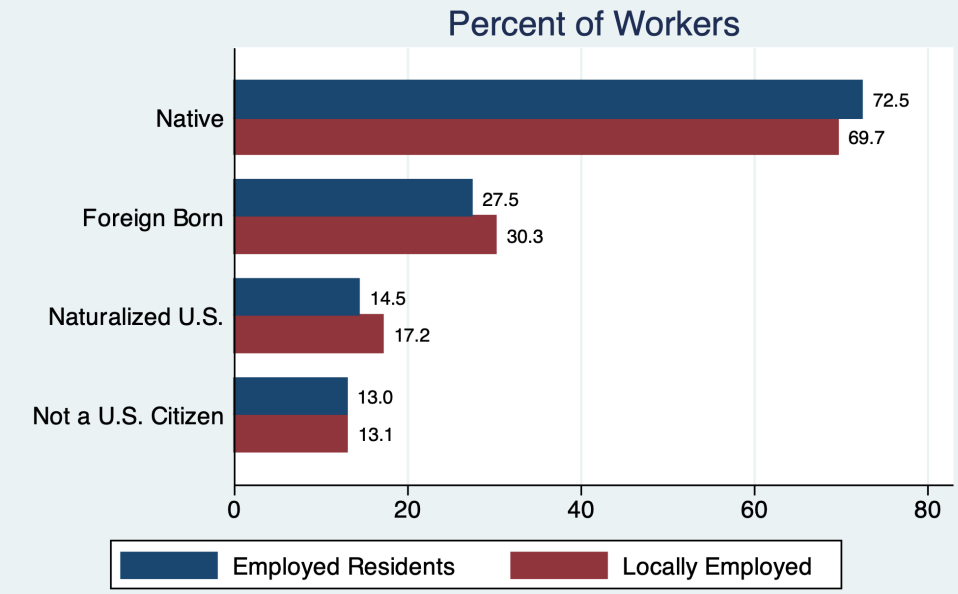
Source: American Community Survey, 2022 5-yr Summary Files.
Graph by: National Economic Education Delegation (www.NEEDEcon.org).

Figure 22: Language Spoken at Home



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

Figure 23: Citizenship



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

Income and Earnings

Per Capita Income Growth

Definition:

Per capita income is the average income per person in Livermore. 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

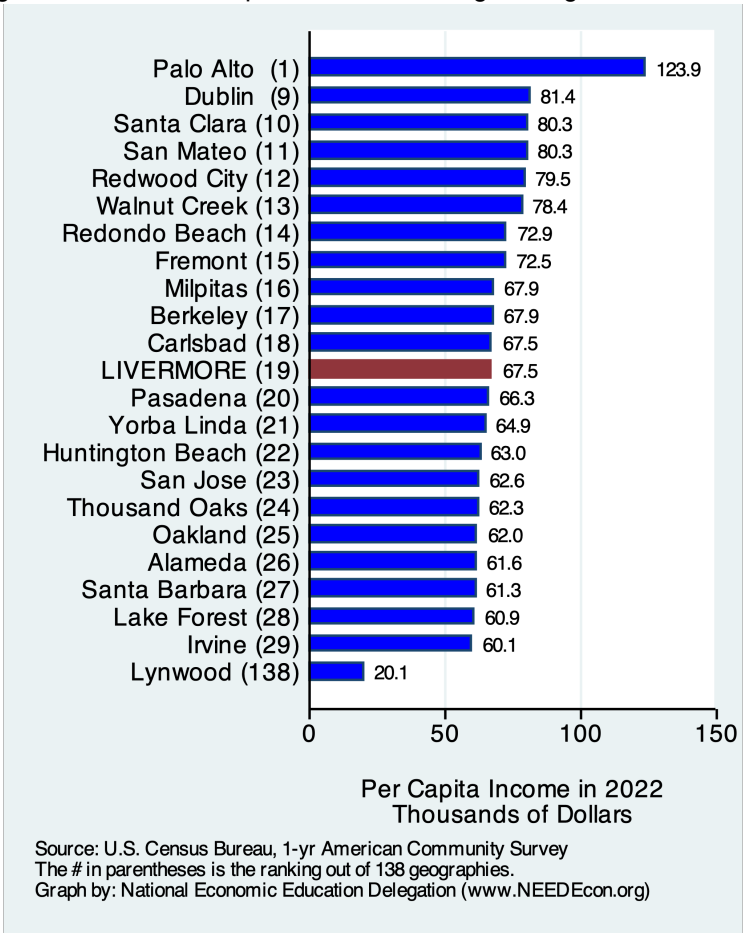
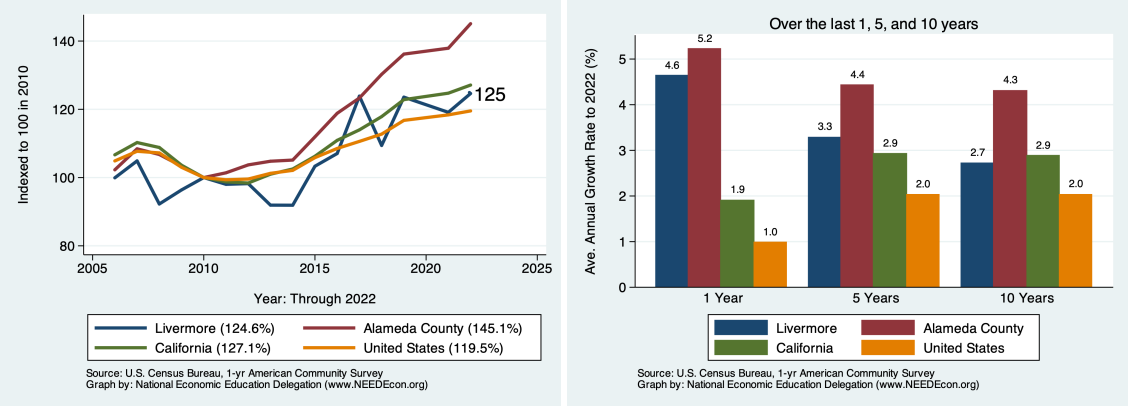


Figure 25: Regional Comparison of Growth over Time



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

Figure 26: Income Levels

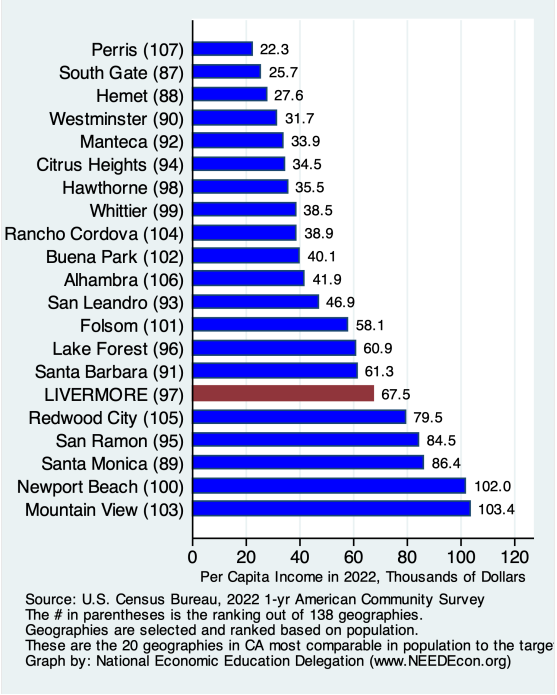
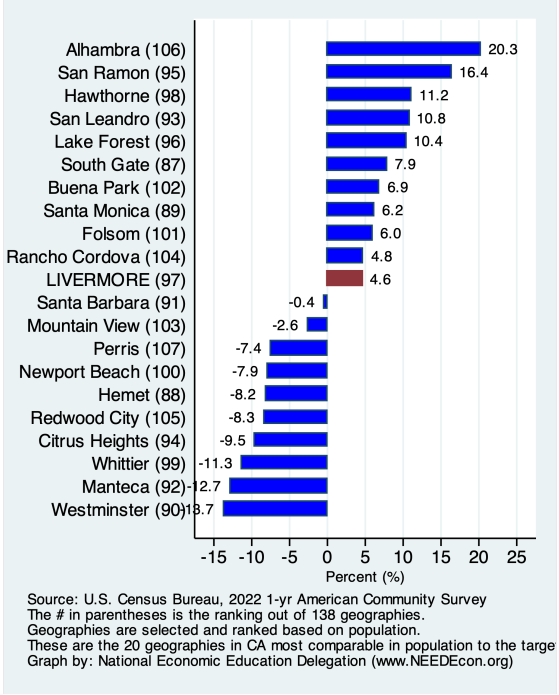


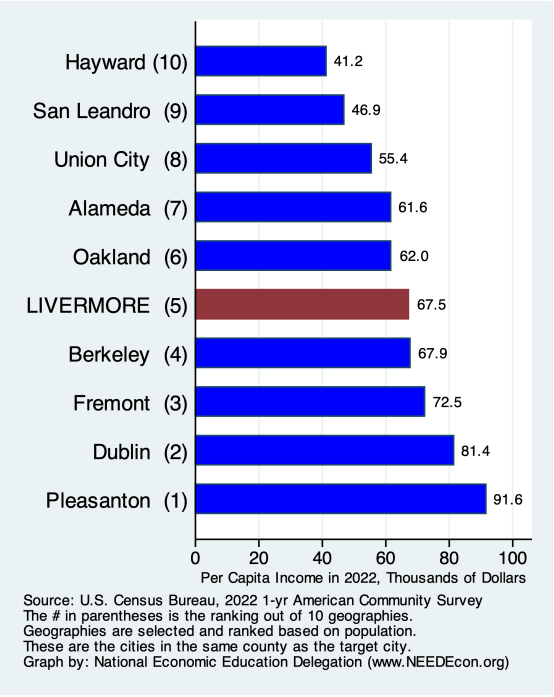
Figure 27: Growth over Time



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

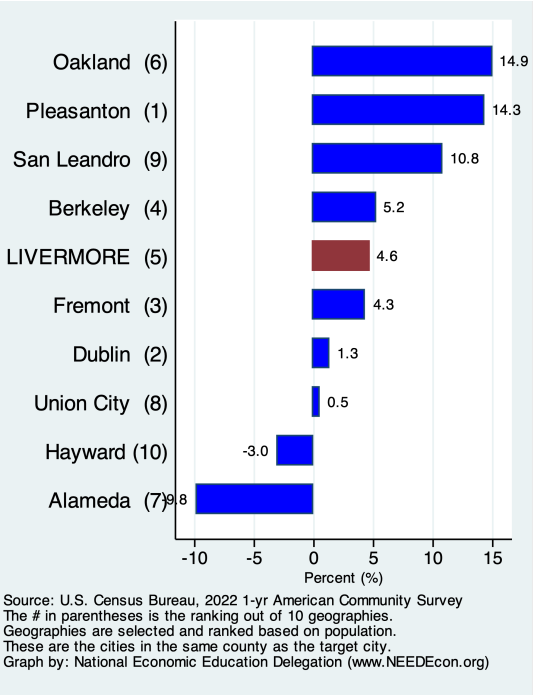
Real Per Capita Income Ranking Among Cities in Alameda County

Figure 28: Income Levels



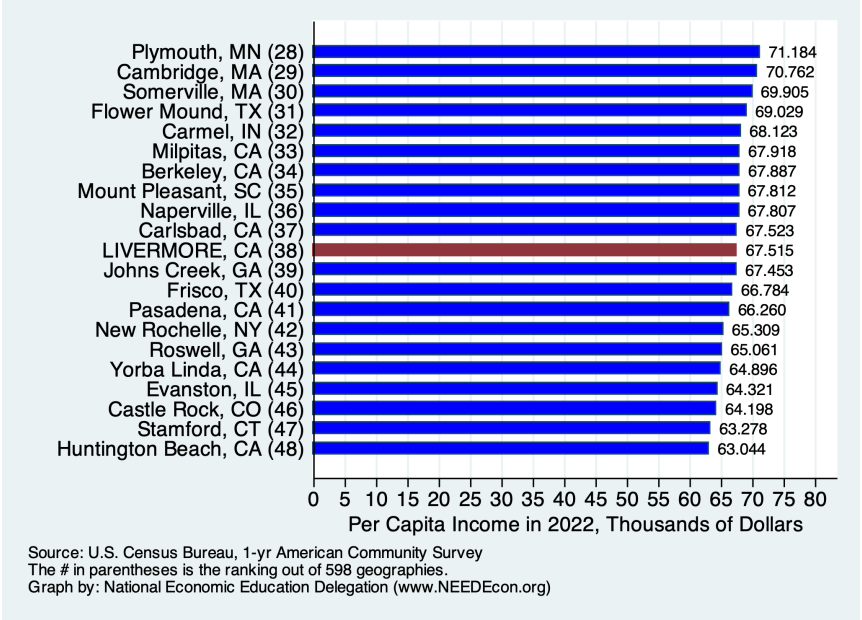
Source: U.S. Census Bureau, 2022 1-yr American Community Survey
The # in parentheses is the ranking out of 10 geographies.
Geographies are selected and ranked based on population.
These are the cities in the same county as the target city.
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Figure 29: Growth over Time



Source: U.S. Census Bureau, 2022 1-yr American Community Survey
The # in parentheses is the ranking out of 10 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)

Figure 30: Comparison with All Cities Nationwide



Source: U.S. Census Bureau, 1-yr American Community Survey
The # in parentheses is the ranking out of 598 geographies.
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

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

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.

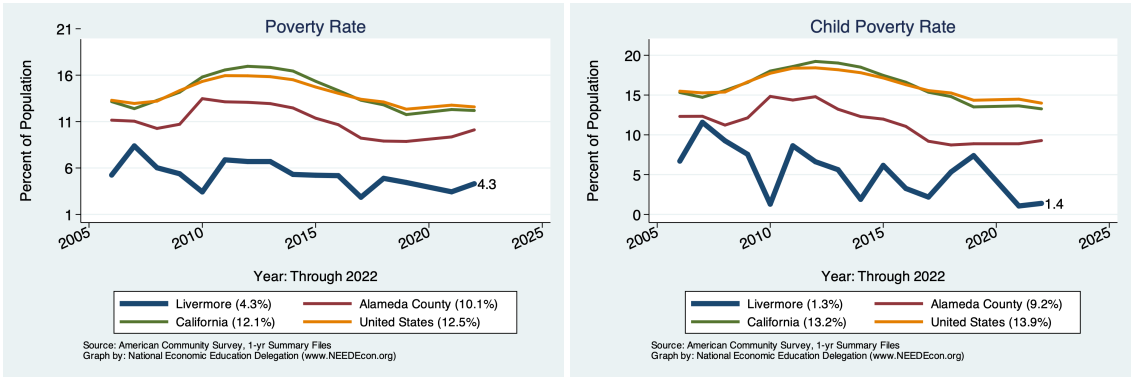


Figure 31: Inequality

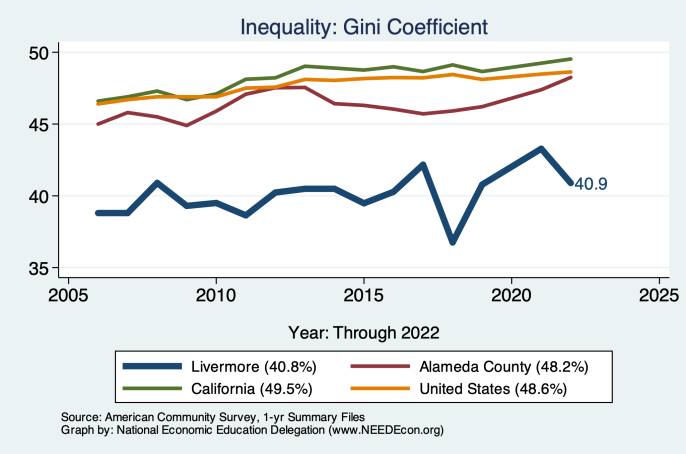
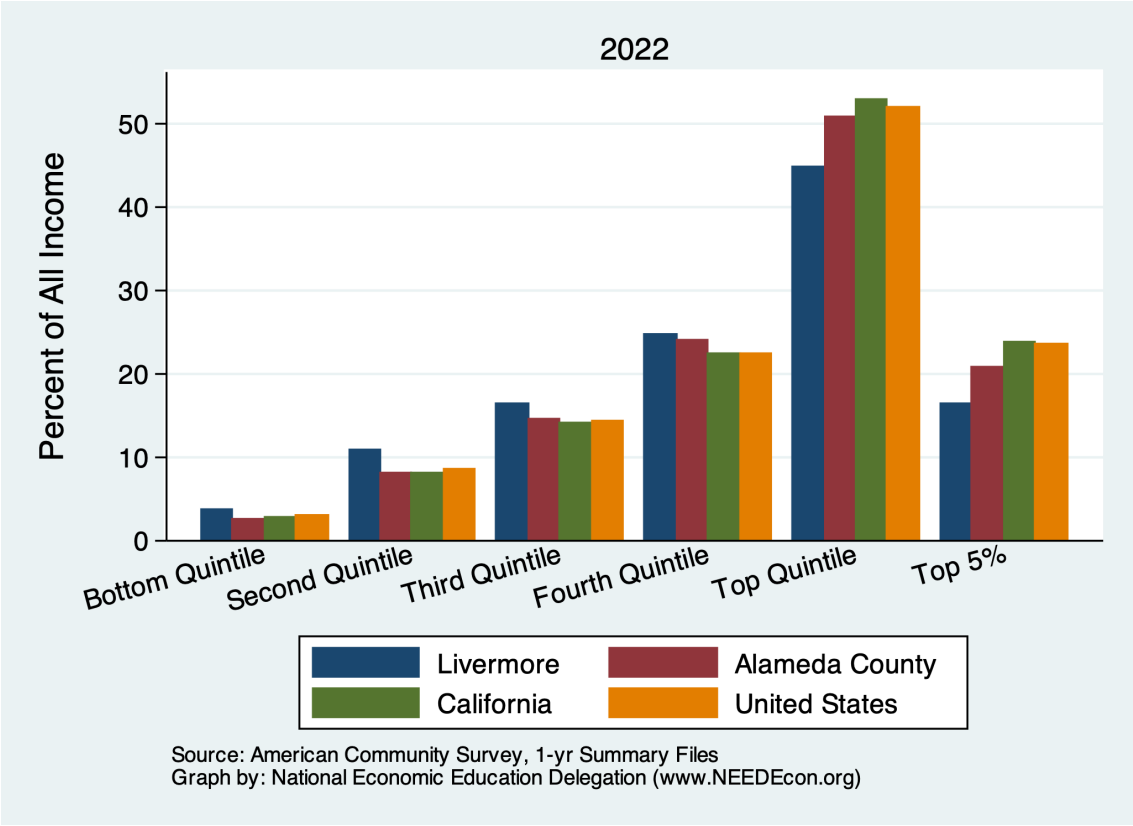
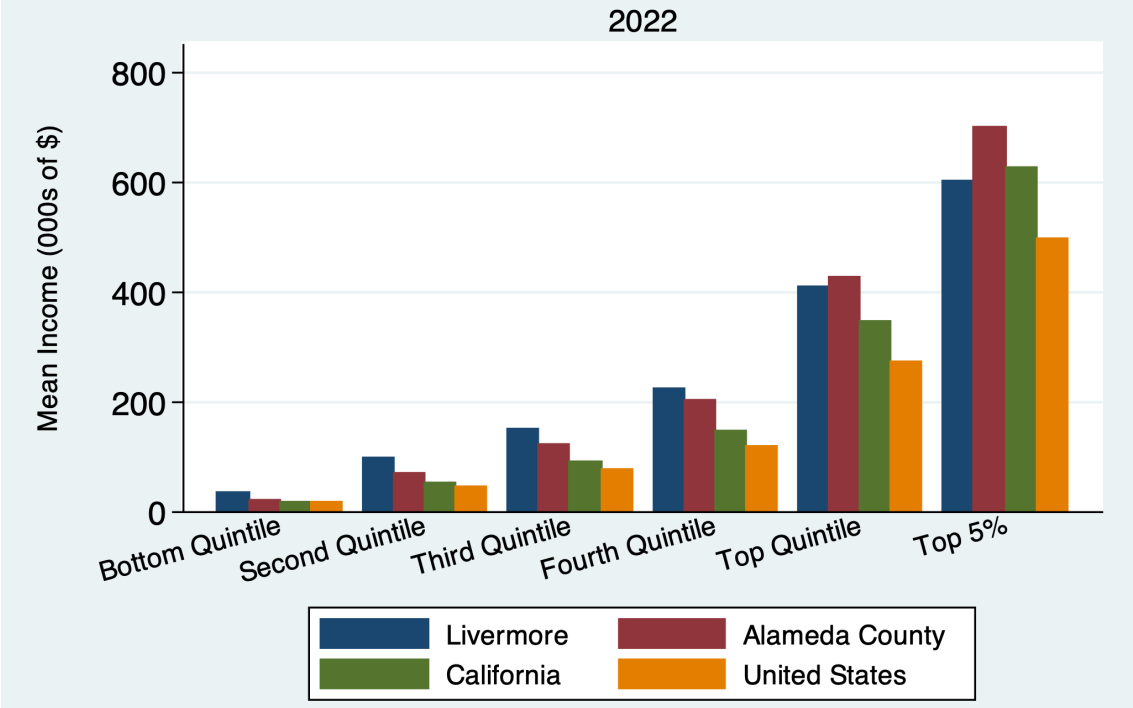


Figure 32: Shares Across the Income Distribution



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

Figure 33: Means Across the Income Distribution



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

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

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 Livermore and Broader Regions

Figure 34: Median Home Prices

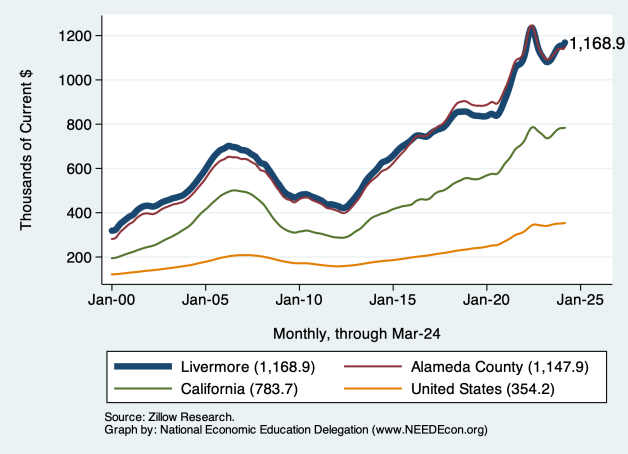
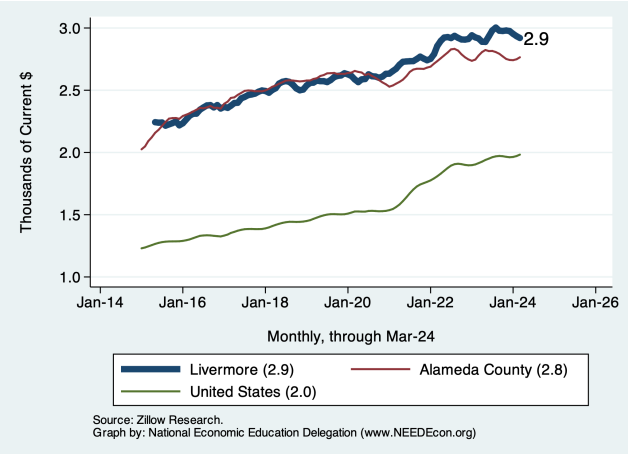


Figure 35: Median Rents



Housing Ownership in Livermore and Broader Regions

Figure 36: Home Ownership Rates

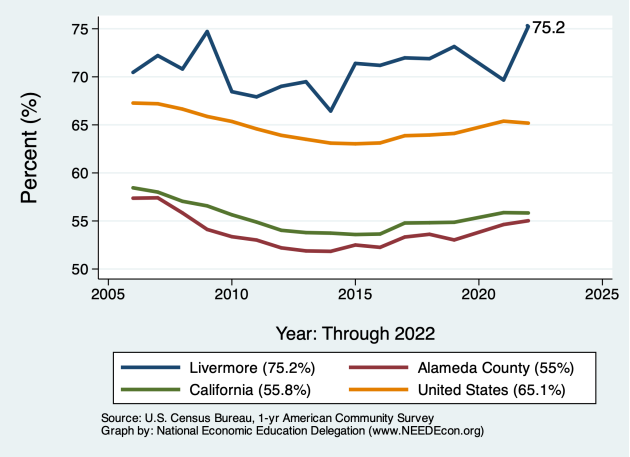


Figure 37: Home Ownership by Age

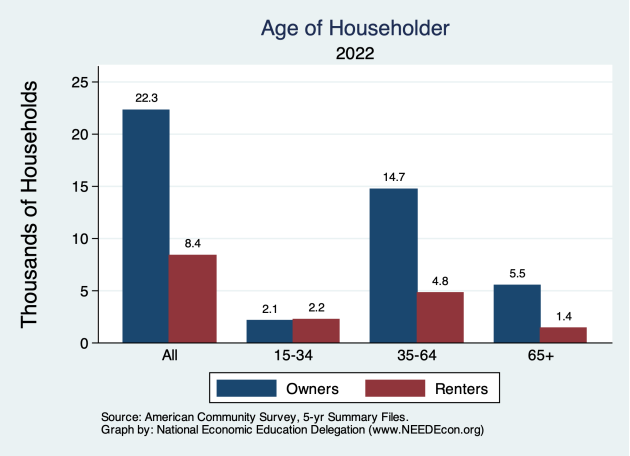
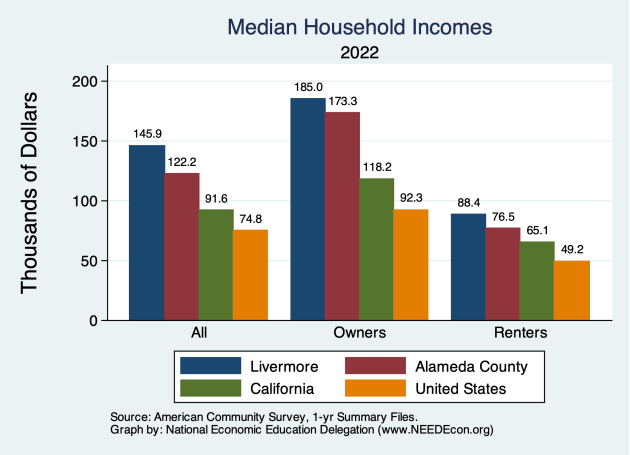


Figure 38: Income by Tenure



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

Figure 39: Income Distribution by Tenure

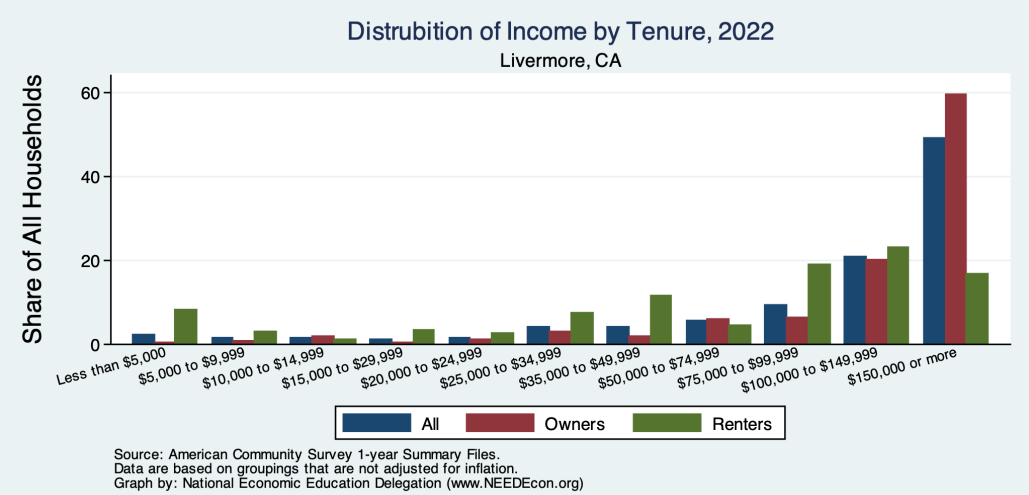


Figure 40: Income Distribution of Home Owners

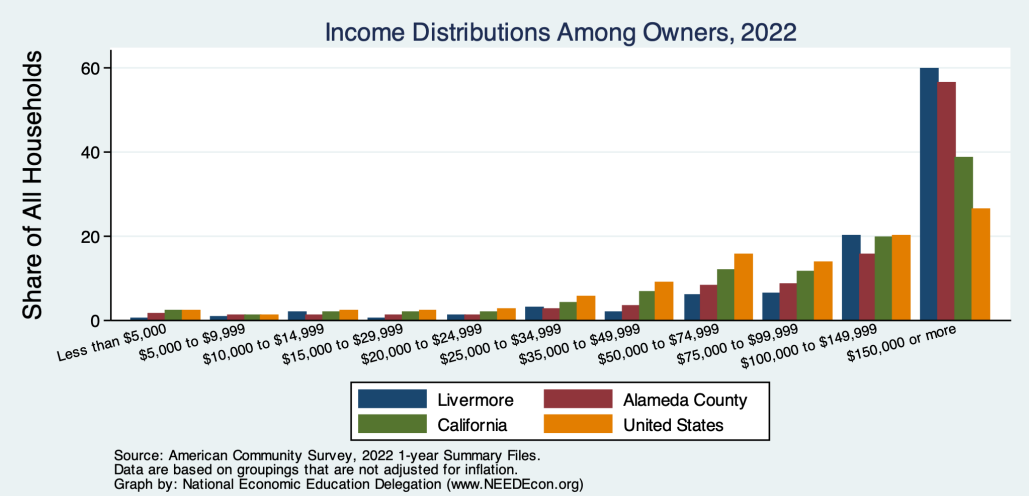
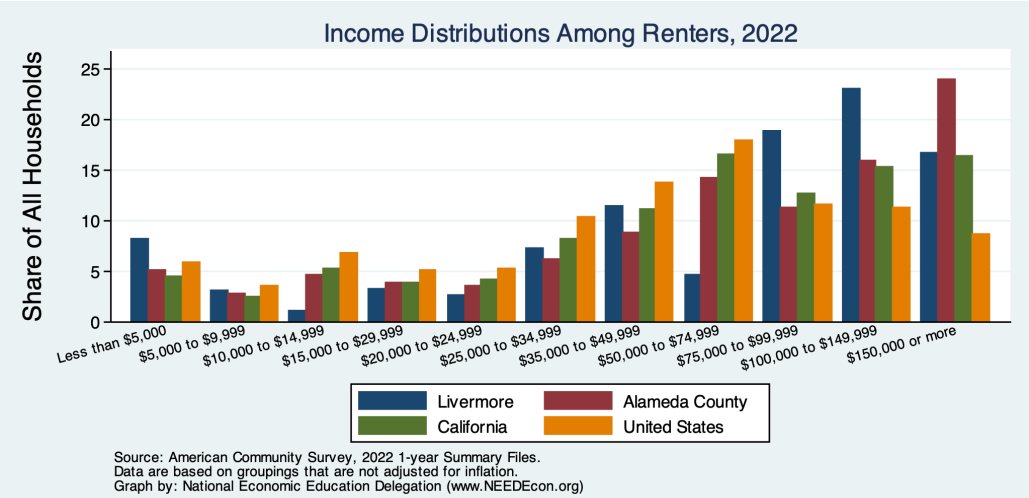


Figure 41: Income Distribution of Renters



Housing Burden in Livermore and Broader Regions

Figure 42: Home Owners w/ A Mortgage

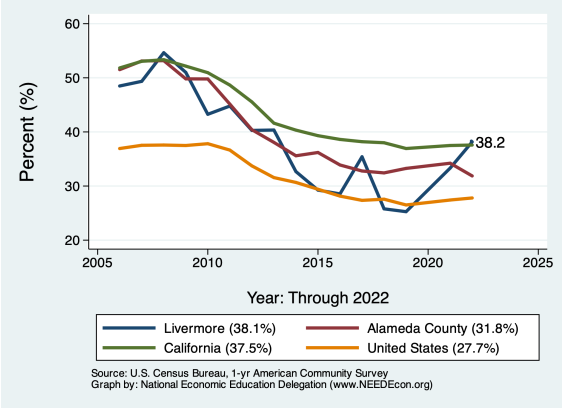


Figure 43: Home Owners w/o A Mortgage

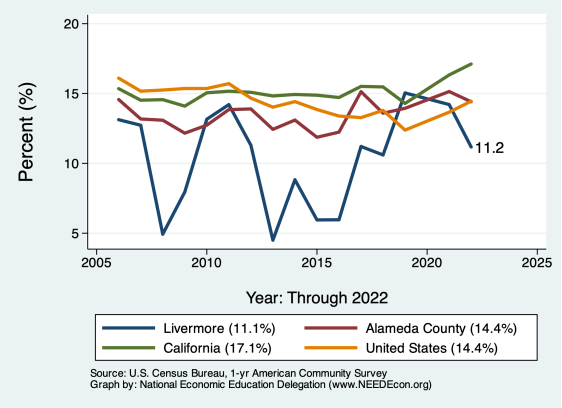


Figure 44: Renters

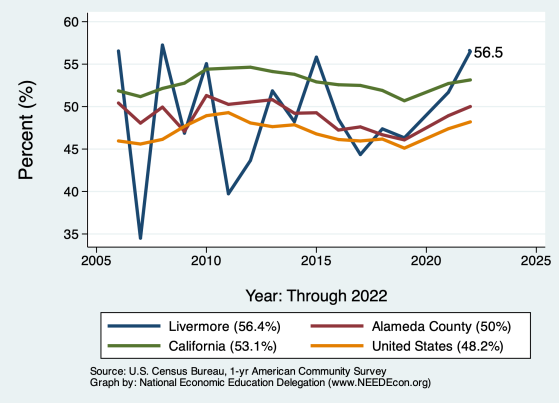
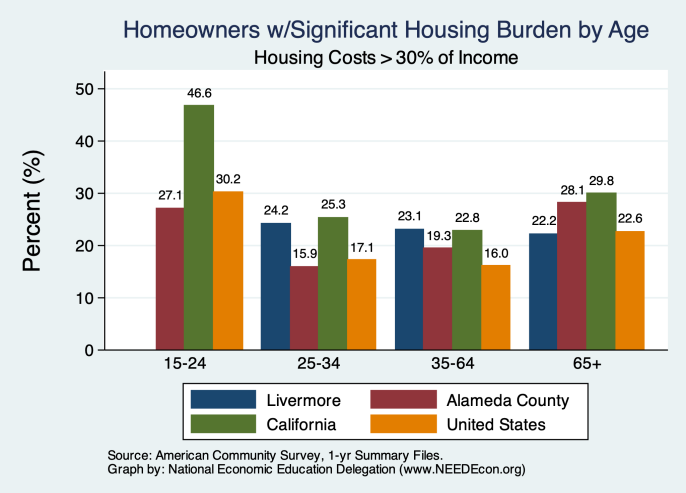


Figure 45: Homeowner Housing Burden by Age



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

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	% Change from 2010
Total Population	84,793.0	91,436.0	80,968.0	-7.3	4.7
Total # of Homes	33,157.0	32,425.0	30,342.0	2.3	9.3
# Occupied Units	32,042.0	31,403.0	29,134.0	2.0	10.0
Persons per Household	2.6	2.9	2.8	-9.4	-5.0
Vacancy Rate (%)	3.4	3.2	4.0	6.7	-15.5

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

Figure 46: Housing Growth

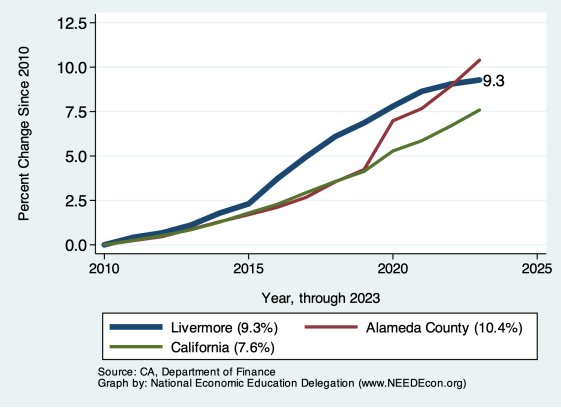


Figure 47: Persons per Household

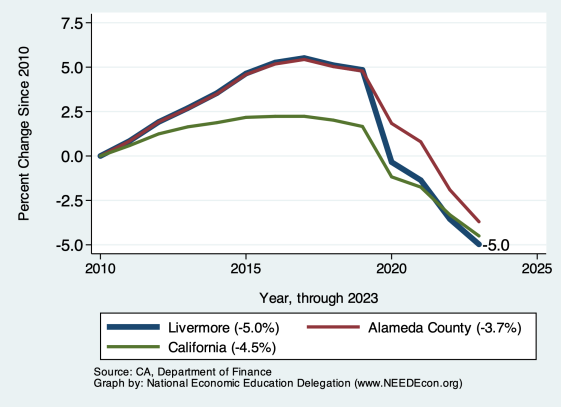


Figure 48: Vacancy Rates

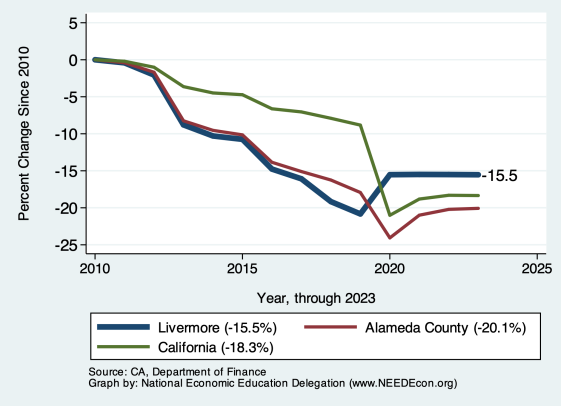
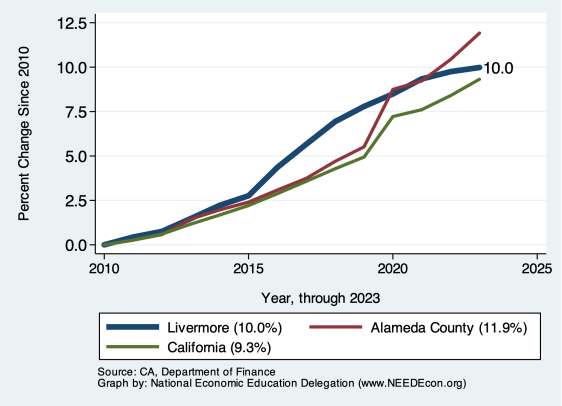


Figure 49: Number of Occupanied Units



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

Trends in the Growth of Housing by Housing Type

Figure 50: Single Detached Homes

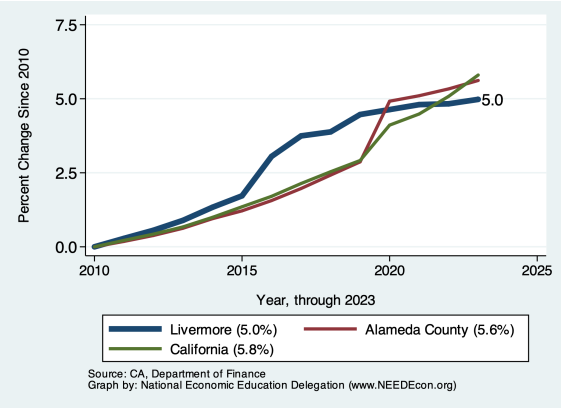


Figure 51: Single Attached Homes

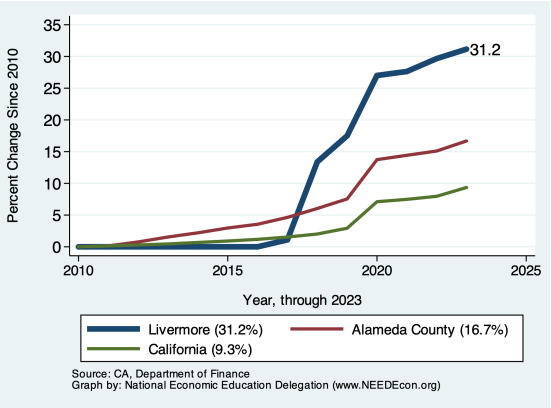


Figure 52: Housing in Buildings with Two to Four Units

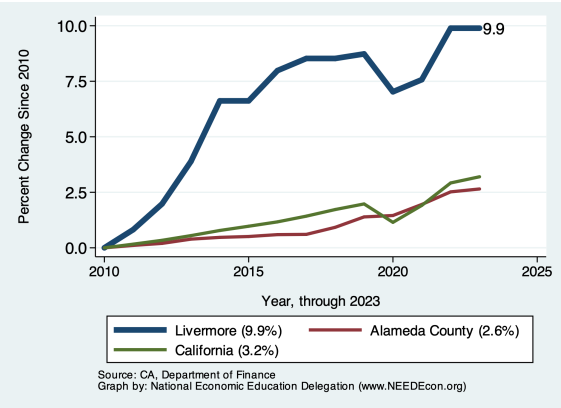
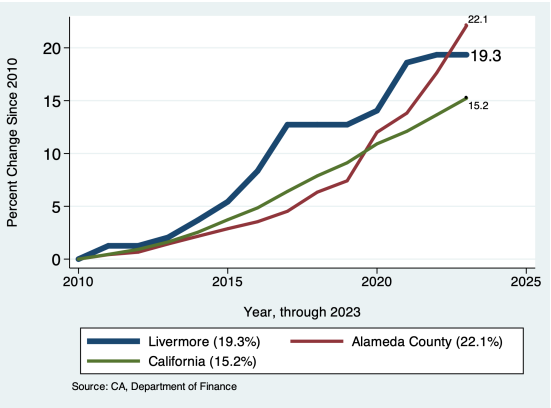


Figure 53: Housing in Buildings with Five or More Units



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

Vintage of Residential Housing

Why is it important?

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

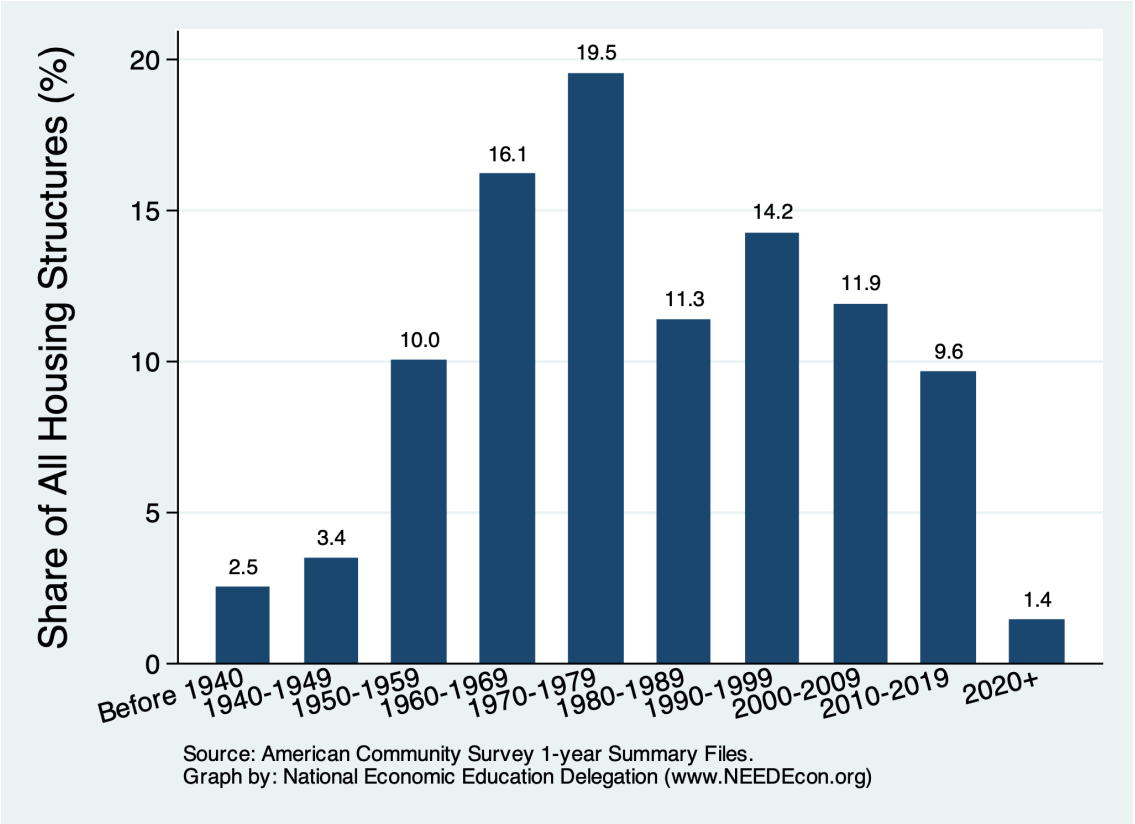


Figure 55: Housing Vintage across Regions

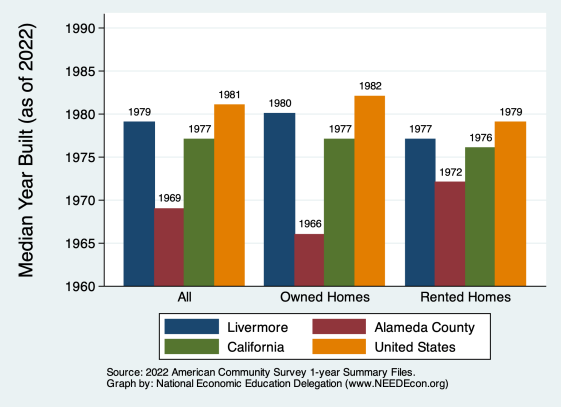


Figure 56: Housing Vintage by Tenure

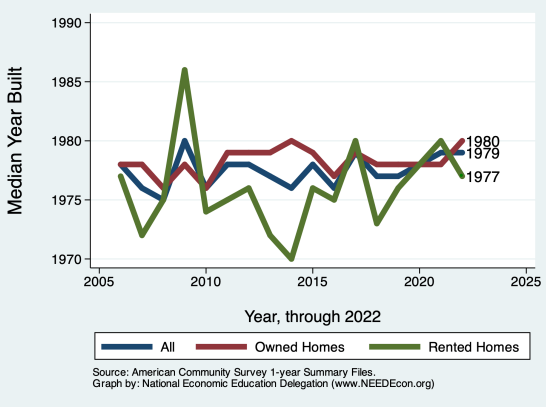


Figure 57: Vintage of Owned Residences

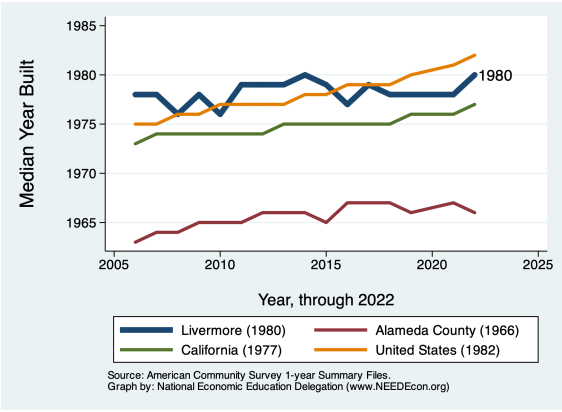


Figure 58: Vintage of Rented Residences

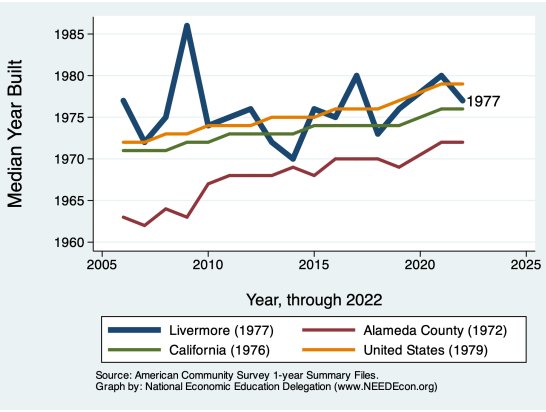
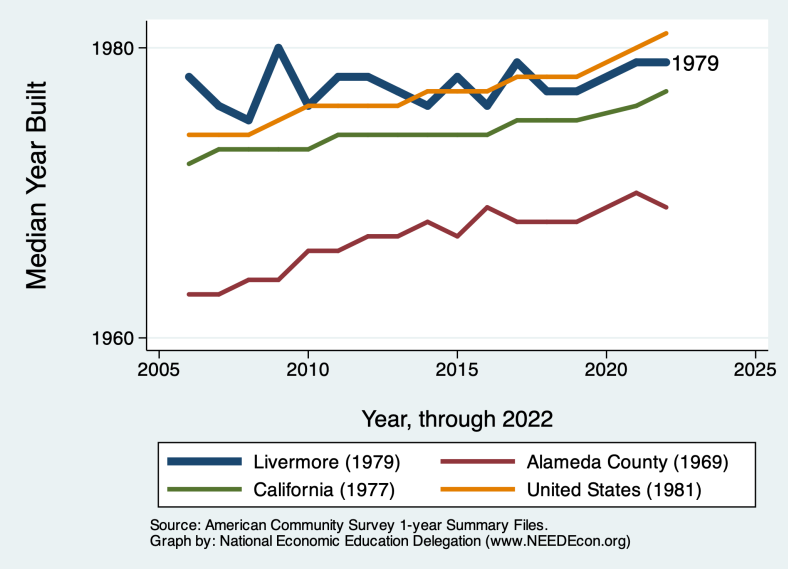


Figure 59: Vintage of All Residences



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

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

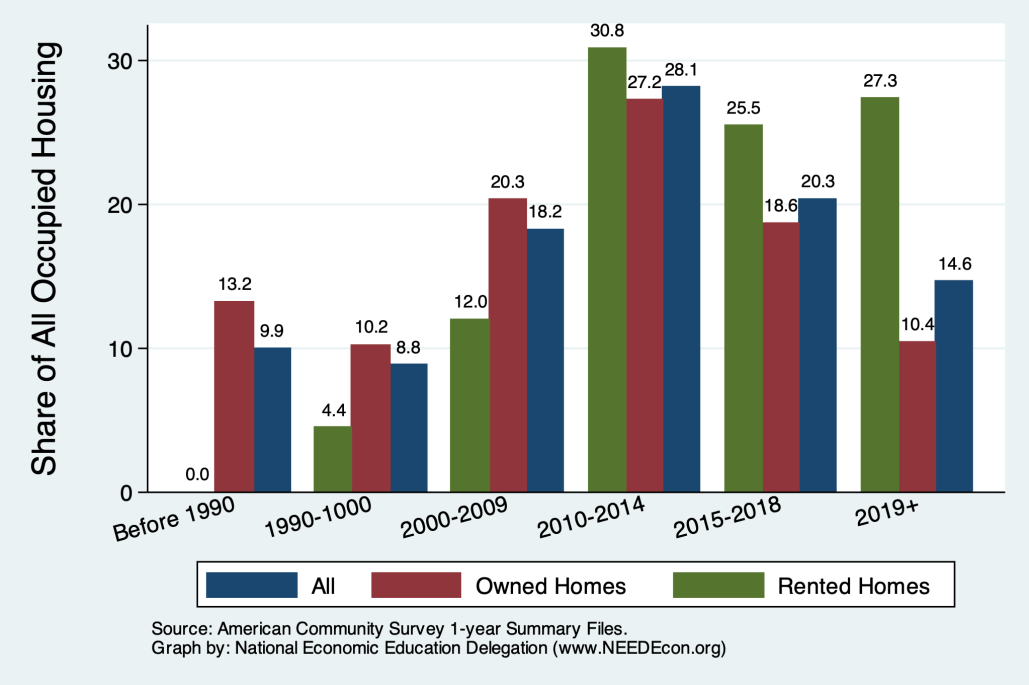


Figure 61: Year Occupied by Current Residents across Regions

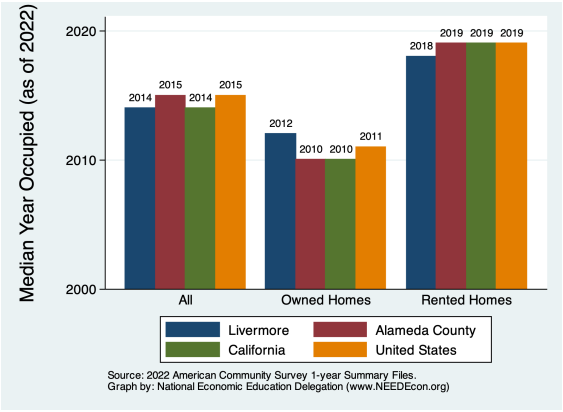
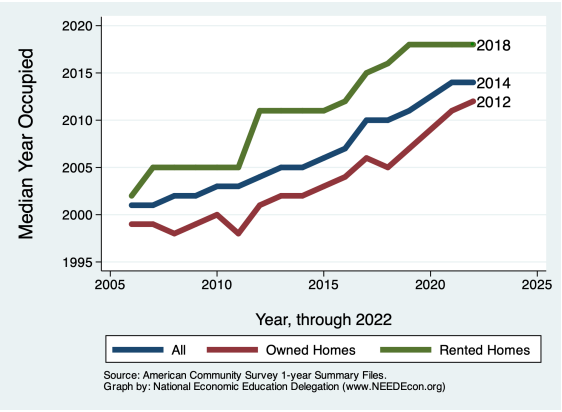


Figure 62: Year Occupied by Current Residents by Tenure



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

Figure 63: Year Occupied by Current Residents for Owned Housing

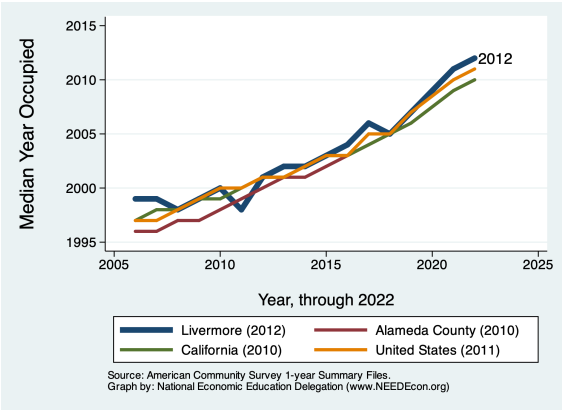


Figure 64: Year Occupied by Current Residents for Rented Housing

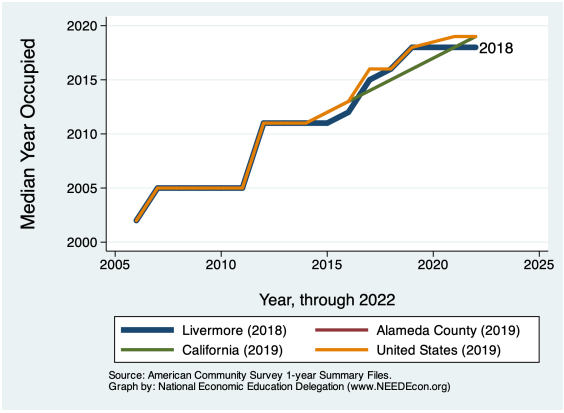
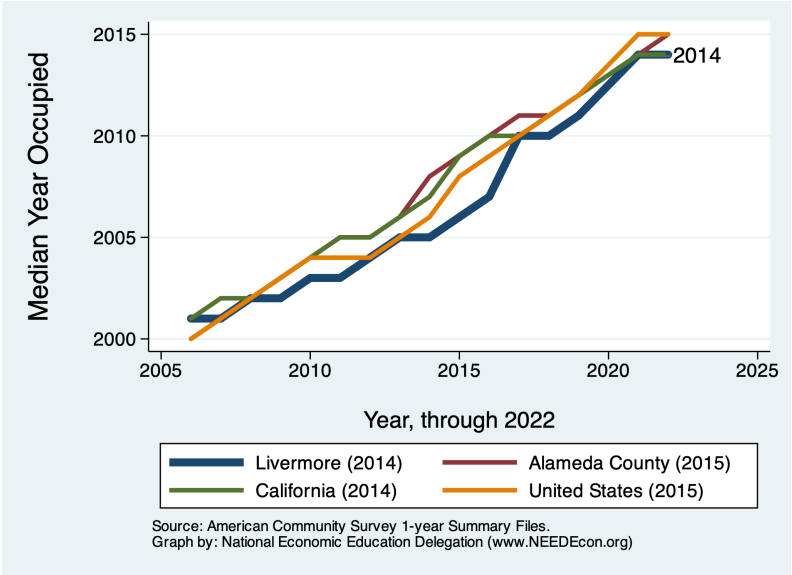


Figure 65: Year Occupied by Current Residents for All Housing



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

Residential Permitting

Definition:

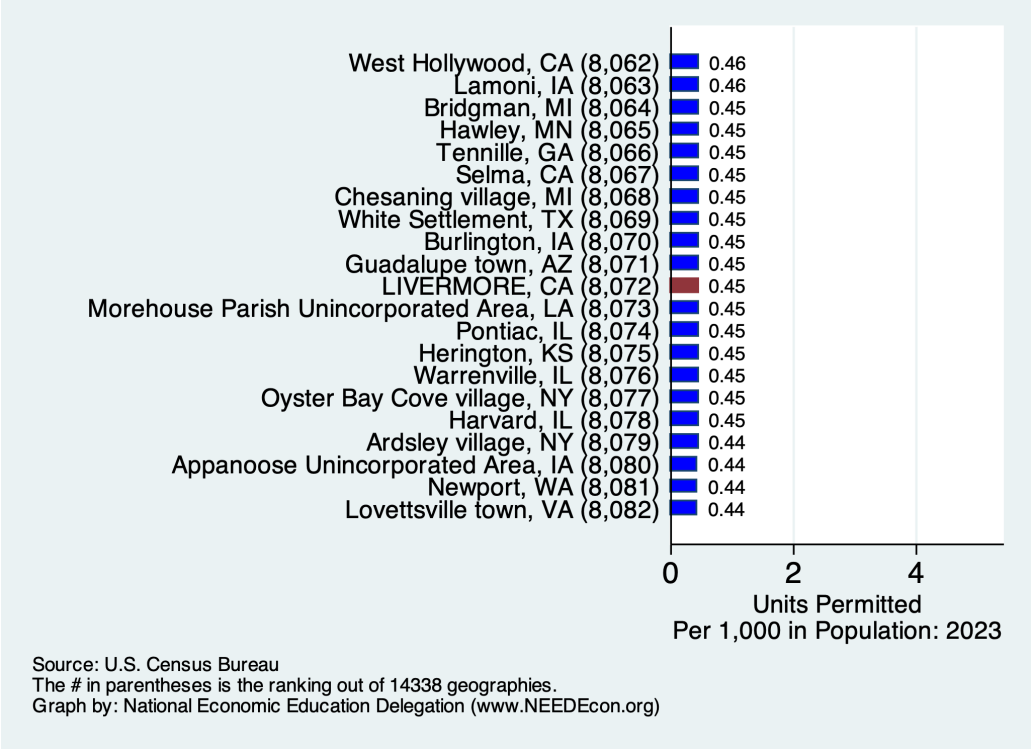
This indicator provides evidence on the number of residential buildings that are permitted for construction each year. Permit data for Livermore is compared with data from Alameda County as a whole and broader regions. The statistic provided scales the number of permits by population. This is done to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

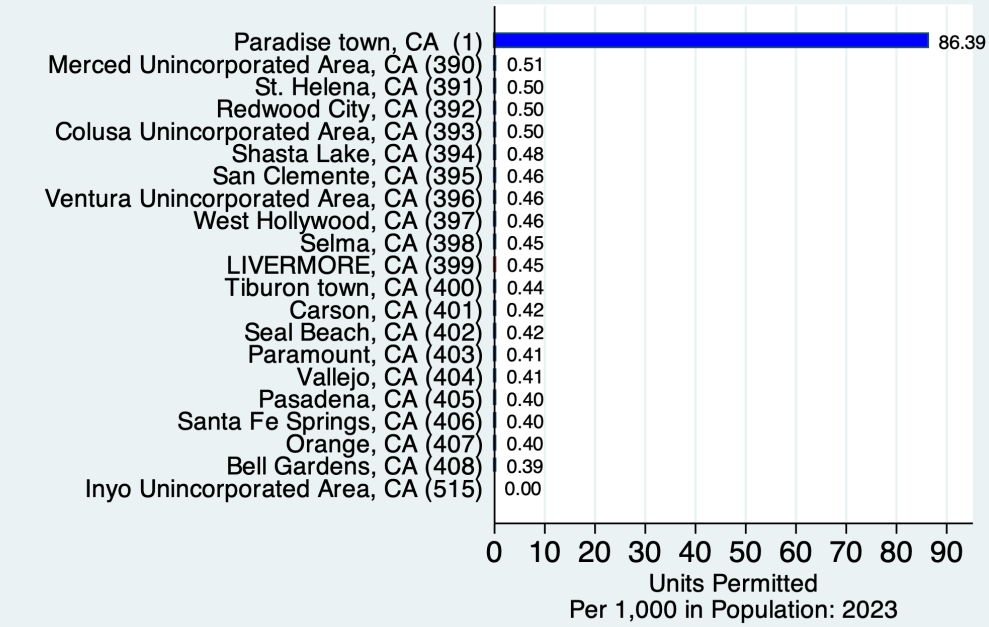
Livermore - Ranking Among Comparables

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



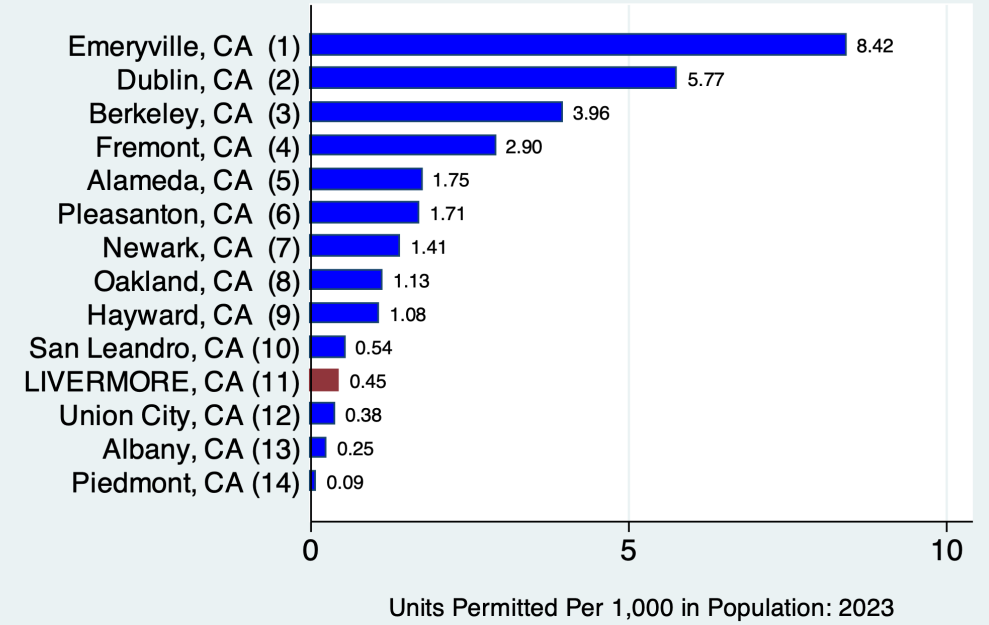
Source: U.S. Census Bureau
The # in parentheses is the ranking out of 14338 geographies.
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

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 Alameda County (Rank)



Source: U.S. Census Bureau,
The # in parentheses is the ranking out of 14 geographies.
Graph by: National Economic Education Delegation (www.NEEDEcon.org)

Livermore - Permitting Activity

Annual Units Permitted - Per Capita in Livermore

Figure 69: Units Permitted Each Year

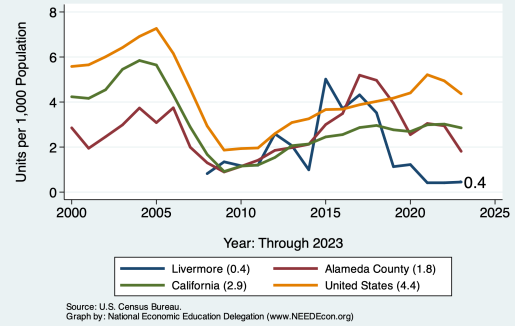
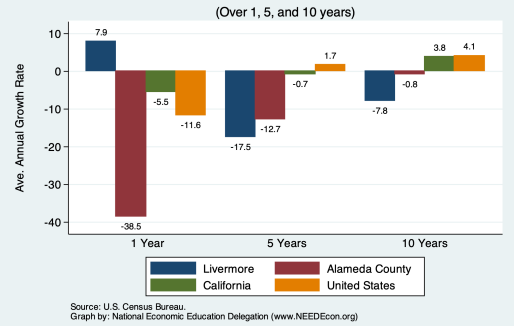


Figure 70: Average Annual Growth in Units Permitted



Annual Number of Buildings Permitted - Per Capita in Livermore

Figure 71: Units Permitted Each Year

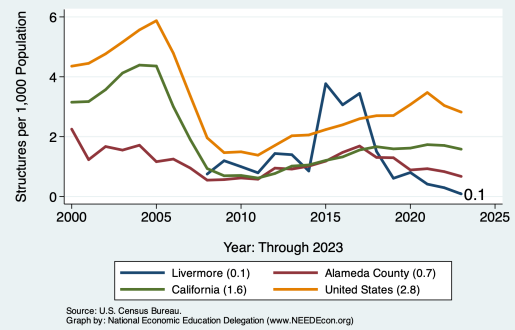
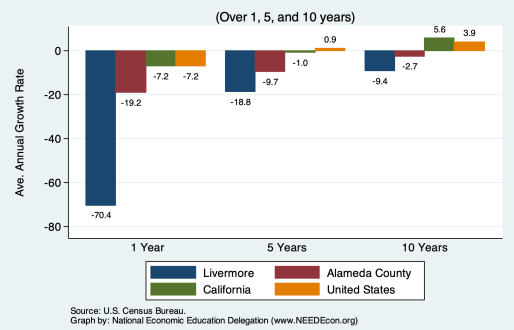


Figure 72: Average Annual Growth in Buildings Permitted



Annual Value of Property Permitted - Per Capita in Livermore

Figure 73: Value Permitted Each Year

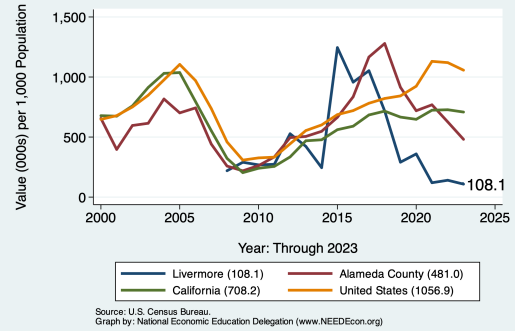
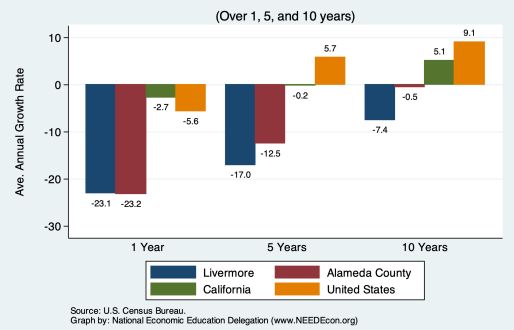


Figure 74: Average Annual Growth in Value Permitted



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 housing 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

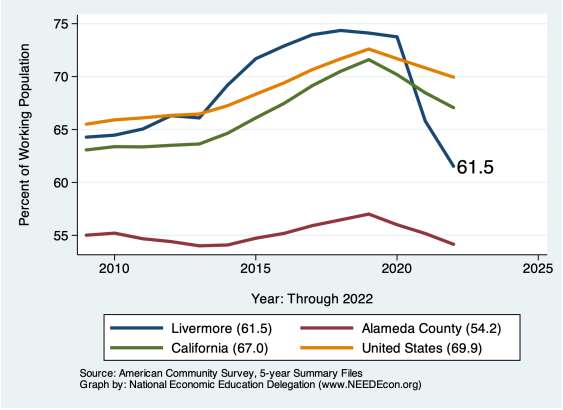


Figure 76: Percent of Workers Commuting by Carpool

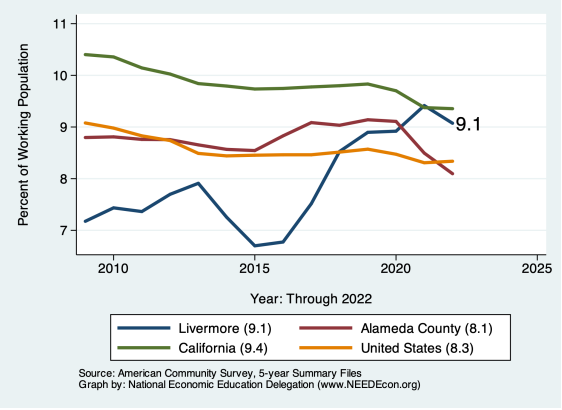


Figure 77: Percent of Workers using Public Transportation

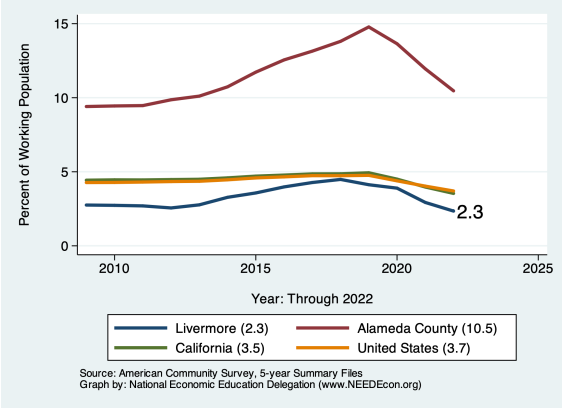
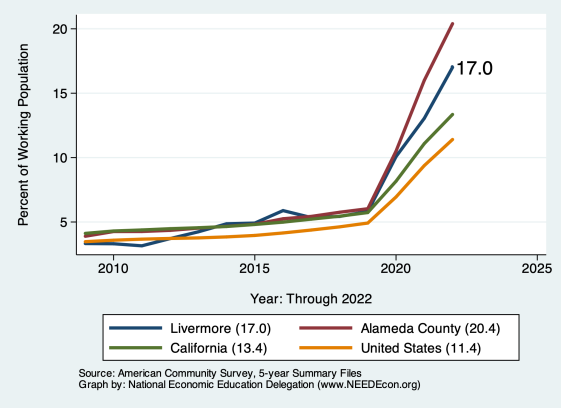


Figure 78: Percent of Workers Who Work From Home



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

	Male		Female		All Workers		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van:	19,134	72.9	15,355	67.2	34,489	70.6	78.0
Drove Alone	16,538	63.0	13,519	59.1	30,057	61.5	68.4
Carpooled:	2,596	9.9	1,836	8.0	4,432	9.1	9.5
In 2-person carpool	2,183	8.3	1,254	5.5	3,437	7.0	6.9
In 3-person carpool	262	1.0	377	1.6	639	1.3	1.5
In 4-or-more-person carpool	151	0.6	205	0.9	356	0.7	1.1
Public Transportation (excl Taxi):	705	2.7	441	1.9	1,146	2.3	3.6
Bus or Trolley Bus	156	0.6	223	1.0	379	0.8	2.3
Streetcar or Trolley Car	336	1.3	77	0.3	413	0.8	0.8
Subway or Elevated	213	0.8	141	0.6	354	0.7	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	380	1.4	87	0.4	467	1.0	0.7
Walked	235	0.9	267	1.2	502	1.0	2.4
Taxicab, Motorcycle, or other	406	1.5	362	1.6	768	1.6	1.7
Worked at Home	3,983	15.2	4,325	18.9	8,308	17.0	13.6
Total:	24,843	94.7	20,837	91.2	45,680	93.5	

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

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

	Male		Female		All Workers		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van:	26,591	75.9	17,592	76.8	44,183	77.4	78.0
Drove Alone	23,138	66.1	15,254	66.6	38,392	67.2	68.5
Carpooled:	3,453	9.9	2,338	10.2	5,791	10.1	9.5
In 2-person carpool	2,371	6.8	1,508	6.6	3,879	6.8	6.9
In 3-person carpool	667	1.9	620	2.7	1,287	2.3	1.5
In 4-or-more-person carpool	415	1.2	210	0.9	625	1.1	1.1
Public Transportation (excl Taxi):	432	1.2	176	0.8	608	1.1	3.6
Bus or Trolley Bus	187	0.5	90	0.4	277	0.5	2.3
Streetcar or Trolley Car	64	0.2	46	0.2	110	0.2	0.8
Subway or Elevated	172	0.5	40	0.2	212	0.4	0.3
Railroad	9	0.0	0	0.0	9	0.0	0.2
Ferryboat	0	0.0	0	0.0	0	0.0	0.1
Bicycle	466	1.3	125	0.5	591	1.0	0.7
Walked	567	1.6	402	1.8	969	1.7	2.4
Taxicab, Motorcycle, or other	321	0.9	288	1.3	609	1.1	1.7
Worked at Home	3,983	11.4	4,325	18.9	8,308	14.5	13.6
Total:	32,360	92.4	22,908	100.0	55,268	96.8	

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 Times for Employed Residents

Table 8. SEX OF WORKERS BY TRAVEL TIME TO WORK

	Male		Female		All Workers		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Less than 5 minutes	142	0.6	193	0.9	335	0.7	2.1
5 to 9 minutes	1,371	5.6	2,299	11.1	3,670	8.1	7.8
10 to 14 minutes	2,760	11.3	1,950	9.4	4,710	10.4	12.4
15 to 19 minutes	2,212	9.0	2,881	13.9	5,093	11.3	15.4
20 to 24 minutes	1,448	5.9	1,808	8.7	3,256	7.2	14.8
25 to 29 minutes	233	1.0	818	3.9	1,051	2.3	6.4
30 to 34 minutes	1,270	5.2	1,113	5.4	2,383	5.3	15.2
35 to 39 minutes	407	1.7	137	0.7	544	1.2	2.9
40 to 44 minutes	1,717	7.0	256	1.2	1,973	4.4	4.1
45 to 59 minutes	2,344	9.6	1,703	8.2	4,047	8.9	8.2
60 to 89 minutes	2,299	9.4	931	4.5	3,230	7.1	7.2
90 or more minutes	1,352	5.5	192	0.9	1,544	3.4	3.6
Total:	17,555	71.6	14,281	68.9	31,836	70.4	

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

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

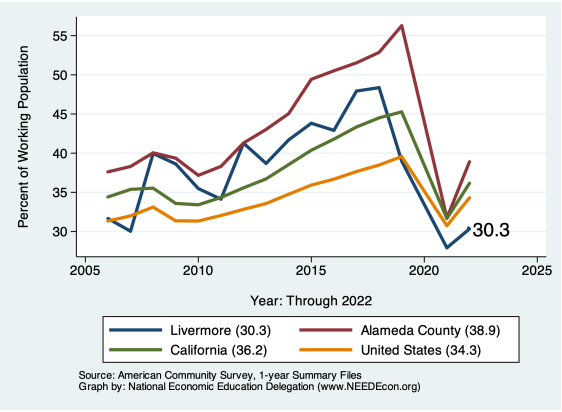


Figure 80: Percent of Employed Population With Commutes of More than 90 Minutes

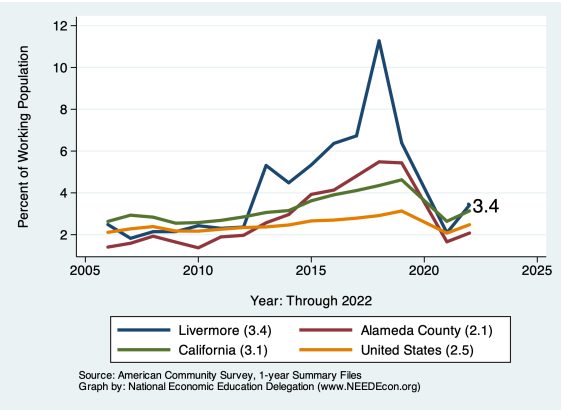
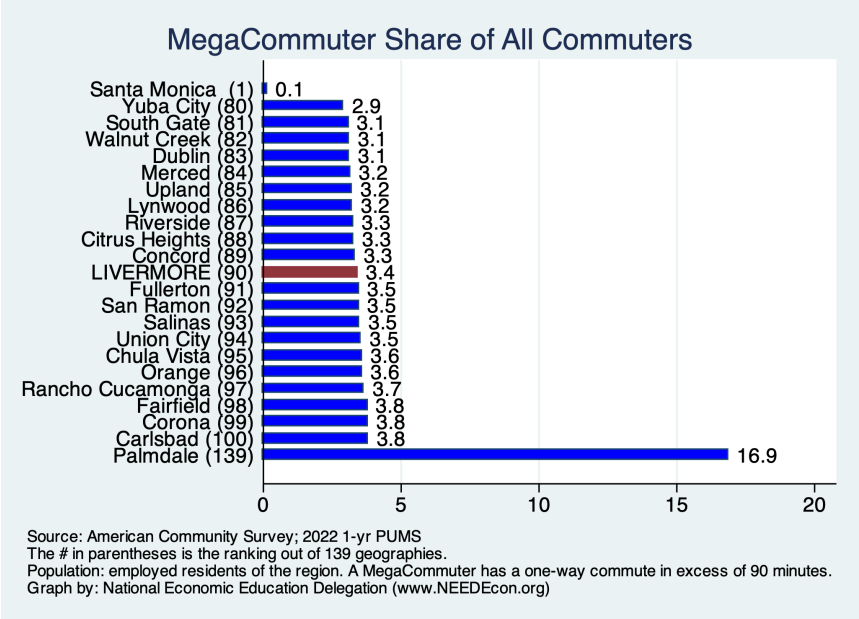


Figure 81: Rank: Share of MegaCommuters Across Similar Geographies



Commute Times for Those Employed in the City

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

	Male		Female		All Workers		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	(%)
Less than 5 minutes	278	0.8	162	0.7	440	0.8	2.1
5 to 9 minutes	1,352	4.0	1,961	8.4	3,313	6.2	7.8
10 to 14 minutes	2,976	8.9	2,010	8.6	4,986	9.3	12.4
15 to 19 minutes	2,071	6.2	3,359	14.4	5,430	10.1	15.3
20 to 24 minutes	2,628	7.9	1,320	5.7	3,948	7.3	14.8
25 to 29 minutes	1,914	5.7	432	1.9	2,346	4.4	6.4
30 to 34 minutes	4,803	14.4	1,941	8.3	6,744	12.5	15.2
35 to 39 minutes	1,164	3.5	465	2.0	1,629	3.0	2.9
40 to 44 minutes	1,565	4.7	500	2.1	2,065	3.8	4.1
45 to 59 minutes	5,667	17.0	2,398	10.3	8,065	15.0	8.2
60 to 89 minutes	4,984	14.9	3,042	13.1	8,026	14.9	7.2
90 or more minutes	1,685	5.0	699	3.0	2,384	4.4	3.6
Total:	31,087	93.0	18,289	78.6	49,376	91.7	

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

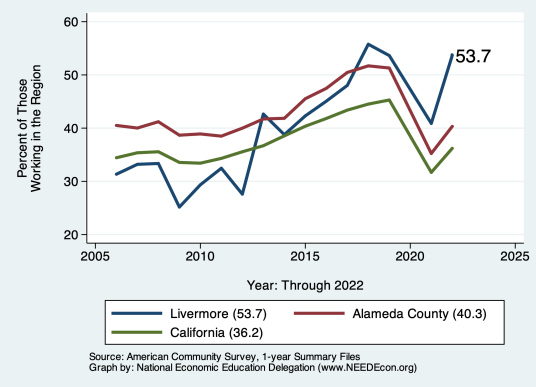


Figure 83: Percent of Local Employees With Commutes of More than 90 Minutes

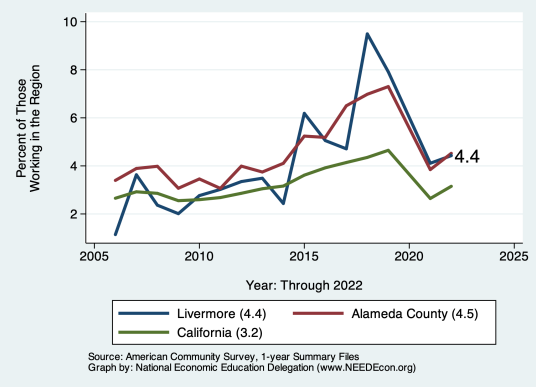
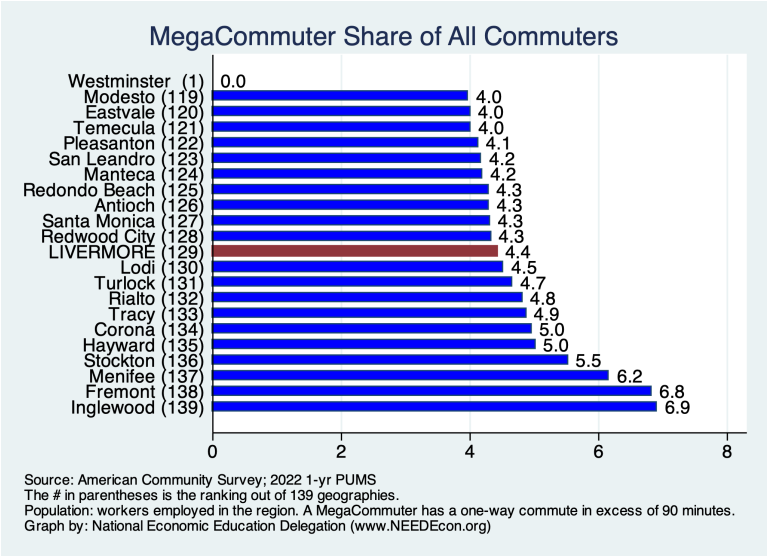


Figure 84: Rank: Share of MegaCommuters Across Similar Geographies



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

Place of Work

This section provides evidence on where workers living in Livermore work. As evidenced in the first table, some of Livermore'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 Livermore 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:	22,912	87.3	20,389	89.2	43,301	88.6	99.6
Worked in county of residence	17,637	67.2	16,731	73.2	34,368	70.4	85.3
worked outside of county of residence	5,275	20.1	3,658	16.0	8,933	18.3	14.3
Worked outside state of residence	0	0.0	0	0.0	0	0.0	0.4
Total:	22,912	87.3	20,389	89.2	43,301	88.6	

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

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

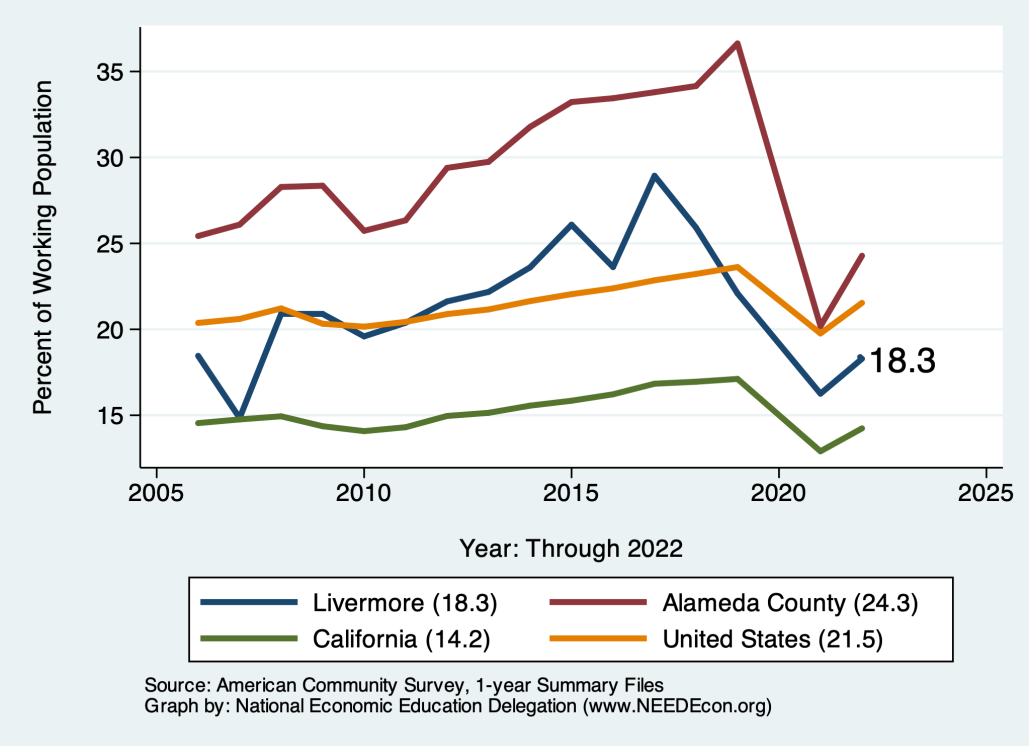
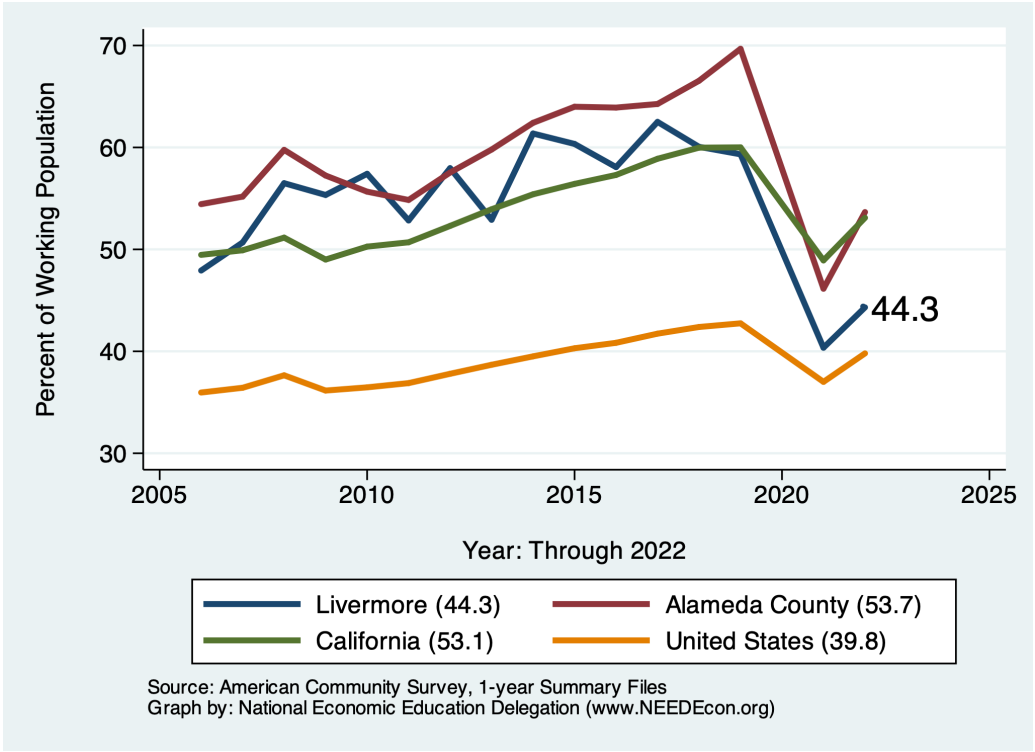


Table 11. SEX OF WORKERS BY PLACE OF WORK–PLACE LEVEL

	Male		Female		All Workers		All of CA
Place of Work	#	(%)	#	(%)	#	(%)	(%)
Living in a place:	22,912	87.3	20,389	89.2	43,301	88.6	95.8
Worked in place of residence	10,776	41.1	10,879	47.6	21,655	44.3	42.3
Worked outside place of residence	12,136	46.3	9,510	41.6	21,646	44.3	53.4
Not living in a place	0	0.0	0	0.0	0	0.0	4.2
Total:	22,912	87.3	20,389	89.2	43,301	88.6	

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 States	
	Median	*Median*	*Ratio*	*Median*	*Ratio*
Car, truck, or van - drove alone	71,631	48,335	97.9	45,677	96.4
Car, truck, or van - carpooled	50,469	35,926	92.8	34,518	89.9
Public transportation (excluding taxicab)	125,939	34,625	240.2	41,443	186.8
Walked	81,392	30,552	175.9	27,247	183.6
Taxicab, motorcycle, bicycle, or other means	93,931	40,631	152.7	36,218	159.4
Worked from home	102,525	79,738	84.9	69,180	91.1
Total:	75,441	49,818	151.4	46,365	162.7

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.
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

	< $25,000		$25,000-$74,999		$75,000+		All		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	5,588	47.1	7,094	51.2	15,151	63.4	30,057	61.5	68.4
Car, Truck, or Van: Carpooled	1,300	11.0	1,038	7.5	1,687	7.1	4,432	9.1	9.5
Public Transportation (excl Taxi)	114	1.0	130	0.9	812	3.4	1,146	2.3	3.6
Walked	282	2.4	34	0.2	115	0.5	502	1.0	2.4
Taxicab, Motorcycle, or other	239	2.0	230	1.7	702	2.9	1,235	2.5	2.4
Worked at Home	1,010	8.5	1,606	11.6	5,421	22.7	8,308	17.0	13.6
Total:	8,533	72.0	10,132	73.2	23,888		45,680	93.5	100.0

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

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

	< $25,000		$25,000-$74,999		$75,000+		All		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	7,291	54.2	11,936	62.9	16,117	58.4	38,392	63.1	68.5
Car, Truck, or Van: Carpooled	1,142	8.5	2,016	10.6	2,050	7.4	5,791	9.5	9.5
Public Transportation (excl Taxi)	73	0.5	126	0.7	319	1.2	608	1.0	3.6
Walked	343	2.6	219	1.2	344	1.2	969	1.6	2.4
Taxicab, Motorcycle, or other	187	1.4	293	1.5	639	2.3	1,200	2.0	2.4
Worked at Home	1,010	7.5	1,606	8.5	5,421	19.6	8,308	13.7	13.6
Total:	10,046	74.7	16,196	85.4	24,890	90.2	55,268	90.8	

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

	In Poverty		100-149% of Pov		>150% of Pov		All		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	591	34.0	540	33.3	28,926	61.4	30,057	61.5	68.7
Car, Truck, or Van: Carpooled	92	5.3	128	7.9	4,212	8.9	4,432	9.1	9.5
Public Transportation (excl Taxi)	6	0.3	18	1.1	1,122	2.4	1,146	2.3	3.6
Walked	134	7.7	33	2.0	335	0.7	502	1.0	2.1
Taxicab, Motorcycle, or other	82	4.7	42	2.6	1,111	2.4	1,235	2.5	2.4
Worked at Home	147	8.4	121	7.5	8,040	17.1	8,308	17.0	13.6
Total:	1,052	60.5	882	54.4	43,746	92.9	45,680	93.5	

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

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

	In Poverty		100-149% of Pov		>150% of Pov		All		All of CA
Mode of Transit	#	(%)	#	(%)	#	(%)	#	(%)	(%)
Car, Truck, or Van: Drove Alone	489	13.6	1,345	44.9	36,558	69.2	38,392	67.2	68.7
Car, Truck, or Van: Carpooled	174	4.8	145	4.8	5,472	10.4	5,791	10.1	9.5
Public Transportation (excl Taxi)	25	0.7	0	0.0	583	1.1	608	1.1	3.6
Walked	150	4.2	55	1.8	764	1.4	969	1.7	2.1
Taxicab, Motorcycle, or other	35	1.0	19	0.6	1,146	2.2	1,200	2.1	2.4
Worked at Home	147	4.1	121	4.0	8,040	15.2	8,308	14.5	13.6
Total:	1,020	28.3	1,685	56.3	52,563	99.4	55,268	96.8	

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 Livermore 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

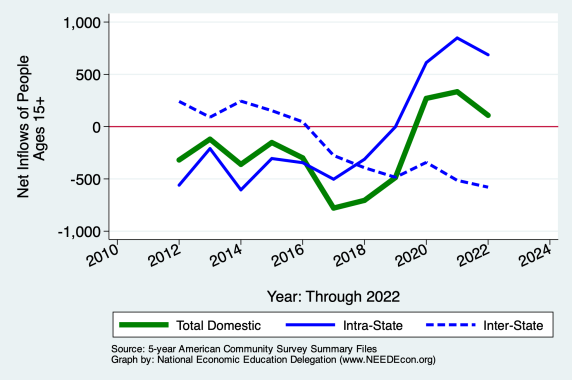


Table 17: Migration by Income

		Net Inflows				
			Same State			
Category	Population	All Migration	W/in County	Between Counties	Across States	From Abroad
No income	8,230	−7	86	−47	−147	101
With income	62,114	420	1,769	−1,121	−432	204
$1 to $9,999 or loss	7,259	−218	132	−273	−147	70
$10,000 to $14,999	3,456	37	103	−152	65	21
$15,000 to $24,999	5,237	93	31	50	−18	30
$25,000 to $34,999	4,789	246	205	54	−16	3
$35,000 to $49,999	5,577	−139	68	−266	15	44
$50,000 to $64,999	4,888	175	256	−76	−34	29
$65,000 to $74,999	2,850	−178	6	−132	−52	0
$75,000 or more	28,058	404	968	−326	−245	7
All:	70,344	413	1,855	−1,168	−579	305

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

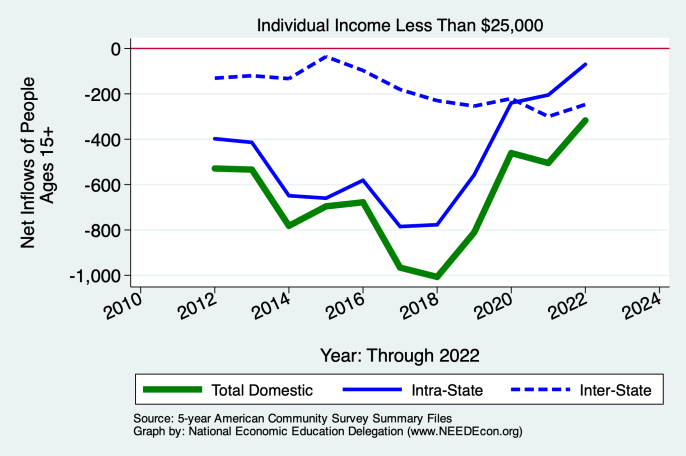


Figure 89: Overall Movements of Middle Income Residents

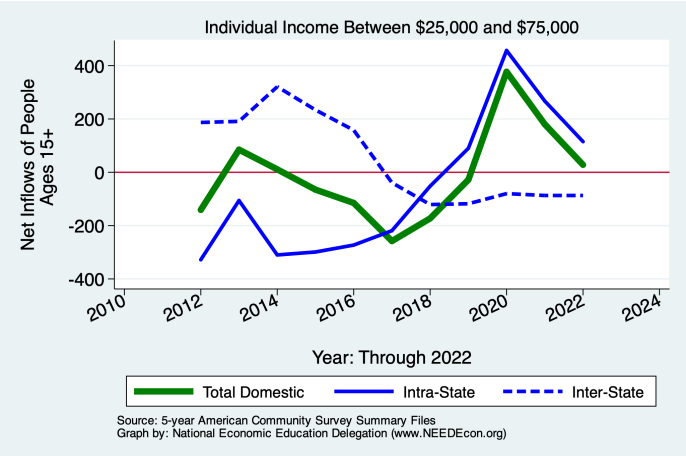
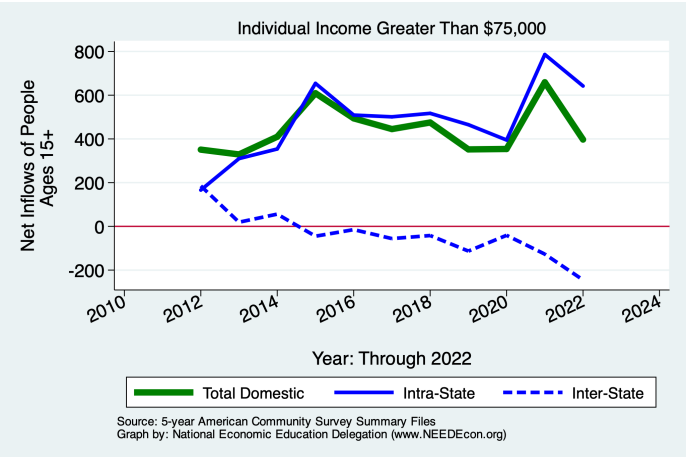


Figure 90: Overall Movements of High Income Residents



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

Demographics of Migration Flows

Table 18: Migration by Marital Status

		Net Inflows				
			Same State			
Category	Population	All Migration	W/in County	Between Counties	Across States	From Abroad
Never married	19,622	−296	460	−700	−165	109
Now married, except separated	40,820	772	1,083	−192	−298	179
Divorced	6,092	−95	208	−207	−113	17
Separated	841	−38	58	−38	−58	0
Widowed	2,969	70	46	−31	55	0
Total:	70,344	413	1,855	−1,168	−579	305

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

Table 19: Migration by Tenure

		Net Inflows				
			Same State			
Category	Population	All Migration	W/in County	Between Counties	Across States	From Abroad
Householder lived in owner-occupied housing units	64,156	1,034	1,991	−401	−935	379
Householder lived in renter-occupied housing units	18,275	−217	247	−380	−293	209
Total:	82,431	817	2,238	−781	−1,228	588

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

Figure 91: Domestic Movements of Residents by Tenure

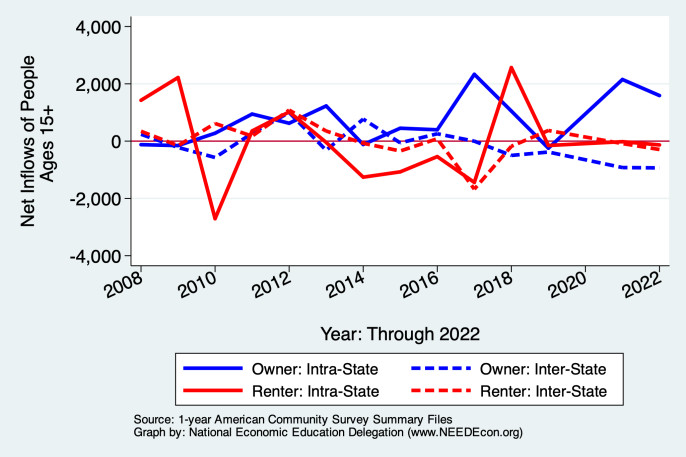


Table 20: Migration by Age

		Net Inflows				
			Same State			
Category	Population	All Migration	W/in County	Between Counties	Across States	From Abroad
1 to 4 years	4,770	237	301	−38	−26	0
5 to 17 years	14,058	309	284	135	−136	26
18 and 19 years	2,021	−530	19	−421	−128	0
20 to 24 years	3,635	−79	−9	−112	−10	52
25 to 29 years	4,462	91	133	−167	112	13
30 to 34 years	6,733	391	638	−192	−83	28
35 to 39 years	6,455	240	349	7	−119	3
40 to 44 years	6,170	117	98	102	−83	0
45 to 49 years	6,570	22	87	4	−69	0
50 to 54 years	6,432	119	109	−8	−71	89
55 to 59 years	7,263	117	168	−107	38	18
60 to 64 years	5,026	−327	26	−260	−136	43
65 to 69 years	3,999	36	85	−52	3	0
70 to 74 years	3,268	137	80	31	26	0
75 years and over	5,257	58	53	12	−40	33
Total Population:	86,119	938	2,421	−1,066	−722	305

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

Table 21: Migration by Educational Attainment

		Net Inflows				
			Same State			
Category	Population	All Migration	W/in County	Between Counties	Across States	From Abroad
Less than high school graduate	3,576	21	77	−72	0	16
High school graduate (includes equiv)	9,170	377	303	−76	125	25
Some college or assoc. degree	18,876	−107	451	−423	−206	71
Bachelor's degree	18,868	99	326	−76	−230	79
Graduate or professional degree	11,145	611	669	17	−111	36
Total:	61,635	1,001	1,826	−630	−422	227

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

Table 22: Median Income of Migration Flows

Flow	In-Migration	Out-Migration
Same House 1 Year Ago	63,169	63,169
Moved Within Same County	97,758	81,214
Moved to Different County, Same State	39,439	80,357
Moved Between States	36,011	93,333
Moved from Abroad	39,648	
Total Population:	62,572	64,082

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	42.9	42.9
Moved Within Same County	38.1	38.6
Moved to Different County, Same State	33.6	34.3
Moved Between States	27.0	34.6
Moved from Abroad	51.5	
Total Population:	42.0	42.1

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/

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