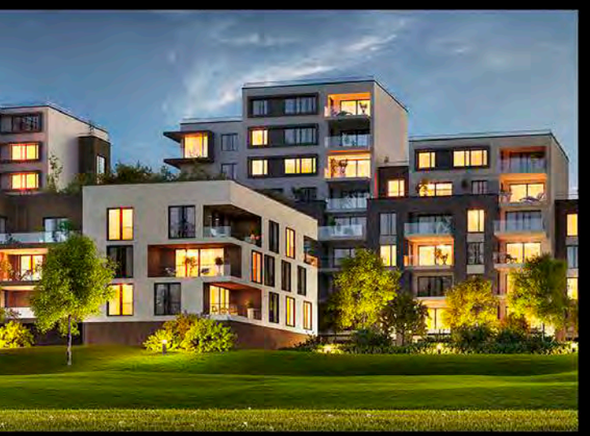
USC Lusk

Casden Real Estate Economics Forecast

2022 Multifamily Forecast Report



USC LUSK CENTER FOR REAL ESTATE
CASDEN REAL ESTATE ECONOMICS FORECAST
2022 MULTIFAMILY REPORT

PRODUCED BY:

USC LUSK CENTER FOR REAL ESTATE

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CURRENT VIEW OF THE ECONOMY

Once again, we at the Casden forecast are trying to look ahead in the context of an uncertain world. Among the issues we face are:

1. An inflation environment that is so uncertain that simple differences in measurement methods produce different apparent price level changes.
2. A rapidly changing interest rate environment, which may change between the time these words are written and the conference at which they will be discussed.
3. A financial system that lacks liquidity and that is perhaps under more stress than conventional measures would indicate.
4. Great uncertainty about migration patterns, both within and across regions of the country.

INFLATION

Federal Reserve Policy implies that its board members, bank presidents, and more than 200 economists are convinced that price stability is currently the most significant economic problem facing the United States. Because of the Federal Reserve's focus on inflation, it has raised interest rates faster than at any time since the late 1980s. Since March of 2022, The Fed has raised the federal funds rate by 300 basis points and may continue raising it between the time we write these words and the forecast event.

Rising interest rates can slow the economy through two channels: decreasing consumer demand and choking off new housing construction. But it is not entirely clear that slowing the economy will reduce inflation, mainly because a reduction in housing construction will lead to continued tight vacancies in the US, which in turn will push up rents, an important component of inflation.

But we get ahead of ourselves. Let's consider what the drivers are of inflation at the moment and whether inflation is out of control as the Federal Reserve perceives it to be.

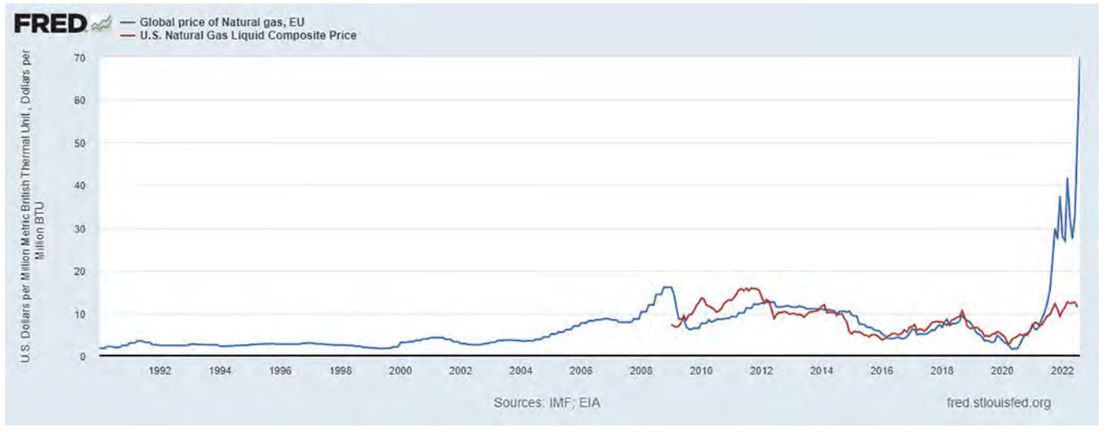
Many economists, including Obama administration advisors such as Lawrence Summers and Jason Furman, argue that fiscal policy stimulated consumer demand to the point where it placed inflationary pressures on the economy.[1] It is undoubtedly the case that consumer demand for goods increased well above the trend during the Pandemic period. At the same time, however, demand for services slowed dramatically, largely because people were not leaving their homes, so while total consumption didn't rise, the composition of consumption changed considerably. An overwhelmed supply chain arises more from increases in good spending than service spending. Therefore, we expect as the composition of spending returns to normal to see the relief of inflationary pressures.

But stimulus-induced consumer spending on goods has not been the only cause of inflation. First, when we look around the world, we see that many countries have higher rates of inflation than the US. Many of these countries did far less to stimulate their economics during the time of COVID than the US. At the same time, China has been decoupling from the world. The world has therefore been changing its supply chains. These changes are expensive and inevitably lead to an increase in the price level. This does not necessarily mean, however, that inflation will continue to accelerate. Once new supply chain arrangements are in place, we expect the price level worldwide to stabilize again.

On top of this, there is a war between Russia and Ukraine that is having a substantial impact on energy prices and food prices. These impacts are much more significant in Europe than in the US but nevertheless considerable for the US. For example, while natural gas prices in the US are higher than a year ago, they have exploded in Europe.

One thing that is quite clear is that labor is not an important driver of inflation.

Natural Gas Prices

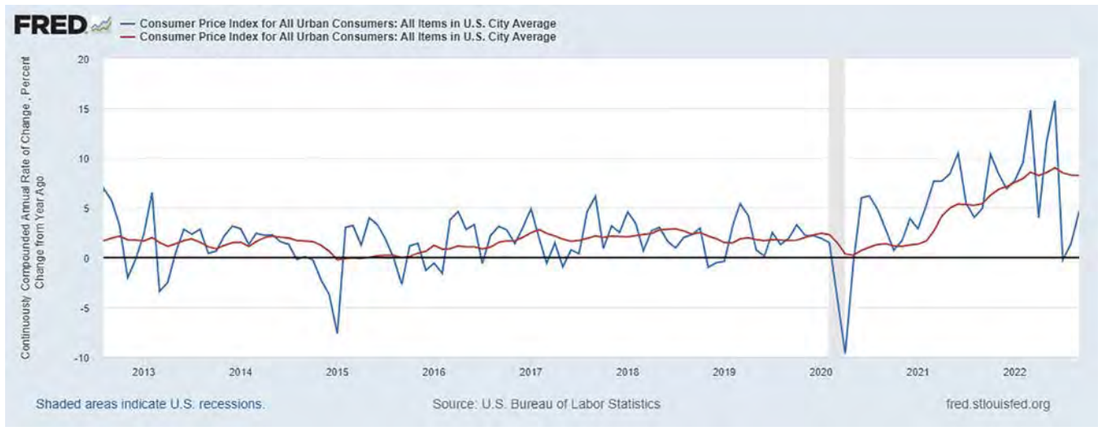


Total compensation has not kept up with the price level over the past 12 months, indicating that wages are being pulled along a little bit by inflation but are not pushing inflation. Rent, on the other hand, has been rising faster than the overall inflation rate and is the largest individual component of the consumer price index, meaning that America's chronic shortage of housing is an important driver of inflation.

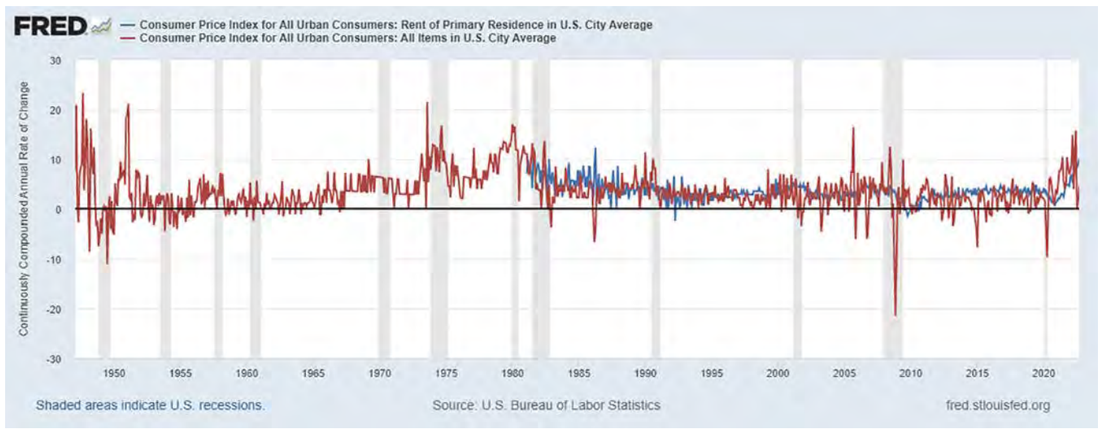
1 See, e.g., https://www.washingtonpost.com/opinions/2022/02/03/inflation-warning-history-lawrence-summers/.

Employment Cost Index

Annual and Monthly Consumer Price Index

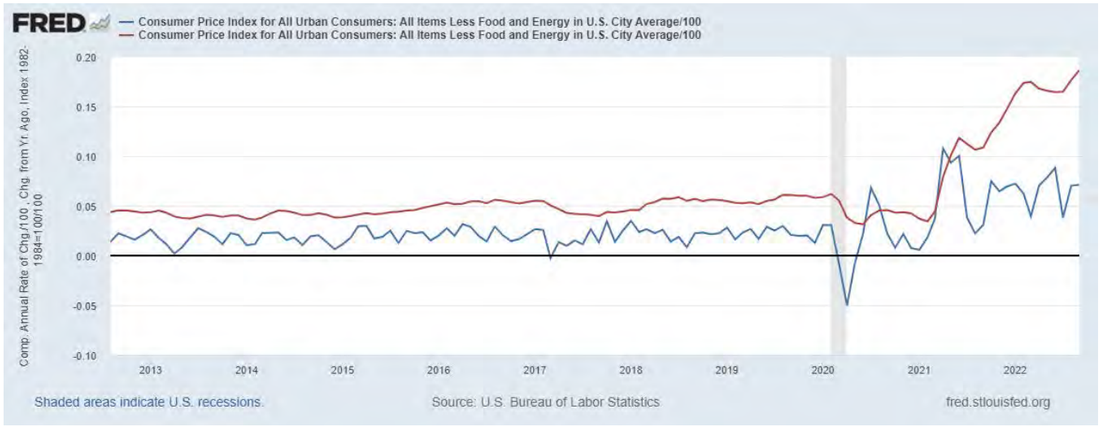


Consumer Price Index for Rents and Consumer Price Index

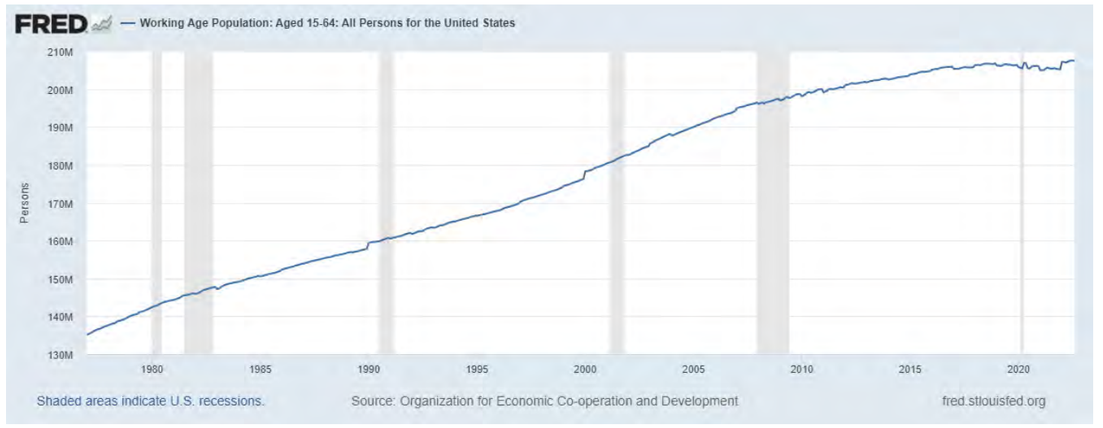


A current controversy about inflation is about how sustained it is. Consider two measures of changes in the consumer price index: the year-over-year change and the month-over-month change. When we look at year-over-year changes, we see alarming increases of 8% or more for several months. But when we look at month-over-month changes, we see a much more benign picture over the past three months, with the annualized inflation rate over that period being less than 2%. Looking at a chart from the past 18 months demonstrates the difference. The price level increased very rapidly beginning in the spring of 2022. This price increase got baked into year-over-year numbers and will remain there for 12 months. That is, even if the price in one month doesn't move from the previous month, prices will still be 8% higher than they were the previous year.

Annual and Monthly Consumer Price Index Without Food and Energy



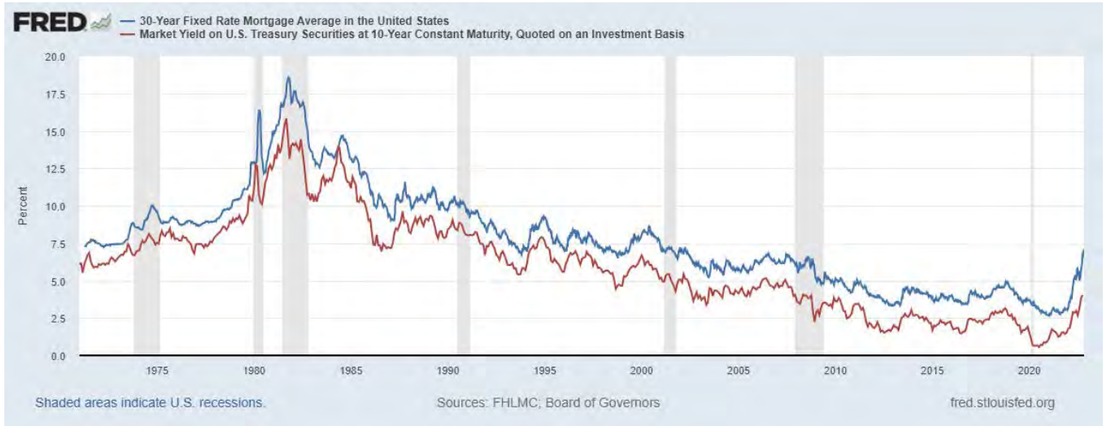
Working Age Population



Another way of looking at inflation is by examining inflationary expectations. This indicates what the market thinks inflation will be in the months and years to come. Again, there is no consensus about what inflation will be in the years to come. Consider three ways of measuring inflationary expectations. The first, the breakeven rate of inflation, is the difference between coupons on 10-year treasury notes and coupons on 10-year treasury inflation-protected securities, or TIPs.

TIPs are a way to hedge against inflation. One buys a TIP at a specific coupon rate and then reaps that coupon rate plus CPI growth over the period that the TIP is held. As of the end of October 2022, the break-even rate on TIPs was 2.51%, implying that the market believes inflation over ten years will be above the federal reserve's 2% target.

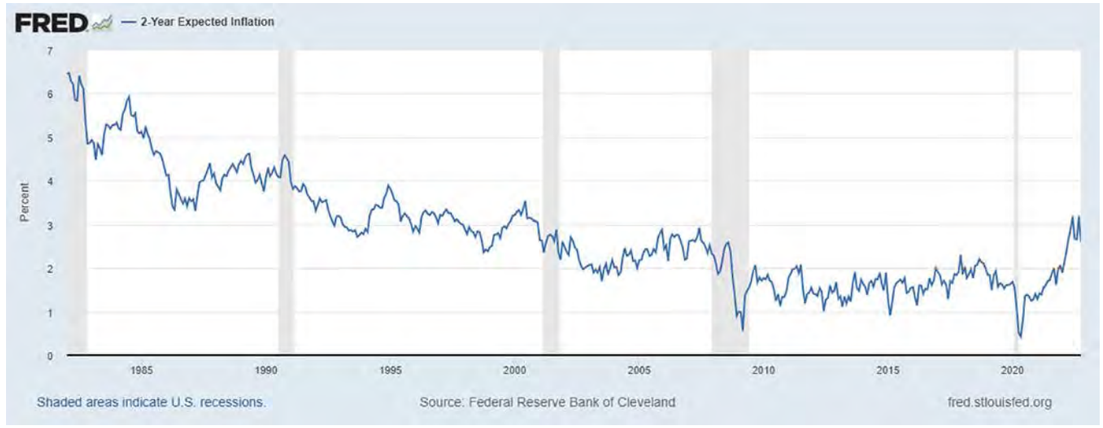
Breakeven Inflation Rates: 5-year and 10-year



Another measure of inflationary expectations comes from the University of Michigan survey of consumer sentiments. That survey asks what consumers think inflation will be over the next year and the next five years. Currently, respondents to that survey predict inflation will be slightly under 5% over the next year and a little over 4% over the next five years. The Federal Reserve Bank of Cleveland has developed a model of inflationary expectations over a ten-year horizon. That model currently estimates expectations for inflation of 2.3 percent.

Inflationary Expectations (University of Michigan)

Inflationary Expectations (Federal Reserve Bank of Cleveland)



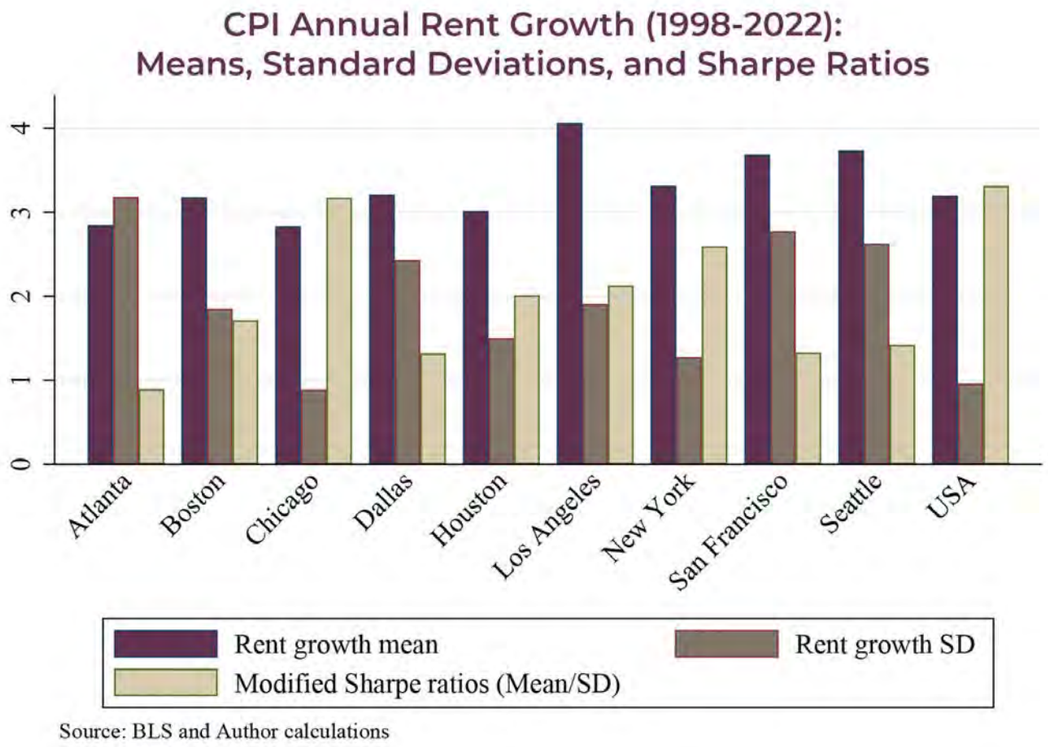
What is not clear is when policymakers will begin to respond to month-over-month changes instead of year-over-year changes. The Fed may decide to wait until changes drop below 2% per year before reversing its interest rate policy. If that is the case, the earliest we can expect to see an end to interest rate increases is the spring of 2023.

Is Residential Real Estate a Good Hedge Against Inflation?

One of the justifications for investing in residential rental property is that it's a good hedge against inflation. There are two reasons for this justification: (1) if investors borrow at fixed rates and inflation rises, the real cost of borrowing falls, and (2) residential rents reset every year, allowing landlords in non-rent controlled markets to adjust rents to reflect inflation.

The second of these justifications is easily testable with data. We performed a regression analysis that tested how much residential rents, in the form of CPI rent, responded to changes in the overall inflation rate. We find that for every one percentage point increase in inflation, we observe a 0.43 percentage point increase in rents, implying that residential real estate is a hedge against inflation but not a perfect hedge.

Over the long term, metropolitan Los Angeles-Long Beach-Anaheim has had faster rent growth than nearly any other large city in the country, and generally less volatility than other cities with rapid rent growth. Ironically, the absence of volatility means that Los Angeles real estate is not a particularly good inflation hedge–nominal rents rise by a steady amount regardless of movements in the national price level.



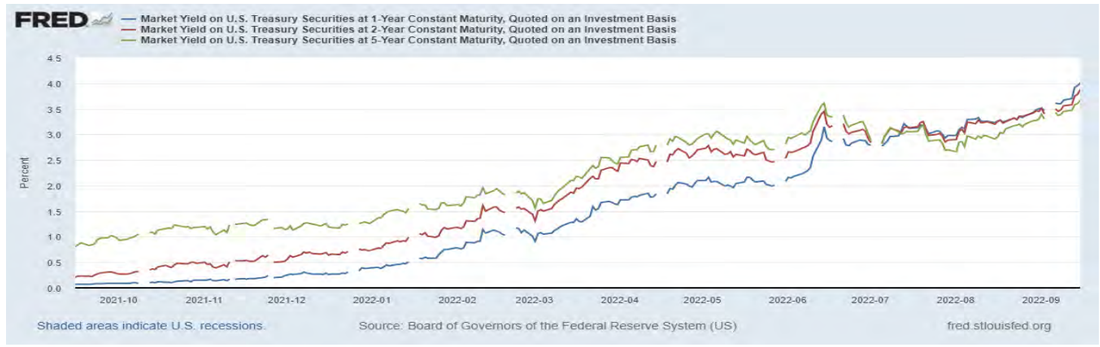
Source: BLS and Author calculations

INTEREST RATES

As noted, the Federal Reserve has raised the federal funds rate more rapidly than at any time in the past 35 years. However, the increase in the federal funds rate does not necessarily lead to corresponding increases in long-term treasury rates. For example, while the federal funds rate has increased by 375 basis points, the 10-year treasury rate has increased by about 200 basis points. It is also interesting to note how the treasury yield curve is forecasting interest rates in the future. At the moment, the differences between year-to-year, 3-year, and 5-year treasury rates are relatively small, indicating that the market believes that interest rates will be pretty flat over time. On the other hand, inflation-adjusted interest rates, as reflected by TIPs, have risen quite dramatically over the past year from negative 1 and a half percent to nearly 3%.

U.S. Treasury Securities Yield (10-Year Maturity)

U.S. Treasury Securities Yield (1, 2, and 5-Year Maturity)



U.S. Treasury Securities Yield (10 and 20-Year Maturity)

Analysts have long believed that interest rates are a crucial ingredient in capitalization rates. However, a capitalization rate takes into account three things: (1) an appropriate risk-free rate of interest, which is generally accepted to be the 10-year treasury rate, (2) a risk premium that likely changes during the real estate cycle and (3), expected rent growth. One can think of a capitalization rate as being the inverse of a price-earnings ratio. Companies that expect rapid growth have higher price-earnings ratios than companies that do not expect such growth. Similarly, properties with high expected rent growth have lower capitalization rates than those with low expected rent growth. This is why interest rates do not translate directly to capitalization rates. If interest rates rise in lockstep with expected rent growth, we would expect no increase in cap rates with increases in interest rates. This explains why in the early 1980s, capitalization rates were generally lower than 10-year treasury rates.

TIPs, however, are different because they consider both the 10-year treasury rate and expected inflation. We have done an analysis where we relate TIP rates to capitalization rates in other markets across Southern California. We find that a one percentage point increase in TIP rates leads to about a .27 percentage point increase in capitalization rates. While the correspondence is not one-to-one, a meaningful change in TIP rates will have a meaningful impact on capitalization rates. TIP rates have risen by more than 3% over the past year; our view is that capitalization rates have risen by at least 75 basis points. Given that capitalization

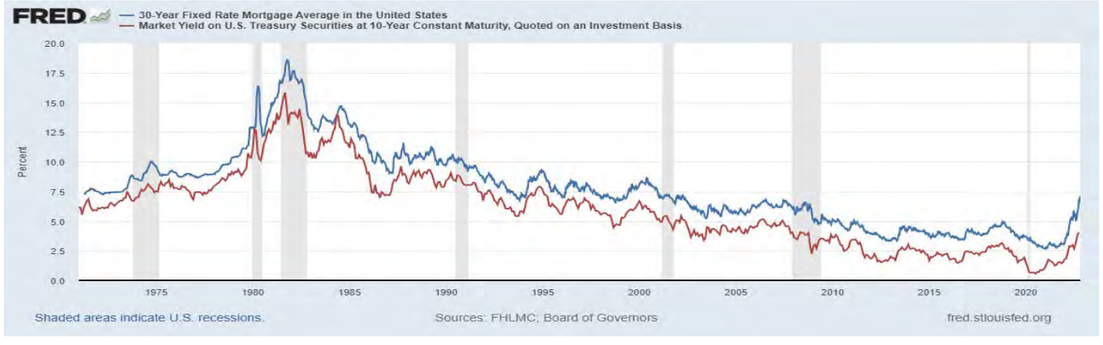
rates for high-quality residential properties were less than 4% a year ago, this implies that holding net operating income constant, real estate value has fallen by about 16%. While we have some confidence in this guess, the absence of transactions recently makes it difficult for us to confirm its truth. But the rapid decline in sales transactions suggests wide bid-ask spreads for residential real estate, a phenomenon consistent with our view that values have fallen.

That said, rents have been rising, and we expect them to continue to grow, somewhat offsetting the impact of higher capitalization rates. Nevertheless, analytics lead to the conclusion that the value of income-producing residential real estate has fallen over the past six months.

THE FOR-SALE MARKET AND THE RENTAL MARKET

The increase in interest rates helps investors in the rental market in two ways. First, over the last year, home buying has become less attractive relative to renting because of the rapid increase in mortgage rates from less than 3% in the fall of 2021 to 7% today. This necessarily increases the demand for rental housing. Second, new rental projects that were financially feasible one year ago are no longer feasible. This means the new housing supply will slow, putting further pressure on the rental market because vacancies will continue to fall. While this is terrible news for renters, it does imply that in tight markets such as Southern California, rents will continue to rise for the foreseeable future. The one caveat is that if there is a severe recession induced by Federal Reserve policy, renters may double up or return to their parental homes, reducing the demand for rental housing. Nevertheless, the fed policy changes will increase top-line numbers for rental properties. Ironically, this will put more pressure on inflation.

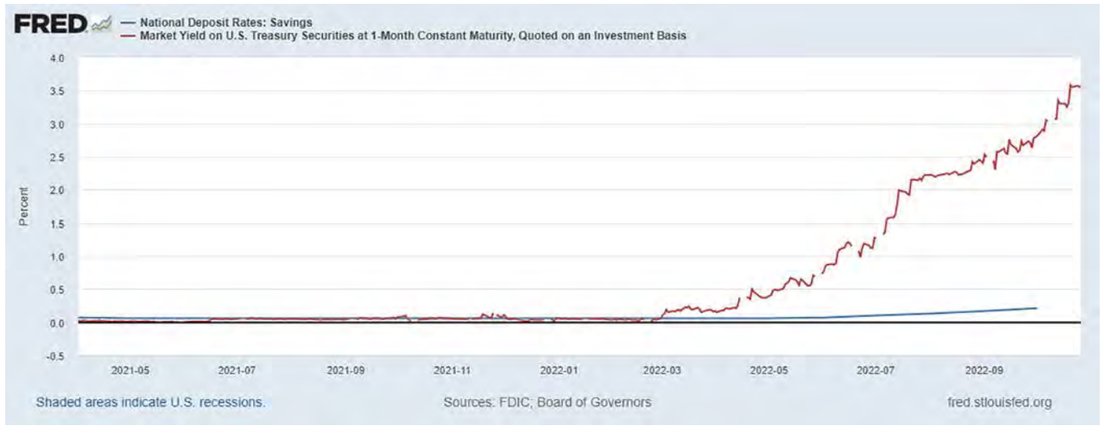
Mortgage Rates and U.S. Treasury Securities Yield



LIQUIDITY IN THE FINANCIAL SYSTEM

The rapid increase in interest rates has already had a small impact on liquidity. The spread between one-month Treasury bills and deposit rates has widened dramatically, and so deposits have begun to flow out of banks. While the outflow has been minimal to this point, there may come a tipping point where deposits begin to start flooding to short-term Treasury securities. If this were to happen, banks would need to begin selling assets in order to fulfill their responsibilities to depositors. This would put downward pressure on the value of debt, in turn raising debt yields.

National Savings and U.S. Treasury Securities Yield

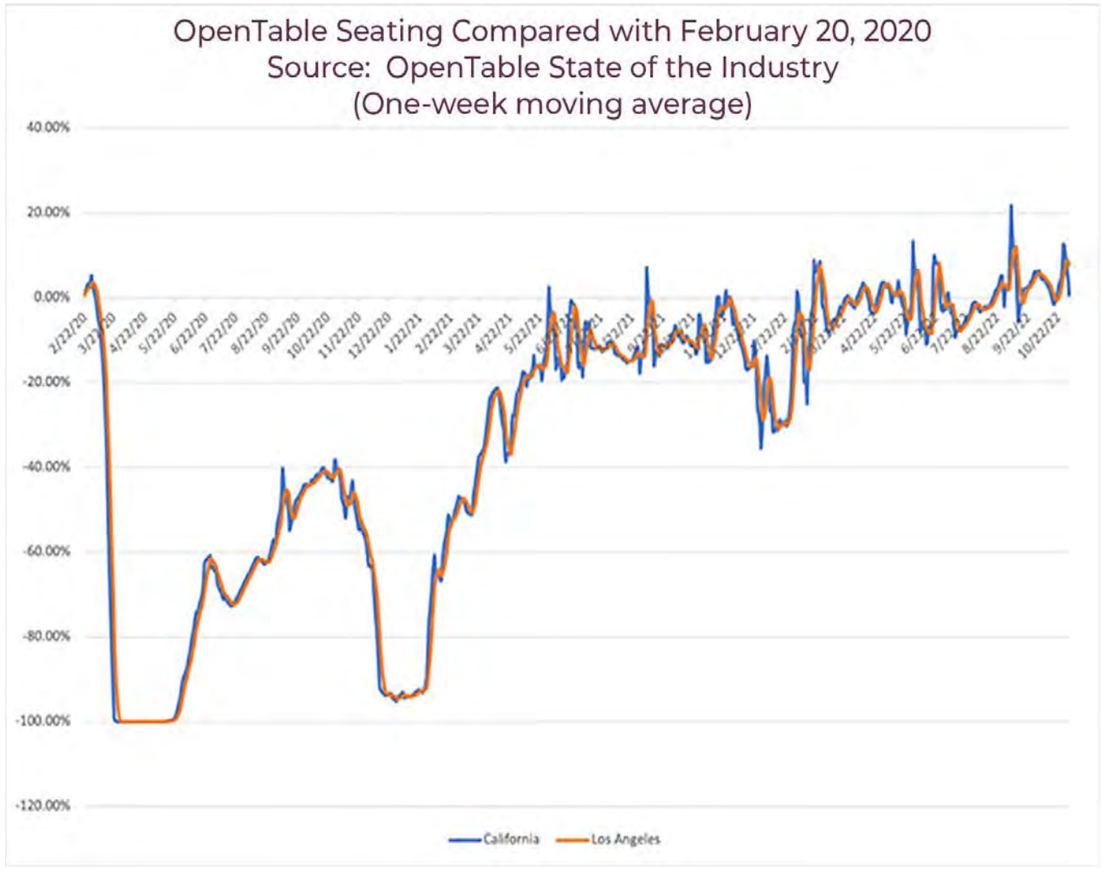


Rumblings of this already appeared in the United Kingdom, where increases in interest rates put pressure on money-market funds. During the period of extreme volatility there in October 2022, investors in money market funds reduced their holdings, requiring those funds to sell assets–such as commercial mortgages–in order to provide redemptions. Few things are as important to the health of the real estate market than a stable banking system, particularly because the system is the principal source of construction lending.

MIGRATION

Here is the great unknown. The pandemic led to work-from-home, which allowed people to move to low cost places far away from offices, and which caused the demand for the amenities that make great cities great to crater during the pandemic. Cities became less attractive, and the open question was whether they would come back.

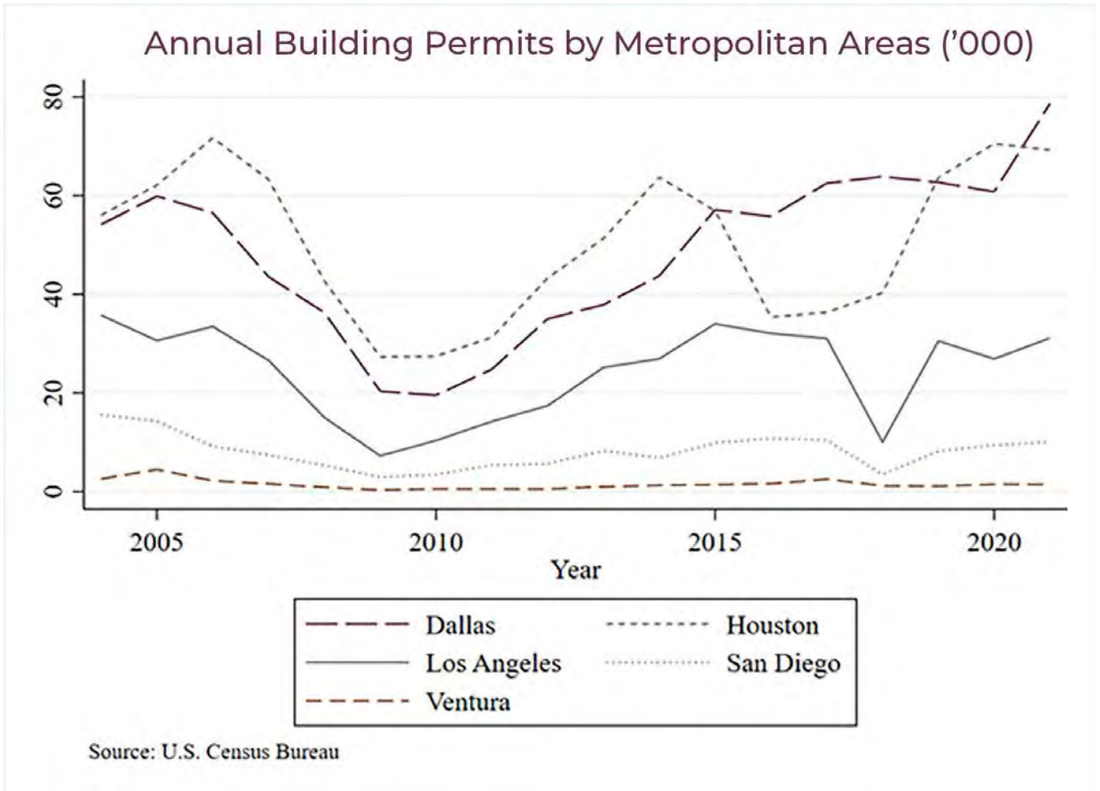
But the poster child for amenities–restaurant dining–has returned and then some.



Note that restaurant dining has returned to pre-pandemic levels in both California and Los Angeles, implying that an important reason that people live in cities has returned to normal both statewide and within its largest city. At the same time, house prices have risen so rapidly in other parts of the country (particularly places like Boise, Salt Lake City, and Austin) that one of their principal attractions is not so attractive. United States Postal Service data reveal recent outmigration from Boise and Travis County, Texas (Austin)--this was a considerable surprise to us.

Large cities throughout the world become large because they have something special about them, and come back from periods of great stress. Tokyo was largely destroyed during World War II, but within 30 years one could walk around the Ginza and not know how much destruction it had suffered. London was also severely damaged by that war, in earlier years suffered from cholera and flu epidemics that were far deadlier than COVID, and yet remained the city that ambitious people from all over the world sought to live. New York also suffered the trevails of cholera and the flu, and of course was the main target of the 9-11 terrorists, and yet grew rapidly between 2001 and 2020. San Francisco recovered relatively quicky from the 1906 earthquake and fire. One could go on and on.

The main thing that might stymie migration back to Southern California, however, is the very slow pace of housing construction. Let us compare new construction in Southern California to the two largest cities in Texas.



Source: U.S. Census Bureau

The Los Angeles Metropolitan area (which includes Orange County) consistently builds half the housing or less of Houston and Dallas, despite that fact that it is more than 70 percent more populous than either Texas city. On a per capita basis, San Diego does a little better than Los Angeles (but still not remotely as well has Houston and Dallas), and Ventura County does worse.

The absence of supply–and its continuing absence because of the lack of construction capital at the moment–will simultaneously and paradoxically mean that we will see little net migration, but continuing low vacancies in the years to come.

Los Angeles

Los Angeles County Renters

Race

White	21%
Black	9%
Asian	12%
Hispanic	32%
Others	26%

Education

Less than HS	39%
HS diploma	17%
Some college	21%
Bachelors degree	16%
Graduate degree	7%

Rental Units By Size of Structure

1 unit	28%
2-4 units	14%
5-9 units	13%
10-19 units	14%
20+ units	32%

Rental units by age of structure

Before 1970	52%
1970-1999	39%
2000 and after	9%

Household statistics

Share of households that are renting	55%
Share of rent-burdened households*	56%
Percent with children	42%
Median household income	$57,000
Average household size	2.56

Migration statistics for last year

Percent living in same house	89%
Percent moved within California	9%
Percent moved from other states to California	1%
Percent moved from abroad	1%

*Rent burden is the share of households whose rent payments exceed 30% of income.

Source: 2020 American Community Survey

Employment Location Quotients

Industry • Los Angeles County	
ALL INDUSTRIES	1.02
GOODS-PRODUCING	0.72
NATURAL RESOURCES AND MINING	0.13
CONSTRUCTION	0.67
MANUFACTURING	0.84
SERVICE-PROVIDING	1.08
TRADE, TRANSPORTATION, AND UTILITIES	0.97
INFORMATION	2.51
FINANCIAL ACTIVITIES	0.83
PROFESSIONAL AND BUSINESS SERVICES	0.96
EDUCATION AND HEALTH SERVICES	1.25
LEISURE AND HOSPITALITY	1.09
OTHER SERVICES	1.11
UNCLASSIFIED	0.14

Despite the very real strengths of Los Angeles County, it has had a disproportionate amount of out-migration since the beginning of COVID reflecting its weaknesses. But let us begin with strengths.

Urban economists use location quotients to characterize the industrial mix of an economy. The idea behind location quotients is simple: they merely reflect the share of employment in particular sectors for a location relative to that employment share nationally. One way to evaluate the potential of an economy is to examine whether relative employment in that economy is in sectors that are likely to grow quickly in the years to come.

In this regard, Los Angeles is well positioned. While its economy is well diversified–there is no one industry on which it relies very heavily–it does have location quotients substantially larger than one in two areas: health and education, and information.

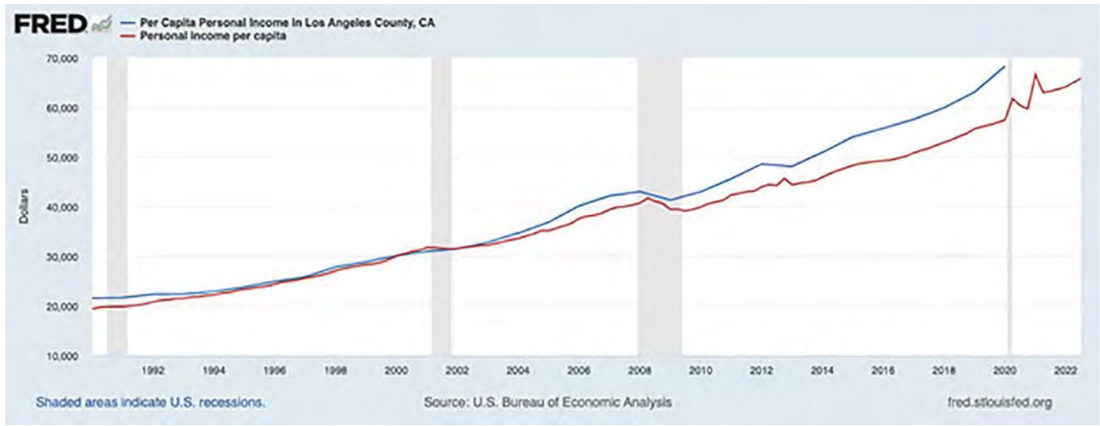
Regional economist Timothy Bartik has shown that economies that rely on higher education and regional healthcare centers tend to perform better than those that do not. Not only does Los Angeles county have disproportionately large employment in health and education, but it also contains among the best-known institutions nationally in these areas. In healthcare, Cedar Sinai, UCLA health, and Keck medicine are all highly ranked with the first two being among the top ten in the country. Los Angeles County is also the only county to have three top 25 ranked universities, those of course being Caltech, UCLA, and USC. These institutions alone should make Los Angeles County an economic juggernaut.

Los Angeles County also has $2^{1/2}$ times more jobs in information than the representative county in the US. Much information employment in LA county is with well-known firms such as Google and Facebook but also with gaming companies such as EA and entertainment companies such as Netflix, Amazon, and Disney.

Recently, these companies may have seened unassailable, but they have more recently seen reductions in earnings that has in some cases translated to layoffs. One concern is about the volume of content that the market can consume. Another is about how decoupling with China may lead to reductions in consumer demand for American entertainment content. Both of these phenomena likely mean that strong employment growth in companies producing content is over for the next few years.

Nevertheless, per capita personal income in Los Angeles county through 2020 grew far more rapidly than it did nationally. This at least in part reflects the county's ability to attract productive firms but it also may reflect one of the most unattractive aspects of Los Angeles County economically.

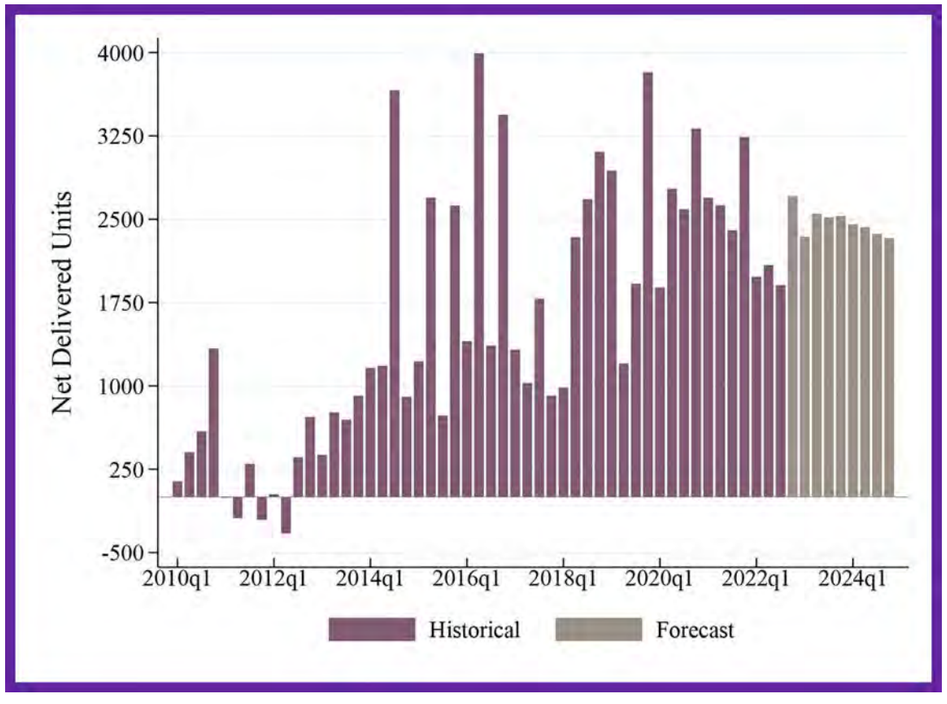
Figure: Per capita incomes in Los Angeles

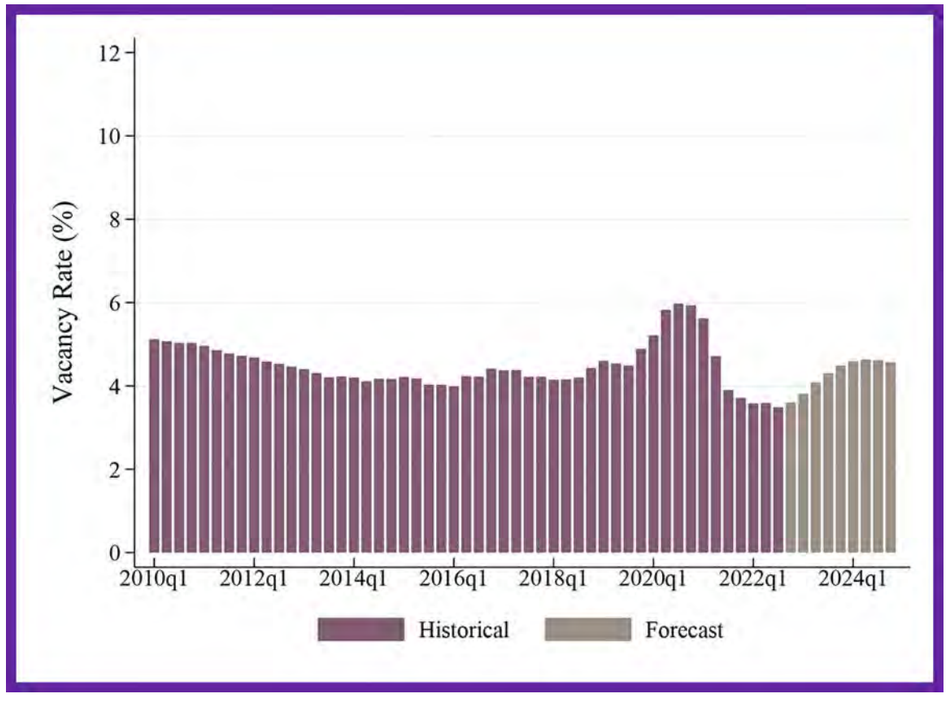


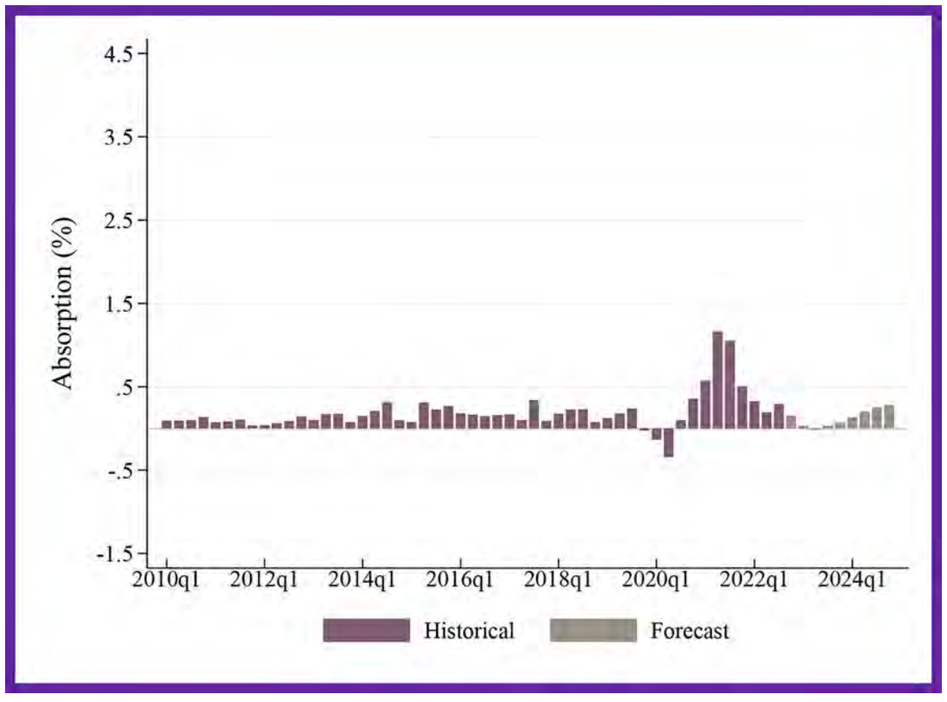
When we look at the industrial sector that has an unusually low location quotient in Los Angeles, it is the construction sector. It is not a coincidence that Los Angeles County has amongst the smallest levels of new housing construction per capita of any county in the United States. This is why vacancy rates in Los Angeles County are generally quite low despite the fact that people are moving out. As rents rise, lower-to-moderate-income people are finding more affordable places to live, sometimes in the nearby Inland Empire, and sometimes further away in places like Phoenix and Las Vegas. Part of the reason per capita income has been rising in Los Angeles relative to the country is not that people who live here are seeing their incomes rise rapidly but rather that lower-income people are leaving the county altogether.

When we look at migration data by market area, we find that not a single one within Los Angeles County has had in-migration since the beginning of COVID. Despite this, vacancies have returned to low levels nearly everywhere. Even places where vacancies rose during the early months of the pandemic, such as the coastal communities, downtown, and Koreatown, now have sufficiently low vacancies to put upward pressure on rents.

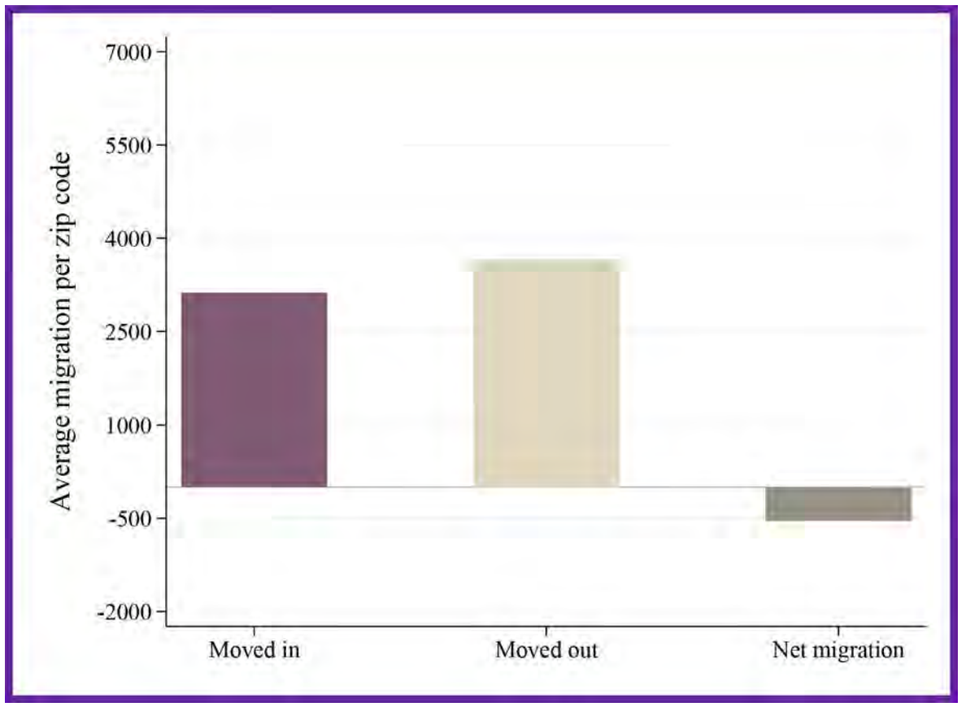
Los Angeles County Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





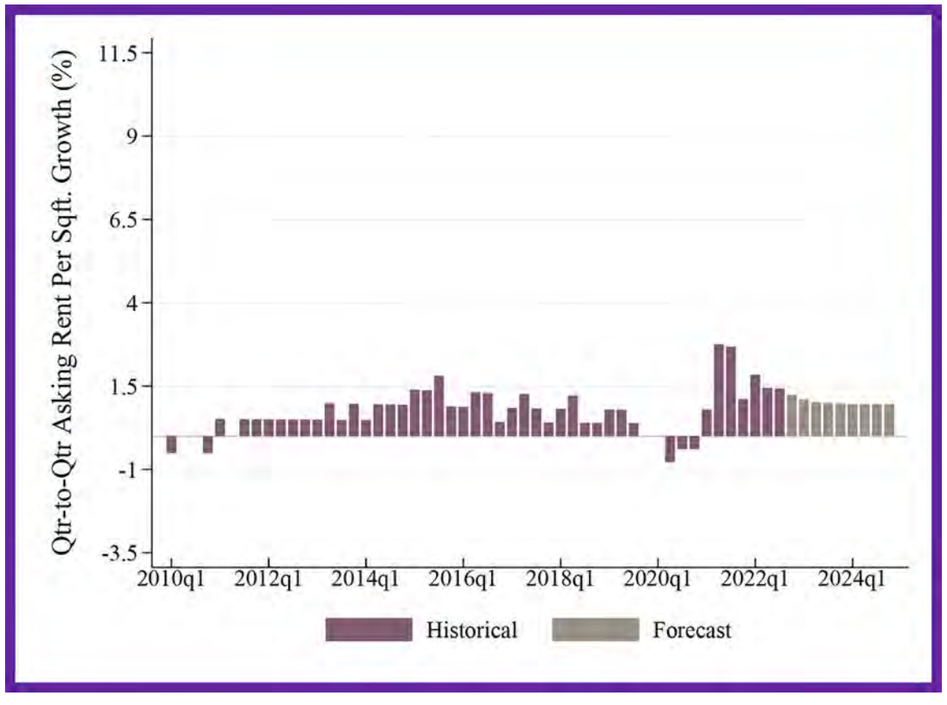


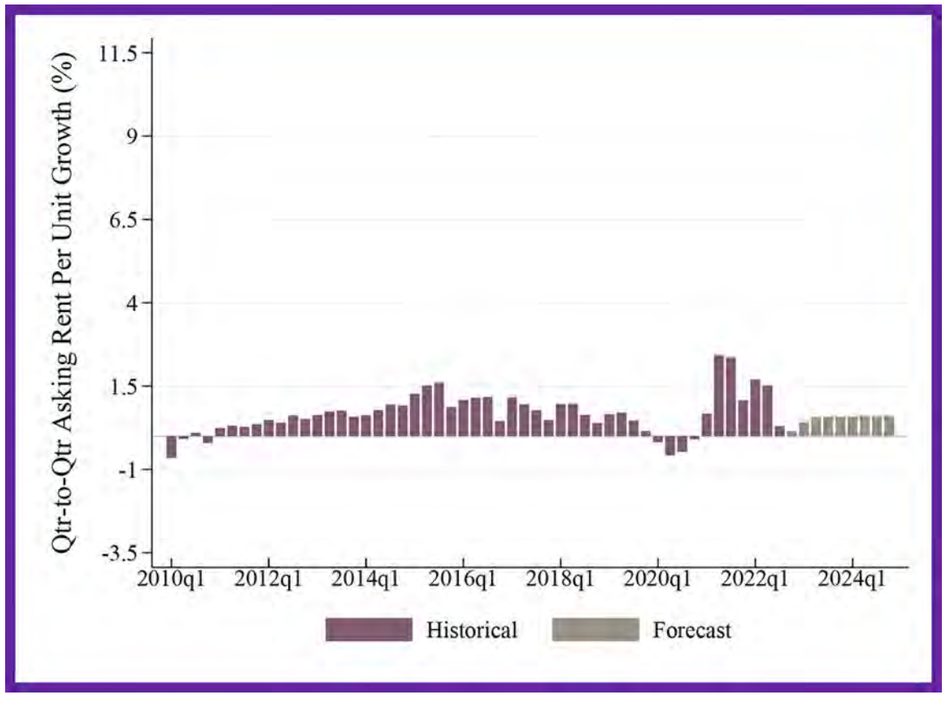
Los Angeles County Migration since the start of COVID-19

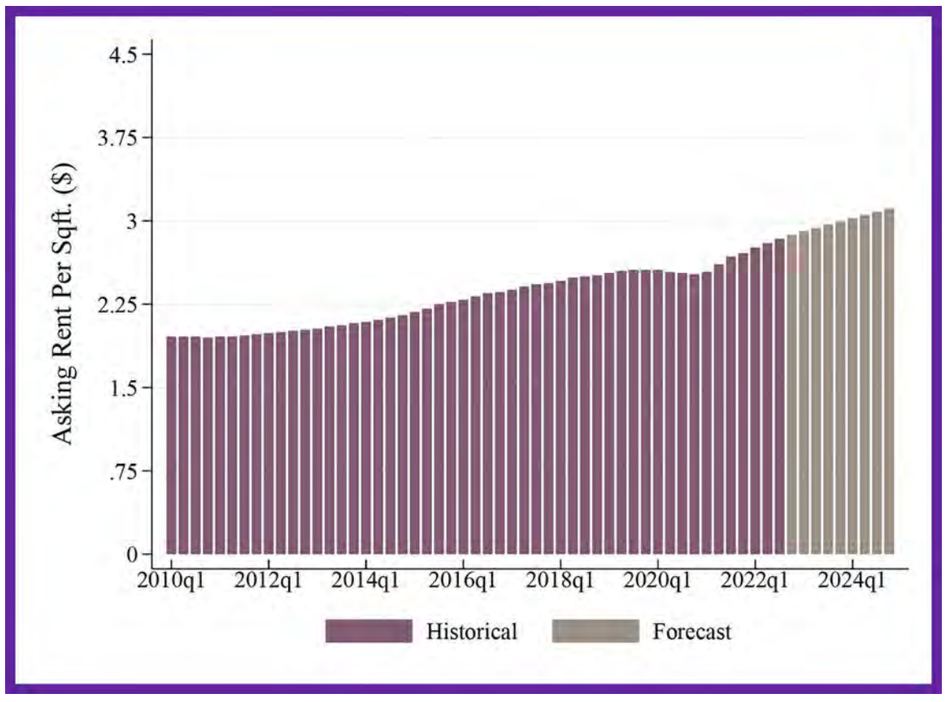


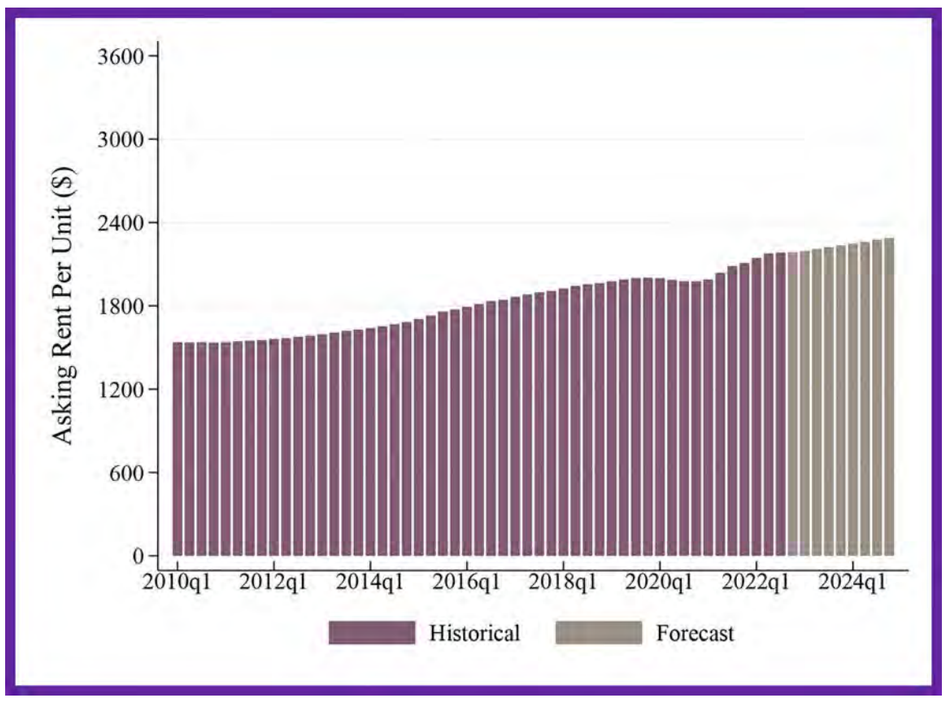
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Los Angeles County Asking Rents · Los Angeles County, 2010-2024



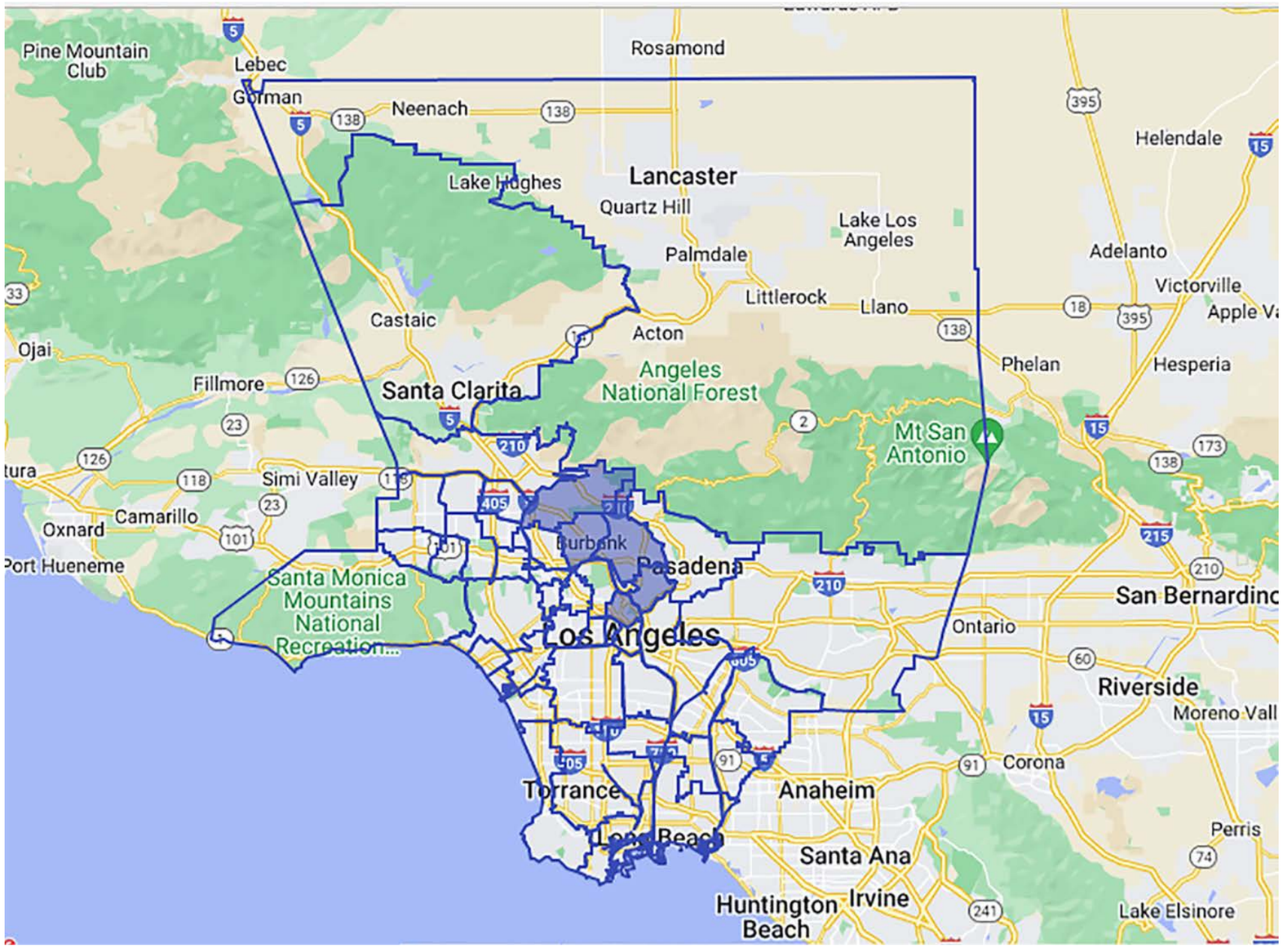






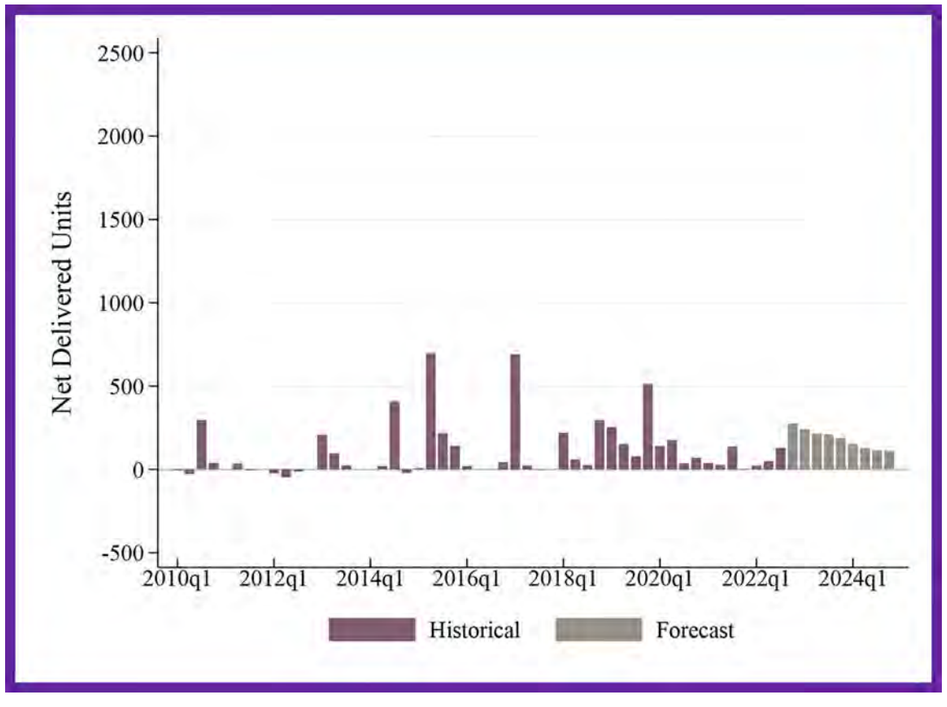
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

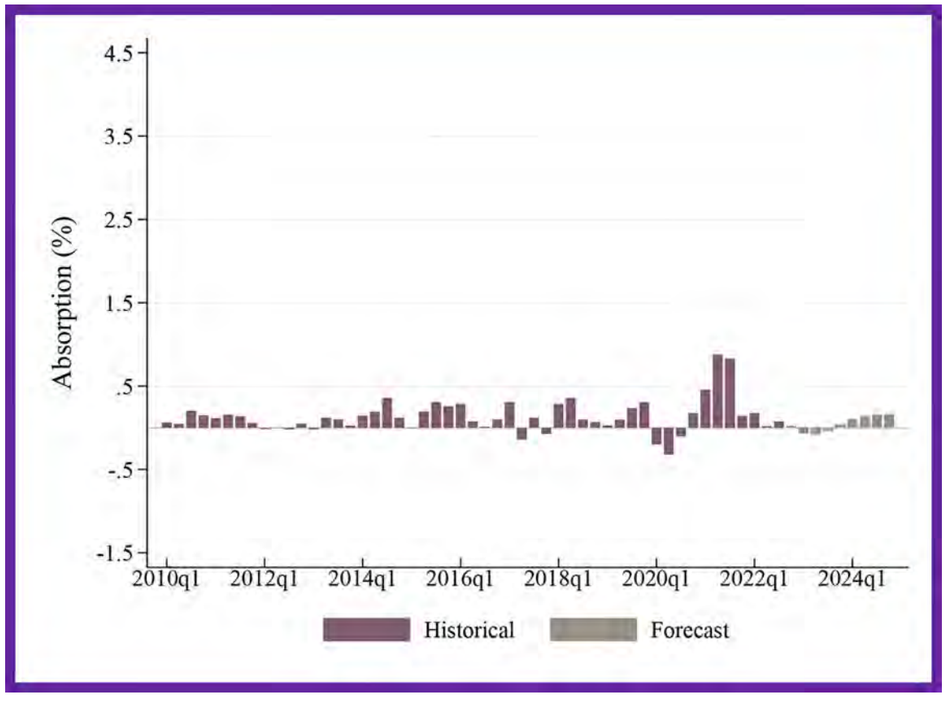
Burbank-Glendale

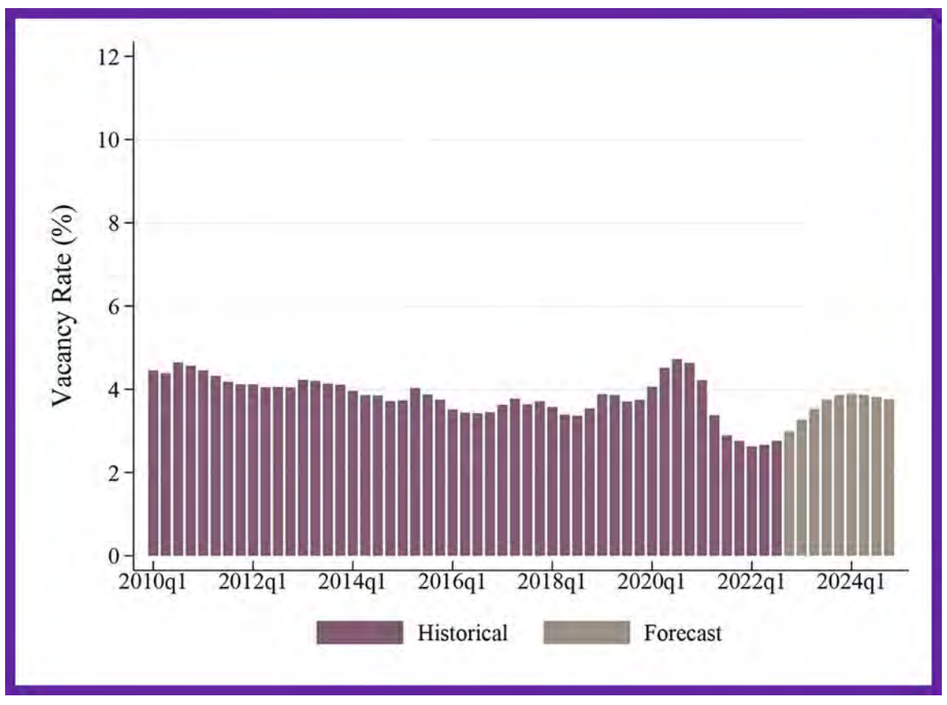


Source: CoStar

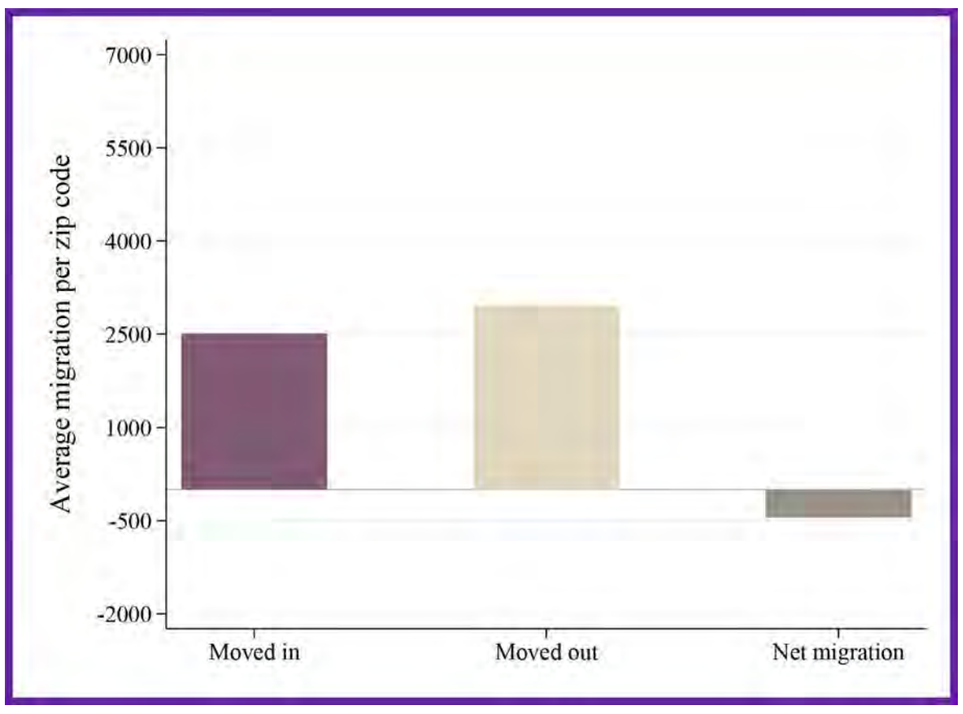
Burbank-Glendale Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





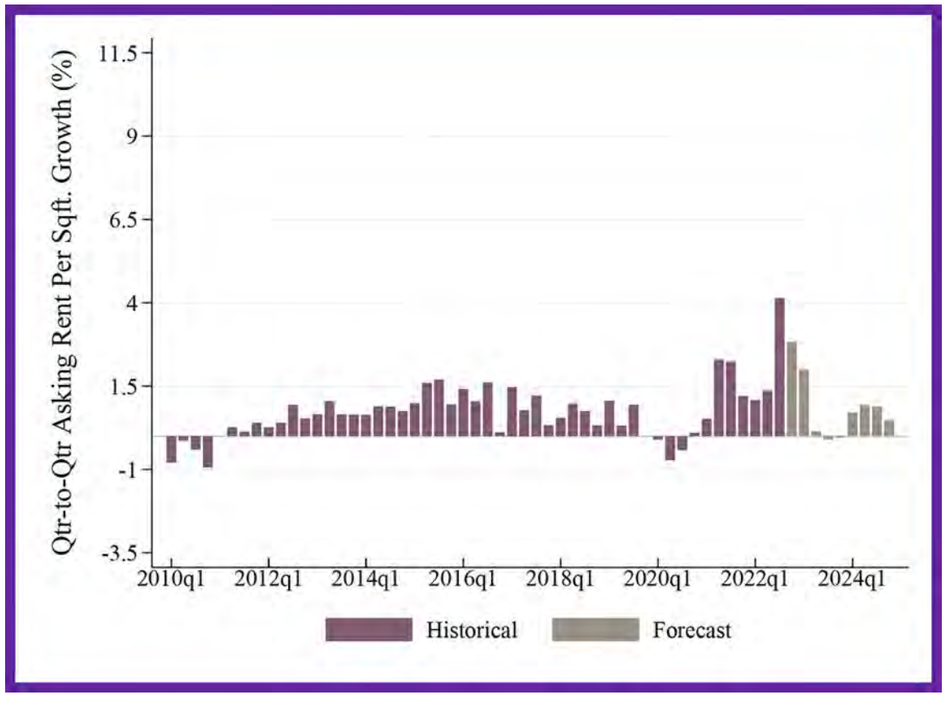


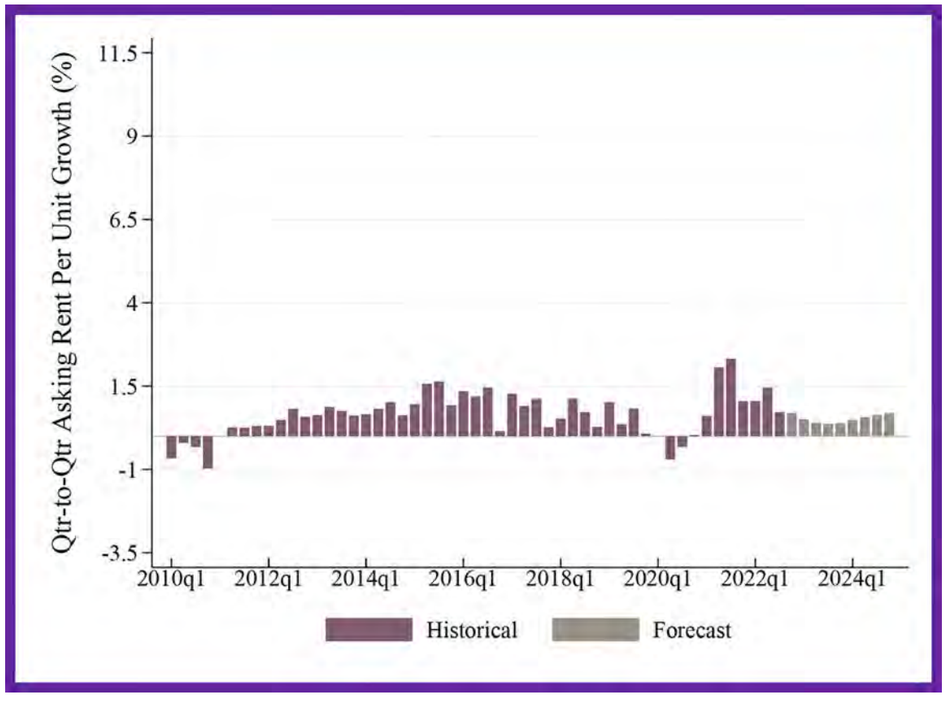
Burbank-Glendale Migration since the start of COVID-19

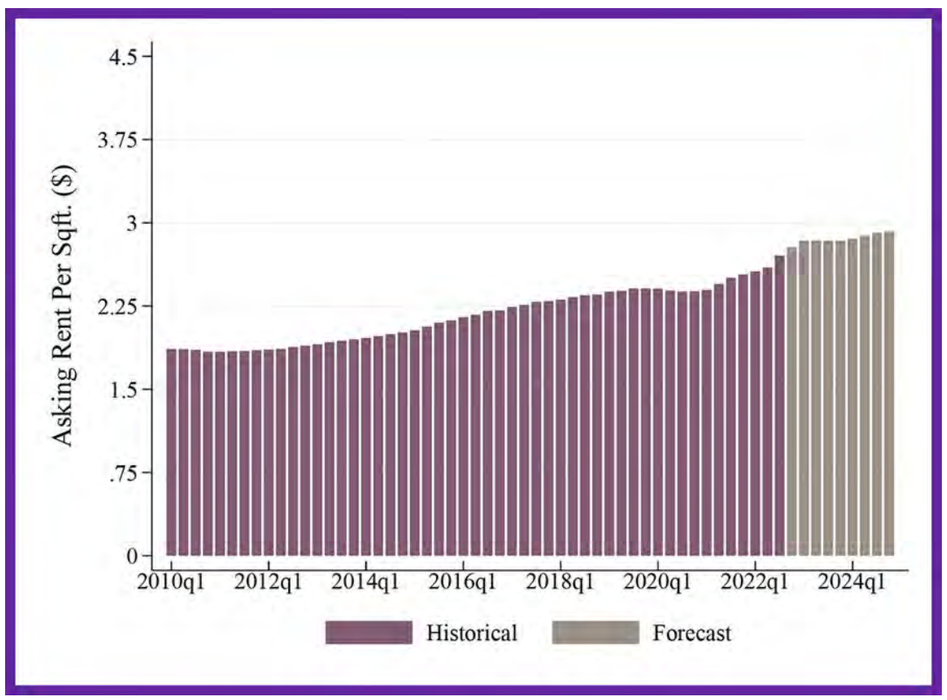


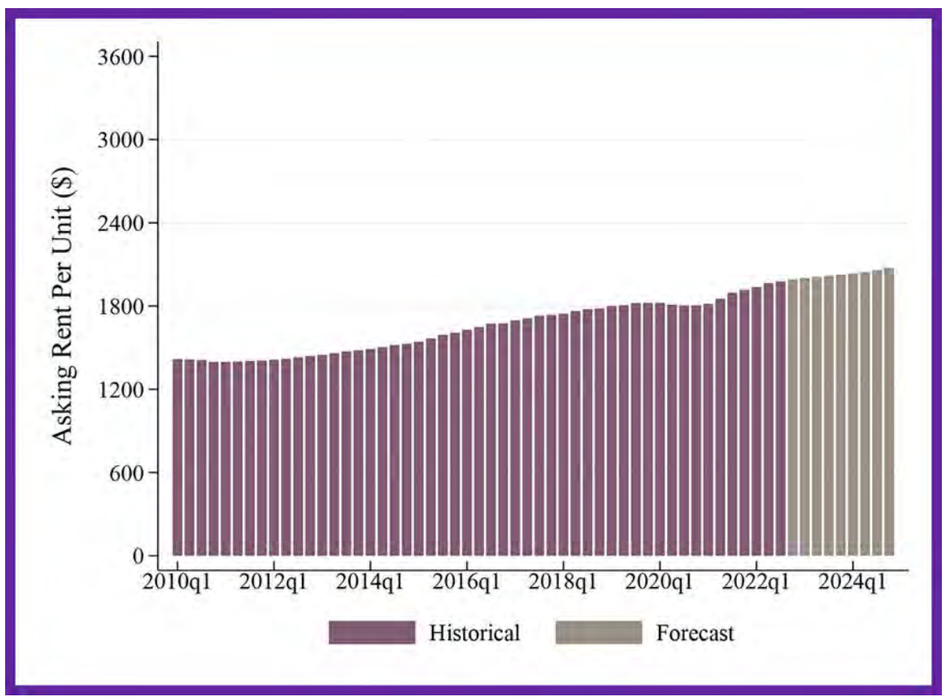
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Burbank-Glendale Market · Asking Rents · Los Angeles County, 2010-2024



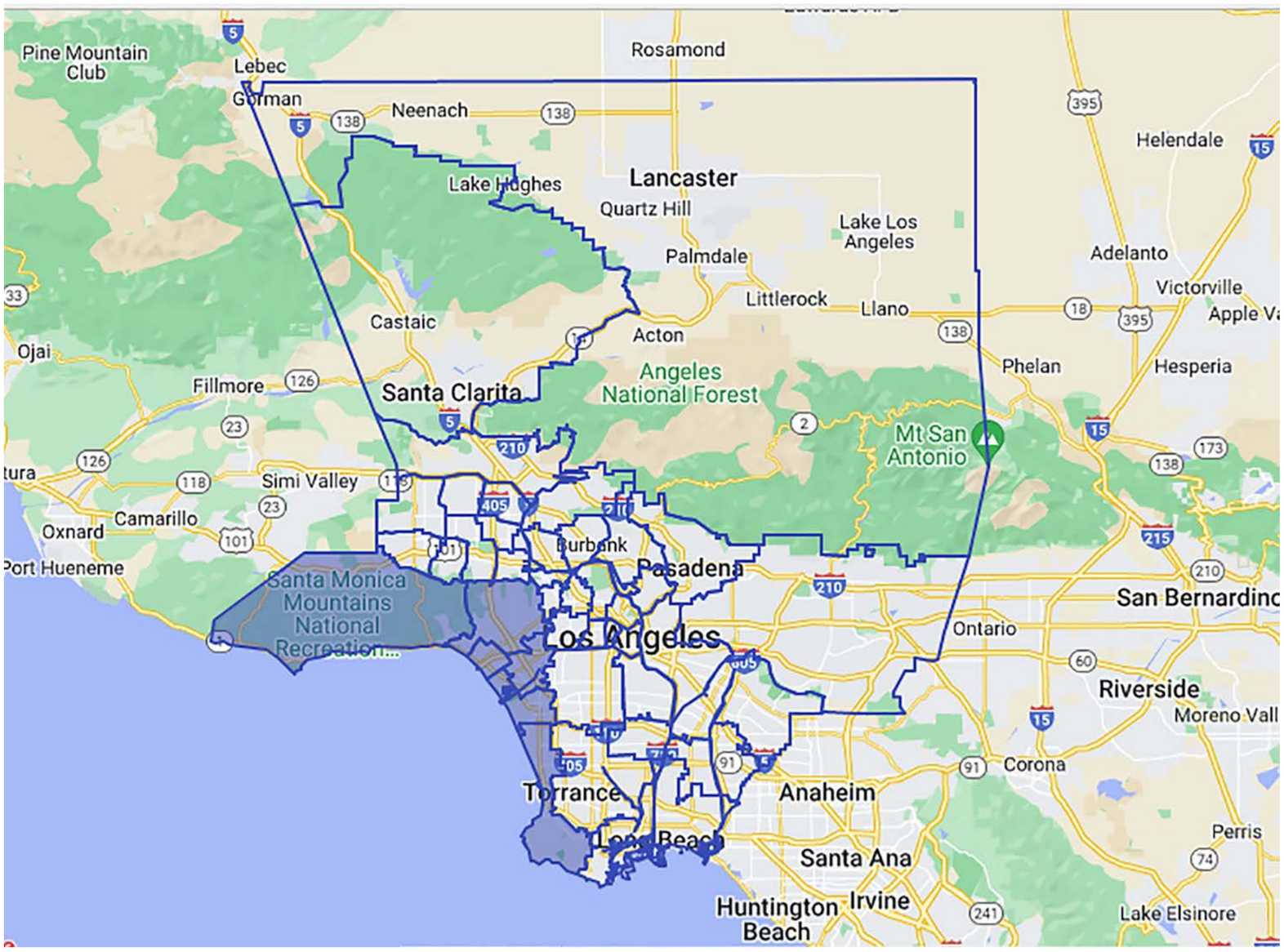






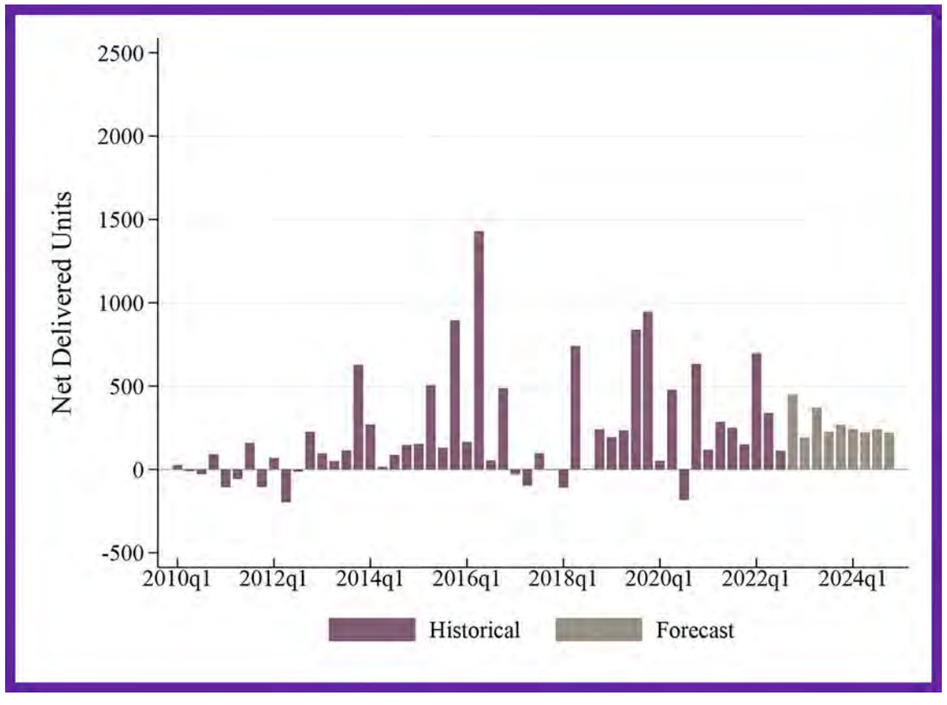
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

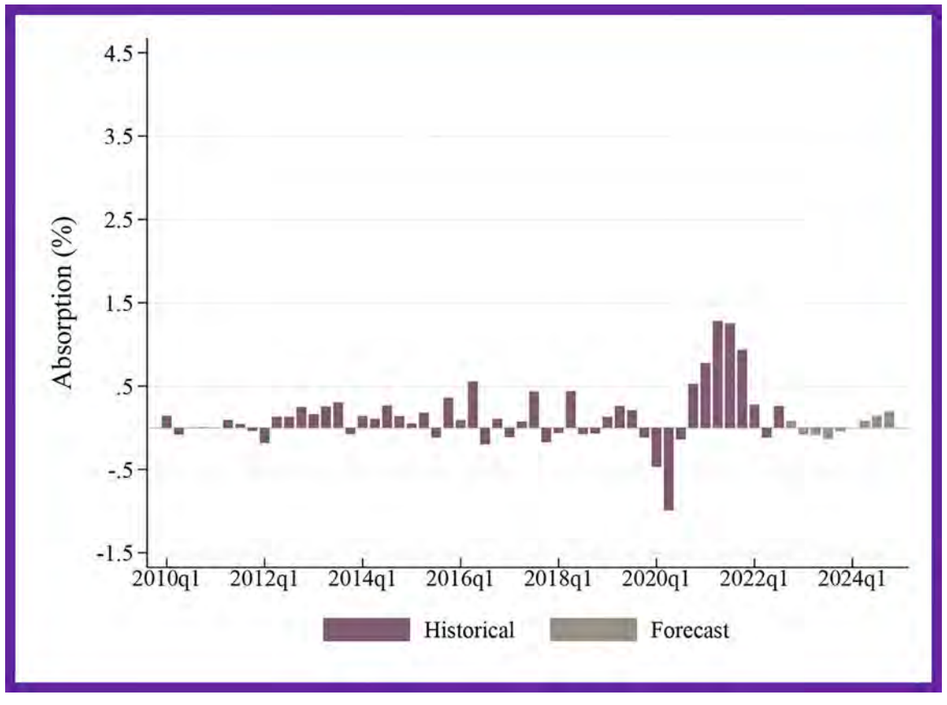
Coastal Communities-Beverly Hills

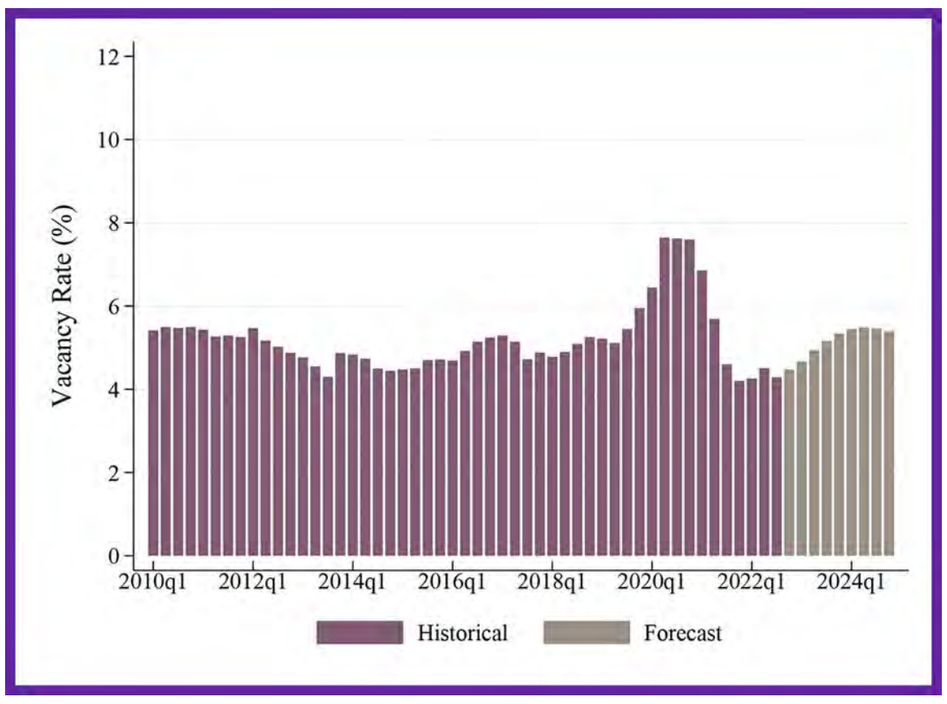


Source: CoStar

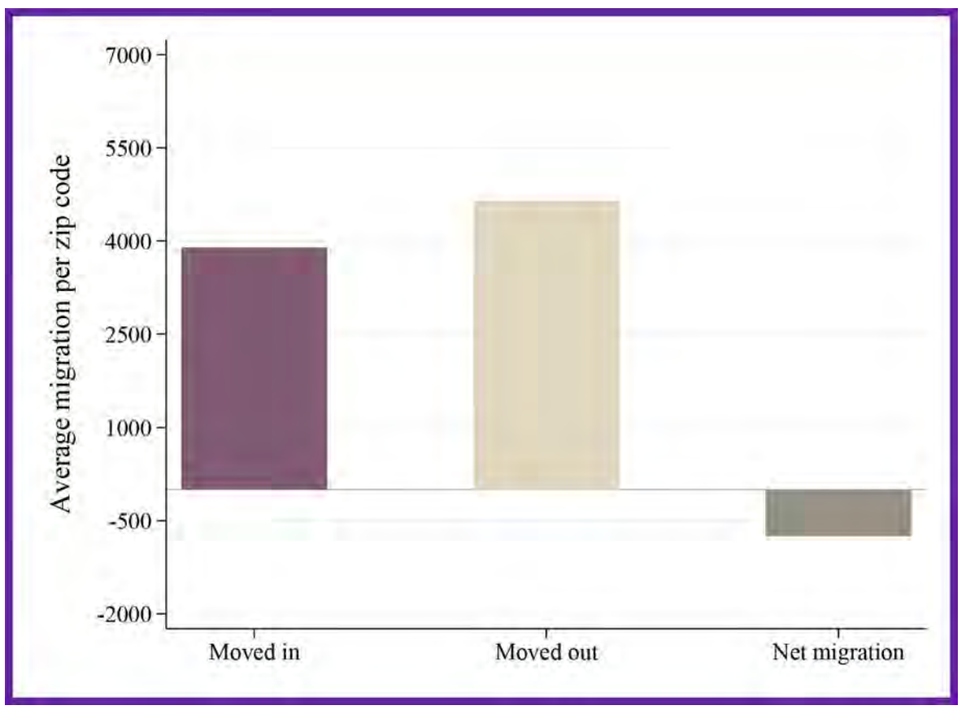
Coastal Communities-Beverly Hills Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





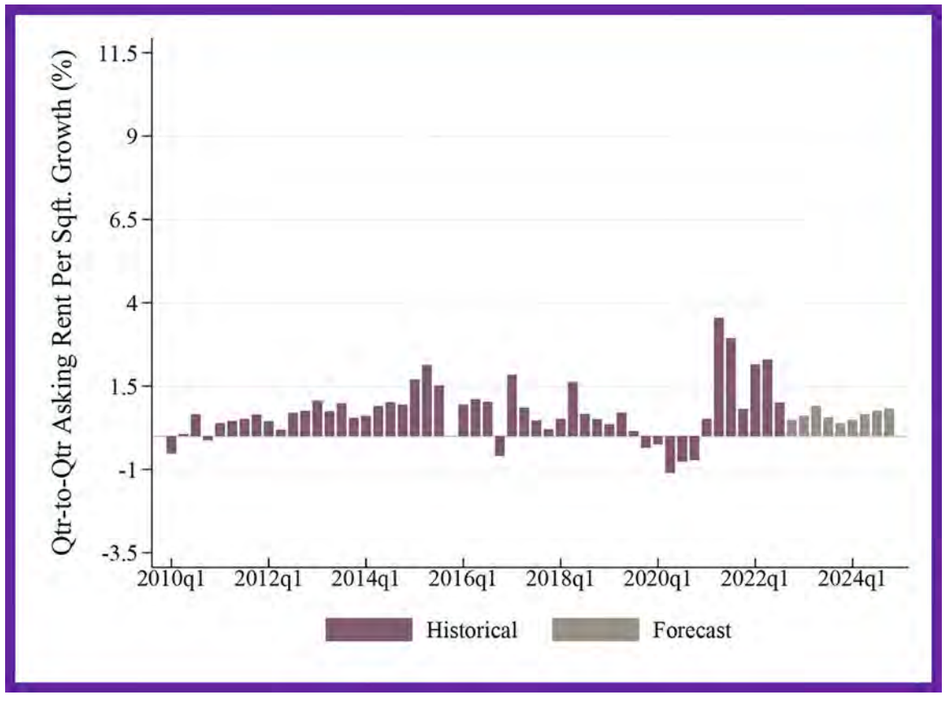


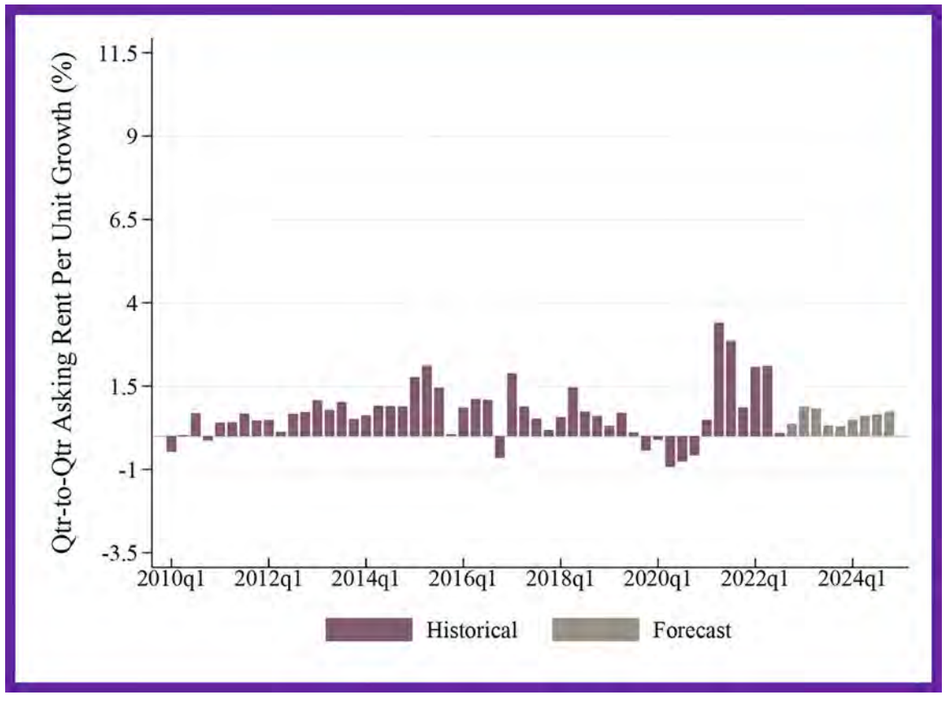
Coastal Communities-Beverly Hills Migration since the start of COVID-19

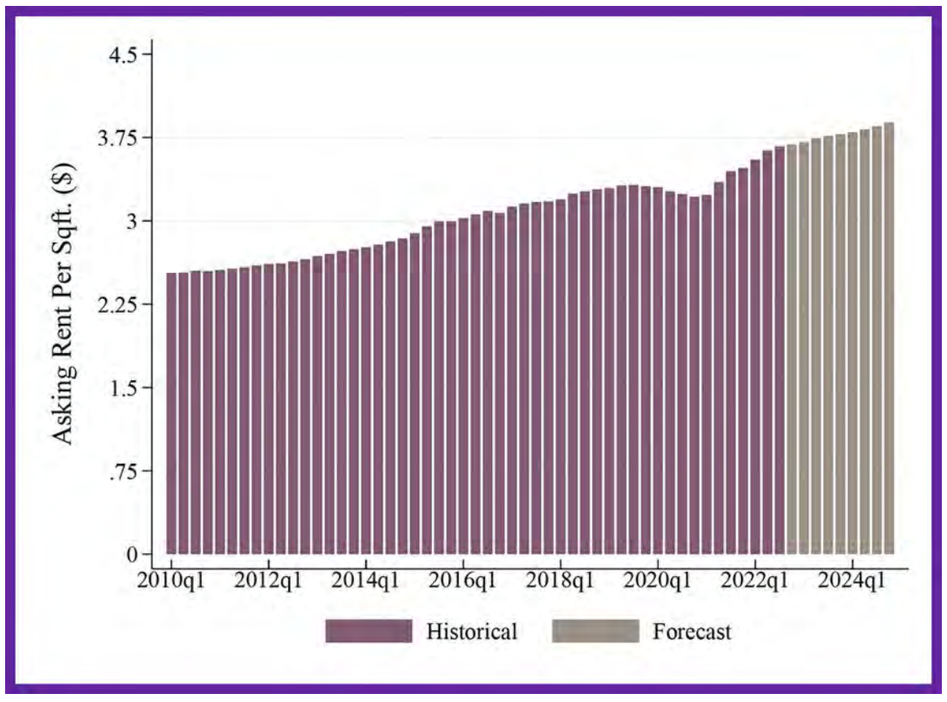


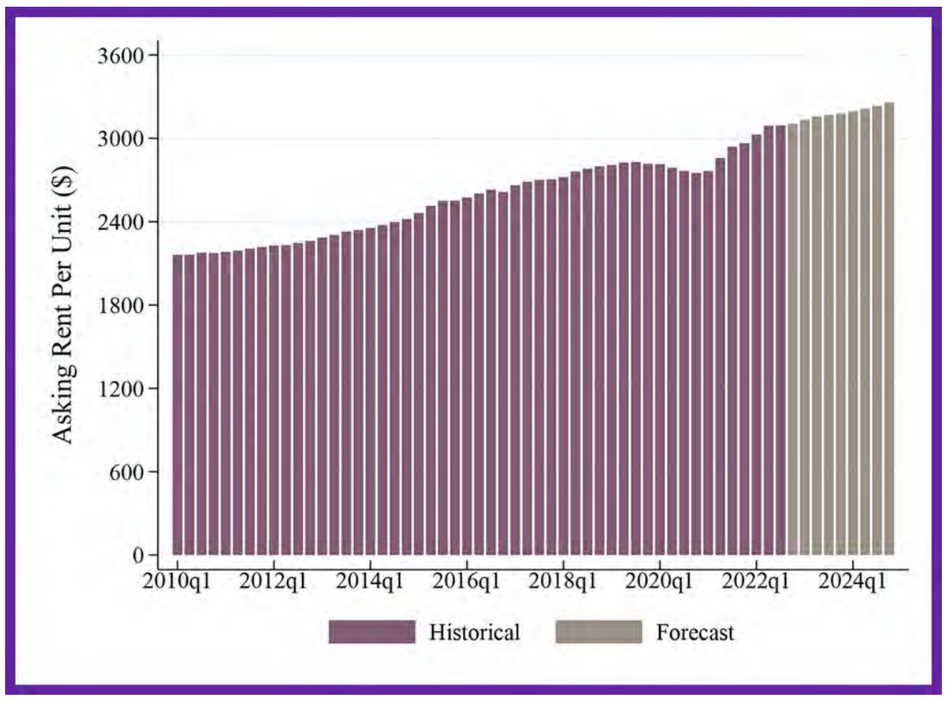
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Coastal Communities-Beverly Hills Market · Asking Rents · Los Angeles County, 2010-2024



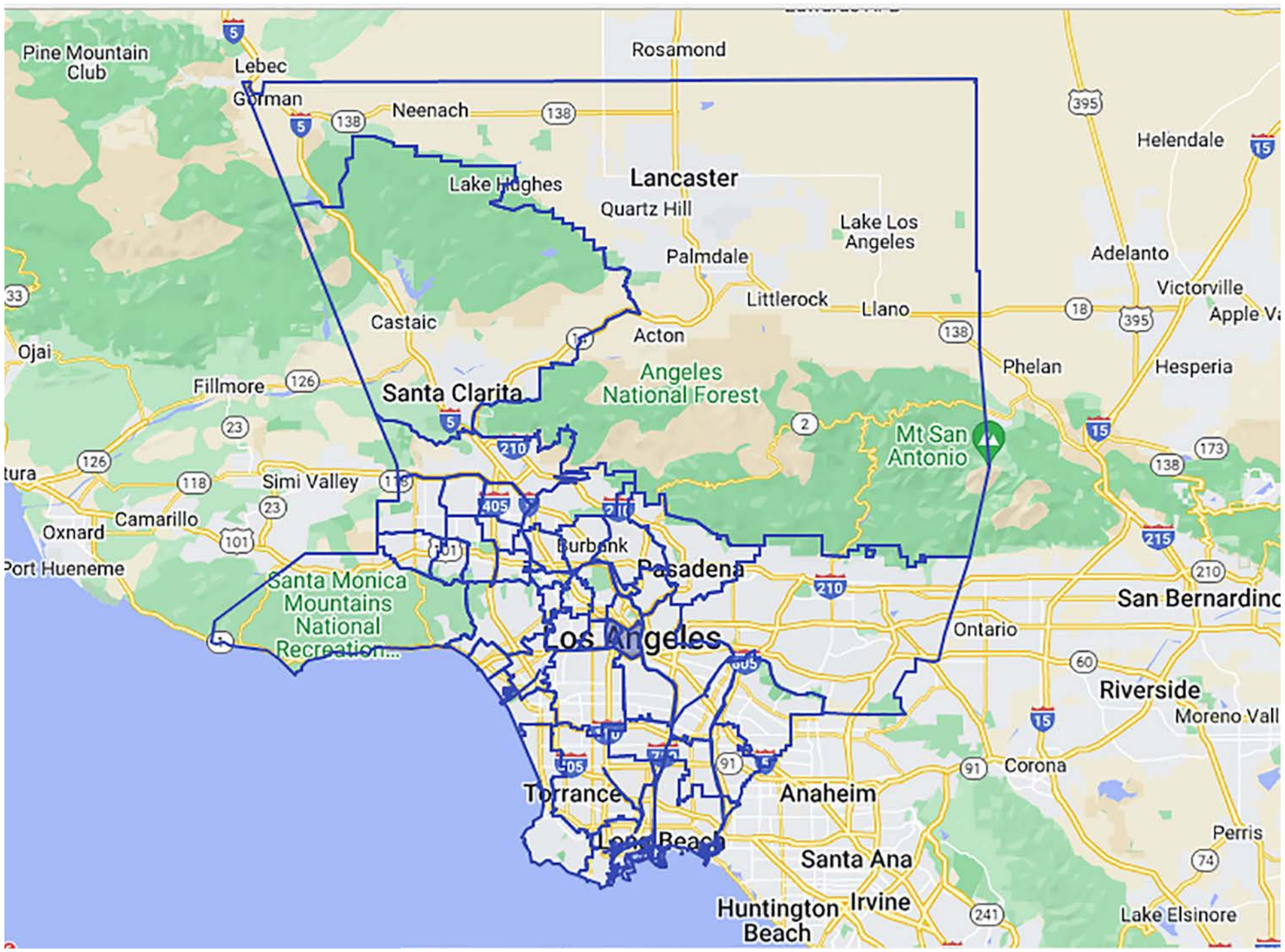






Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Downtown Los Angeles



Source: CoStar

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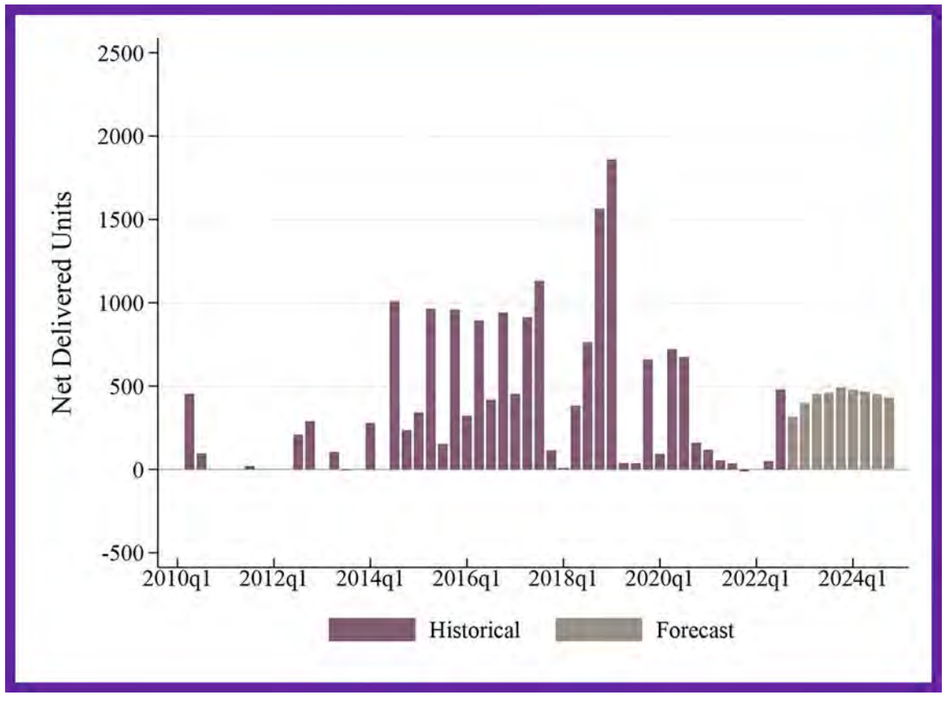
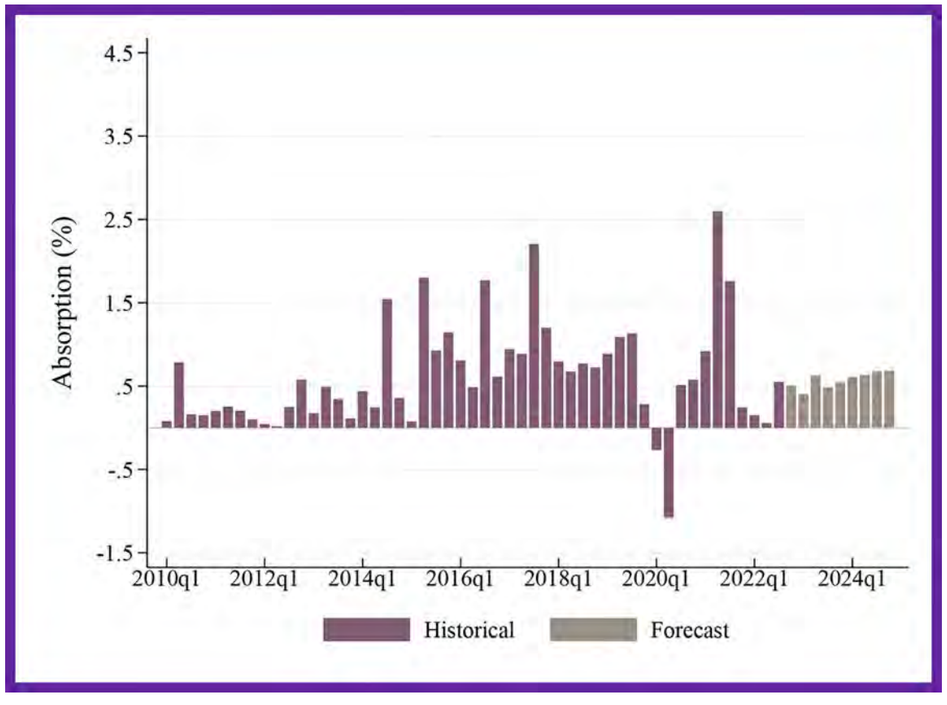
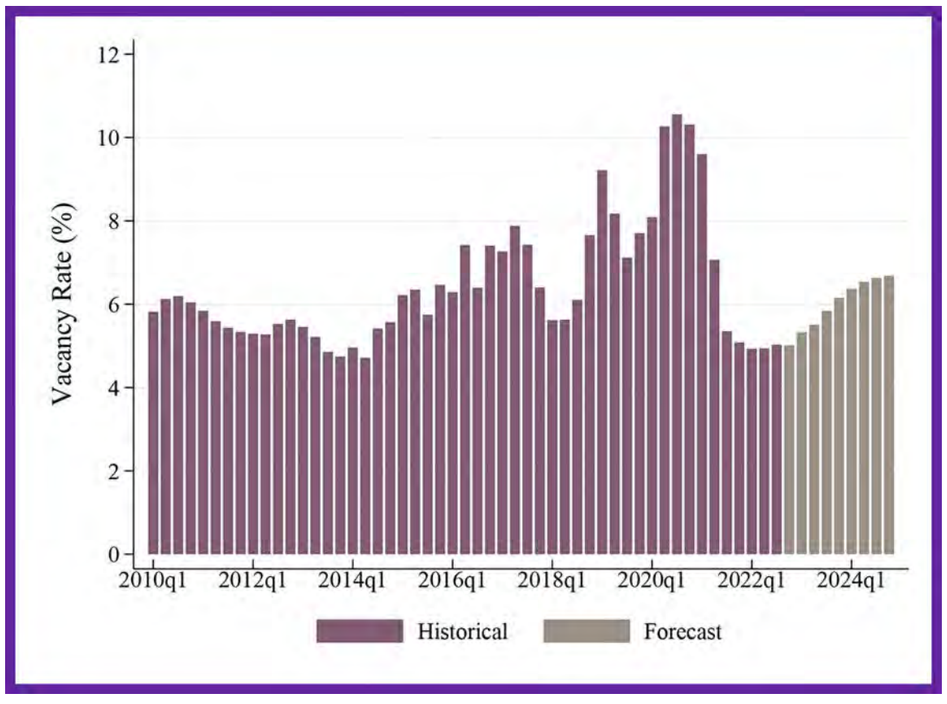
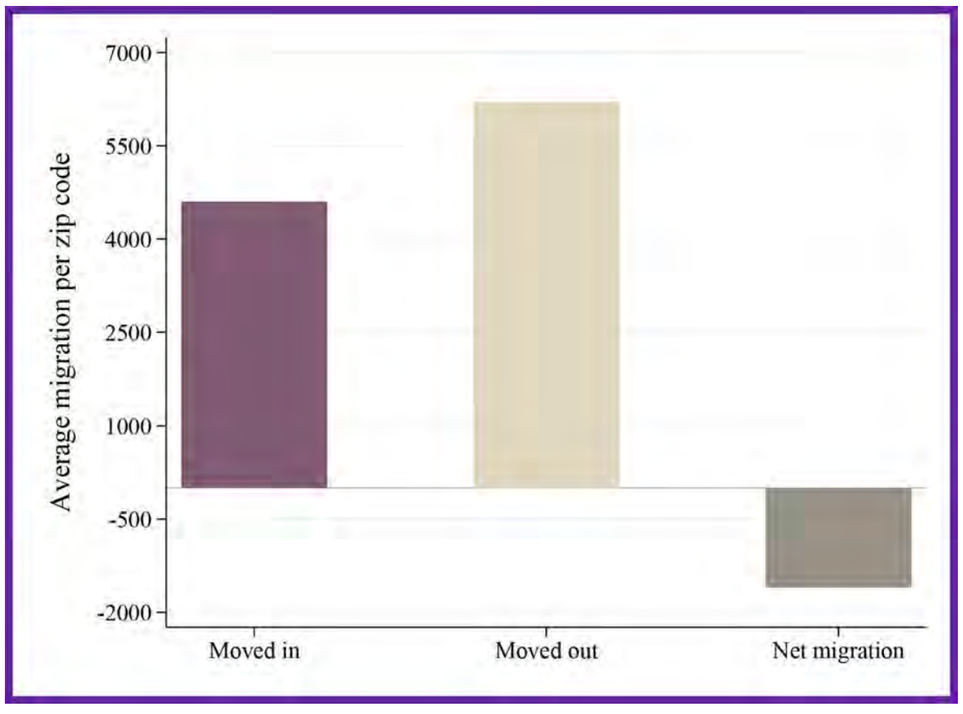




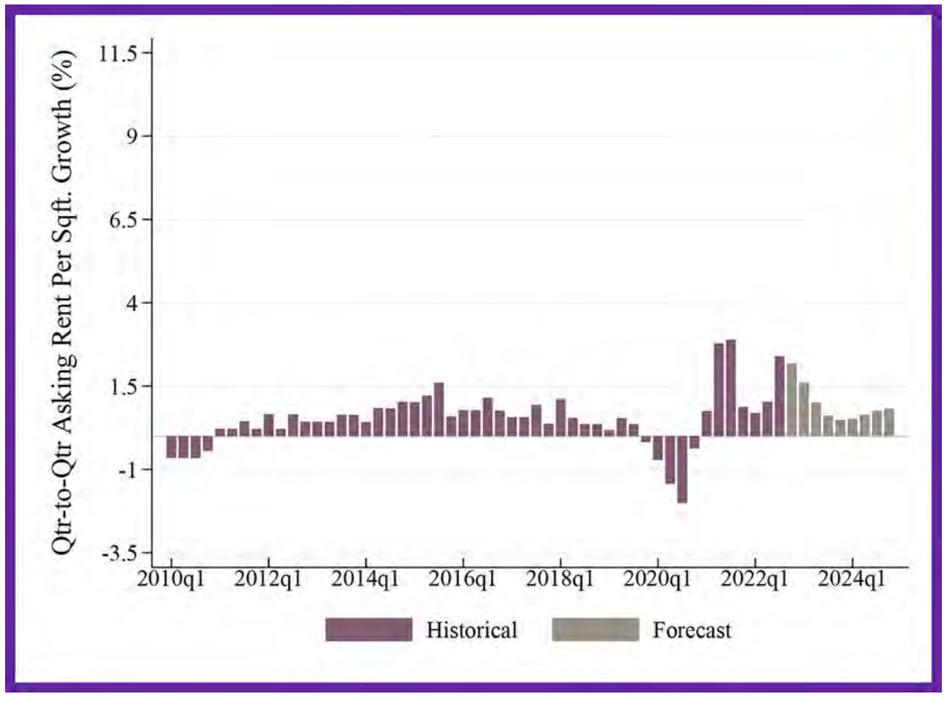


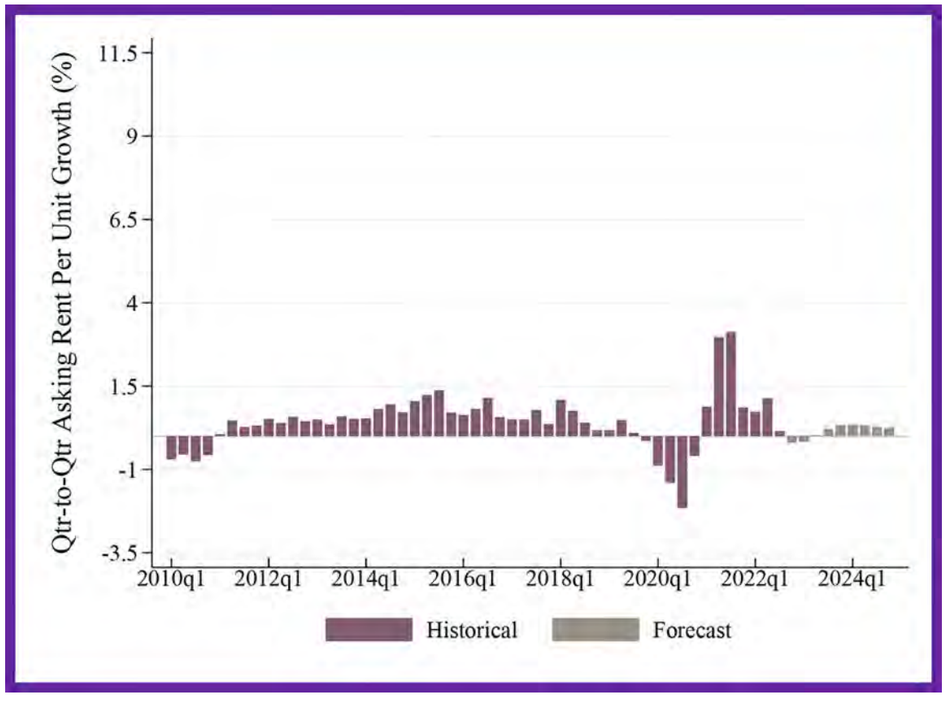
Downtown Migration since the start of COVID-19

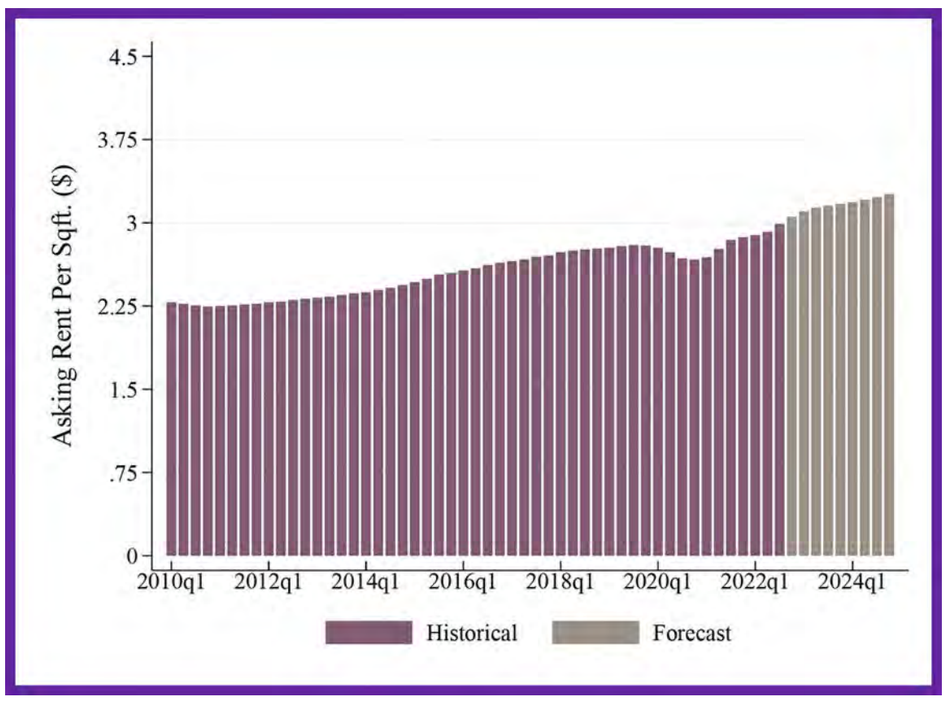


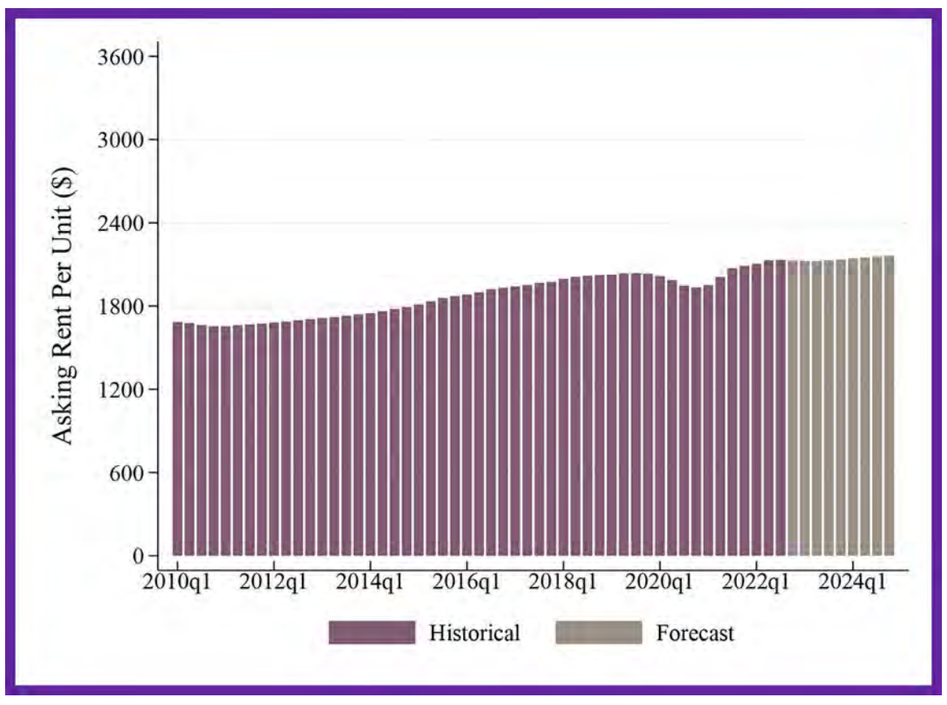
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Downtown Market · Asking Rents · Los Angeles County, 2010-2024



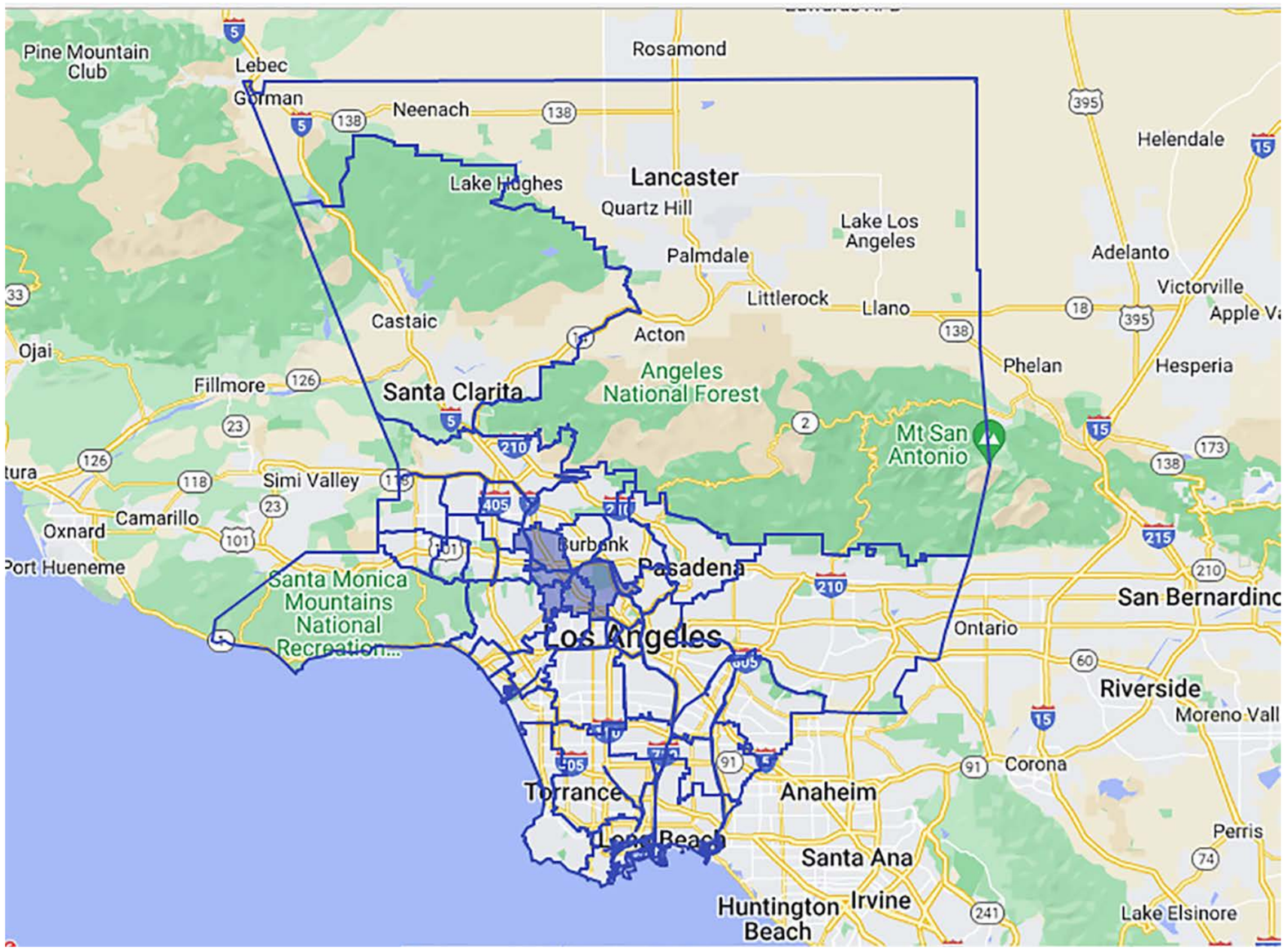






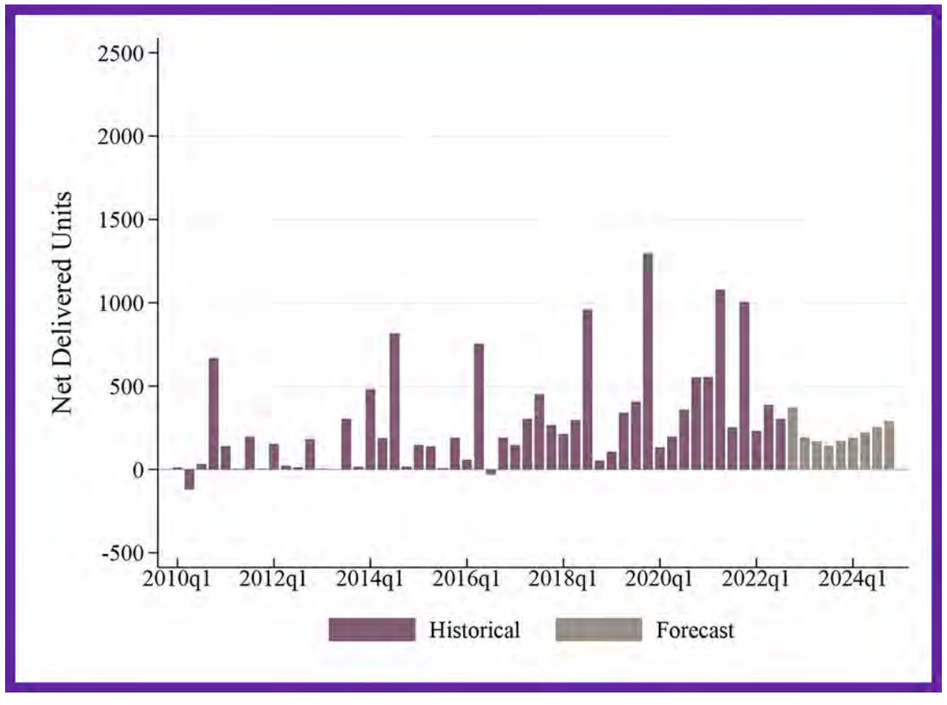
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

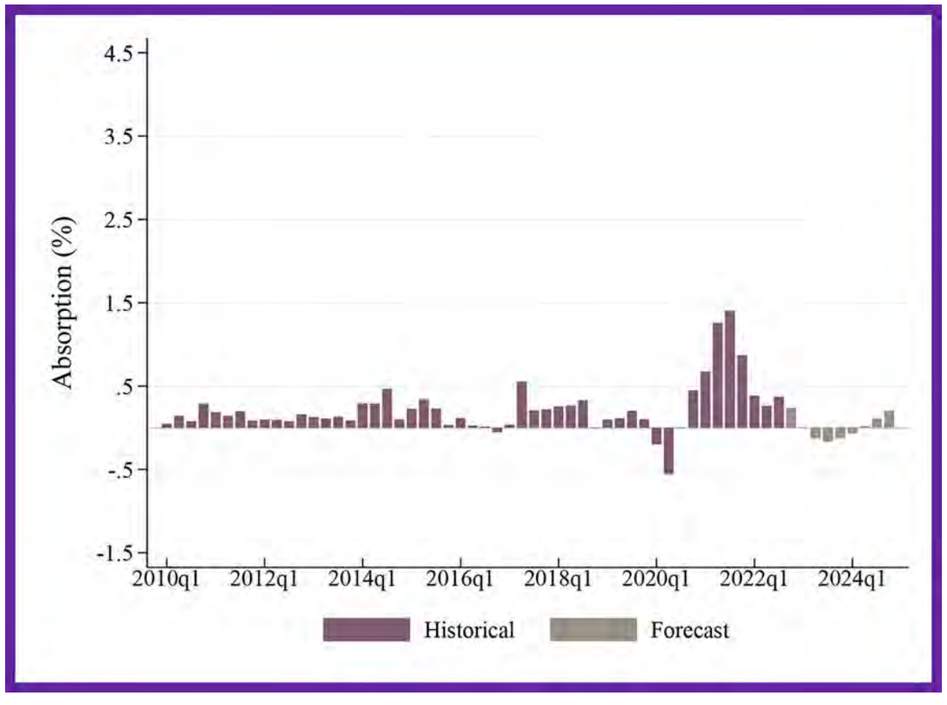
Hollywood-Studio City

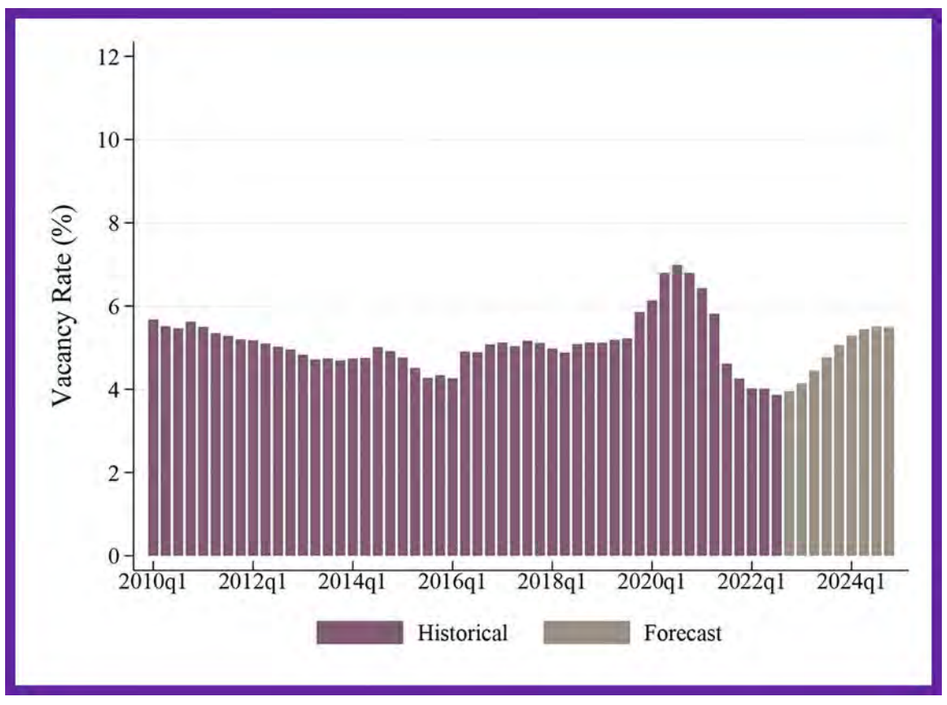


Source: CoStar

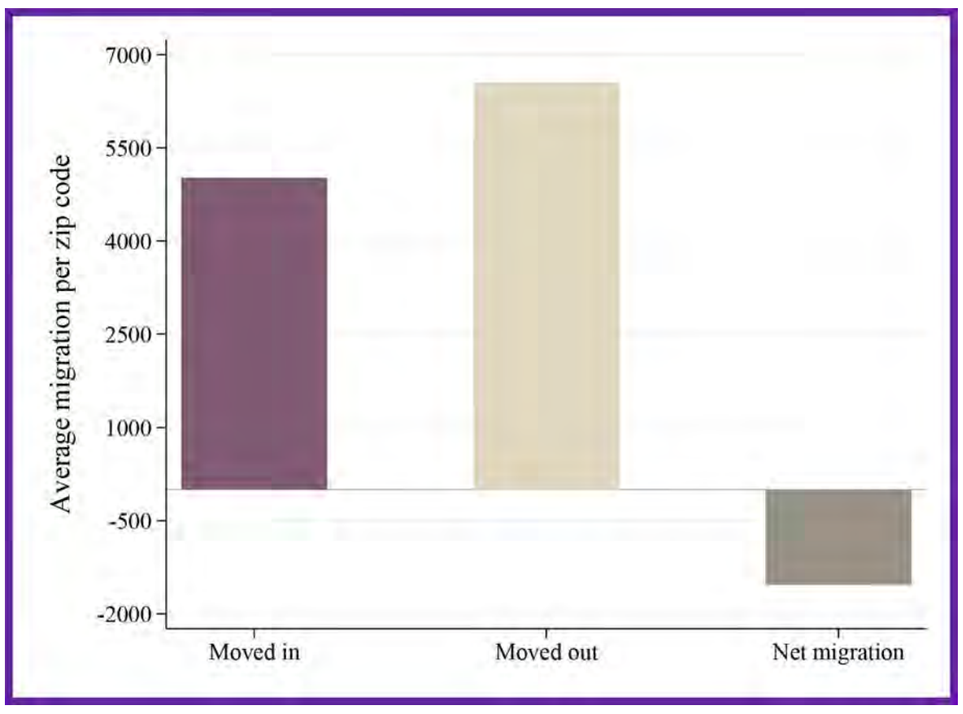
Hollywood-Studio City Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





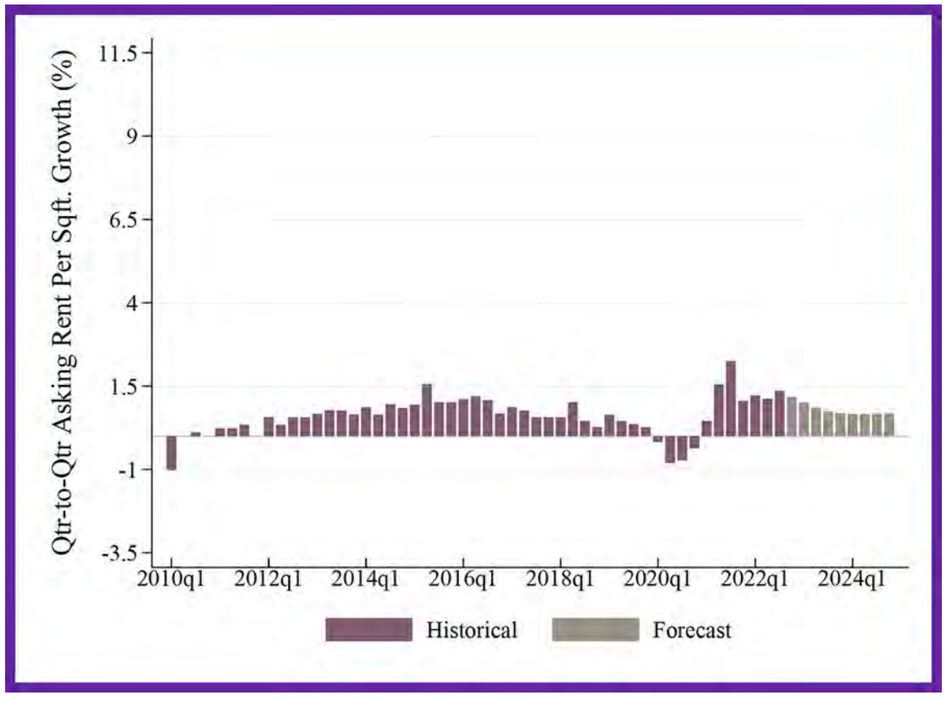


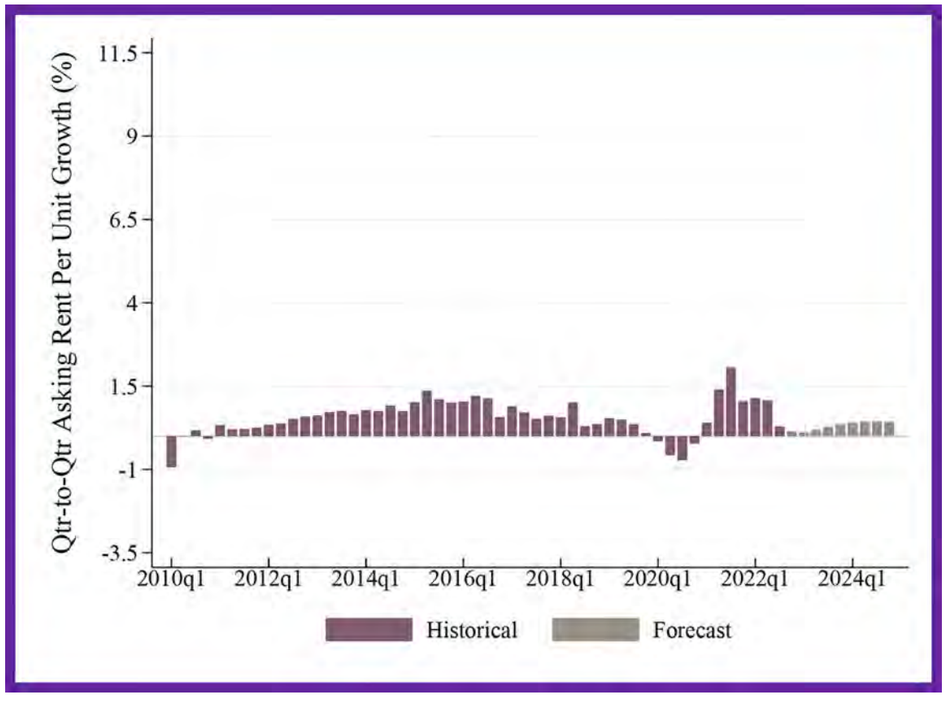
Hollywood-Studio City Migration since the start of COVID-19

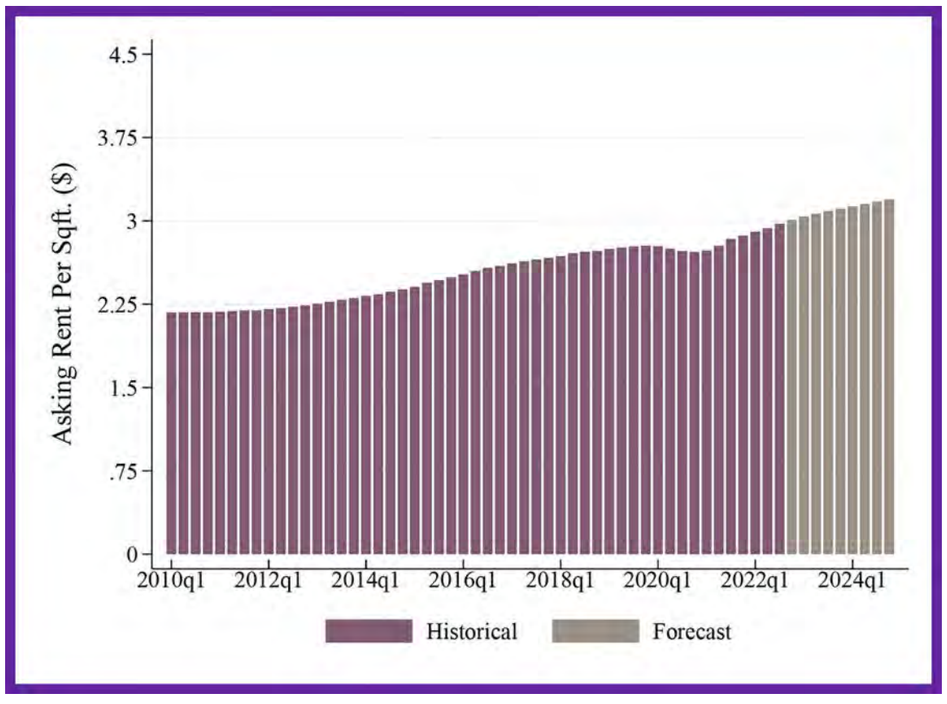


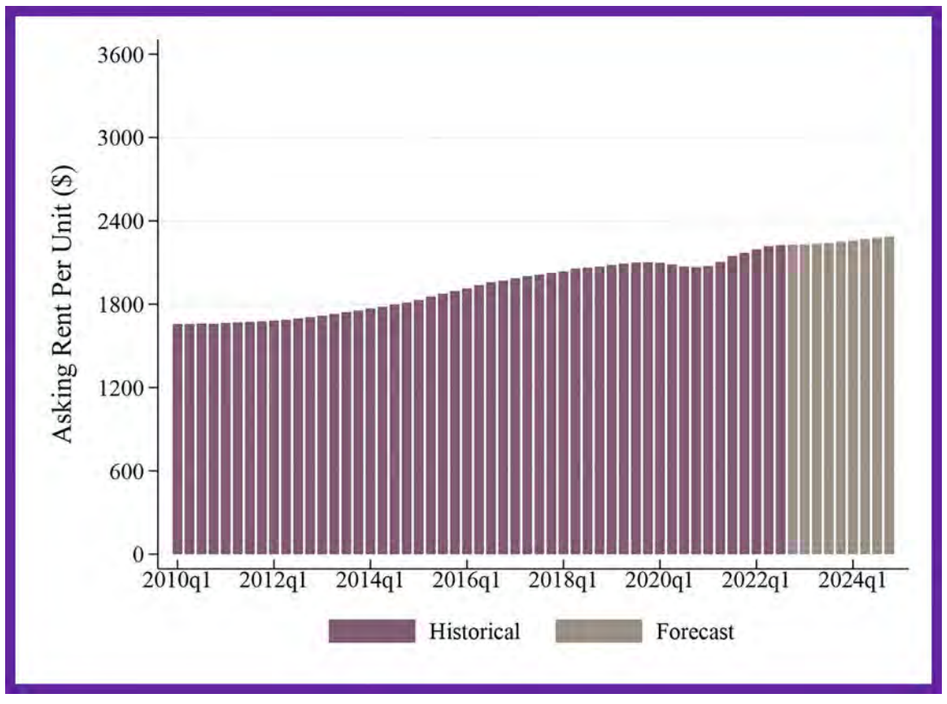
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Hollywood-Studio City Market · Asking Rents · Los Angeles County, 2010-2024



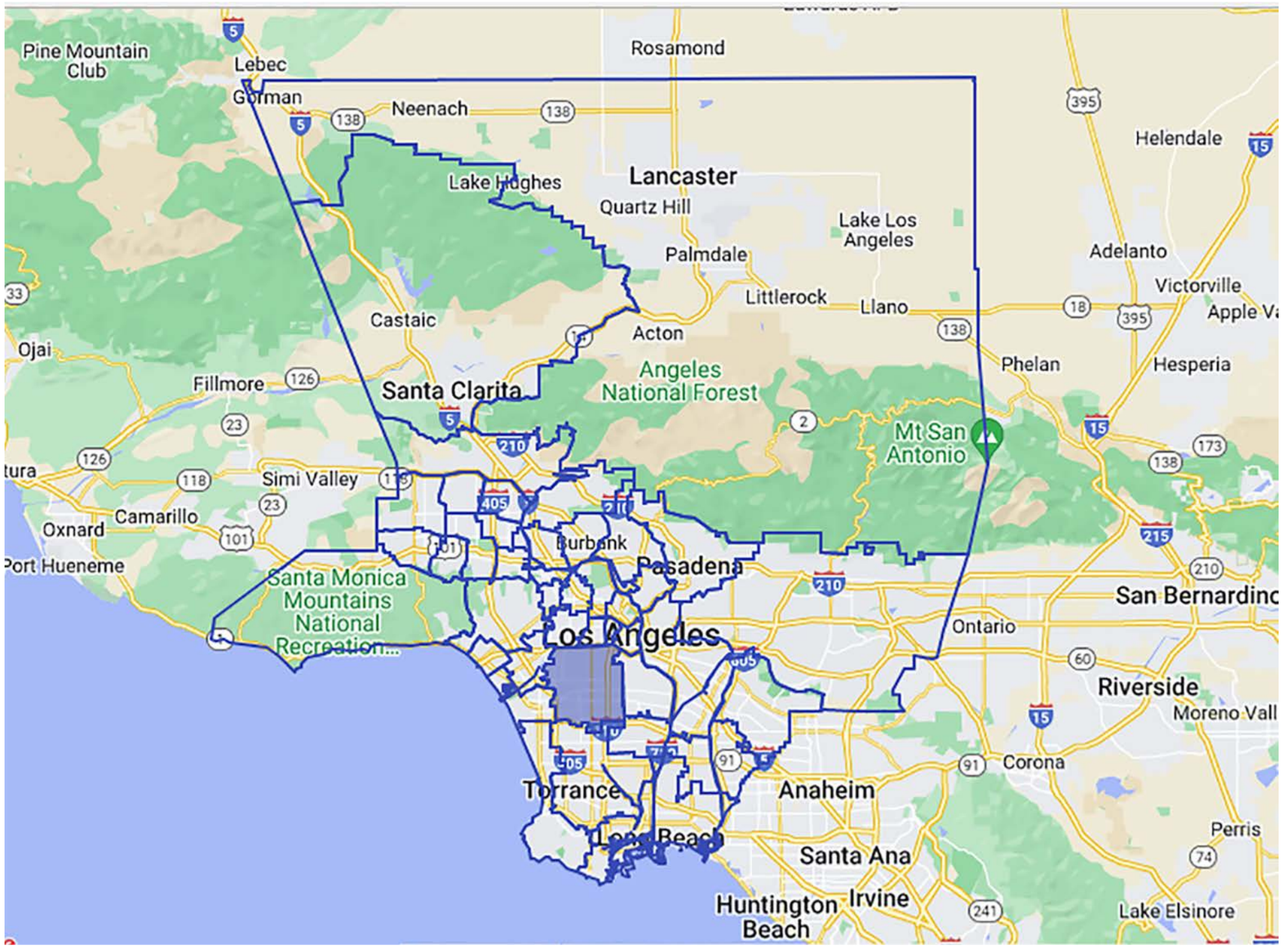






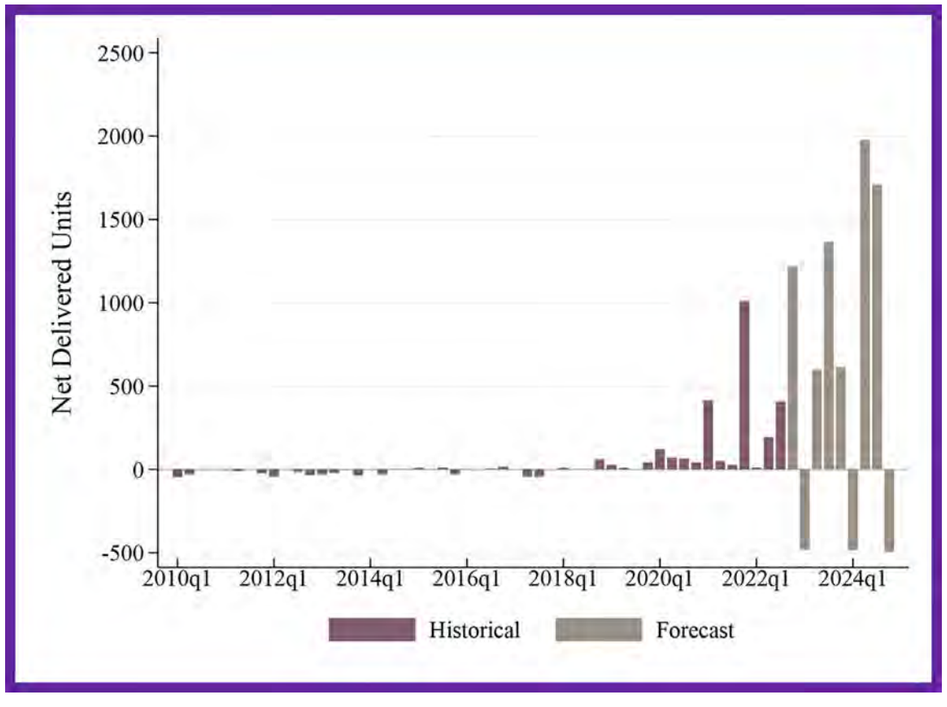
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

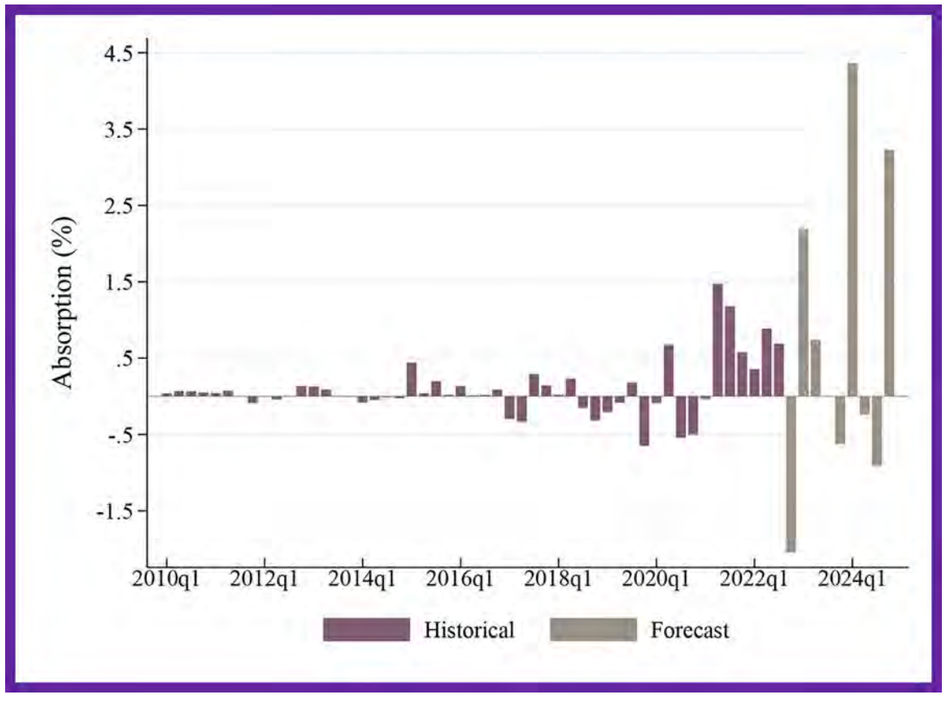
Inglewood-Gardena-Hawthorne

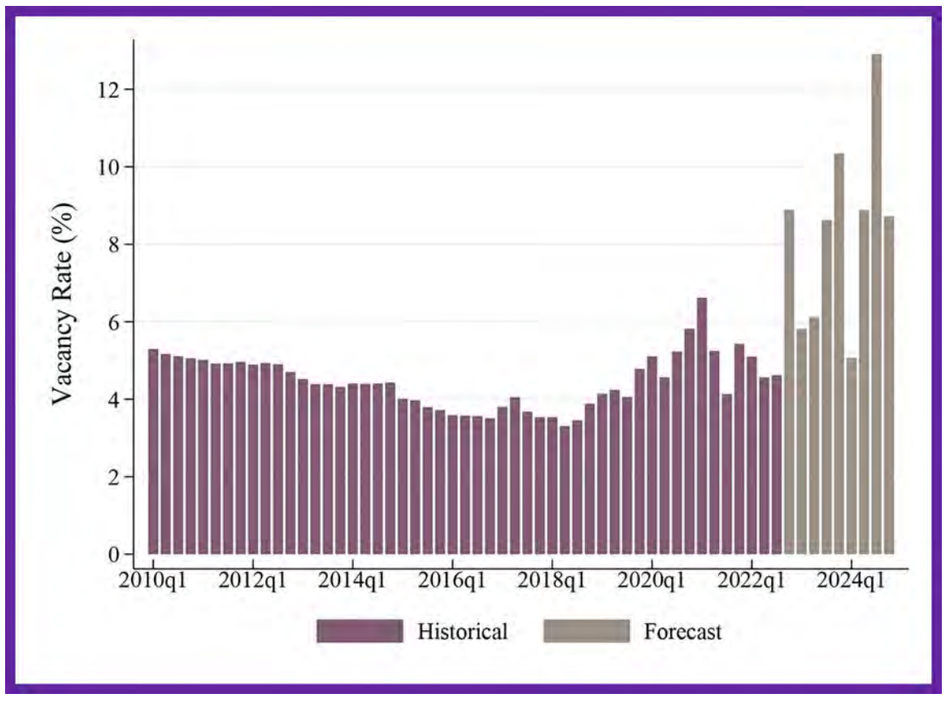


Source: CoStar

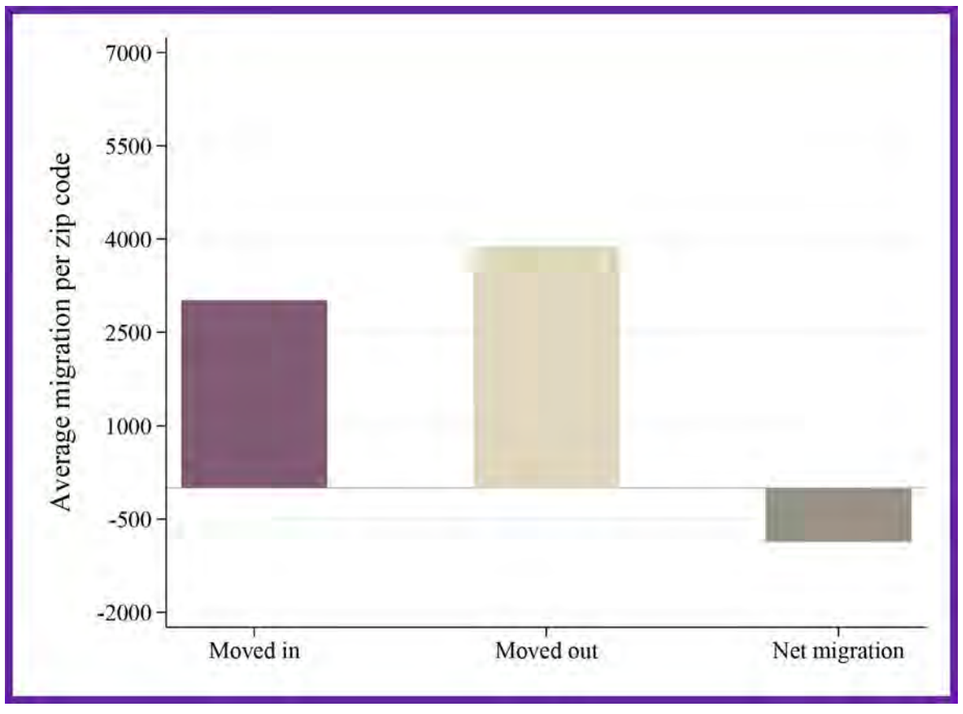
Inglewood-Gardena-Hawthorne Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





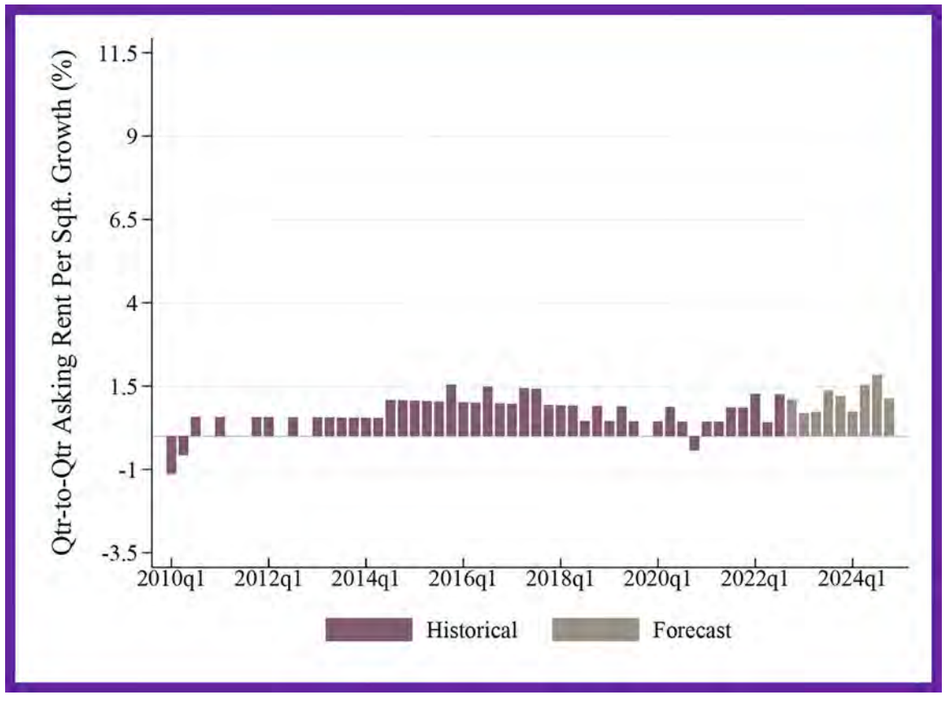


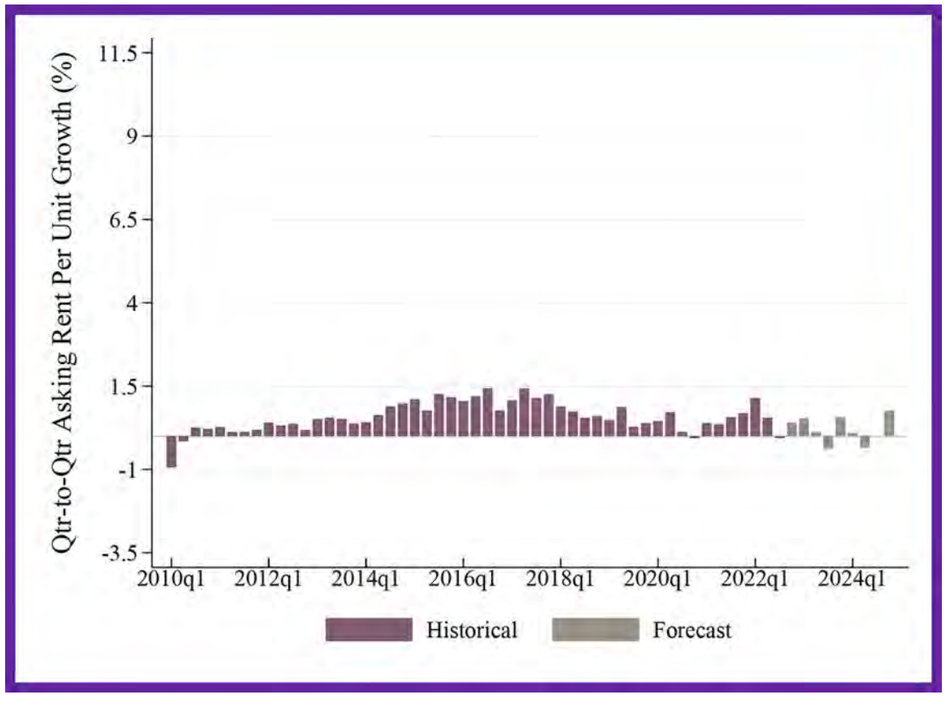
Inglewood-Gardena-Hawthorne Migration since the start of COVID-19

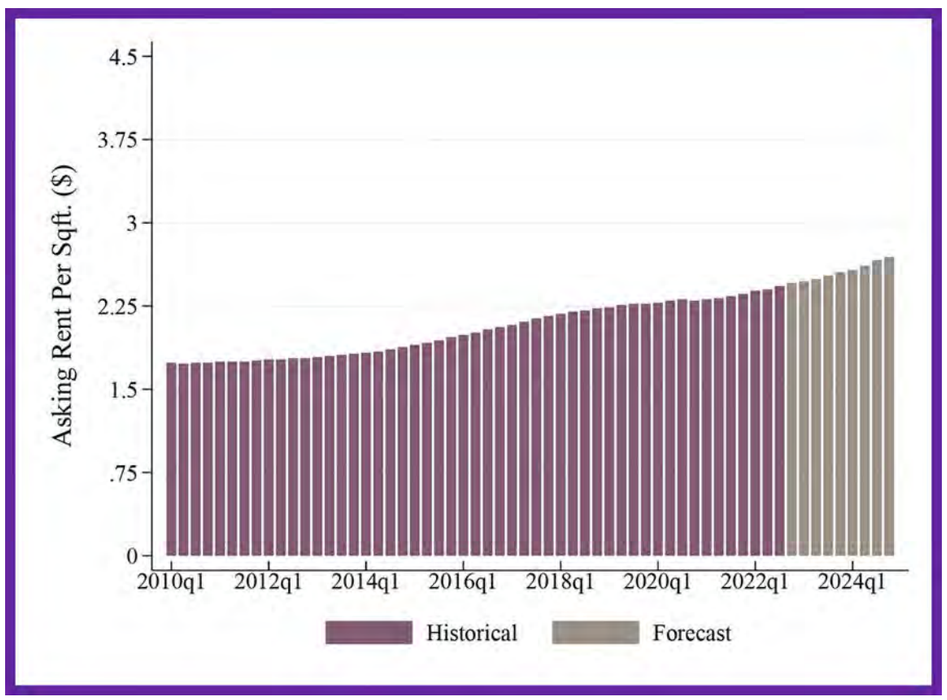


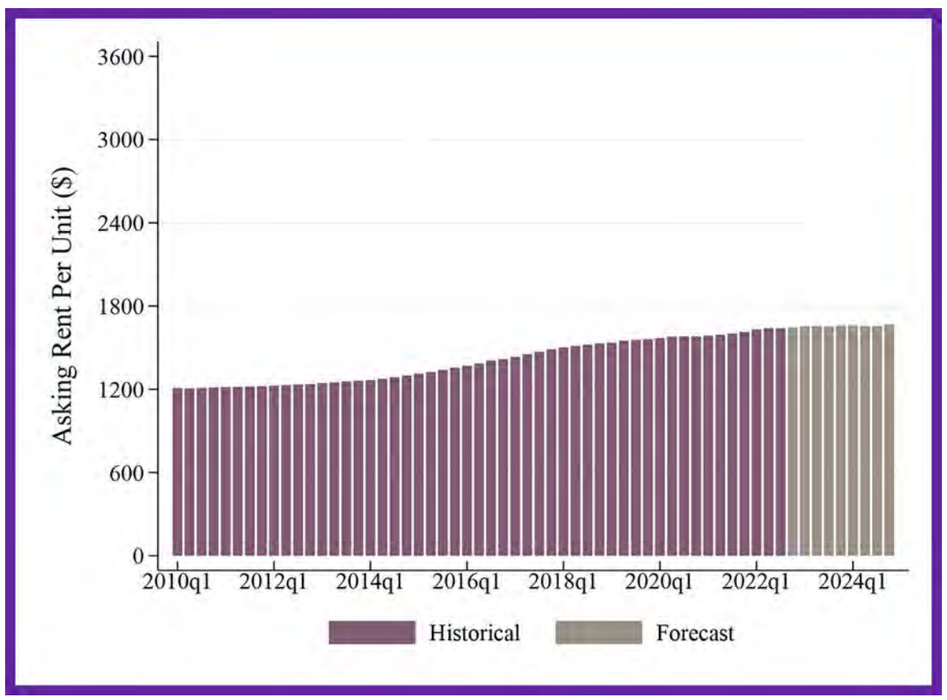
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Inglewood-Gardena-Hawthorne Market · Asking Rents · Los Angeles County, 2010-2024



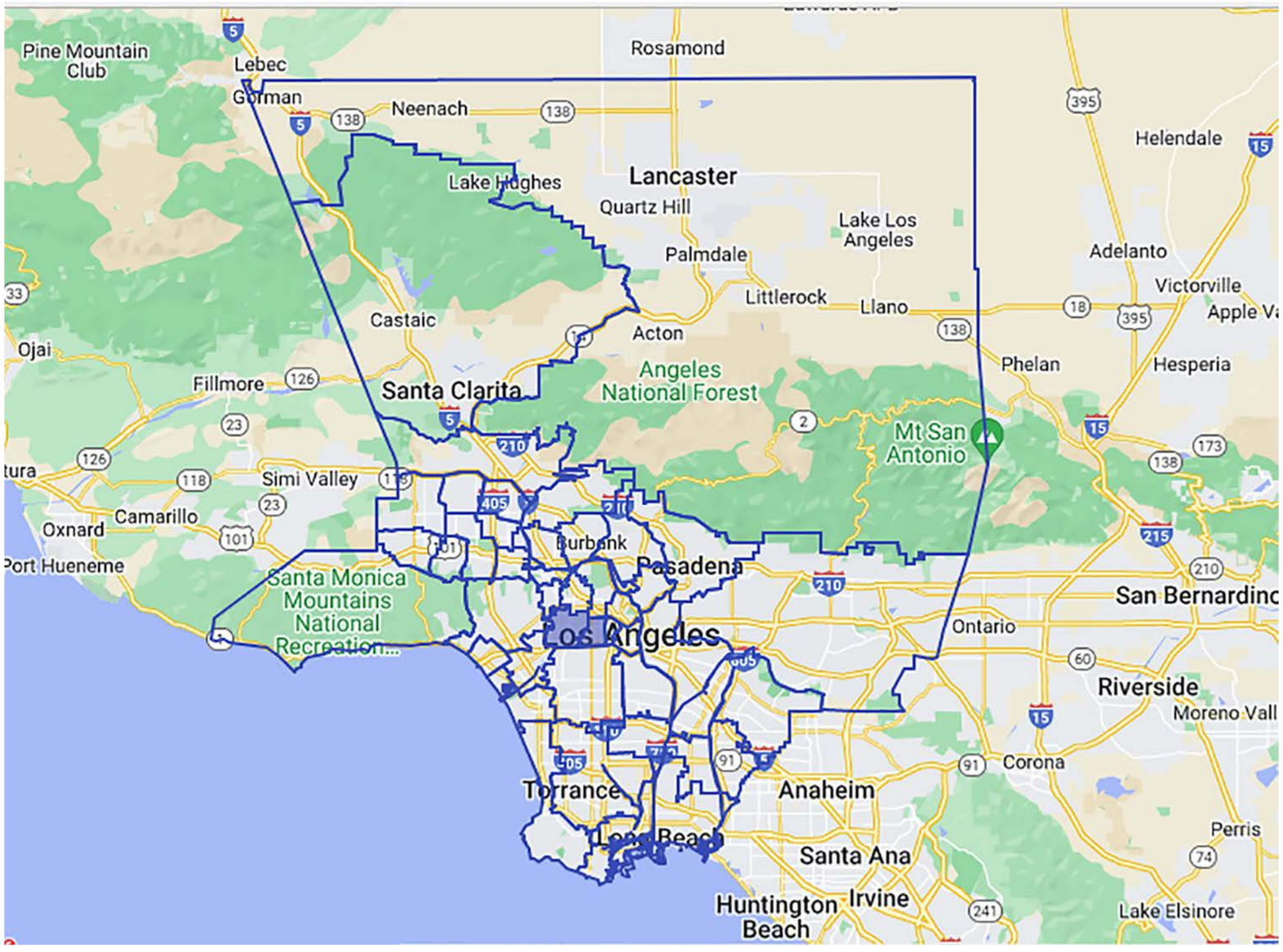






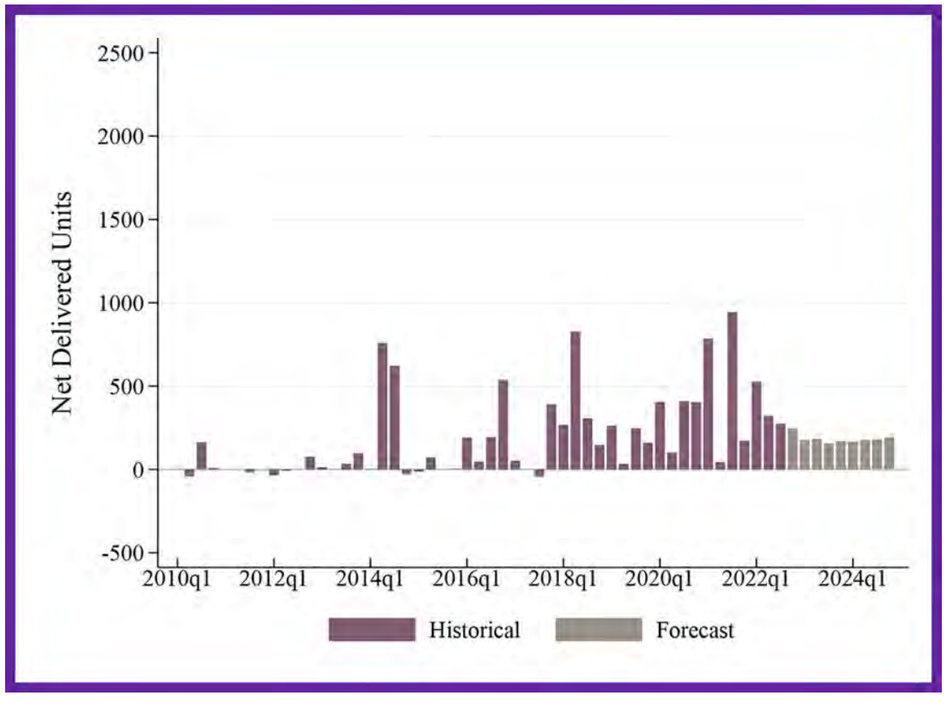
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

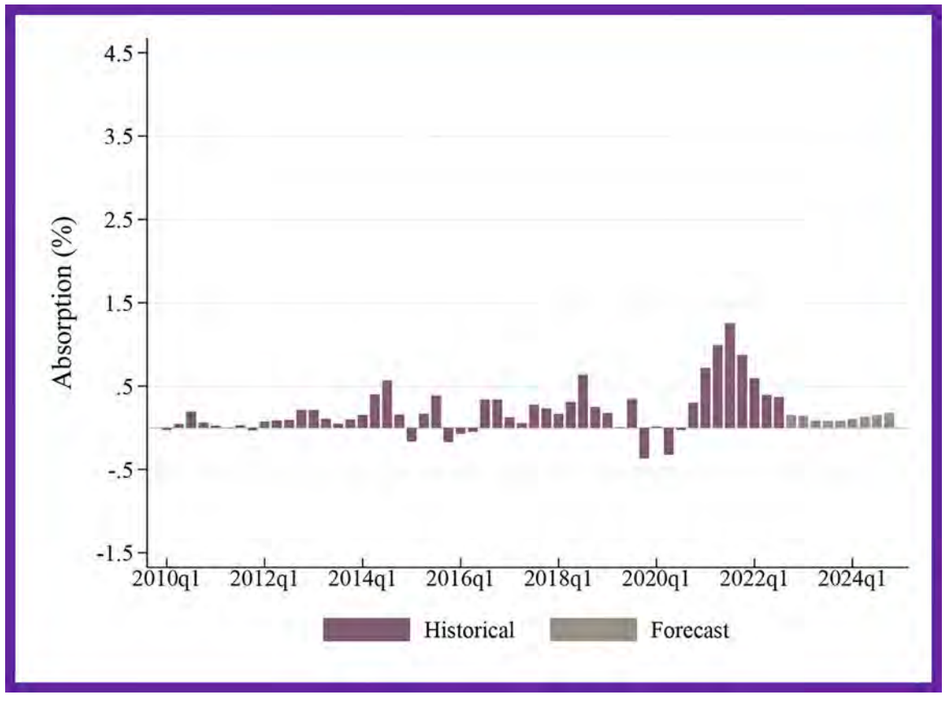
Koreatown-Mid-City

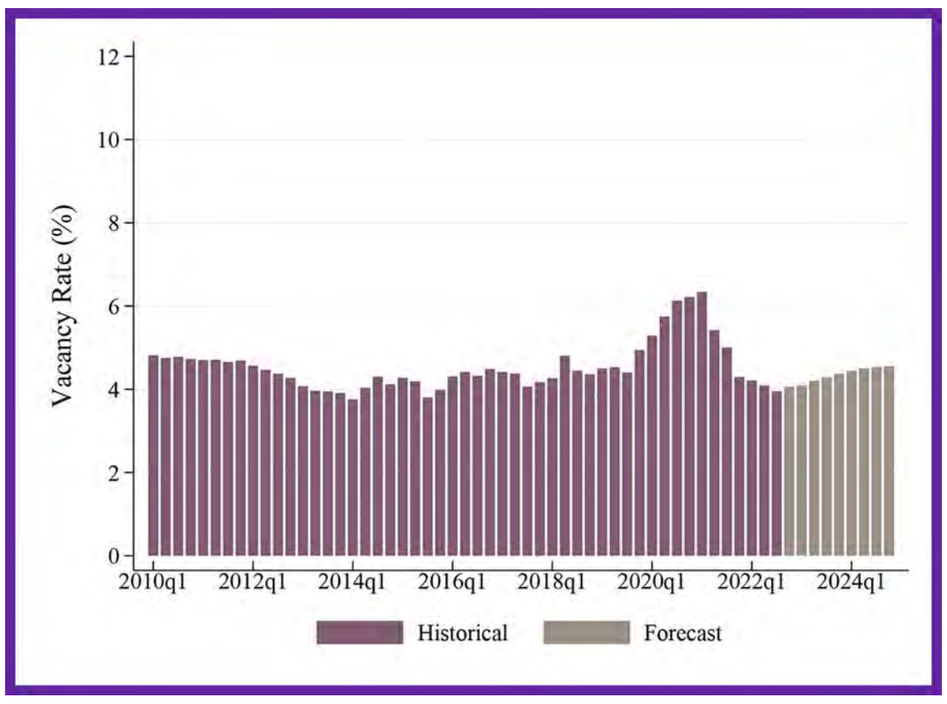


Source: CoStar

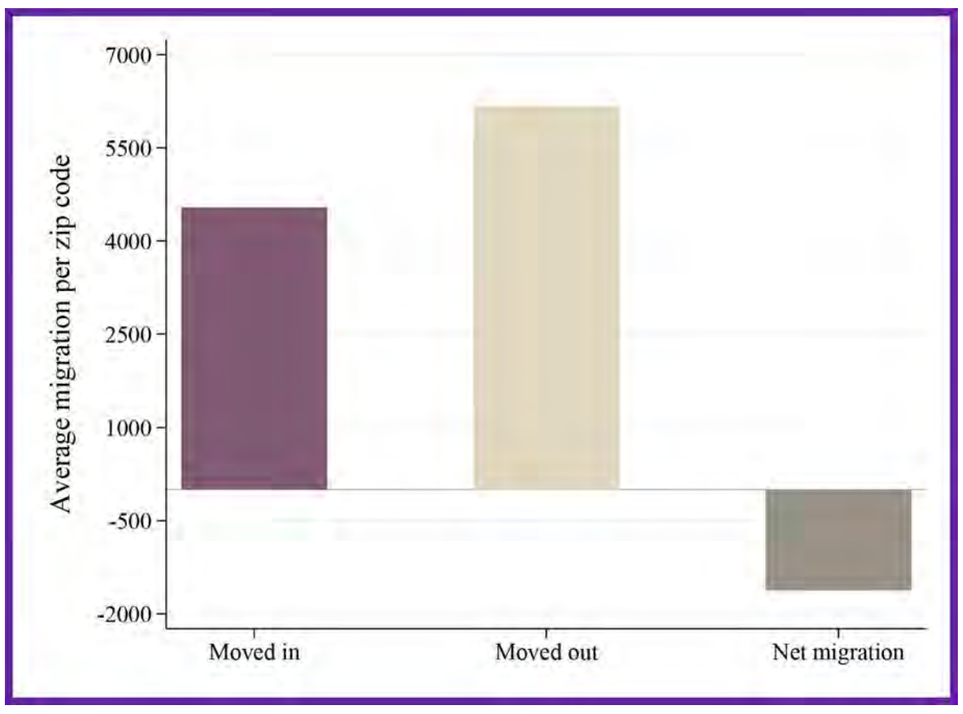
Koreatown-Mid-City Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





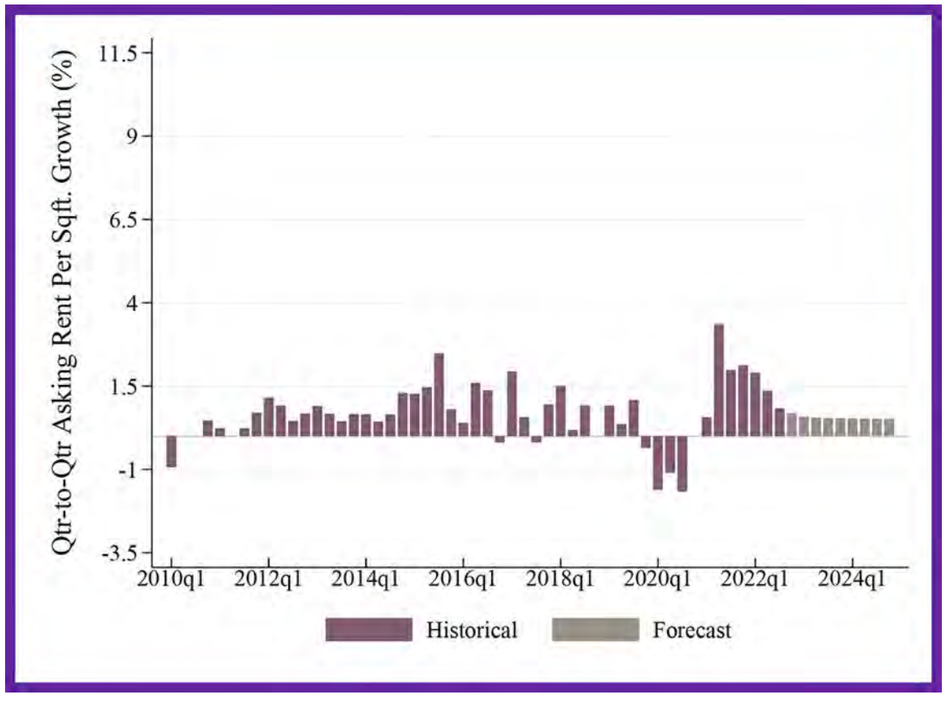


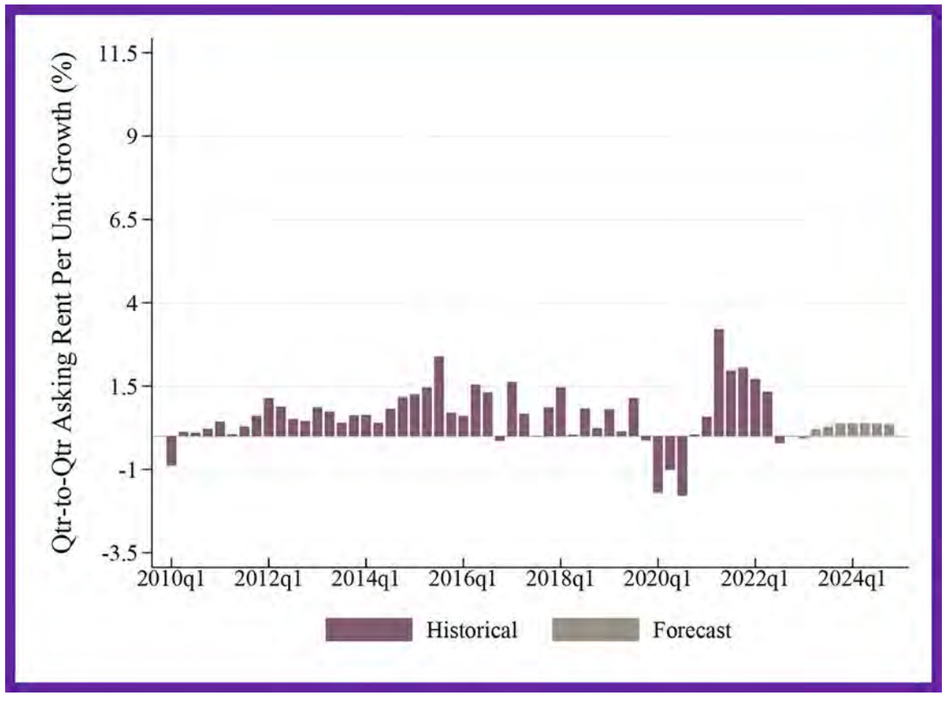
Koreatown-Mid-City Migration since the start of COVID-19

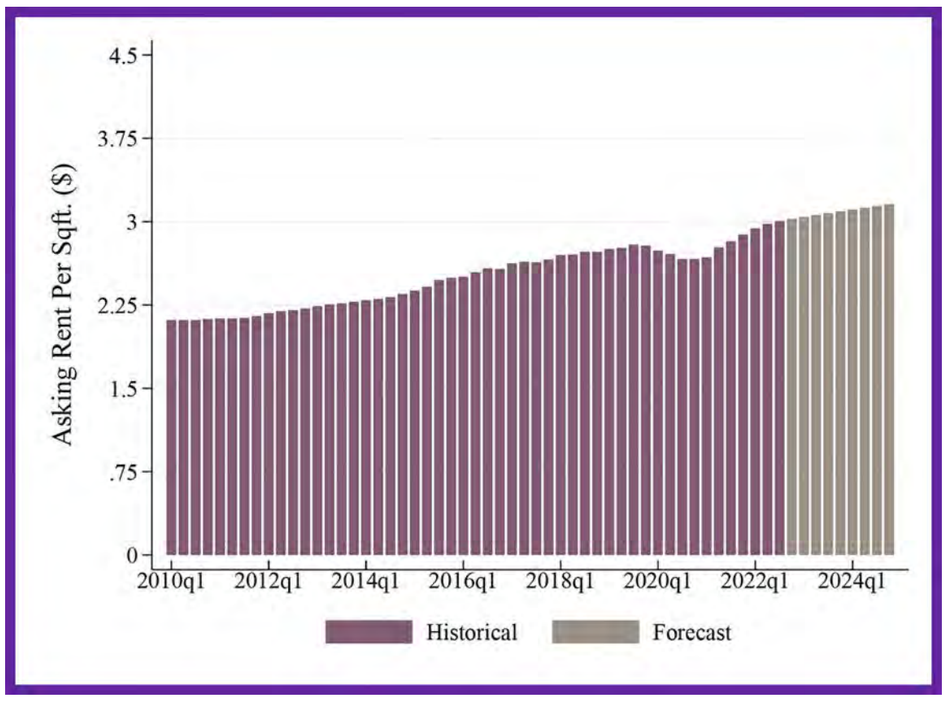


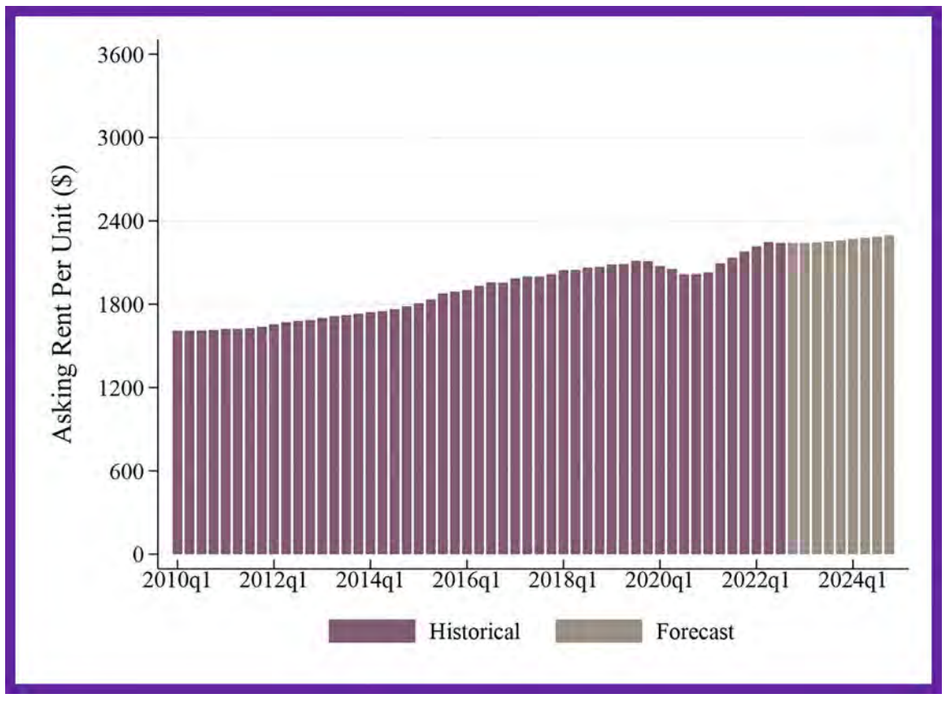
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Koreatown-Mid-City Market · Asking Rents · Los Angeles County, 2010-2024



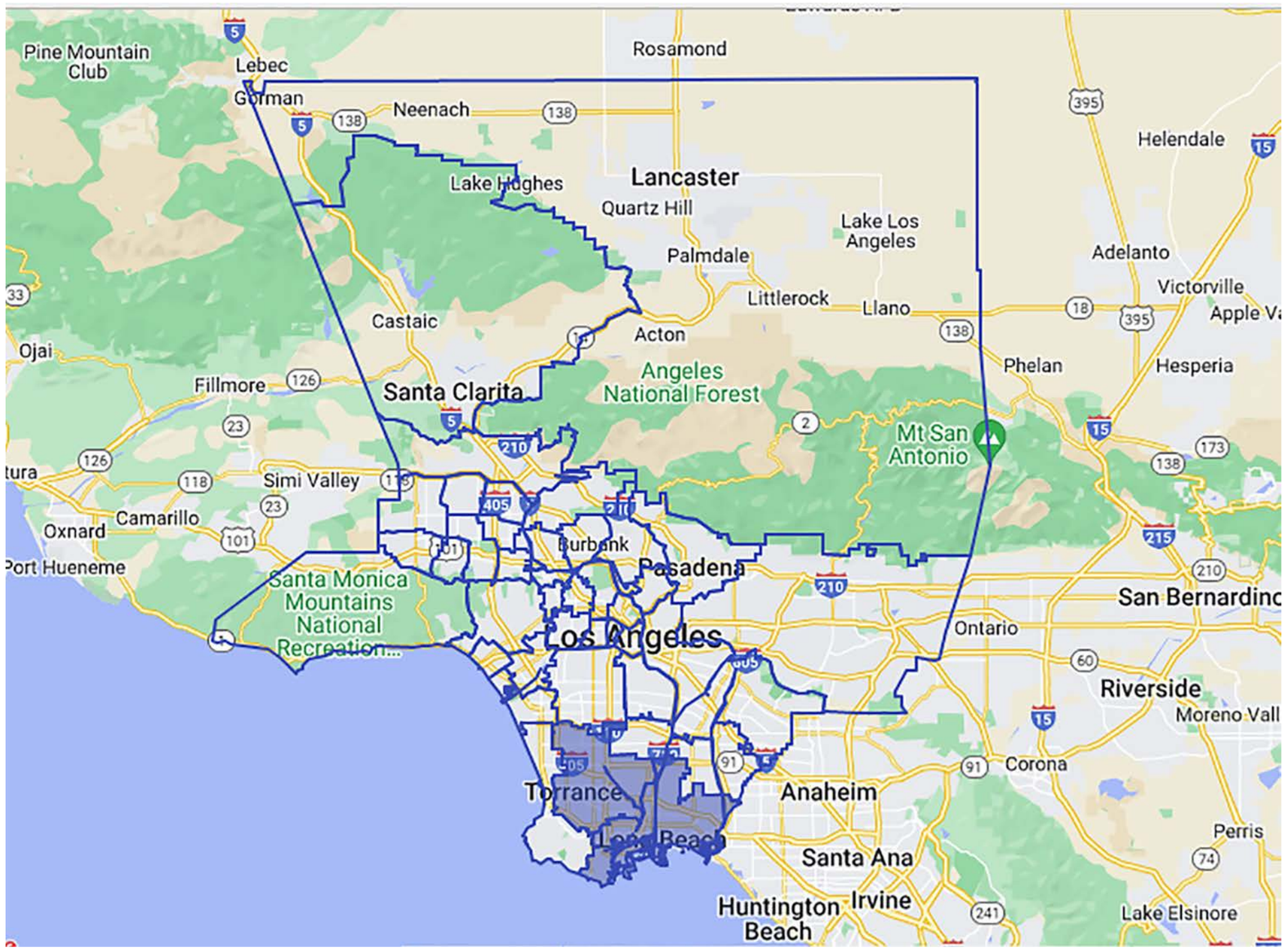






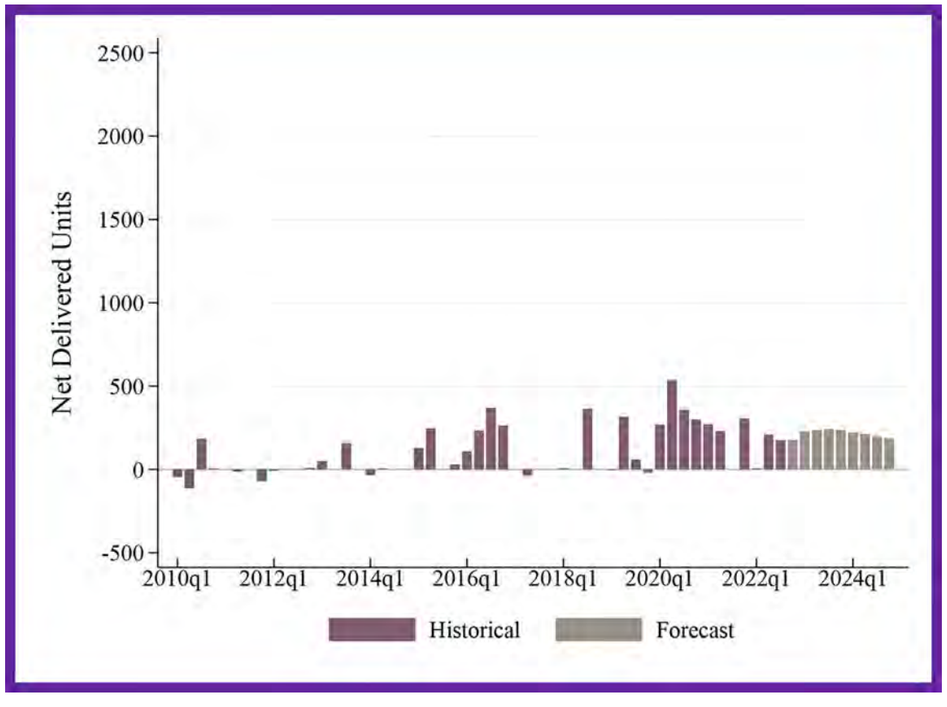
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

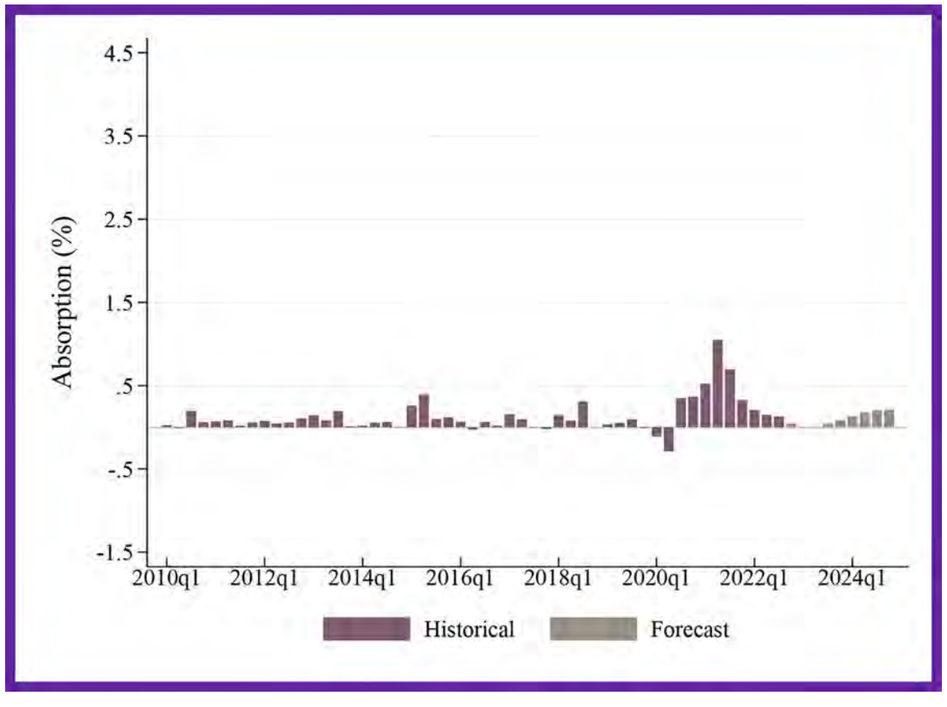
Long Beach-South Bay

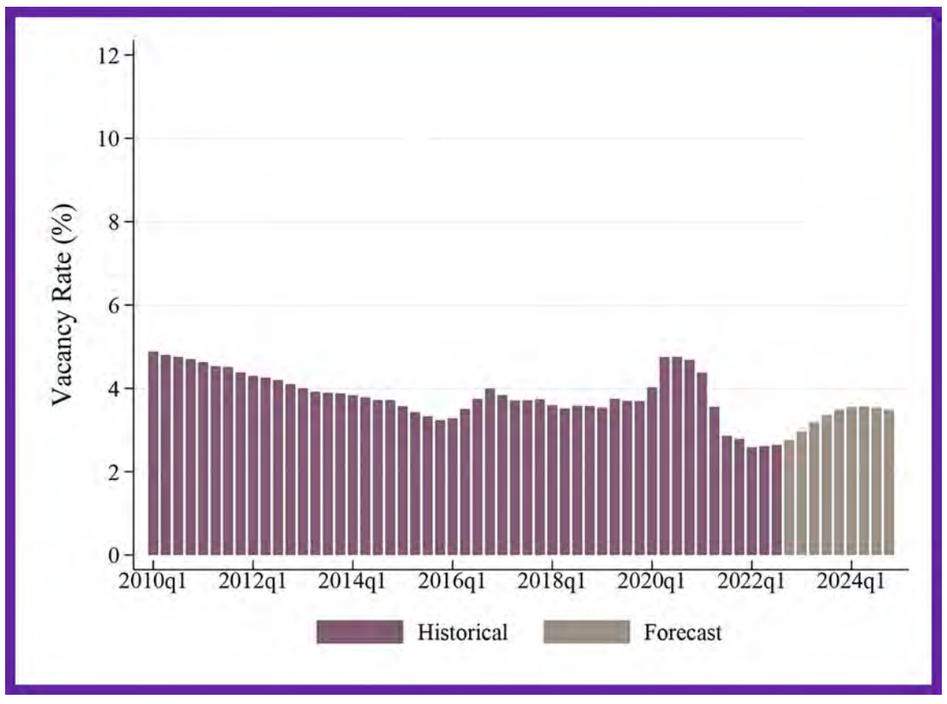


Source: CoStar

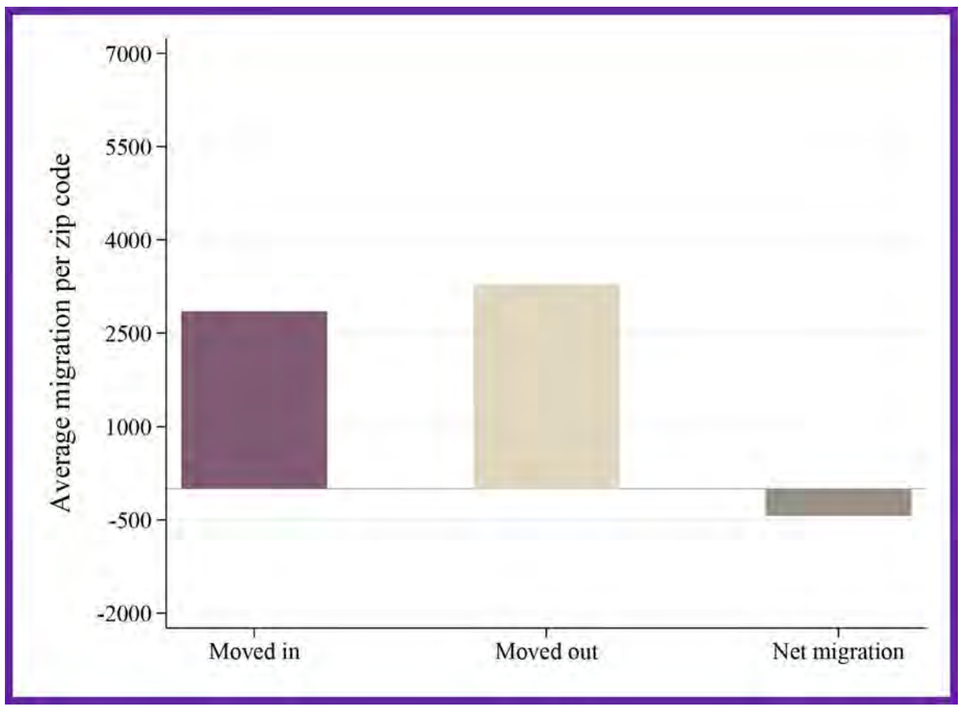
Long Beach-South Bay Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





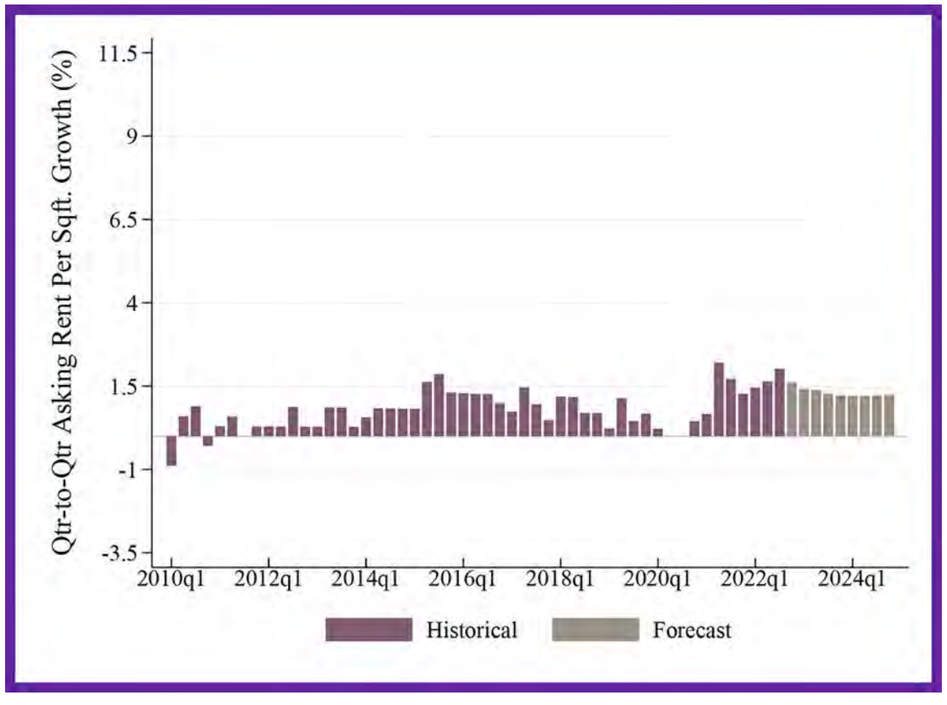


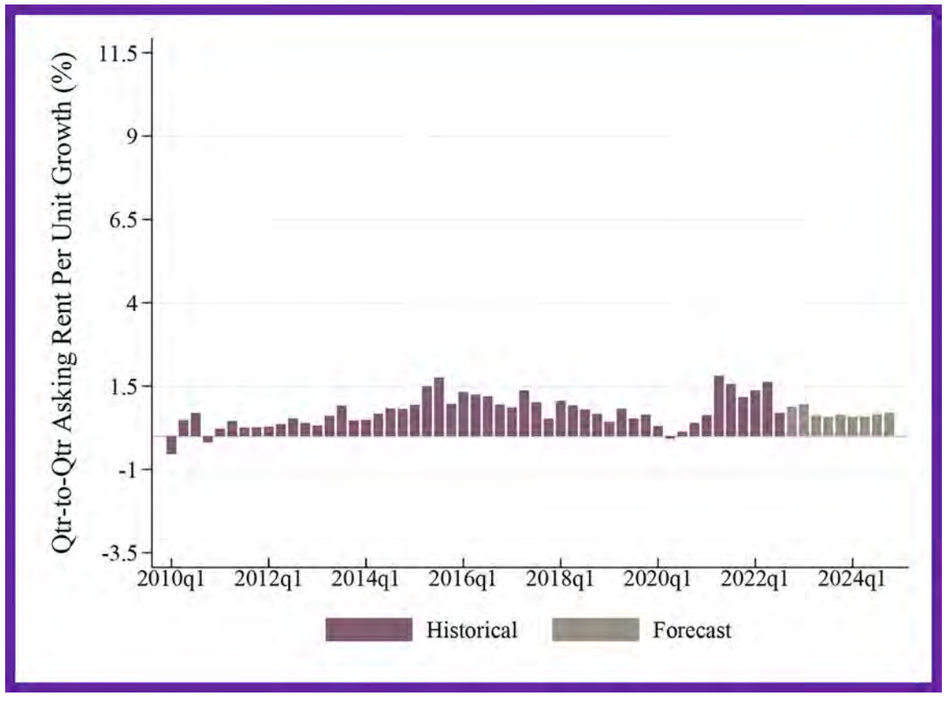
Long Beach-South Bay Migration since the start of COVID-19

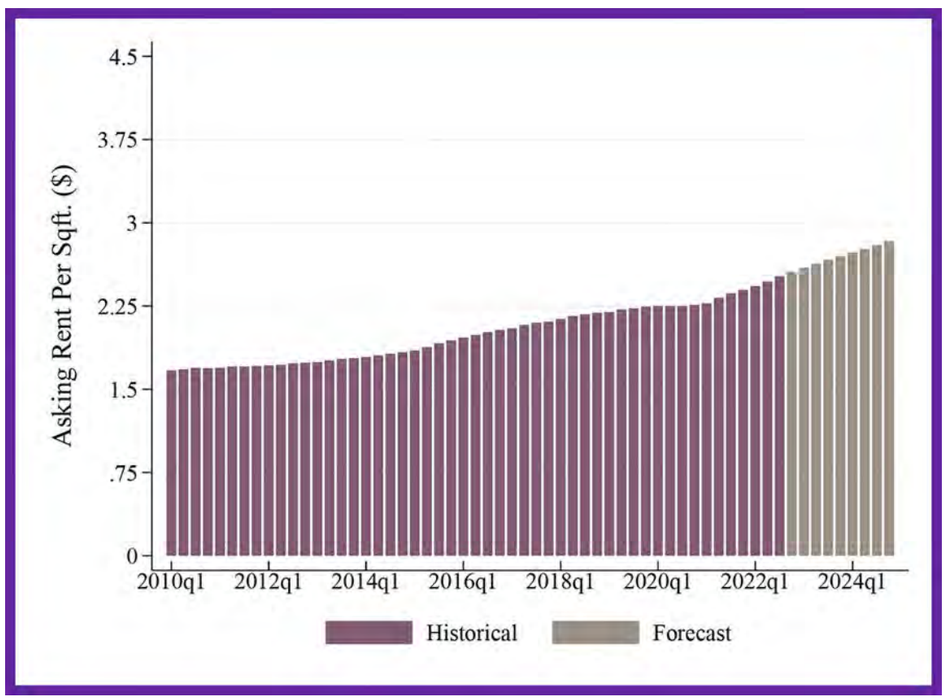


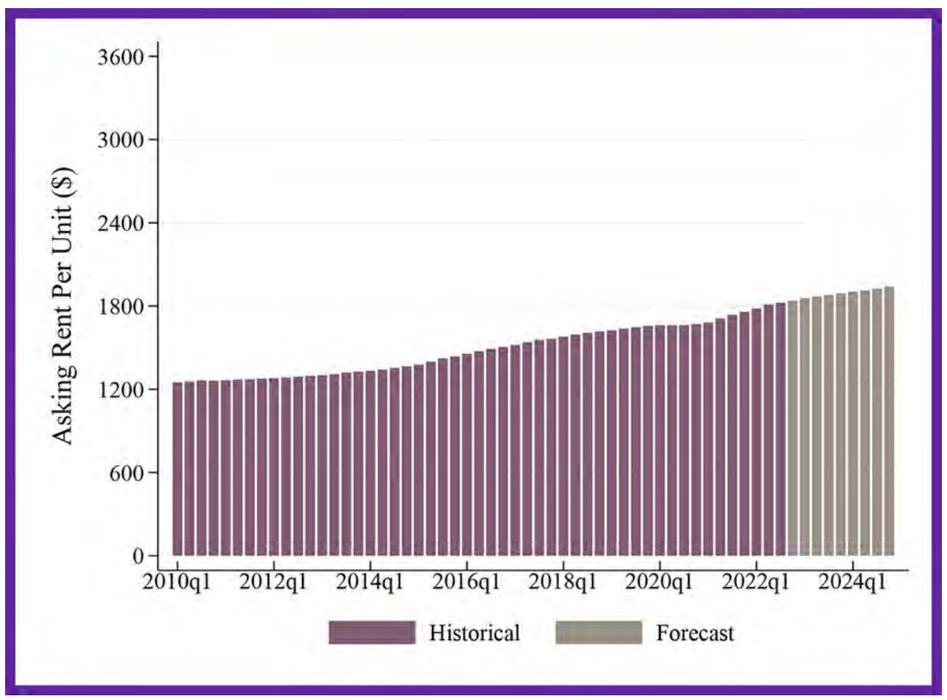
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Long Beach-South Bay Market · Asking Rents · Los Angeles County, 2010-2024



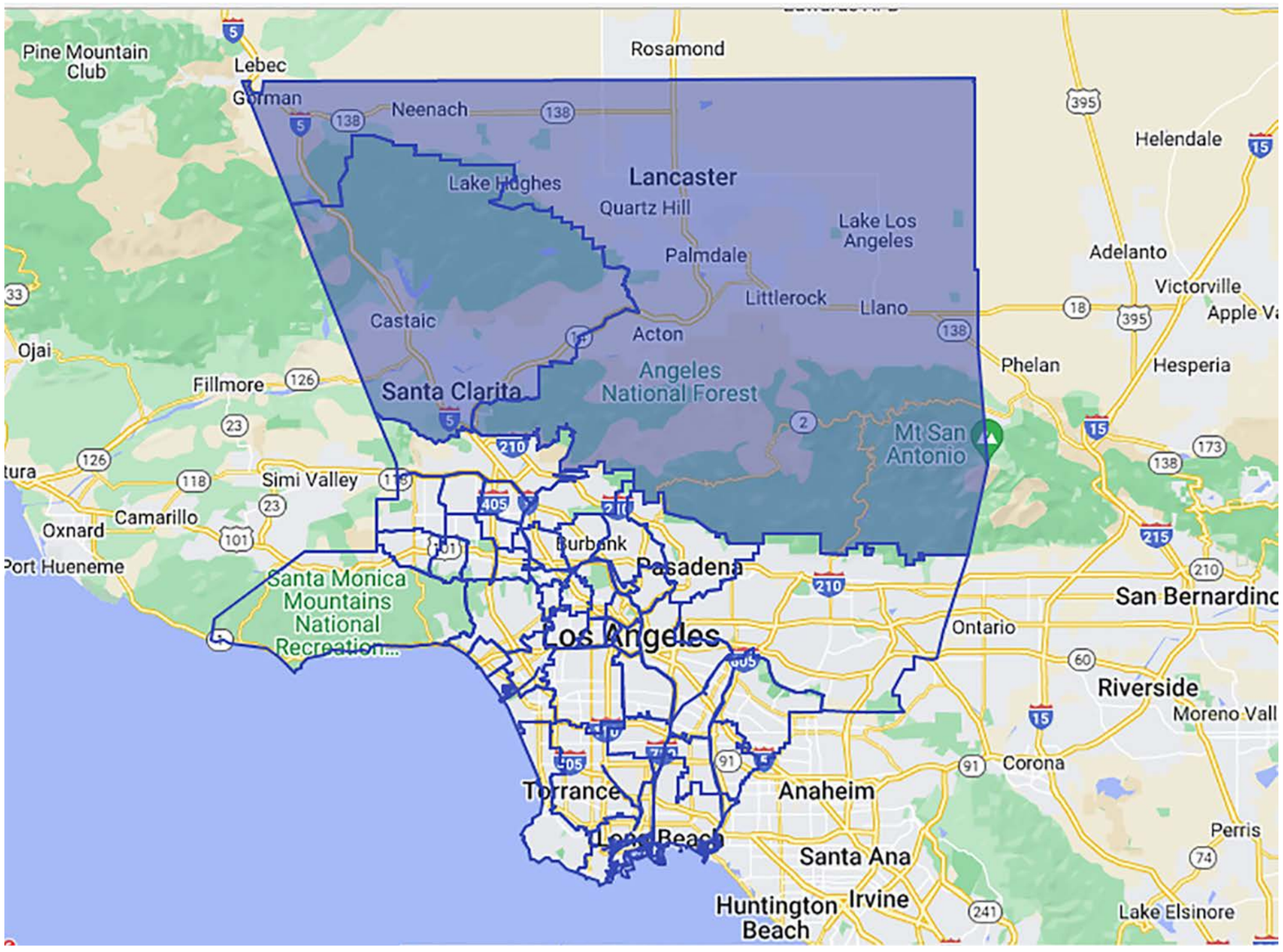






Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Palmdale-Lancaster



Source: CoStar

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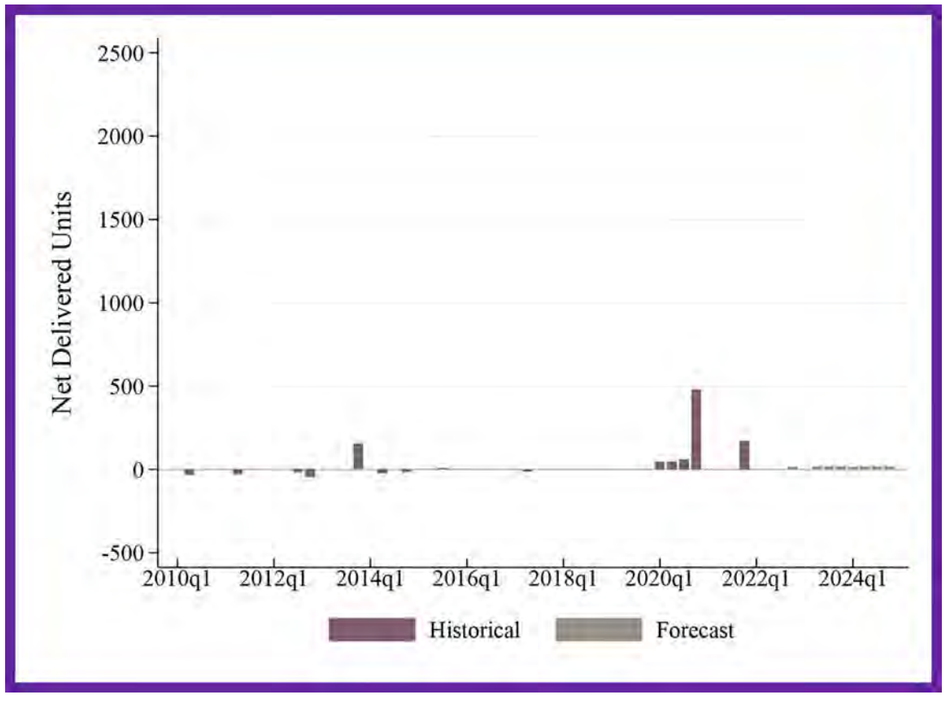
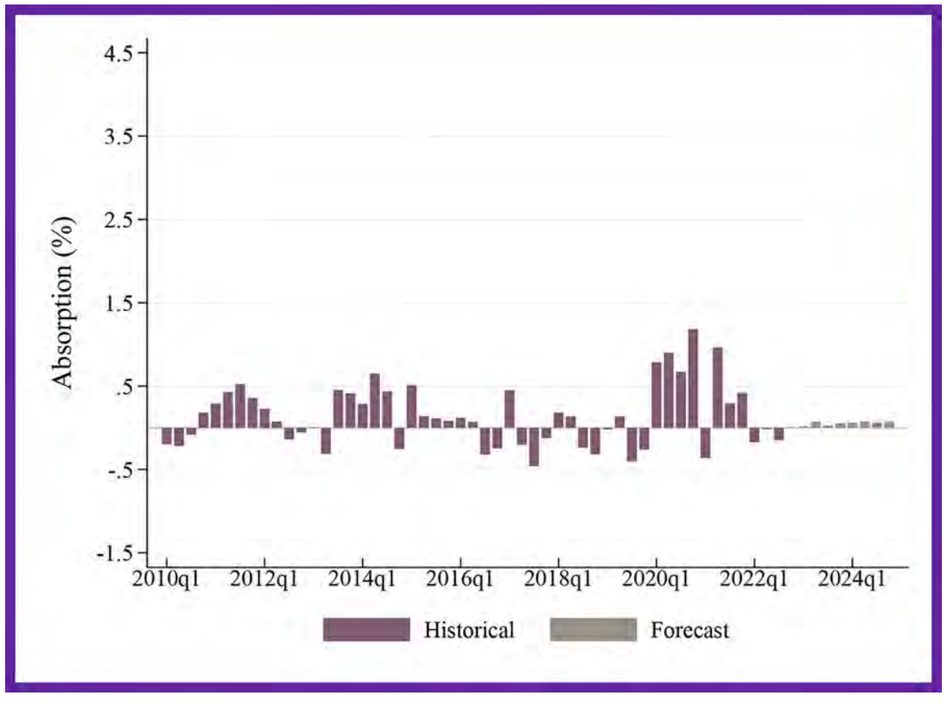
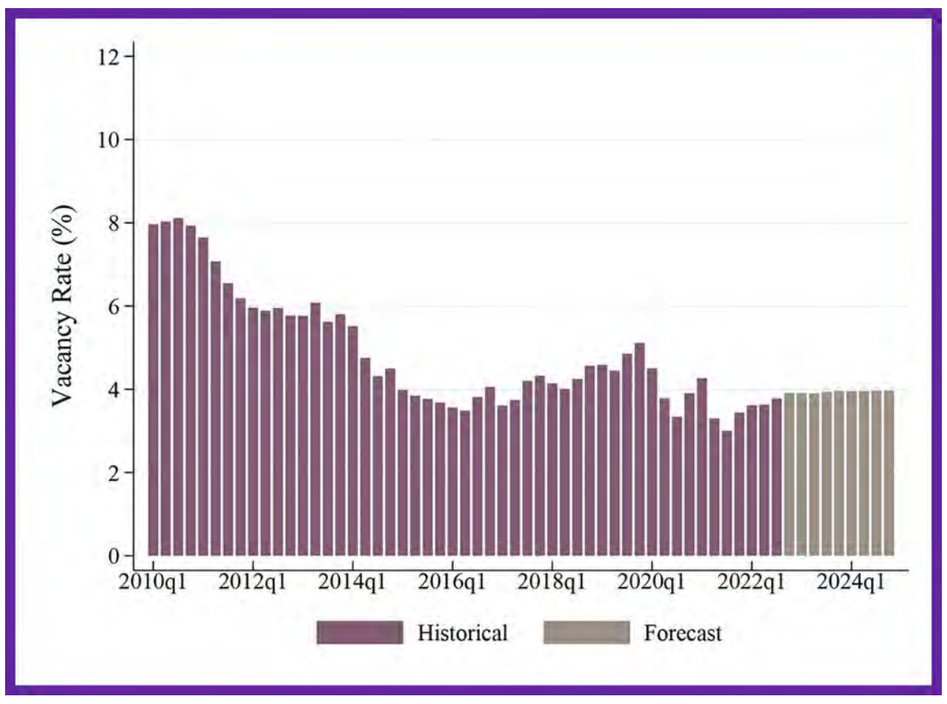
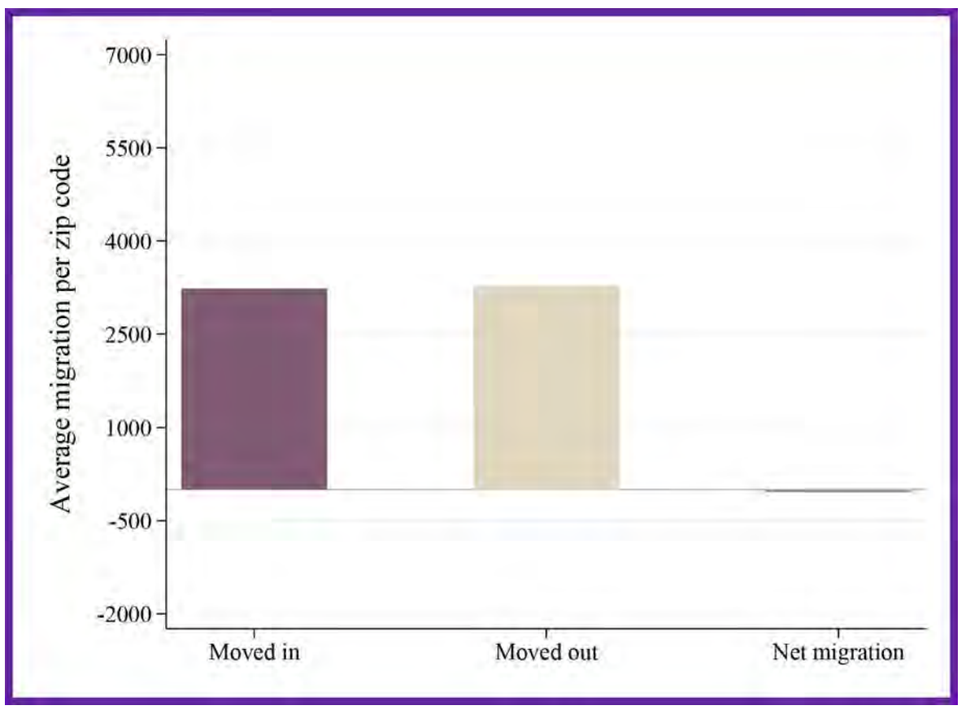






Palmdale-Lancaster Migration since the start of COVID-19



Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

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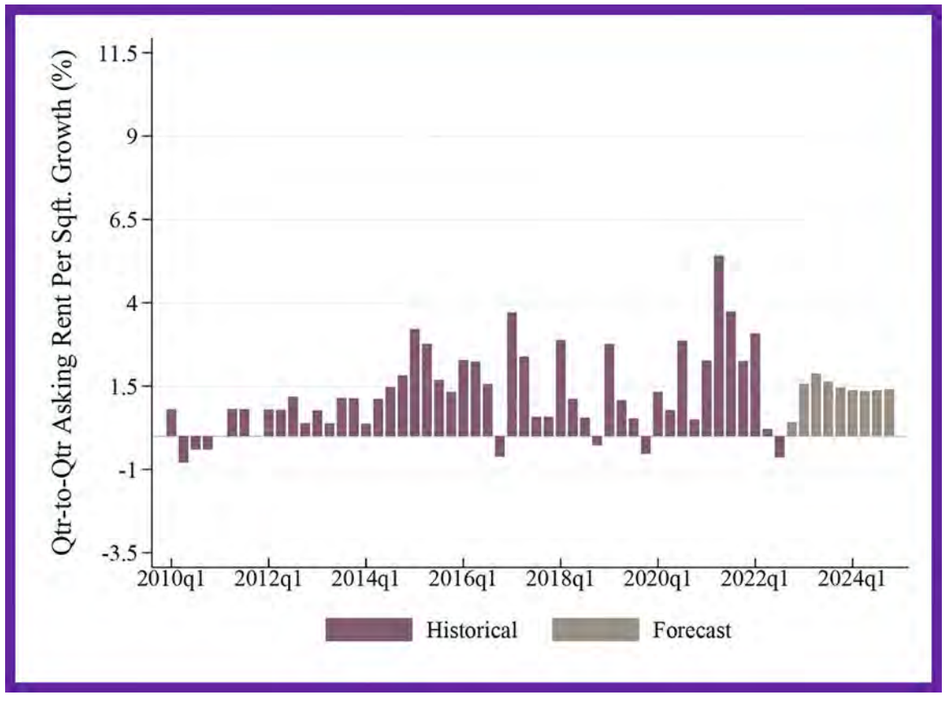
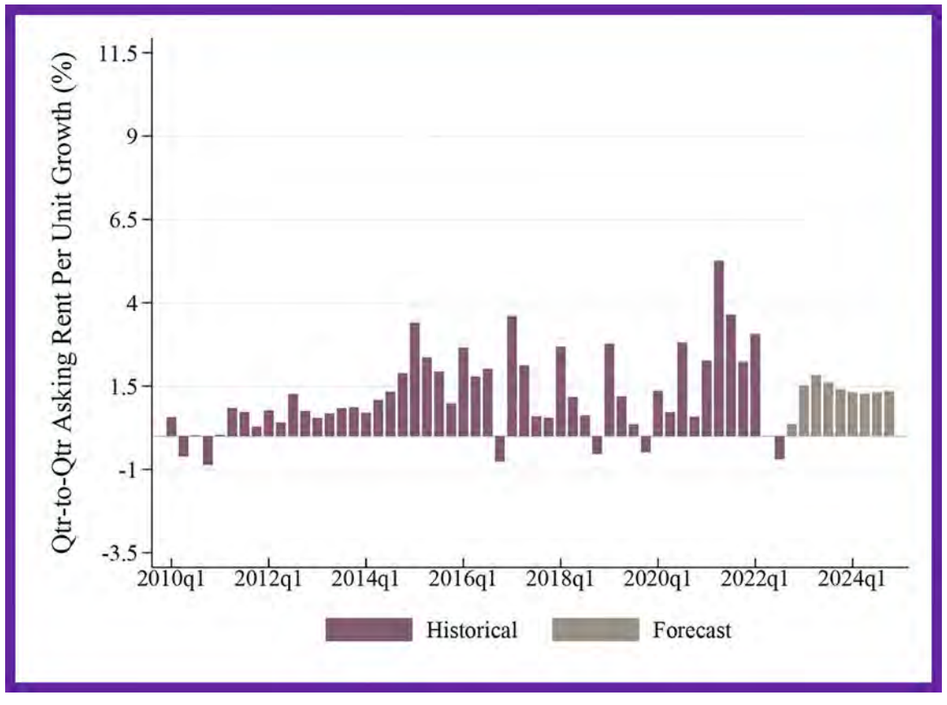
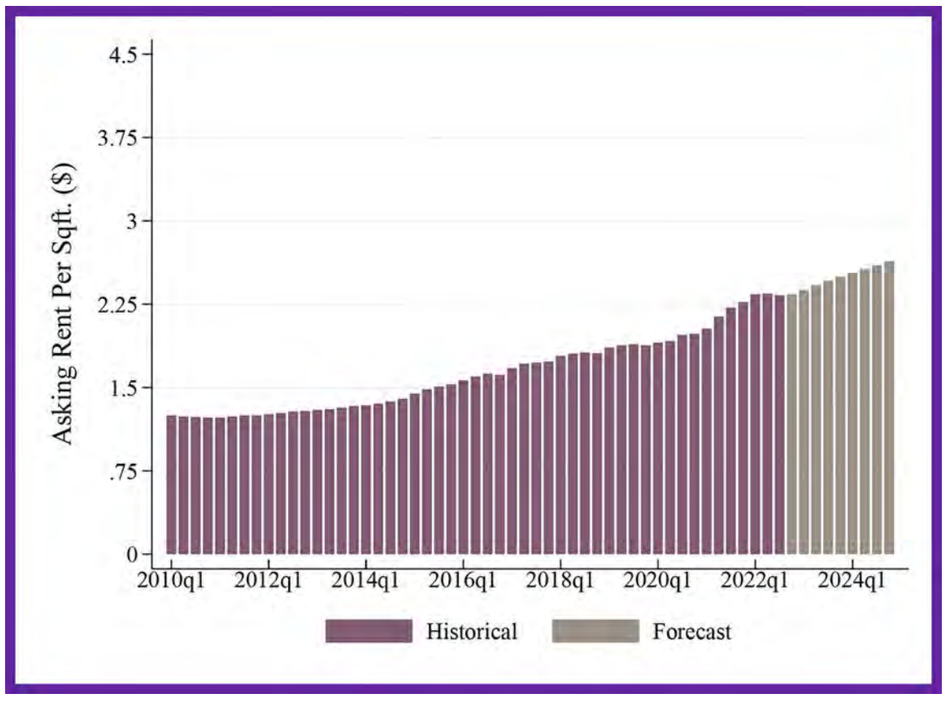
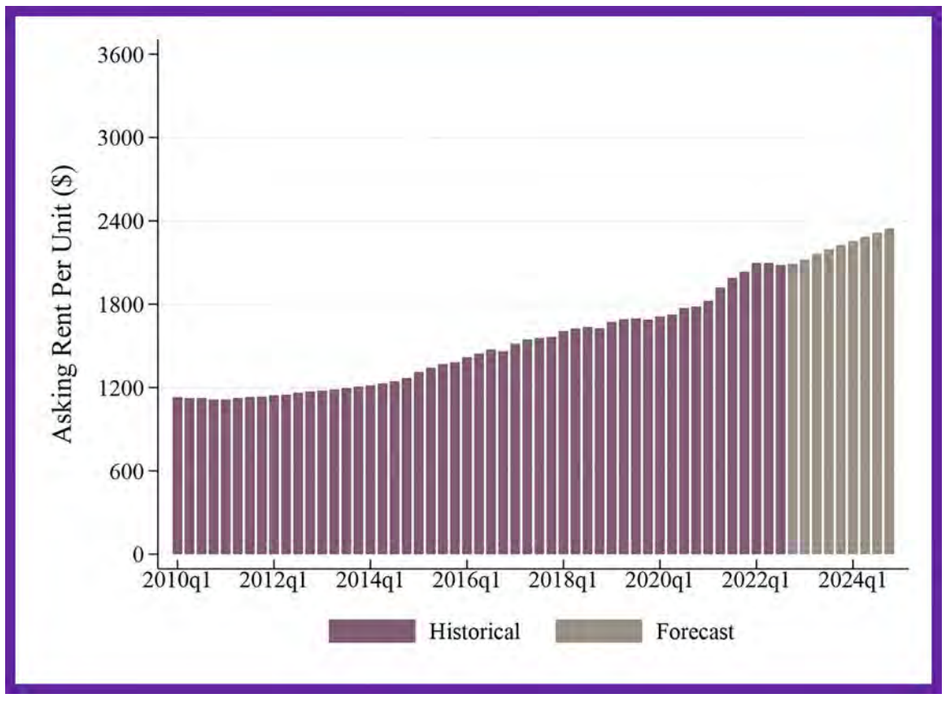


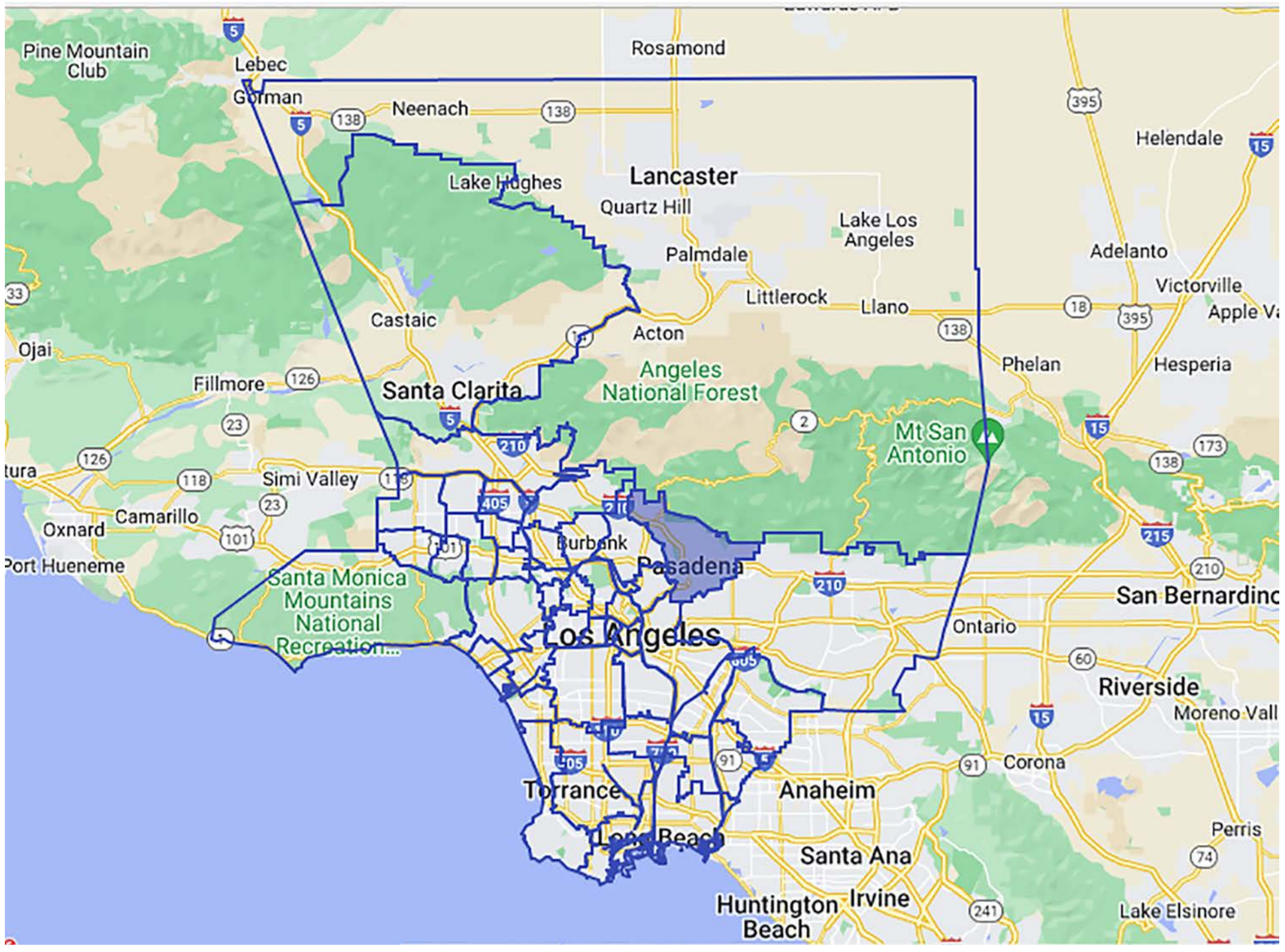






Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Pasadena



Source: CoStar

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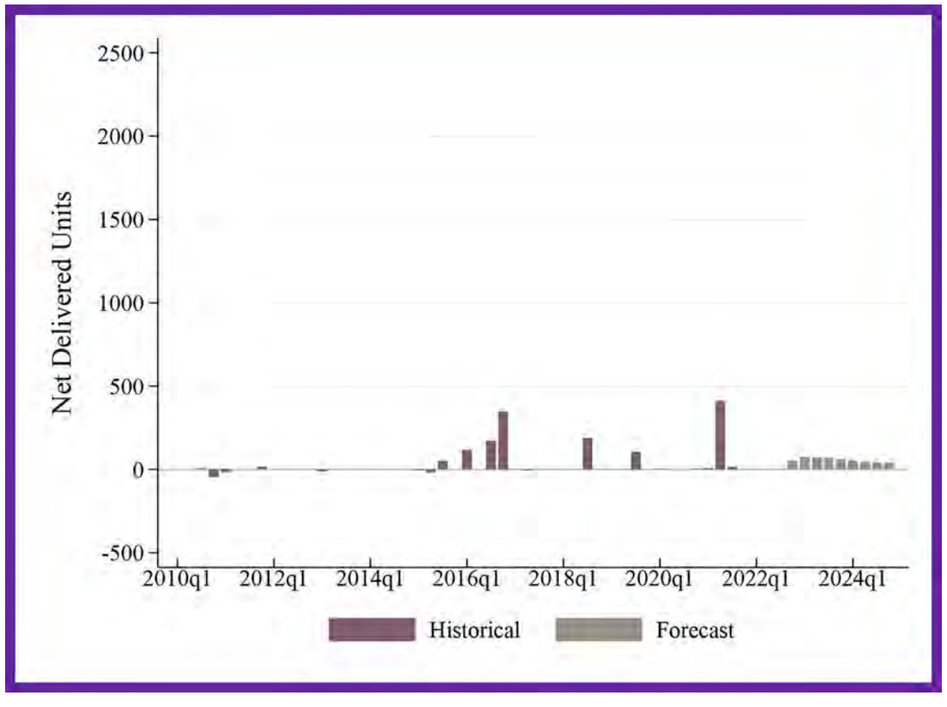
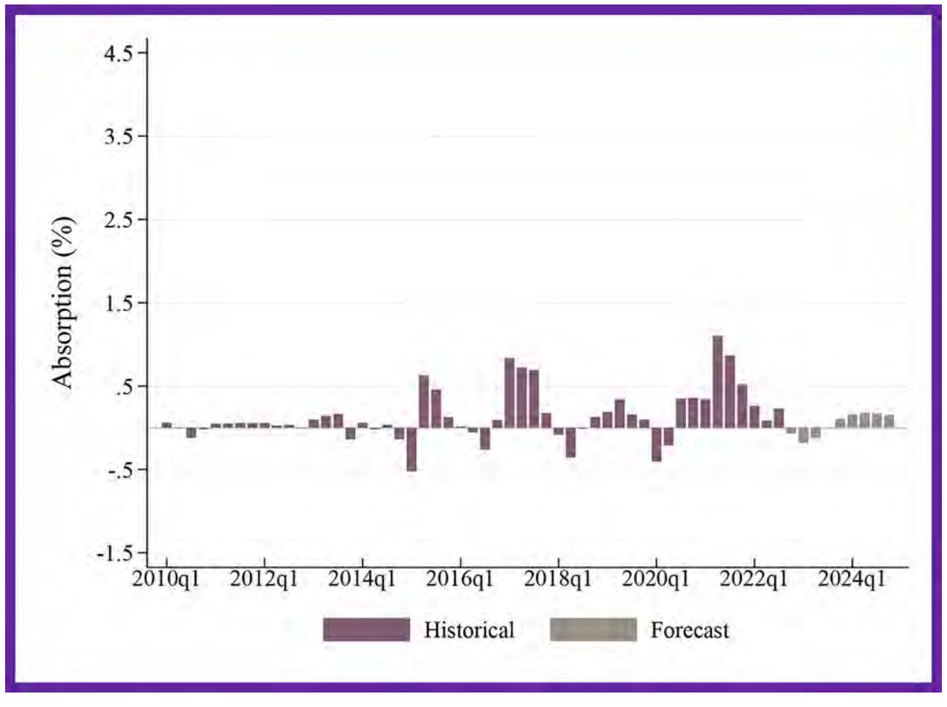
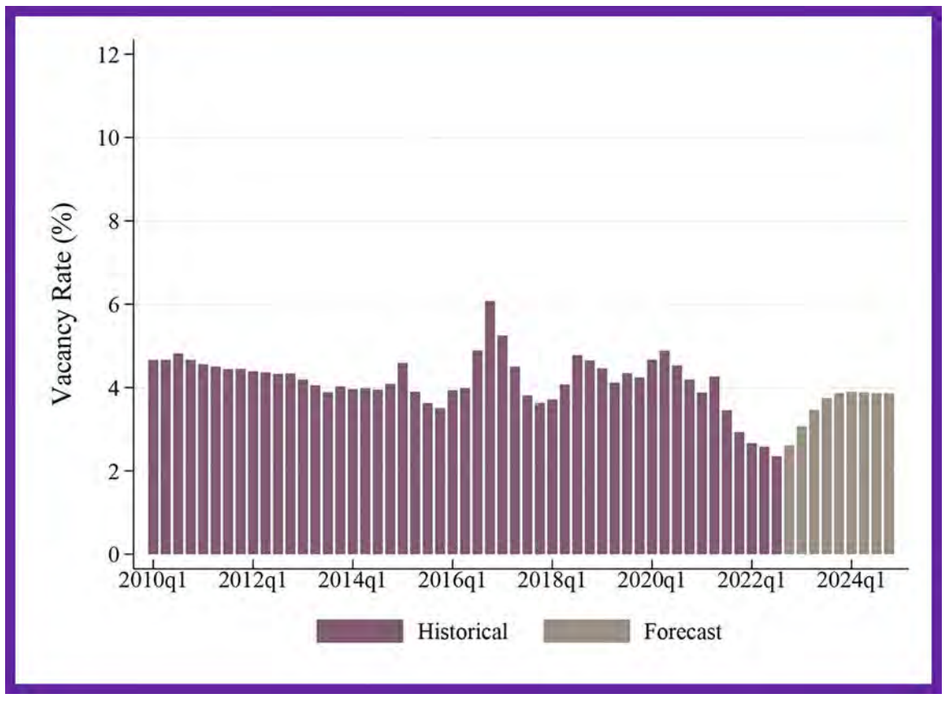
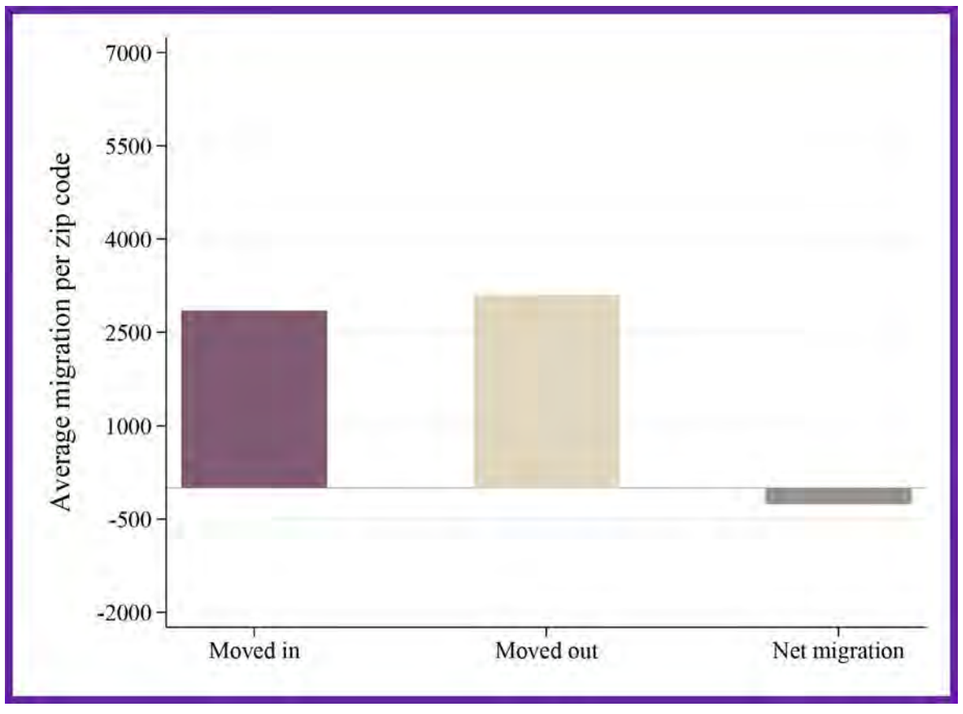






Pasadena Migration since the start of COVID-19



Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

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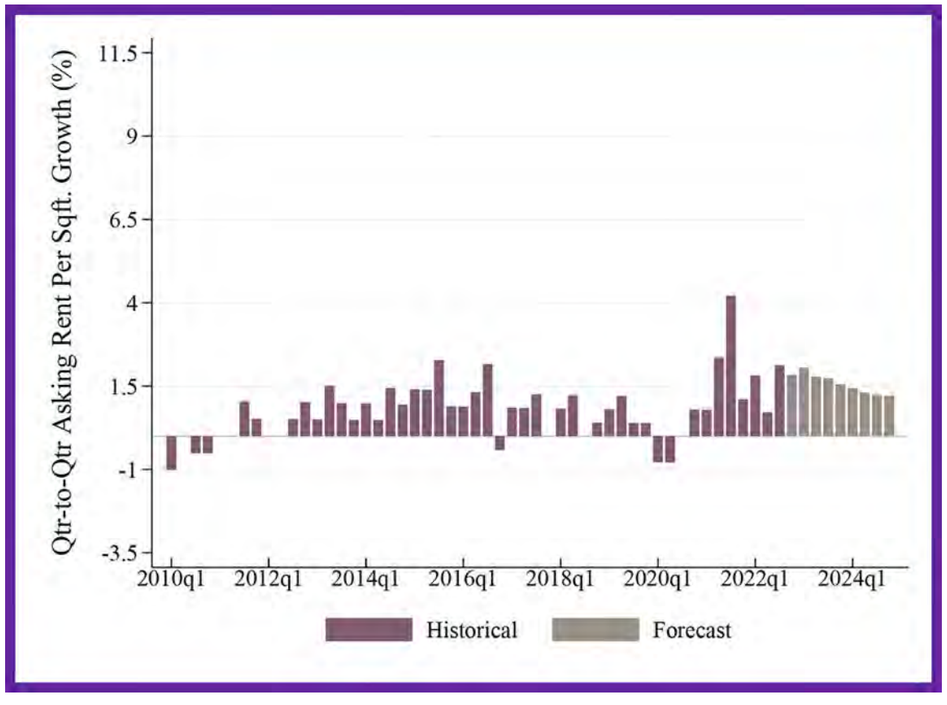
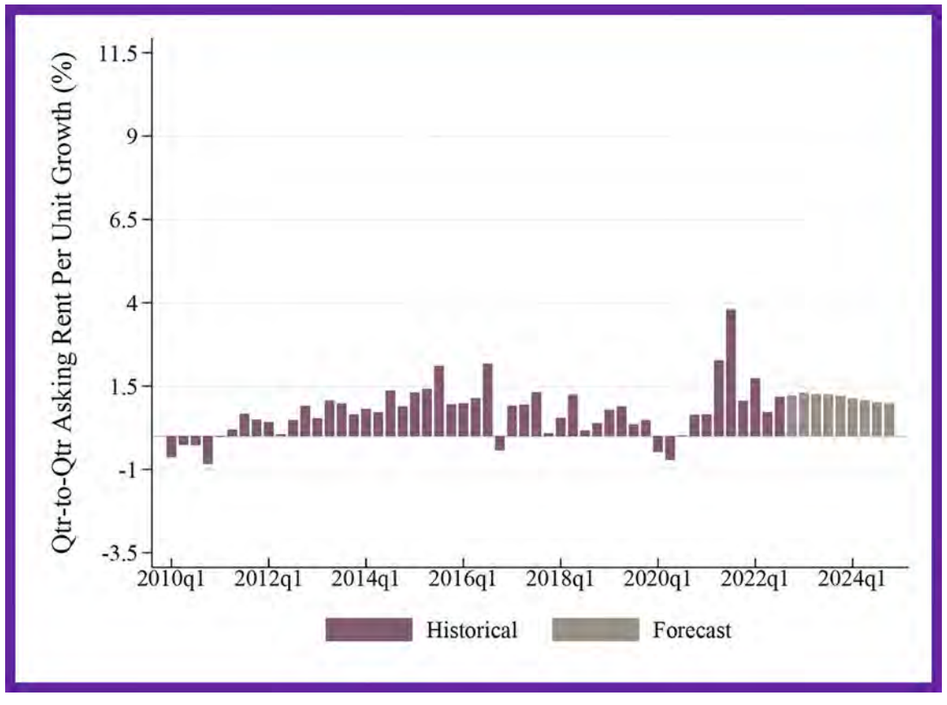
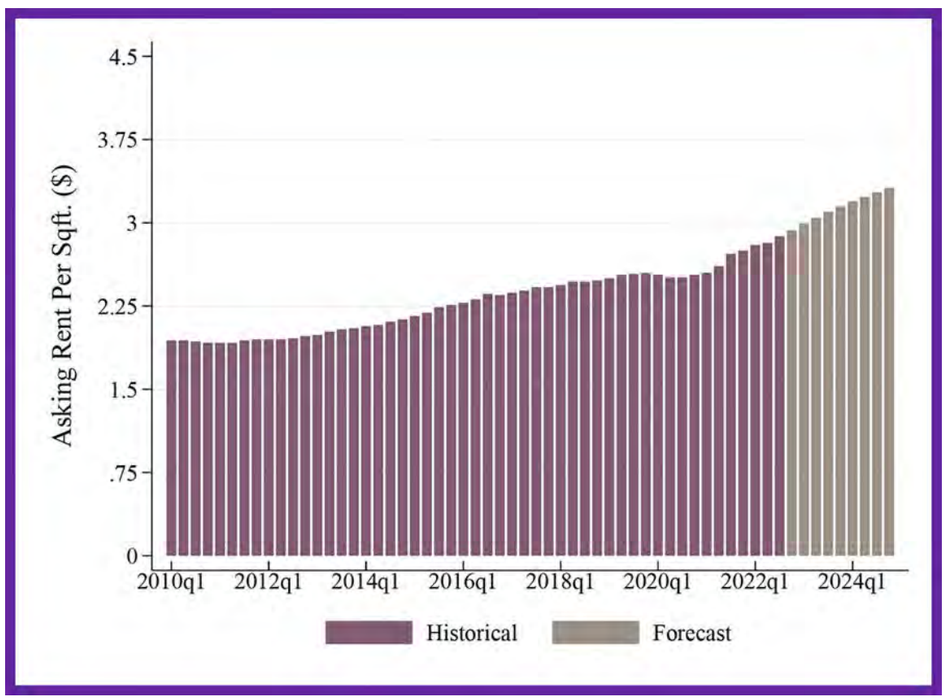
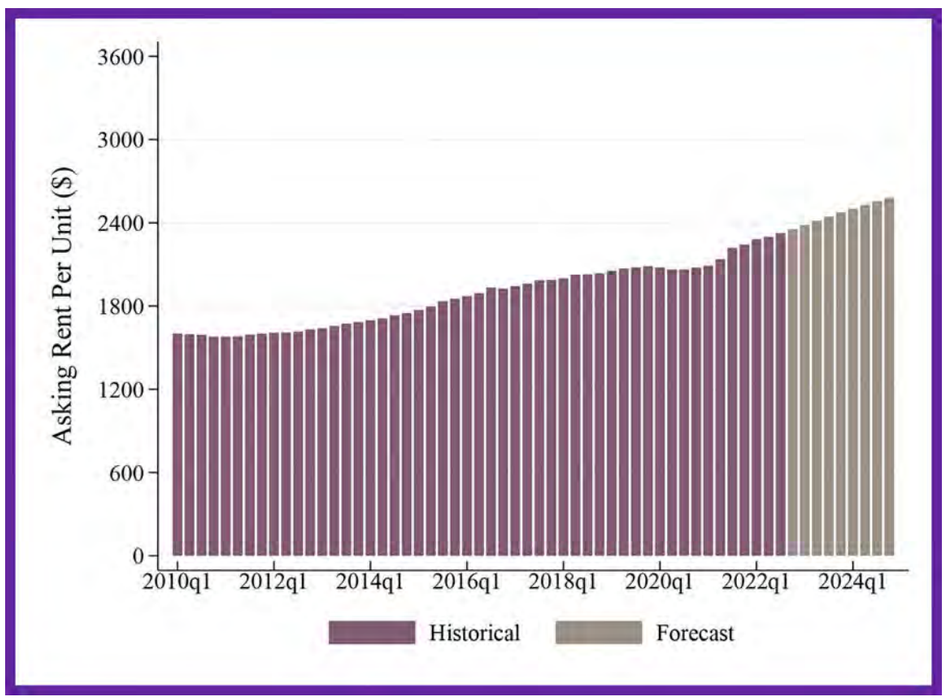


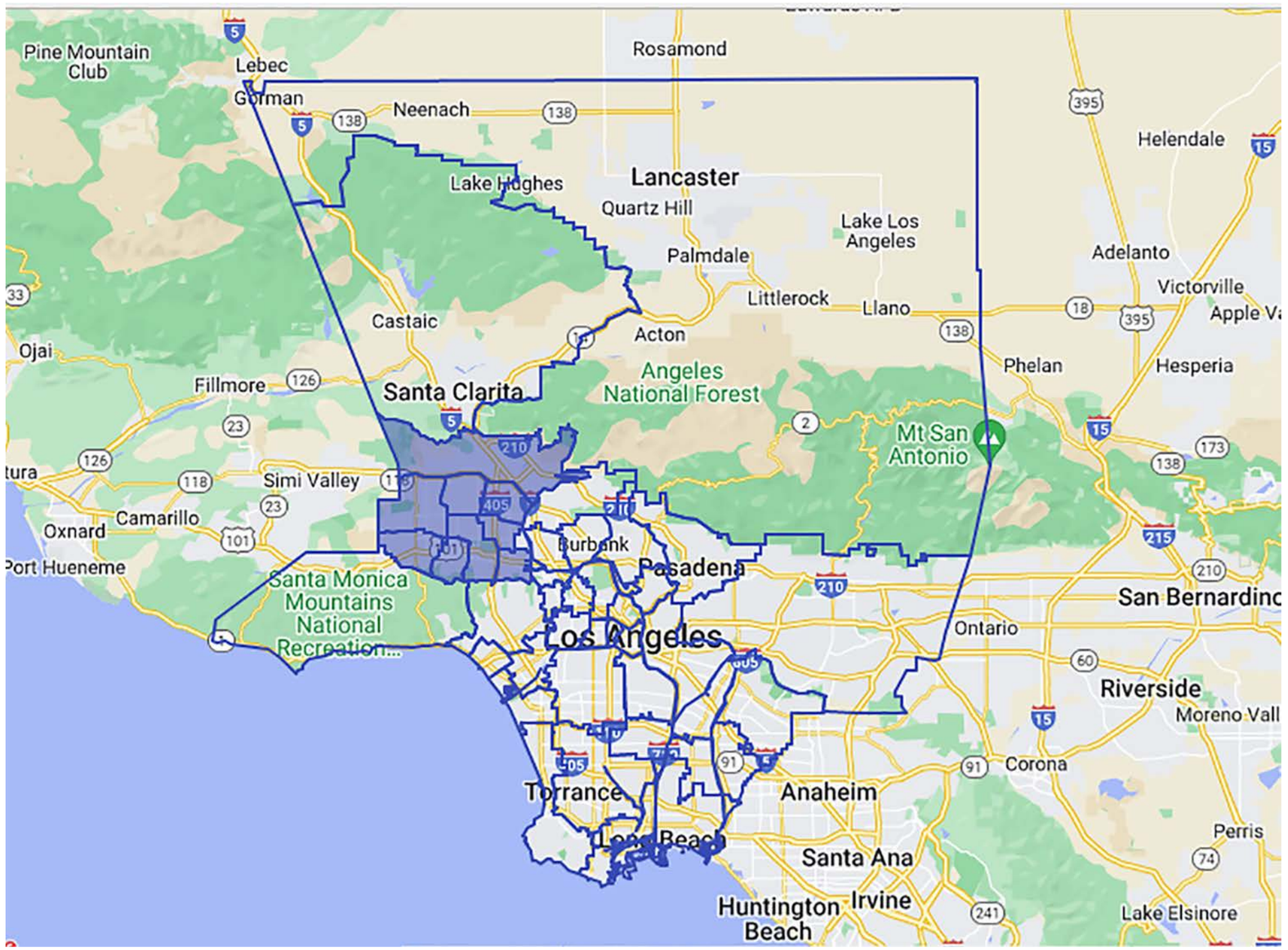






Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

San Fernando Valley



Source: CoStar

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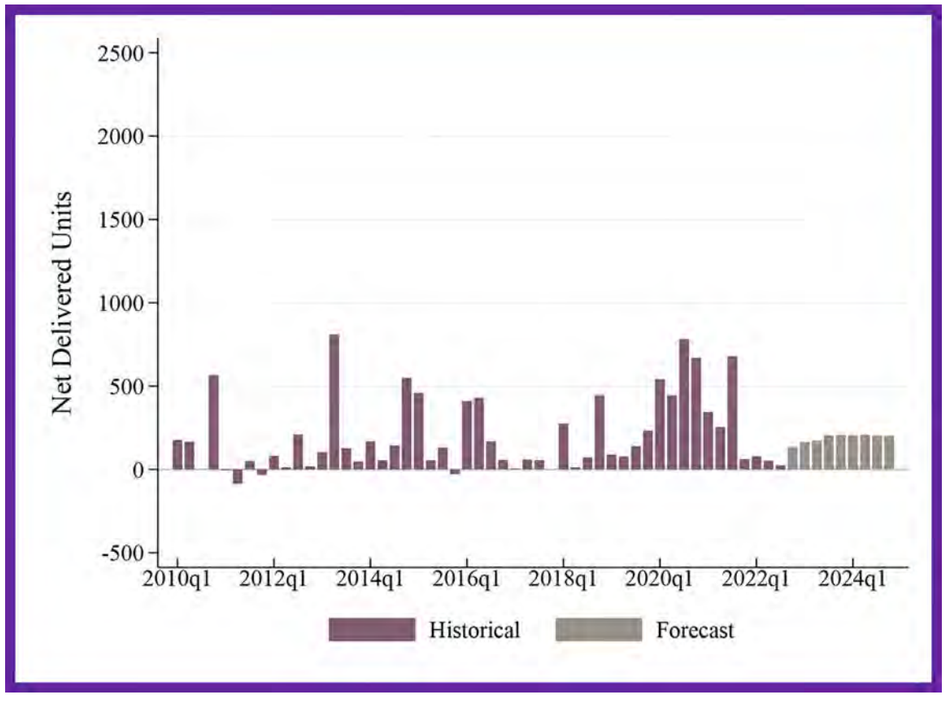
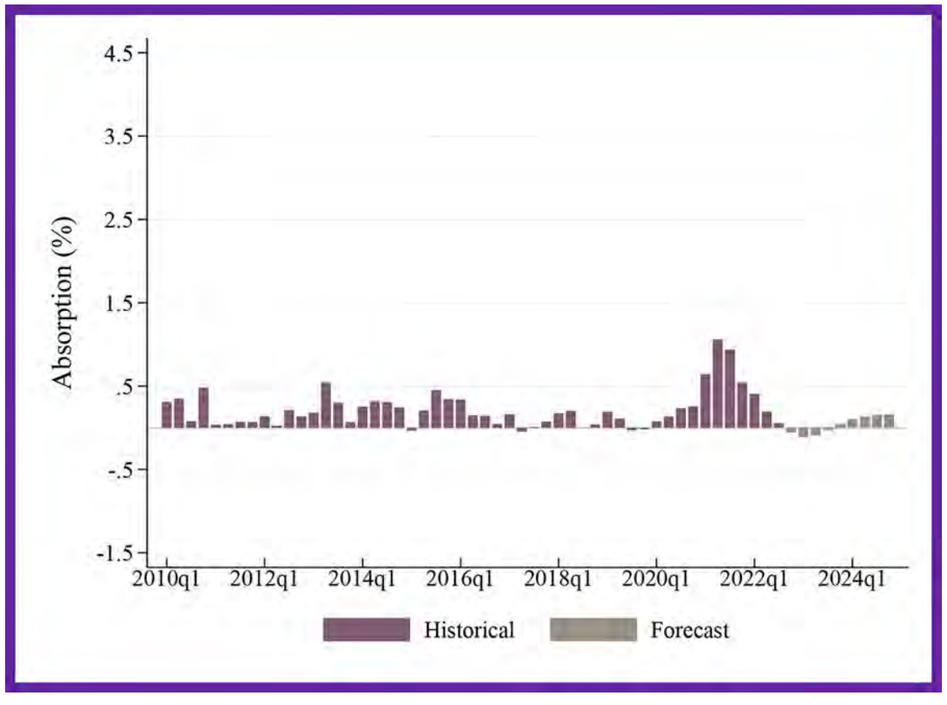
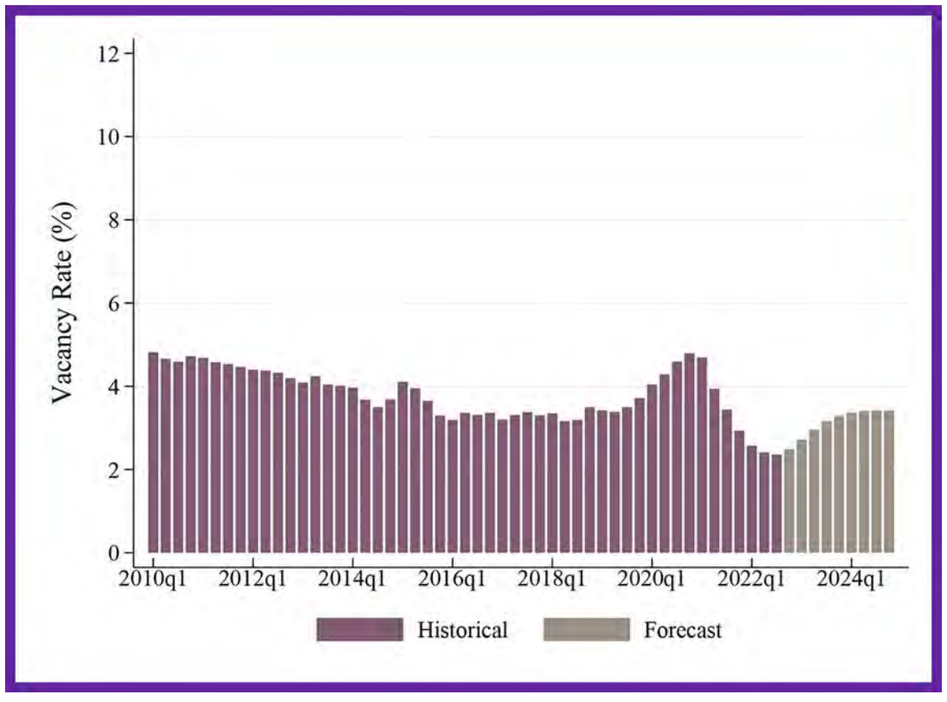
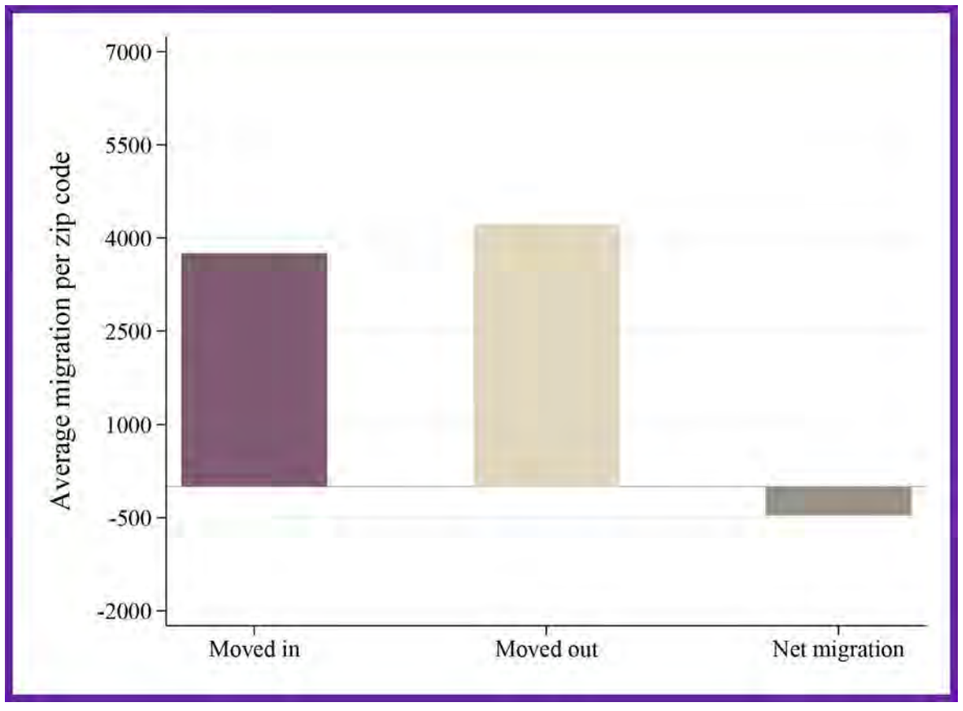






San Fernando Valley Migration since the start of COVID-19



Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

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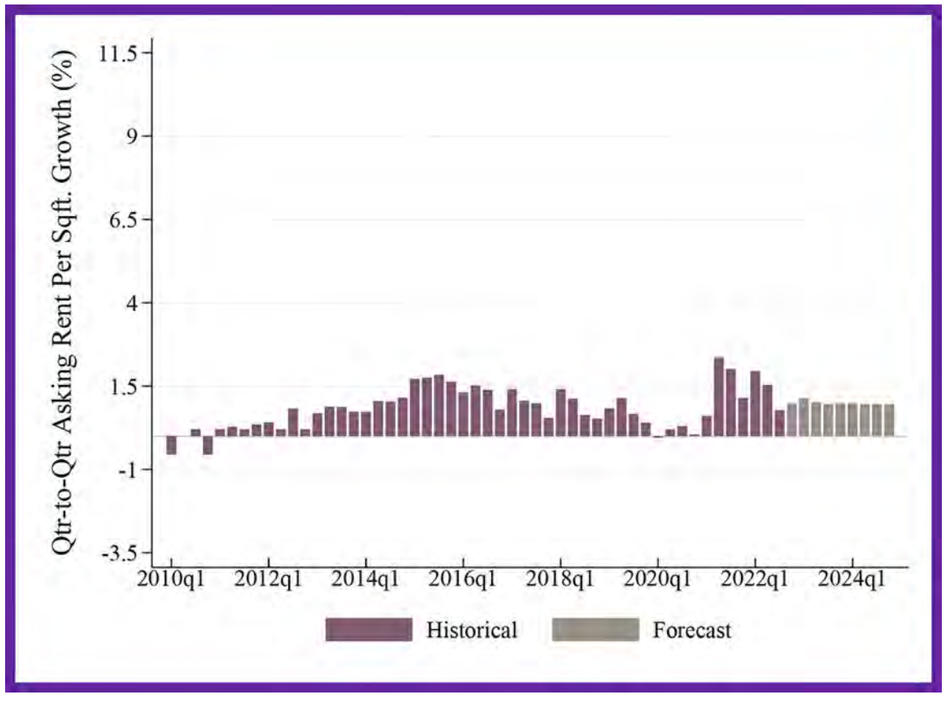
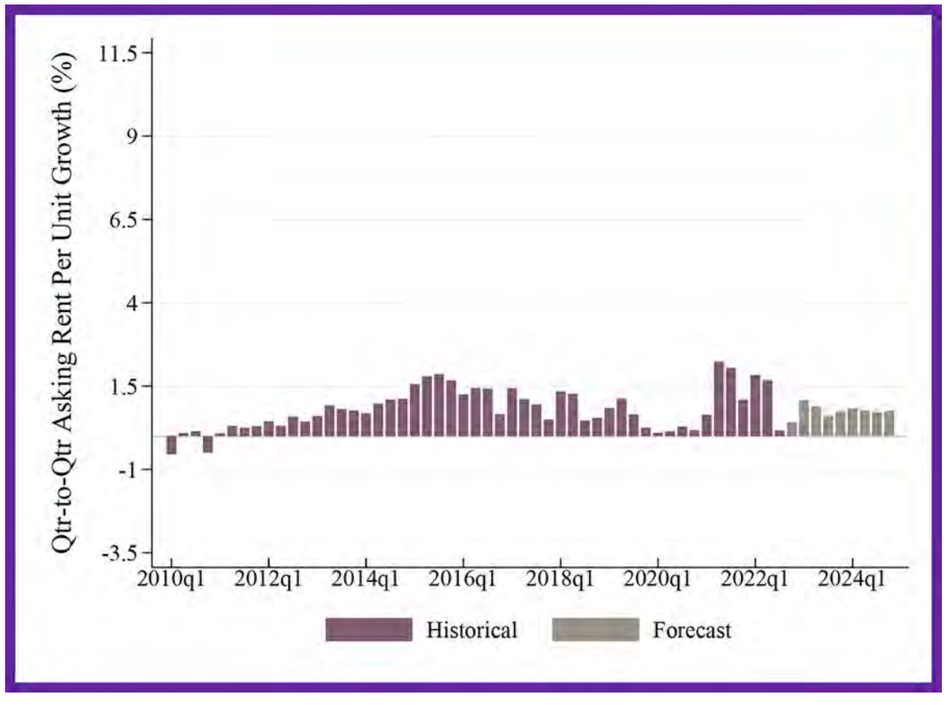
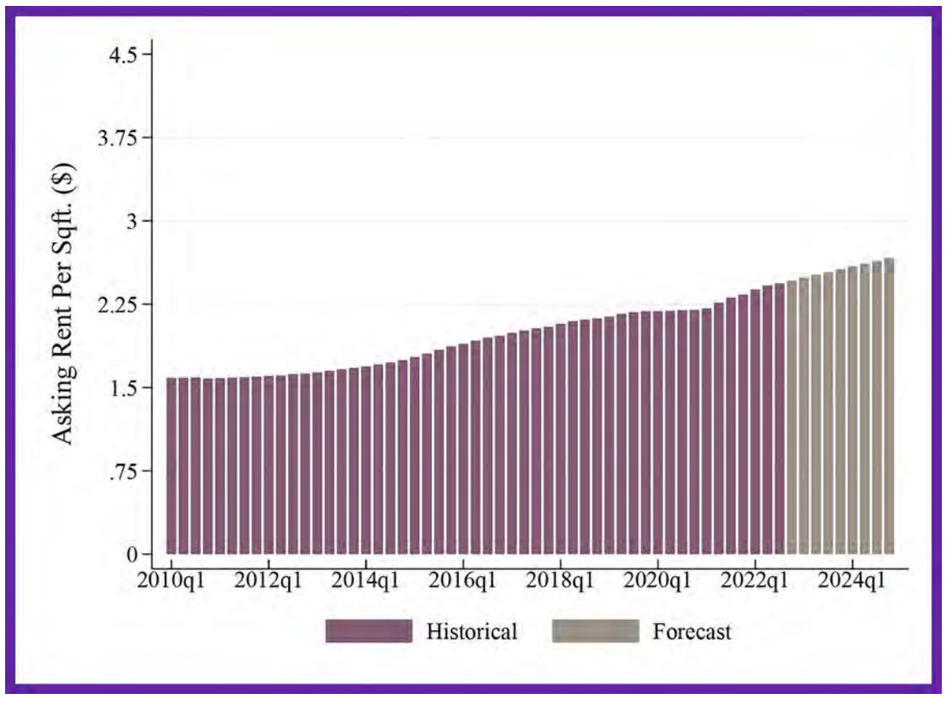
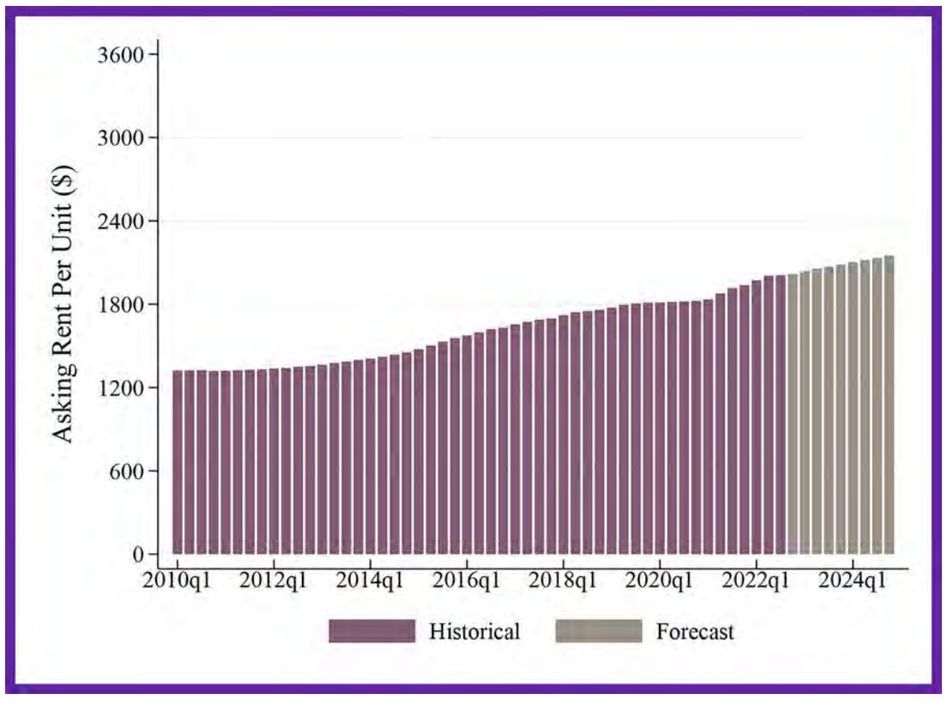


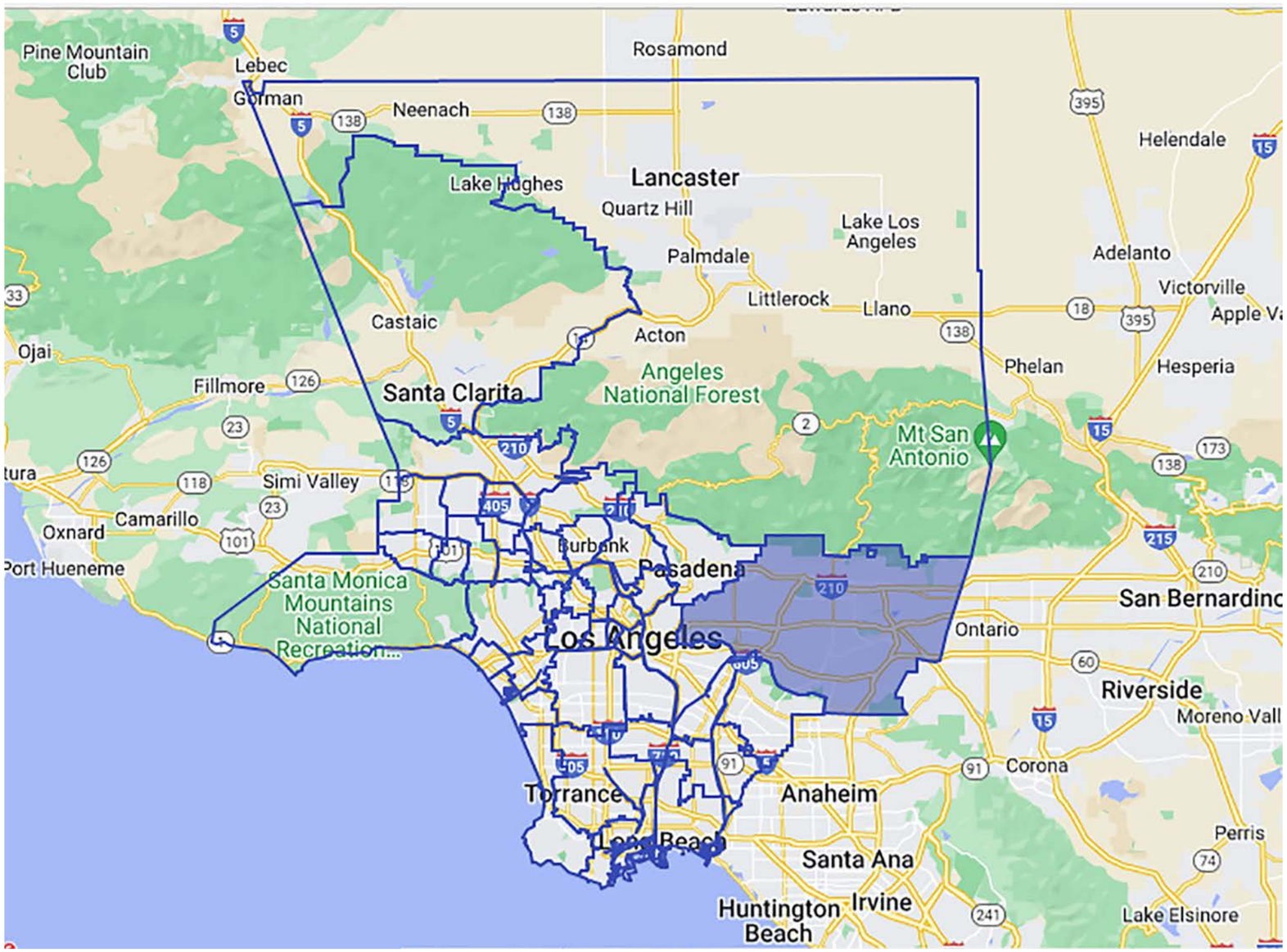






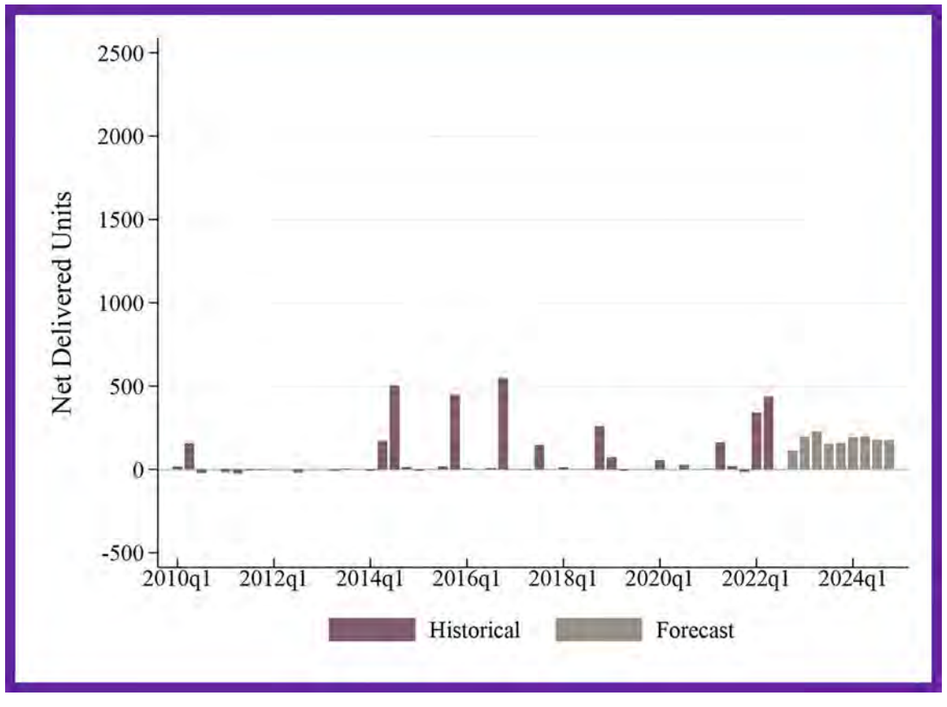
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

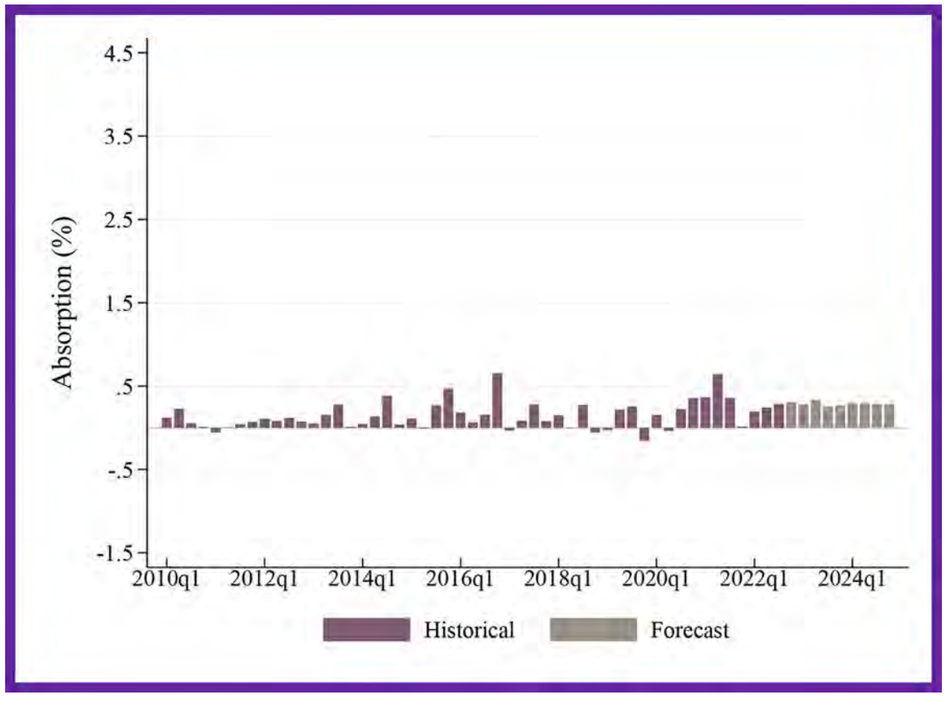
San Gabriel Valley

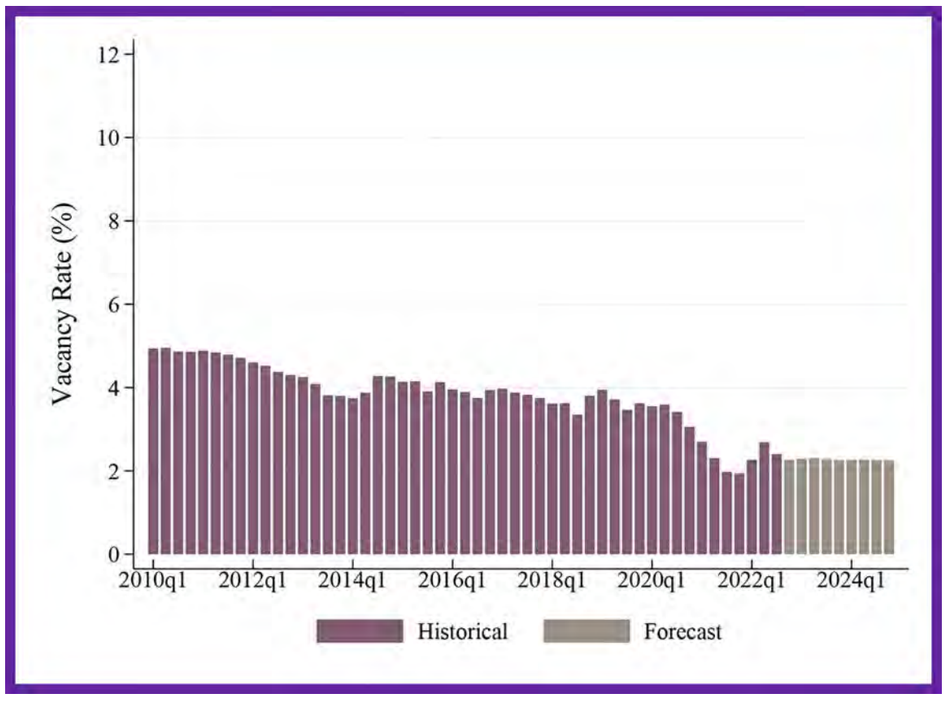


Source: CoStar

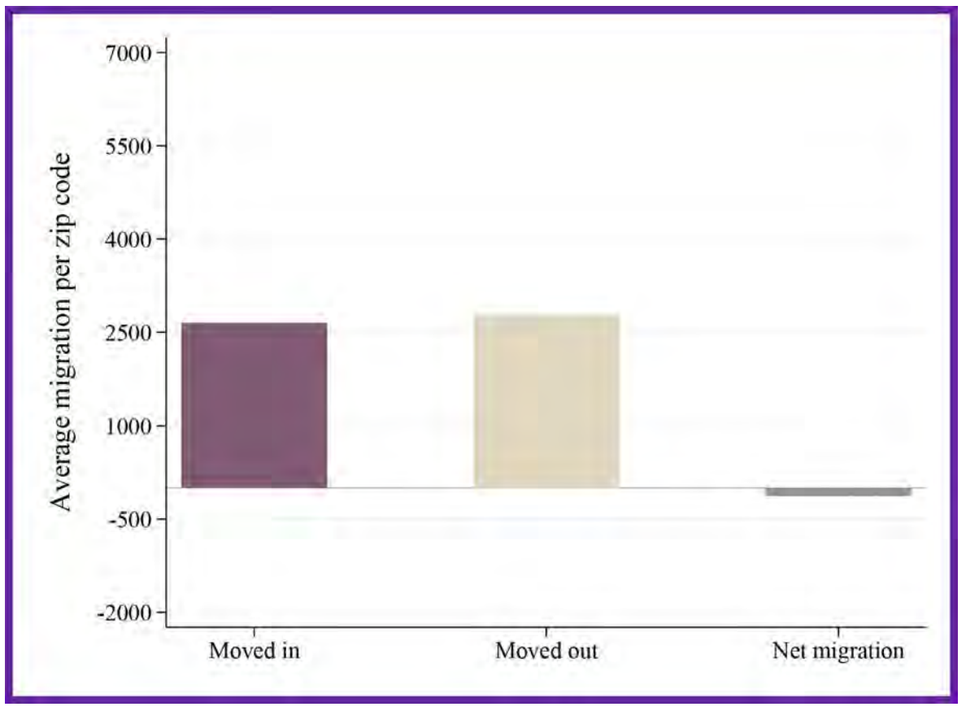
San Gabriel Valley Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





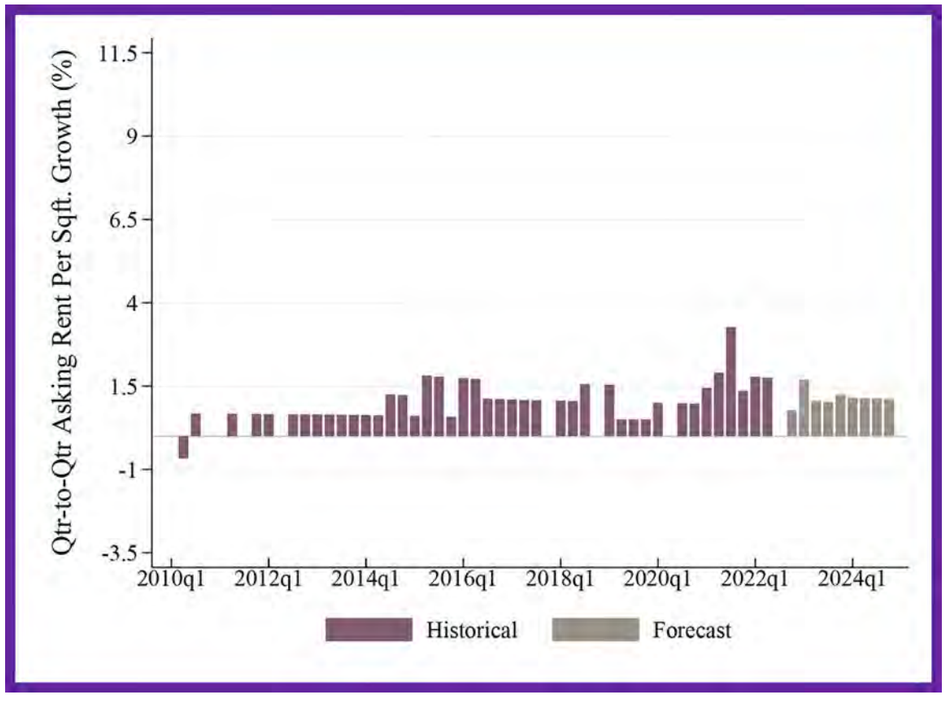


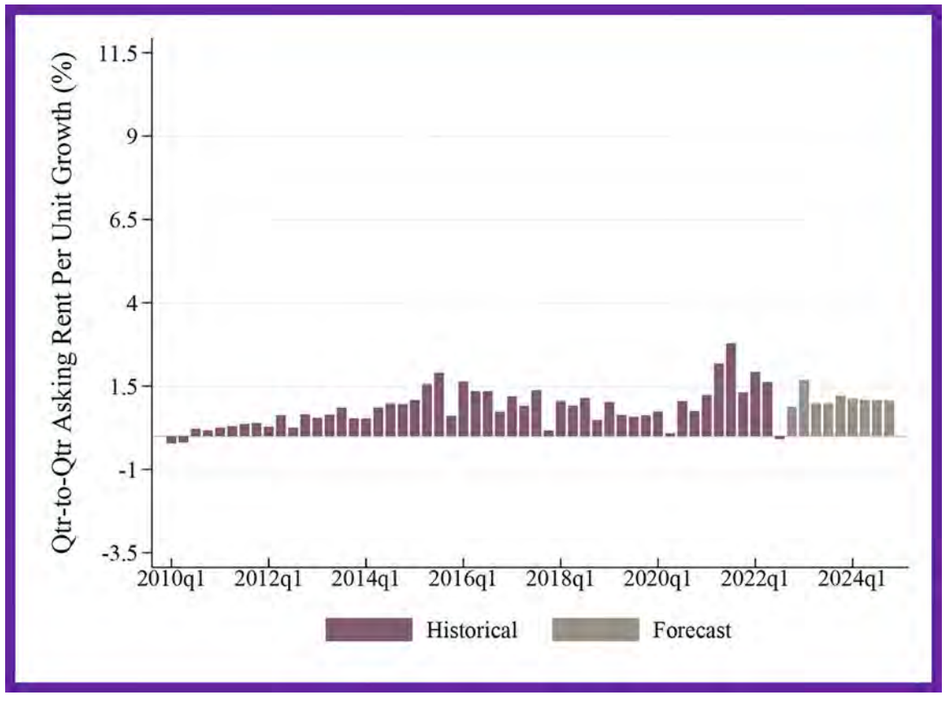
San Gabriel Valley Migration since the start of COVID-19

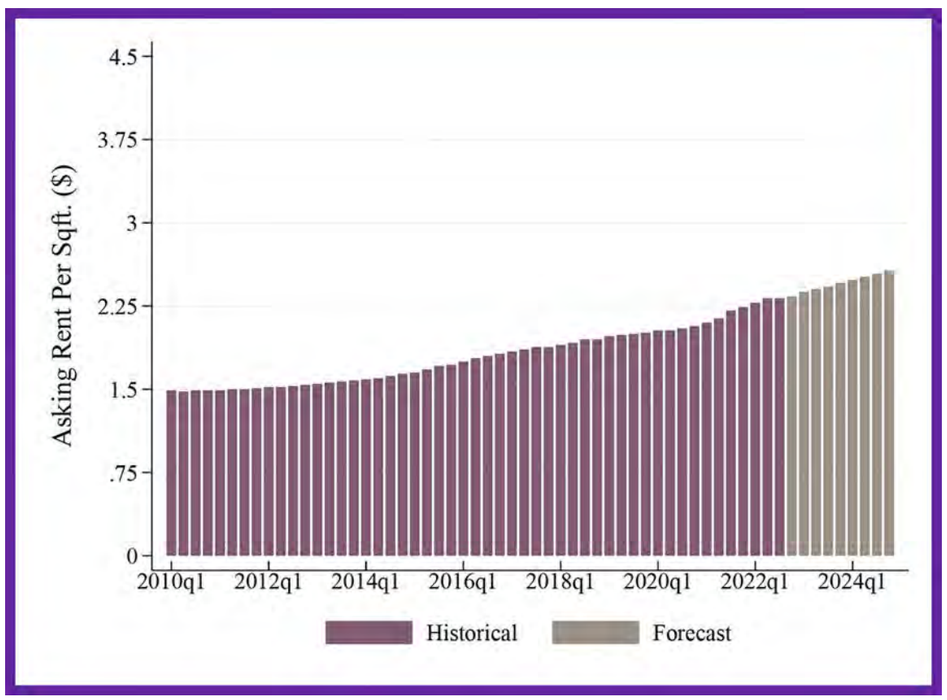


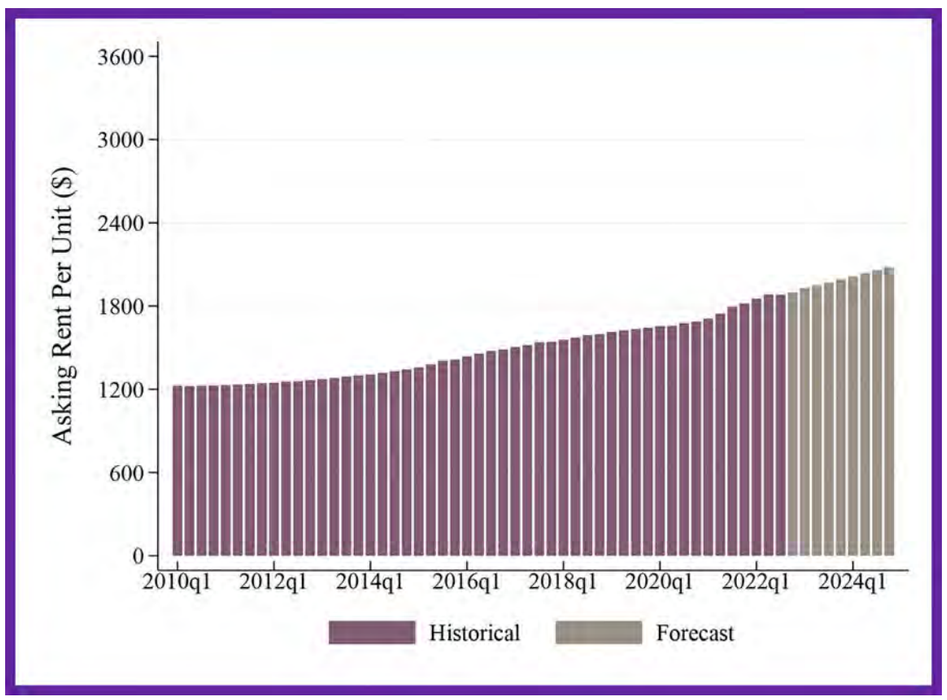
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

San Gabriel Valley Market · Asking Rents · Los Angeles County, 2010-2024



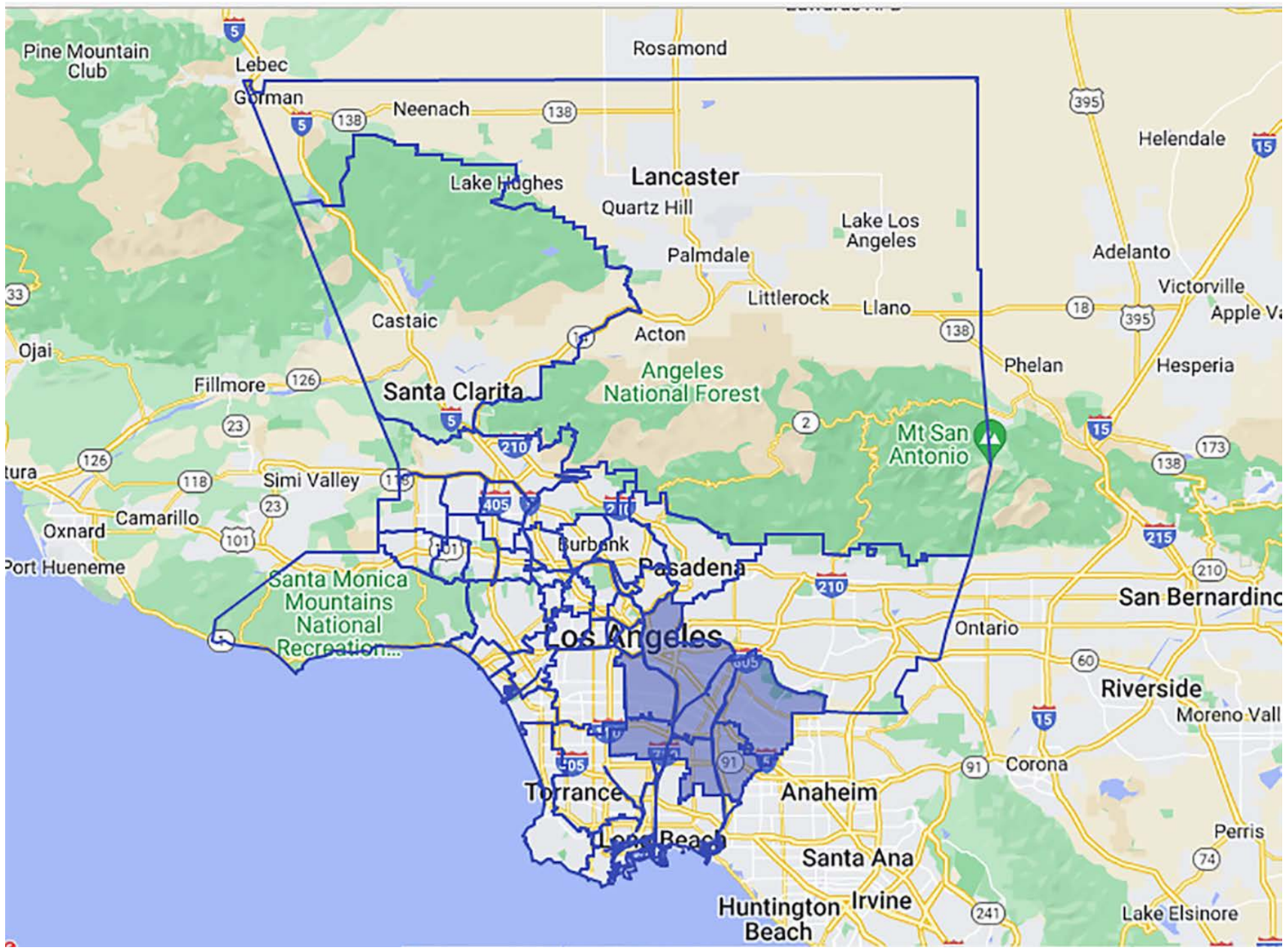






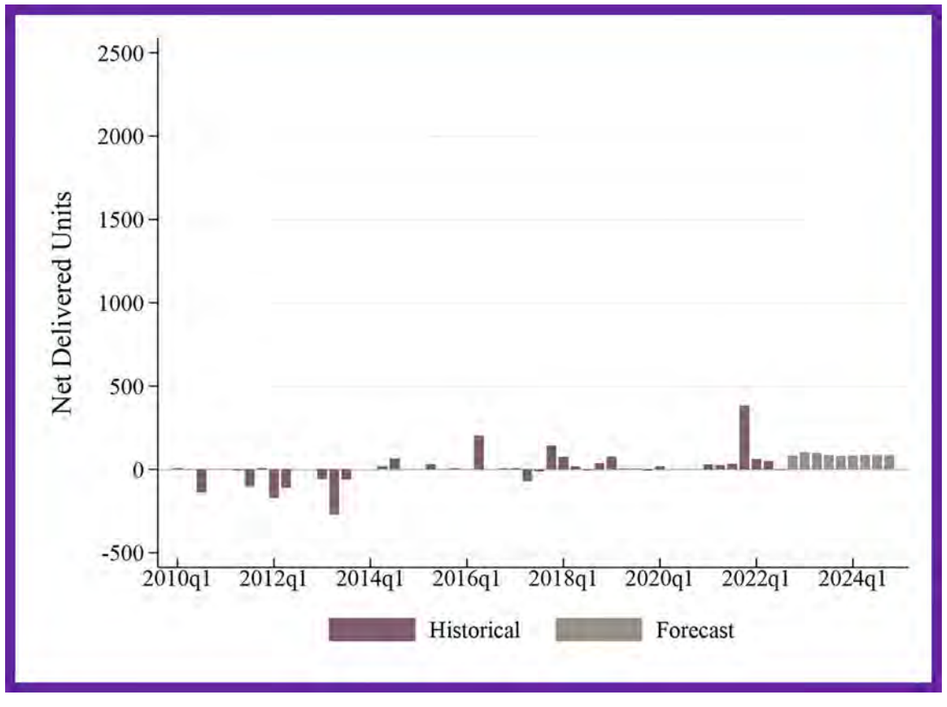
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

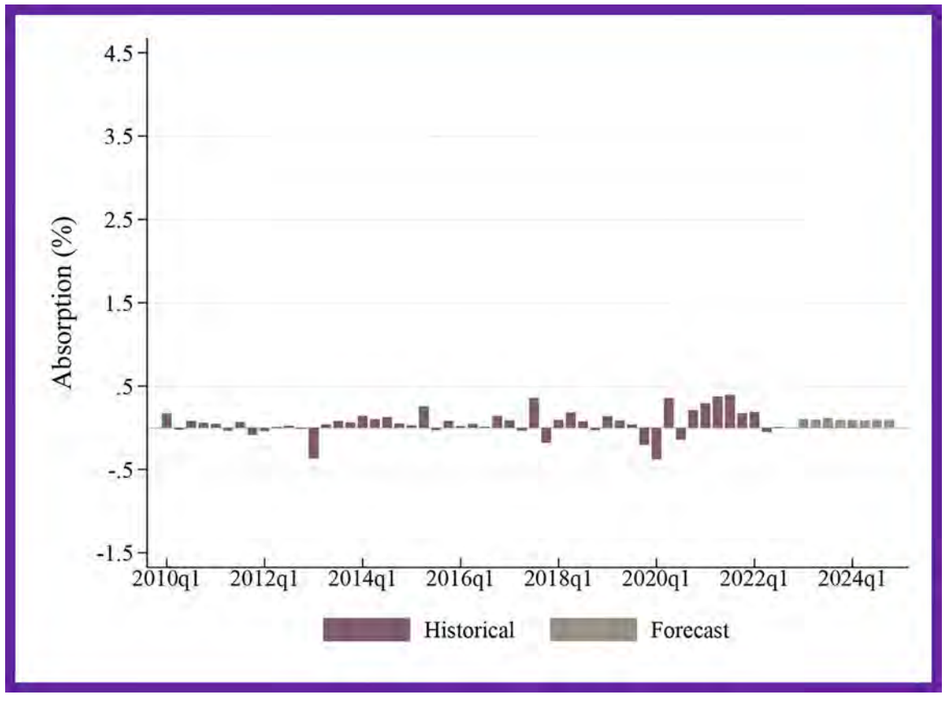
Southeast Los Angeles

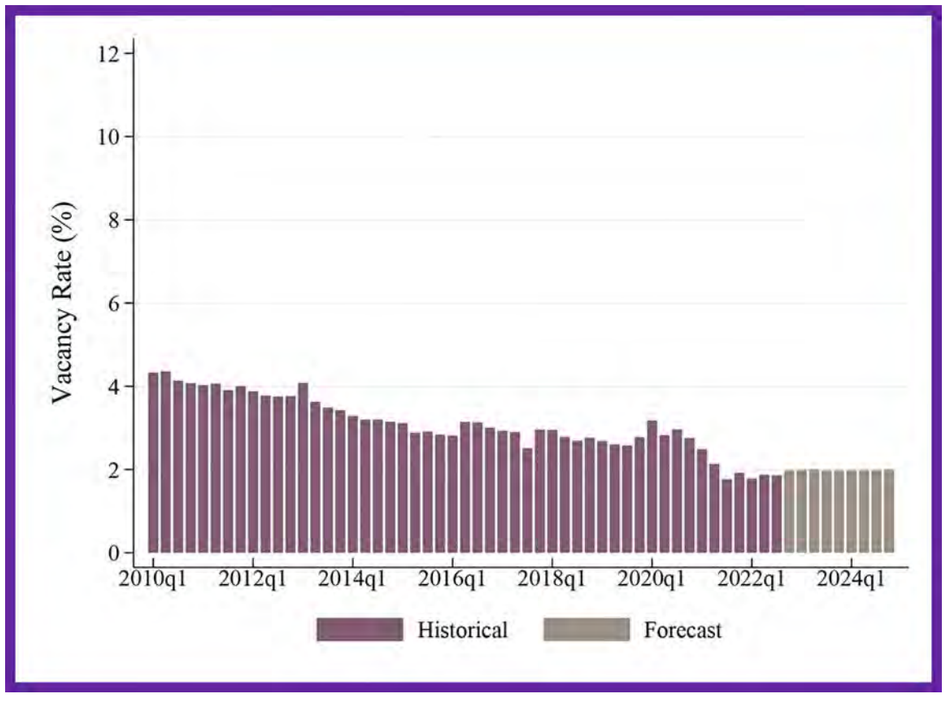


Source: CoStar

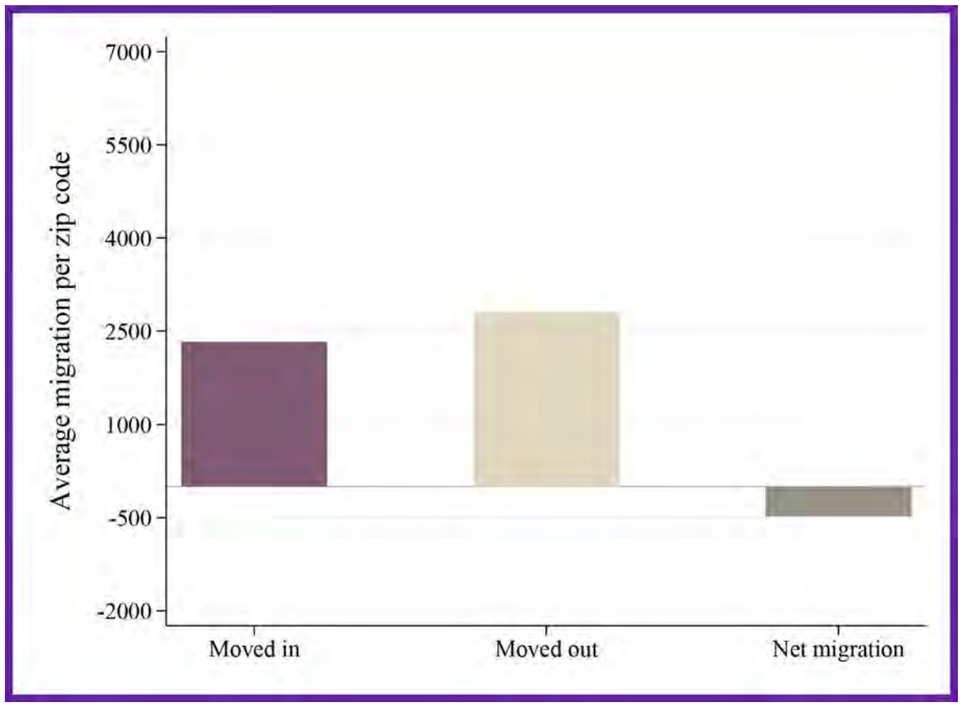
Southeast Los Angeles Market · Delivered Units, Absorption, Vacancy, and Migration · Los Angeles County, 2010-2024





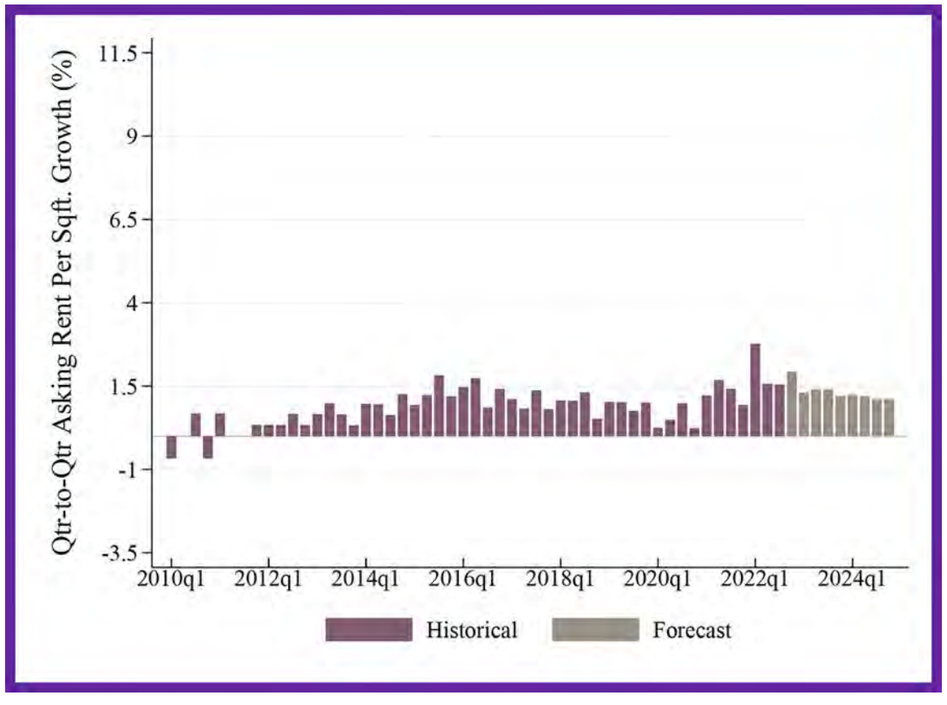


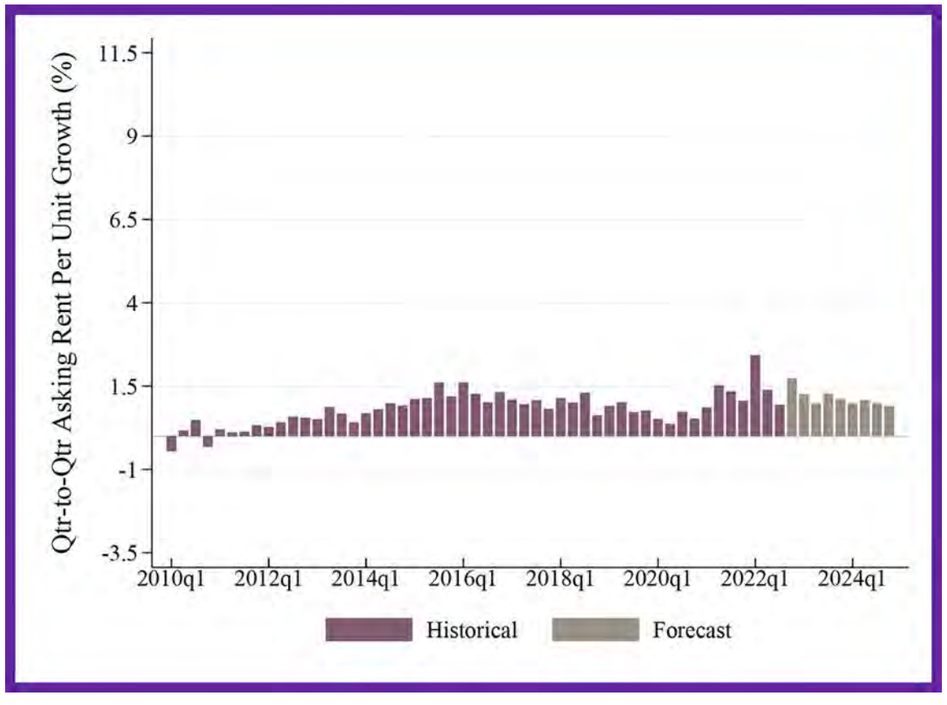
Southeast Los Angeles Migration since the start of COVID-19

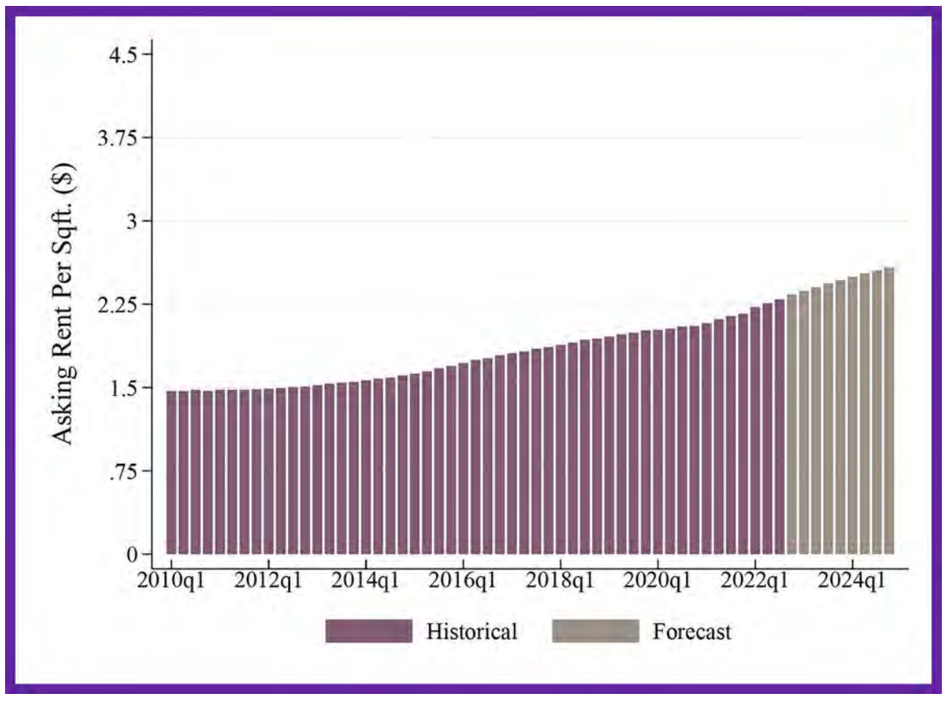


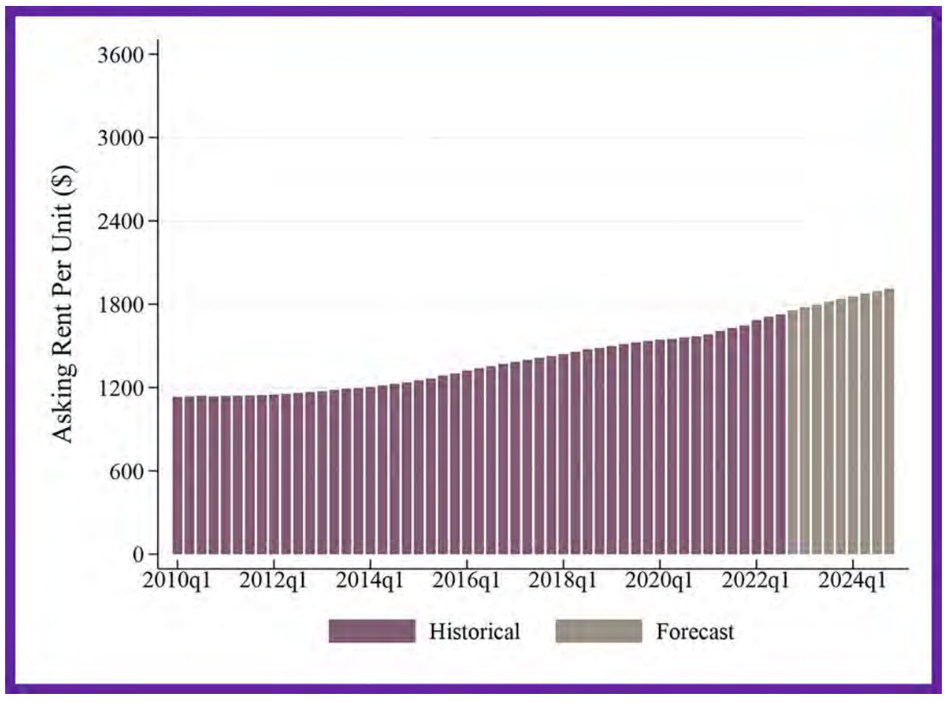
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Southeast Los Angeles Market · Asking Rents · Los Angeles County, 2010-2024









Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Burbank-Glendale Renters

Race	
White	42%
Black	2%
Asian	10%
Hispanic	24%
Others	21%
Education	
Less than HS	33%
HS diploma	18%
Some college	21%
Bachelors degree	20%
Graduate degree	8%
Rental units by size of structure	
1 unit	28%
2-4 units	15%
5-9 units	14%
10-19 units	15%
20+ units	29%
Rental units by age of structure	
Before 1970	52%
1970-1999	40%
2000 and after	8%
Household statistics	
Share of households that are renting	57%
Share of rent-burdened households*	57%
Percent with children	40%
Median household income	$57,000
Average household size	2.48
Migration statistics for last year	
Percent living in same house	88%
Percent moved within California	10%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Coastal Communities-Beverly Hills Renters

Race	
White	55%
Black	6%
Asian	15%
Hispanic	7%
Others	17%
Education	
Less than HS	17%
HS diploma	8%
Some college	19%
Bachelors degree	37%
Graduate degree	19%
Rental units by size of structure	
1 unit	17%
2-4 units	12%
5-9 units	18%
10-19 units	19%
20+ units	34%
Rental units by age of structure	
Before 1970	46%
1970-1999	45%
2000 and after	9%
Household statistics	
Share of households that are renting	53%
Share of rent-burdened households*	50%
Percent with children	22%
Median household income	$93,800
Average household size	1.92
Migration statistics for last year	
Percent living in same house	83%
Percent moved within California	13%
Percent moved from other states to California	3%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Downtown Renters ACE

Race	
White	18%
Black	6%
Asian	13%
Hispanic	42%
Others	20%
Education	
Less than HS	42%
HS diploma	14%
Some college	16%
Bachelors degree	21%
Graduate degree	7%
Rental units by size of structure	
1 unit	14%
2-4 units	14%
5-9 units	12%
10-19 units	15%
20+ units	45%
Rental units by age of structure	
Before 1970	56%
1970-1999	32%
2000 and after	12%
Household statistics	
Share of households that are renting	83%
Share of rent-burdened households*	60%
Percent with children	34%
Median household income	$49,800
Average household size	2.20
Migration statistics for last year	
Percent living in same house	91%
Percent moved within California	7%
Percent moved from other states to California	2%
Percent moved from abroad	0%

Hollywood-Studio City Renters

Race	
White	41%
Black	6%
Asian	11%
Hispanic	24%
Others	18%
Education	
Less than HS	23%
HS diploma	13%
Some college	23%
Bachelors degree	31%
Graduate degree	10%
Rental units by size of structure	
1 unit	12%
2-4 units	9%
5-9 units	17%
10-19 units	21%
20+ units	41%
Rental units by age of structure	
Before 1970	57%
1970-1999	37%
2000 and after	6%
Household statistics	
Share of households that are renting	78%
Share of rent-burdened households*	56%
Percent with children	22%
Median household income	$59,450
Average household size	1.92
Migration statistics for last year	
Percent living in same house	86%
Percent moved within California	10%
Percent moved from other states to California	3%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Inglewood-Gardena-Hawthorne Renters

Race	
White	5%
Black	27%
Asian	4%
Hispanic	33%
Others	30%
Education	
Less than HS	49%
HS diploma	18%
Some college	21%
Bachelors degree	8%
Graduate degree	4%
Rental units by size of structure	
1 unit	30%
2-4 units	28%
5-9 units	14%
10-19 units	13%
20+ units	15%
Rental units by age of structure	
Before 1970	62%
1970-1999	30%
2000 and after	8%
Household statistics	
Share of households that are renting	65%
Share of rent-burdened households*	58%
Percent with children	49%
Median household income	$40,600
Average household size	2.82
Migration statistics for last year	
Percent living in same house	91%
Percent moved within California	7%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Koreatown - Mid City Renters

Race	
White	25%
Black	7%
Asian	27%
Hispanic	21%
Others	20%
Education	
Less than HS	31%
HS diploma	14%
Some college	18%
Bachelors degree	24%
Graduate degree	12%
Rental units by size of structure	
1 unit	6%
2-4 units	14%
5-9 units	16%
10-19 units	20%
20+ units	45%
Rental units by age of structure	
Before 1970	57%
1970-1999	34%
2000 and after	9%
Household statistics	
Share of households that are renting	83%
Share of rent-burdened households*	58%
Percent with children	27%
Median household income	$56,000
Average household size	2.08
Migration statistics for last year	
Percent living in same house	89%
Percent moved within California	9%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Long Beach - South Bay Renters

Race	
White	14%
Black	14%
Asian	12%
Hispanic	25%
Others	35%
Education	
Less than HS	42%
HS diploma	17%
Some college	23%
Bachelors degree	12%
Graduate degree	5%
Rental units by size of structure	
1 unit	26%
2-4 units	17%
5-9 units	16%
10-19 units	14%
20+ units	27%
Rental units by age of structure	
Before 1970	52%
1970-1999	40%
2000 and after	8%
Household statistics	
Share of households that are renting	54%
Share of rent-burdened households*	55%
Percent with children	47%
Median household income	$55,000
Average household size	2.66
Migration statistics for last year	
Percent living in same house	89%
Percent moved within California	10%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Palmdale-Lancaster Renters

Race	
White	28%
Black	17%
Asian	5%
Hispanic	24%
Others	26%
Education	
Less than HS	40%
HS diploma	20%
Some college	22%
Bachelors degree	12%
Graduate degree	6%
Rental units by size of structure	
1 unit	46%
2-4 units	10%
5-9 units	11%
10-19 units	7%
20+ units	27%
Rental units by age of structure	
Before 1970	27%
1970-1999	61%
2000 and after	12%
Household statistics	
Share of households that are renting	34%
Share of rent-burdened households*	56%
Percent with children	48%
Median household income	$56,050
Average household size	2.70
Migration statistics for last year	
Percent living in same house	87%
Percent moved within California	12%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Pasadena Renters

Race	
White	34%
Black	13%
Asian	14%
Hispanic	17%
Others	22%
Education	
Less than HS	23%
HS diploma	10%
Some college	20%
Bachelors degree	25%
Graduate degree	22%
Rental units by size of structure	
1 unit	24%
2-4 units	15%
5-9 units	10%
10-19 units	12%
20+ units	39%
Rental units by age of structure	
Before 1970	52%
1970-1999	32%
2000 and after	16%
Household statistics	
Share of households that are renting	59%
Share of rent-burdened households*	48%
Percent with children	26%
Median household income	$78,000
Average household size	2.02
Migration statistics for last year	
Percent living in same house	81%
Percent moved within California	17%
Percent moved from other states to California	2%
Percent moved from abroad	0%

San Fernando Renters

Race	
White	20%
Black	6%
Asian	7%
Hispanic	41%
Others	26%
Education	
Less than HS	42%
HS diploma	18%
Some college	22%
Bachelors degree	13%
Graduate degree	4%
Rental units by size of structure	
1 unit	24%
2-4 units	4%
5-9 units	6%
10-19 units	14%
20+ units	52%
Rental units by age of structure	
Before 1970	38%
1970-1999	49%
2000 and after	13%
Household statistics	
Share of households that are renting	49%
Share of rent-burdened households*	62%
Percent with children	47%
Median household income	$54,000
Average household size	2.74
Migration statistics for last year	
Percent living in same house	90%
Percent moved within California	9%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

San Gabriel Valley Renters

Race	
White	10%
Black	4%
Asian	27%
Hispanic	34%
Others	25%
Education	
Less than HS	40%
HS diploma	19%
Some college	22%
Bachelors degree	14%
Graduate degree	5%
Rental units by size of structure	
1 unit	48%
2-4 units	12%
5-9 units	9%
10-19 units	11%
20+ units	19%
Rental units by age of structure	
Before 1970	53%
1970-1999	41%
2000 and after	6%
Household statistics	
Share of households that are renting	41%
Share of rent-burdened households*	50%
Percent with children	53%
Median household income	$58,000
Average household size	2.94
Migration statistics for last year	
Percent living in same house	90%
Percent moved within California	9%
Percent moved from other states to California	0%
Percent moved from abroad	1%

Southeast Los Angeles Renters

Race	
White	6%
Black	6%
Asian	7%
Hispanic	50%
Others	31%
Education	
Less than HS	50%
HS diploma	20%
Some college	18%
Bachelors degree	9%
Graduate degree	3%
Rental units by size of structure	
1 unit	41%
2-4 units	16%
5-9 units	10%
10-19 units	7%
20+ units	26%
Rental units by age of structure	
Before 1970	60%
1970-1999	31%
2000 and after	9%
Household statistics	
Share of households that are renting	54%
Share of rent-burdened households*	55%
Percent with children	58%
Median household income	$50,000
Average household size	3.14
Migration statistics for last year	
Percent living in same house	93%
Percent moved within California	7%
Percent moved from other states to California	0%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Orange County

Orange County Renters

Race

White	30%
Black	2%
Asian	17%
Hispanic	24%
Others	27%

Education

Less than HS	36%
HS diploma	16%
Some college	22%
Bachelors degree	18%
Graduate degree	7%

Rental units by size of structure

1 unit	31%
2-4 units	18%
5-9 units	11%
10-19 units	9%
20+ units	31%

Rental units by age of structure

Before 1970	32%
1970-1999	54%
2000 and after	14%

Household statistics

Share of households that are renting	42%
Share of rent-burdened households*	54%
Percent with children	44%
Median household income	$72,000
Average household size	2.72

Migration statistics for last year

Percent living in same house	84%
Percent moved within California	14%
Percent moved from other states to California	1%
Percent moved from abroad	1%

*Rent burden is the share of households whose rent payments exceed 30% of income.

Source: 2020 American Community Survey

There are not a whole lot of interesting things to say about Orange County, California – and this is not a bad thing. It has among the strongest economies in the country. For example, among the 3143 counties in the United States, it ranks 66 in median household income placing it just outside the top 5% (US Census 2020). Only King County, Washington, has a higher median household income among counties with more than two million people.

The unemployment rate in Orange County is very low at 3%, which compares with 3.5% nationally, itself an extraordinarily low unemployment rate. Vacancy rates in Orange County for apartments are running at less than 4%, and we expect them to remain under 4% in the coming quarters. Such a low vacancy rate implies continuing increases in rents.

At the same time, the Orange County economy is extraordinarily well diversified. The only industry with low employment levels is mining and natural resources, but no urban county in the United States has much employment in these sectors. It is fascinating that while the location quotient for tourism and hospitality in Orange County is above one, implying that it might rely more on this industry than the average county, it only depends 25% more on this industry than the typical county. When one considers the presence of Disneyland and Knott's Berry Farm in the area (Disneyland alone employs more than 30,000 people), it is remarkable that Orange County relies so little on this industry for employment. This is a stark contrast with other places with well-known tourist attractions, such as Las Vegas and Orlando, which have location quotients for tourism and hospitality of 2.55 and 2.25, respectively.

The Orange County economy is extraordinarily well diversified. The only industry with low employment levels is mining and natural resources.

Yet despite the remarkable strength of Orange County's economy, including high income, low unemployment, and economic diversity, Orange County has a reputation for being more business-friendly than its larger neighbor to its north, but still has had small outmigration since the beginning of the pandemic. Nevertheless, when, compared to Los Angeles, Orange County's net migration is very low with high volumes of in and out-migration. There could be a lot of churn in its labor market.

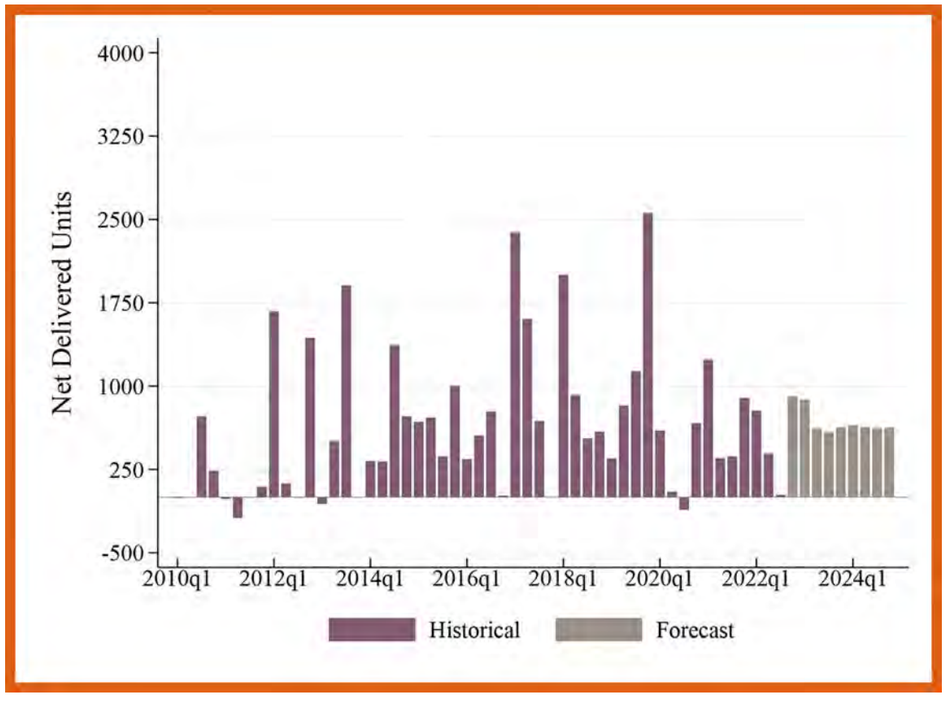
But like its neighbor to the north, it suffers has two problems causing people to leave. First, based on studies we are doing at the Lusk Center for Real Estate, we think the elimination of the state and local tax deduction on federal income taxes in the 2017 Tax Act has led to a small but significant number of people leaving California. Second and more important, the cost of housing in Orange County, both rental and owner, is so high that people are leaving for cities where wages are lower but house costs are lower still.

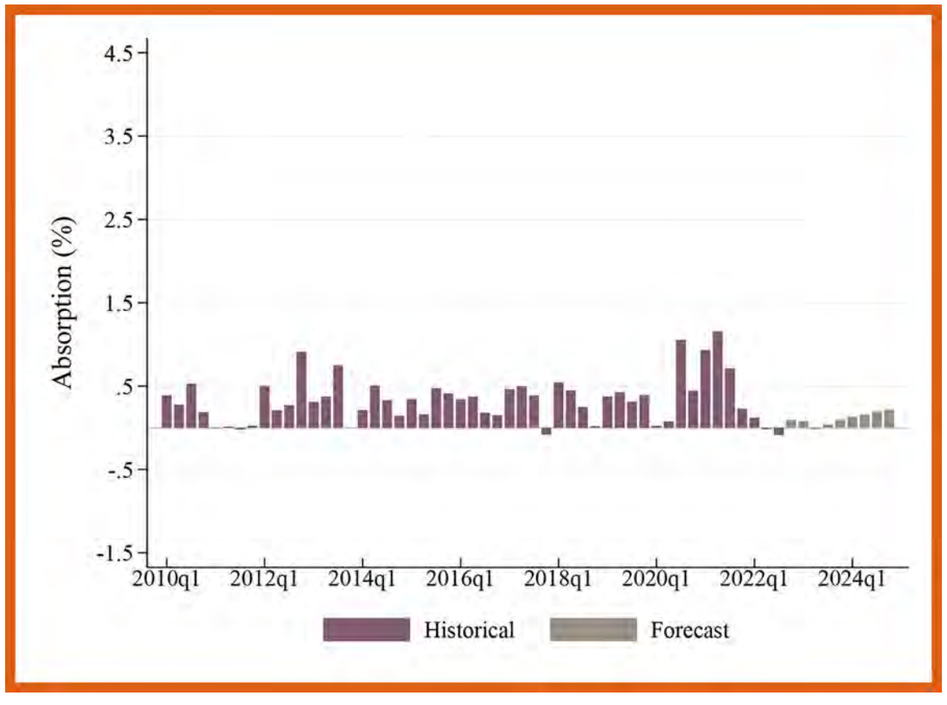
It is an open question whether the second dynamic will continue. The cost of housing in many areas that have been receiving Californians, such as Phoenix, Las Vegas, Salt Lake City, and even Boise, has risen dramatically since the pandemic's beginning. It is no longer clear that living standards for the average worker in these cities have remained higher than in places like Orange County. For the time being, we are assuming that the outflow from Orange County will continue, tempering rent increases. But should the outflow cease, we will see rents rise even more rapidly than we forecast in the next two to three years.

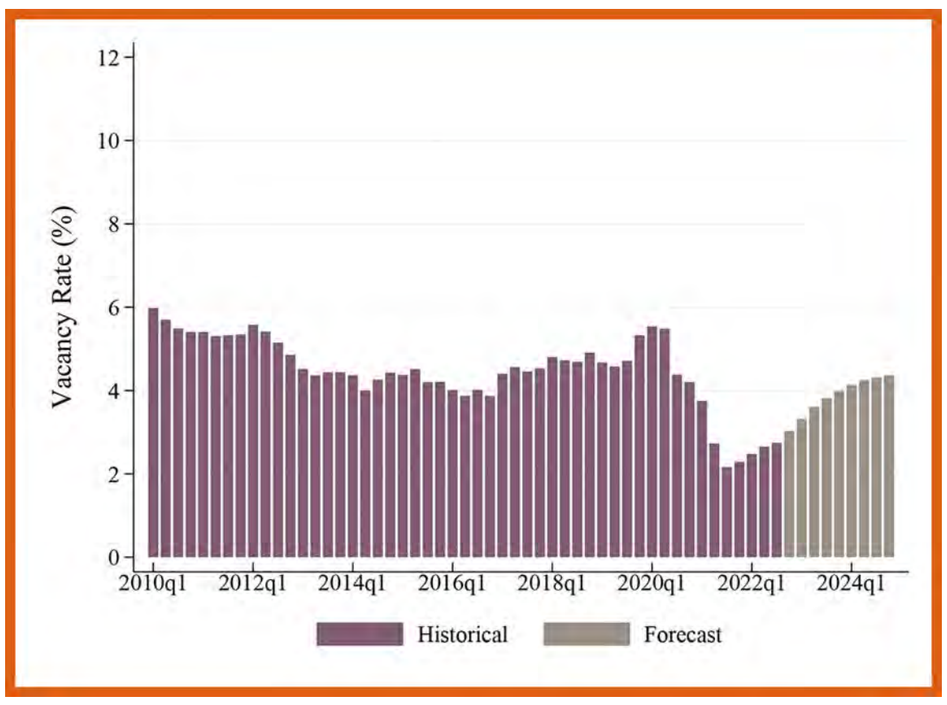
Employment Location Quotients

Industry • Orange County	
ALL INDUSTRIES	1.06
GOODS-PRODUCING	1.09
NATURAL RESOURCES AND MINING	0.11
CONSTRUCTION	1.27
MANUFACTURING	1.11
SERVICE-PROVIDING	1.06
TRADE, TRANSPORTATION, AND UTILITIES	0.81
INFORMATION	0.73
FINANCIAL ACTIVITIES	1.23
PROFESSIONAL AND BUSINESS SERVICES	1.30
EDUCATION AND HEALTH SERVICES	0.97
LEISURE AND HOSPITALITY	1.28
OTHER SERVICES	1.02
UNCLASSIFIED	0.11

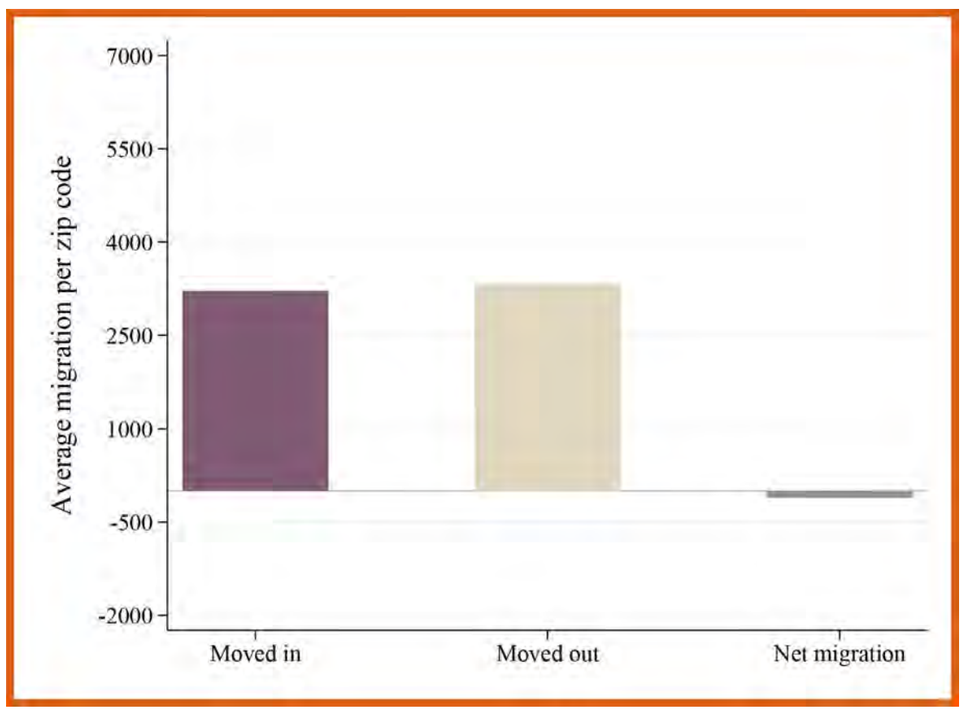
Orange County Delivered Units, Absorption, Vacancy, and Migration · Orange County, 2010-2024





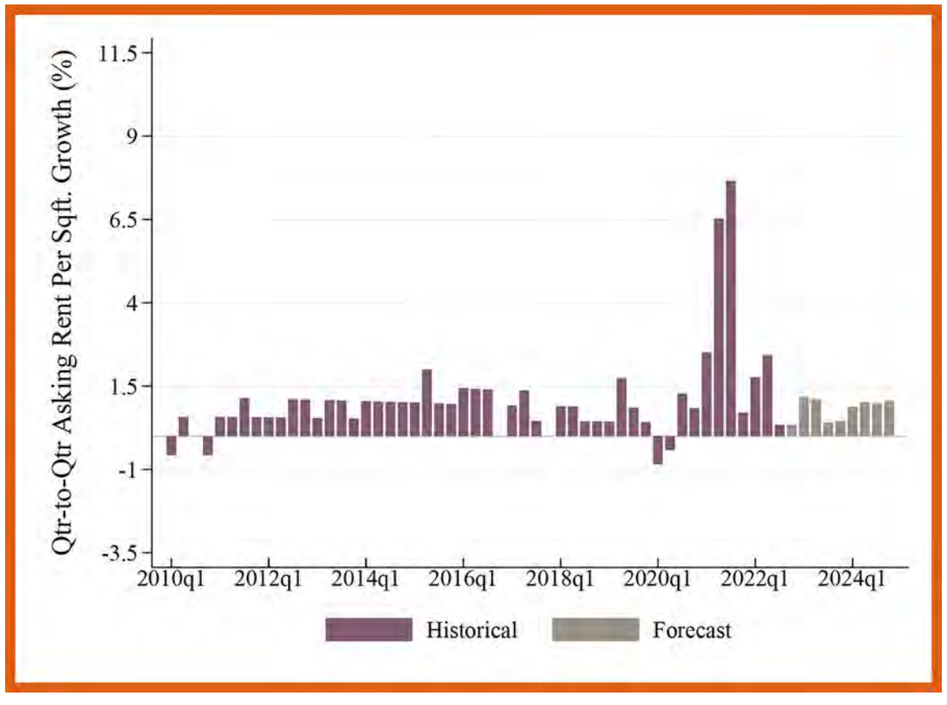


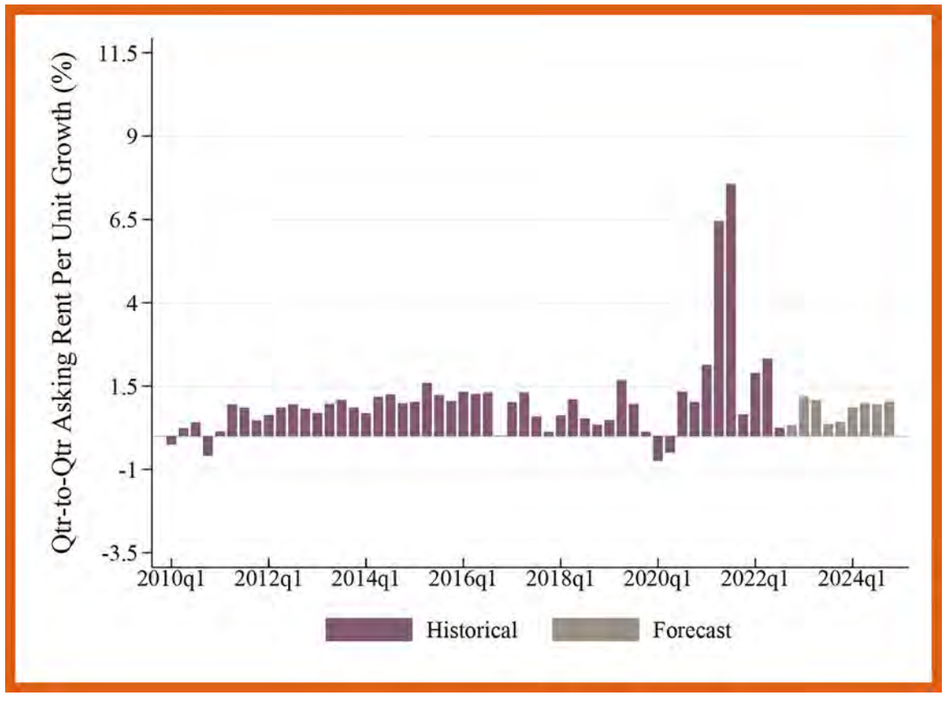
Orange County Migration since the start of COVID-19

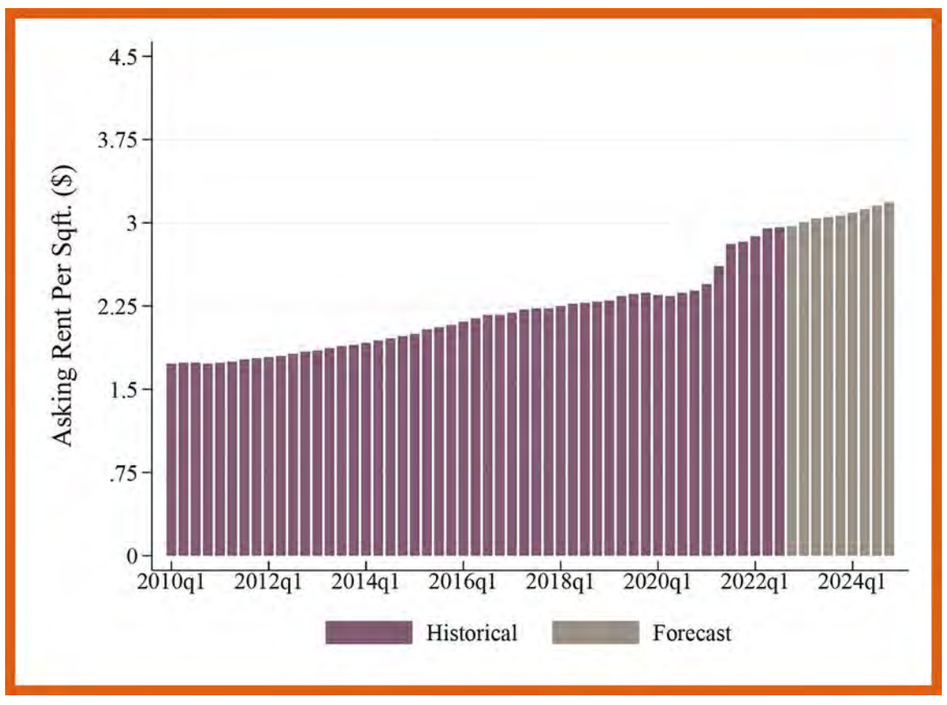


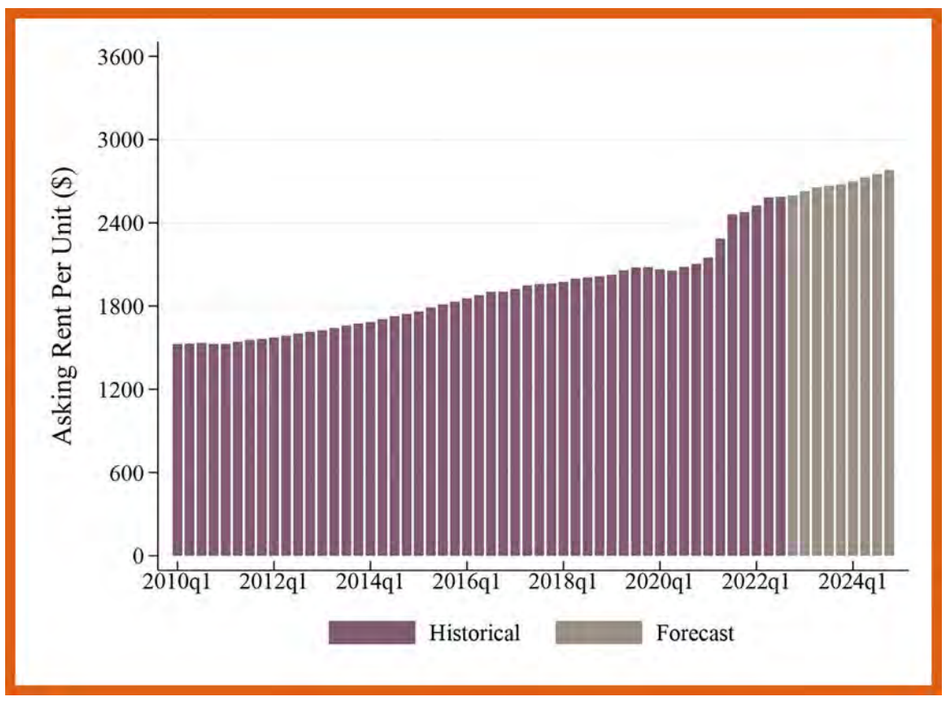
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

Orange County Asking Rents · Orange County, 2010-2024



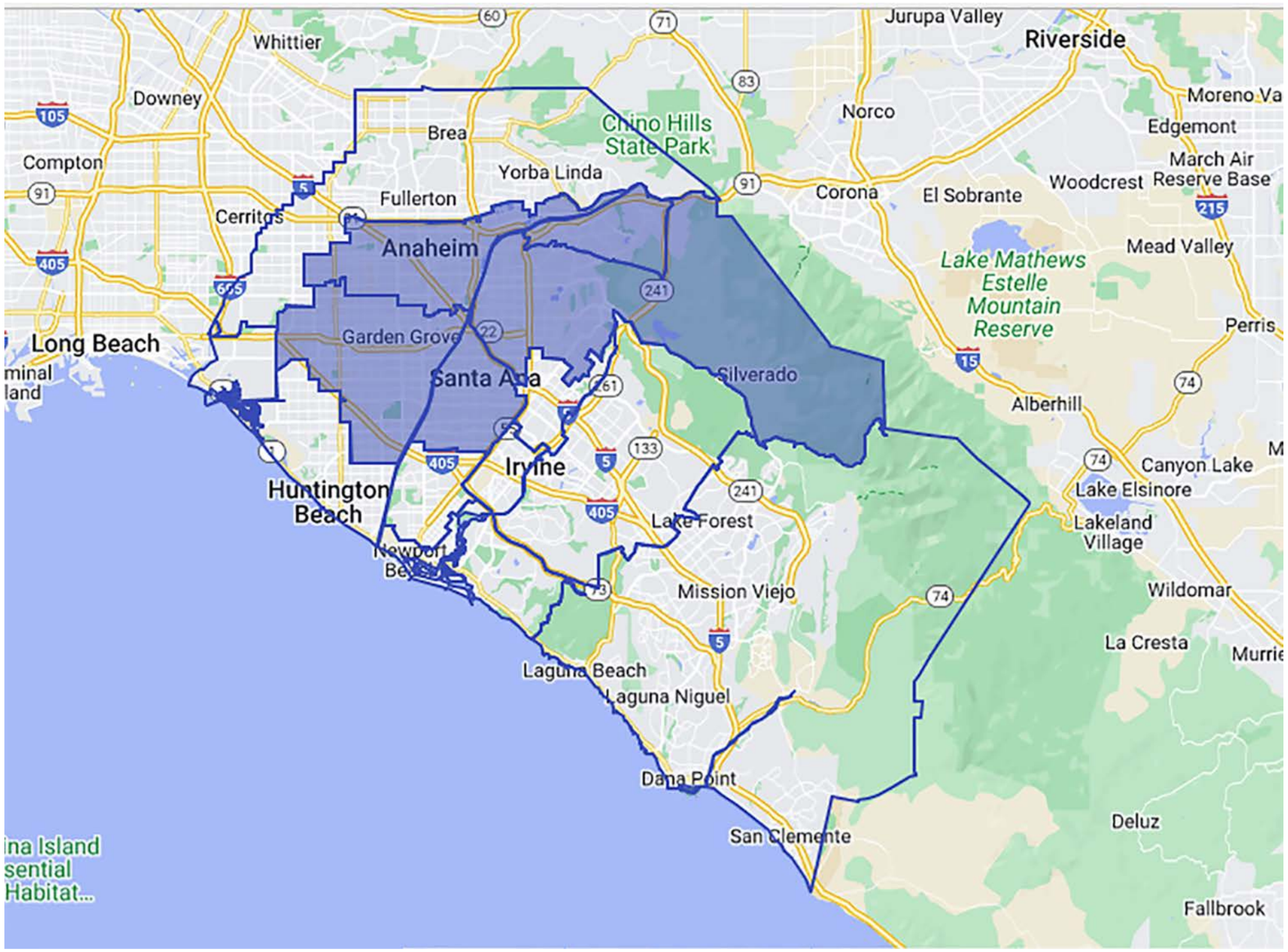






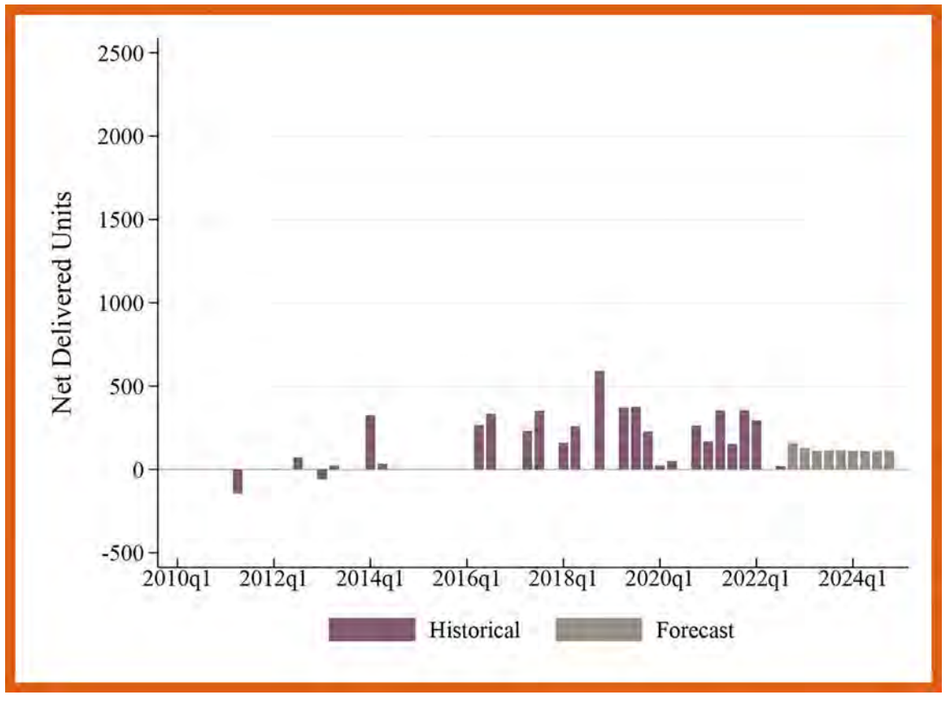
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

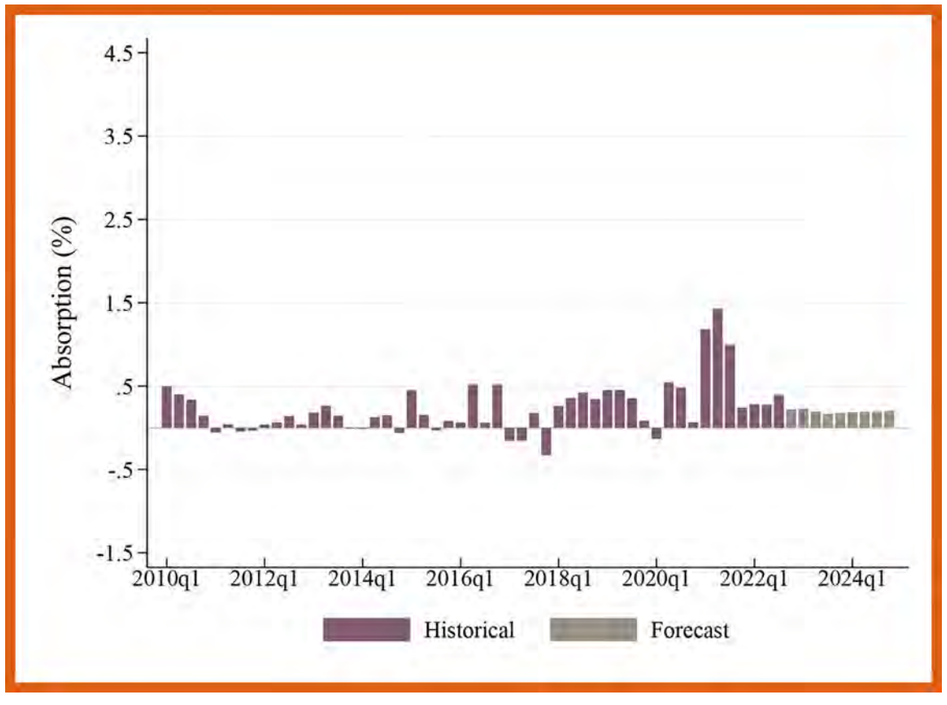
Anaheim/Santa Ana

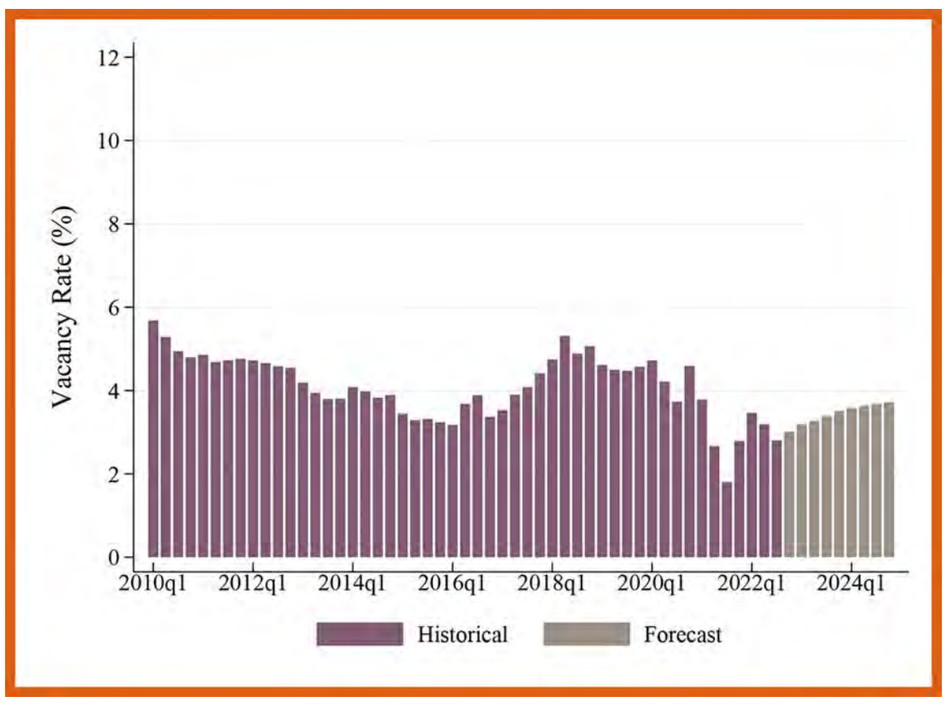


Source: CoStar

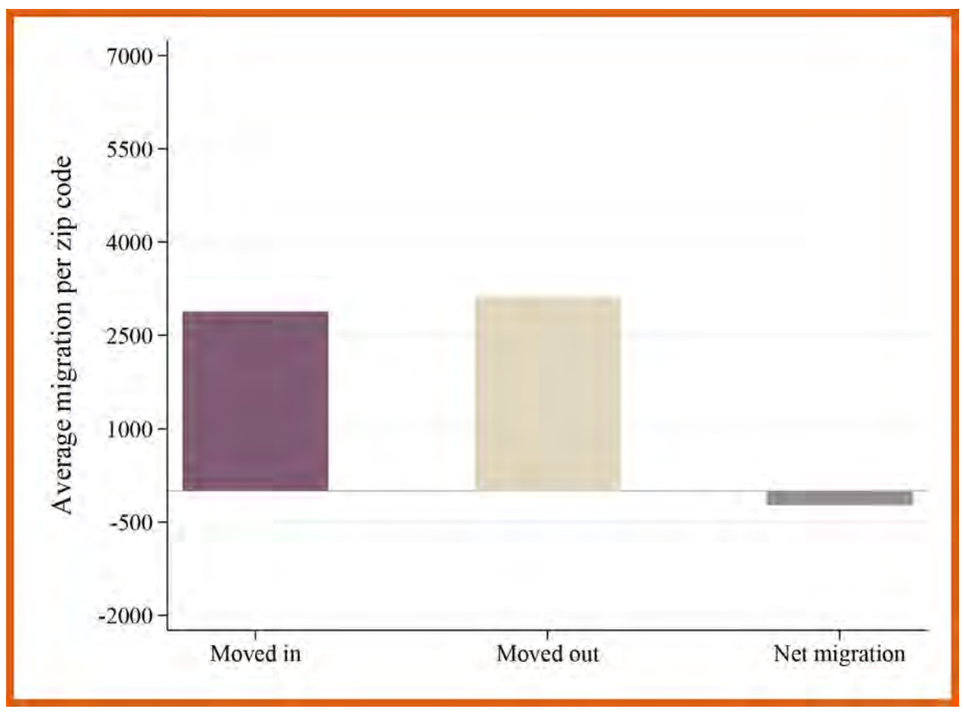
Anaheim/Santa Ana Market · Delivered Units, Absorption, Vacancy, and Migration · Orange County, 2010-2024







Anaheim/Santa Ana Migration since the start of COVID-19



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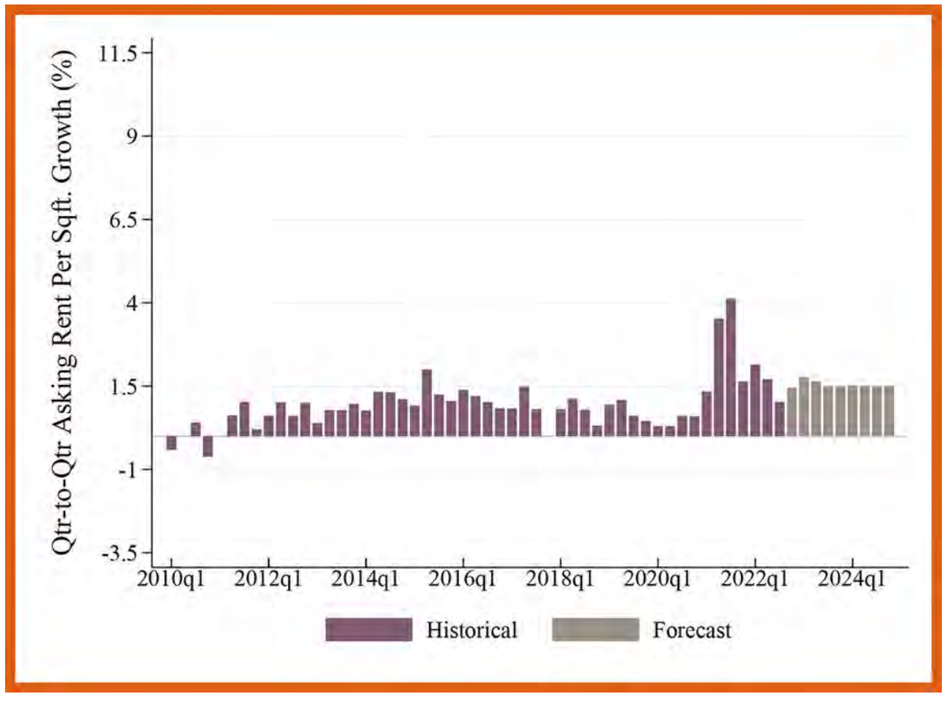
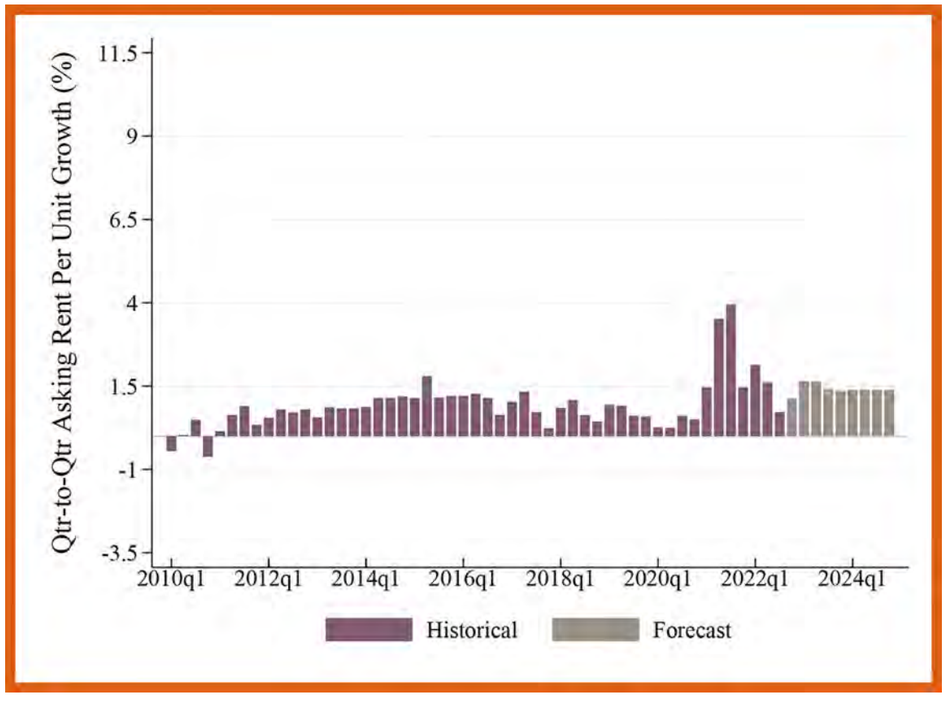
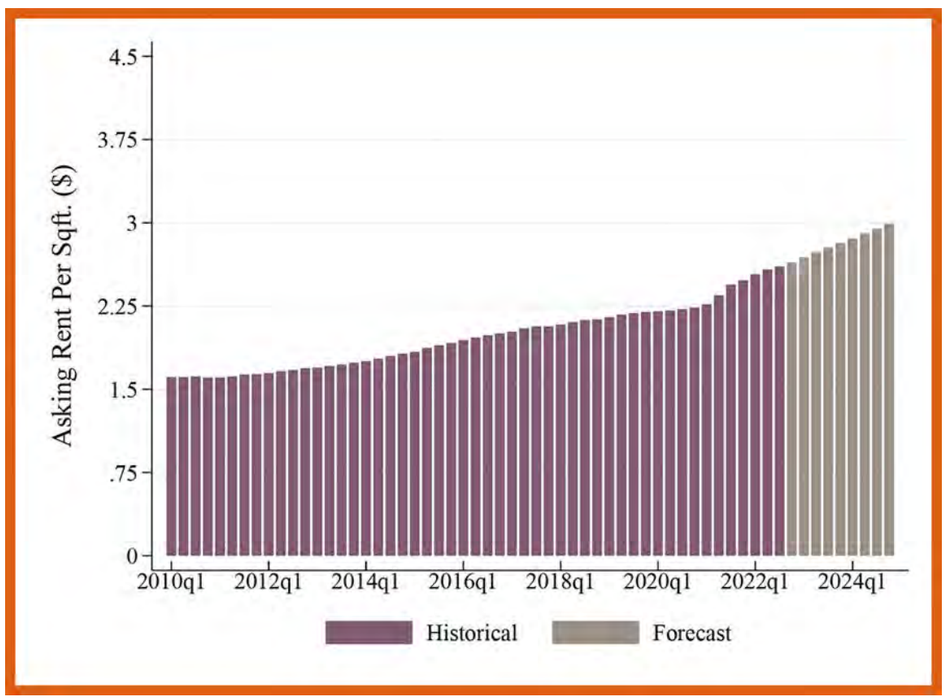
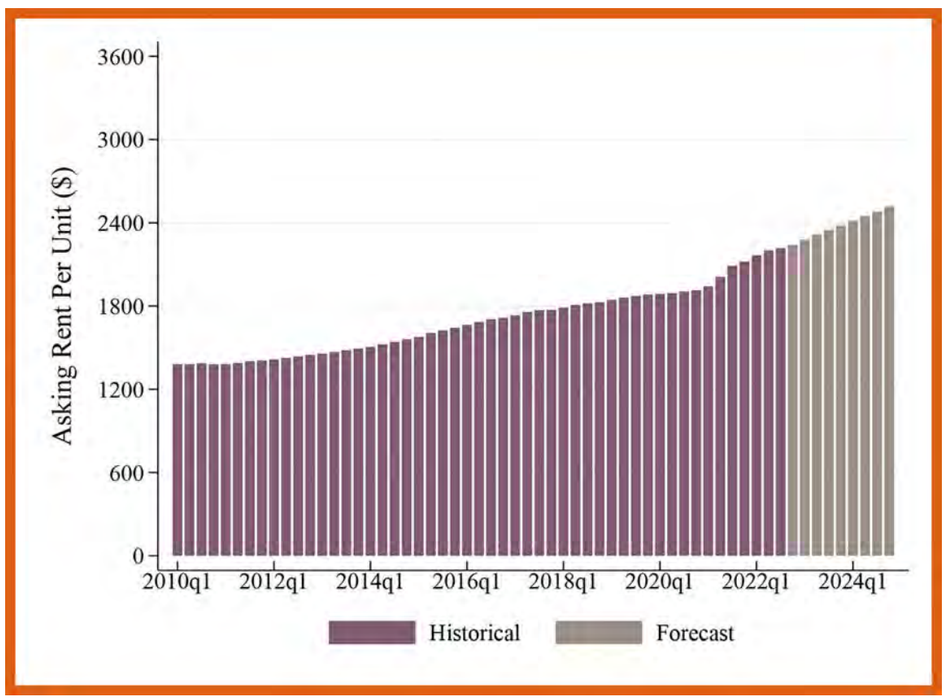
Anaheim/Santa Ana Market · Asking Rents · Orange County, 2010-2024



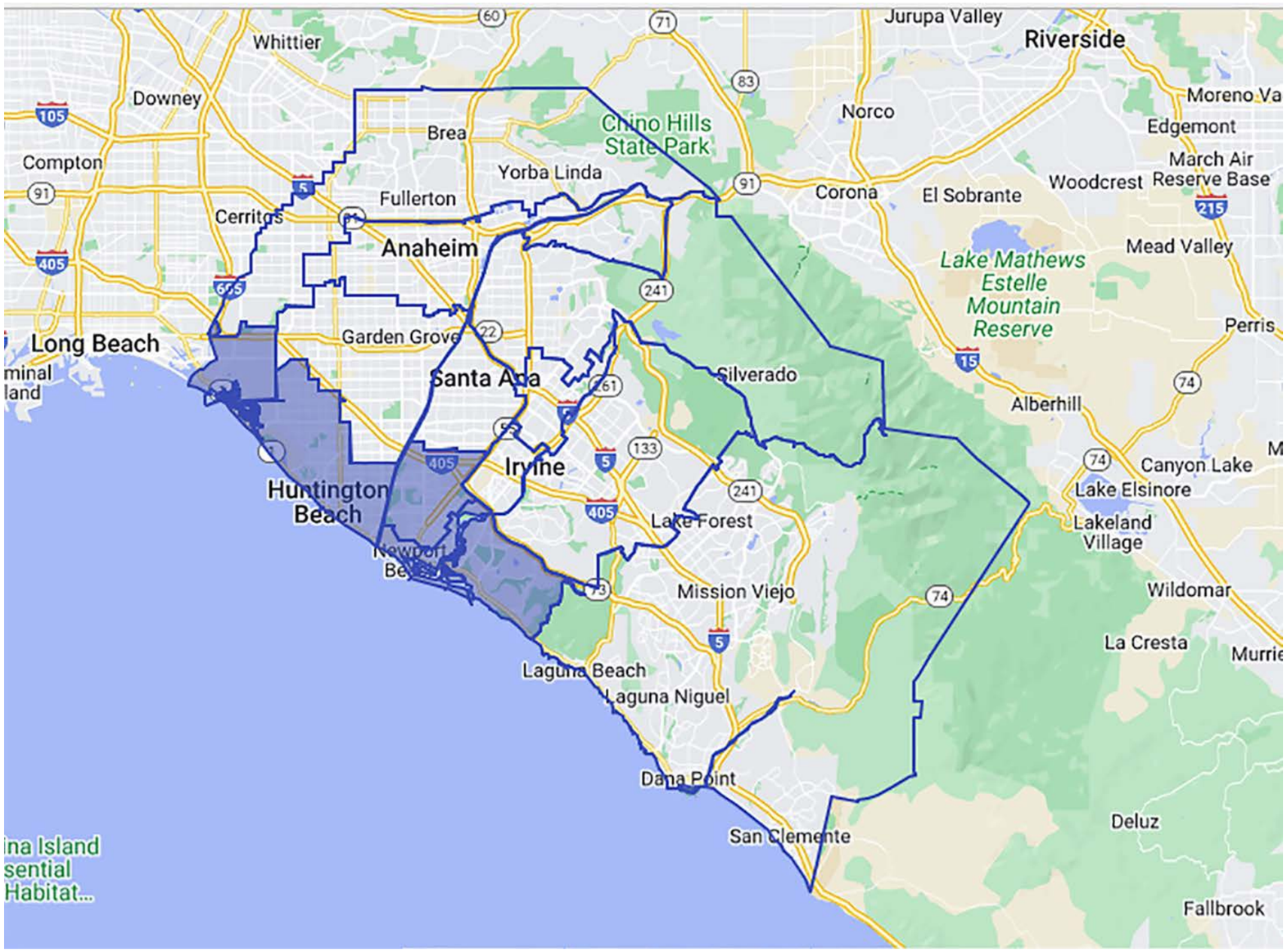






Source: 2020 American Community Survey · *Rent burden is the share of households whose rent payments exceed 30% of income.

Coastal Communities



Source: CoStar

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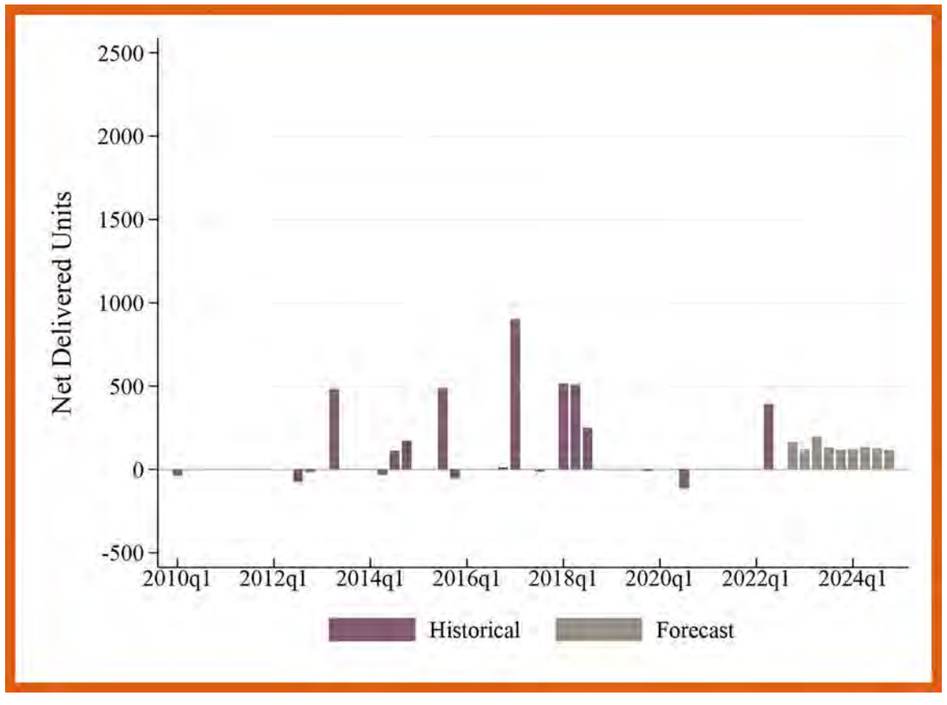
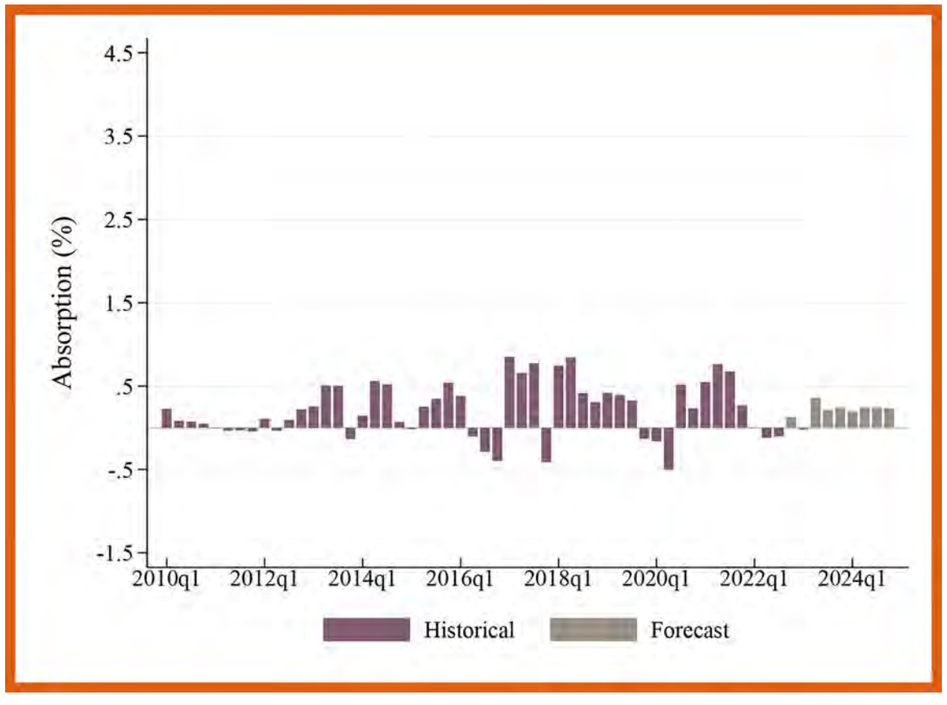
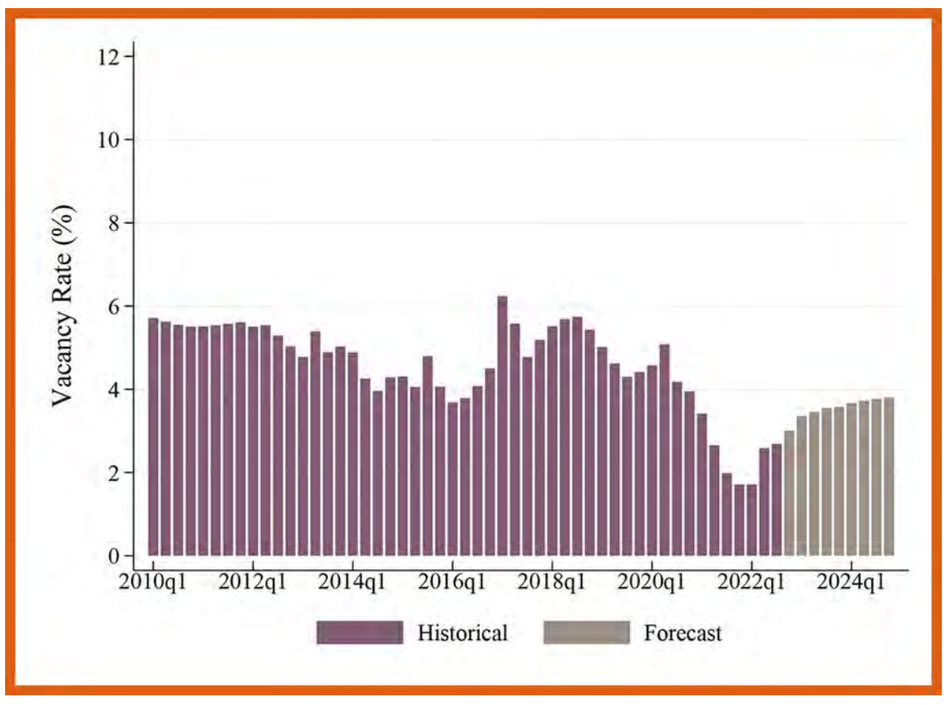
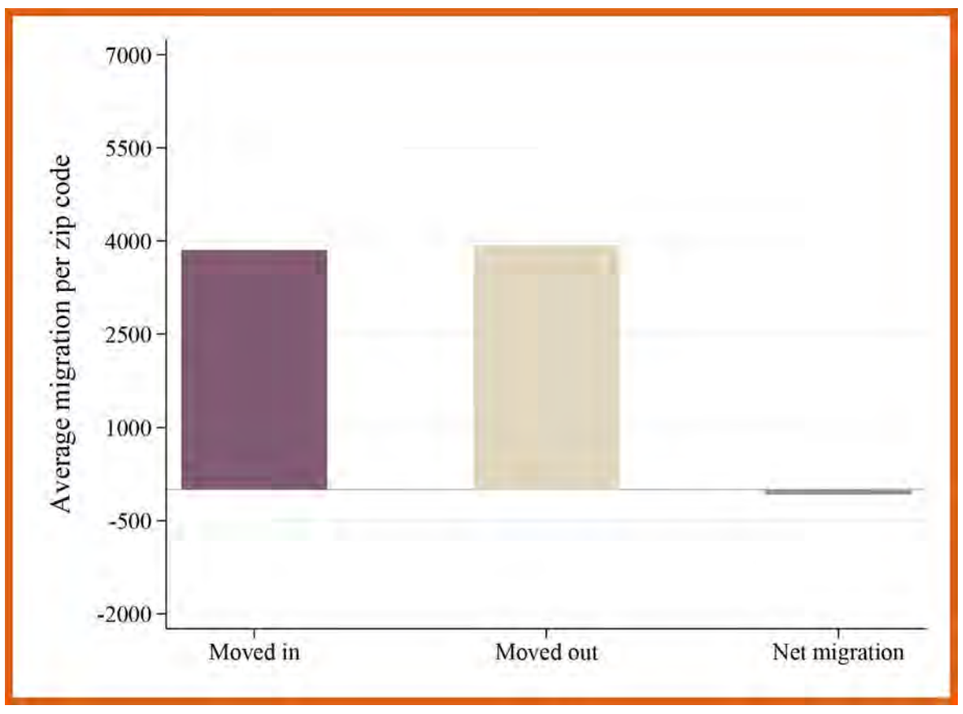
Coastal Communities Market · Delivered Units, Absorption, Vacancy, and Migration · Orange County, 2010-2024





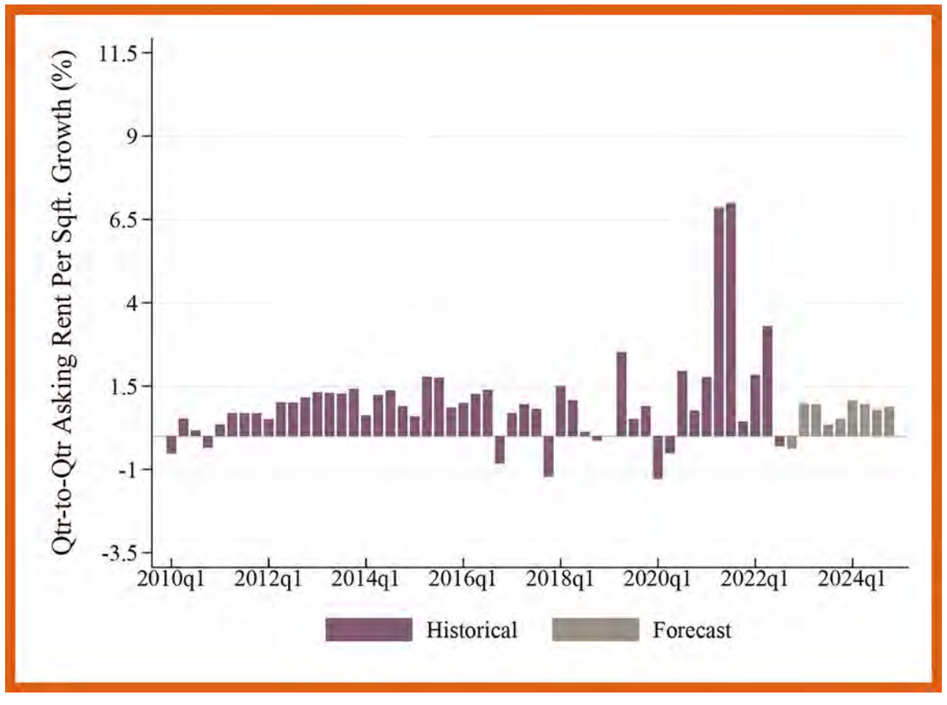


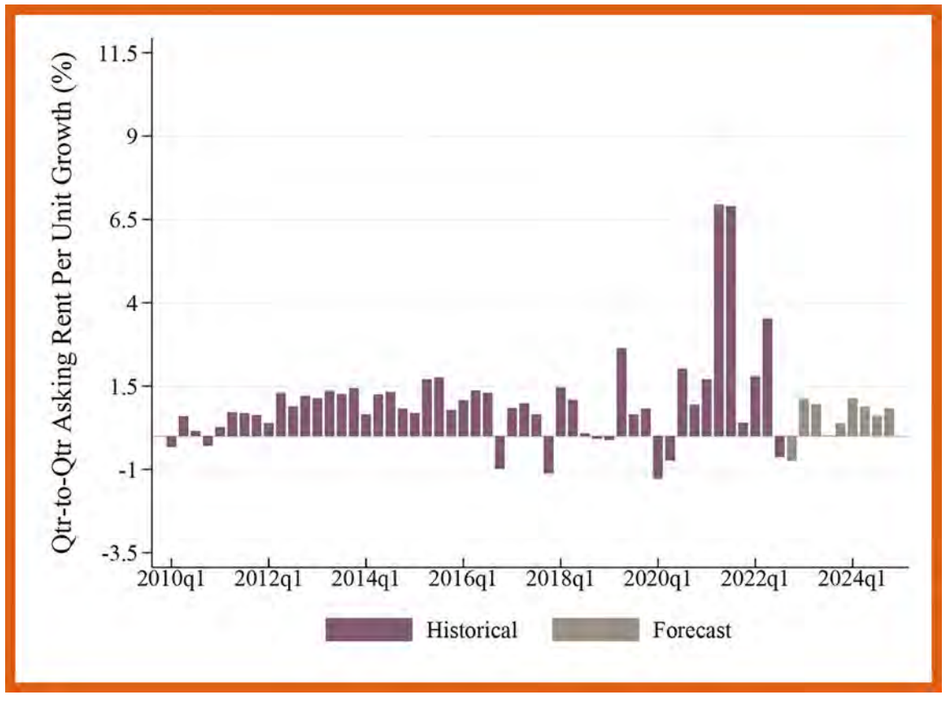
Coastal Communities Migration since the start of COVID-19

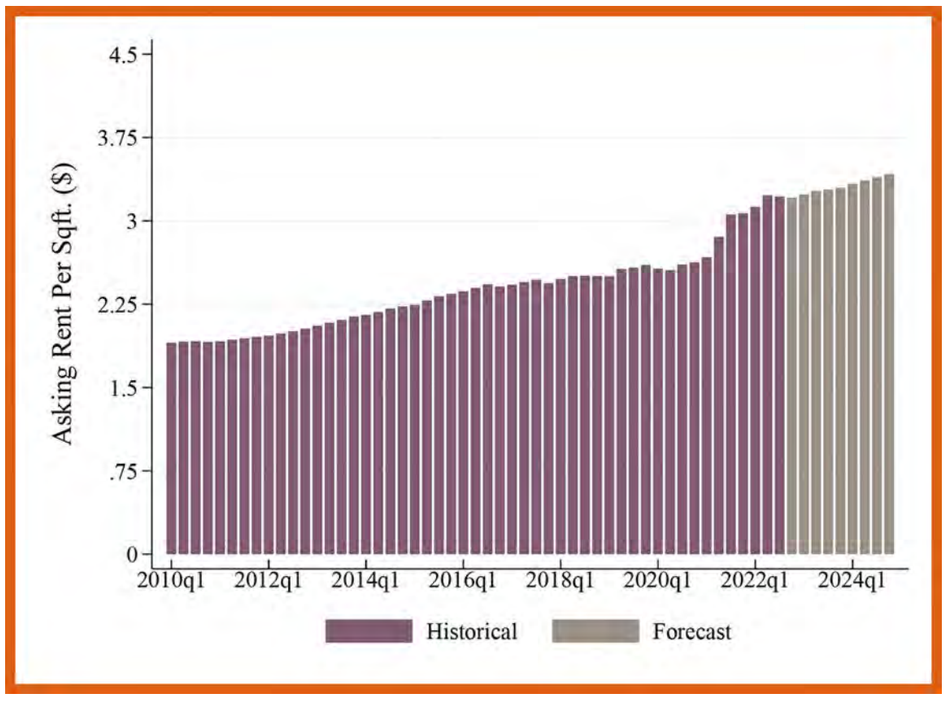


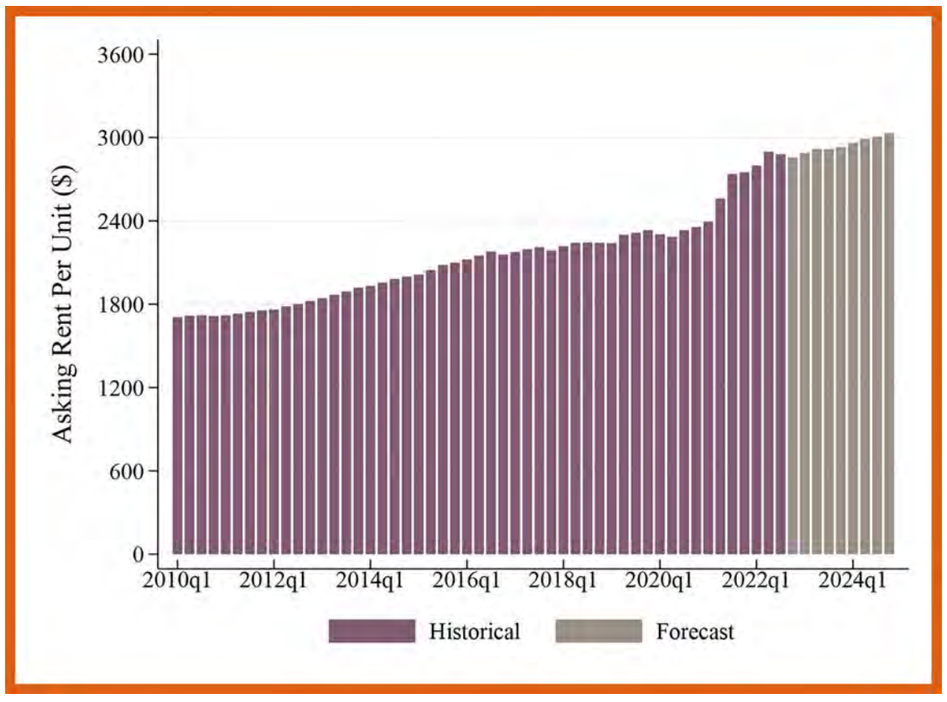
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

Coastal Communities Market · Asking Rents · Orange County, 2010-2024



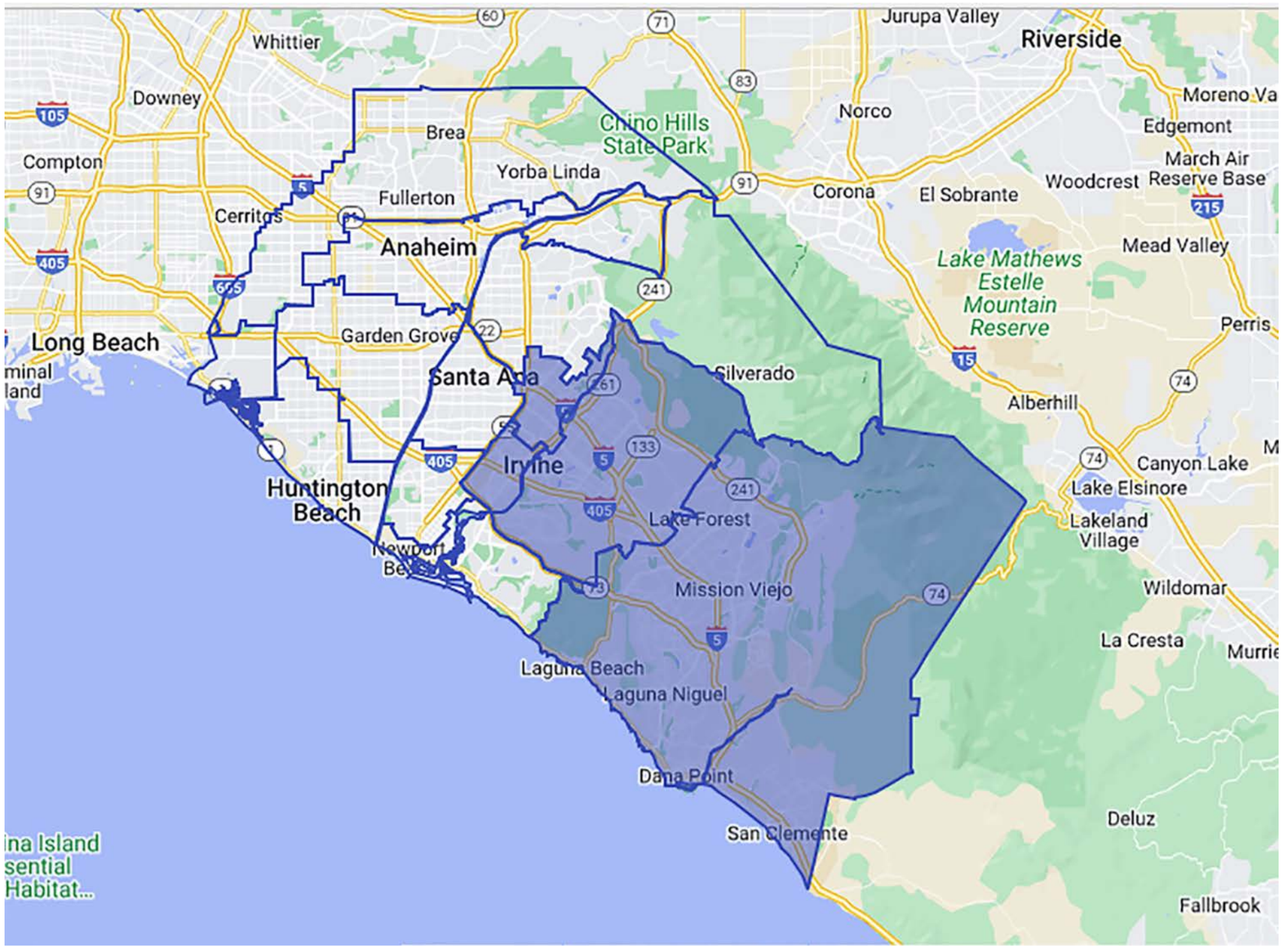






Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

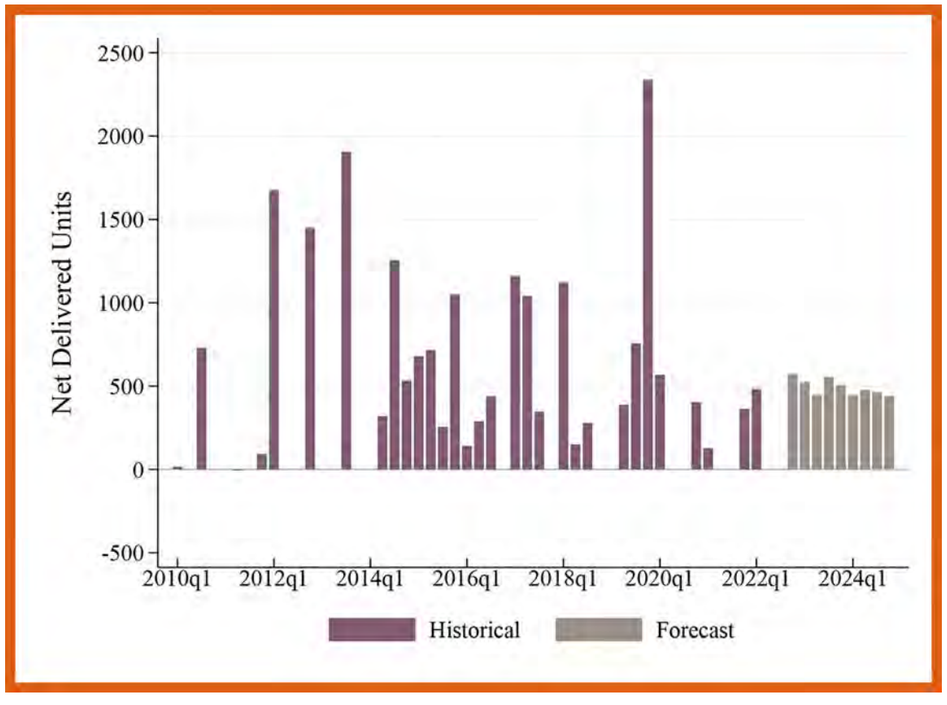
Irvine/Tustin/Mission Viejo

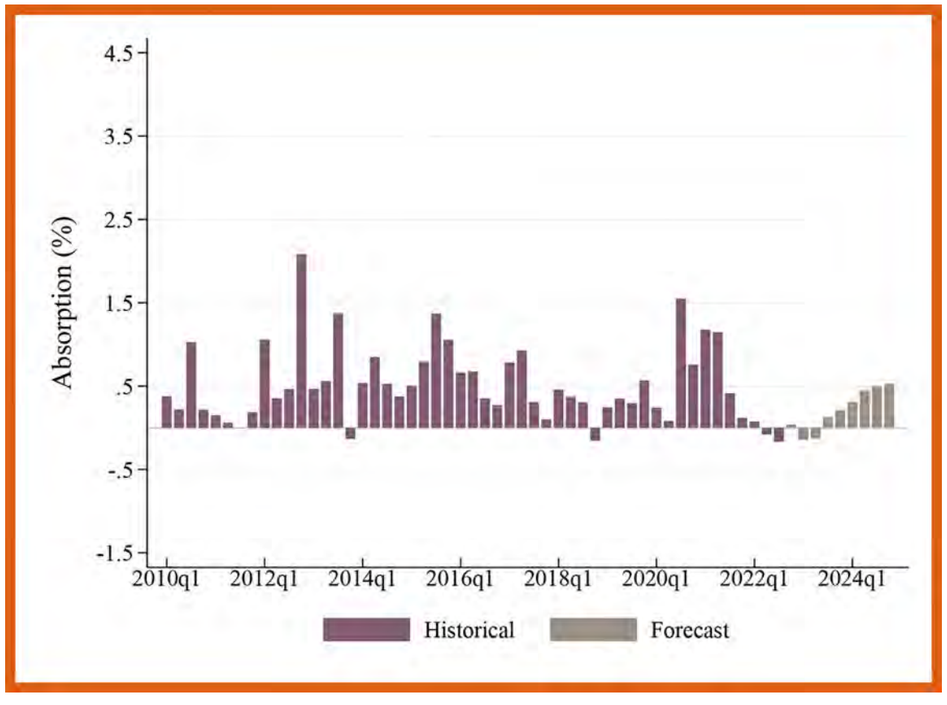


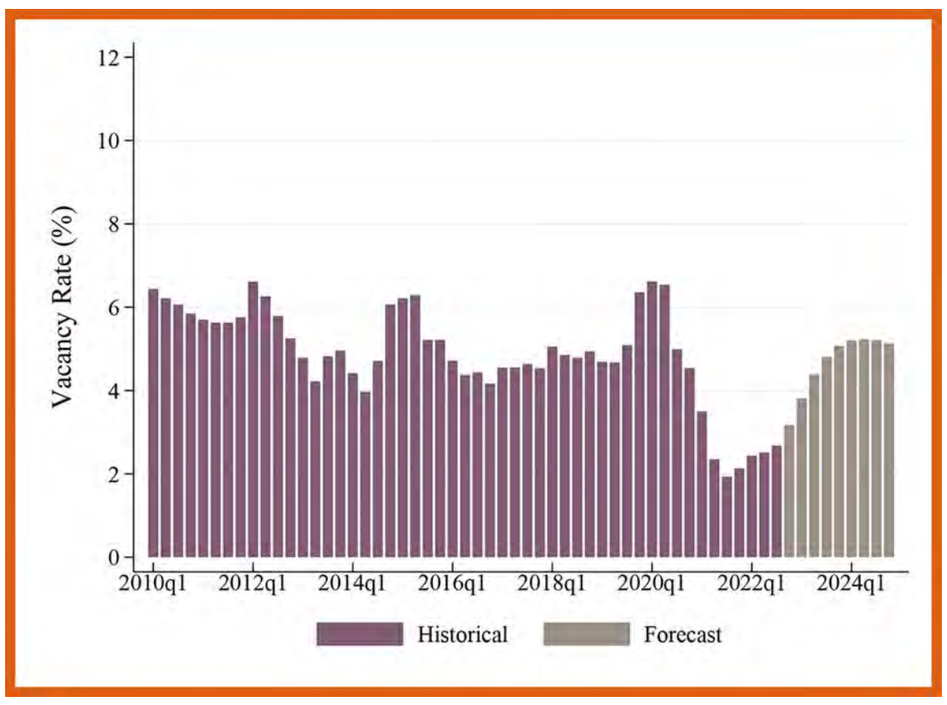
Source: CoStar

Source: USC Casden forecasts based on CoStar data and USPS net-migration data.”

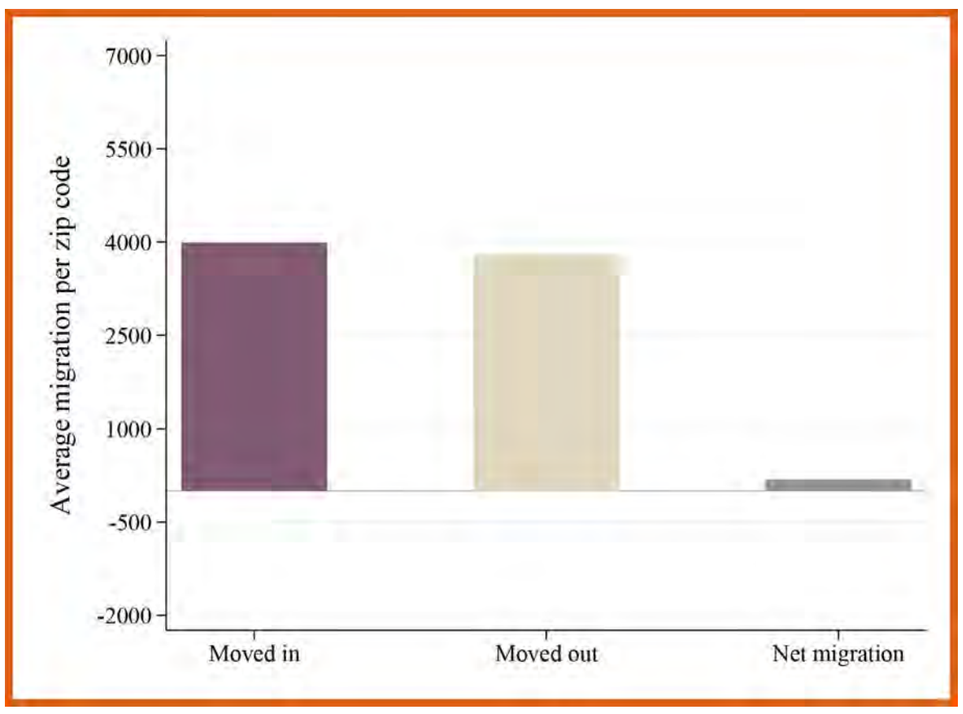
Irvine/Tustin/Mission Viejo Market · Delivered Units, Absorption, Vacancy, and Migration · Orange County, 2010-2024





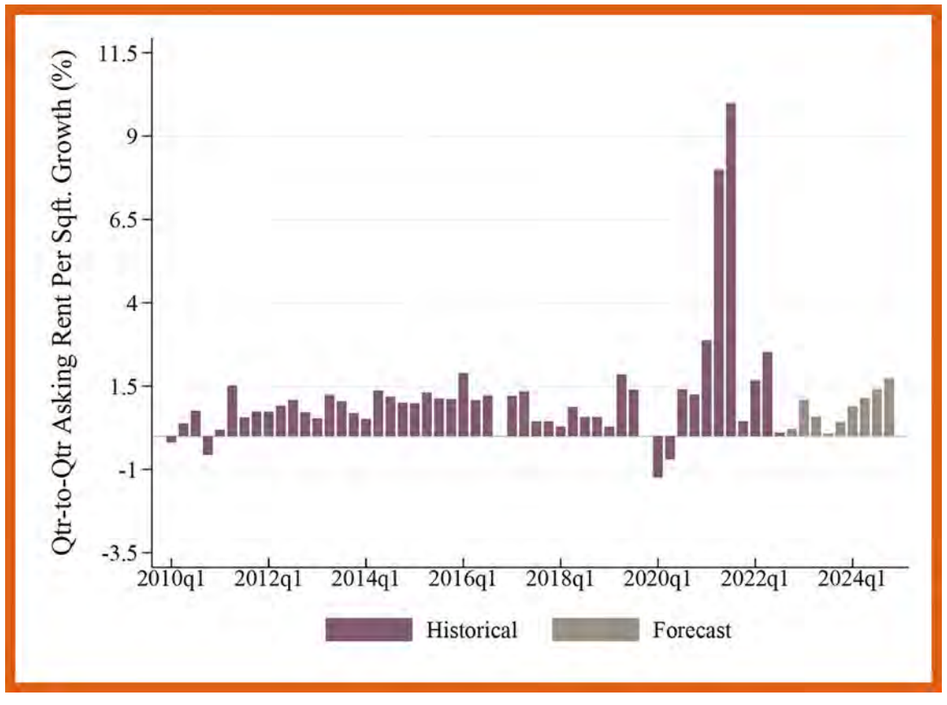


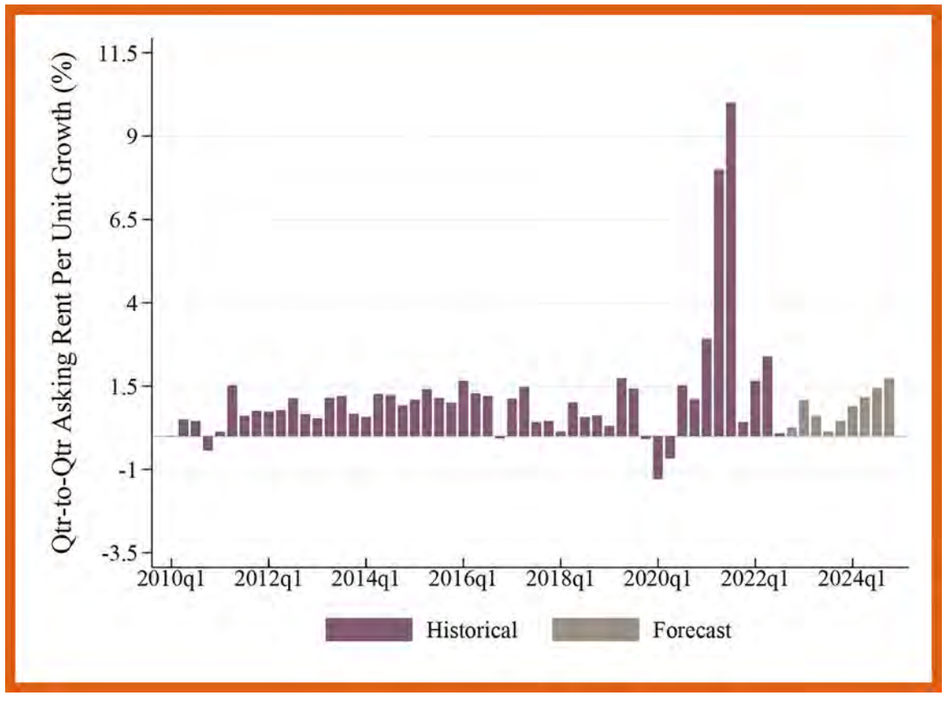
Irvine/Tustin/Mission Viejo Migration since the start of COVID-19

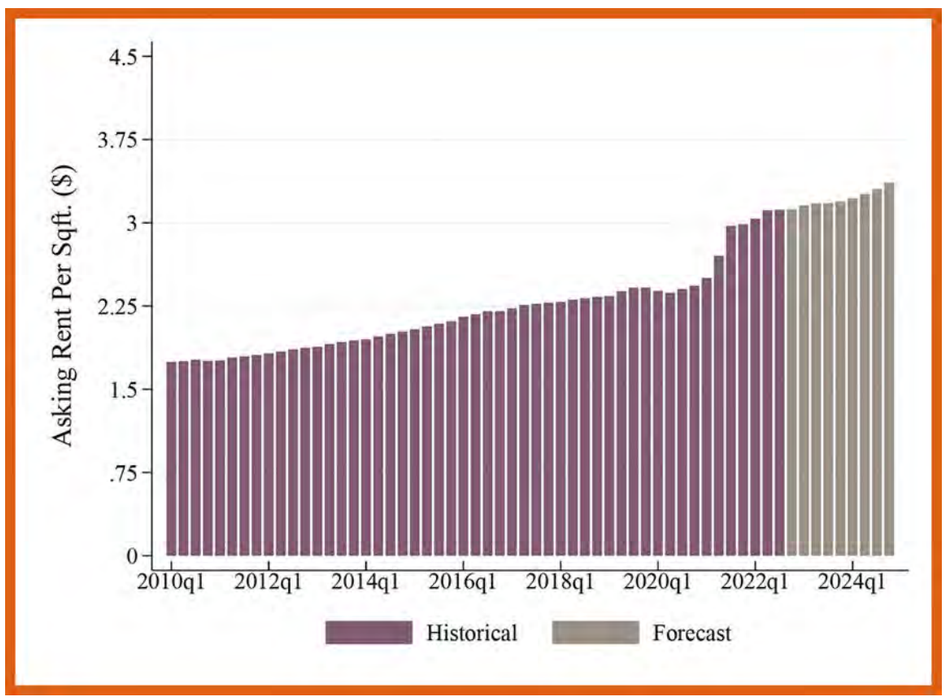


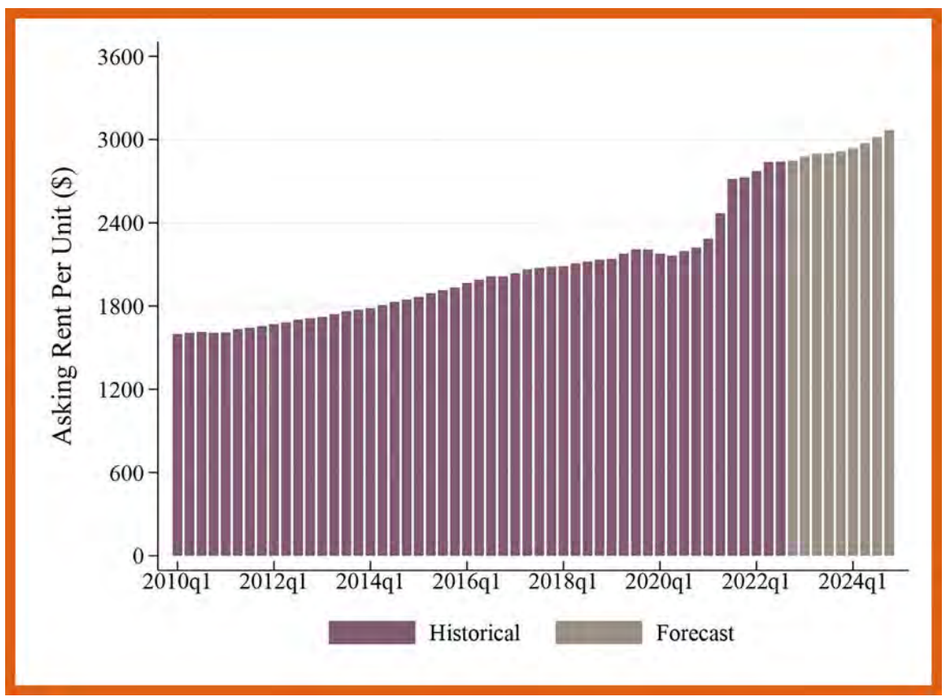
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Irvine/Tustin/Mission Viejo Market · Asking Rents · Orange County, 2010-2024



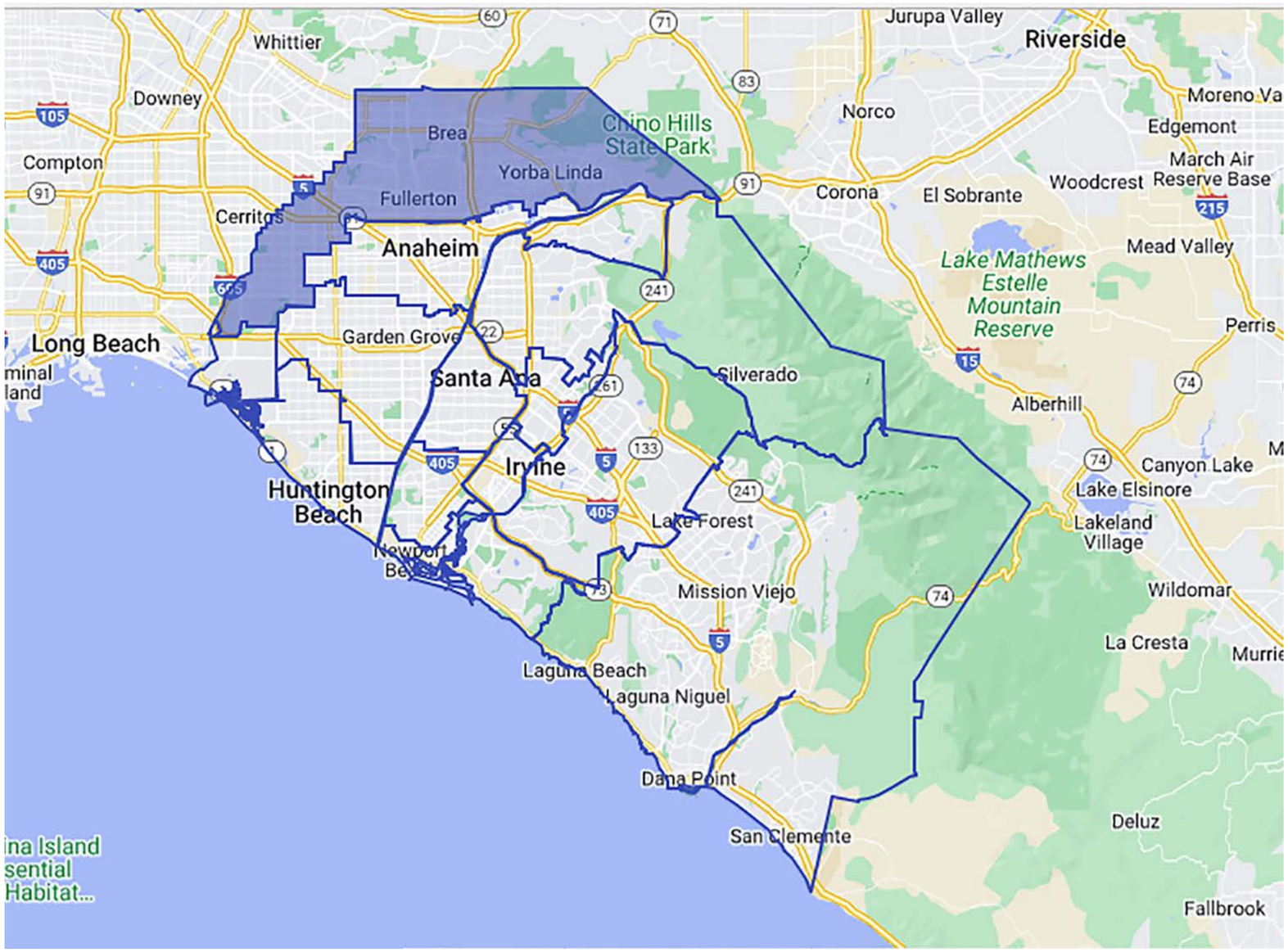






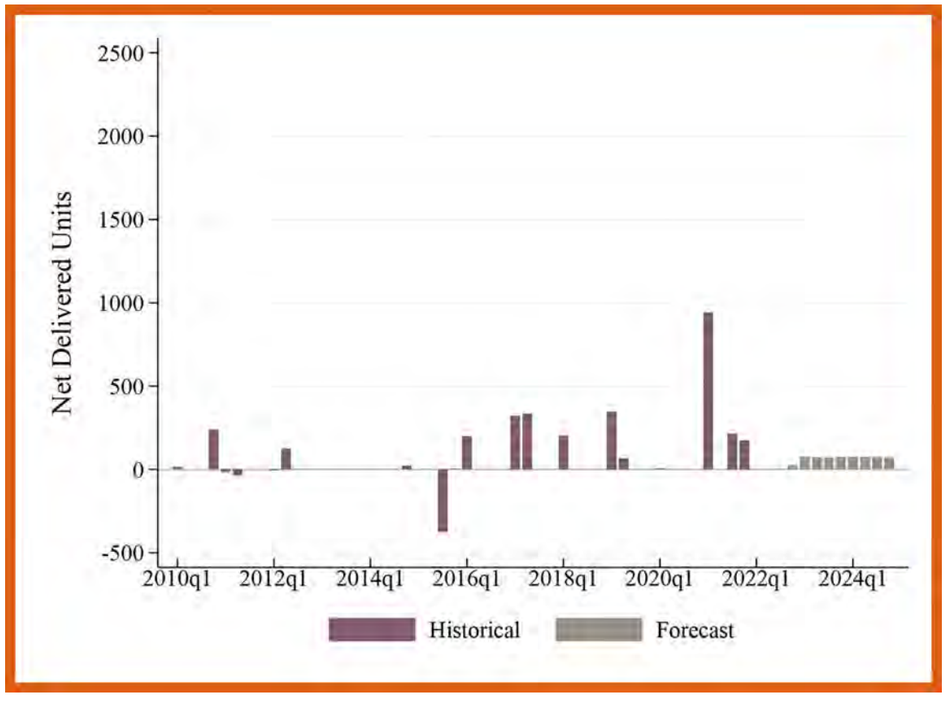
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

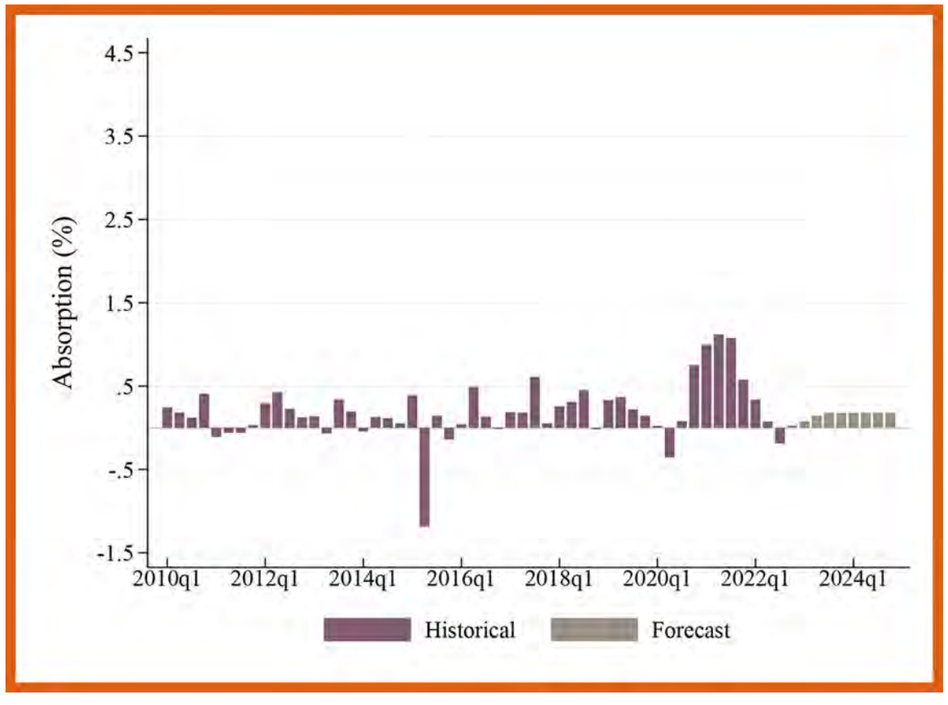
North County

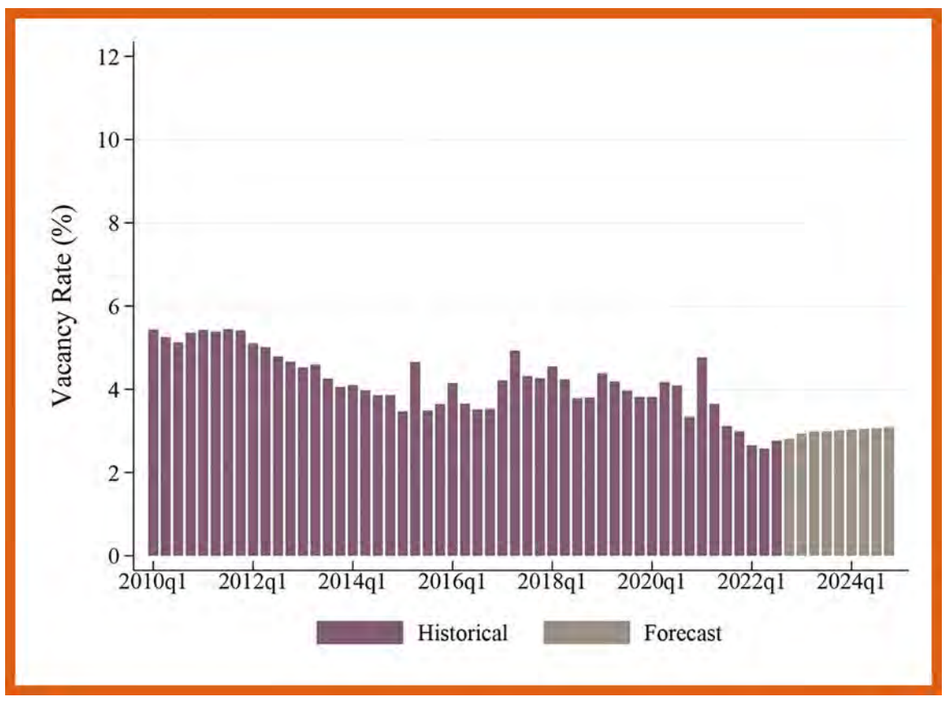


Source: CoStar

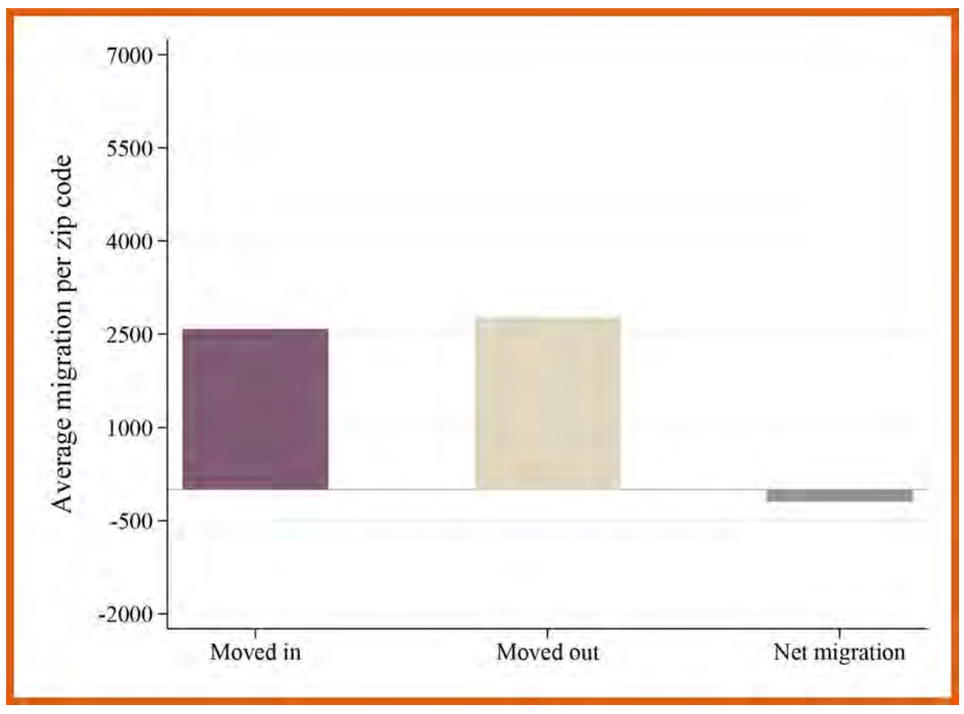
North County Market · Delivered Units, Absorption, Vacancy, and Migration · Orange County, 2010-2024





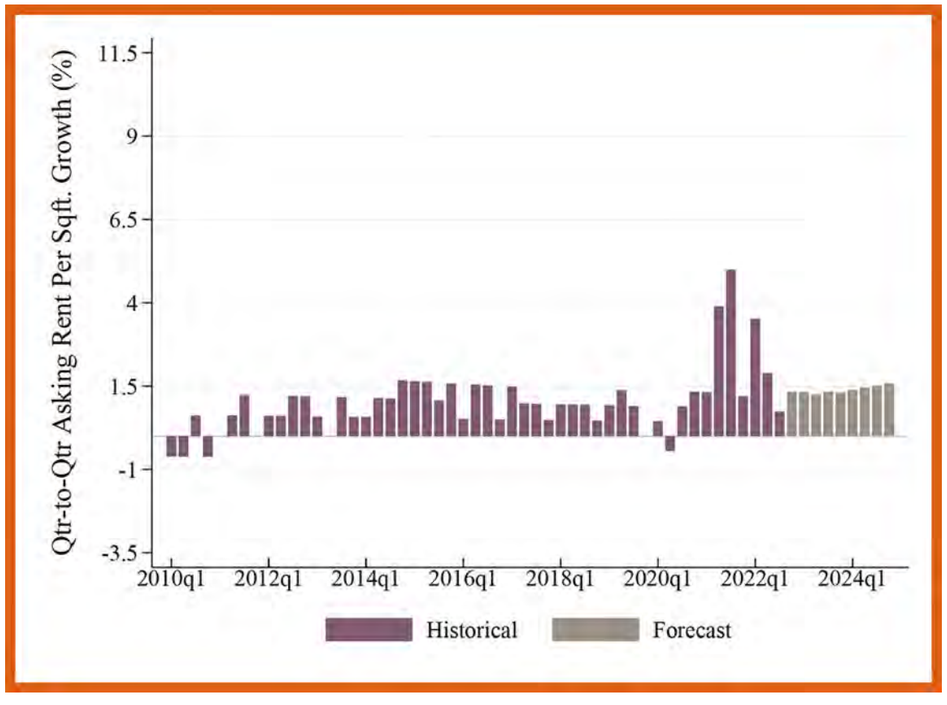


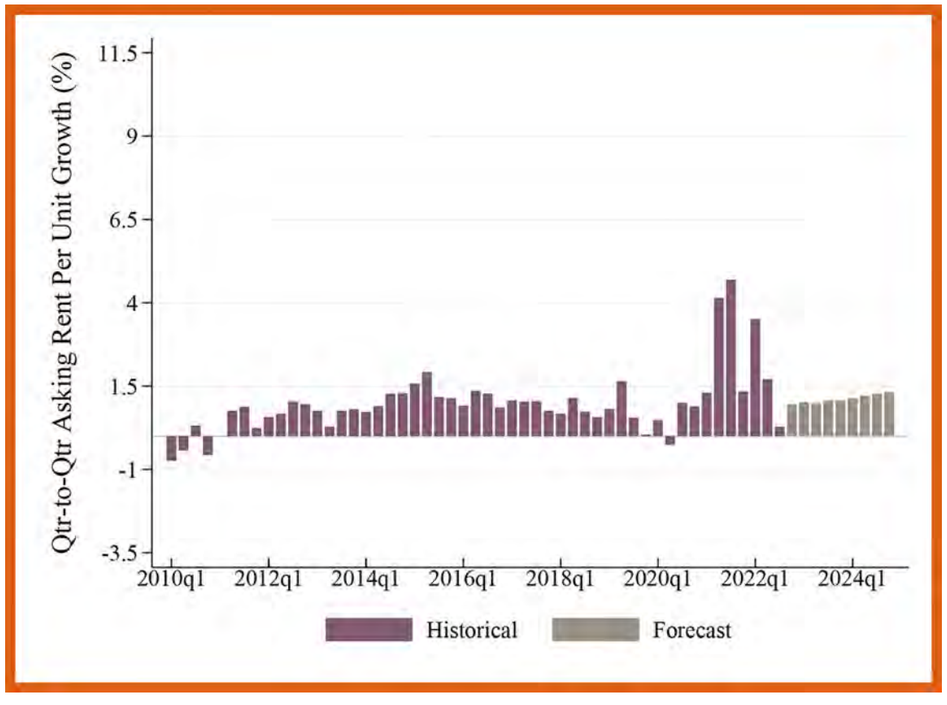
North County Migration since the start of COVID-19

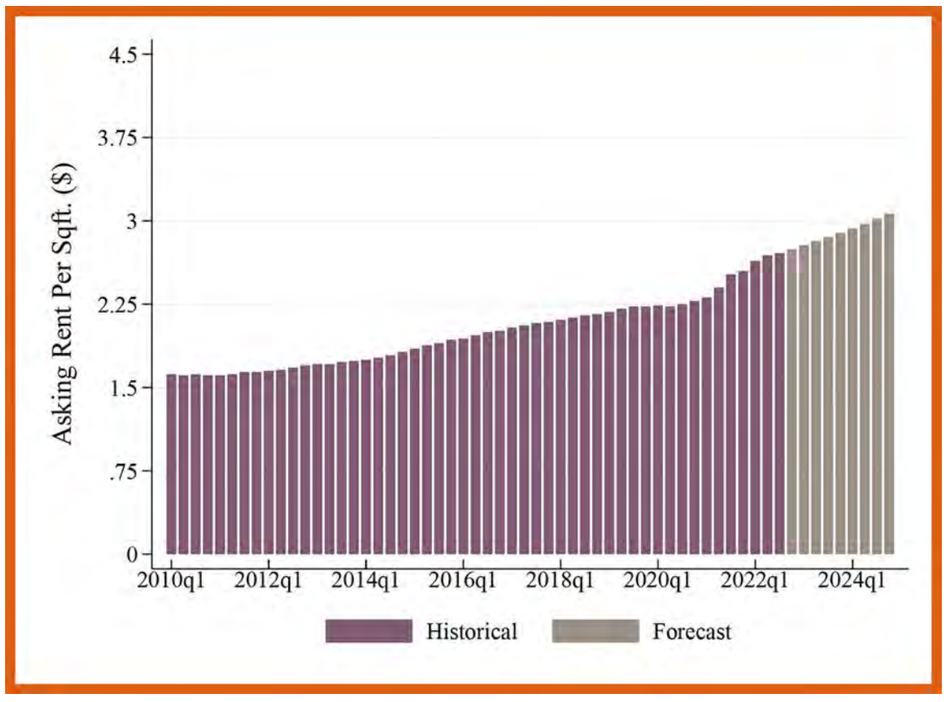


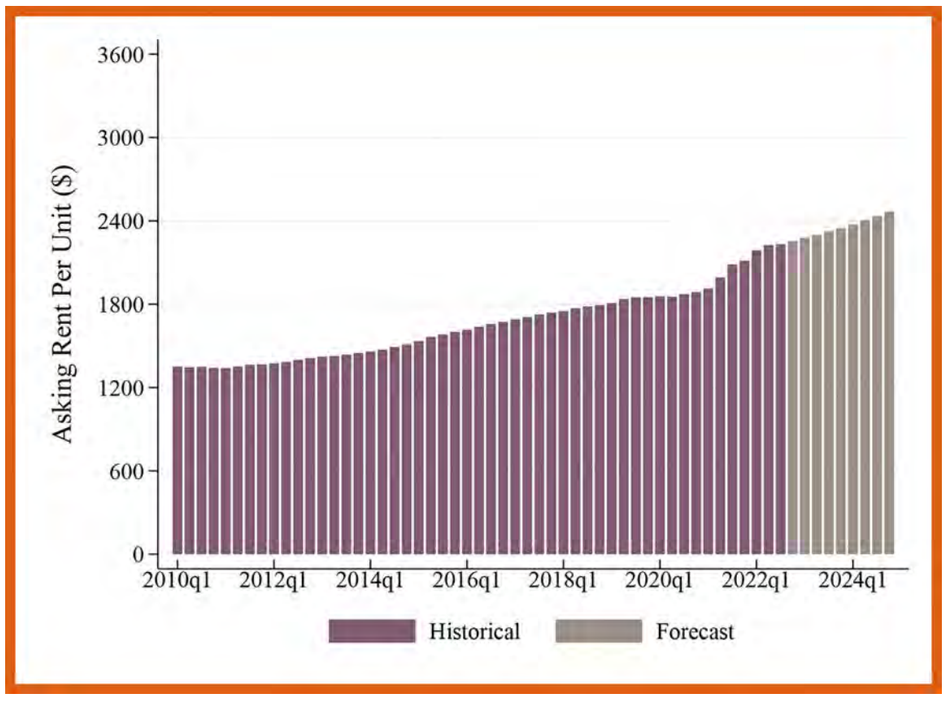
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

North County Market · Asking Rents · Orange County, 2010-2024









Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Anaheim - Santa Ana Renters

Race	
White	17%
Black	2%
Asian	18%
Hispanic	35%
Others	28%
Education	
Less than HS	44%
HS diploma	18%
Some college	22%
Bachelors degree	13%
Graduate degree	4%
Rental units by size of structure	
1 unit	30%
2-4 units	18%
5-9 units	11%
10-19 units	10%
20+ units	31%
Rental units by age of structure	
Before 1970	40%
1970-1999	49%
2000 and after	11%
Household statistics	
Share of renting households	48%
Share of rent-burdened households*	54%
Percent with children	53%
Median household income	$65,225
Average household size	3.10
Migration statistics for last year	
Percent living in same house	88%
Percent moved within California	11%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Coastal Communities Renters

Race	
White	54%
Black	2%
Asian	11%
Hispanic	13%
Others	21%
Education	
Less than HS	23%
HS diploma	13%
Some college	22%
Bachelors degree	30%
Graduate degree	11%
Rental units by size of structure	
1 unit	30%
2-4 units	21%
5-9 units	11%
10-19 units	6%
20+ units	31%
Rental units by age of structure	
Before 1970	30%
1970-1999	55%
2000 and after	15%
Household statistics	
Share of households that are renting	44%
Share of rent-burdened households*	52%
Percent with children	27%
Median household income	$82,000
Average household size	2.16
Migration statistics for last year	
Percent living in same house	81%
Percent moved within California	15%
Percent moved from other states to California	2%
Percent moved from abroad	2%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Irvine-Tustin-Mission Viejo Renters

Race	
White	48%
Black	3%
Asian	23%
Hispanic	6%
Others	19%
Education	
Less than HS	25%
HS diploma	12%
Some college	23%
Bachelors degree	26%
Graduate degree	15%
Rental units by size of structure	
1 unit	34%
2-4 units	13%
5-9 units	11%
10-19 units	8%
20+ units	34%
Rental units by age of structure	
Before 1970	9%
1970-1999	62%
2000 and after	29%
Household statistics	
Share of households that are renting	36%
Share of rent-burdened households*	58%
Percent with children	39%
Median household income	$87,550
Average household size	2.42
Migration statistics for last year	
Percent living in same house	72%
Percent moved within California	23%
Percent moved from other states to California	3%
Percent moved from abroad	2%

North County Renters

Race	
White	27%
Black	4%
Asian	16%
Hispanic	17%
Others	35%
Education	
Less than HS	35%
HS diploma	18%
Some college	25%
Bachelors degree	16%
Graduate degree	7%
Rental units by size of structure	
1 unit	32%
2-4 units	16%
5-9 units	11%
10-19 units	11%
20+ units	29%
Rental units by age of structure	
Before 1970	38%
1970-1999	53%
2000 and after	9%
Household statistics	
Share of households that are renting	36%
Share of rent-burdened households*	52%
Percent with children	49%
Median household income	$69,450
Average household size	2.76
Migration statistics for last year	
Percent living in same house	87%
Percent moved within California	11%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Inland Empire

Inland Empire Renters

Race

White	24%
Black	10%
Asian	6%
Hispanic	33%
Others	27%

Education

Less than HS	43%
HS diploma	22%
Some college	23%
Bachelors degree	9%
Graduate degree	3%

Rental units by size of structure

1 unit	46%
2-4 units	15%
5-9 units	11%
10-19 units	7%
20+ units	21%

Rental units by age of structure

Before 1970	28%
1970-1999	54%
2000 and after	18%

Household statistics

Share of households that are renting	36%
Share of rent-burdened households*	55%
Percent with children	53%
Median household income	$49,000
Average household size	2.98

Migration statistics for last year

Percent living in same house	86%
Percent moved within California	12%
Percent moved from other states to California	1%
Percent moved from abroad	1%

*Rent burden is the share of households whose rent payments exceed 30% of income.

Source: 2020 American Community Survey

The Inland Empire has been a juggernaut for employment growth since 1990. San Bernardino and Riverside counties have about 2.4 times many jobs now as they did then, whereas nationally job growth has been not quite 40%. Even though this region suffered more from the global financial crisis than the rest of Southern California, it bounced back and then some, leading the area in job growth.

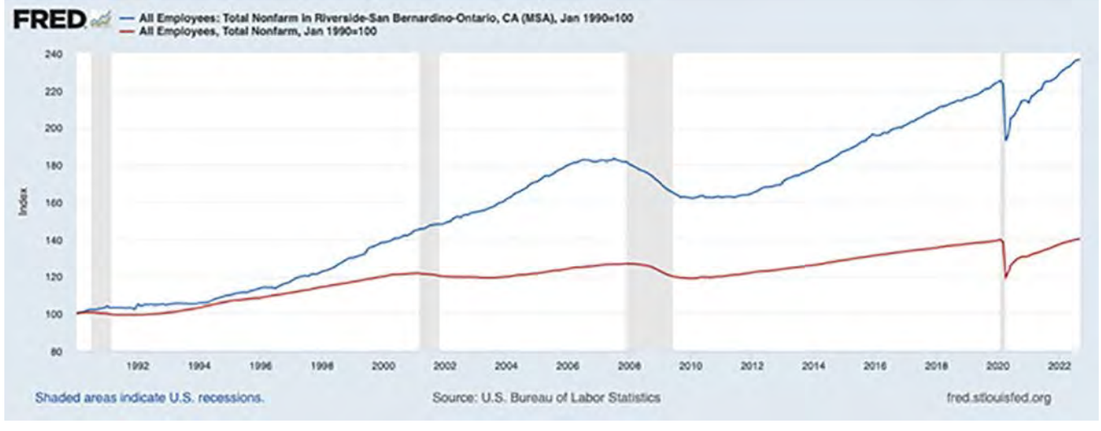
A reason, if not the reason, for this job growth has been the region's focus on trade, transportation, and utilities. This is the industrial sector with the largest location quotient for the combination of Riverside and San Bernardino counties. This is also a sector that has benefited from the extraordinary growth of e-commerce. While different sources give different inventories of industrial space in the Inland Empire, such space has at least doubled and it's perhaps almost quadrupled since 2000[1]. The Los Angeles Times reports that there is now more than a billion square feet of industrial space in the two counties and that the vacancy rate for this space is under 1%.

While the Inland Empire has outperformed the remainder of the region in terms of job growth, it has not outperformed in terms of new construction.

This extraordinary growth in industrial space and jobs explains why, unlike the rest of the region, population has been growing in the Ontario-San Bernardino-Riverside metropolitan area. While some migration to the Inland Empire was the result of people leaving more expensive Los Angeles and Orange counties during the pandemic, the area was gaining people more rapidly than the rest of the region even before the pandemic. The reason is simple: jobs.

But while the Inland Empire has outperformed the remainder of the region in terms of job growth, it has not outperformed in terms of new construction.

Non-Farm Workers In Inland Empire



According to CoreLogic data, the Inland Empire has among the lowest rates of construction relative to its population of any metropolitan area in the country. And so a region that for many years was deemed the quote unquote affordable part of Southern California is now becoming nearly as expensive as its neighboring counties. At the same time, incomes in Riverside County only match national medians and in San Bernardino County lag that median.

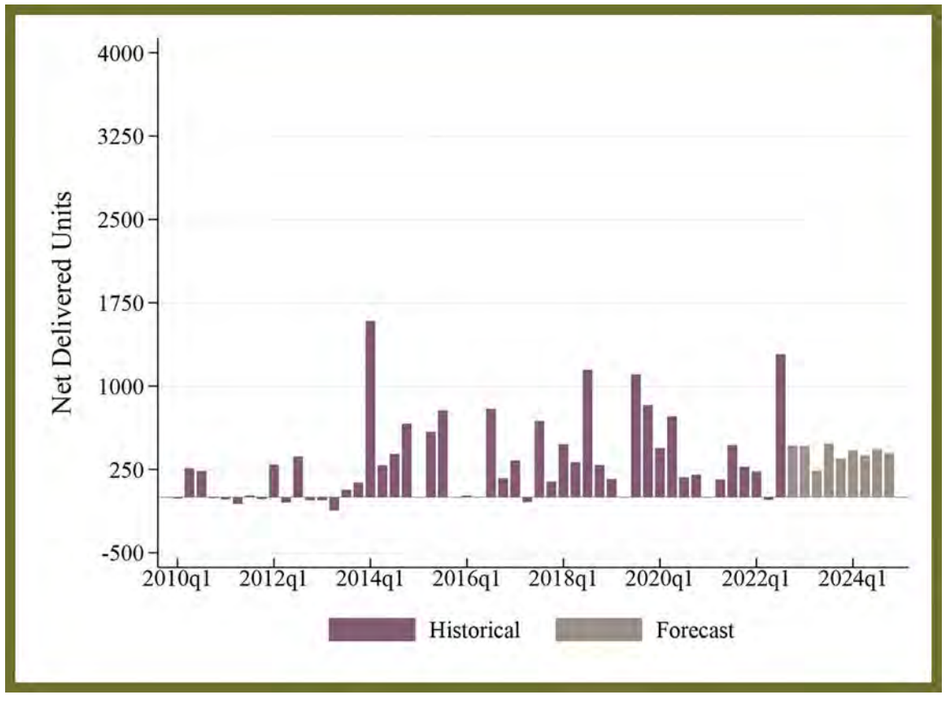
Because incomes are low in the Inland Empire it is unlikely that the cap on the state and local tax deduction is having a big impact on migration there. Because people's incomes were low, they likely did not itemize their taxes even before 2017 so the changes in the 2017 act did not affect them. But living in a place with higher than average rents and lower than average incomes is difficult. The high number of people who must pay more than 30% of their income in rent may lead the Inland Empire to become like Los Angeles and Orange Counties and it will lose people in the years to come. The only remedy for this would be a substantial increase in new construction.

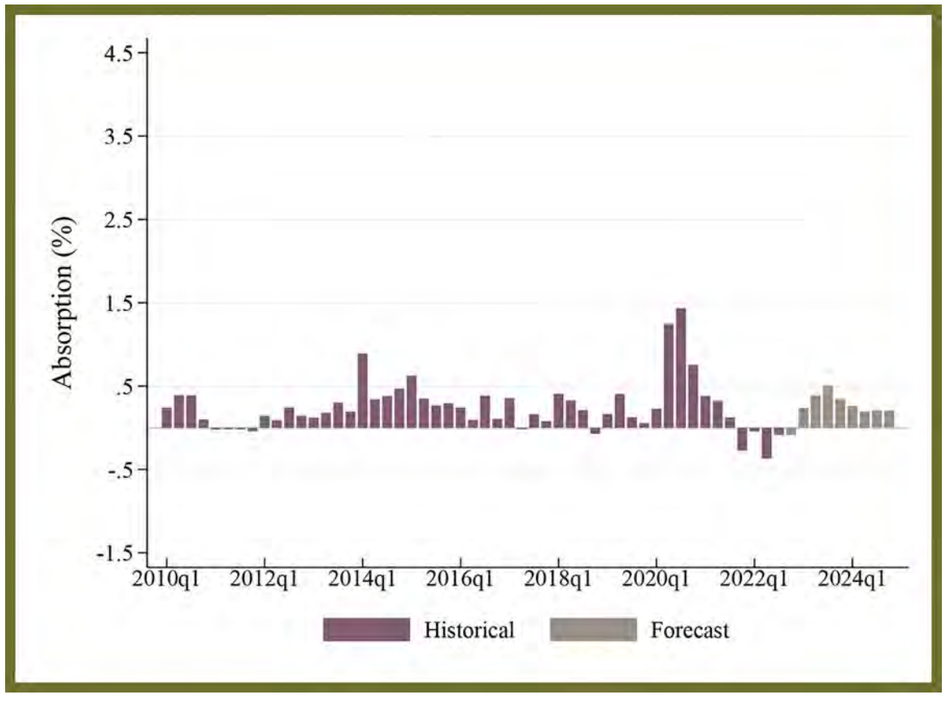
Employment Location Quotients

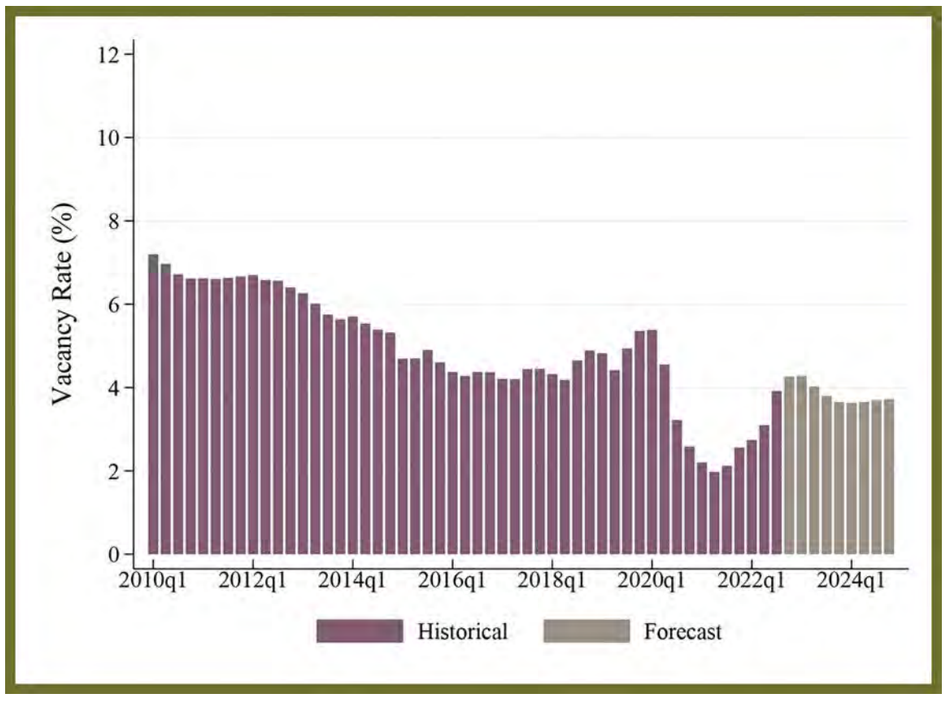
INDUSTRY • INLAND EMPIRE	
ALL INDUSTRIES	0.99
GOODS-PRODUCING	0.94
NATURAL RESOURCES AND MINING	0.82
CONSTRUCTION	1.38
MANUFACTURING	0.71
SERVICE-PROVIDING	1.00
TRADE, TRANSPORTATION, AND UTILITIES	1.47
INFORMATION	0.31
FINANCIAL ACTIVITIES	0.49
PROFESSIONAL AND BUSINESS SERVICES	0.70
EDUCATION AND HEALTH SERVICES	0.98
LEISURE AND HOSPITALITY	1.08
OTHER SERVICES	0.89
UNCLASSIFIED	0.09

1 See, e.g., https://www.theverge.com/23053387/billion-square-feet-warehouses-california-inland-empire-online-shopping.

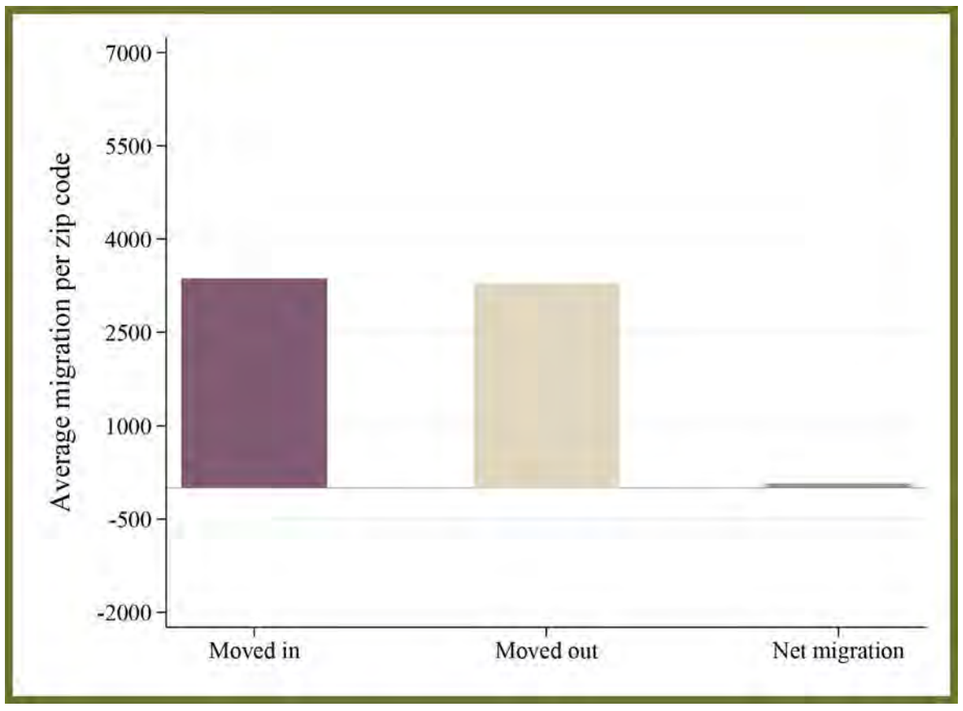
Inland Empire · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





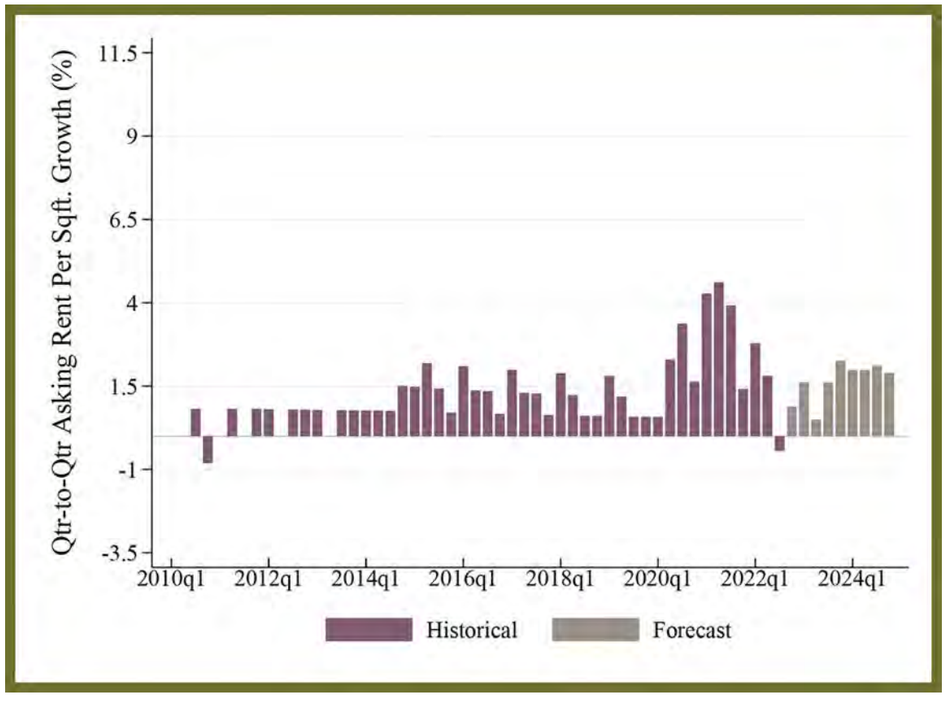


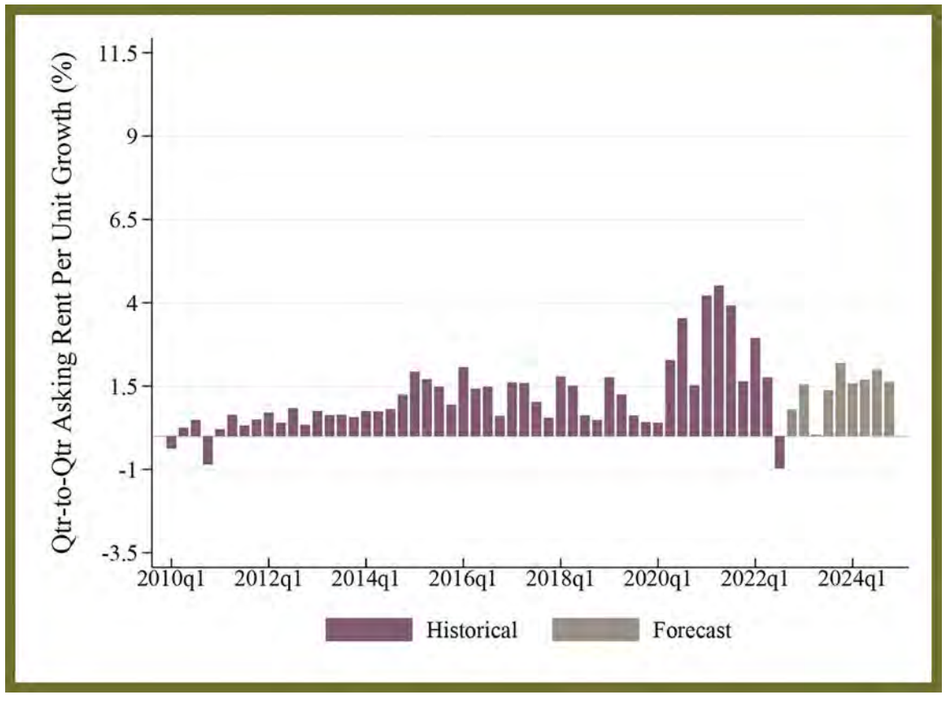
Inland Empire Migration since the start of COVID-19

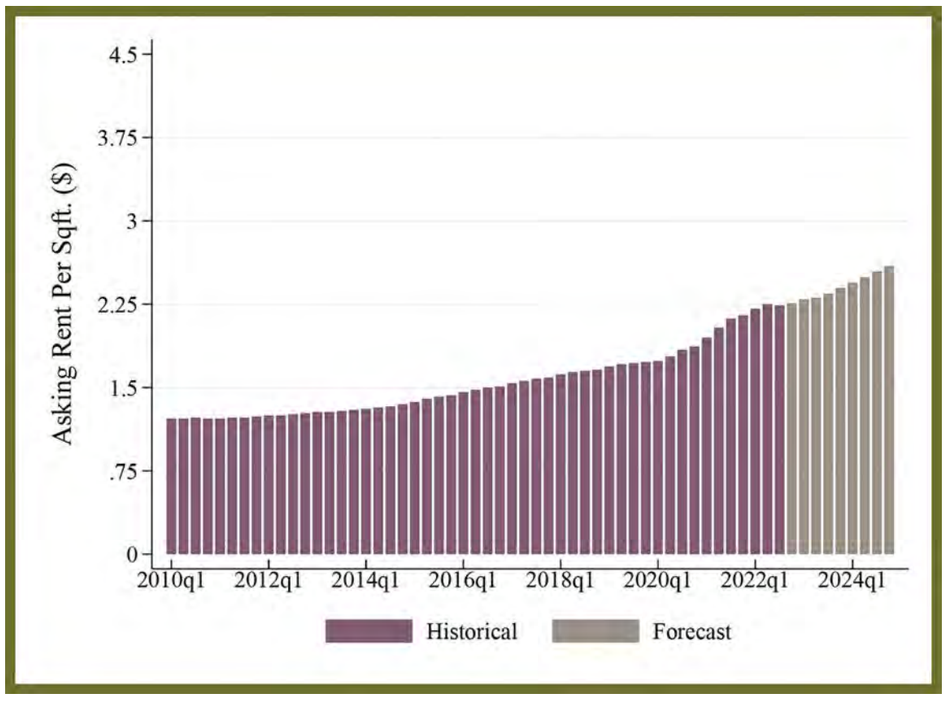


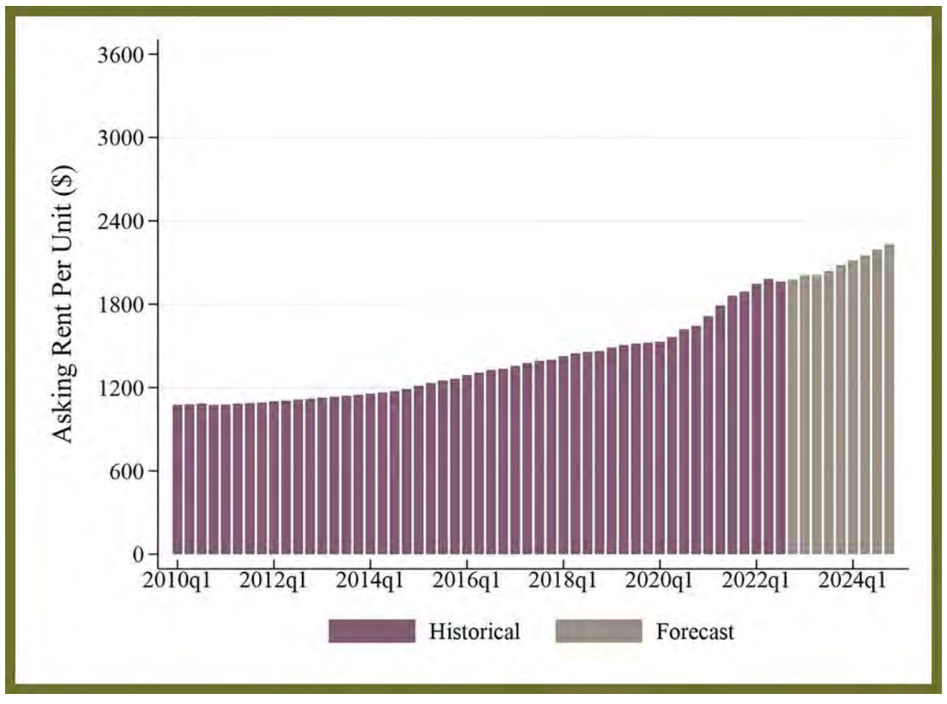
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Inland Empire · Asking Rent · Inland Empire, 2010-2024



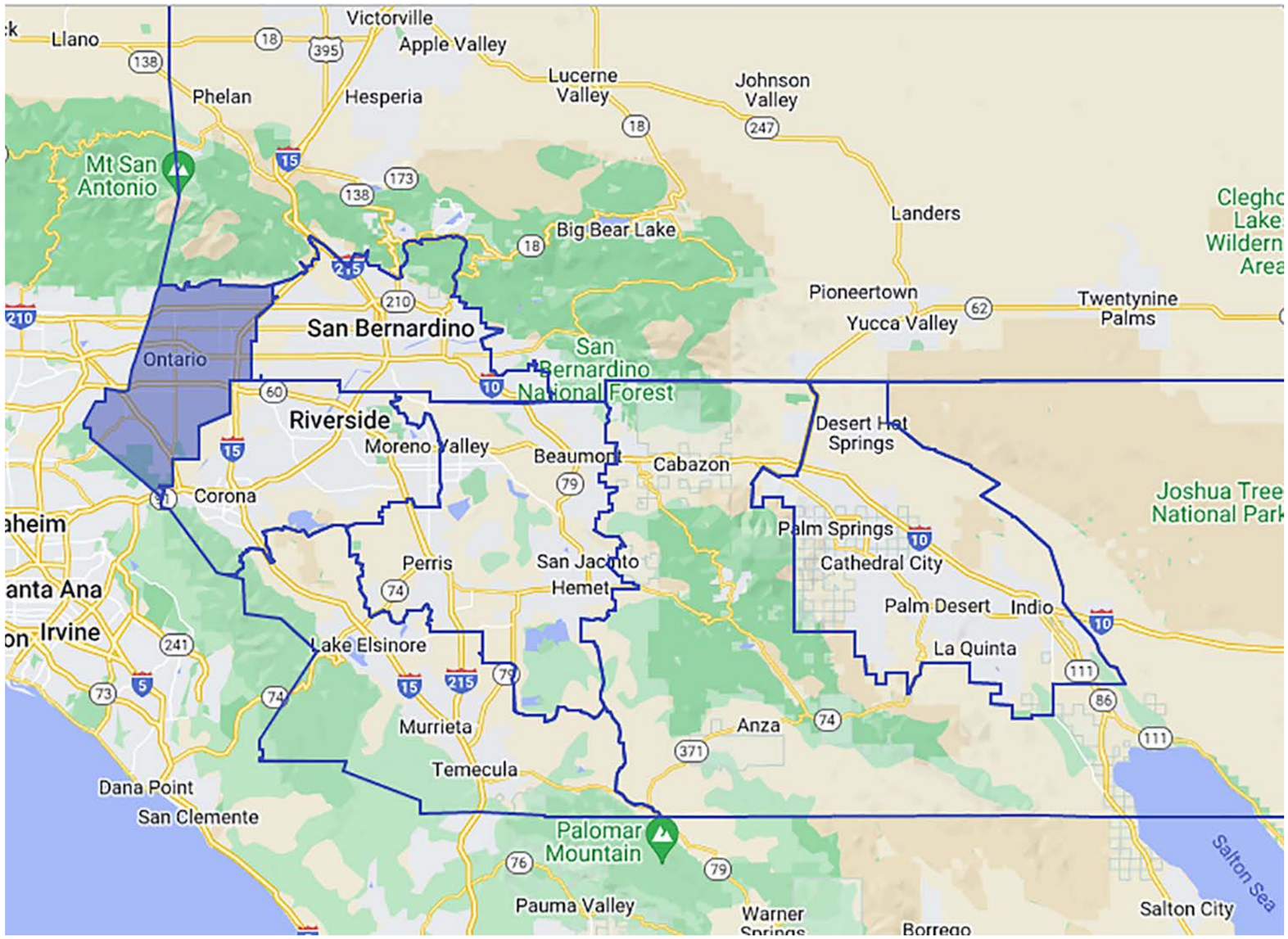






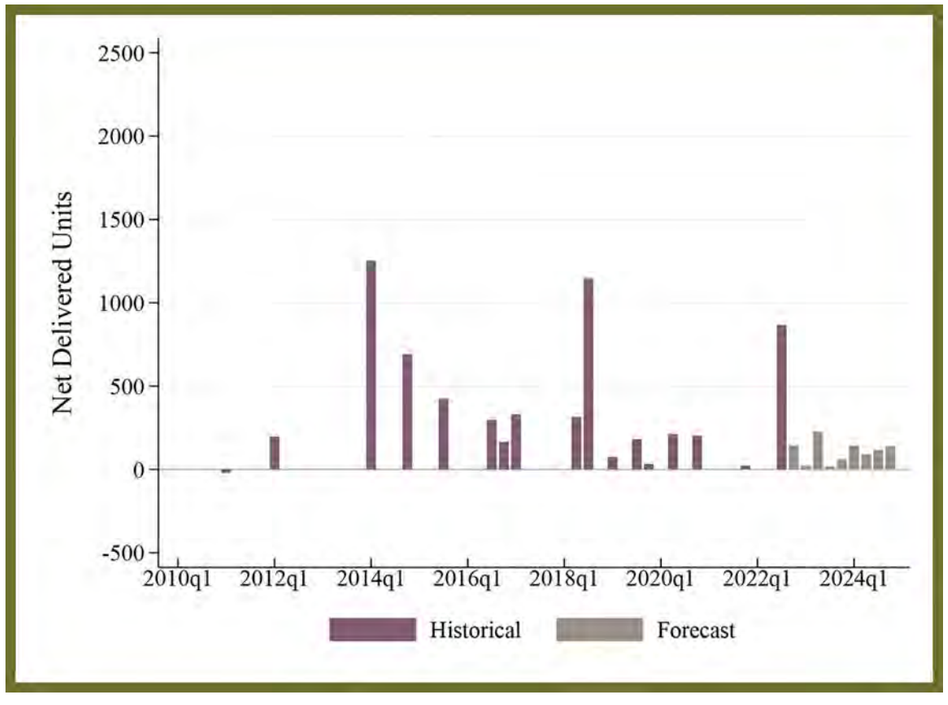
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

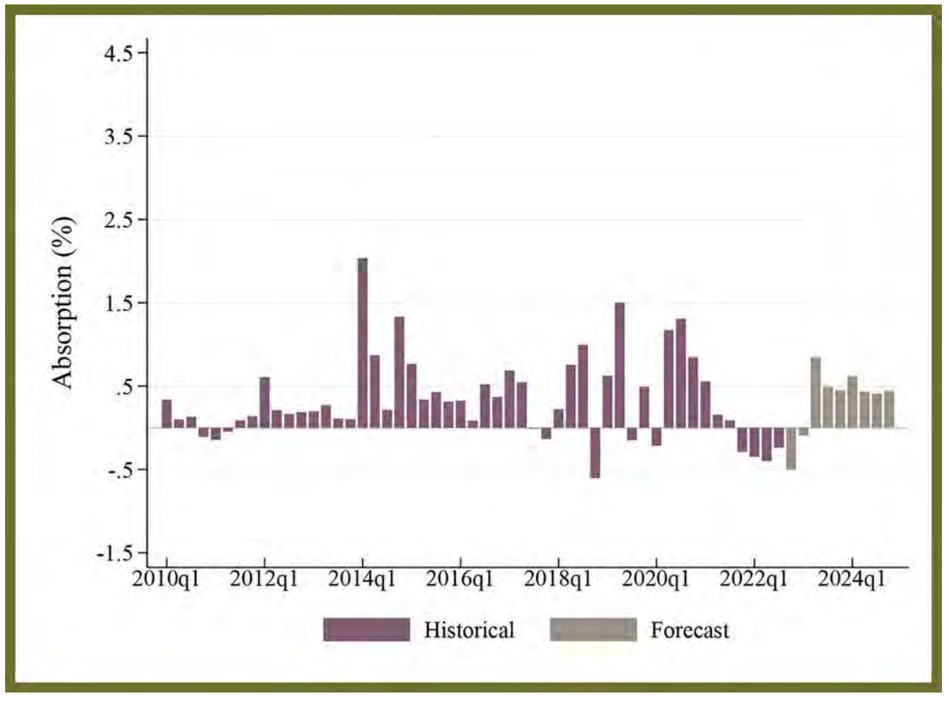
Chino-Rancho Cucamonga

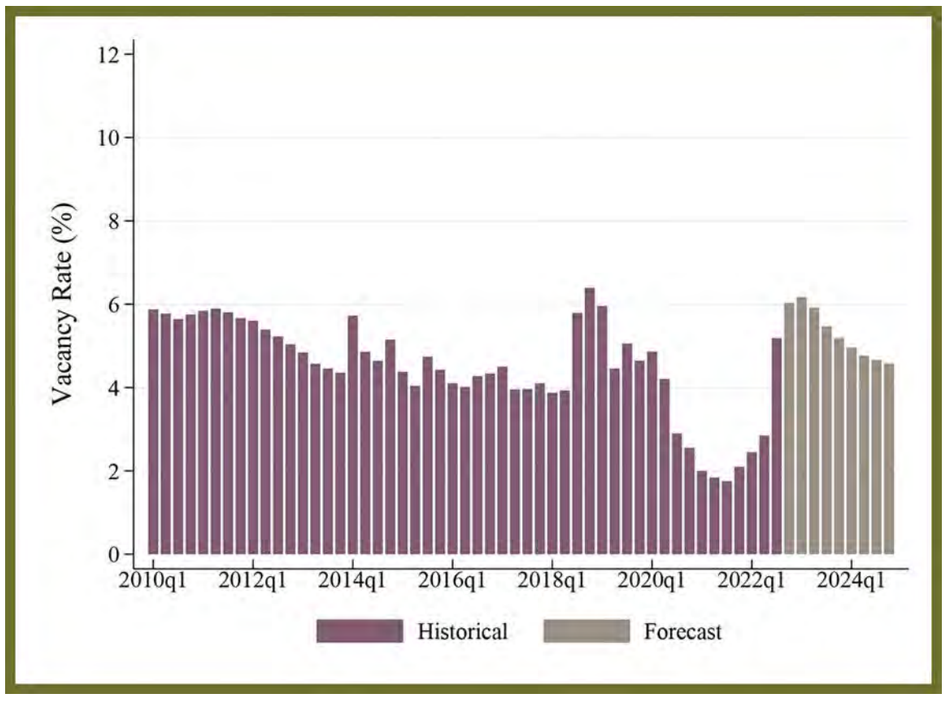


Source: CoStar

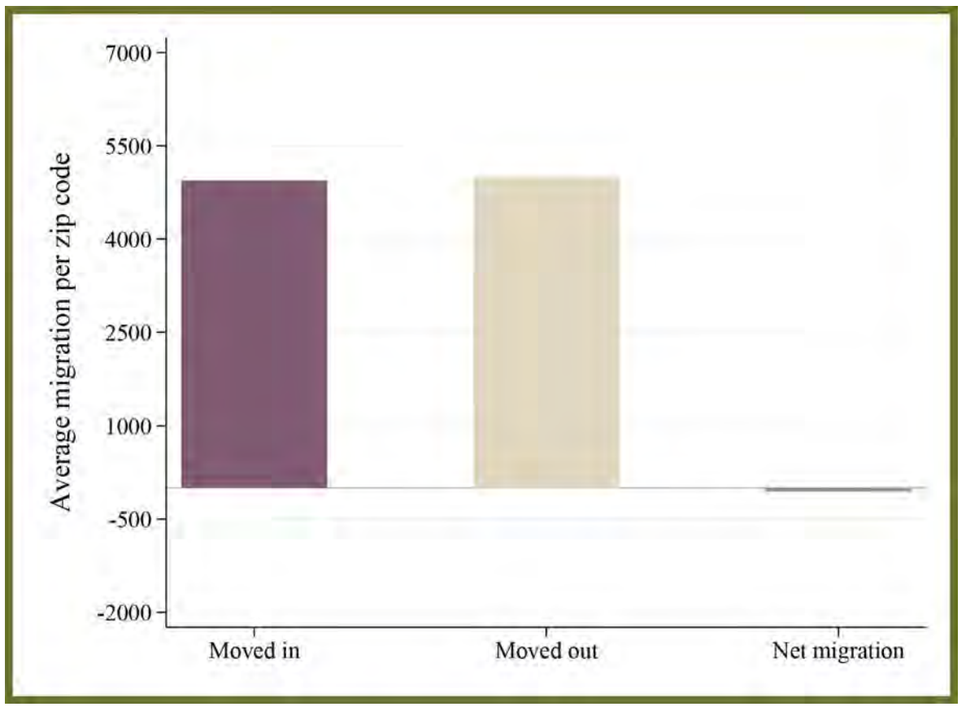
Chino-Rancho Cucamonga · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





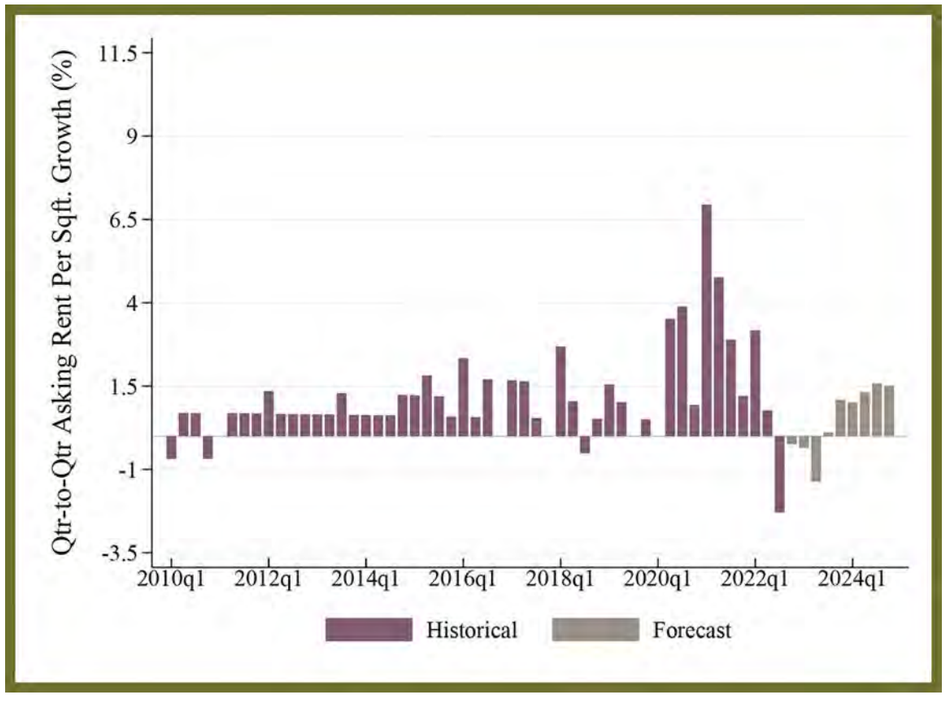


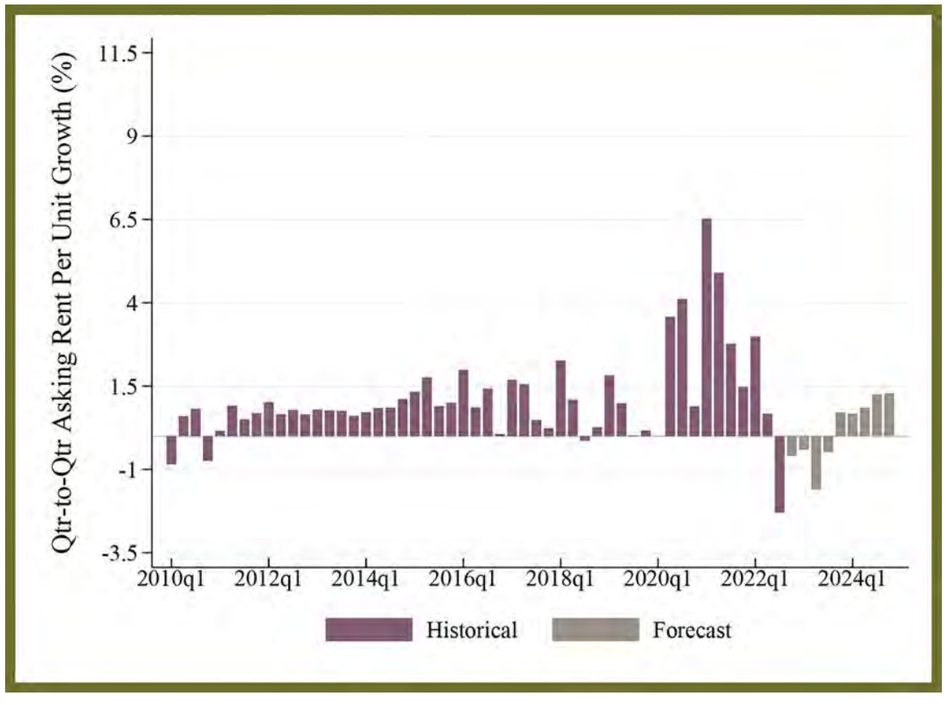
Chino-Rancho Cucamonga Migration since the start of COVID-19

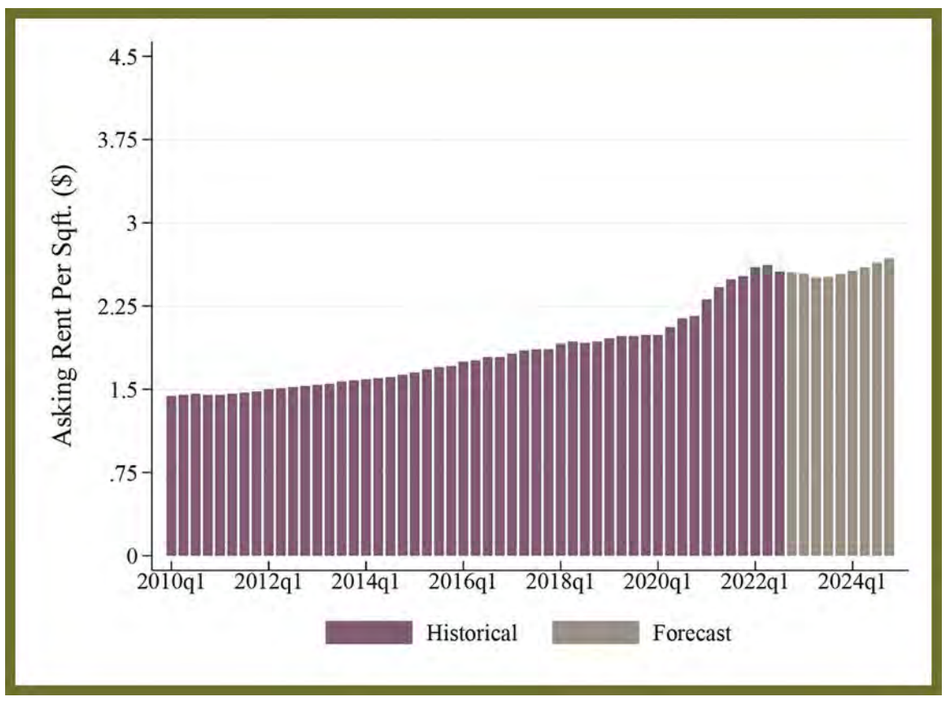


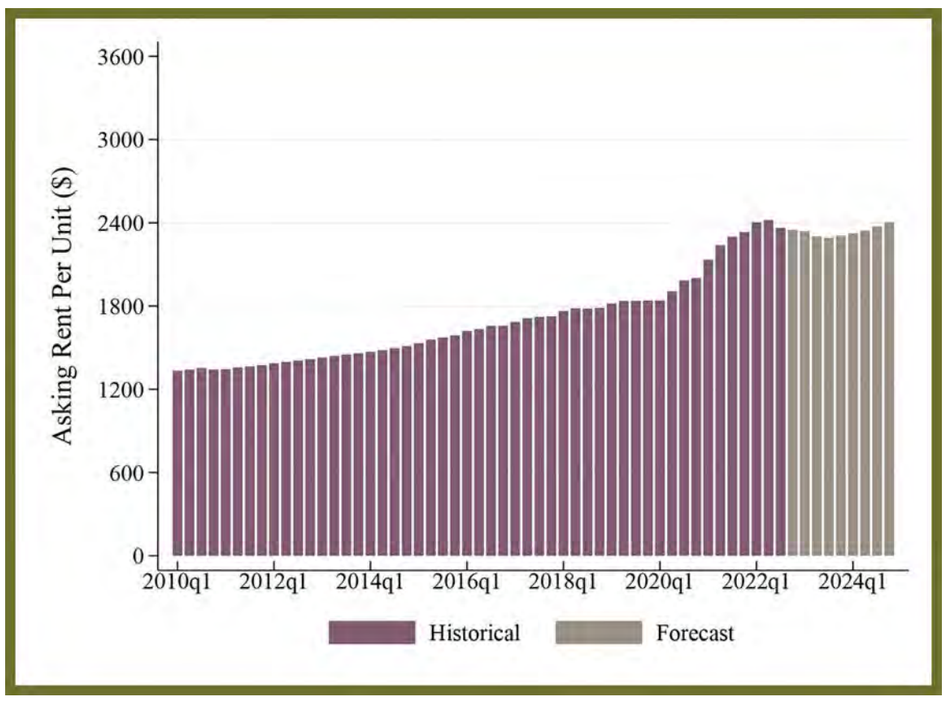
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Chino-Rancho Cucamonga Market · Asking Rents · Inland Empire, 2010-2024



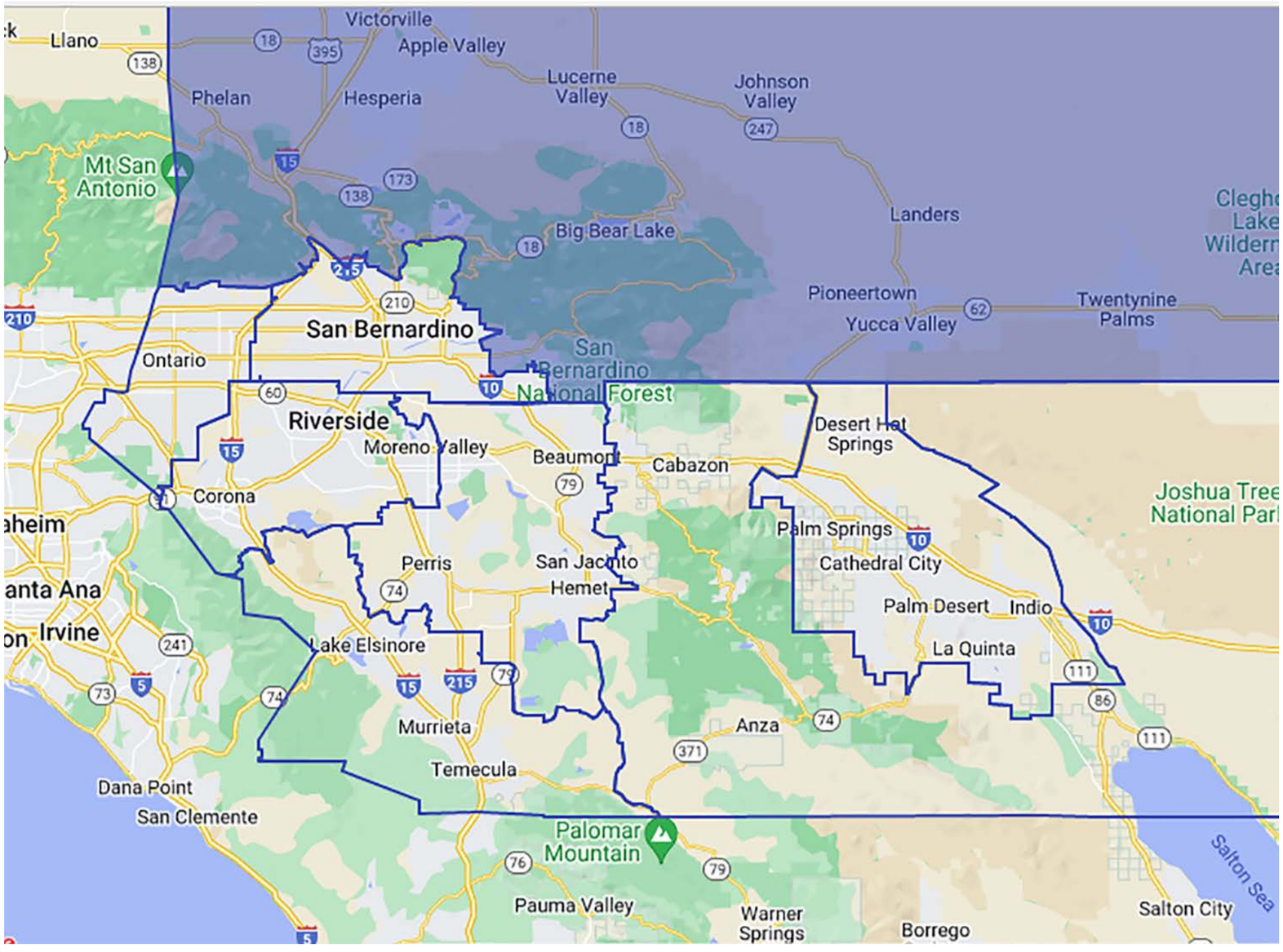






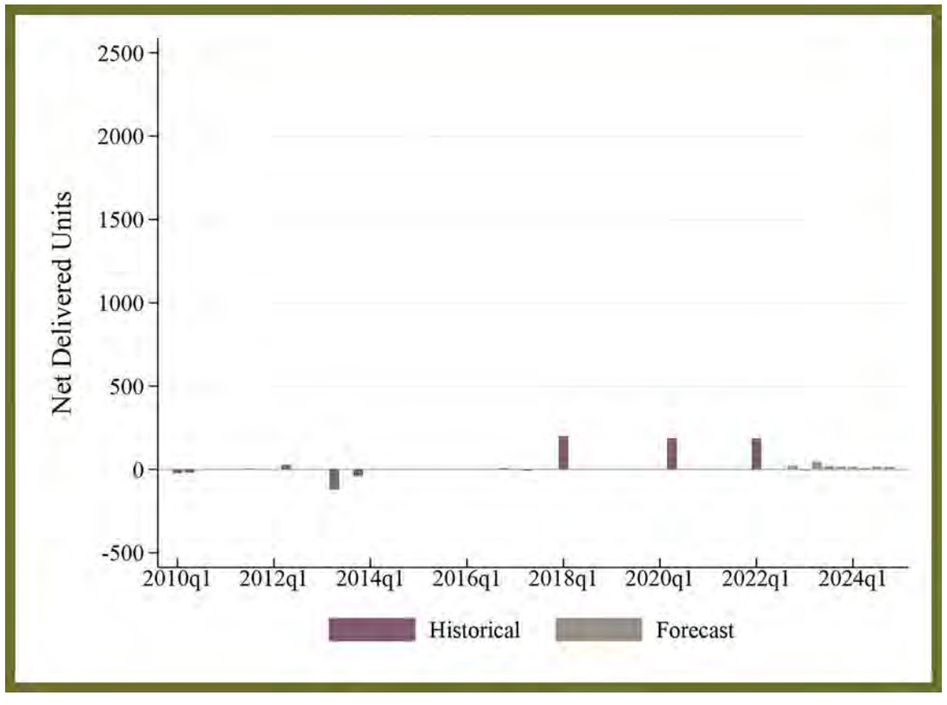
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

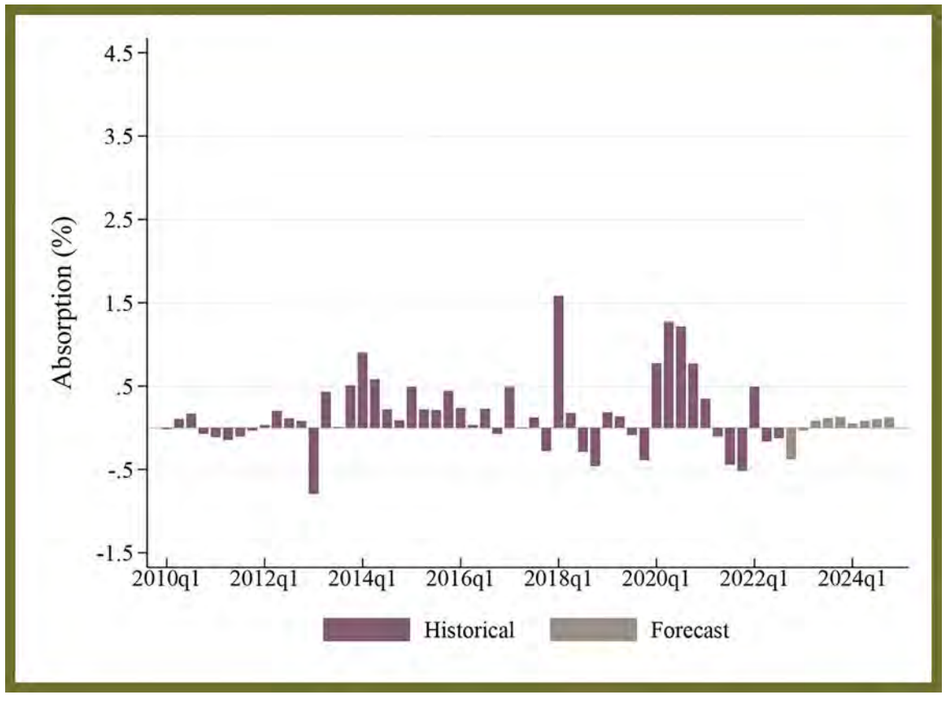
Outlying San Bernardino

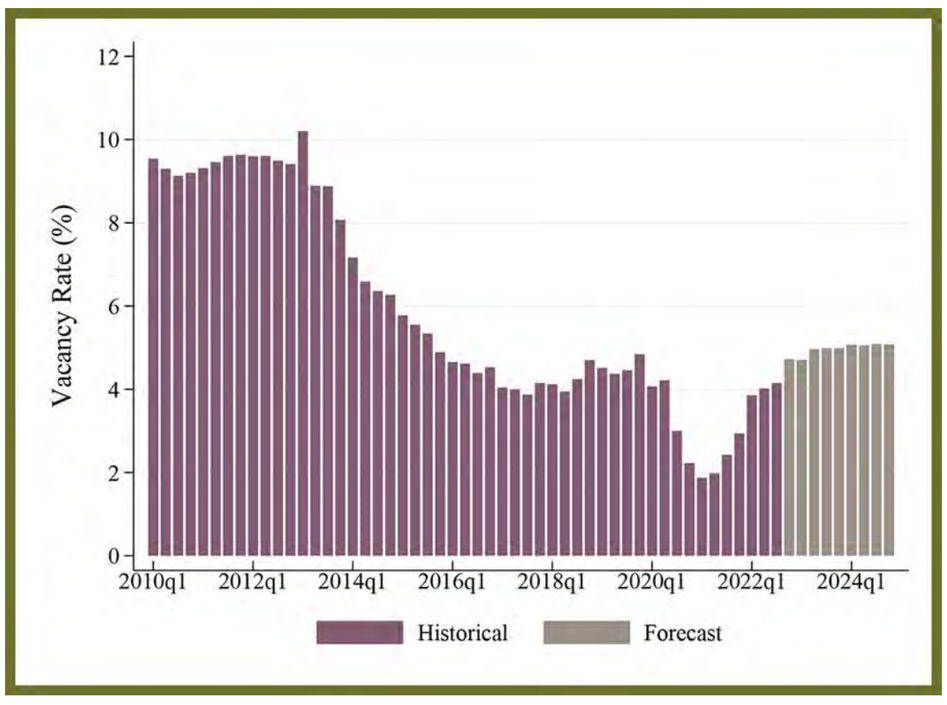


Source: CoStar

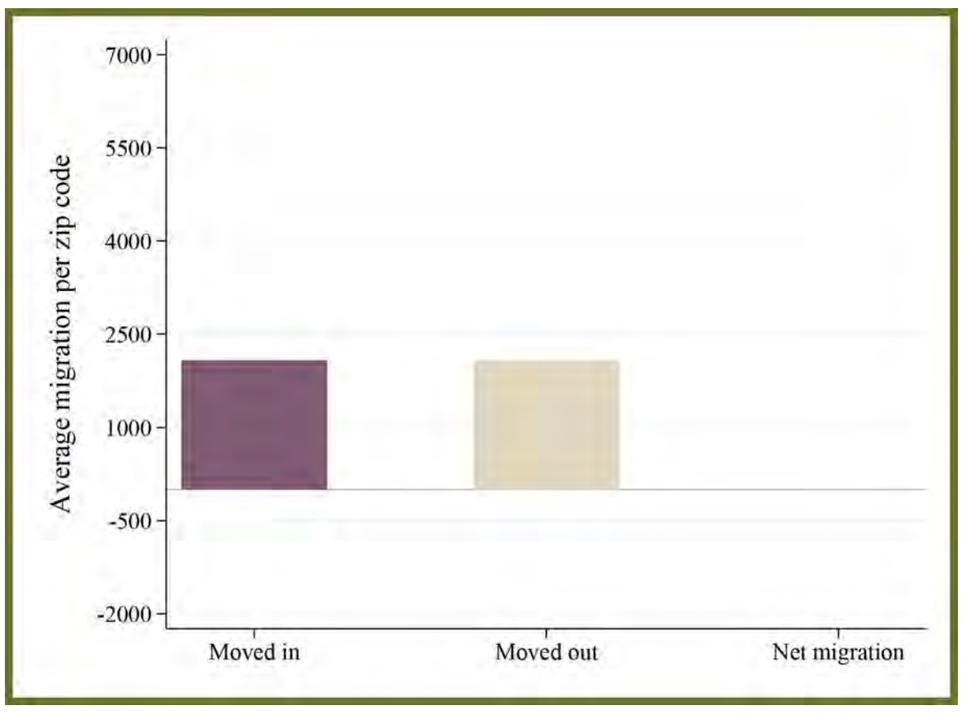
Outlying San Bernardino · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





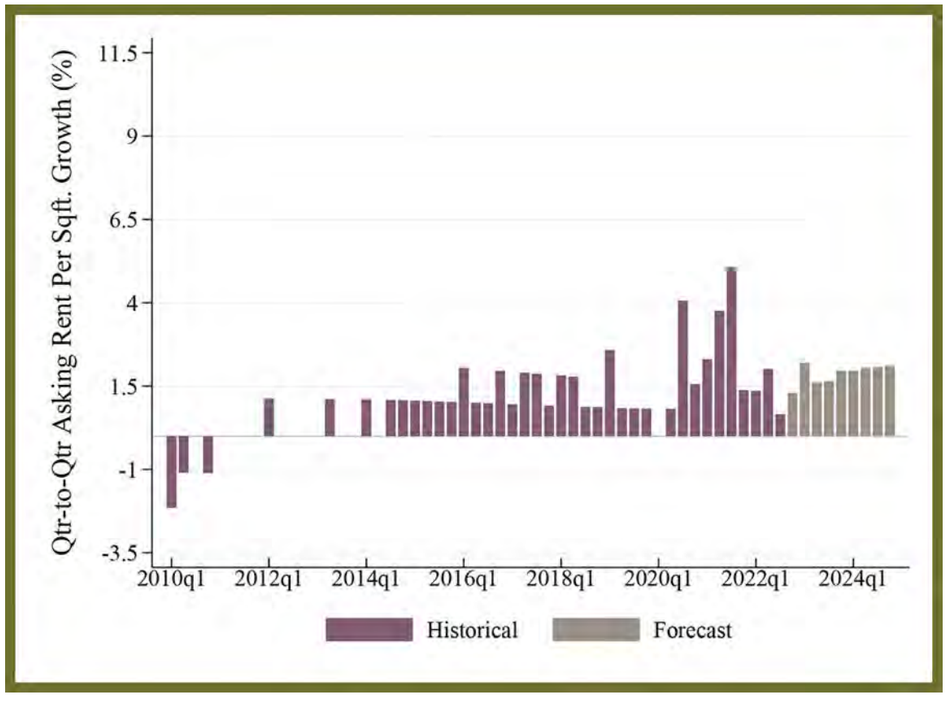


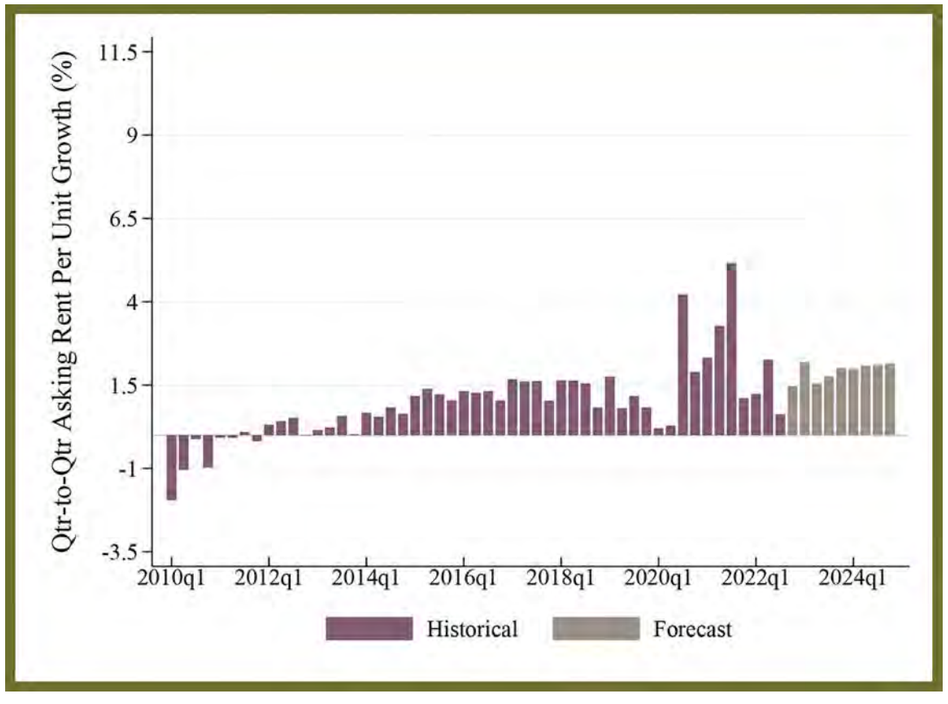
Outlying San Bernardino Migration since the start of COVID-19

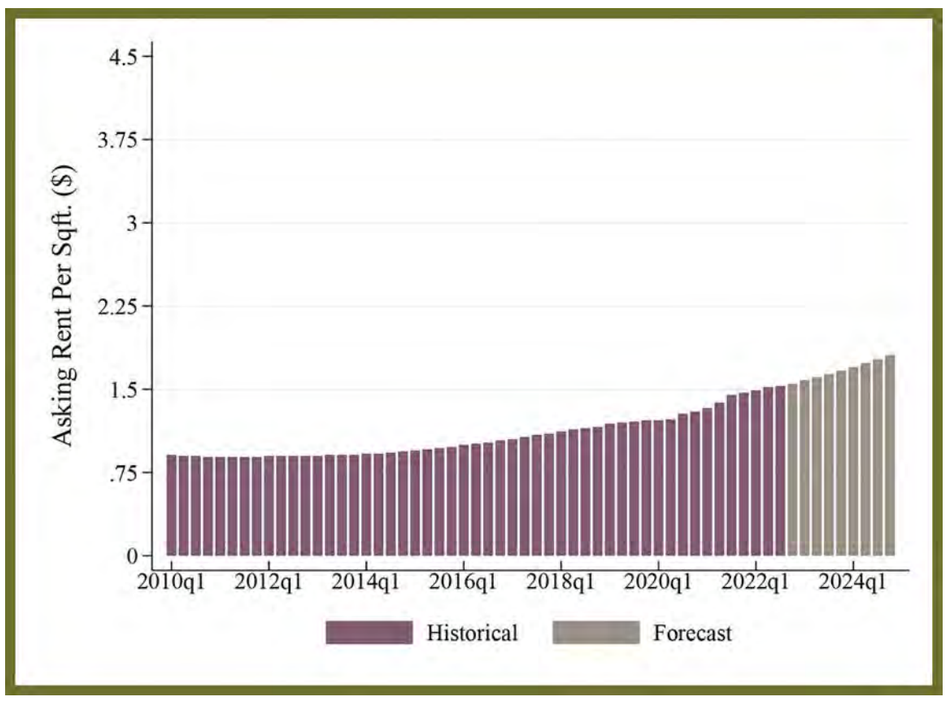


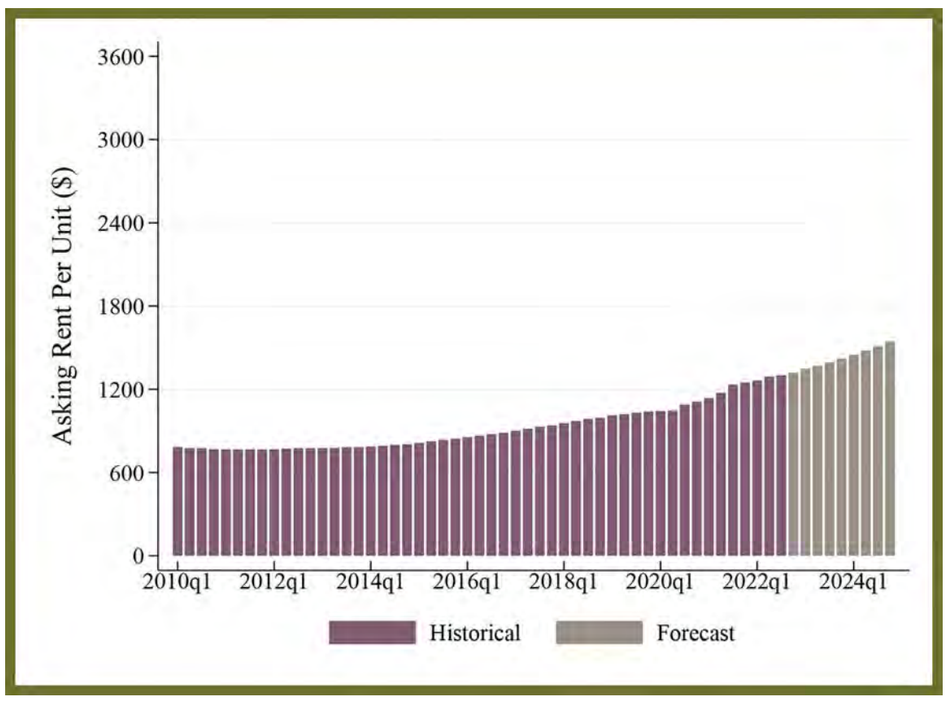
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Outlying San Bernardino · Asking Rents · Inland Empire, 2010-2024



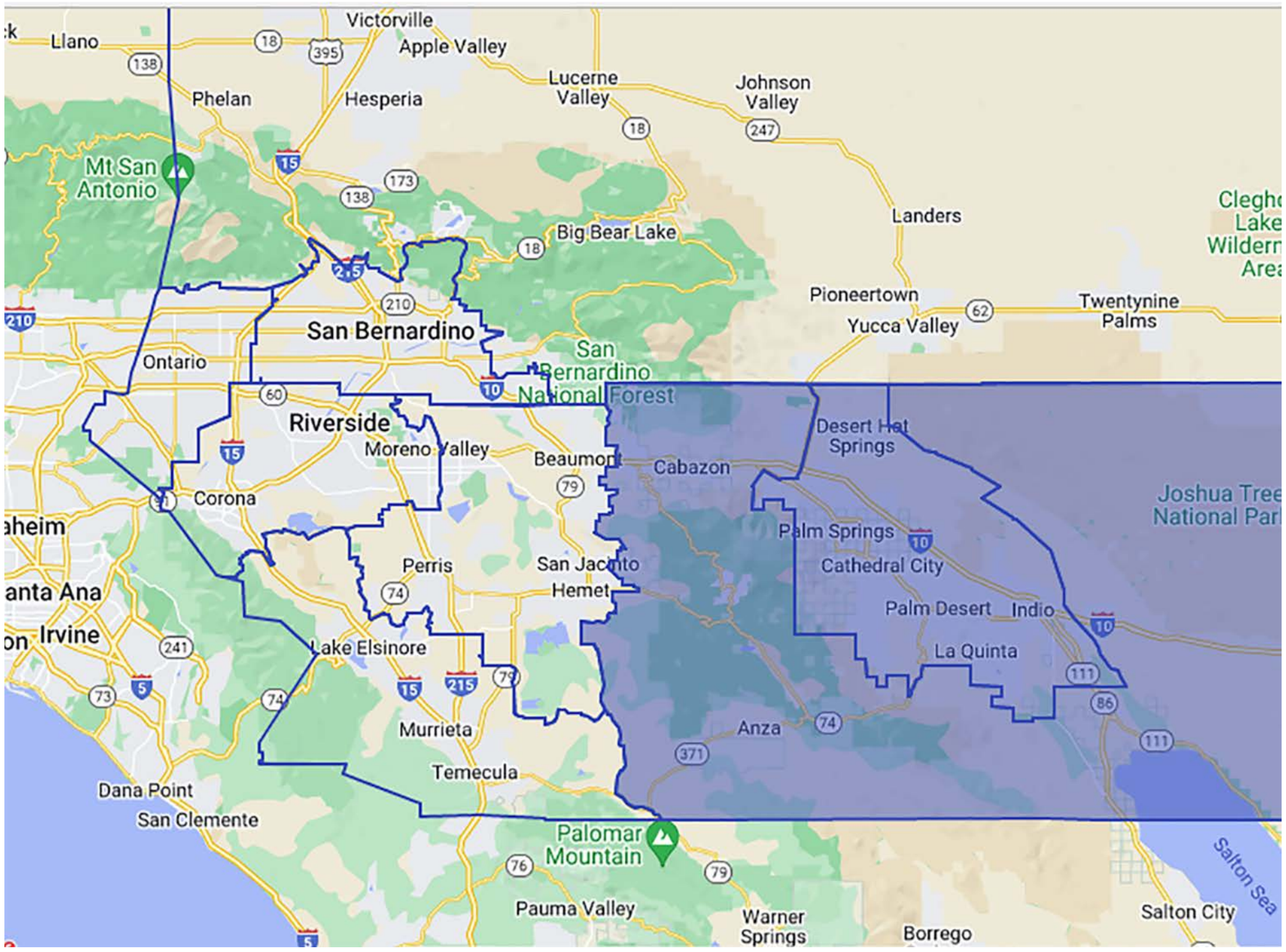






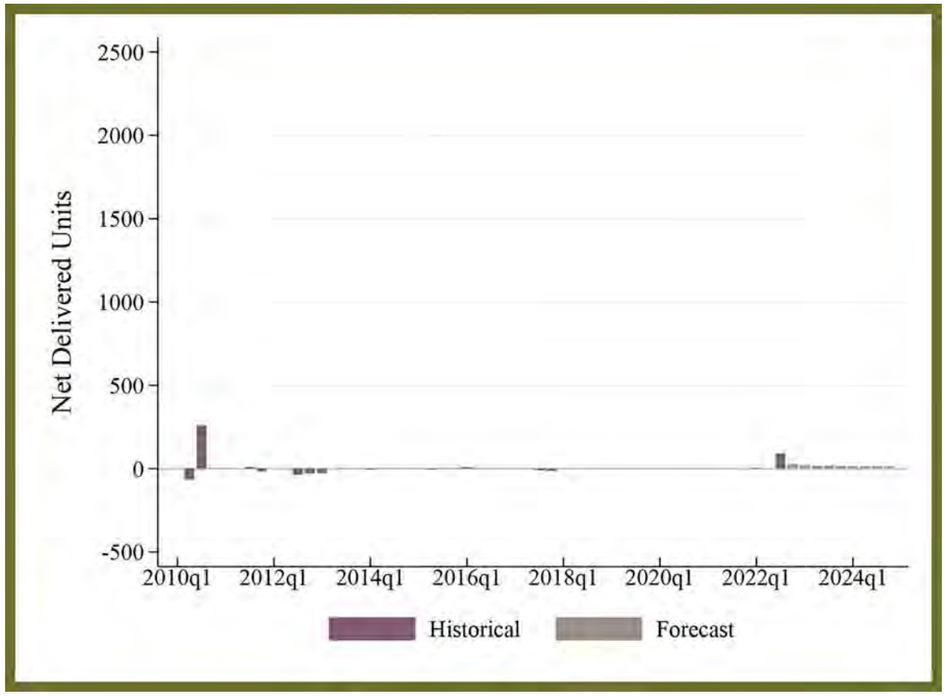
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

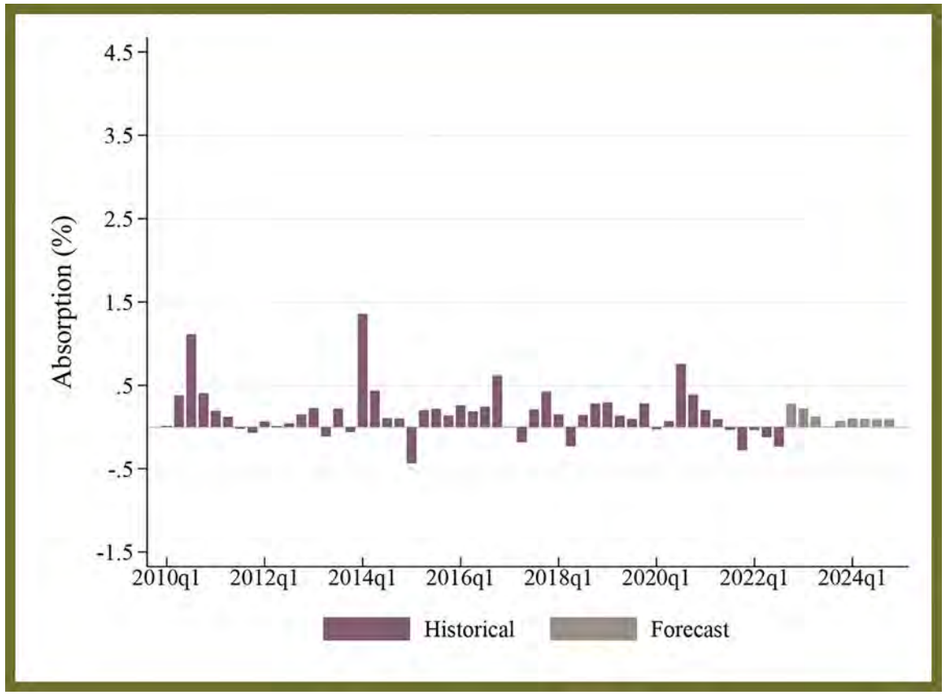
Palm Springs-Indio

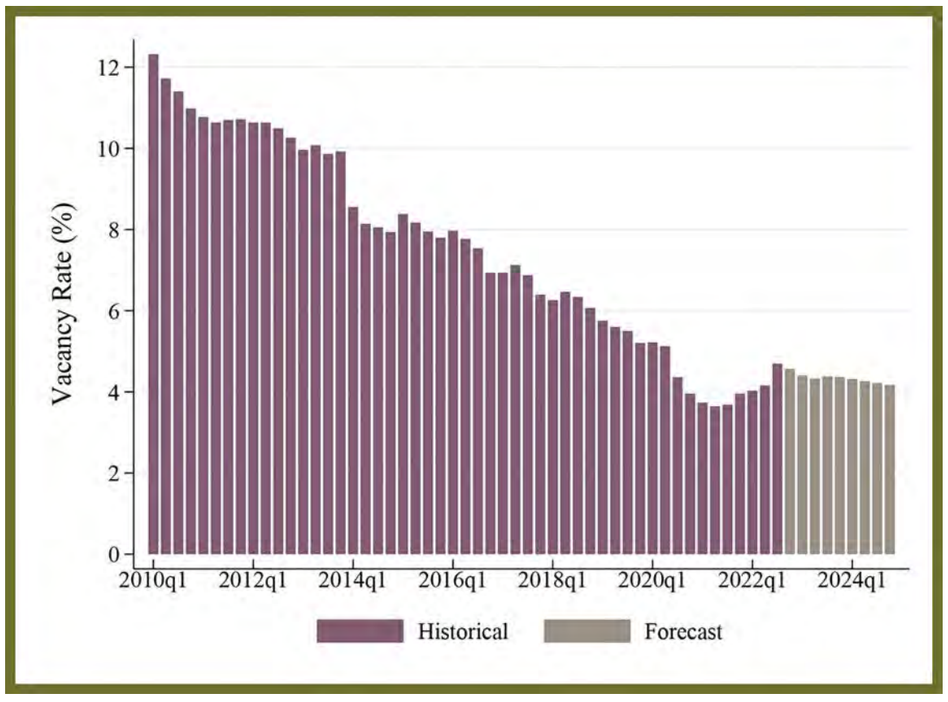


Source: CoStar

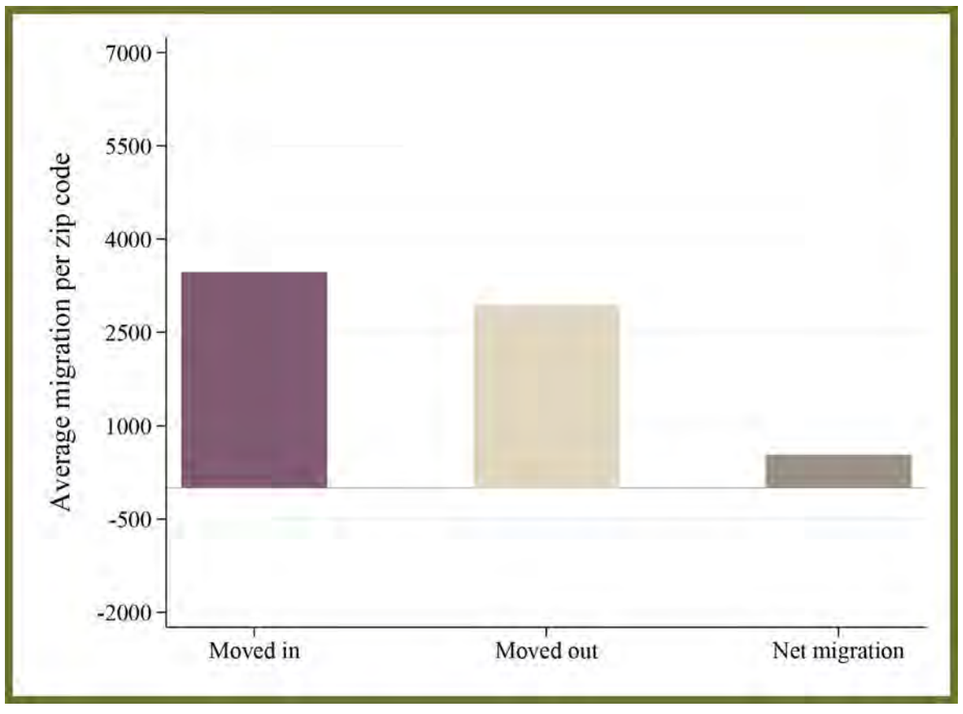
Palm Springs-Indio Market · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





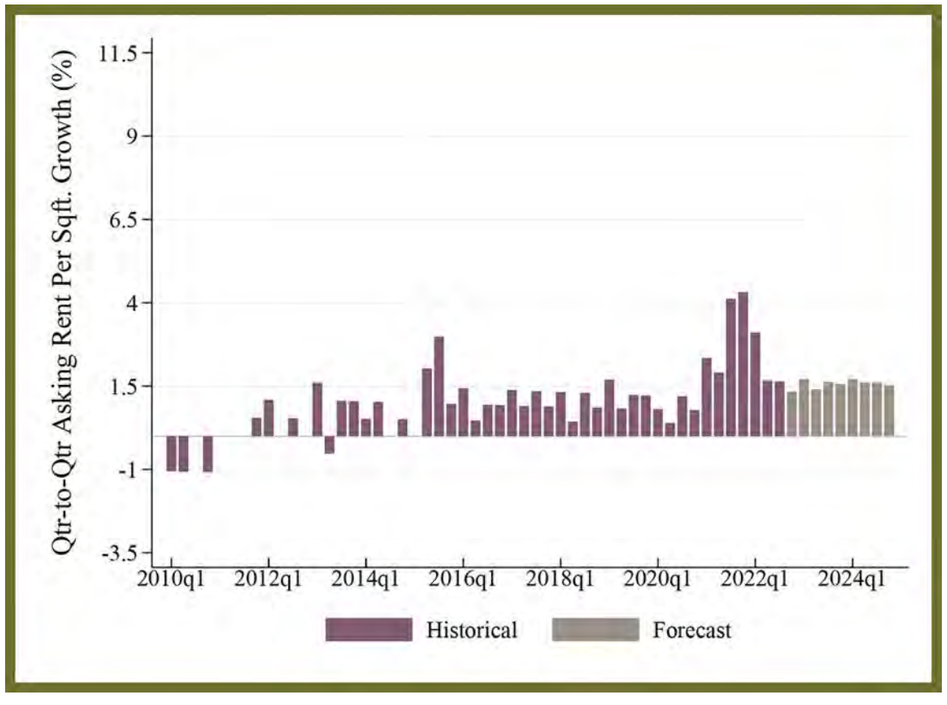


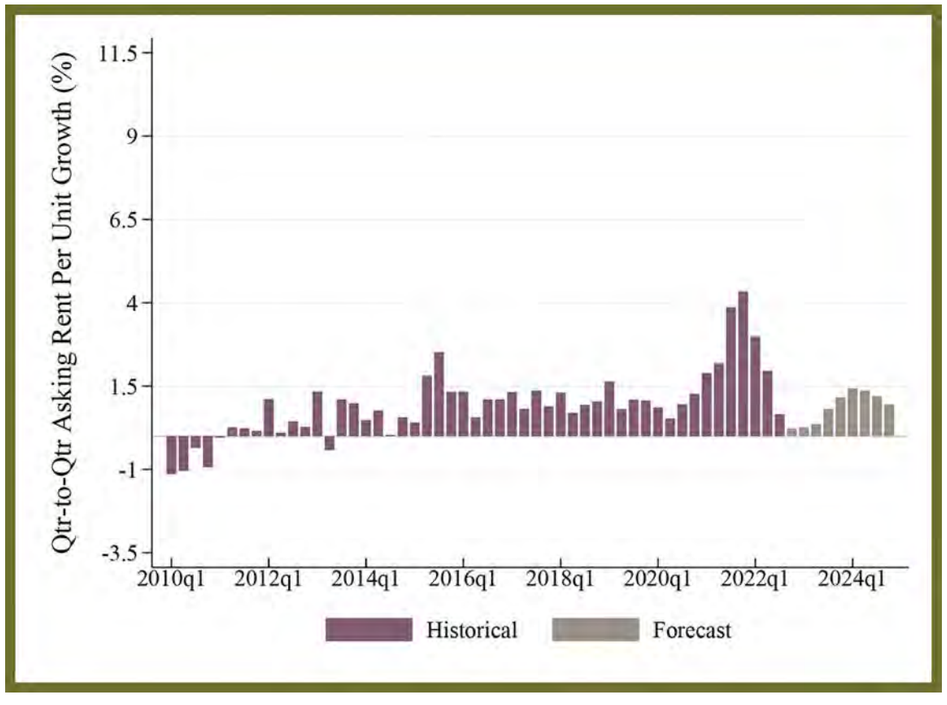
Palm Springs-Indio Market Migration since the start of COVID-19

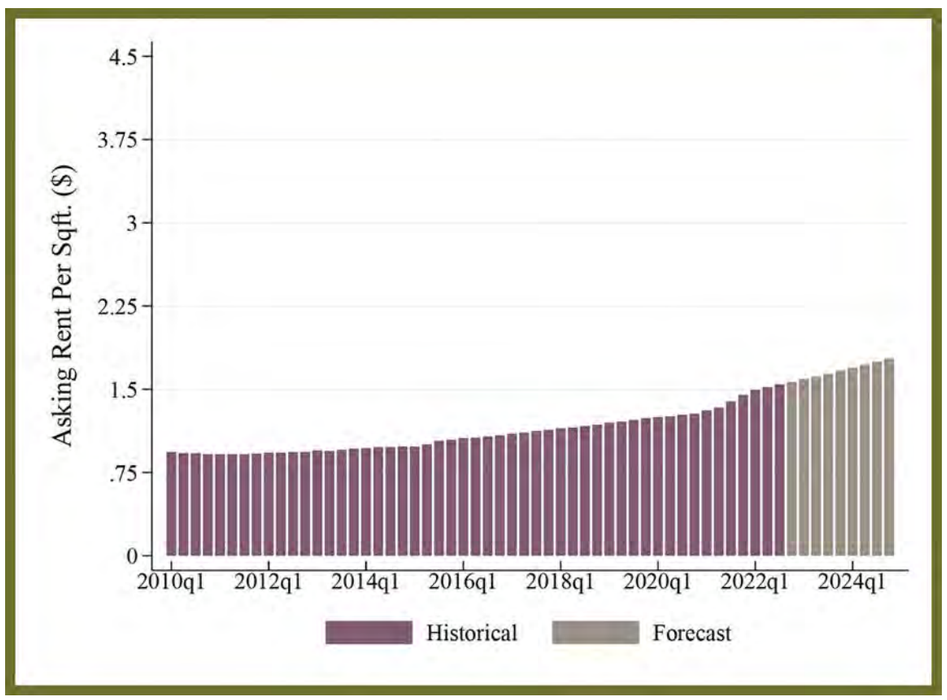


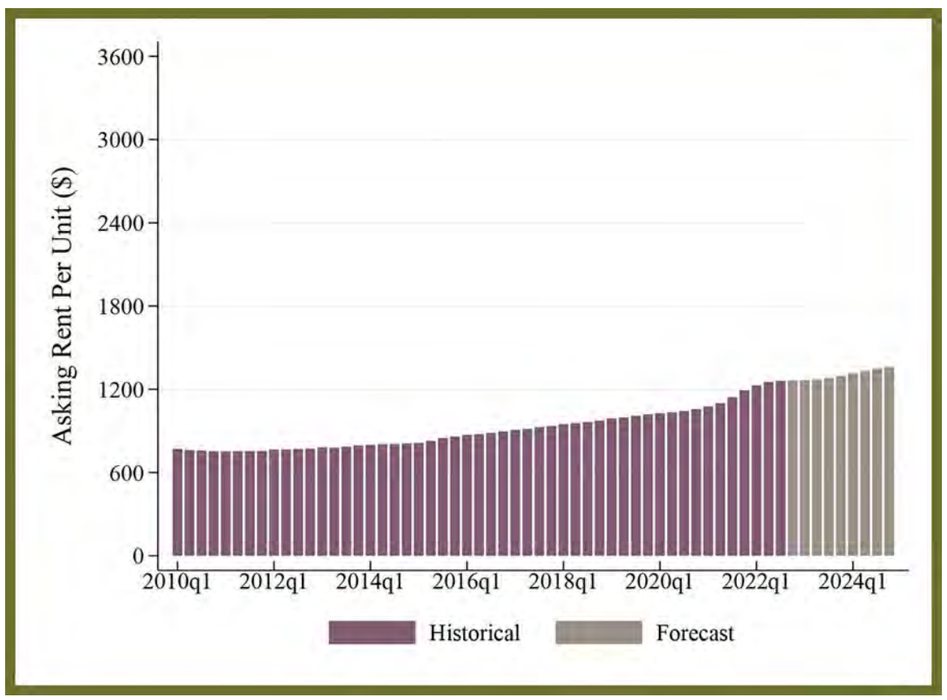
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Palm Springs-Indio Market · Asking Rents · Inland Empire, 2010-2024



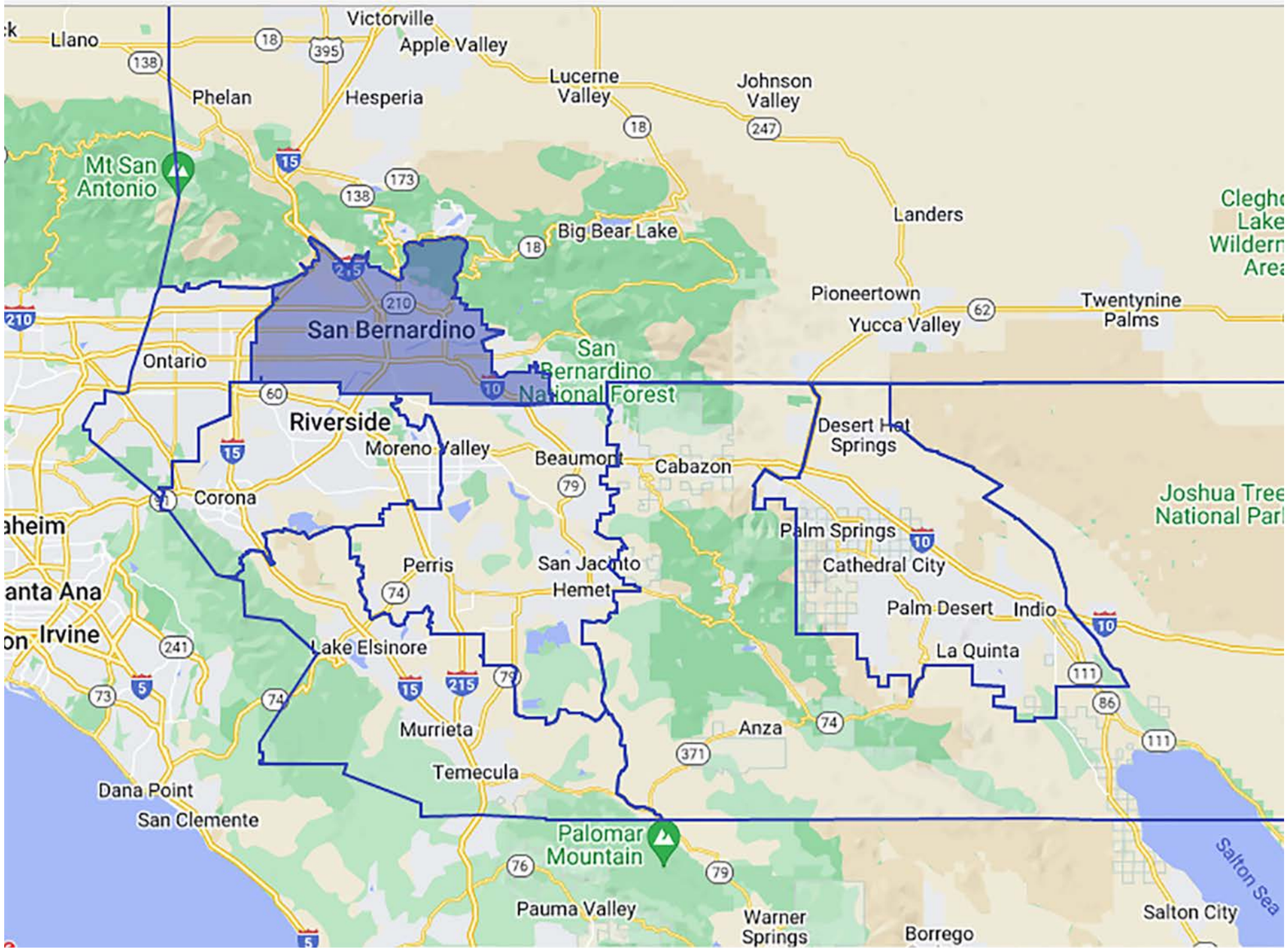






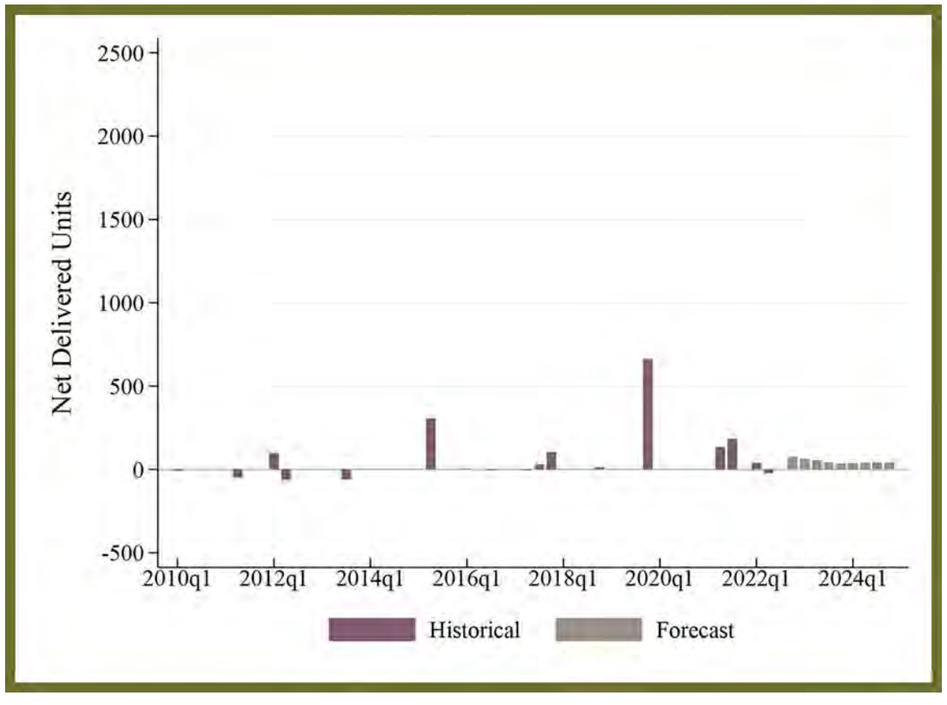
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

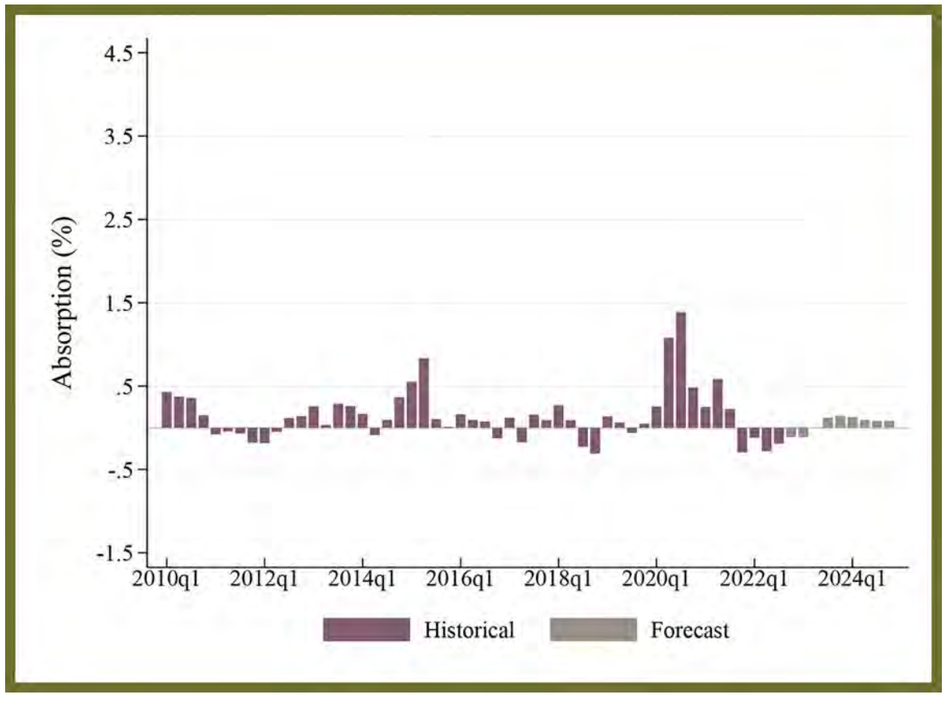
Redlands- Fontana

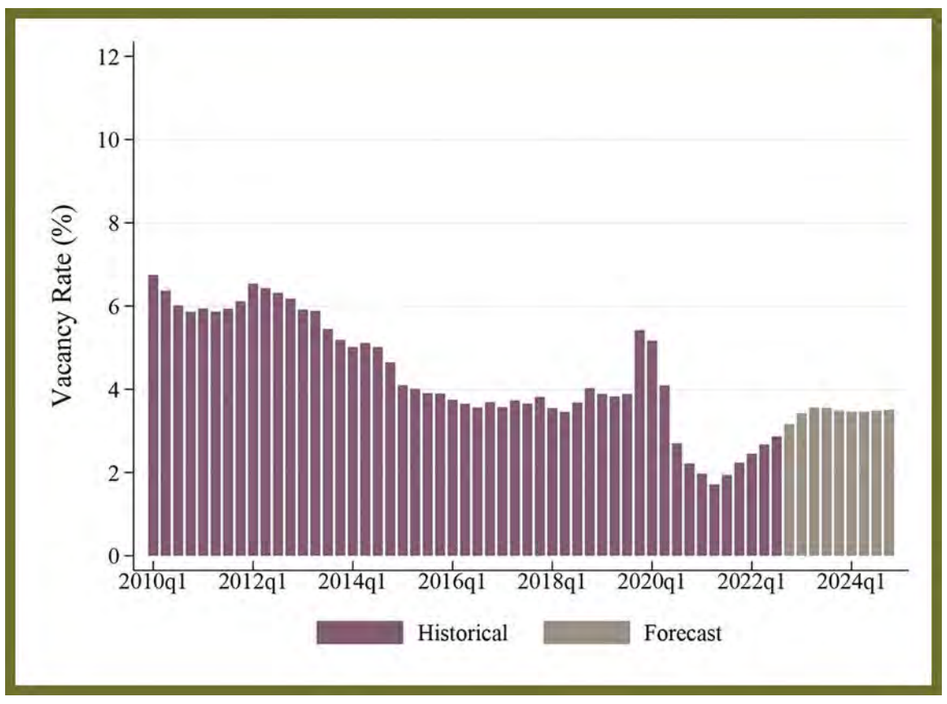


Source: CoStar

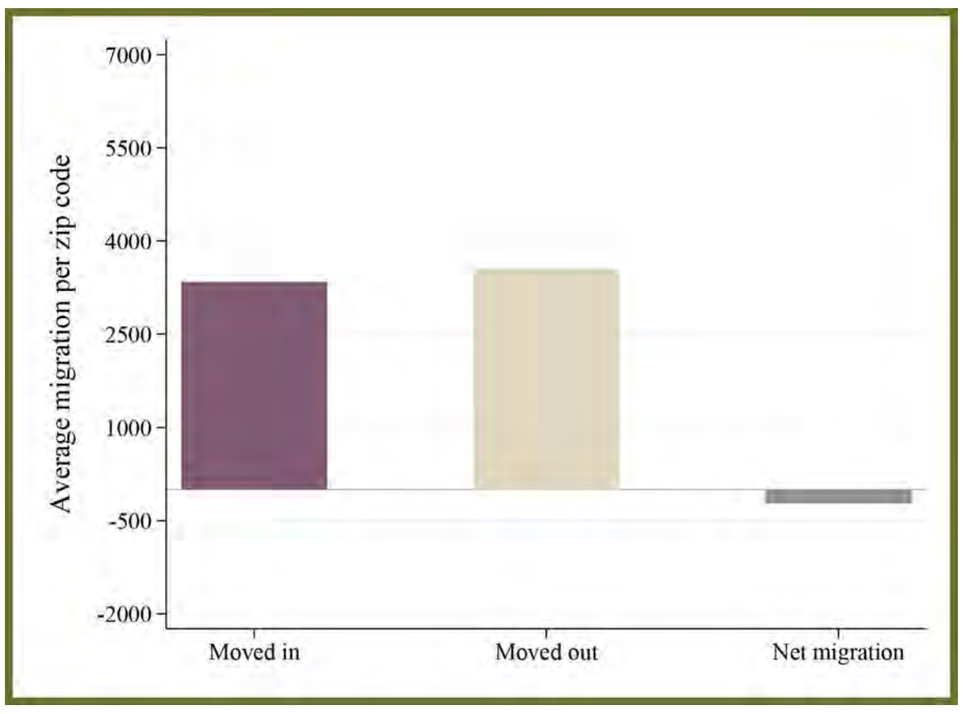
Redlands-Fontana · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





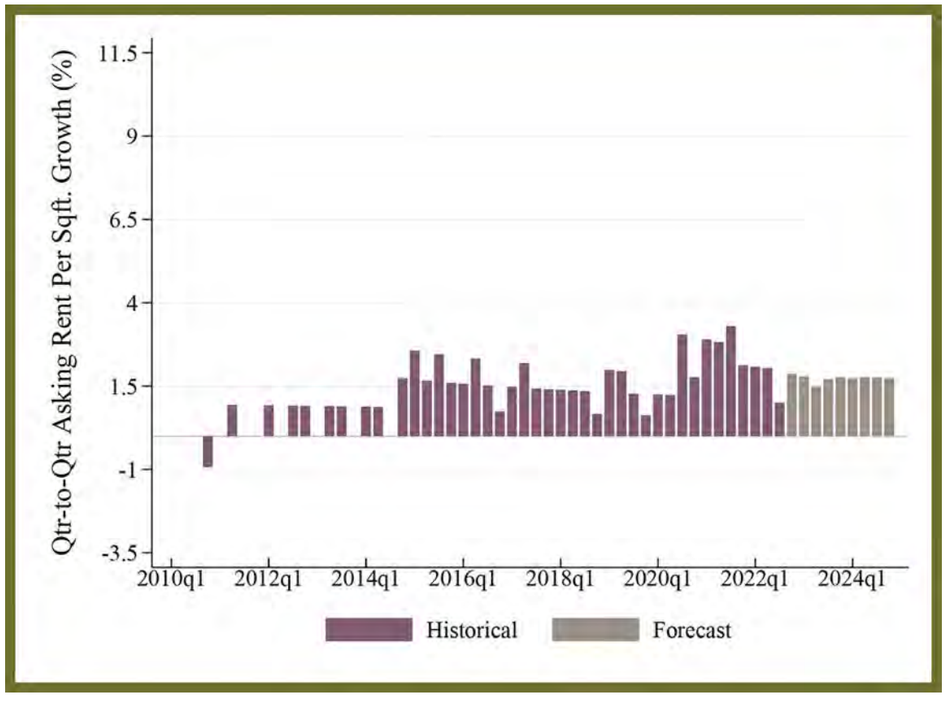


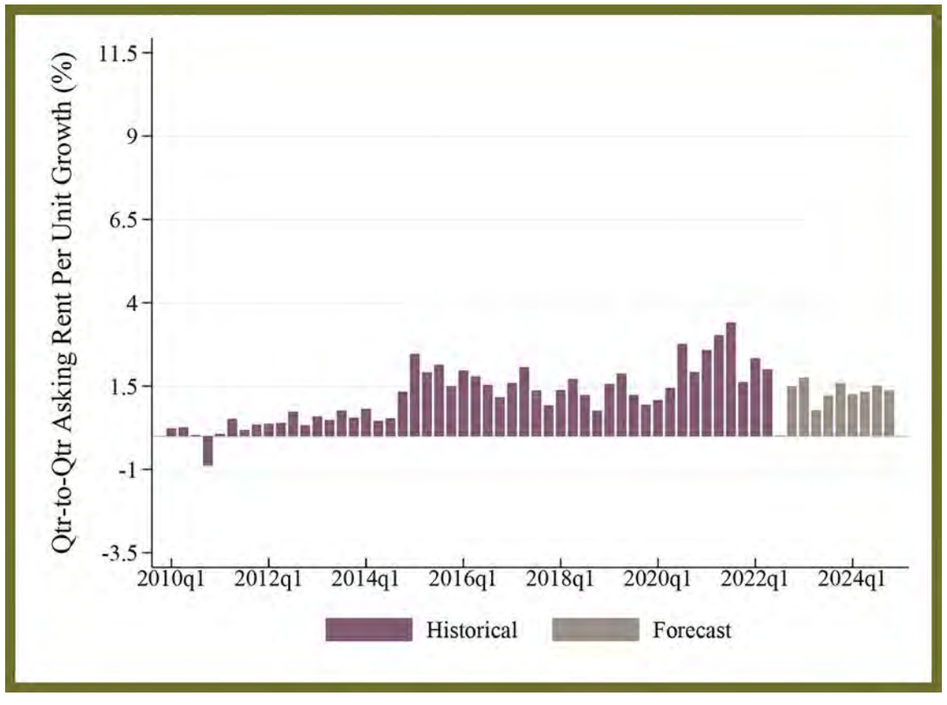
Redlands-Fontana Migration since the start of COVID-19

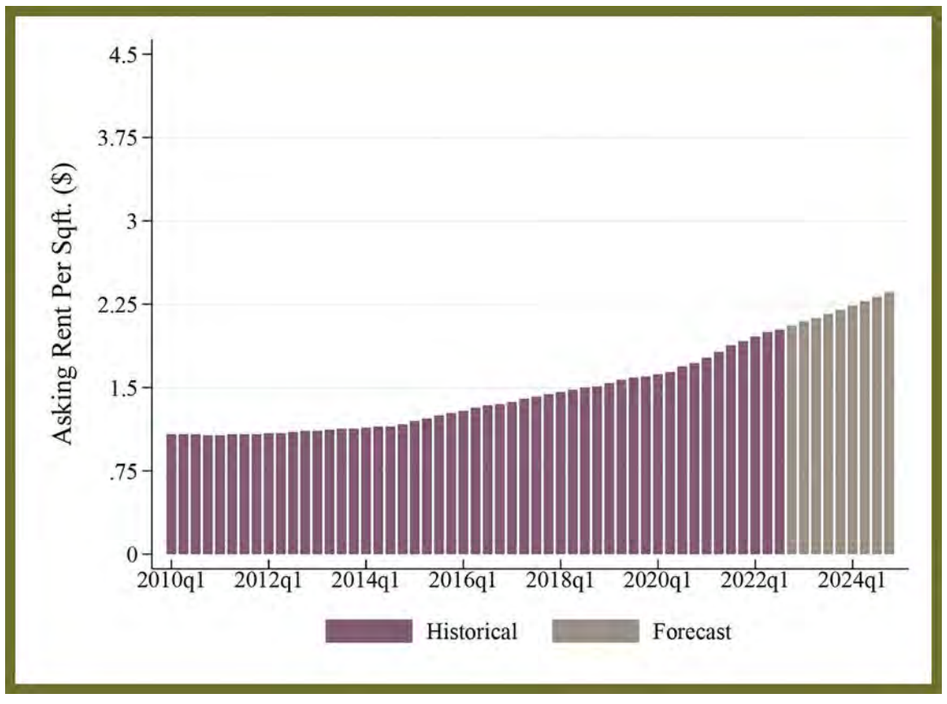


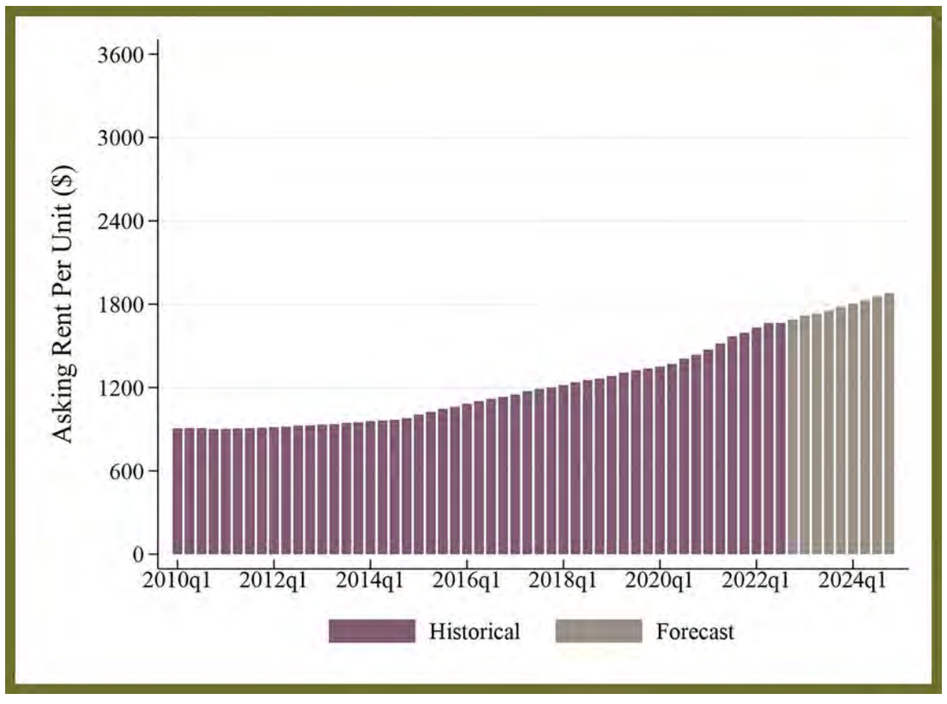
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Redlands-Fontana · Asking Rents · Inland Empire, 2010-2024



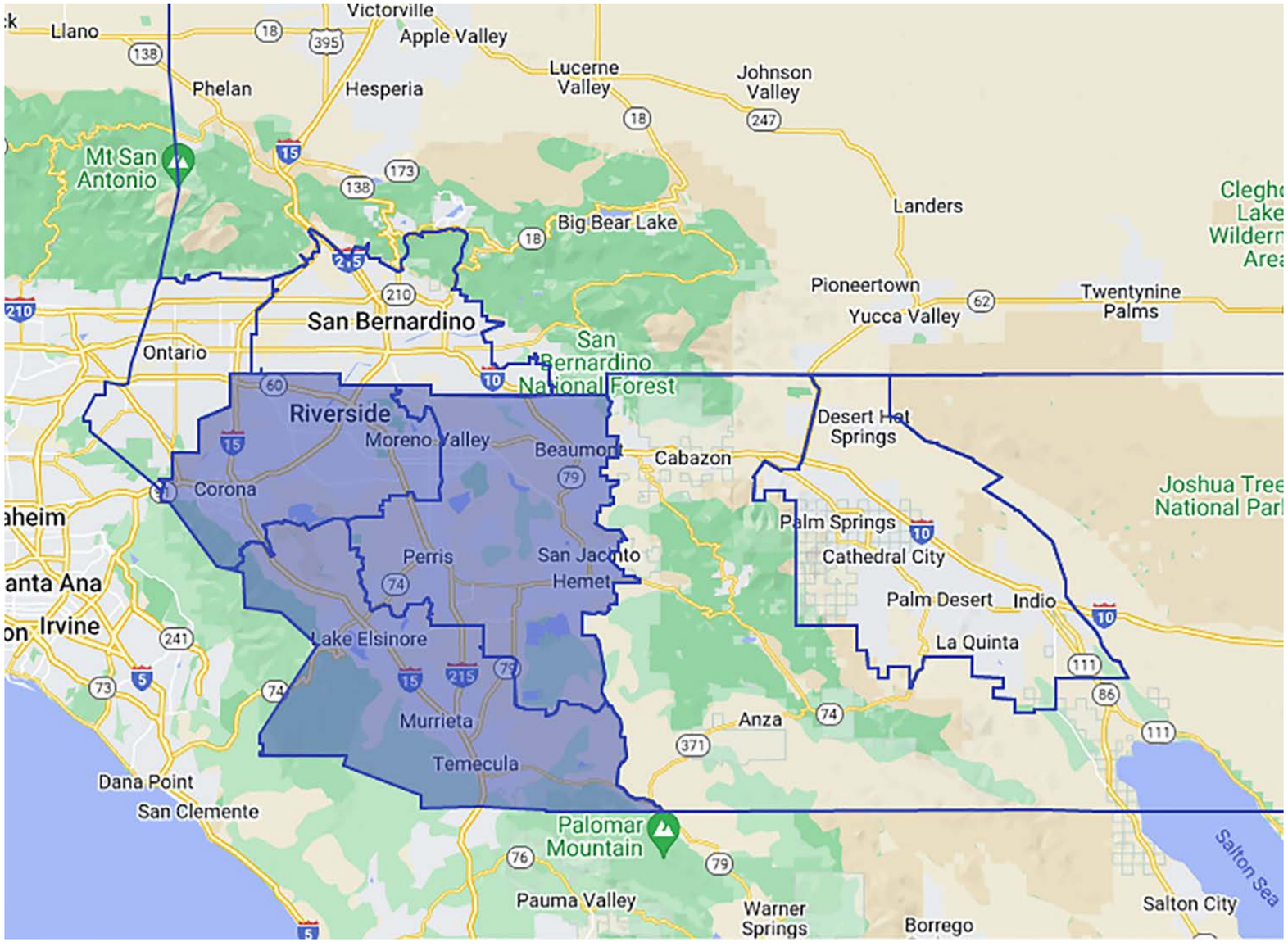






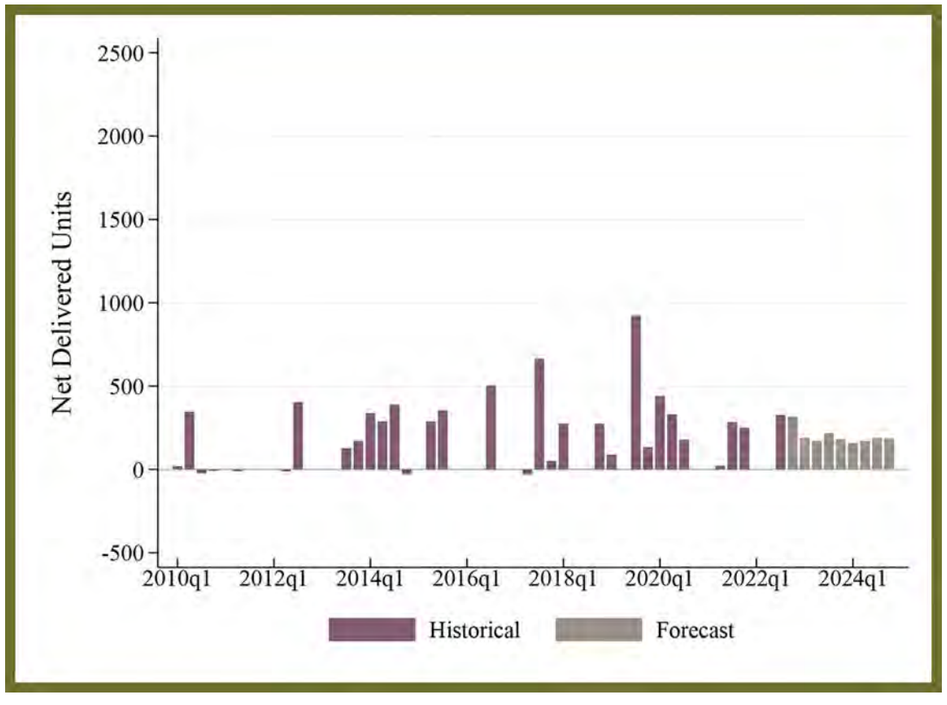
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

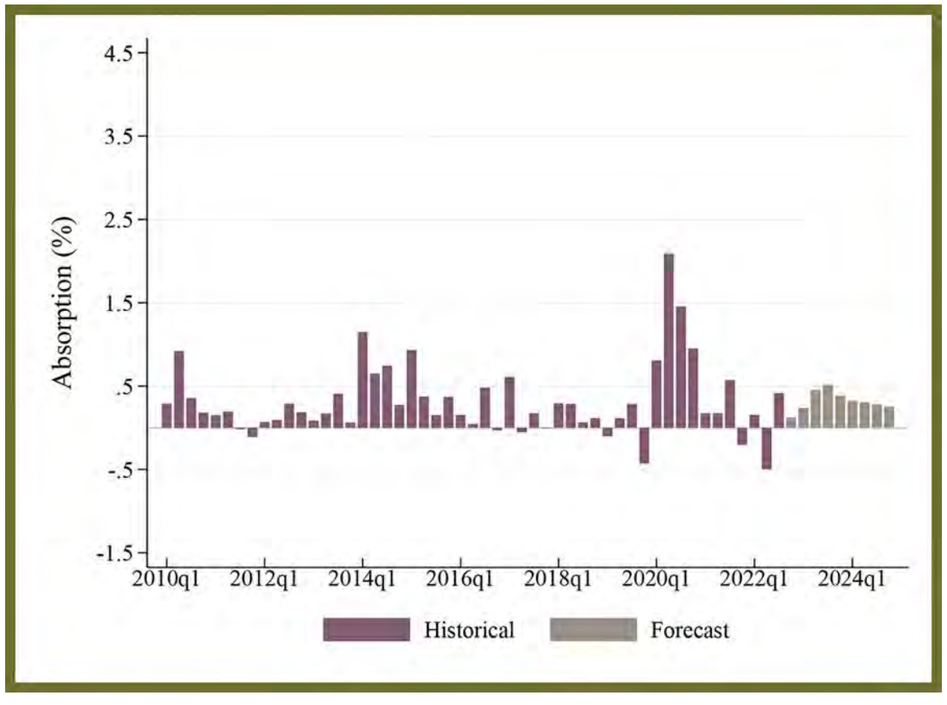
West Riverside County

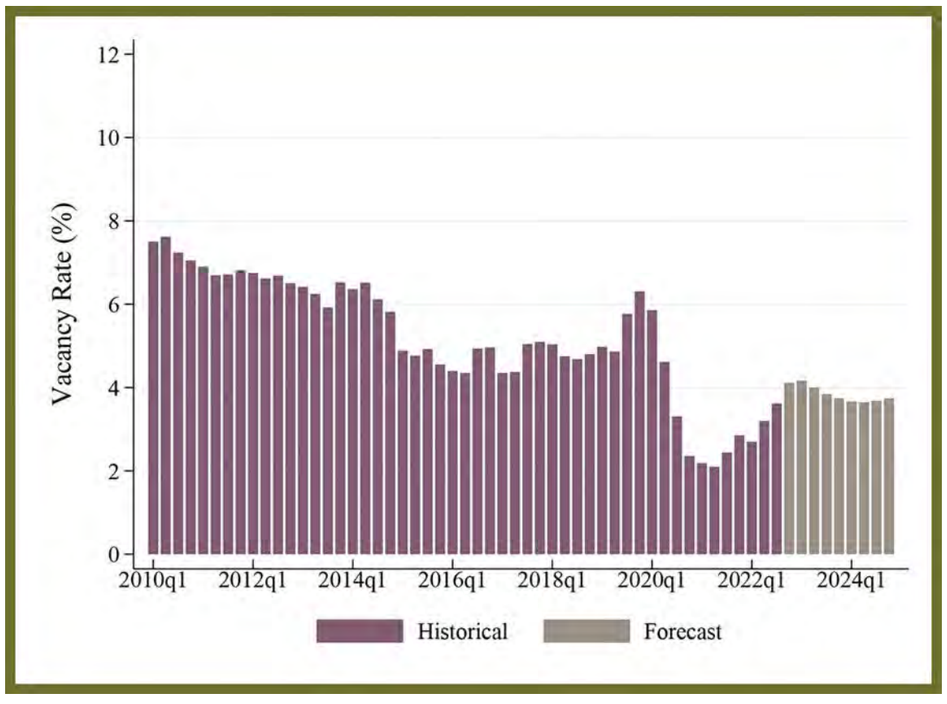


Source: CoStar

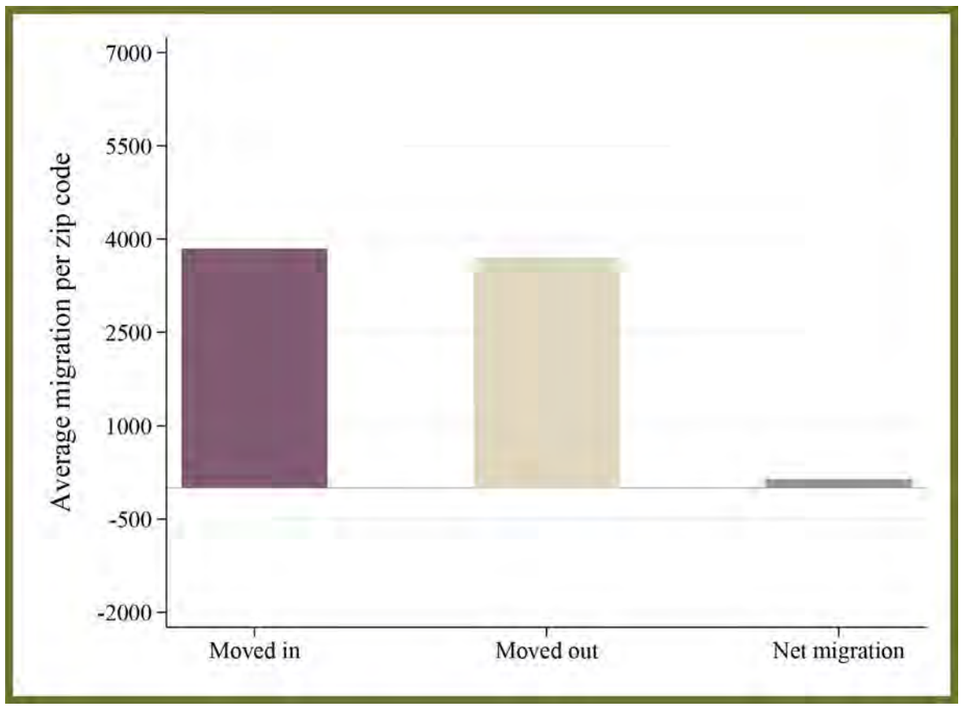
West Riverside County Market · Delivered Units, Absorption, Vacancy, and Migration · Inland Empire, 2010-2024





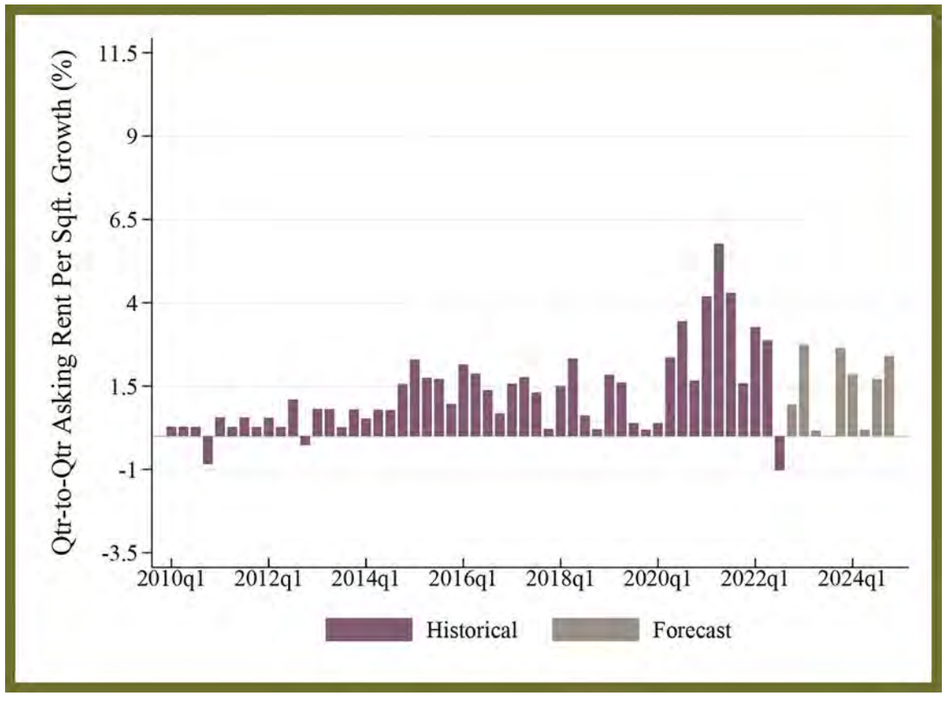


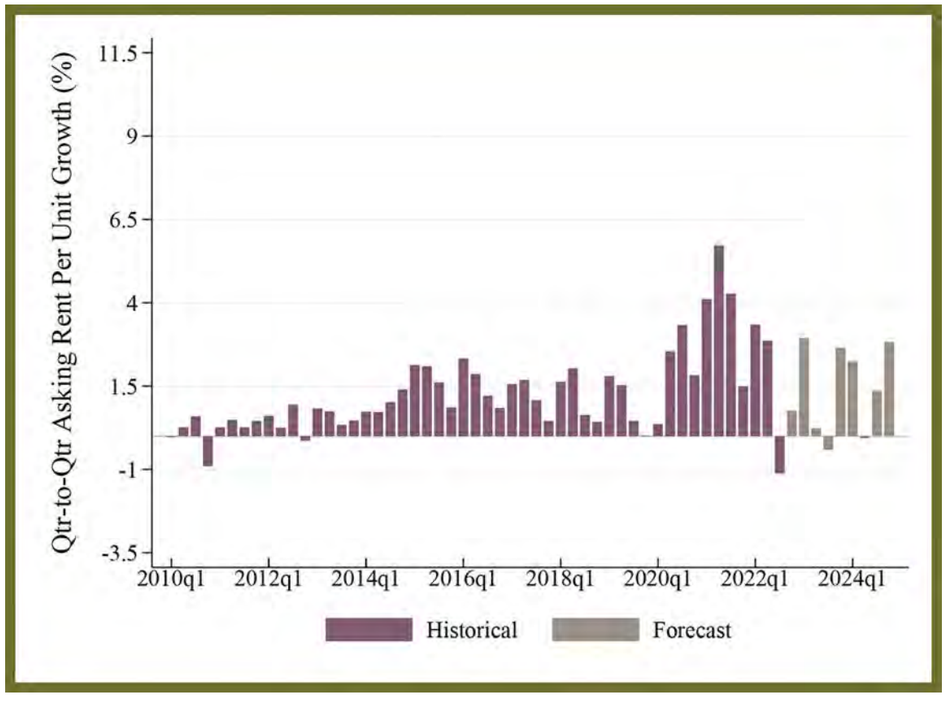
West Riverside County Market Migration since the start of COVID-19

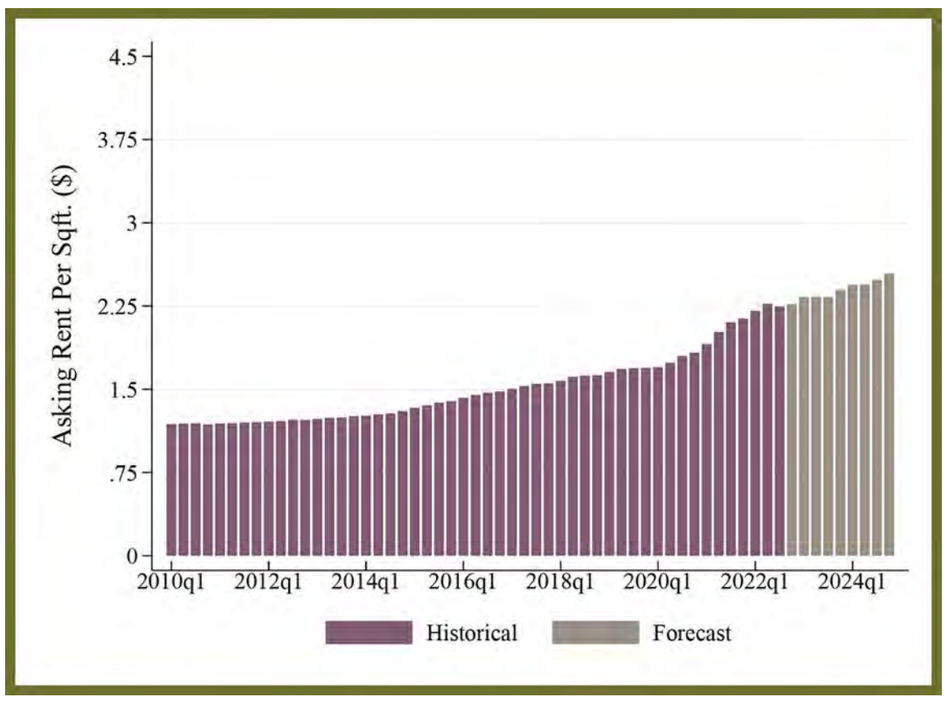


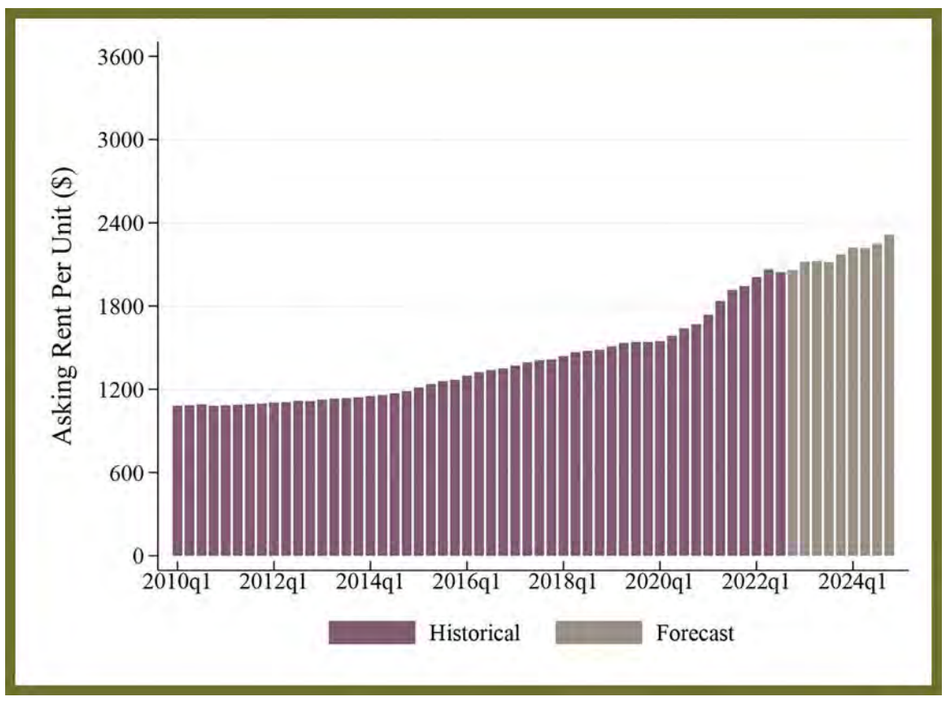
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

West Riverside County Market · Asking Rents · Inland Empire, 2010-2024









Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Chino-Rancho Cucamonga Renters

Race	
White	17%
Black	11%
Asian	11%
Hispanic	30%
Others	32%
Education	
Less than HS	38%
HS diploma	19%
Some college	25%
Bachelors degree	13%
Graduate degree	5%
Rental units by size of structure	
1 unit	38%
2-4 units	17%
5-9 units	10%
10-19 units	8%
20+ units	27%
Rental units by age of structure	
Before 1970	24%
1970-1999	53%
2000 and after	23%
Household statistics	
Share of households that are renting	39%
Share of rent-burdened households*	61%
Percent with children	54%
Median household income	$58,000
Average household size	2.94
Migration statistics for last year	
Percent living in same house	85%
Percent moved within California	13%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Outlying San Bernardino Renters

Race	
White	34%
Black	14%
Asian	3%
Hispanic	14%
Others	35%
Education	
Less than HS	47%
HS diploma	19%
Some college	26%
Bachelors degree	6%
Graduate degree	2%
Rental units by size of structure	
1 unit	62%
2-4 units	23%
5-9 units	7%
10-19 units	3%
20+ units	5%
Rental units by age of structure	
Before 1970	30%
1970-1999	54%
2000 and after	16%
Household statistics	
Share of households that are renting	35%
Share of rent-burdened households*	55%
Percent with children	55%
Median household income	$38,400
Average household size	2.92
Migration statistics for last year	
Percent living in same house	84%
Percent moved within California	11%
Percent moved from other states to California	4%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Palm Springs-Indio Renters

Race	
White	30%
Black	4%
Asian	4%
Hispanic	35%
Others	26%
Education	
Less than HS	39%
HS diploma	25%
Some college	20%
Bachelors degree	10%
Graduate degree	6%
Rental units by size of structure	
1 unit	33%
2-4 units	17%
5-9 units	23%
10-19 units	8%
20+ units	19%
Rental units by age of structure	
Before 1970	17%
1970-1999	64%
2000 and after	19%
Household statistics	
Share of households that are renting	31%
Share of rent-burdened households*	53%
Percent with children	30%
Median household income	$40,000
Average household size	2.28
Migration statistics for last year	
Percent living in same house	87%
Percent moved within California	11%
Percent moved from other states to California	2%
Percent moved from abroad	0%

Redlands-Fontana Renters

Race	
White	18%
Black	12%
Asian	5%
Hispanic	40%
Others	25%
Education	
Less than HS	46%
HS diploma	26%
Some college	20%
Bachelors degree	6%
Graduate degree	2%
Rental units by size of structure	
1 unit	41%
2-4 units	12%
5-9 units	10%
10-19 units	6%
20+ units	31%
Rental units by age of structure	
Before 1970	38%
1970-1999	51%
2000 and after	11%
Household statistics	
Share of households that are renting	45%
Share of rent-burdened households*	53%
Percent with children	54%
Median household income	$46,950
Average household size	3.08
Migration statistics for last year	
Percent living in same house	86%
Percent moved within California	13%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

West Riverside County Renters

Race	
White	26%
Black	9%
Asian	5%
Hispanic	36%
Others	23%
Education	
Less than HS	43%
HS diploma	22%
Some college	23%
Bachelors degree	9%
Graduate degree	3%
Rental units by size of structure	
1 unit	53%
2-4 units	12%
5-9 units	9%
10-19 units	8%
20+ units	18%
Rental units by age of structure	
Before 1970	26%
1970-1999	52%
2000 and after	22%
Household statistics	
Share of households that are renting	31%
Share of rent-burdened households*	55%
Percent with children	61%
Median household income	$55,000
Average household size	3.26
Migration statistics for last year	
Percent living in same house	86%
Percent moved within California	12%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

San Diego

San Diego County Renters

Race

White	40%
Black	7%
Asian	9%
Hispanic	16%
Others	28%

Education

Less than HS	32%
HS diploma	17%
Some college	24%
Bachelors degree	17%
Graduate degree	9%

Rental units by size of structure

1 unit	34%
2-4 units	13%
5-9 units	13%
10-19 units	12%
20+ units	28%

Rental units by age of structure

Before 1970	29%
1970-1999	58%
2000 and after	13%

Household statistics

Share of renting households	44%
Share of rent-burdened households*	53%
Percent with children	39%
Median household income	$65,000
Average household size	2.50

Migration statistics for last year

Percent living in same house	81%
Percent moved within California	15%
Percent moved from other states to California	3%
Percent moved from abroad	1%

*Rent burden is the share of households whose rent payments exceed 30% of income.

Source: 2020 American Community Survey

San Diego County's local economy is in many ways similar to Orange County's. The unemployment rate is quite low at 3.2%, incomes are higher than national medians, although not quite as high as Orange County's, and industrially it is well diversified, with no industry having a location quotient of greater than two.

But like the rest of the region, San Diego has had out-migration. This out-migration is happening in every one of the sub-markets we are following. And so we have the paradox in San Diego that we have in our other regions: people are leaving, and yet vacancy rates are extraordinarily low.

The dynamics are likely as follows: lower-income people are leaving, meaning the mix of people who remain has higher incomes. Such people consume more housing than people with lower incomes. We hypothesize that one of the ways this is manifesting itself is through the occupancy of more than one house. Consider a professional couple with jobs in different parts of the county. It is possible that such a couple will own a house in one place and rent an apartment somewhere else.

We have the paradox in San Diego that we have in our other regions: people are leaving, and yet vacancy rates are extraordinarily low.

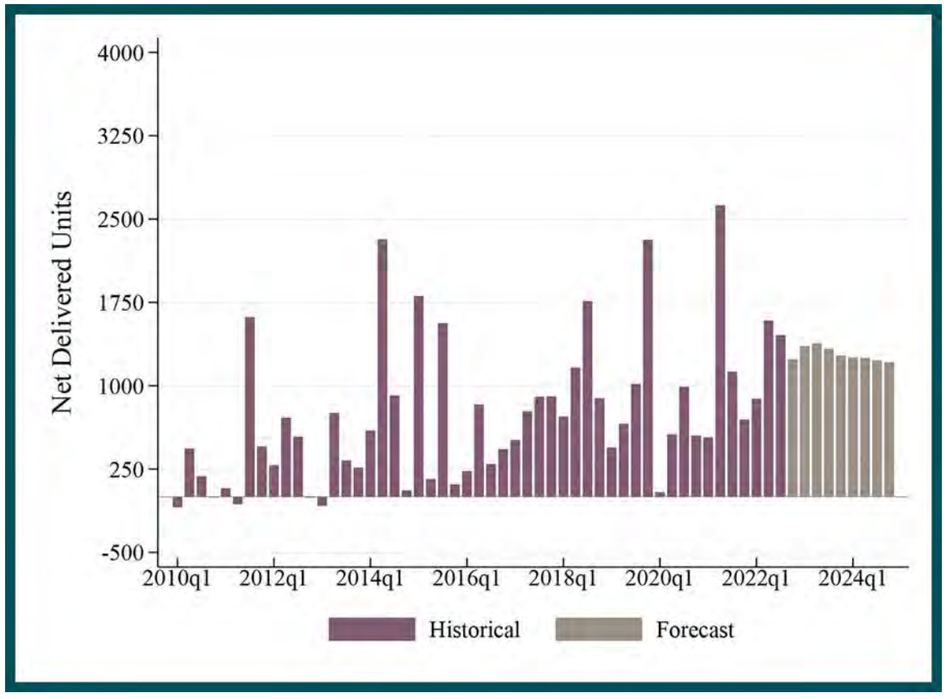
The data we are using to follow migration is the well known United States Postal Service change of address data. These data follow households instead of the population. This is an important distinction because it would be easy to see increases in occupancy even in the face of reductions in population if the average household size falls. However, when we look at households it is difficult to square the loss of households with decreases in vacancy. One of the only ways that this could happen is if households are occupying more than one house. Alas, the data available on ownership of multiple homes comes to us with a lag and so we cannot know for certain if this dynamic has been playing out over the past two years.

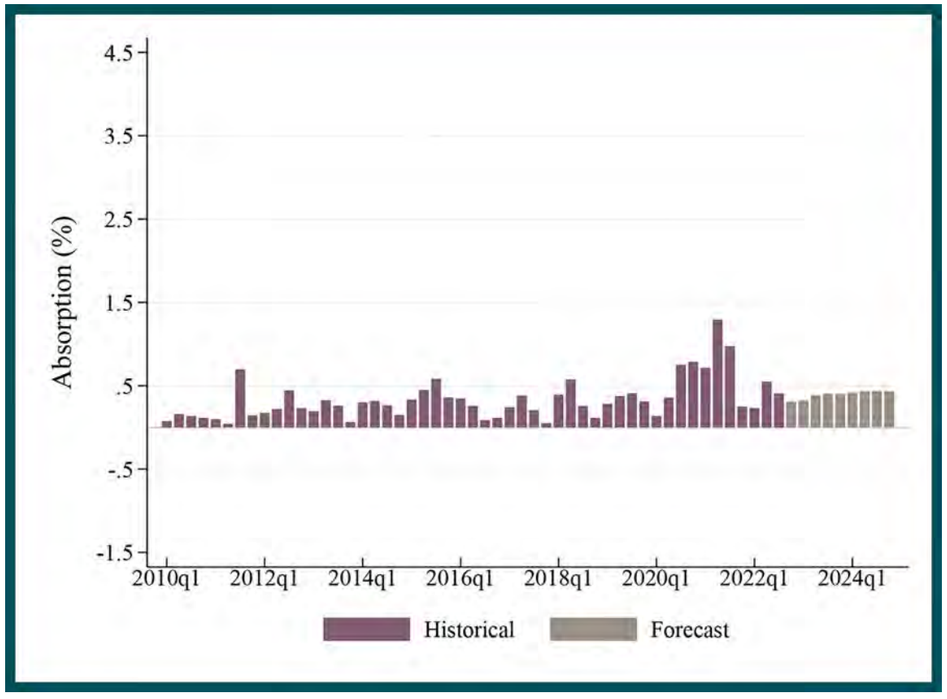
In any event, vacancies throughout San Diego County are generally below 4% which is sufficiently low to push up rents, particularly in an inflationary environment, so we do expect to see material rent increases over the next several quarters.

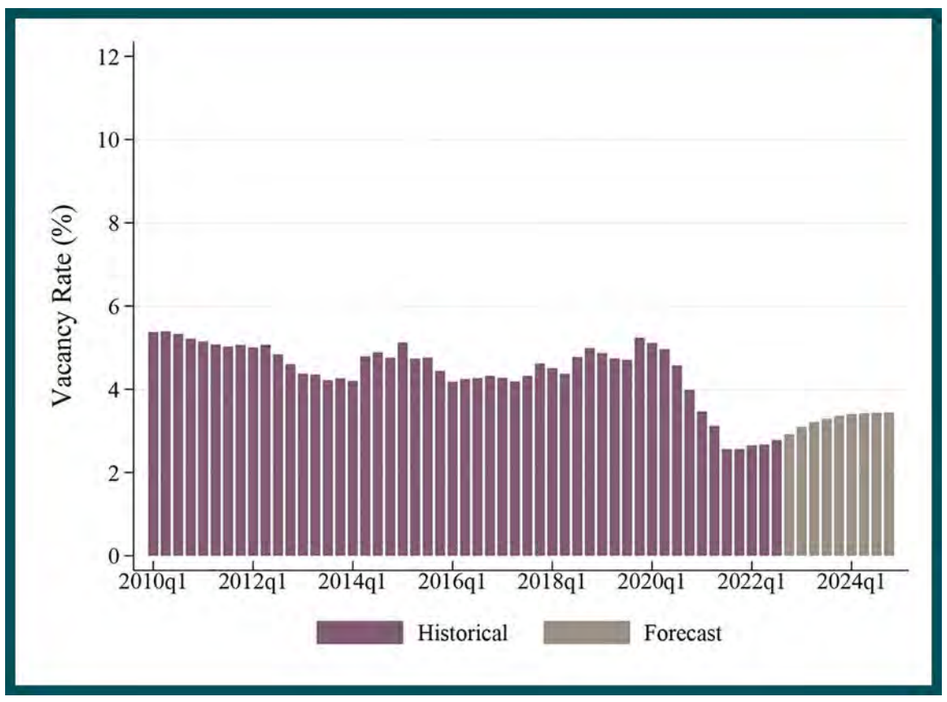
Employment Location Quotients

Industry • San Diego County	
ALL INDUSTRIES	0.99
GOODS-PRODUCING	0.97
NATURAL RESOURCES AND MINING	0.57
CONSTRUCTION	1.15
MANUFACTURING	0.91
SERVICE-PROVIDING	0.99
TRADE, TRANSPORTATION, AND UTILITIES	0.77
INFORMATION	0.71
FINANCIAL ACTIVITIES	0.89
PROFESSIONAL AND BUSINESS SERVICES	1.24
EDUCATION AND HEALTH SERVICES	0.94
LEISURE AND HOSPITALITY	1.21
OTHER SERVICES	1.14
UNCLASSIFIED	0.11

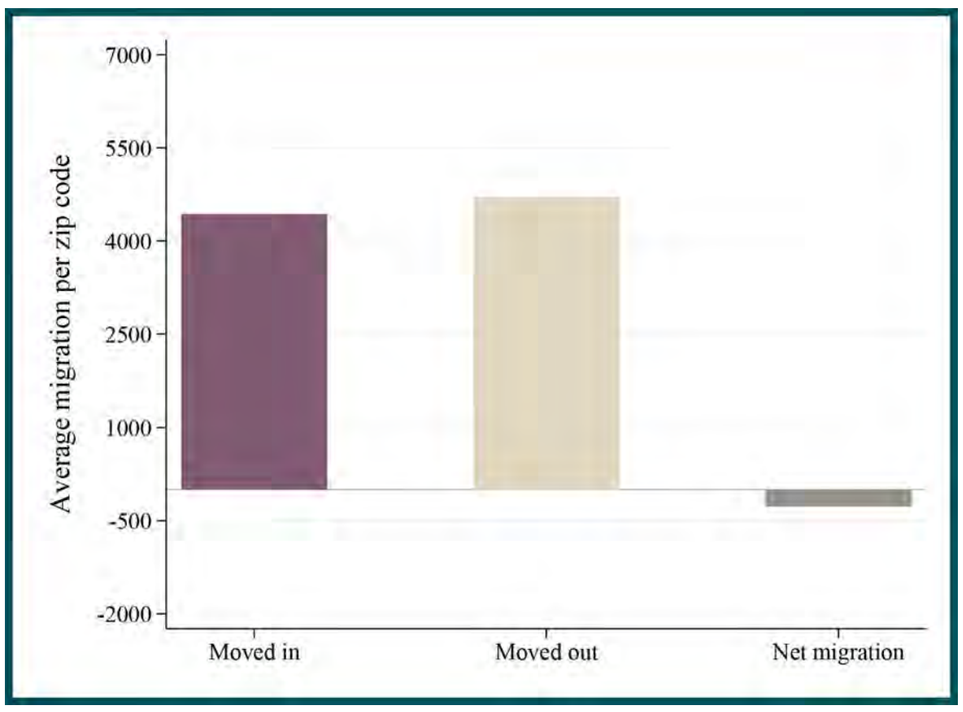
San Diego · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





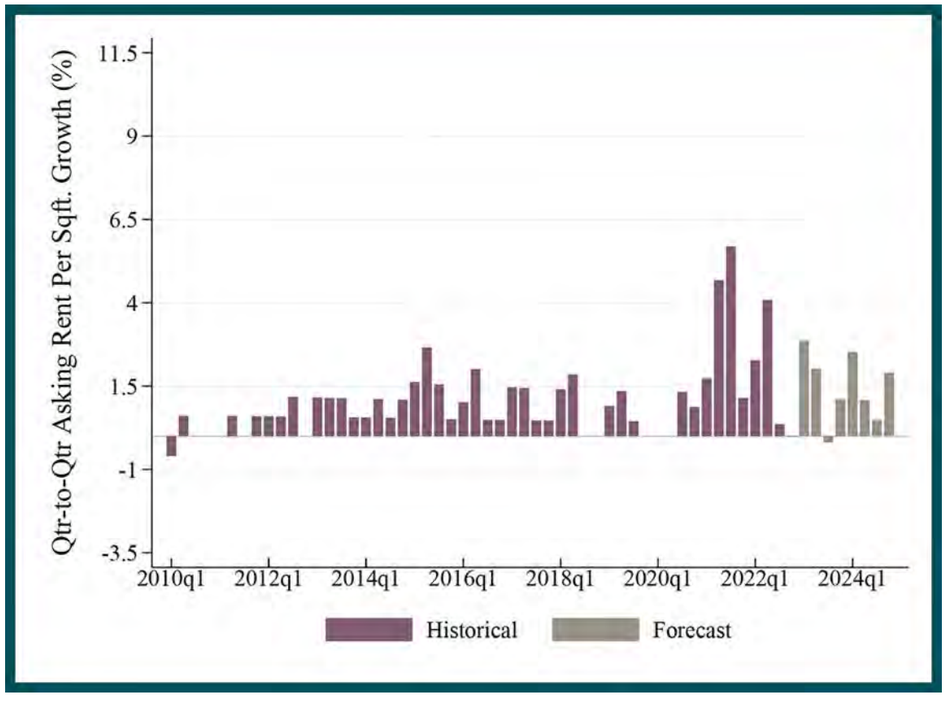


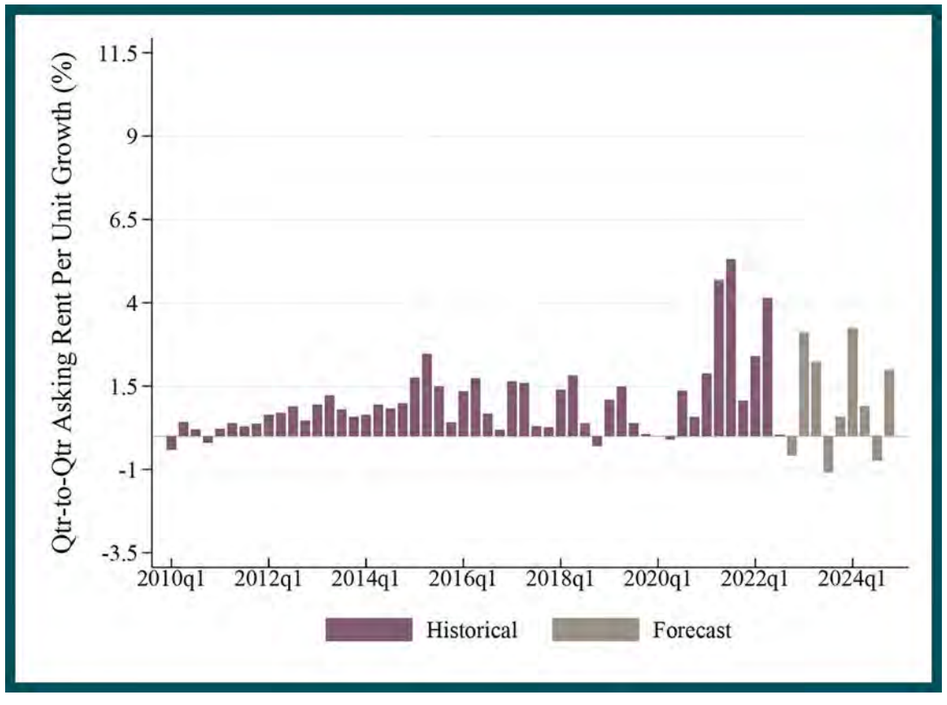
San Diego Migration since the start of COVID-19

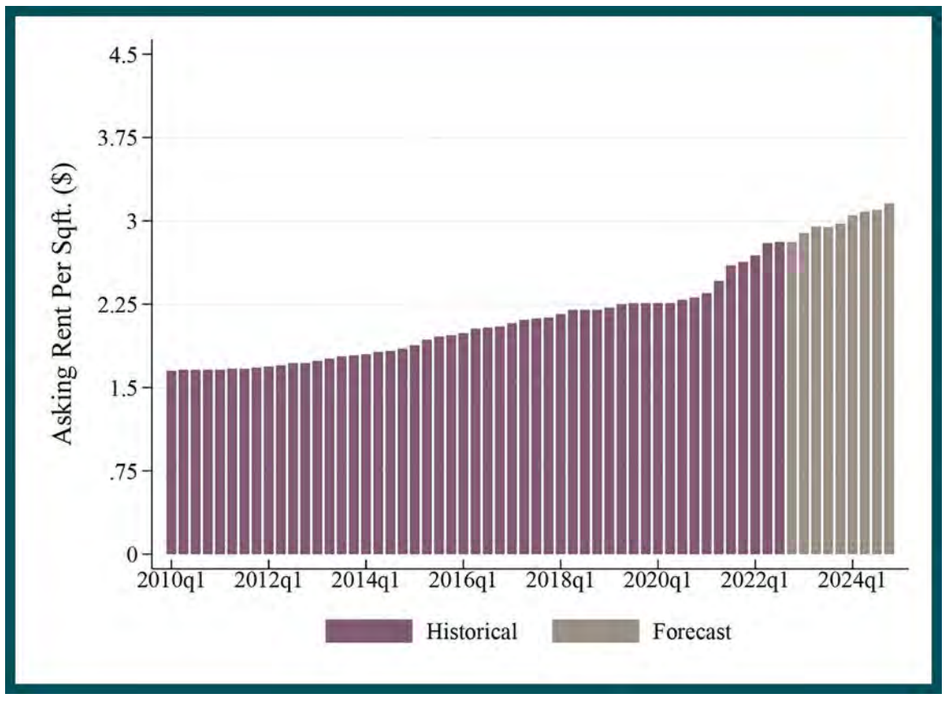


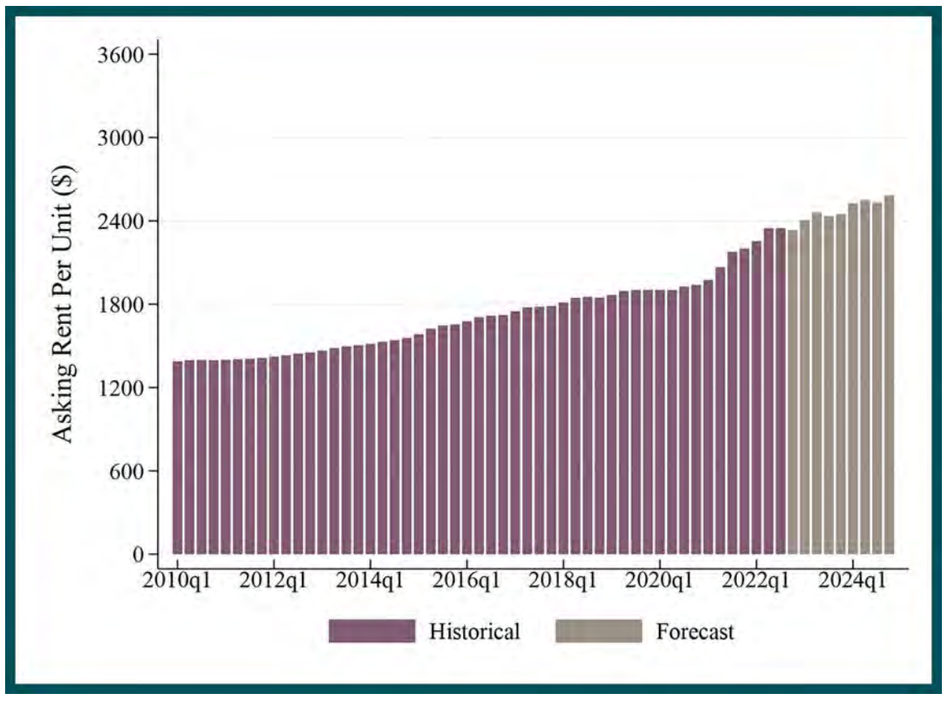
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

San Diego · Asking Rents · San Diego County, 2010-2024



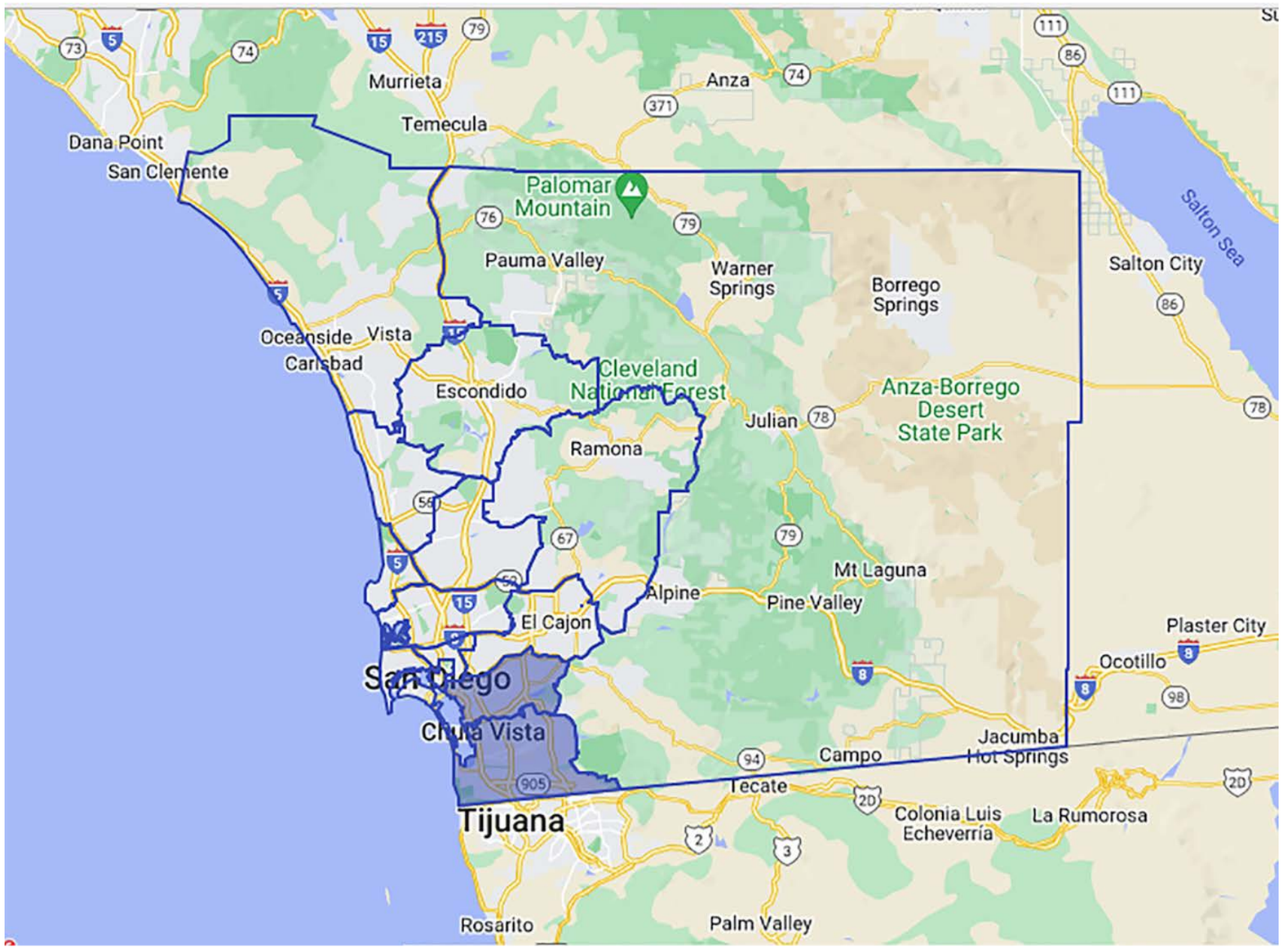






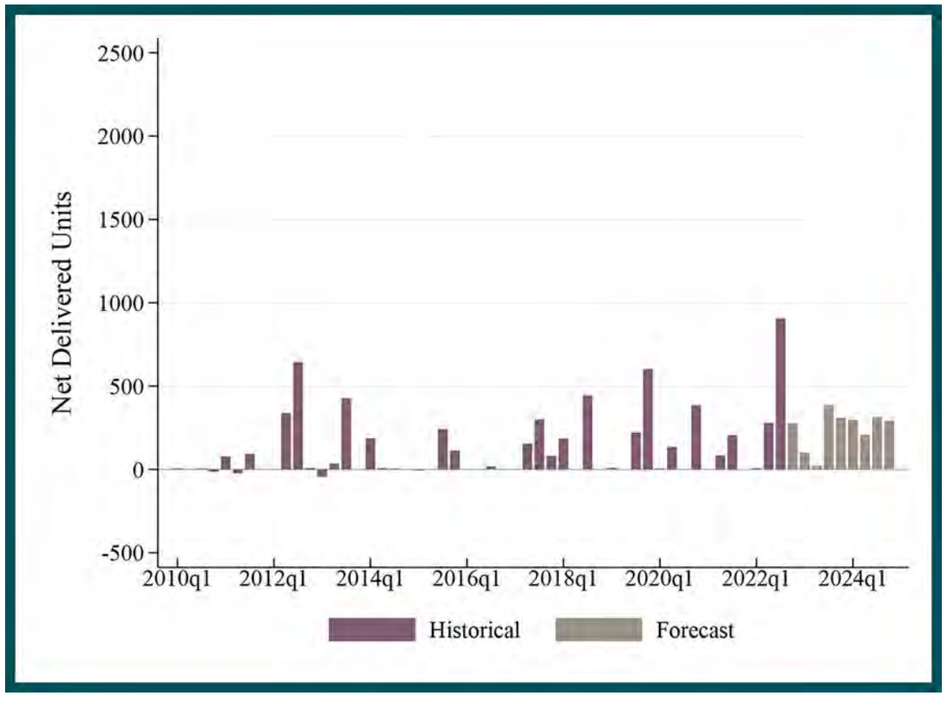
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

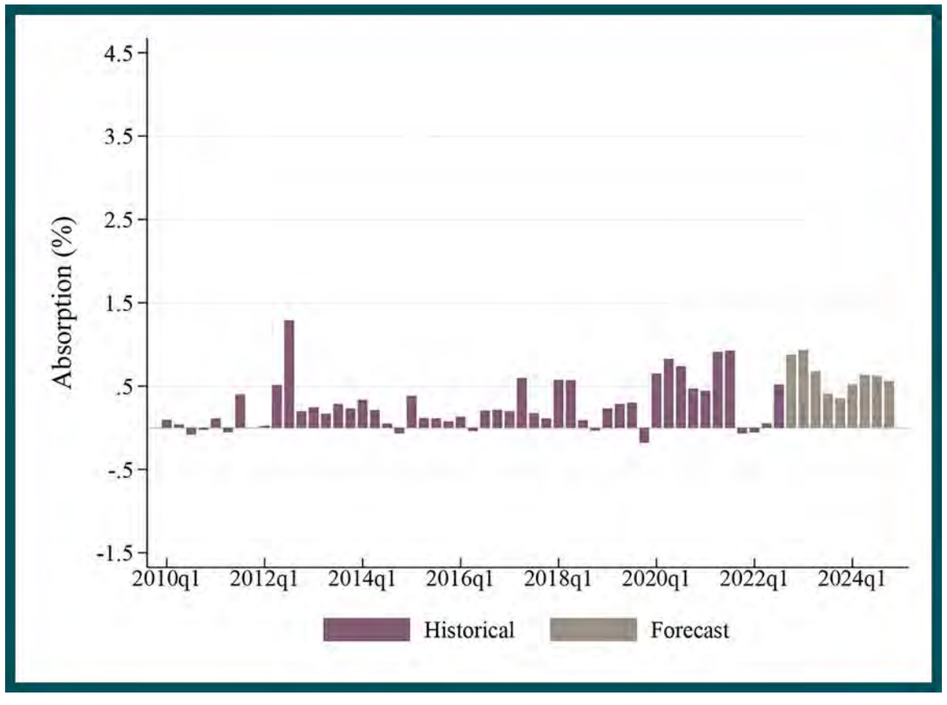
Chula Vista-National City

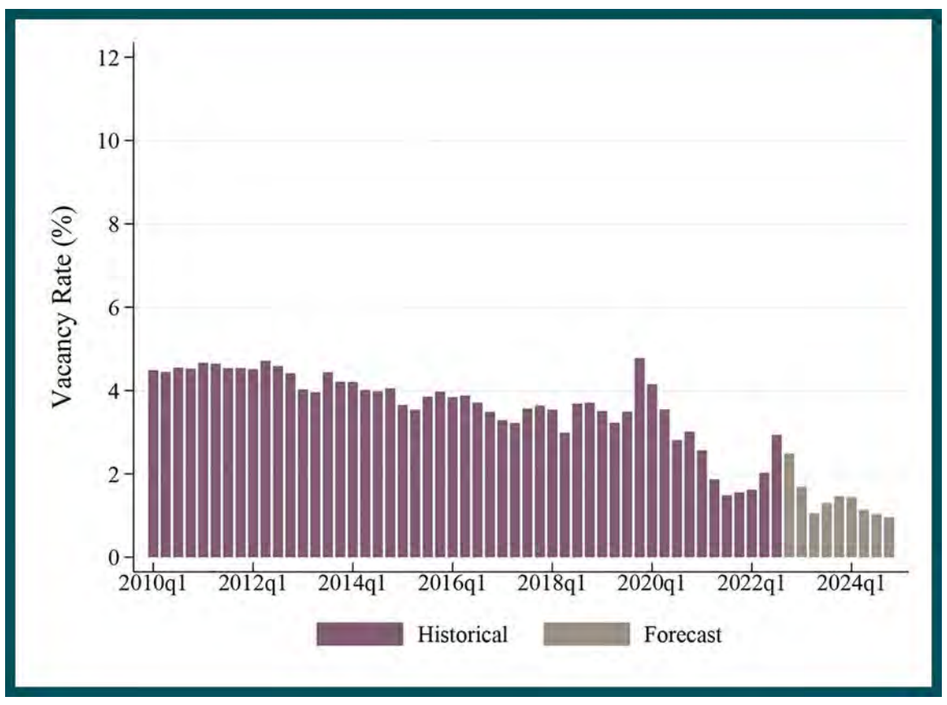


Source: CoStar

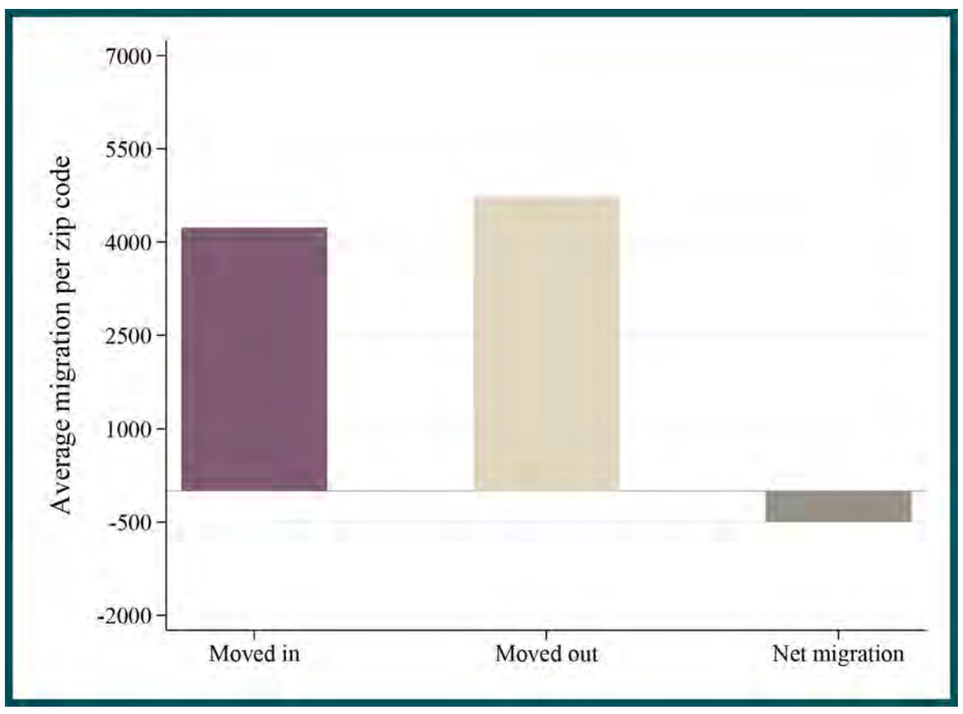
Chula Vista-National City Market · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





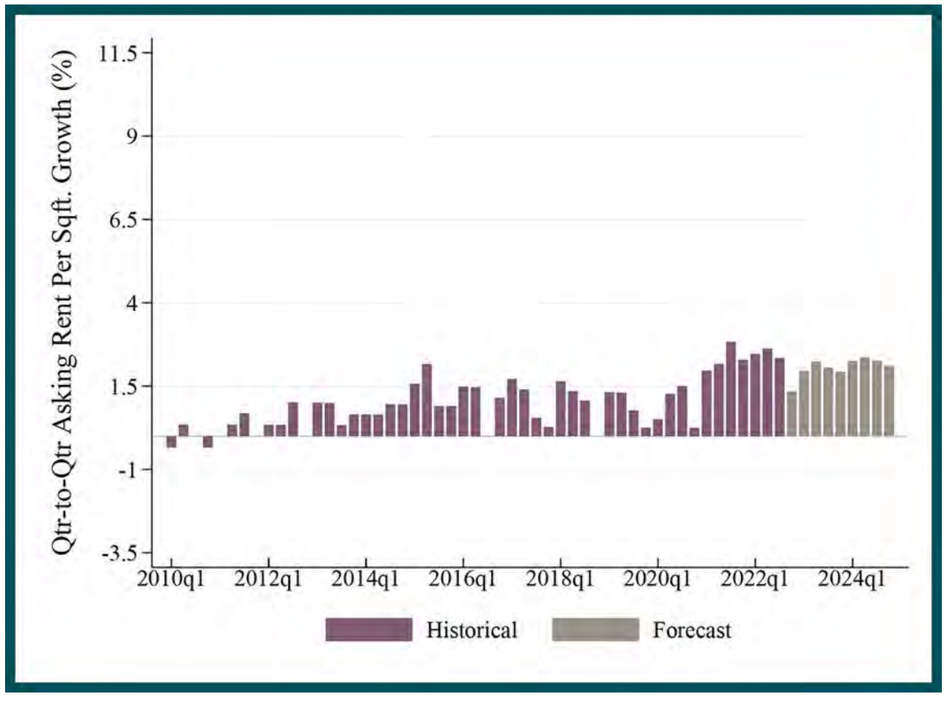


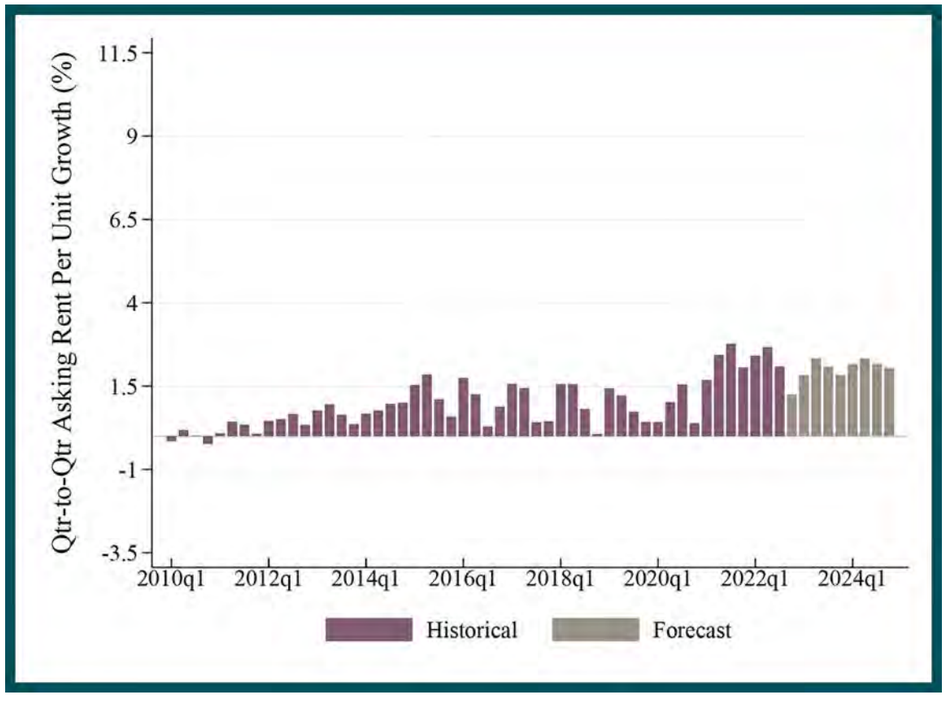
Chula Vista-National City Migration since the start of COVID-19

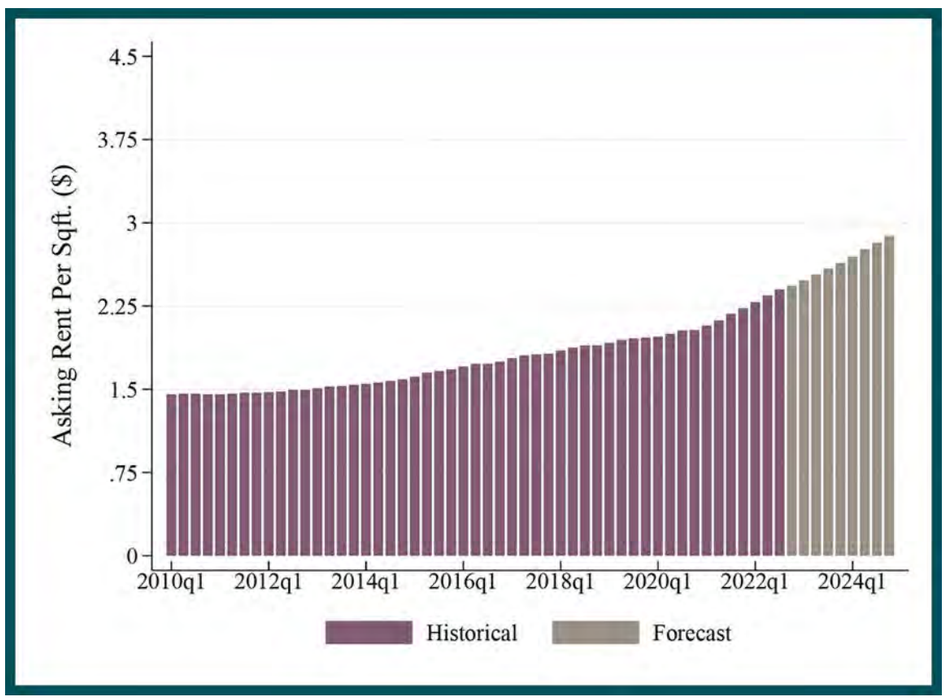


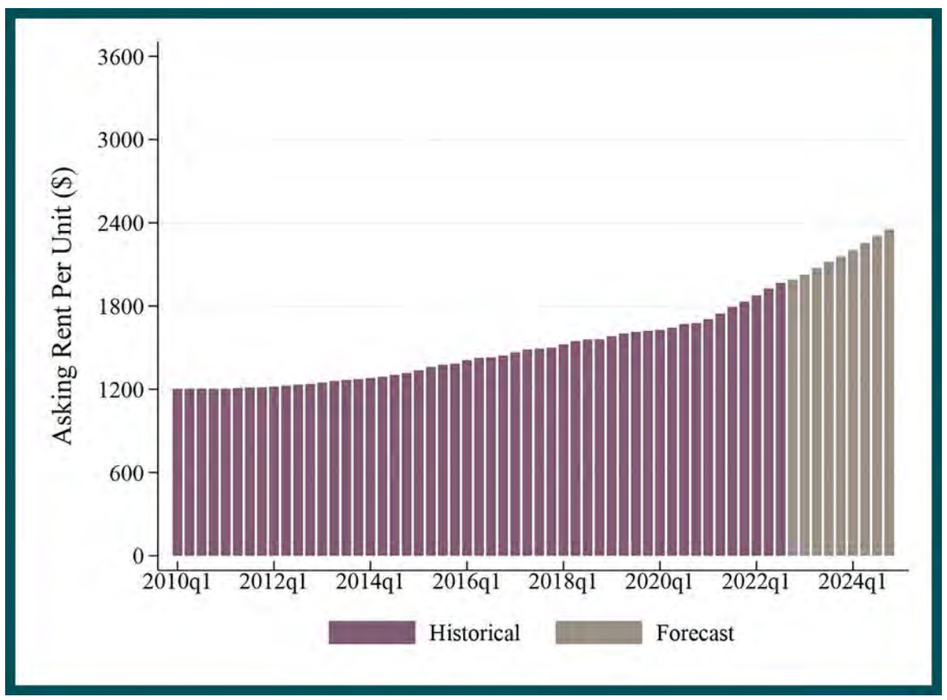
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Chula Vista-National City Market · Asking Rents · San Diego County, 2010-2024



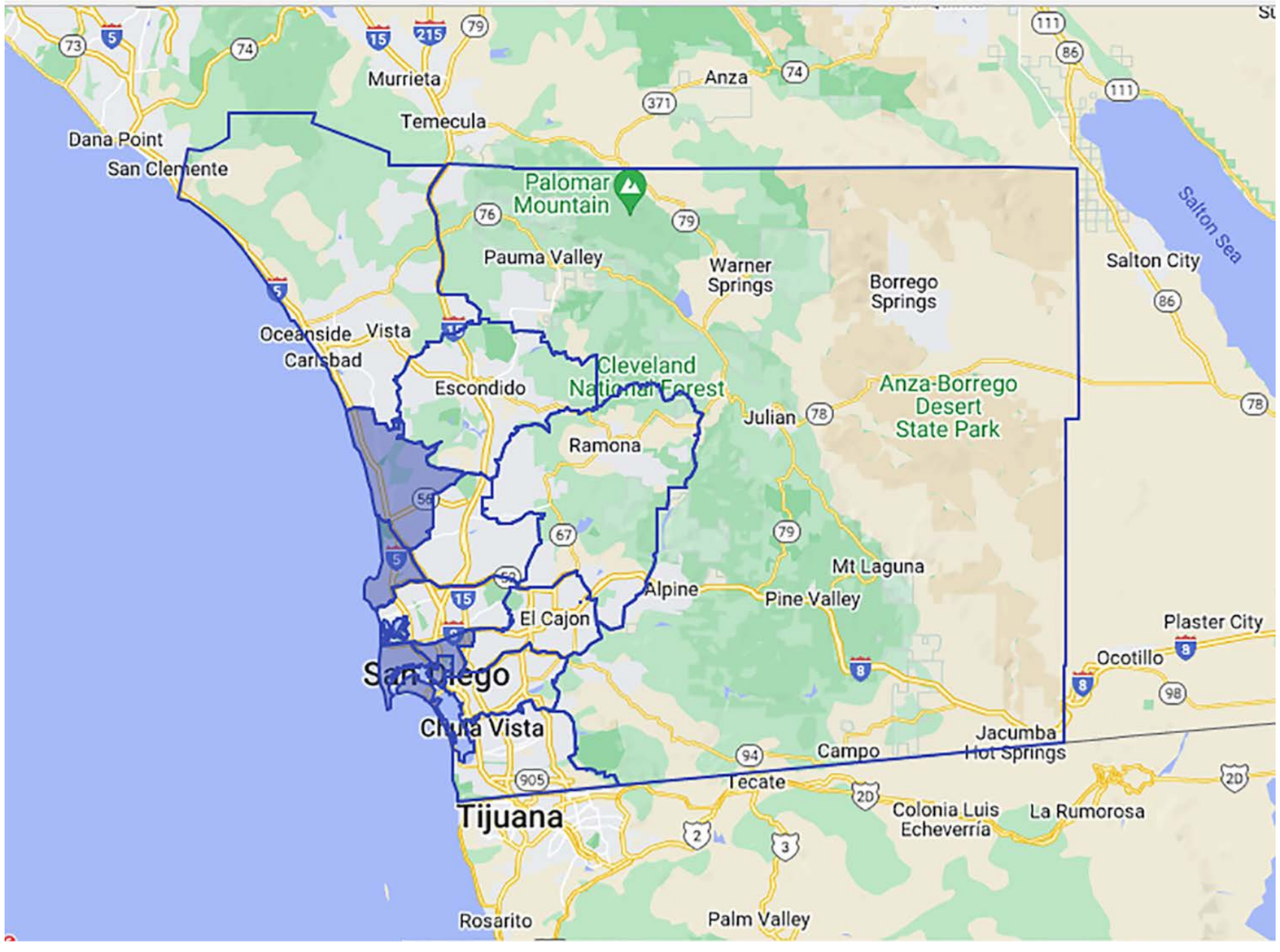






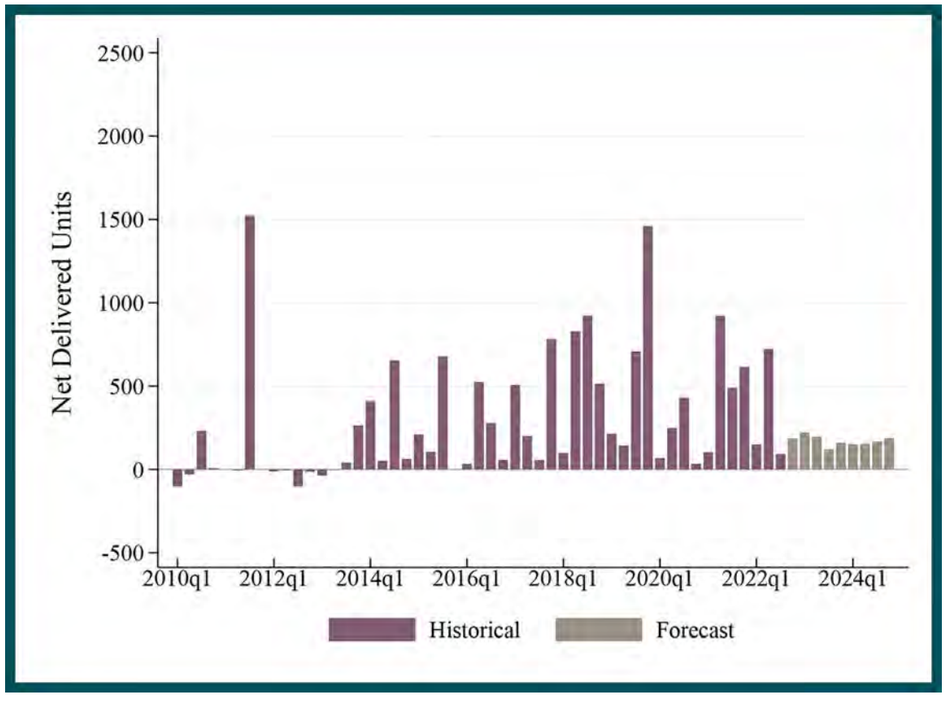
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

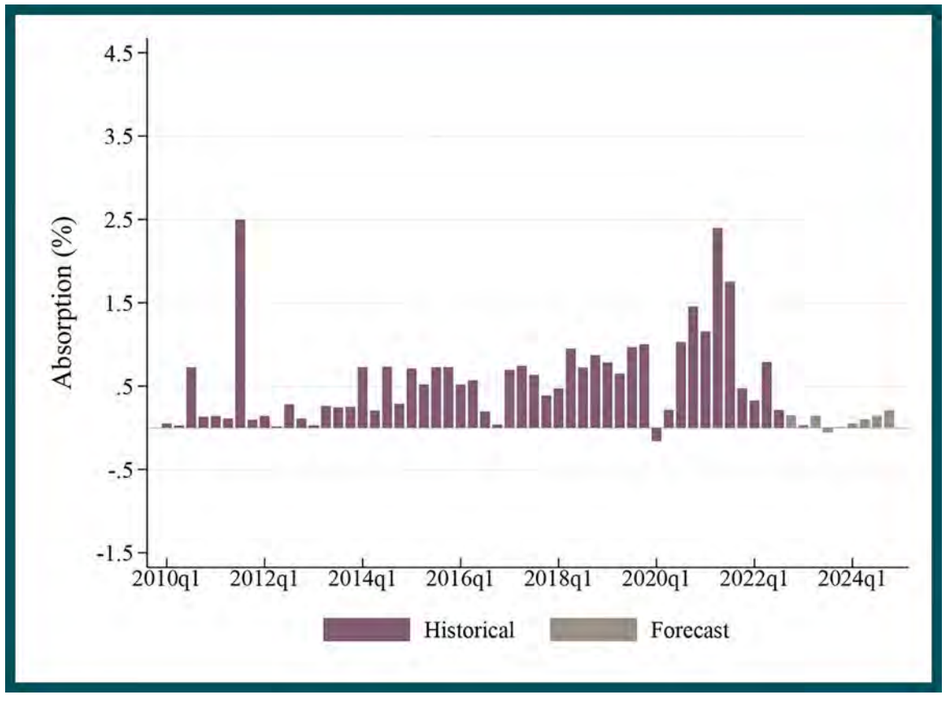
City of San Diego - Coastal

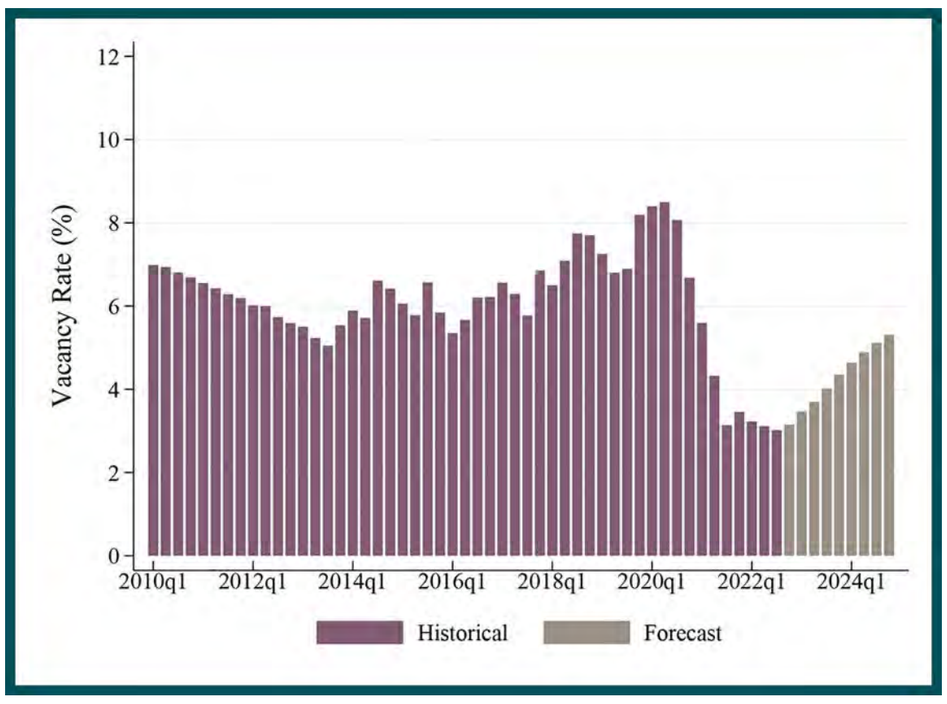


Source: CoStar

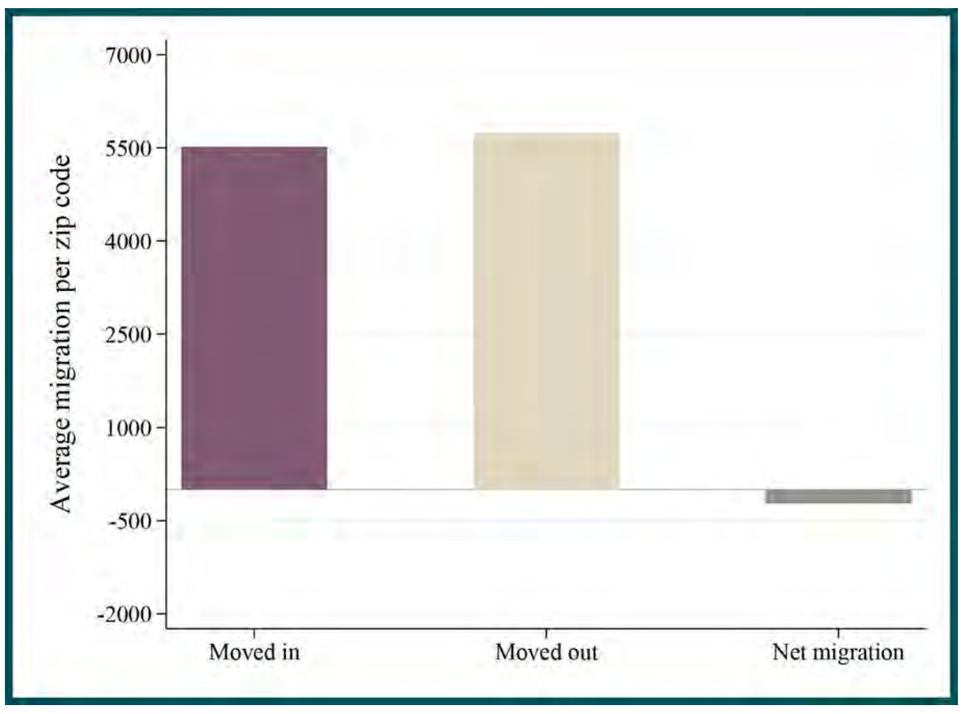
City of San Diego - Coastal Market · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





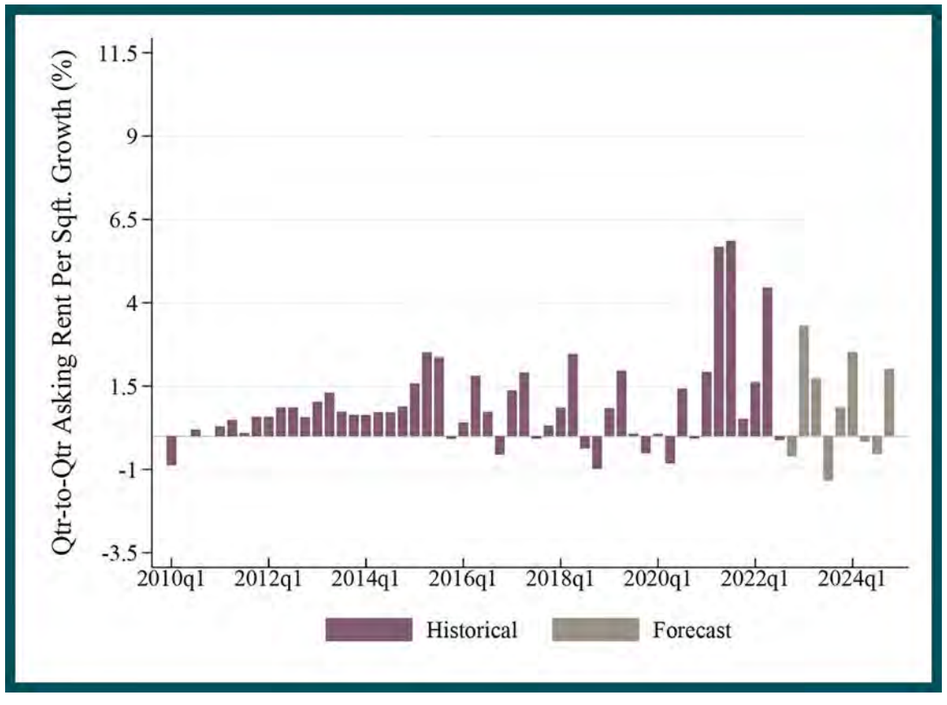


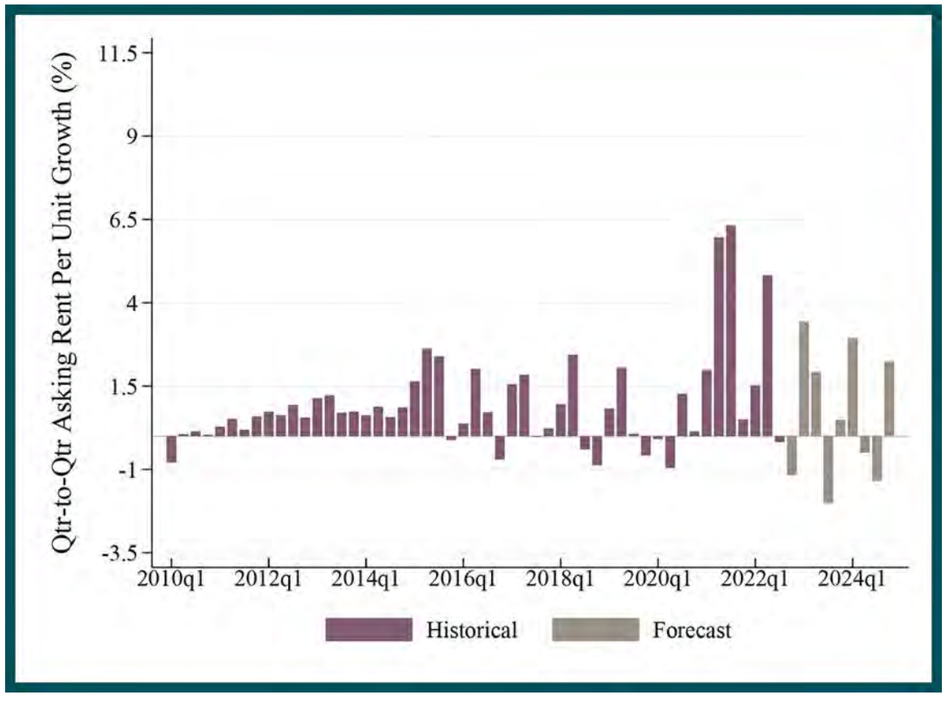
City of San Diego - Coastal Migration since the start of COVID-19

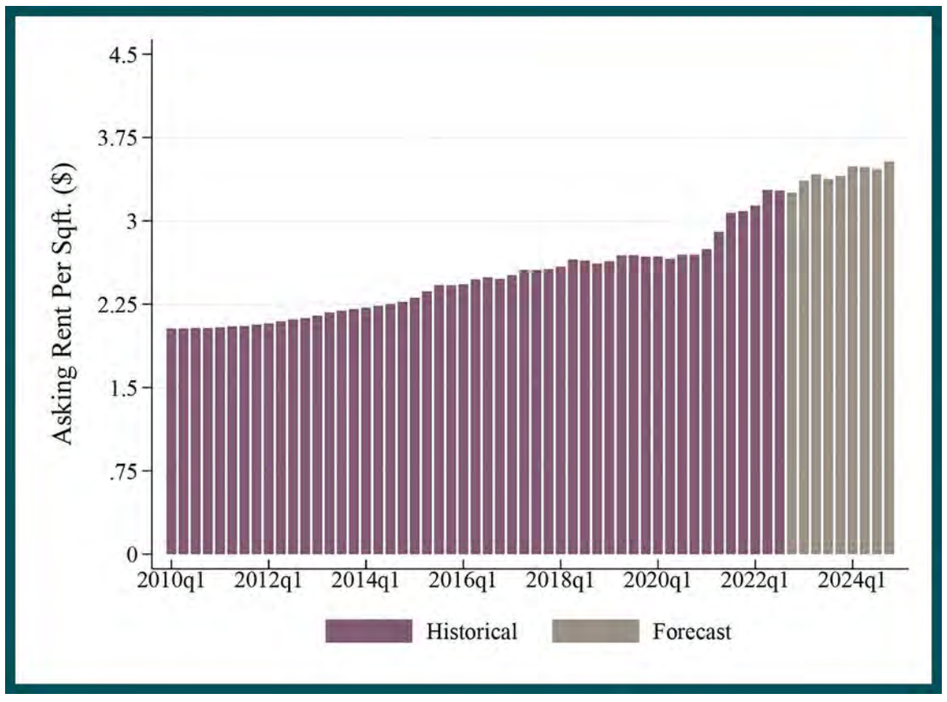


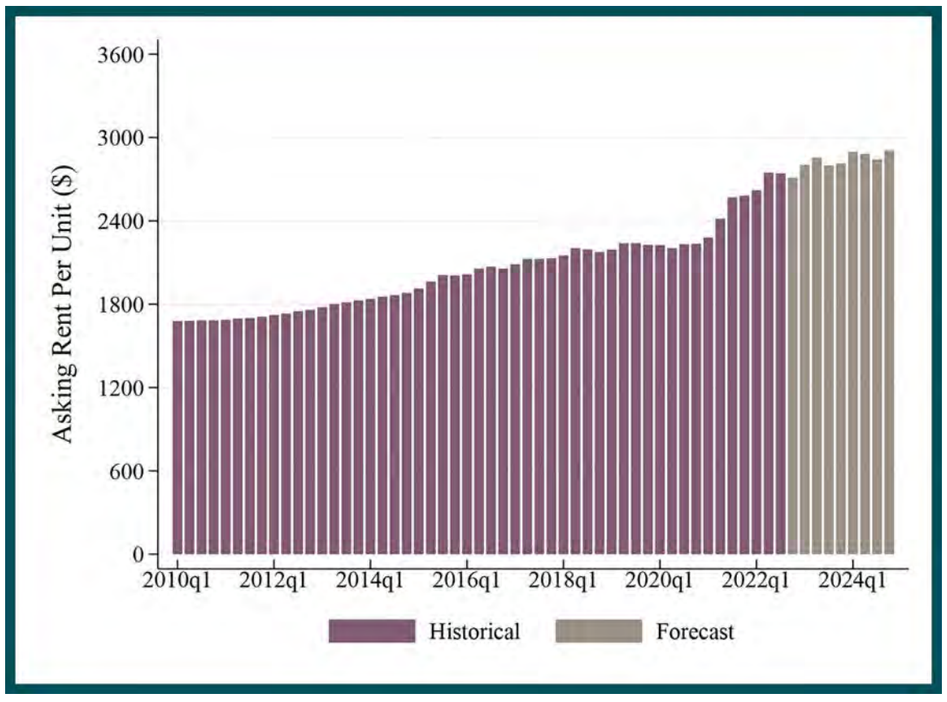
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

City of San Diego - Coastal Market · Asking Rents · San Diego County, 2010-2024



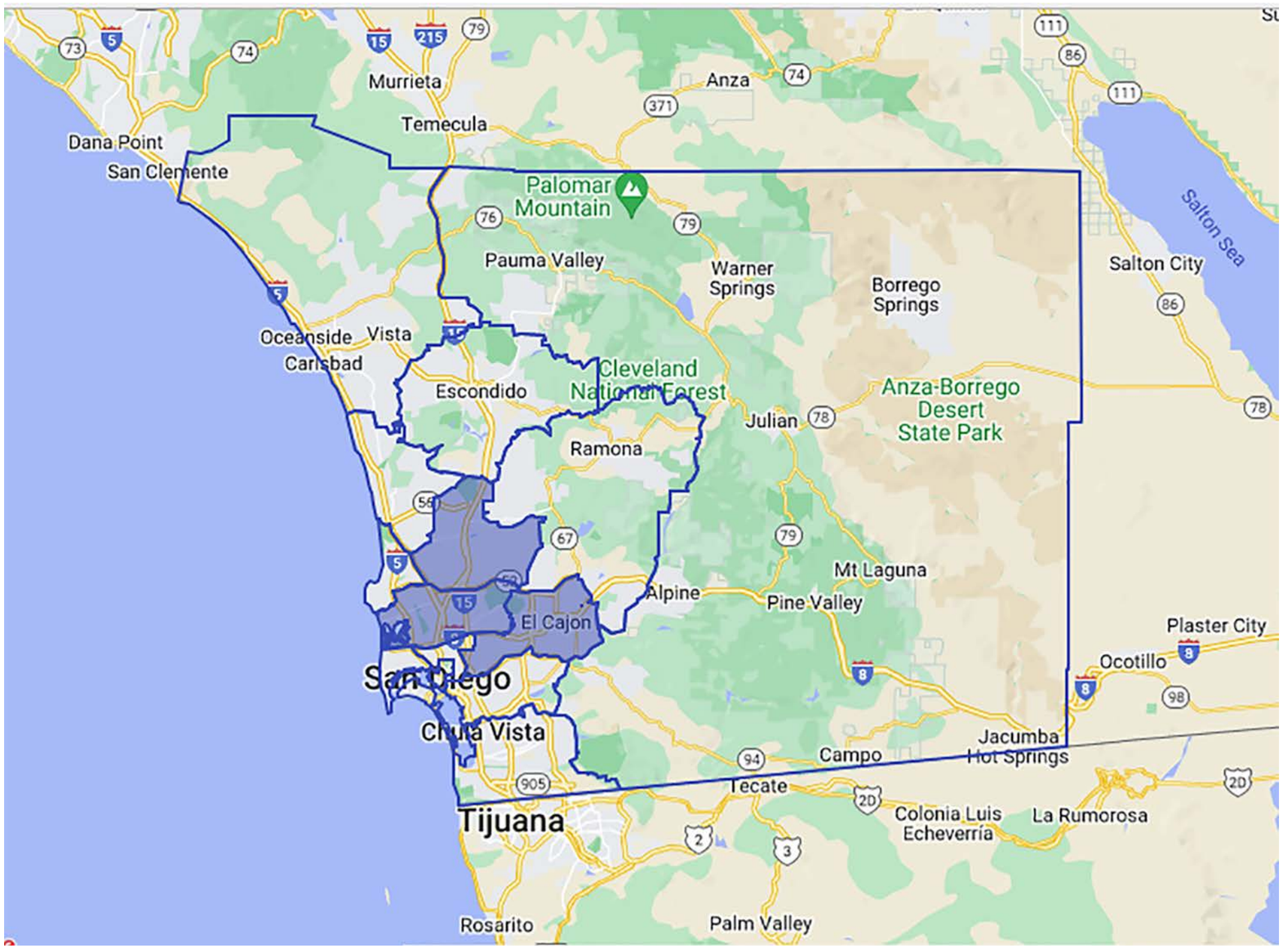






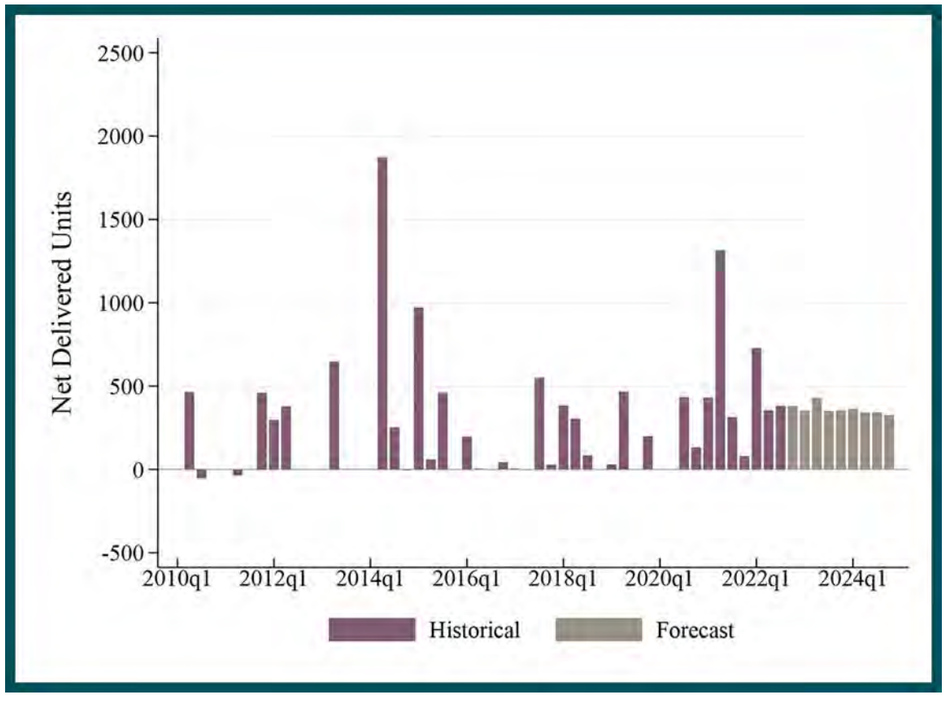
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

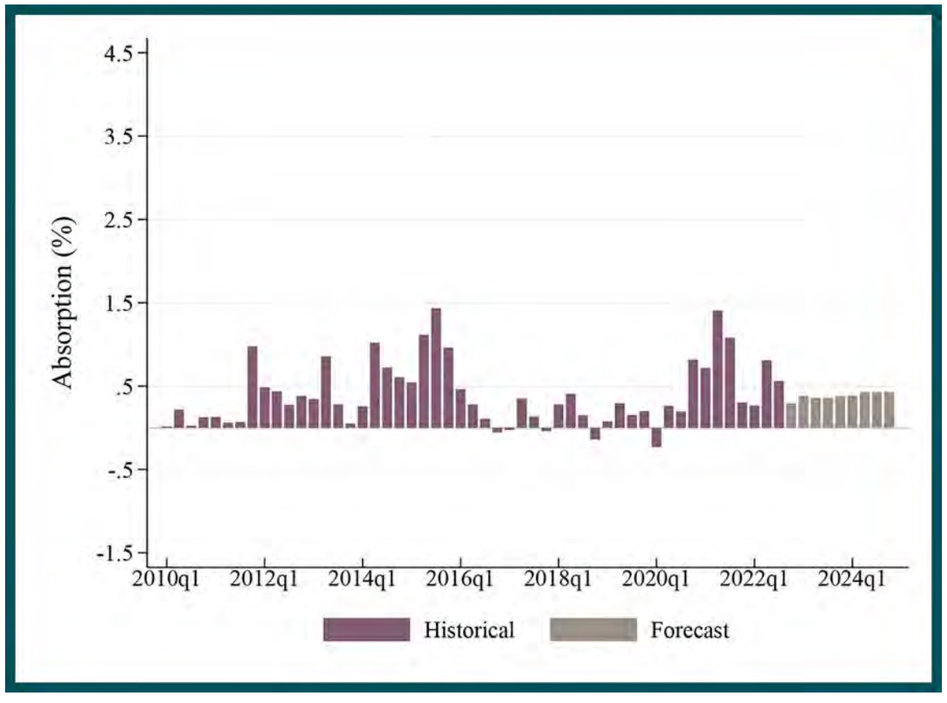
City of San Diego - Inland

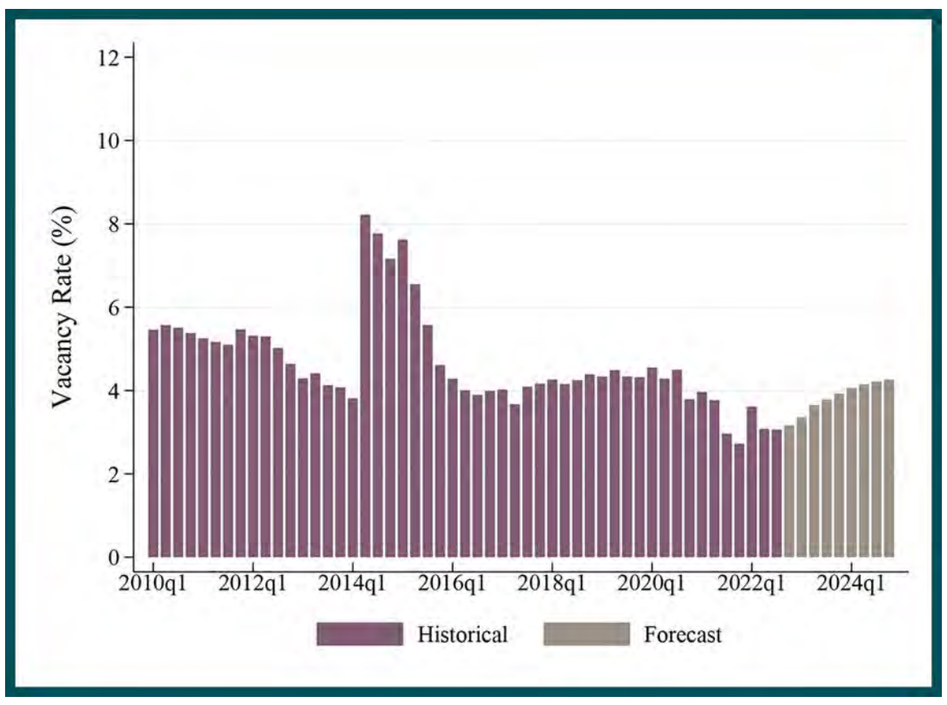


Source: CoStar

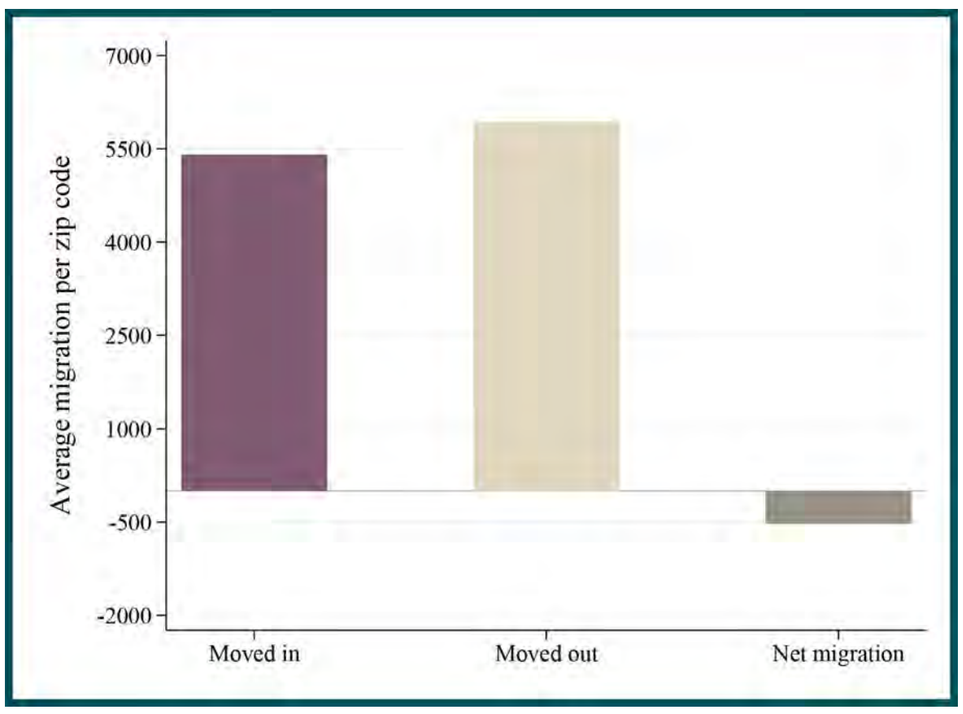
City of San Diego - Inland Market · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





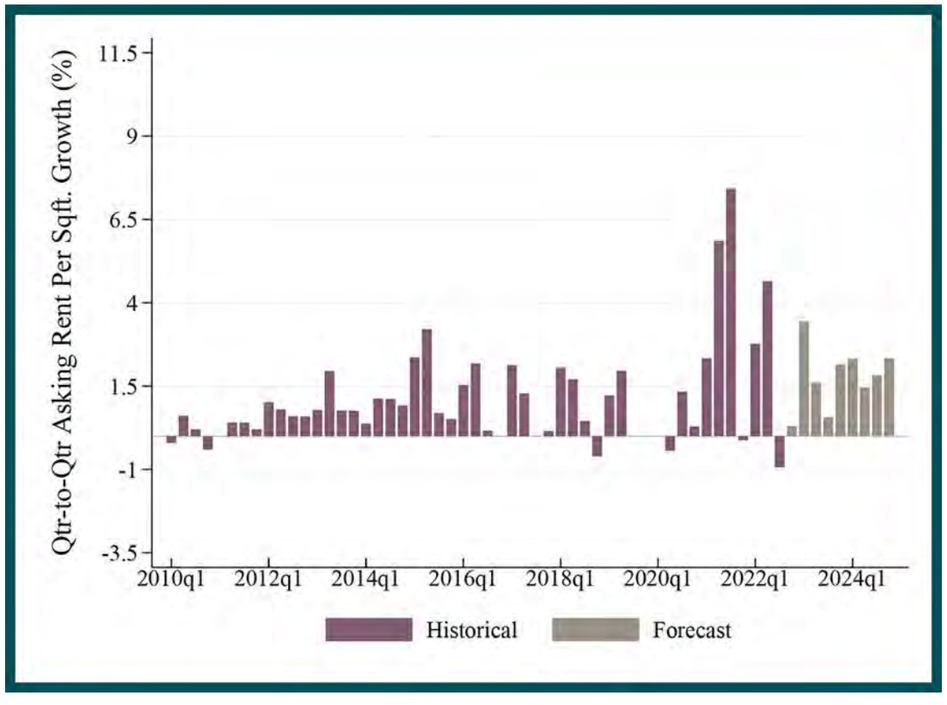


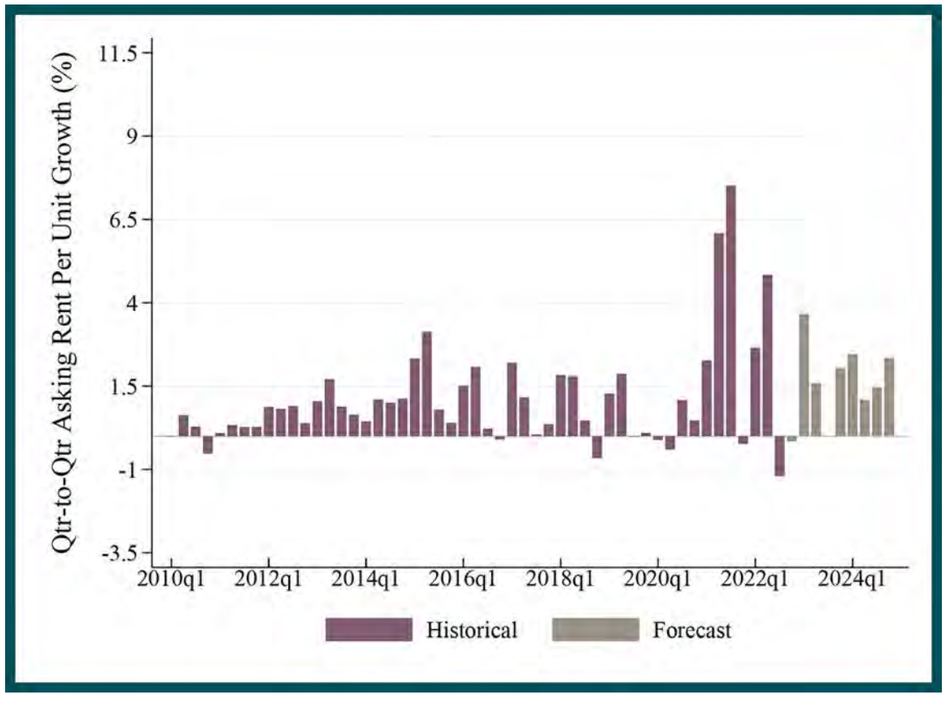
City of San Diego - Inland Migration since the start of COVID-19

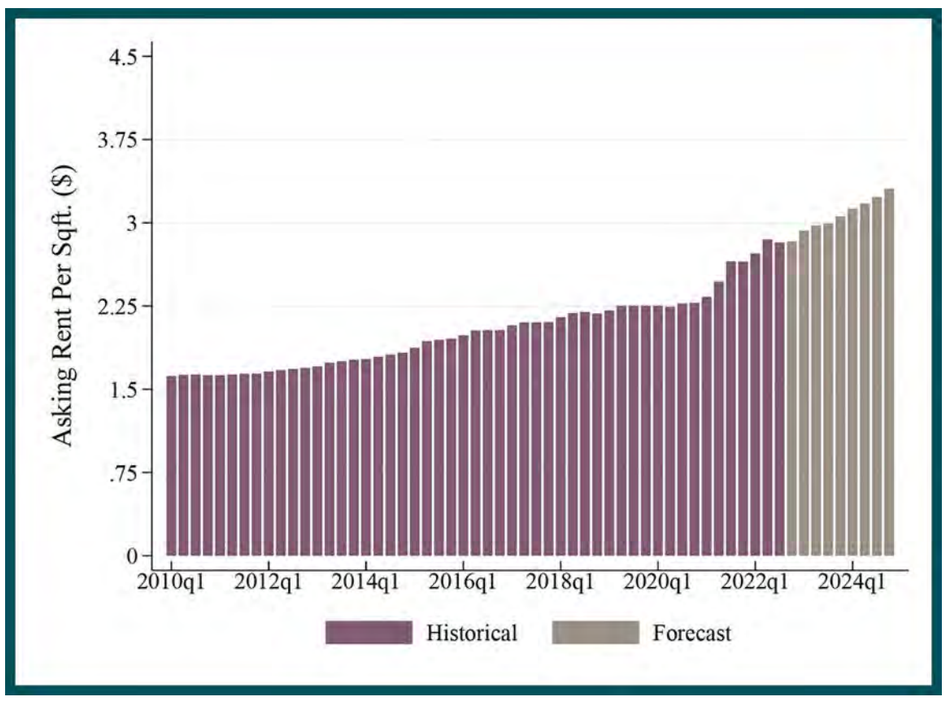


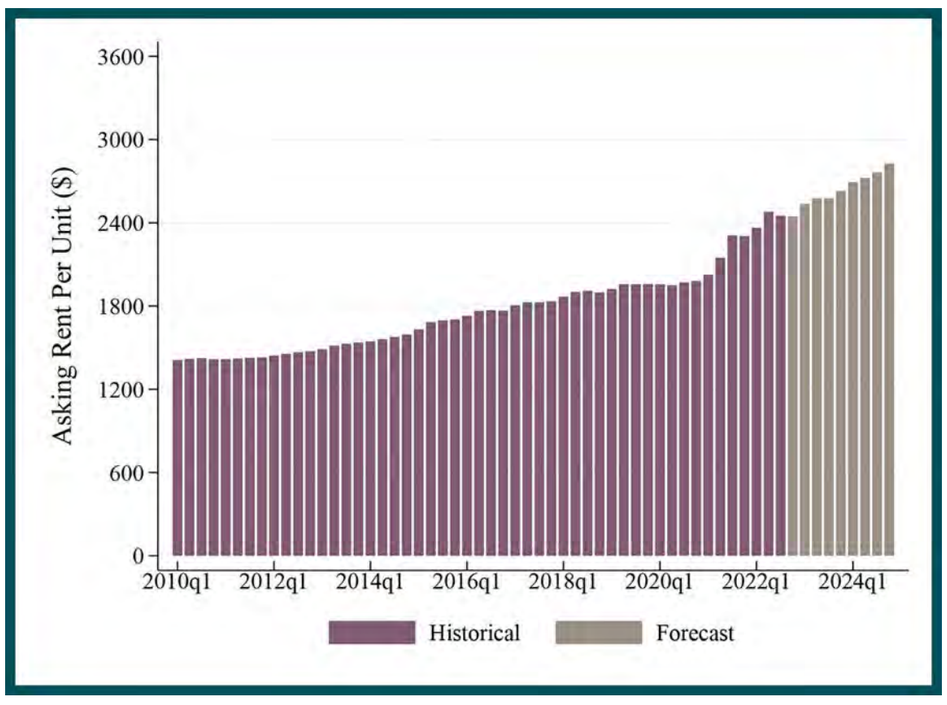
Source: USC Casden forecasts based on CoStar data and USPS net-migration data."

City of San Diego - Inland Market · Asking Rents · San Diego County, 2010-2024



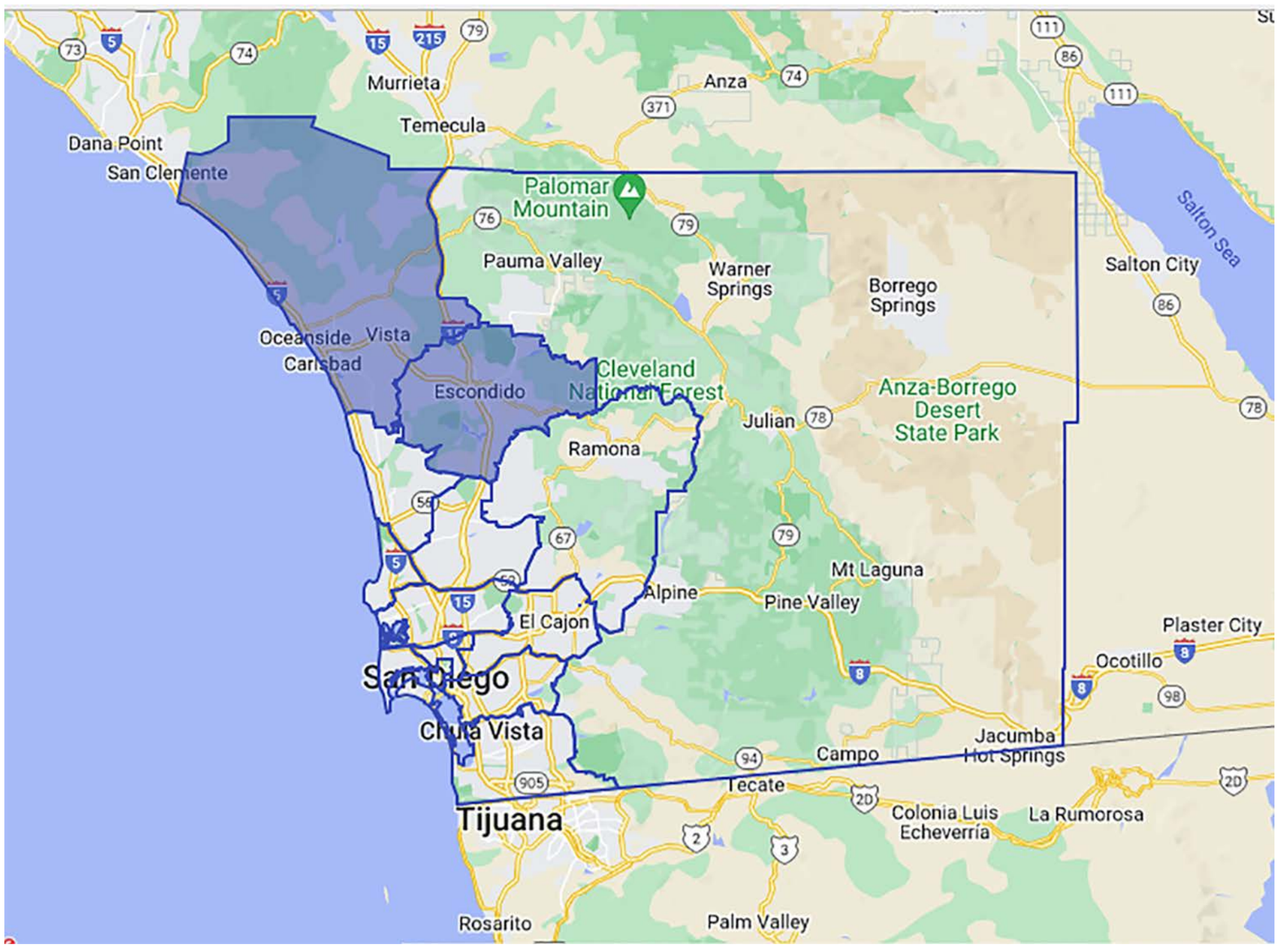






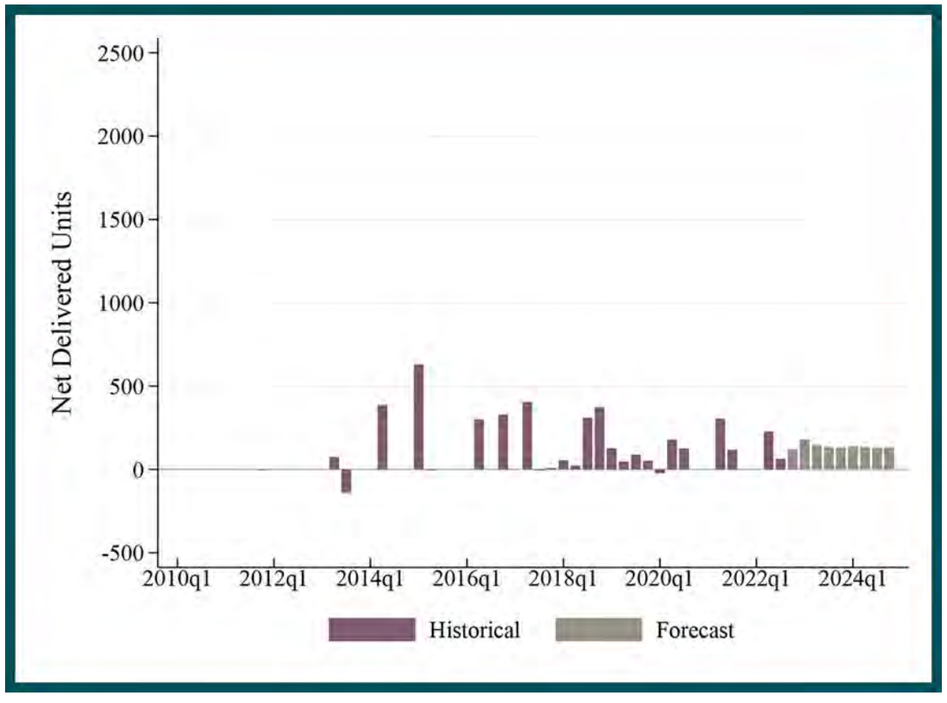
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

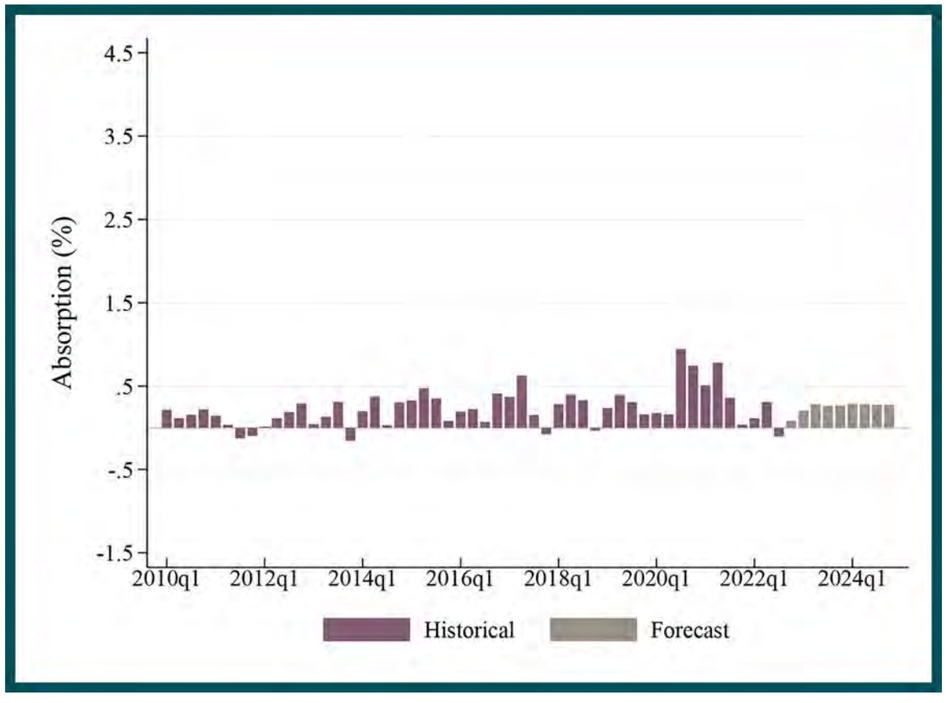
North City

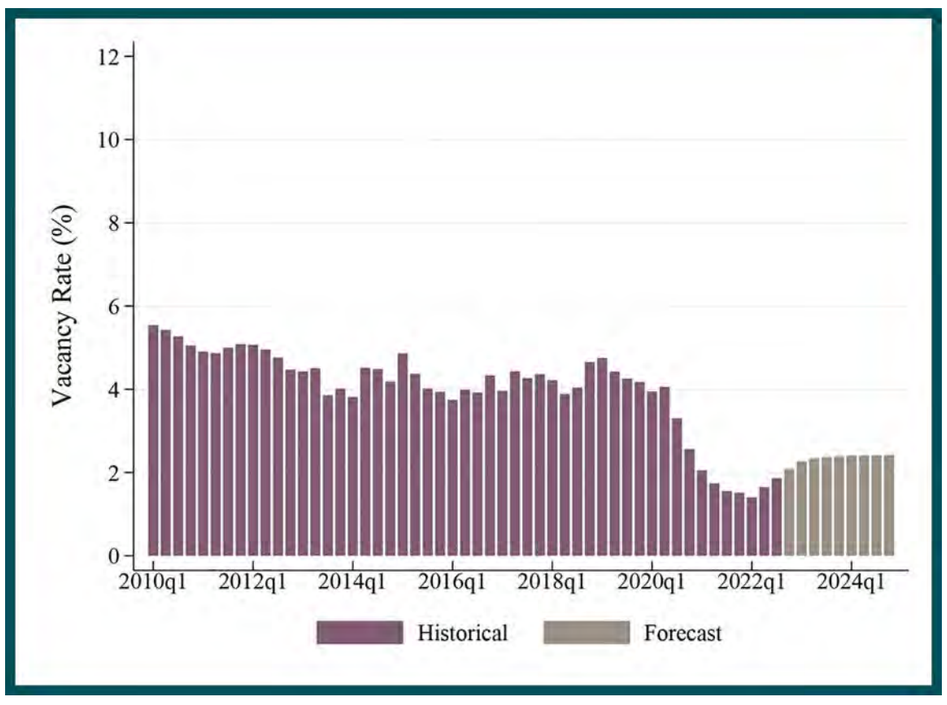


Source: CoStar

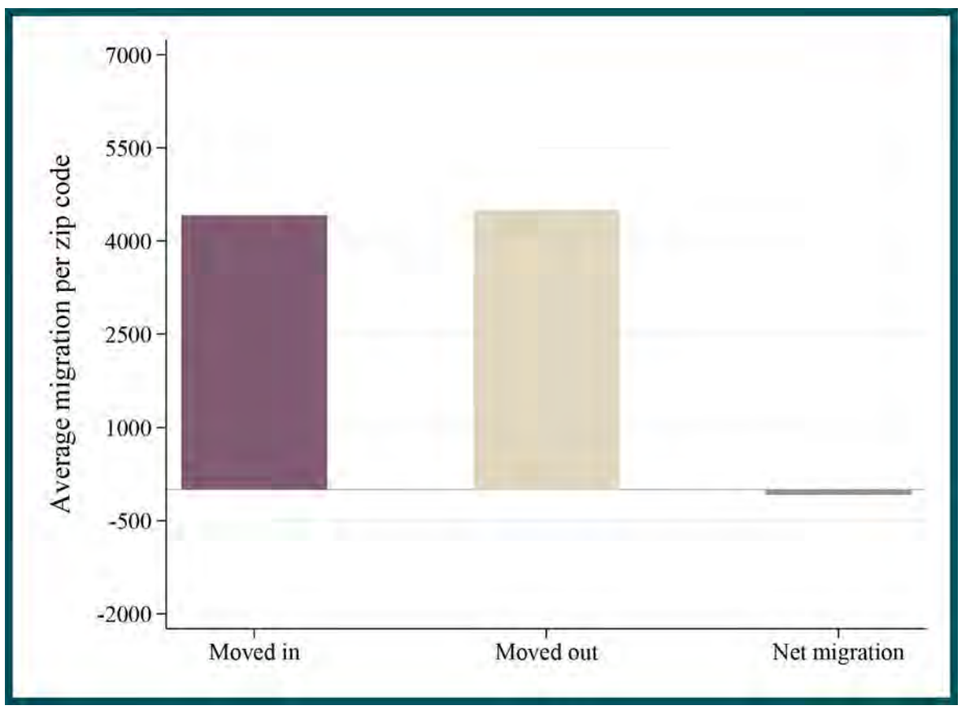
North City · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





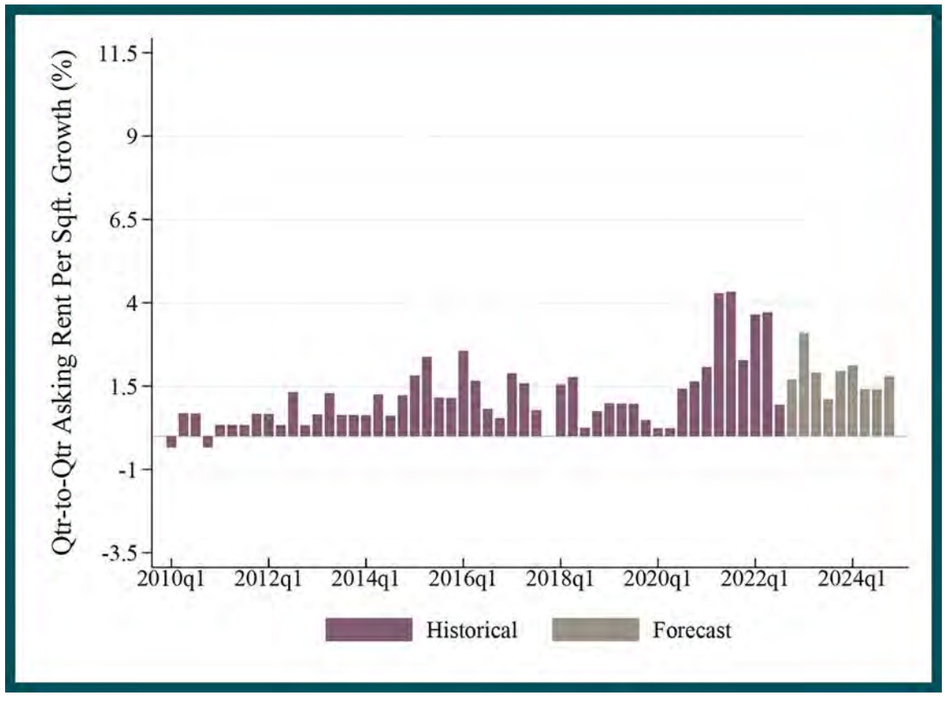


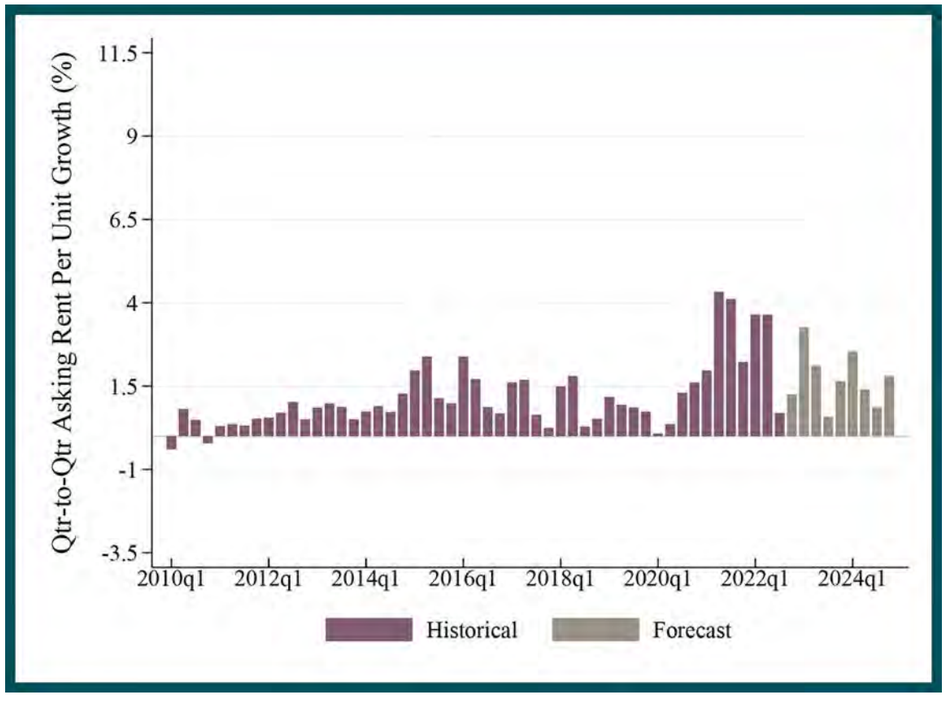
North City Migration since the start of COVID-19

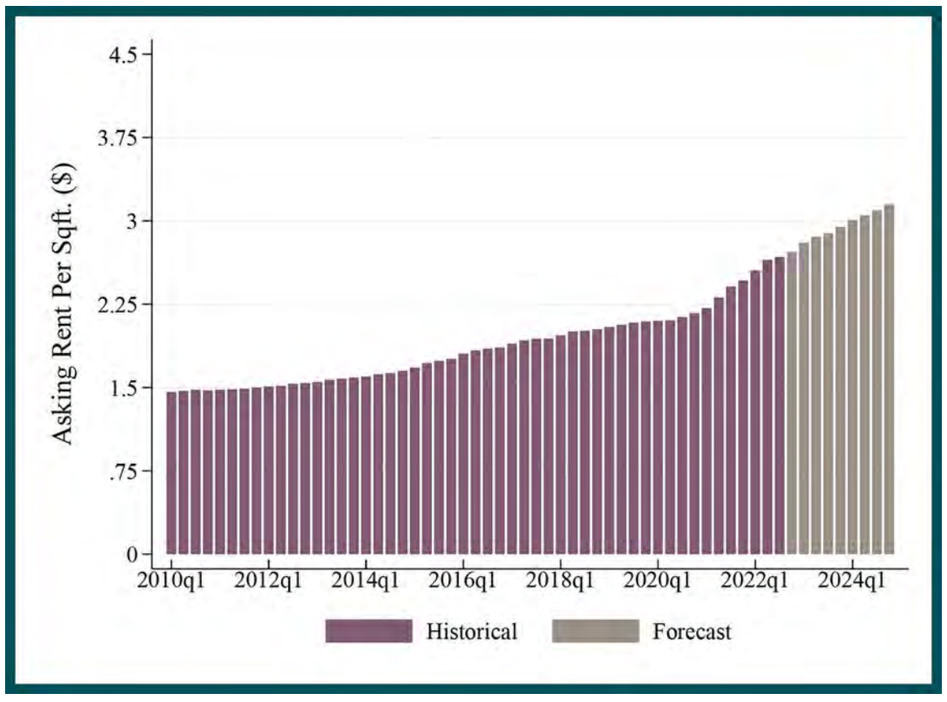


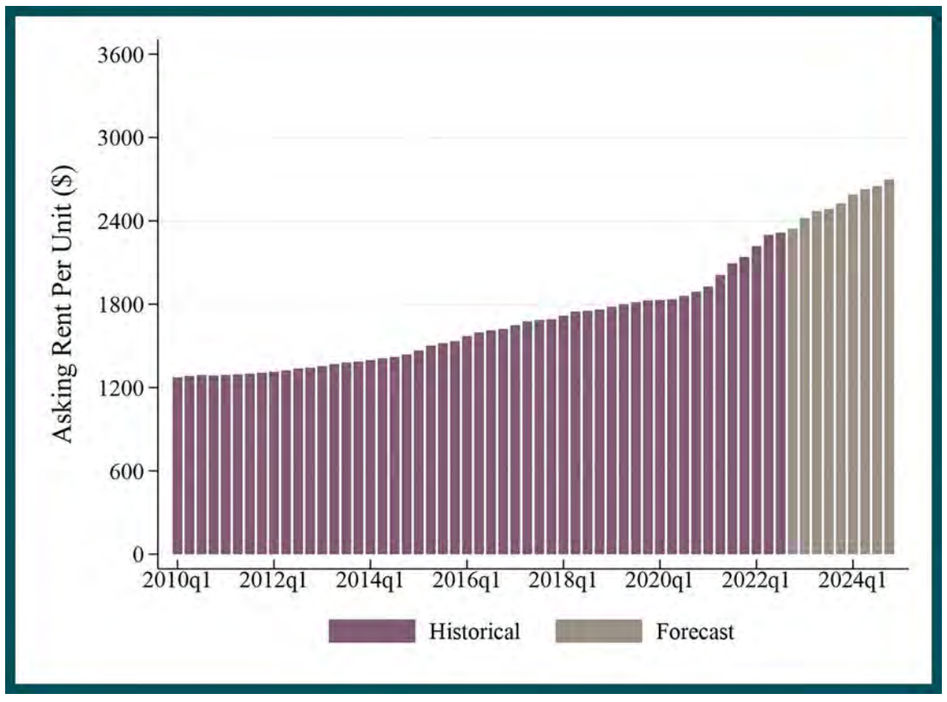
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

North City · Asking Rents · San Diego County, 2010-2024



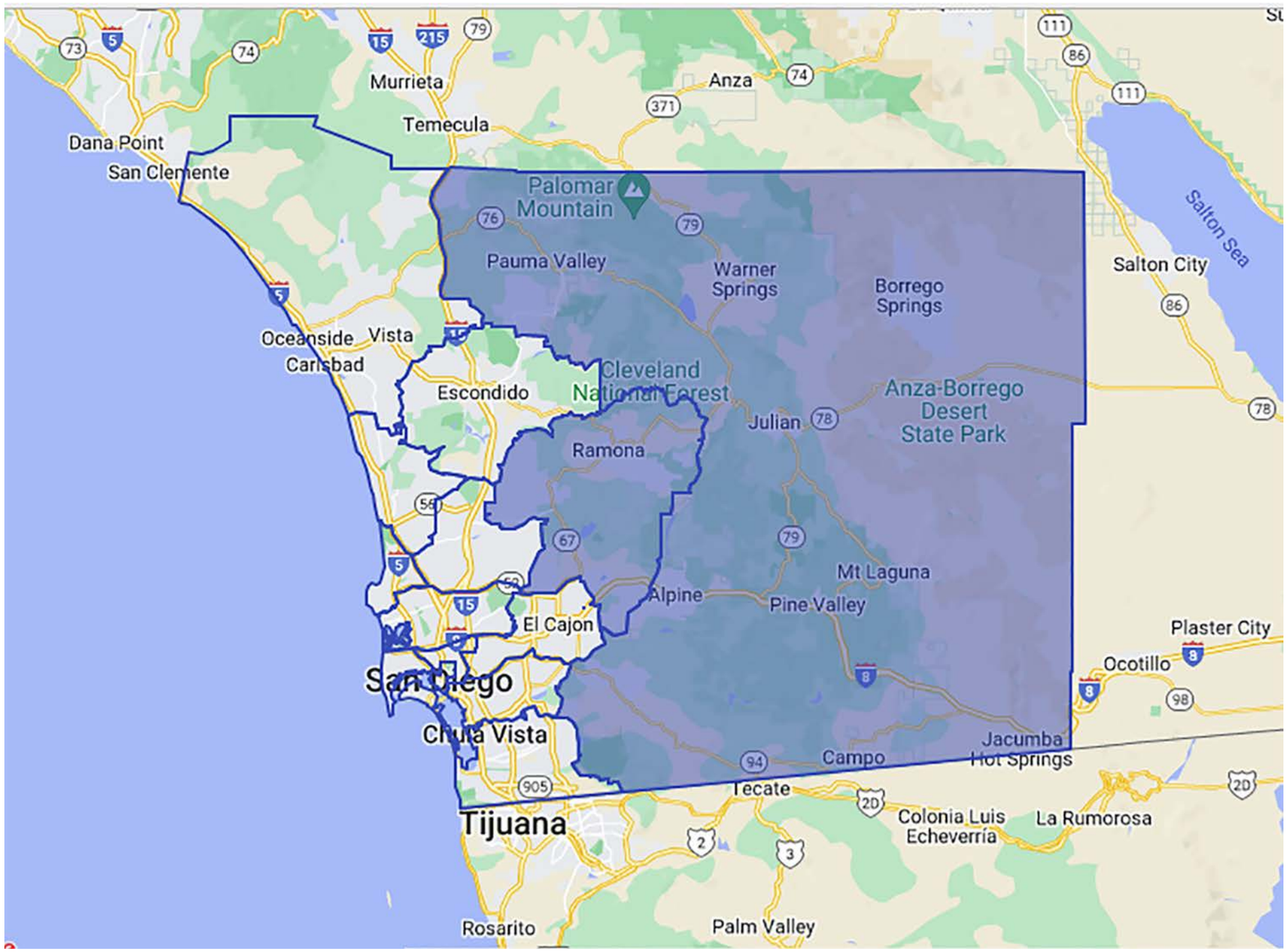






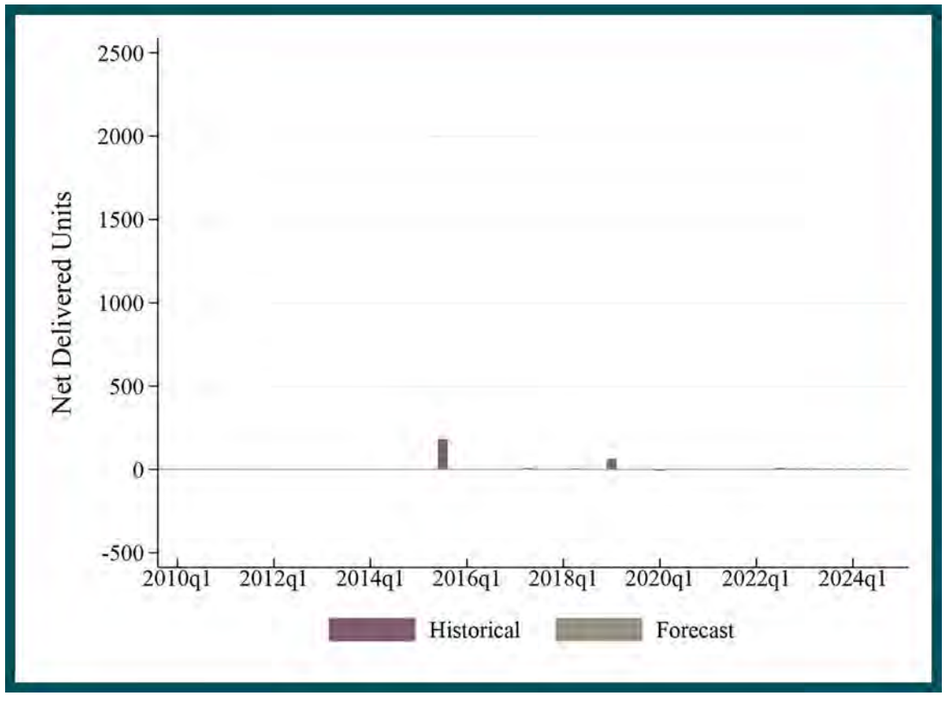
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

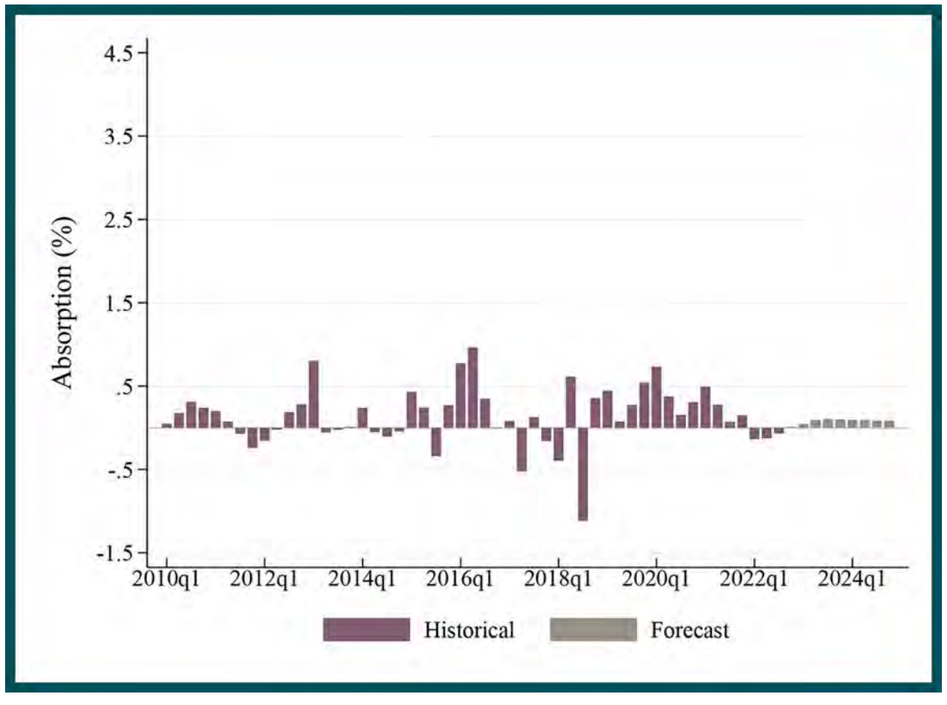
Ramona-Outlying San Diego

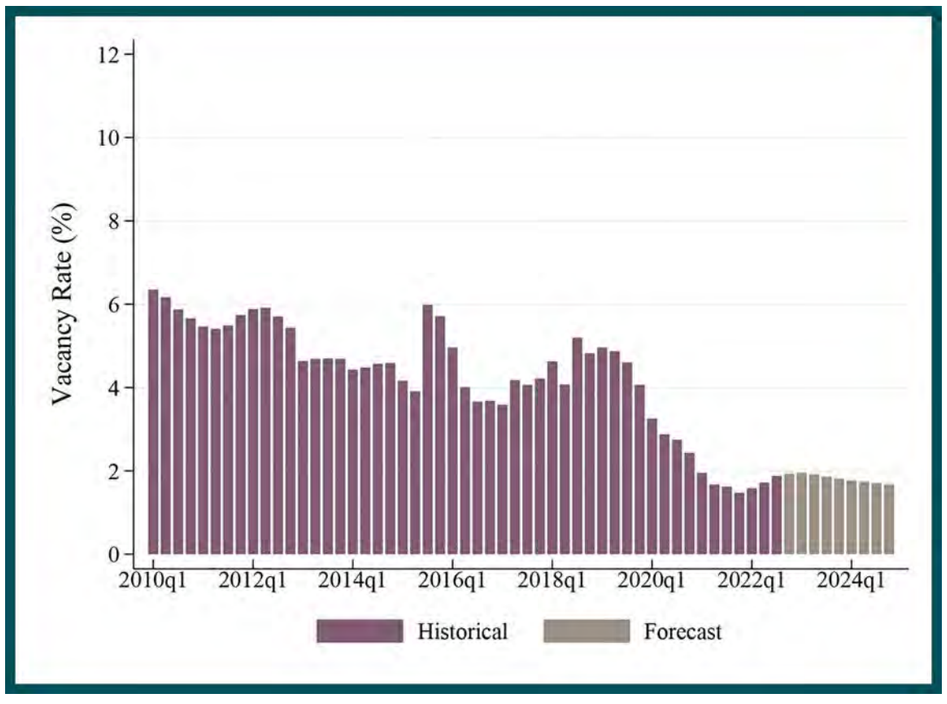


Source: CoStar

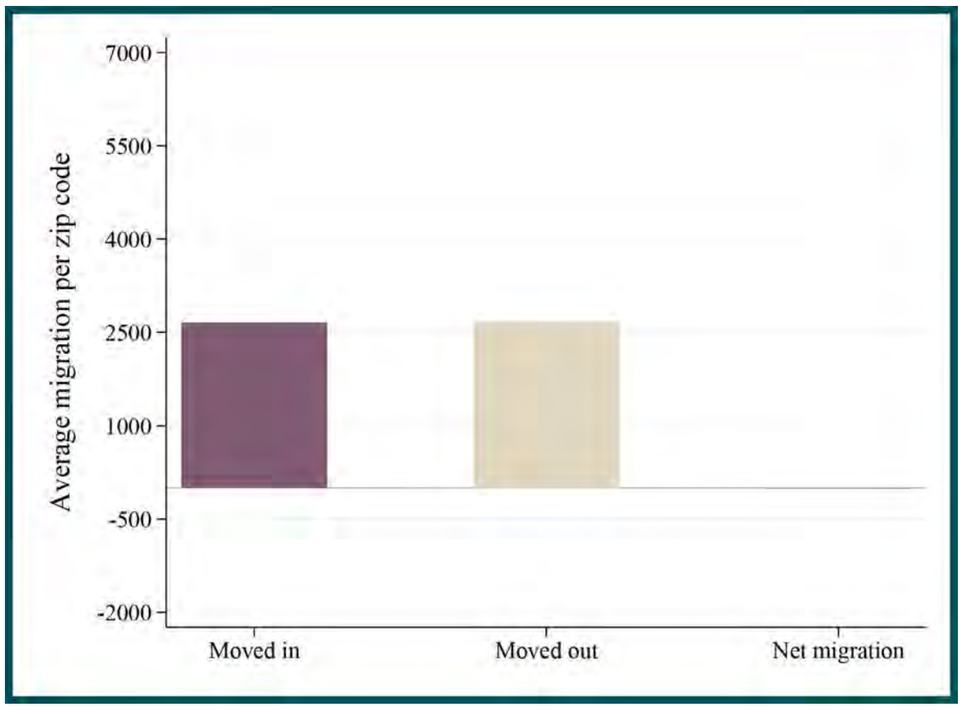
Ramona-Outlying San Diego · Delivered Units, Absorption, Vacancy, and Migration · San Diego, 2010-2024





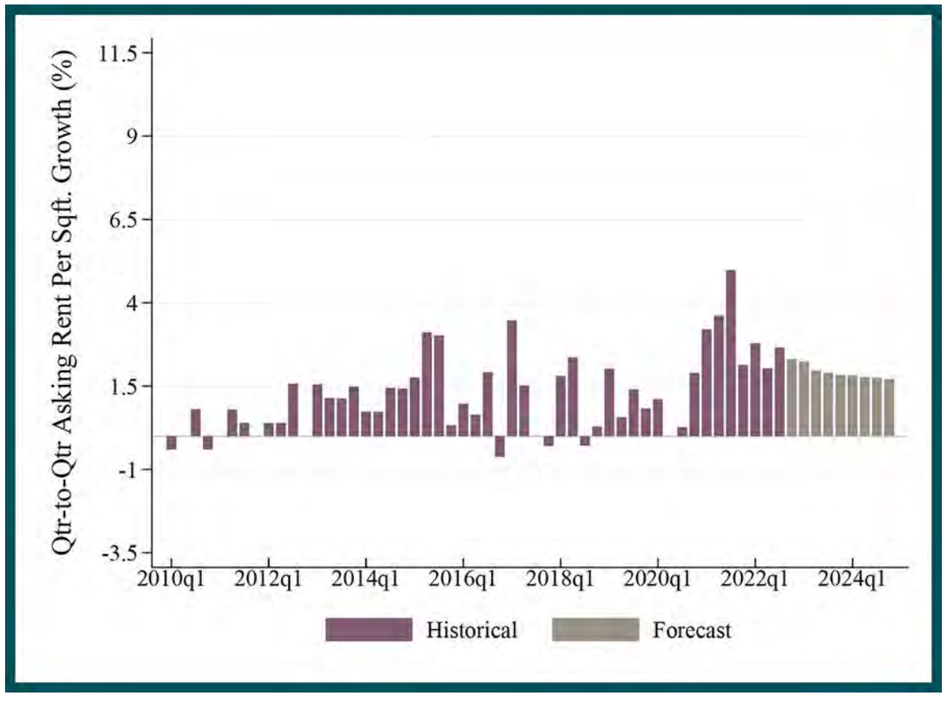


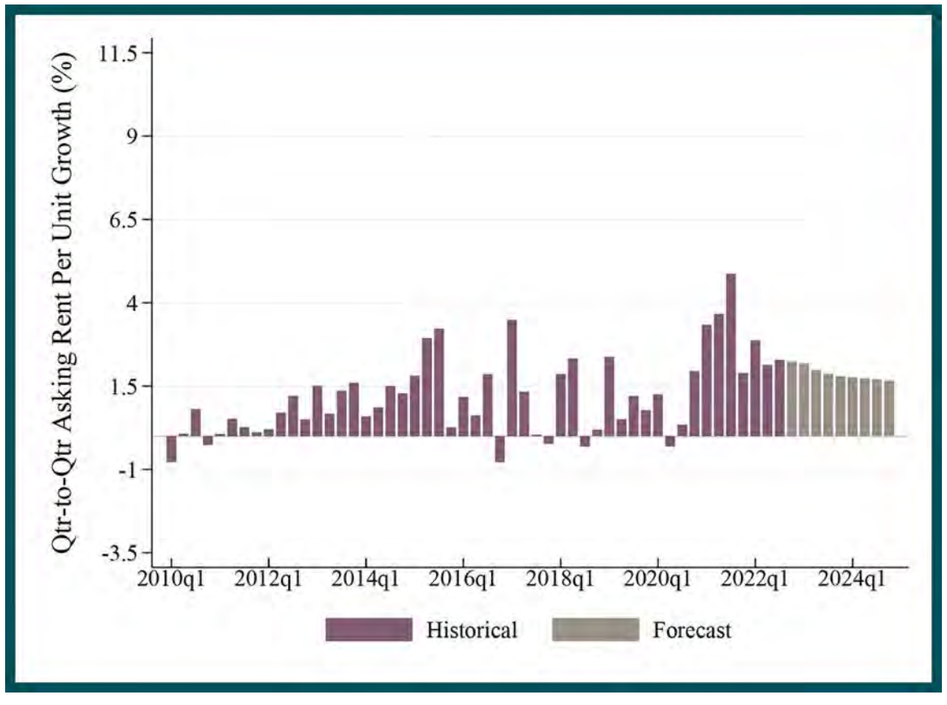
Ramona-Outlying San Diego Migration since the start of COVID-19

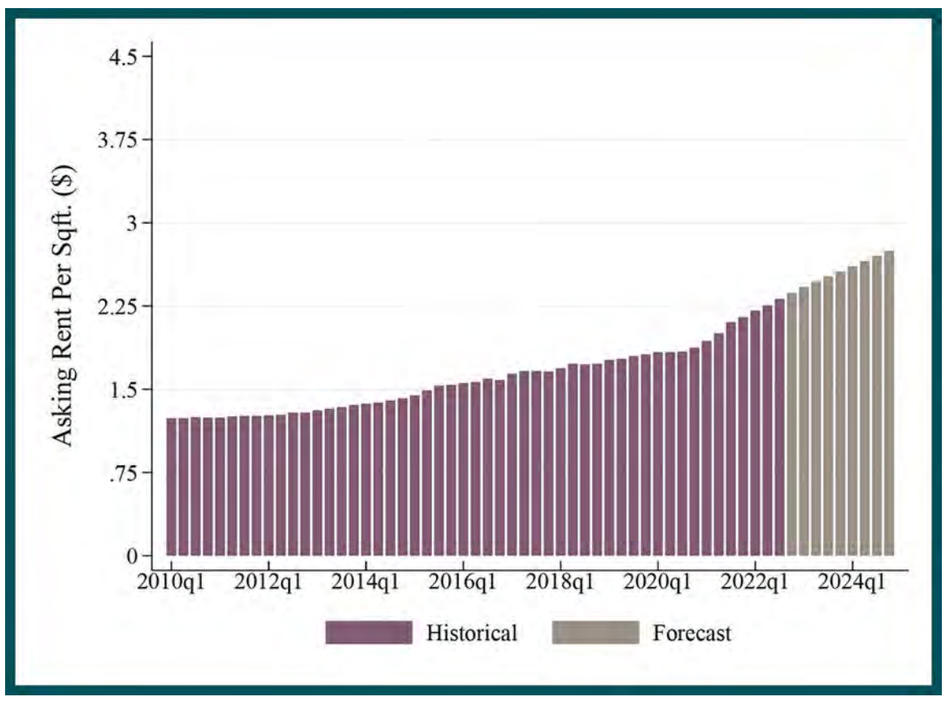


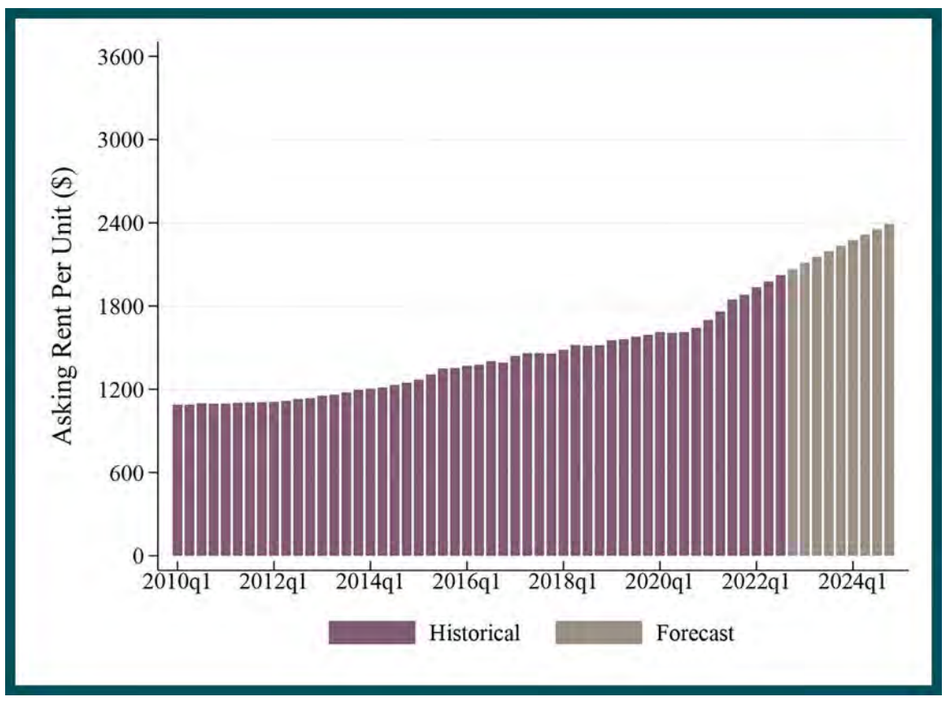
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Ramona-Outlying San Diego · Asking Rents · San Diego County, 2010-2024









Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Chula Vista-National City Renters

Race	
White	16%
Black	9%
Asian	8%
Hispanic	23%
Others	45%
Education	
Less than HS	41%
HS diploma	24%
Some college	24%
Bachelors degree	8%
Graduate degree	4%
Rental units by size of structure	
1 unit	38%
2-4 units	14%
5-9 units	10%
10-19 units	13%
20+ units	25%
Rental units by age of structure	
Before 1970	37%
1970-1999	53%
2000 and after	10%
Household statistics	
Share of households that are renting	44%
Share of rent-burdened households*	55%
Percent with children	58%
Median household income	$55,000
Average household size	2.94
Migration statistics for last year	
Percent living in same house	89%
Percent moved within California	10%
Percent moved from other states to California	1%
Percent moved from abroad	0%

City of San Diego-Coastal Renters

Race	
White	59%
Black	4%
Asian	9%
Hispanic	9%
Others	19%
Education	
Less than HS	19%
HS diploma	10%
Some college	22%
Bachelors degree	31%
Graduate degree	18%
Rental units by size of structure	
1 unit	29%
2-4 units	16%
5-9 units	18%
10-19 units	11%
20+ units	27%
Rental units by age of structure	
Before 1970	36%
1970-1999	49%
2000 and after	15%
Household statistics	
Share of households that are renting	49%
Share of rent-burdened households*	49%
Percent with children	22%
Median household income	$75,000
Average household size	1.98
Migration statistics for last year	
Percent living in same house	77%
Percent moved within California	17%
Percent moved from other states to California	4%
Percent moved from abroad	2%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

City of San Diego-Inland Renters

Race	
White	44%
Black	10%
Asian	14%
Hispanic	13%
Others	19%
Education	
Less than HS	30%
HS diploma	15%
Some college	27%
Bachelors degree	18%
Graduate degree	10%
Rental units by size of structure	
1 unit	29%
2-4 units	12%
5-9 units	11%
10-19 units	14%
20+ units	33%
Rental units by age of structure	
Before 1970	27%
1970-1999	62%
2000 and after	11%
Household statistics	
Share of households that are renting	49%
Share of rent-burdened households*	54%
Percent with children	39%
Median household income	$60,250
Average household size	2.54
Migration statistics for last year	
Percent living in same house	79%
Percent moved within California	16%
Percent moved from other states to California	4%
Percent moved from abroad	1%

North City Renters

Race	
White	39%
Black	4%
Asian	5%
Hispanic	21%
Others	32%
Education	
Less than HS	36%
HS diploma	19%
Some college	26%
Bachelors degree	14%
Graduate degree	6%
Rental units by size of structure	
1 unit	35%
2-4 units	11%
5-9 units	12%
10-19 units	12%
20+ units	31%
Rental units by age of structure	
Before 1970	17%
1970-1999	67%
2000 and after	16%
Household statistics	
Share of households that are renting	43%
Share of rent-burdened households*	56%
Percent with children	40%
Median household income	$64,350
Average household size	2.54
Migration statistics for last year	
Percent living in same house	78%
Percent moved within California	17%
Percent moved from other states to California	4%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Ramona-Outlying San Diego Renters

Race	
White	44%
Black	3%
Asian	6%
Hispanic	18%
Others	29%
Education	
Less than HS	41%
HS diploma	14%
Some college	22%
Bachelors degree	13%
Graduate degree	10%
Rental units by size of structure	
1 unit	54%
2-4 units	12%
5-9 units	13%
10-19 units	7%
20+ units	14%
Rental units by age of structure	
Before 1970	19%
1970-1999	71%
2000 and after	10%
Household statistics	
Share of households that are renting	24%
Share of rent-burdened households*	41%
Percent with children	49%
Median household income	$67,750
Average household size	2.76
Migration statistics for last year	
Percent living in same house	84%
Percent moved within California	11%
Percent moved from other states to California	4%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Ventura

Ventura County Renters

Race

White	38%
Black	2%
Asian	4%
Hispanic	15%
Others	41%

Education

Less than HS	40%
HS diploma	17%
Some college	25%
Bachelors degree	12%
Graduate degree	6%

Rental units by size of structure

1 unit	51%
2-4 units	13%
5-9 units	10%
10-19 units	8%
20+ units	18%

Rental units by age of structure

Before 1970	32%
1970-1999	54%
2000 and after	14%

Household statistics

Share of households that are renting	38%
Share of rent-burdened households*	56%
Percent with children	49%
Median household income	$65,000
Average household size	2.72

Migration statistics for last year

Percent living in same house	88%
Percent moved within California	10%
Percent moved from other states to California	2%
Percent moved from abroad	0%

*Rent burden is the share of households whose rent payments exceed 30% of income.

Source: 2020 American Community Survey

Housing conditions in Ventura County do not change very much because Ventura County doesn't build very much. We have already established that Los Angeles, among large urban counties, builds very little housing per capita each year. But on a per capita basis, Ventura County builds only about 70% as much as Los Angeles County. This means that it's housing stock is stagnant.

We can look at this another way. According to the American Community Survey, Ventura County has 294,000 housing units. Over the last several years, it has permitted the construction of about 1500 units per year. This means new construction in Ventura County equals roughly 1/2 of one percent of the county's housing stock. However, old and obsolete housing falls out of the housing stock. We conservatively estimate that about 3/10 of one percent of the housing stock becomes obsolete or is demolished every year. This implies that Ventura County with its 900,000 people adds only about 5 to 600 units of housing every year.

In economics terminology, we would say that Ventura County has an extremely inelastic housing supply curve. This means that under almost all economic conditions, the available number of units stays more or less constant. Therefore, rents in Ventura County are determined exclusively by shifts in demand.

Ventura County is very unusual in its reliance on mining and natural resources as an employment source. As it is, a little over 6% of the labor force in Ventura County works and the mining and natural resources sector, but this makes it more than seven times as reliant on this sector as the average county in the United States. The bulk of the employment is in oil extraction and so is to some degree dependent on the price of oil, which is high, although not exorbitantly so, by historical standards at the current time.

In economics terminology, we would say that Ventura County has an extremely inelastic housing supply curve.

Crude Oil Prices

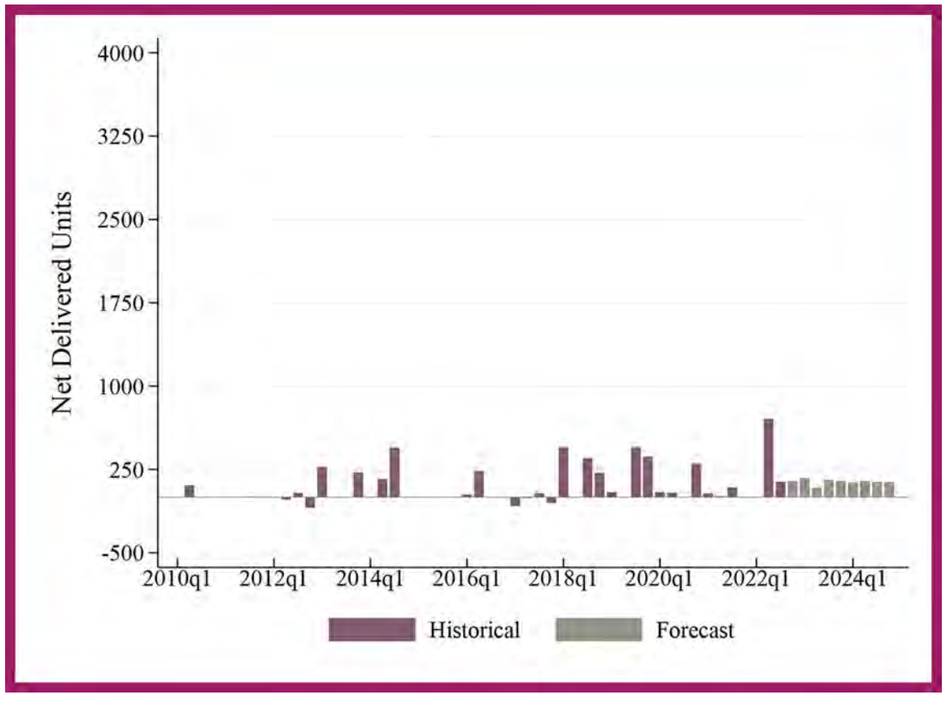
Interestingly, these jobs do not pay particularly well (according to the US Bureau of Labor Statistics they pay about $750 per week), because they produce goods that are exported to other regions, but they do drive wealth in Ventura County.

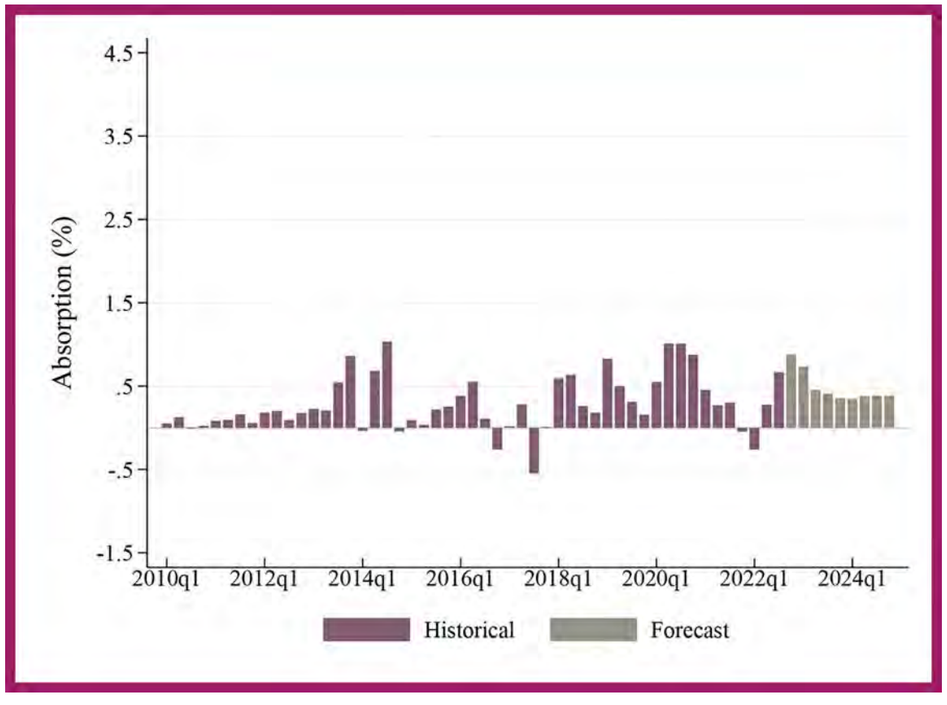
We suspect that the combination of the relative reliance on natural resources for employment and the inelastic supply of housing explain why Ventura County has volatility in absorption, vacancy, and therefore rents. It is the most difficult of our regions to forecast because its housing demand in the years to come will be a function of unknowns.

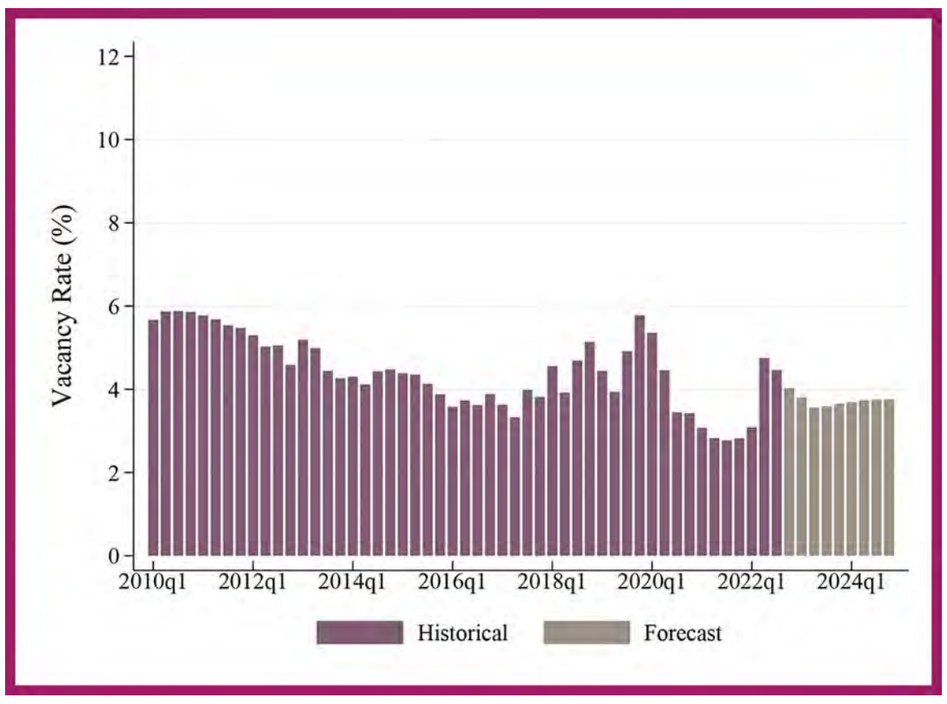
Employment Location Quotients

Industry • Ventura County	
ALL INDUSTRIES	1.01
GOODS-PRODUCING	1.47
NATURAL RESOURCES AND MINING	7.13
CONSTRUCTION	1.06
MANUFACTURING	0.96
SERVICE-PROVIDING	0.91
TRADE, TRANSPORTATION, AND UTILITIES	0.91
INFORMATION	0.58
FINANCIAL ACTIVITIES	0.81
PROFESSIONAL AND BUSINESS SERVICES	0.88
EDUCATION AND HEALTH SERVICES	0.96
LEISURE AND HOSPITALITY	1.07
OTHER SERVICES	0.84
UNCLASSIFIED	0.12

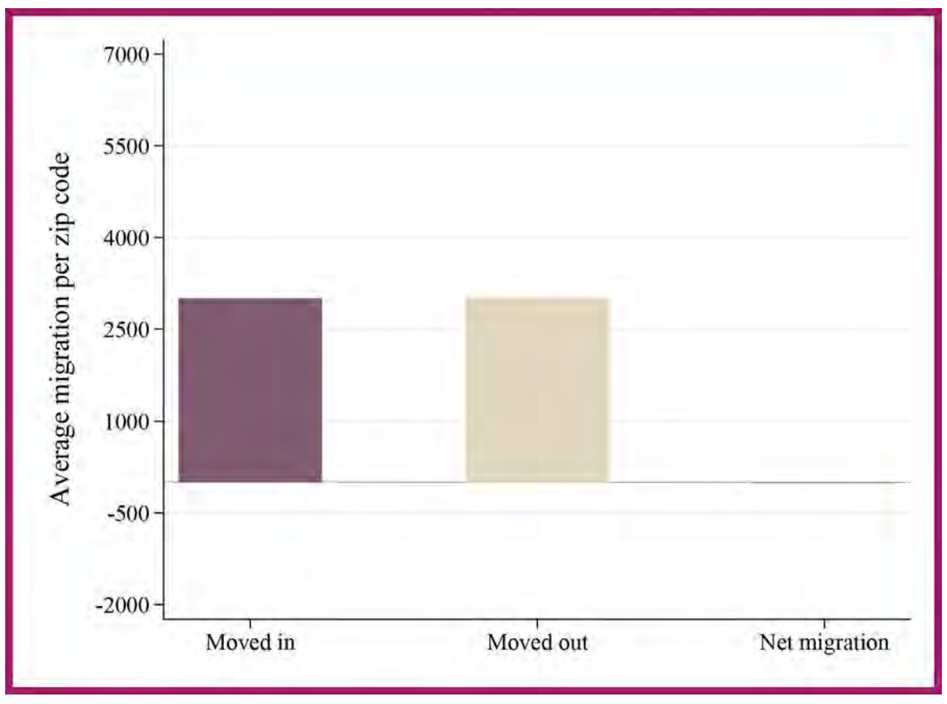
Ventura · Delivered Units, Absorption, Vacancy, and Migration · Ventura, 2010-2024





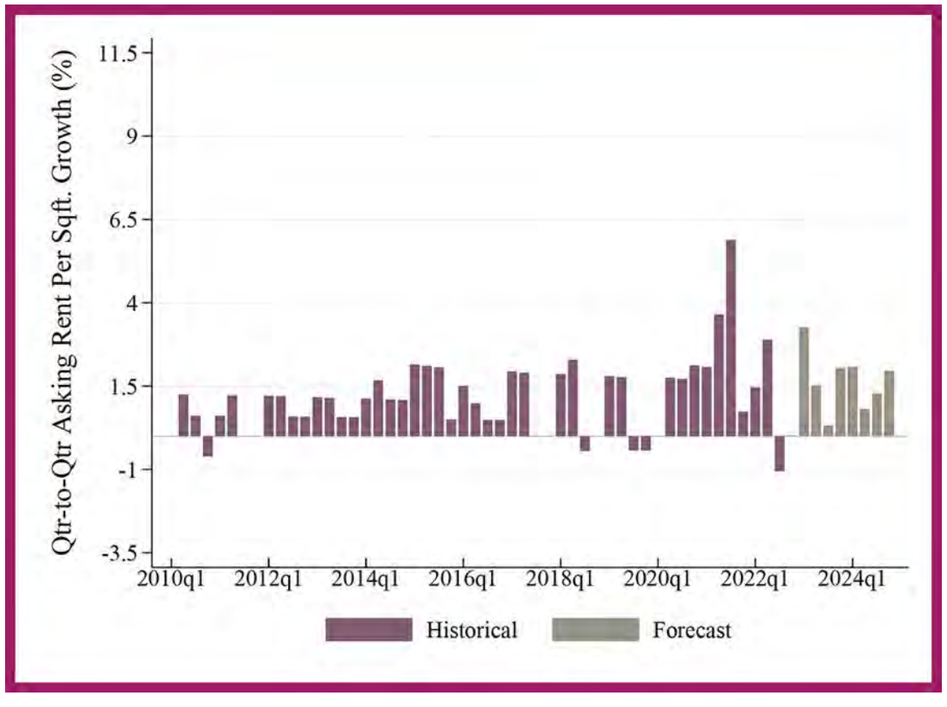


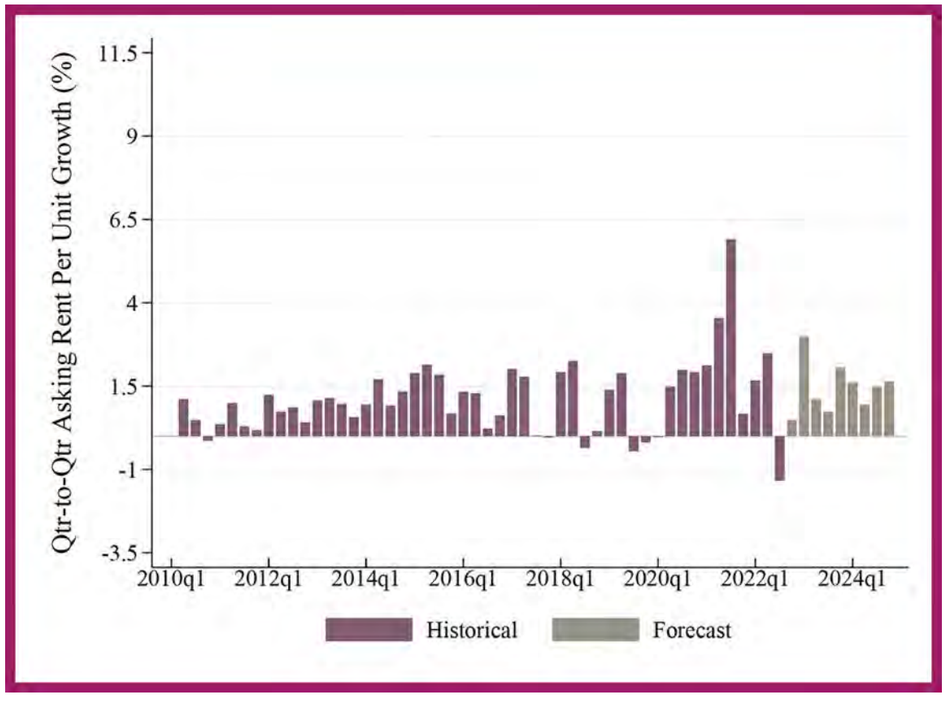
Ventura Migration since the start of COVID

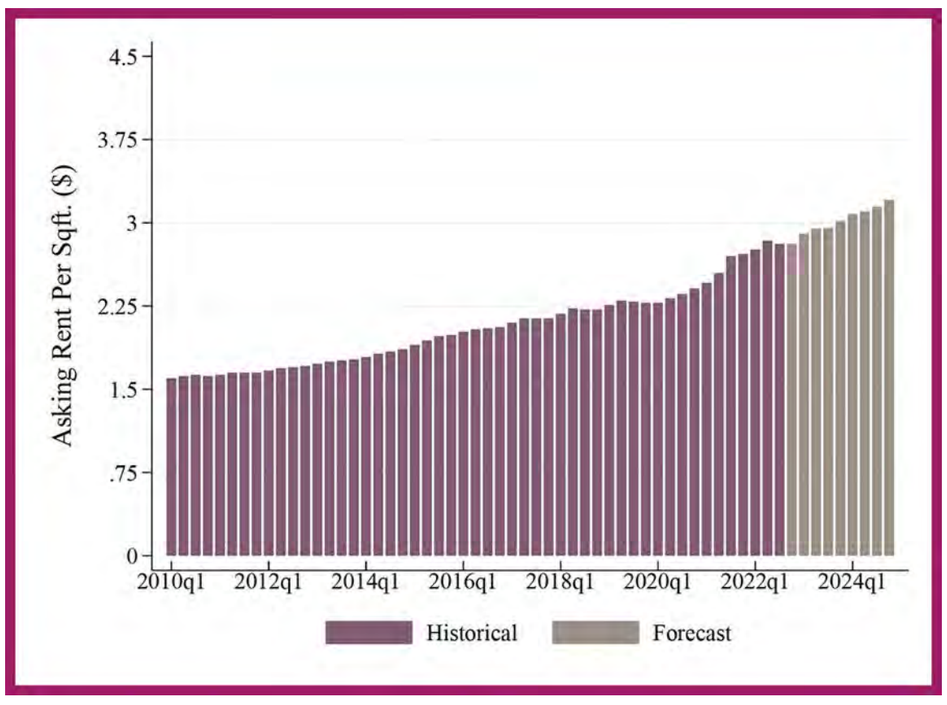


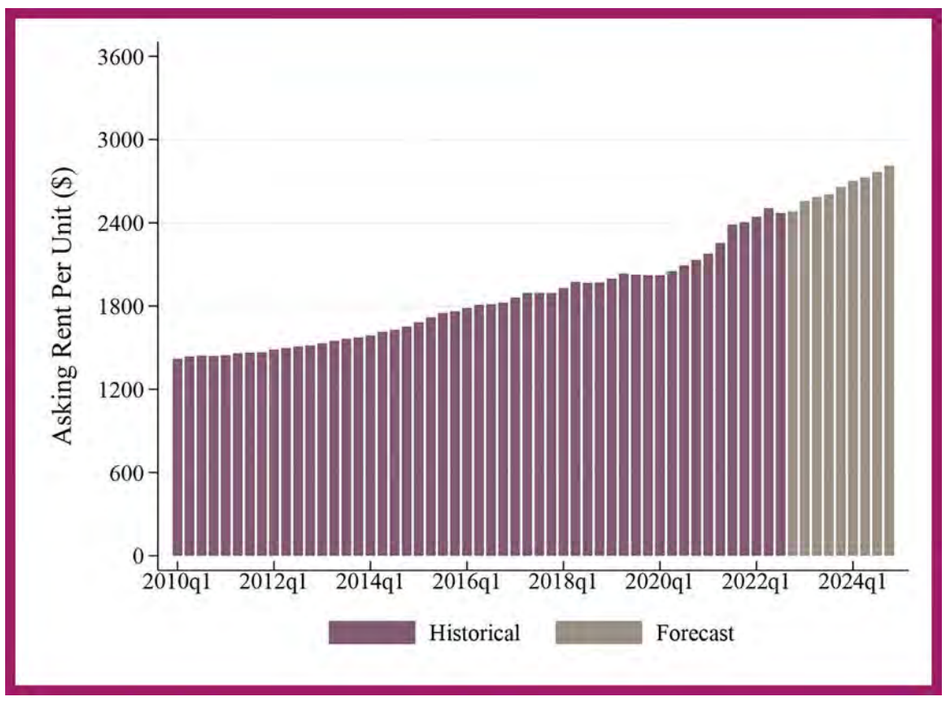
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Ventura · Asking Rents · Ventura, 2010-2024



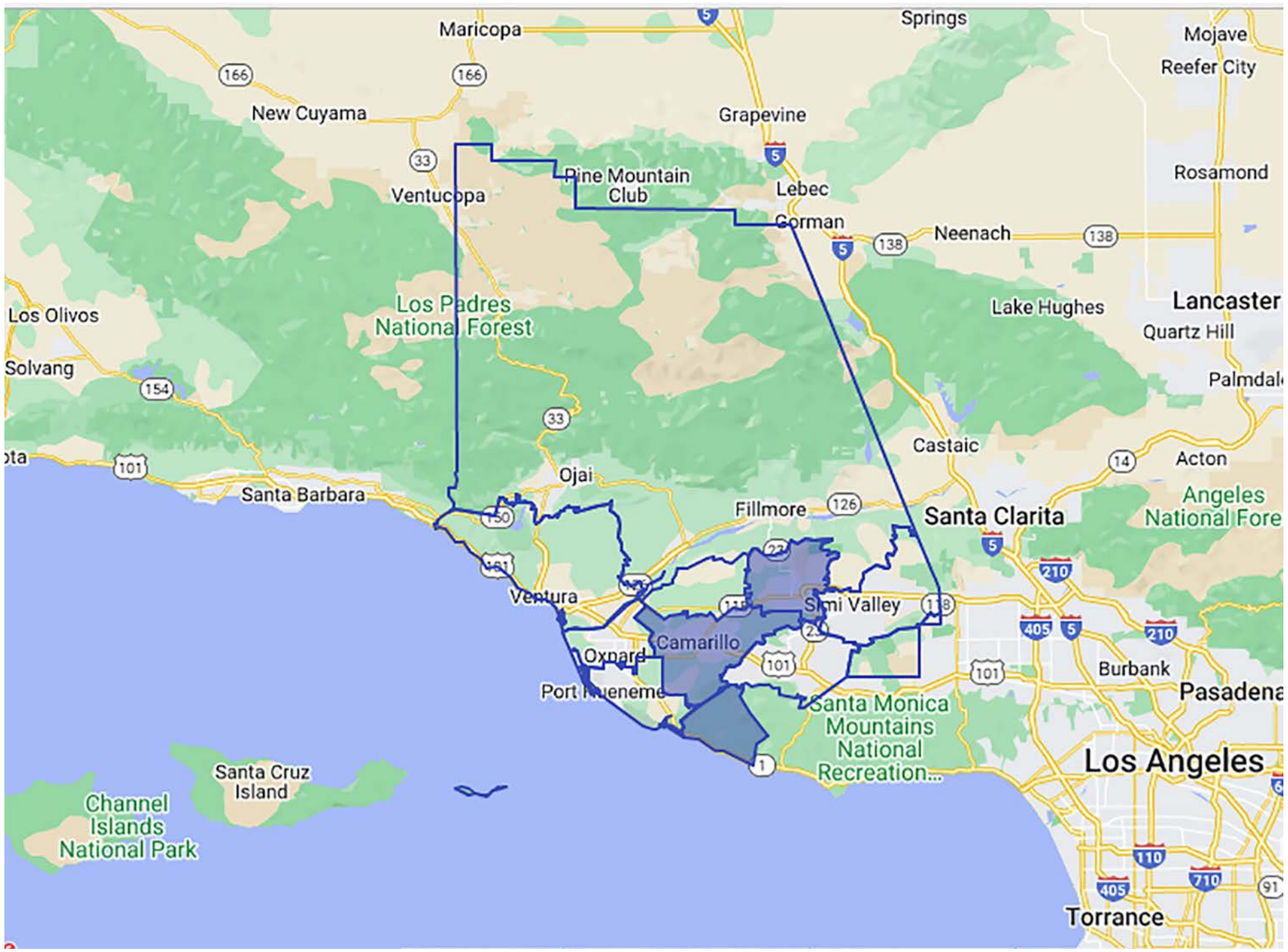






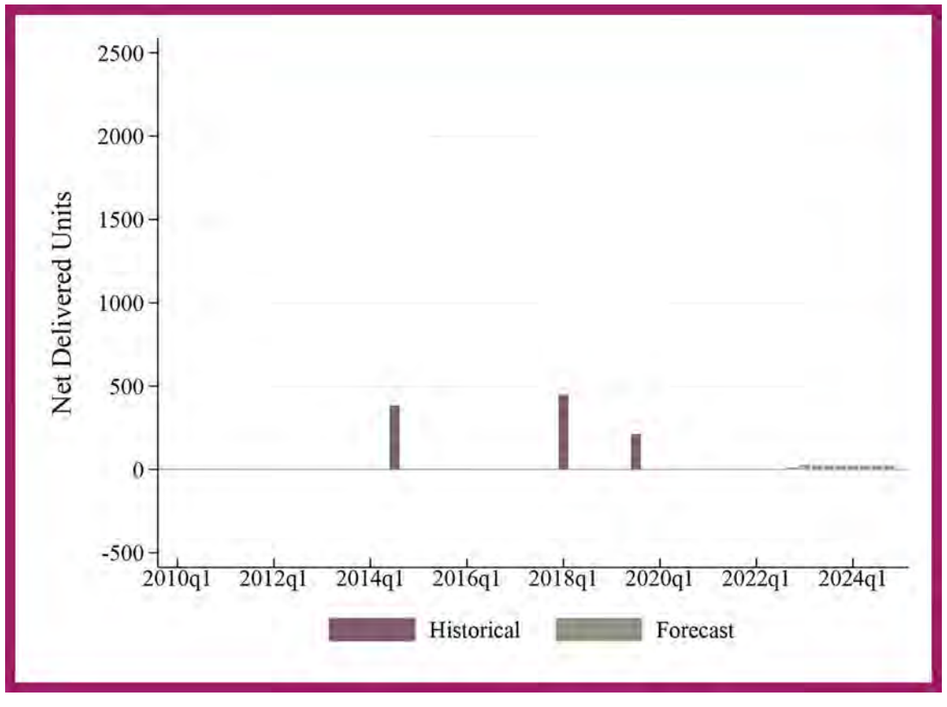
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

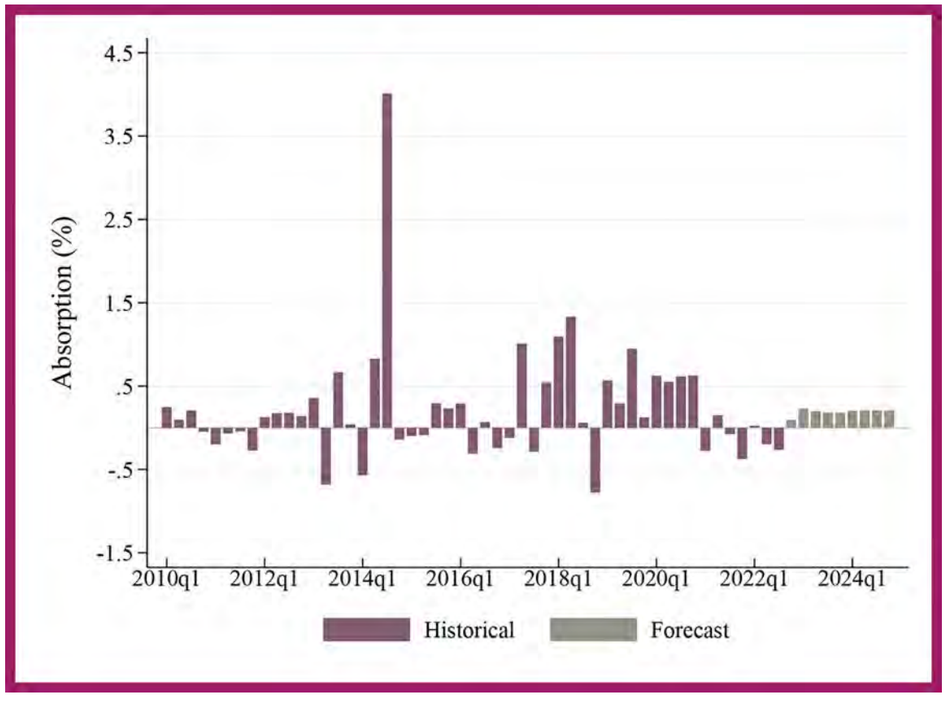
Camarillo-Moorpark-Newbury Park

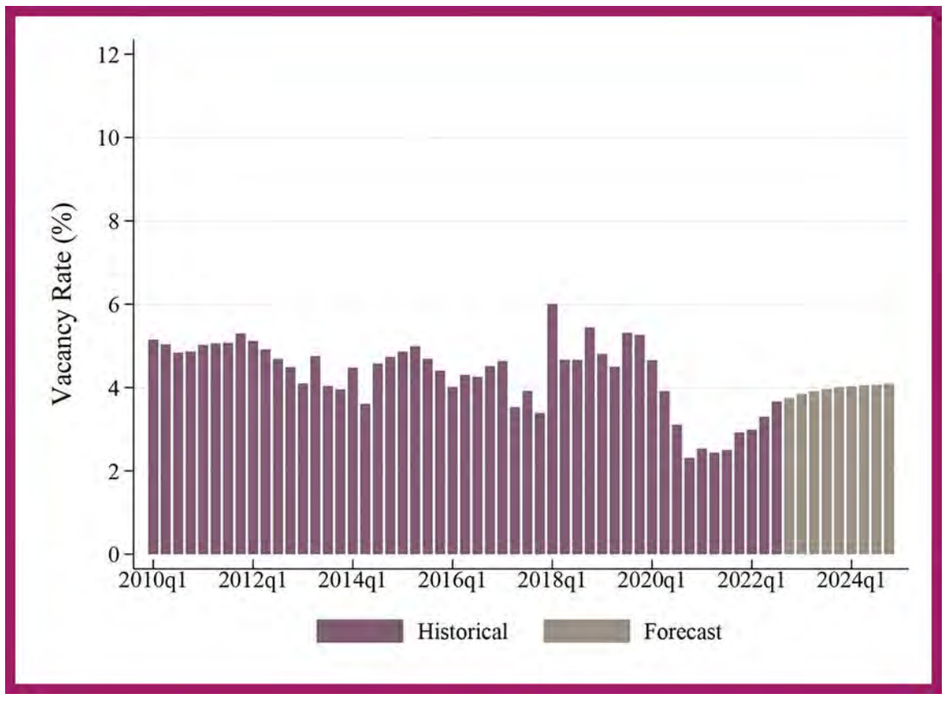


Source: CoStar

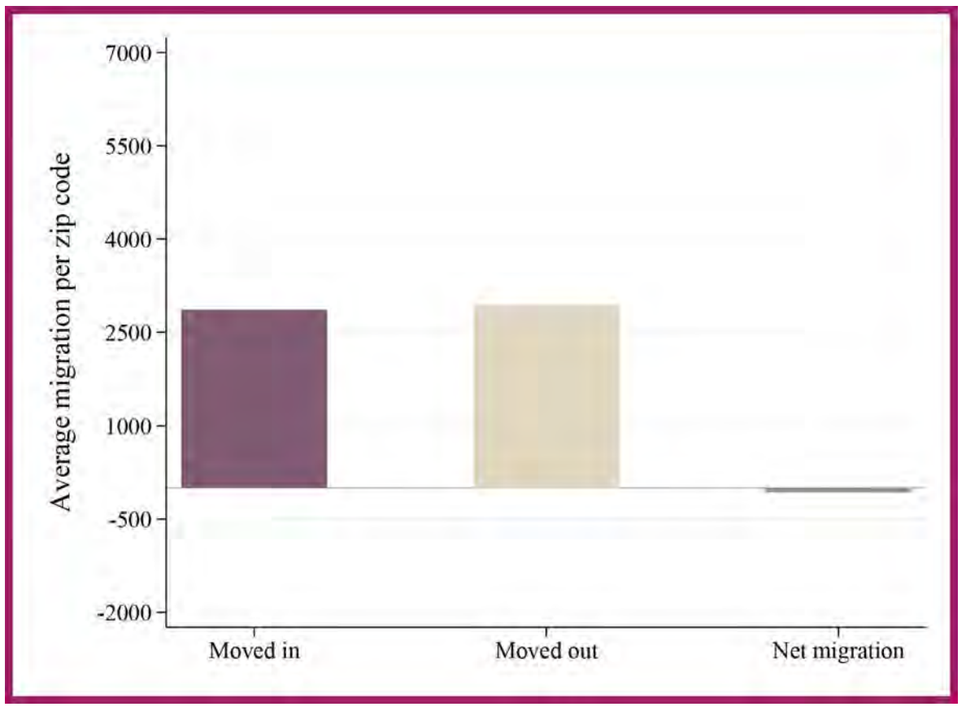
Camarillo-Moorpark-Newbury Park · Delivered Units, Absorption, Vacancy, and Migration · Ventura County, 2010-2024





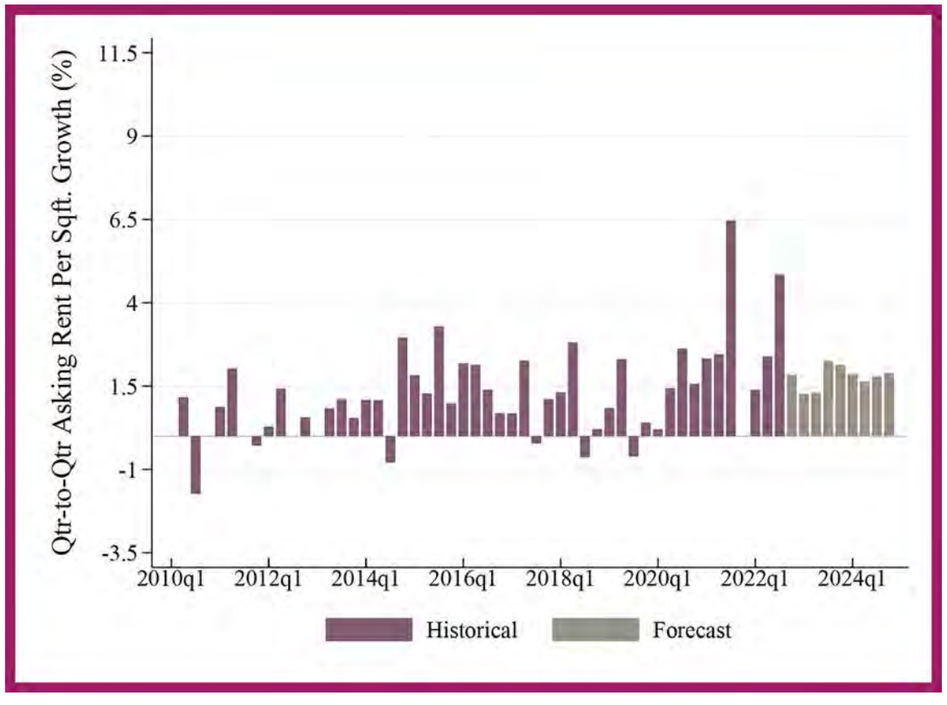


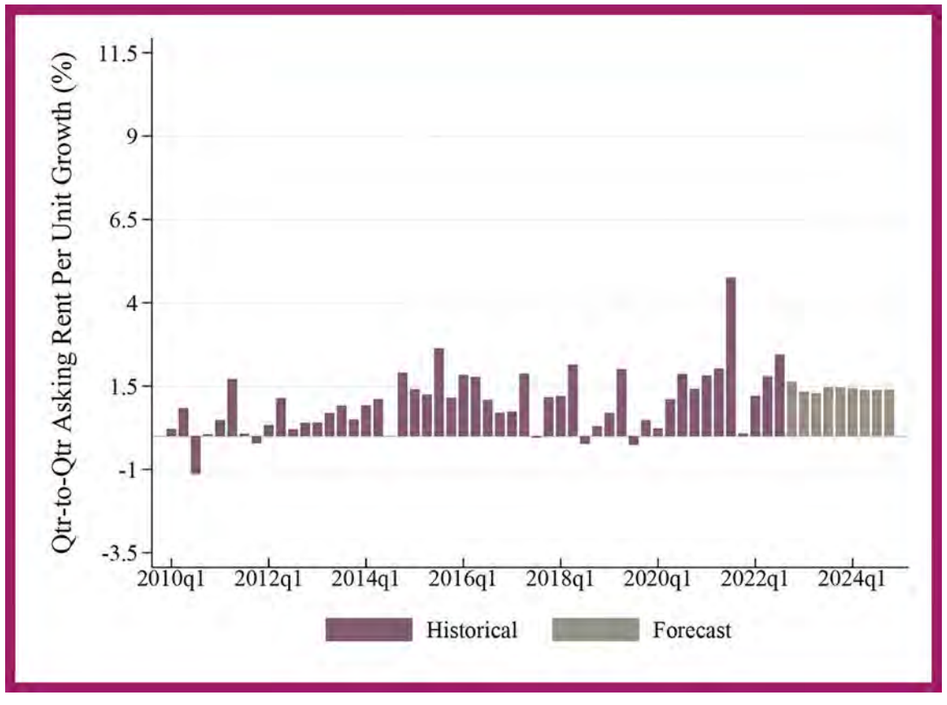
Camarillo-Moorpark-Newbury Park Migration since the start of COVID-19

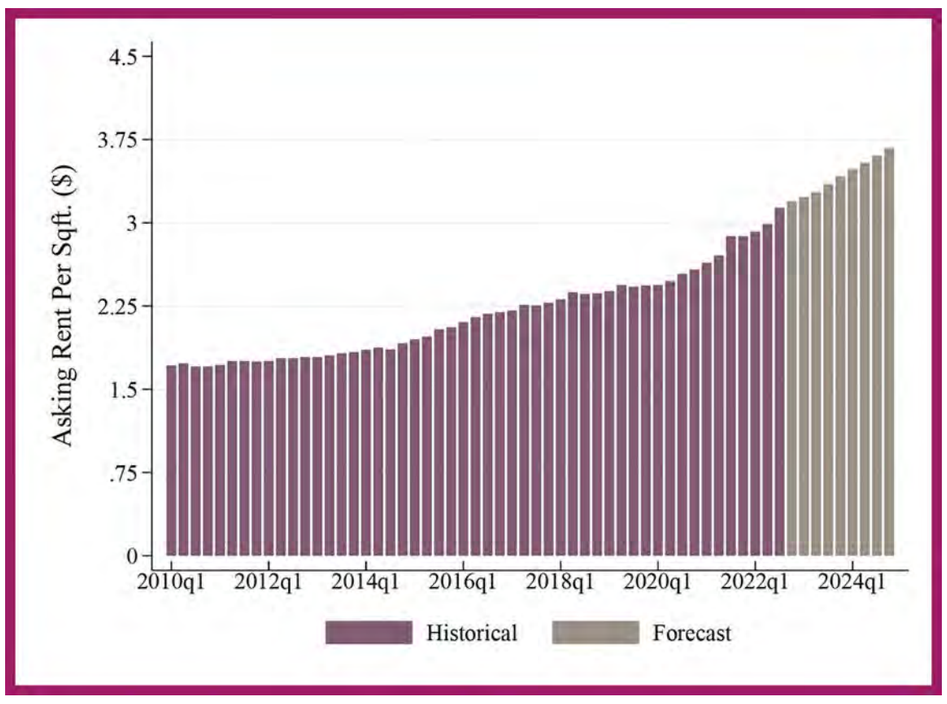


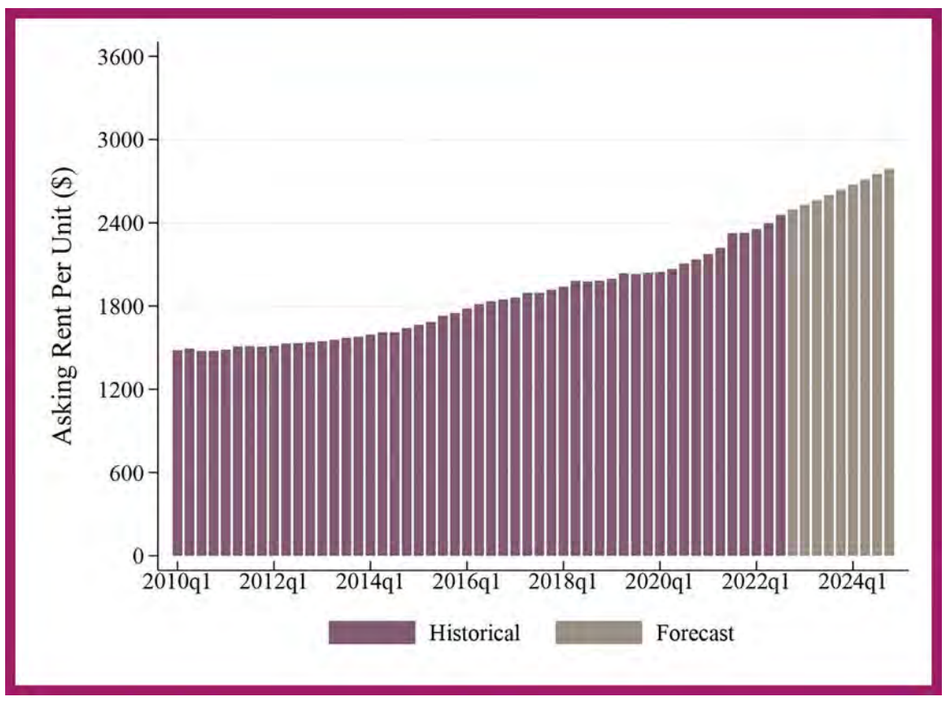
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Camarillo-Moorpark-Newbury Park · Asking Rents · Ventura County, 2010-2024



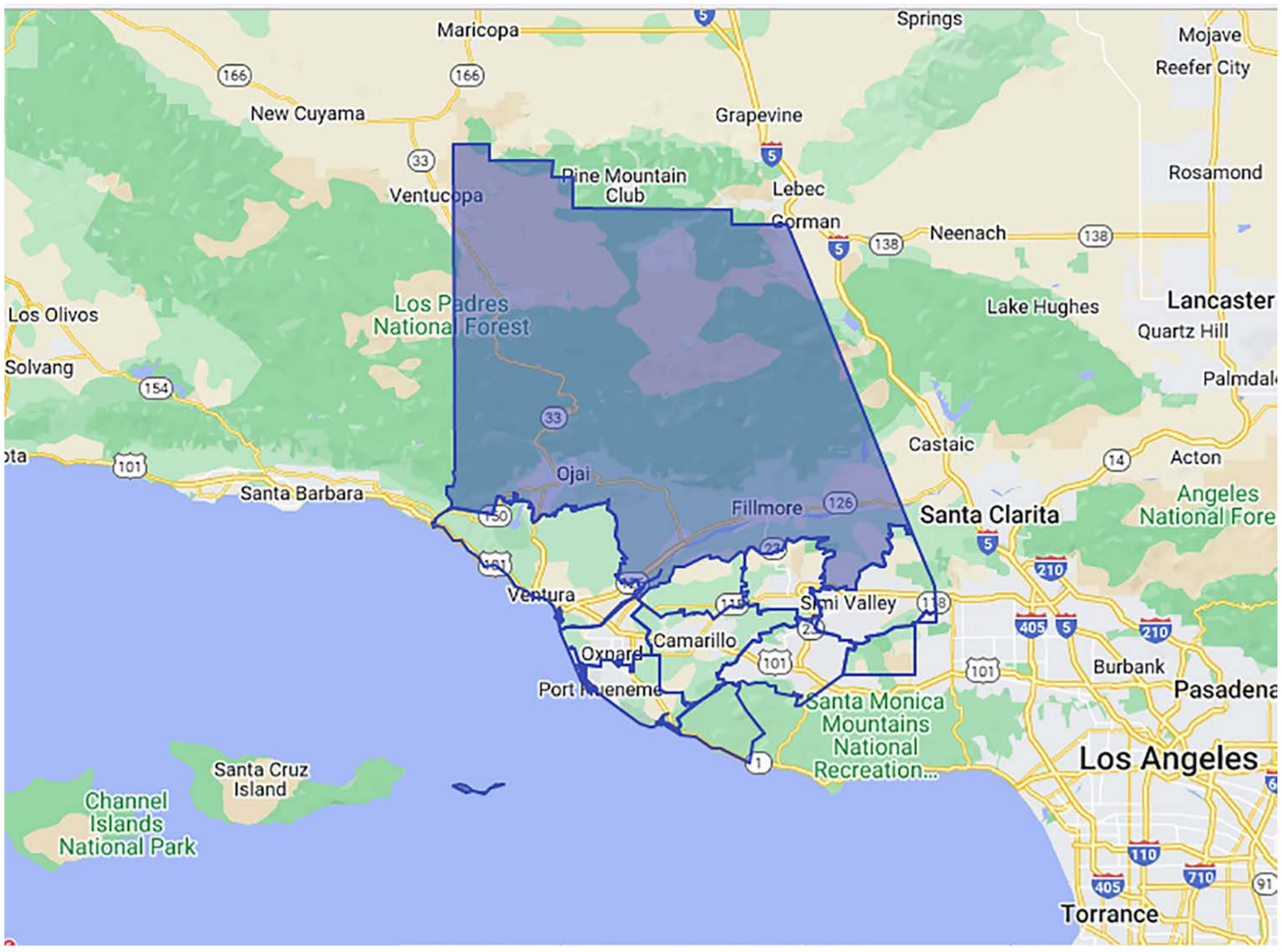






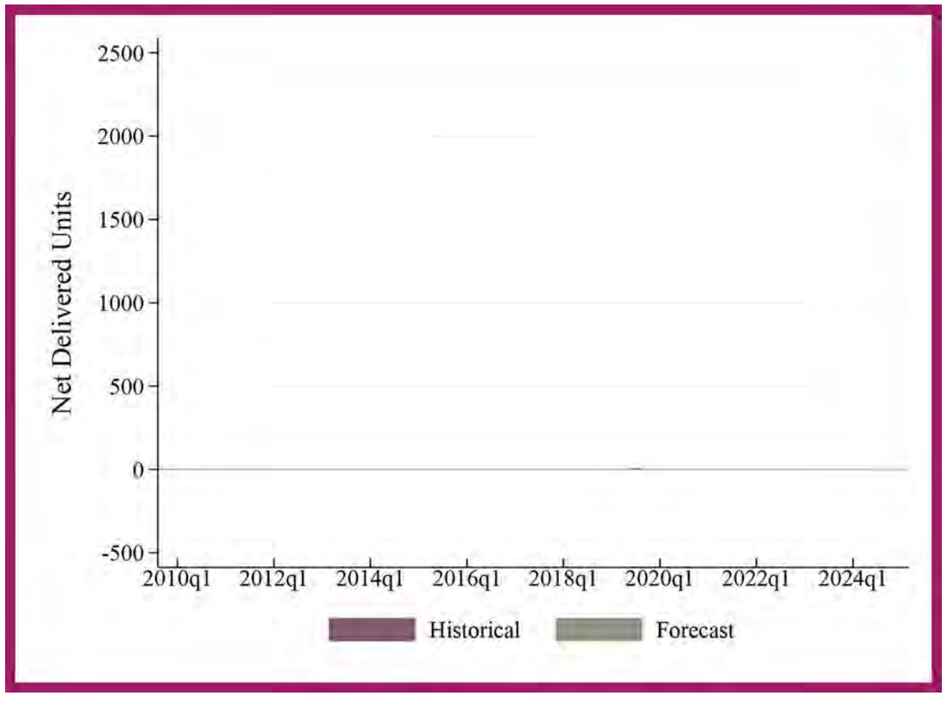
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

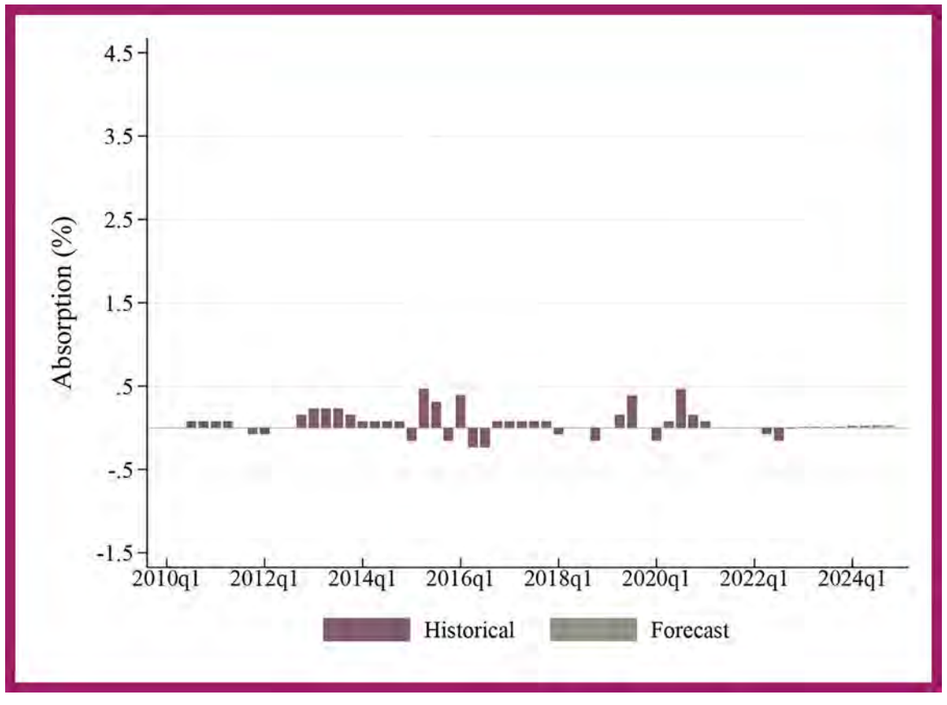
Outlying Ventura County

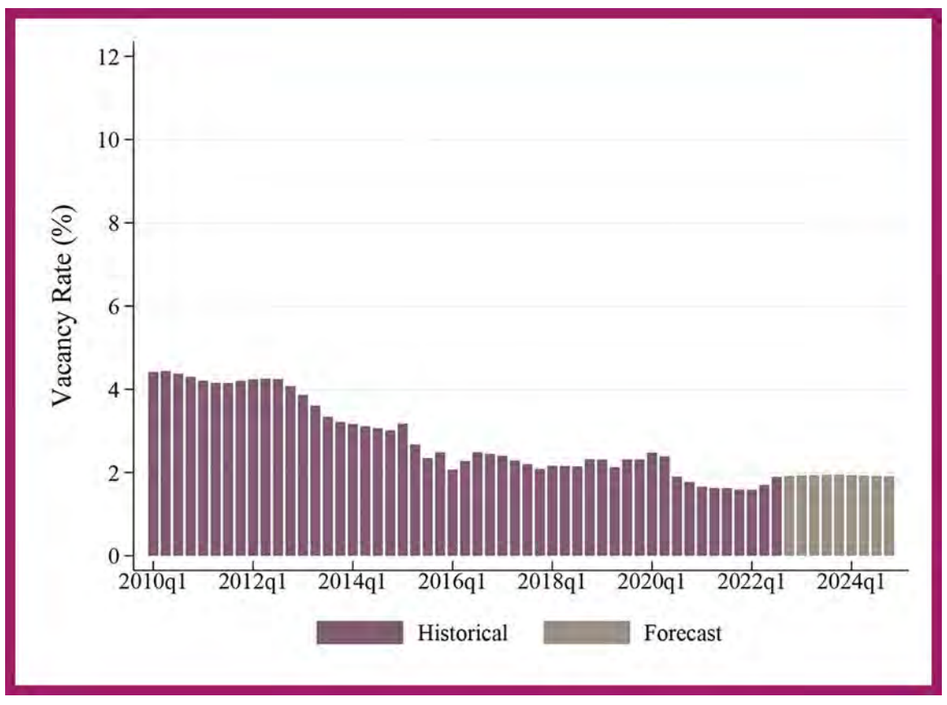


Source: CoStar

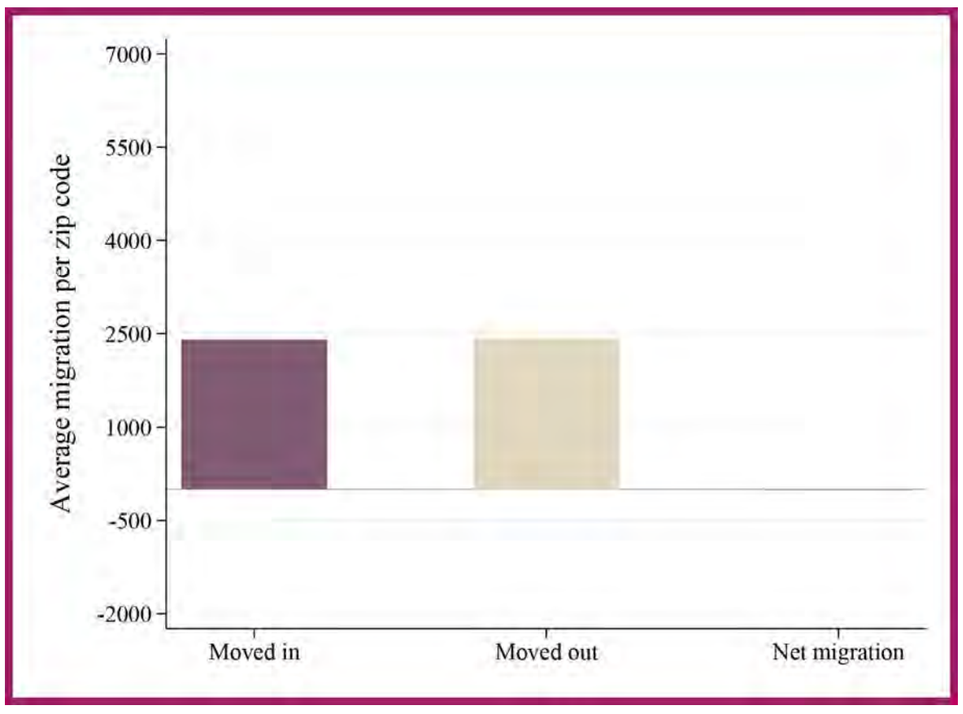
Outlying Ventura County · Delivered Units, Absorption, Vacancy, and Migration · Ventura County, 2010-2024





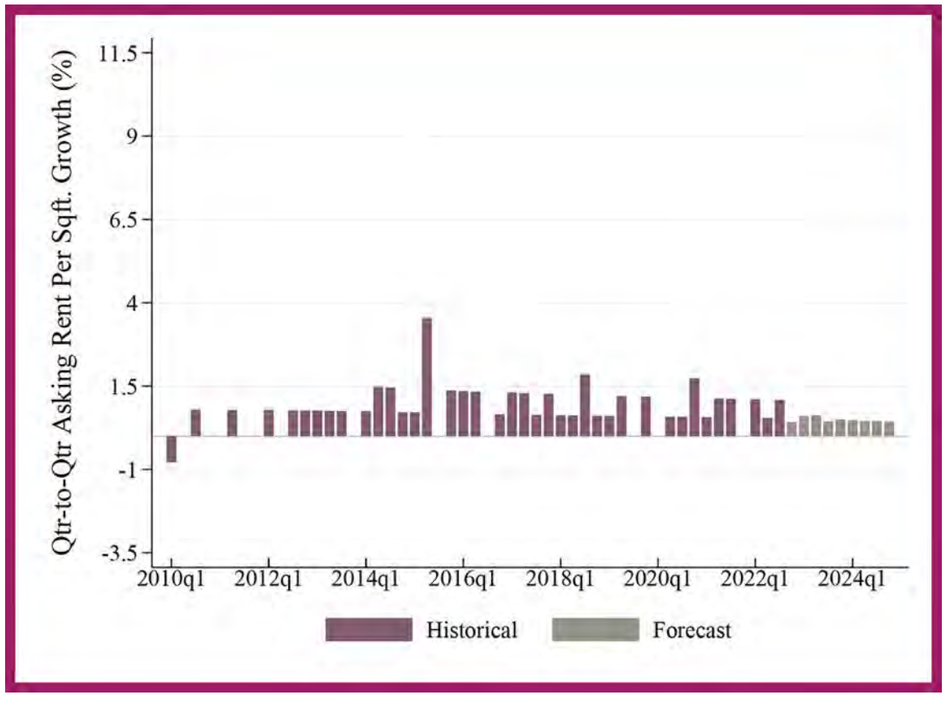


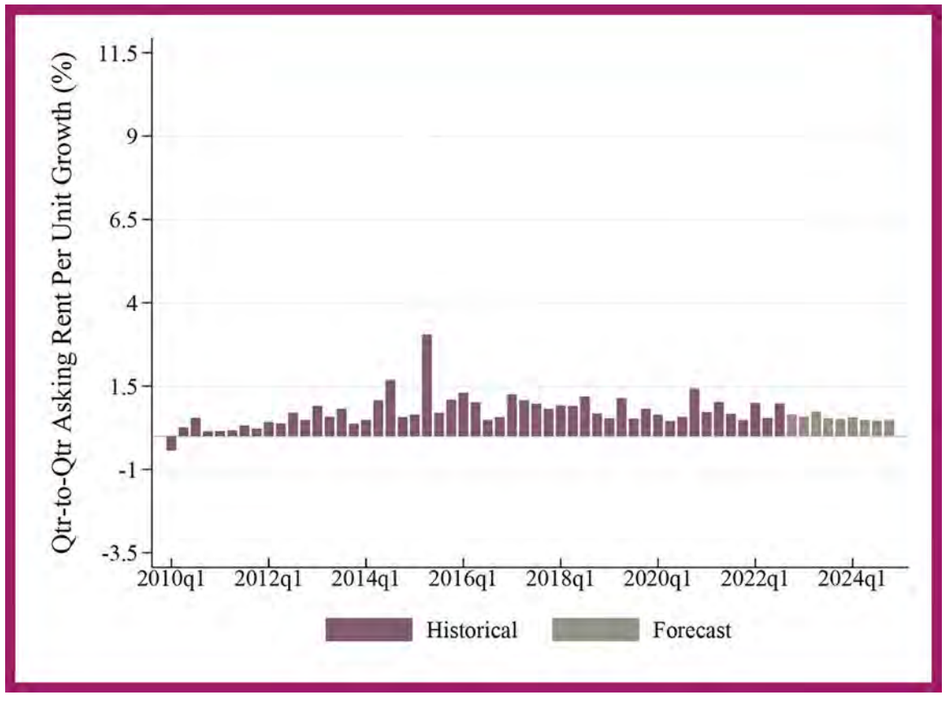
Outlying Ventura County Migration since the start of COVID-19

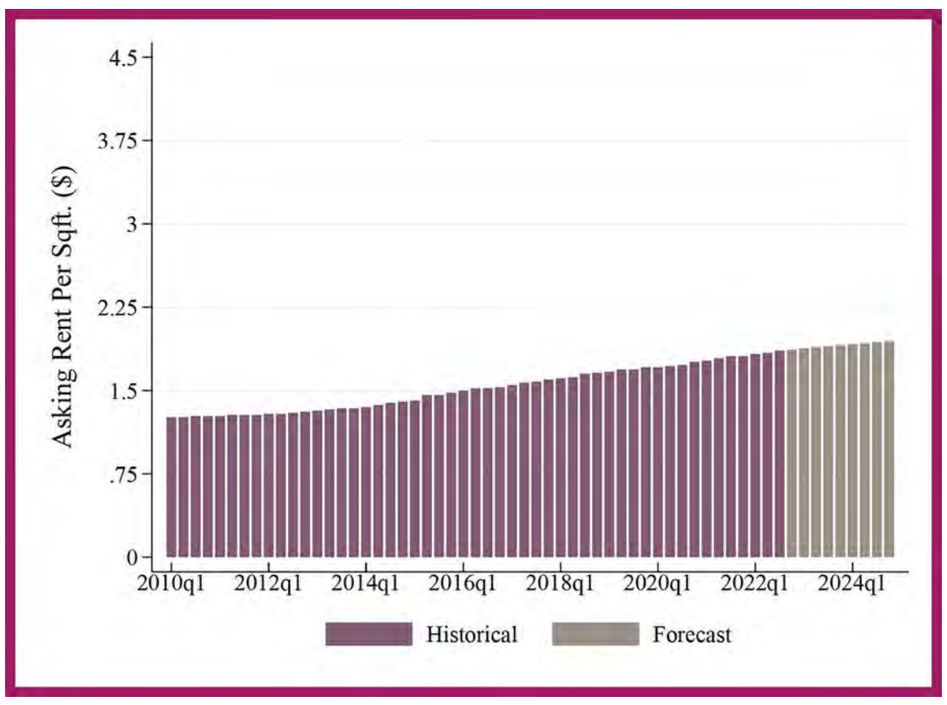


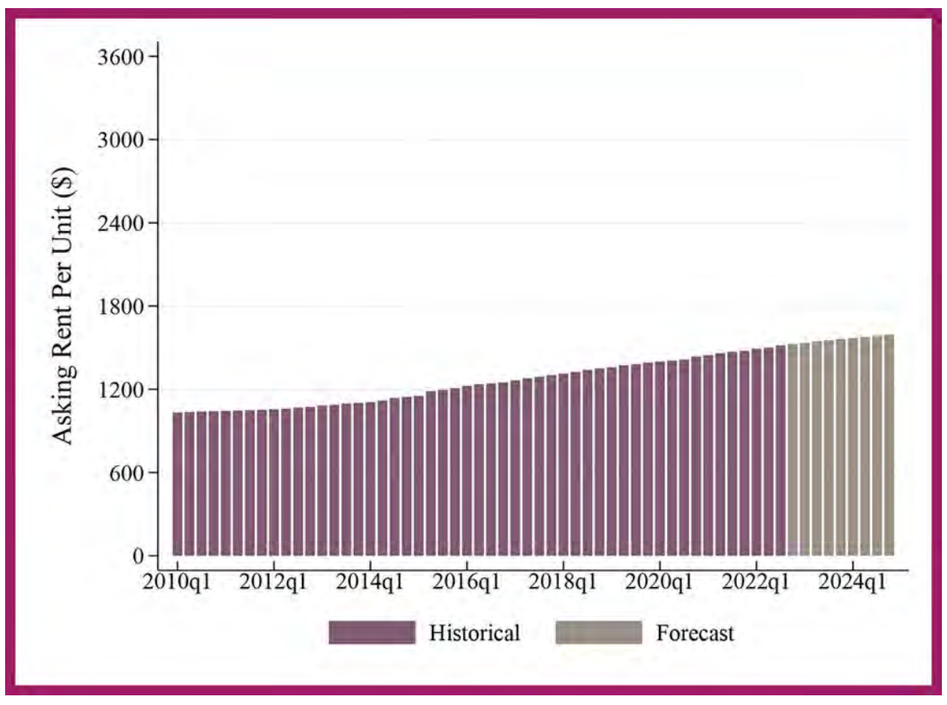
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Outlying Ventura County · Asking Rents · Ventura County, 2010-2024



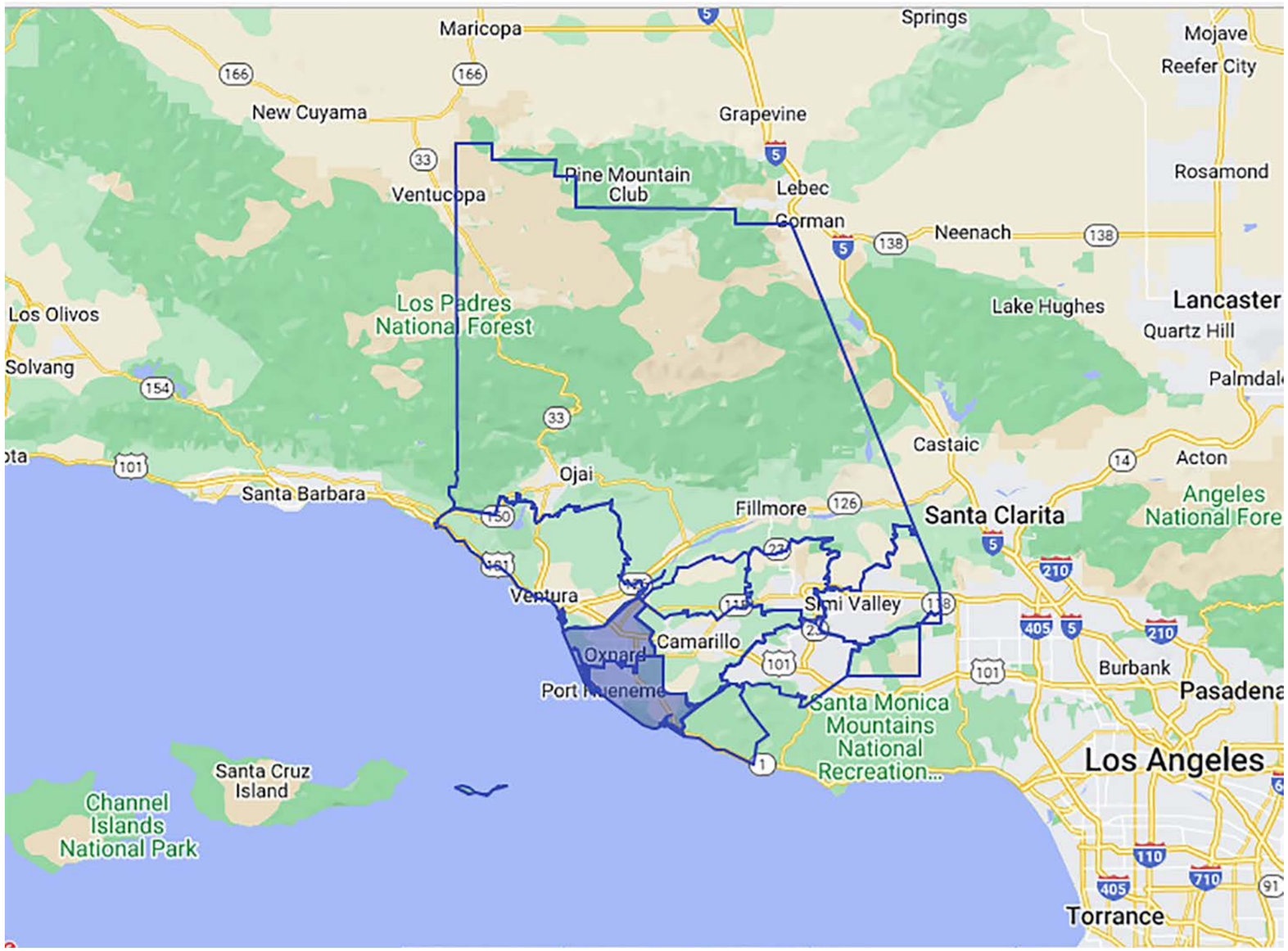






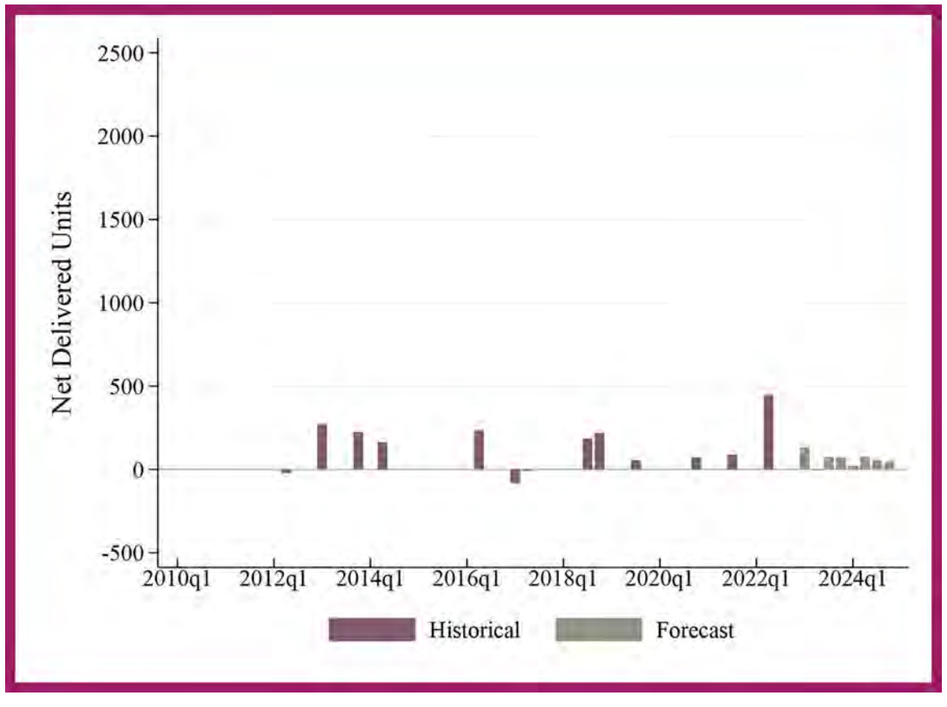
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

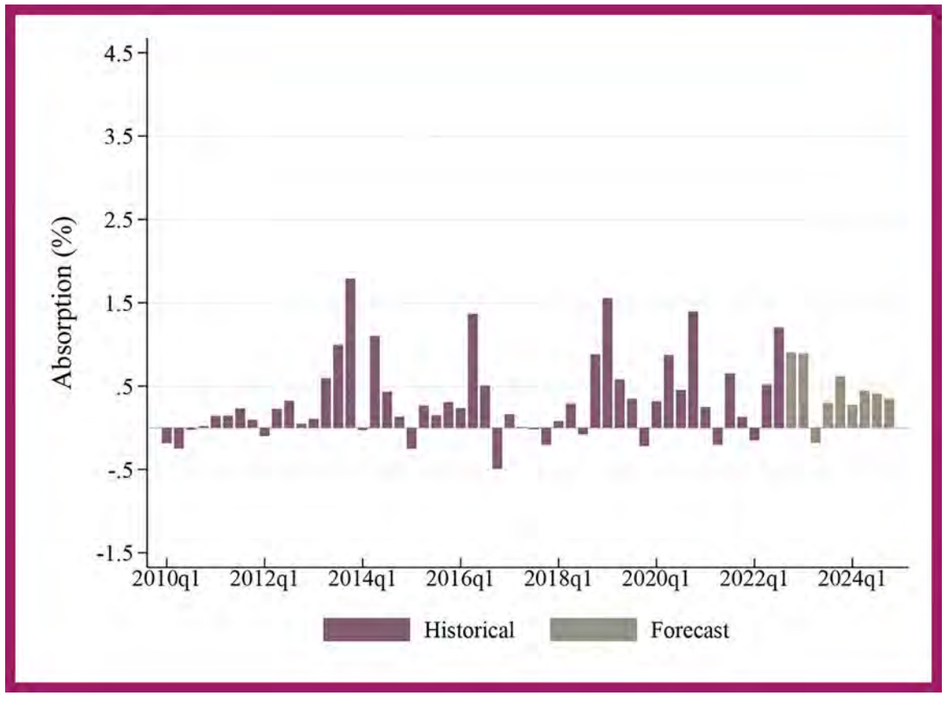
Oxnard- Port Hueneme

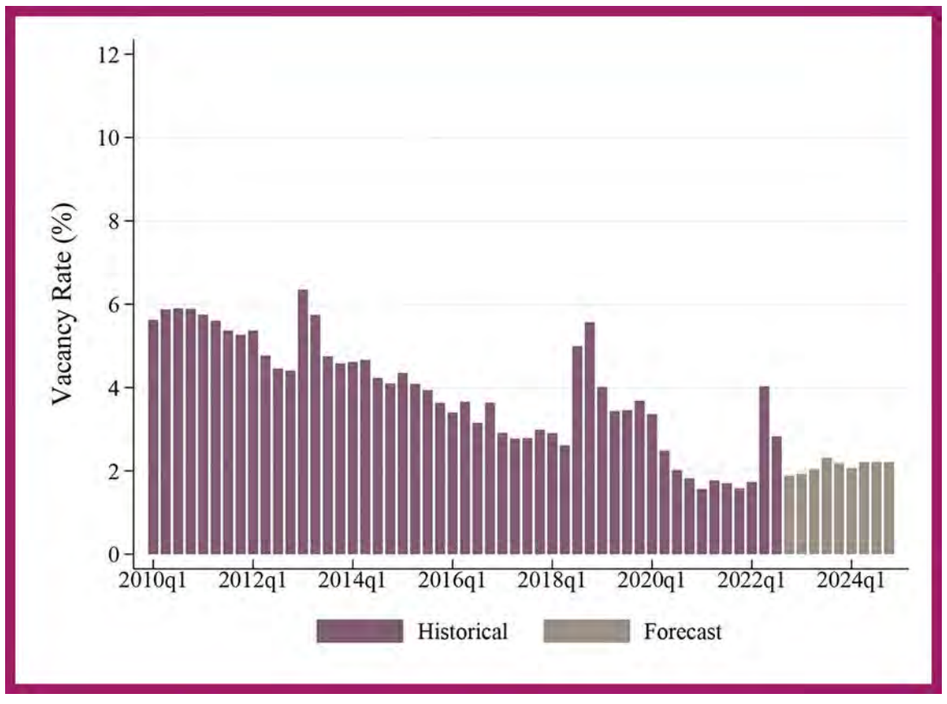


Source: CoStar

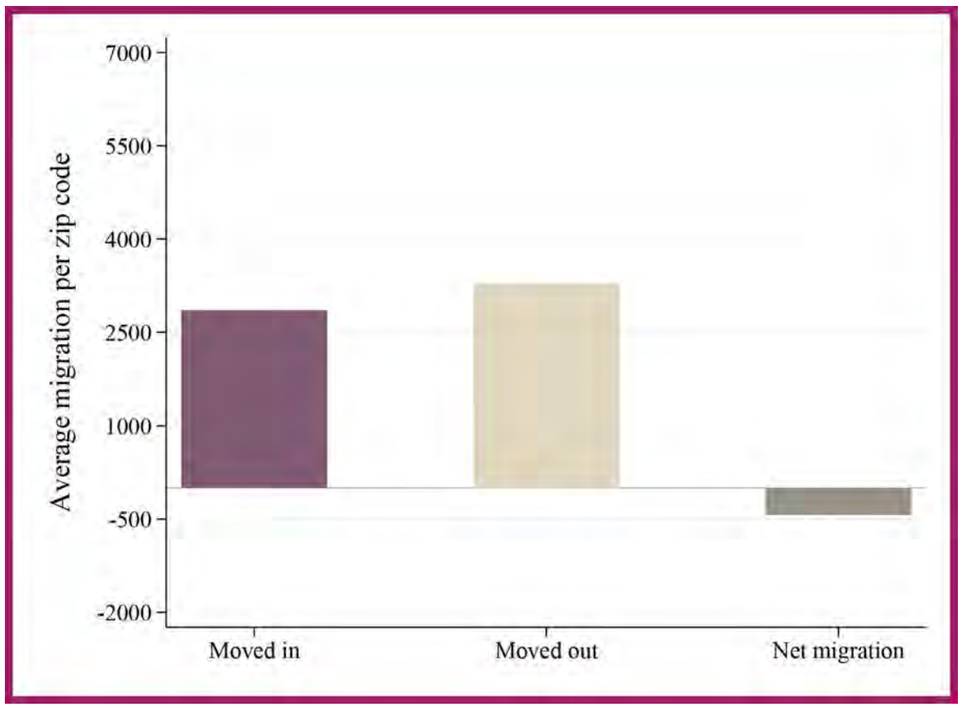
Oxnard- Port Hueneme · Delivered Units, Absorption, Vacancy, and Migration · Ventura County, 2010-2024





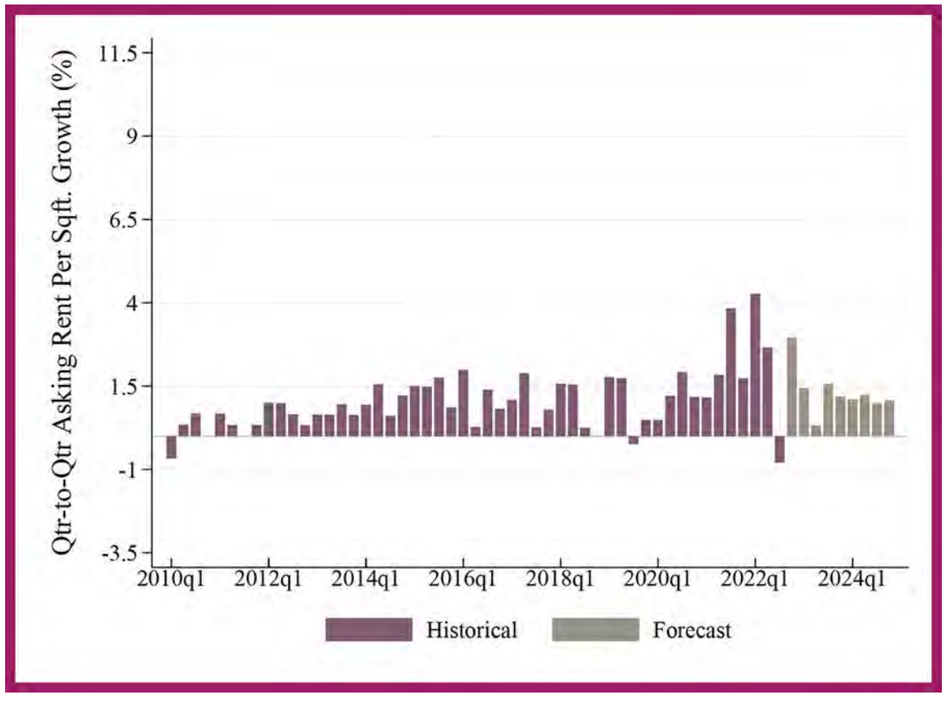


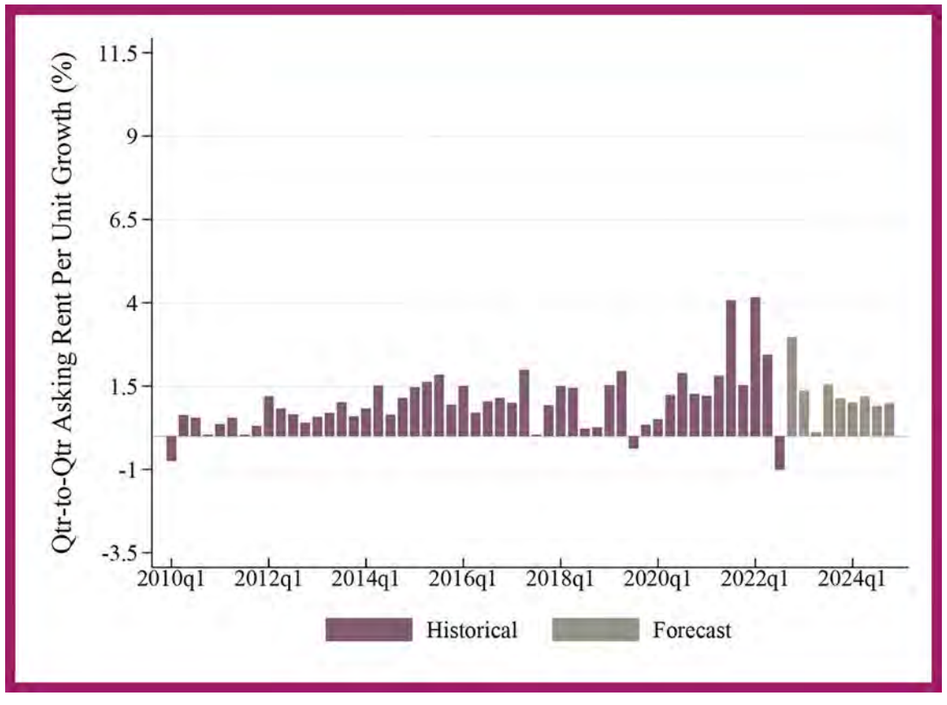
Oxnard- Port Hueneme Migration since the start of COVID-19

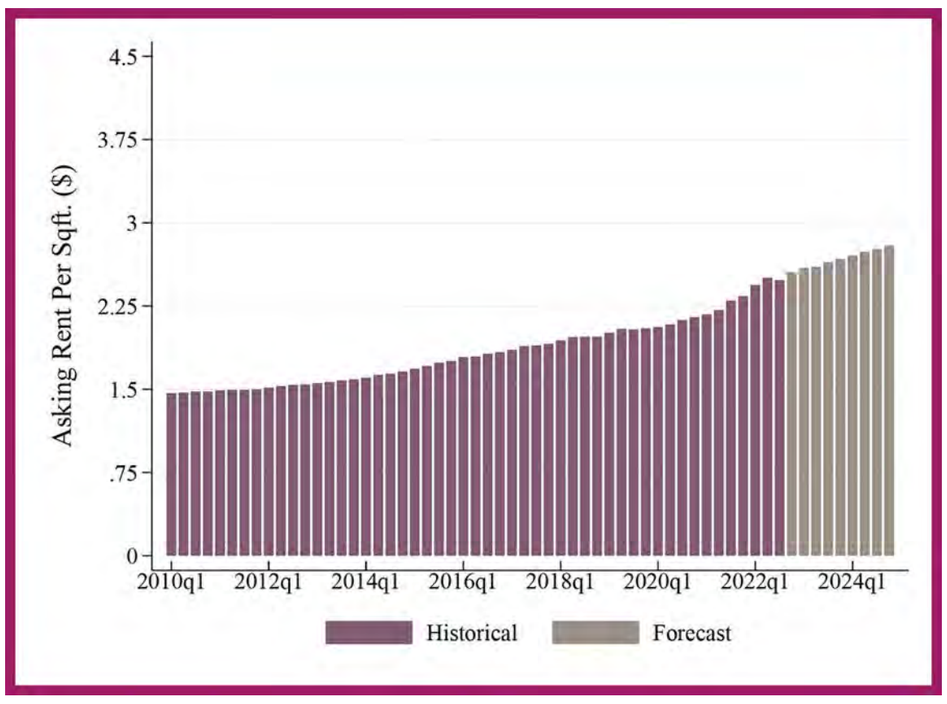


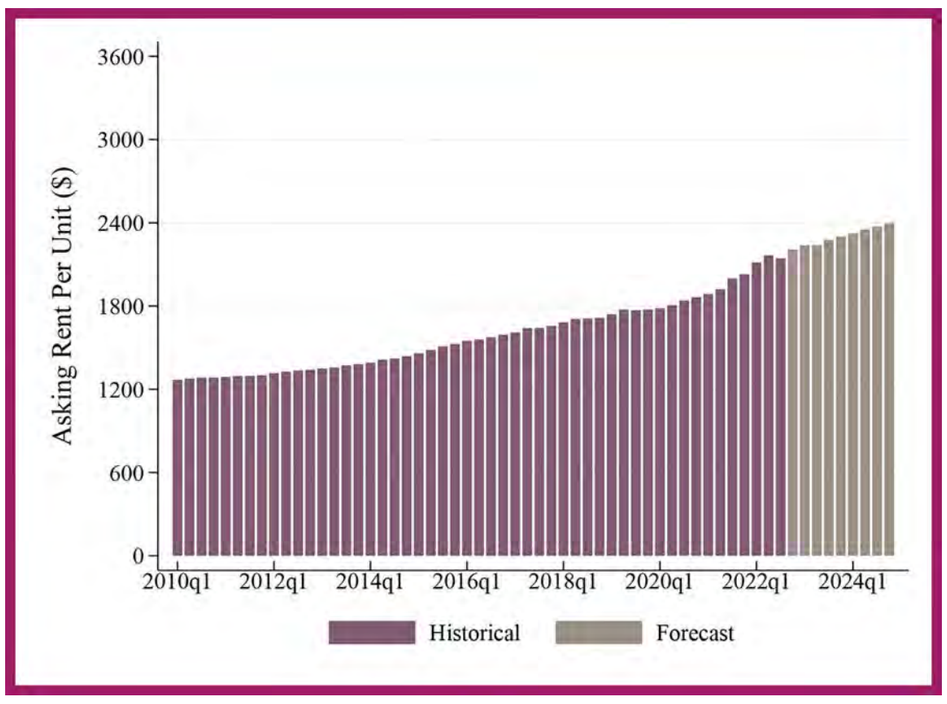
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Oxnard- Port Hueneme · Asking Rents · Ventura County, 2010-2024



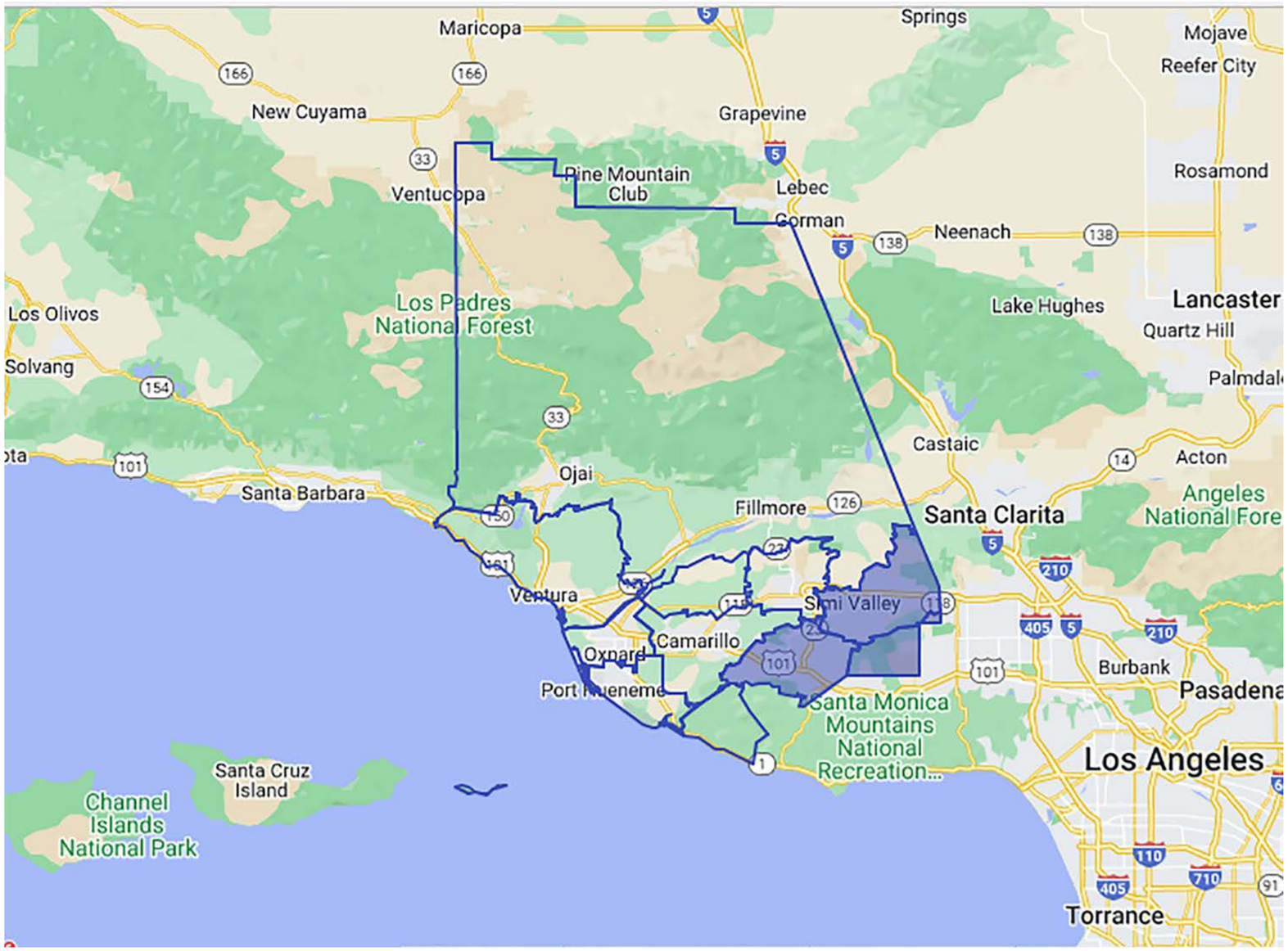






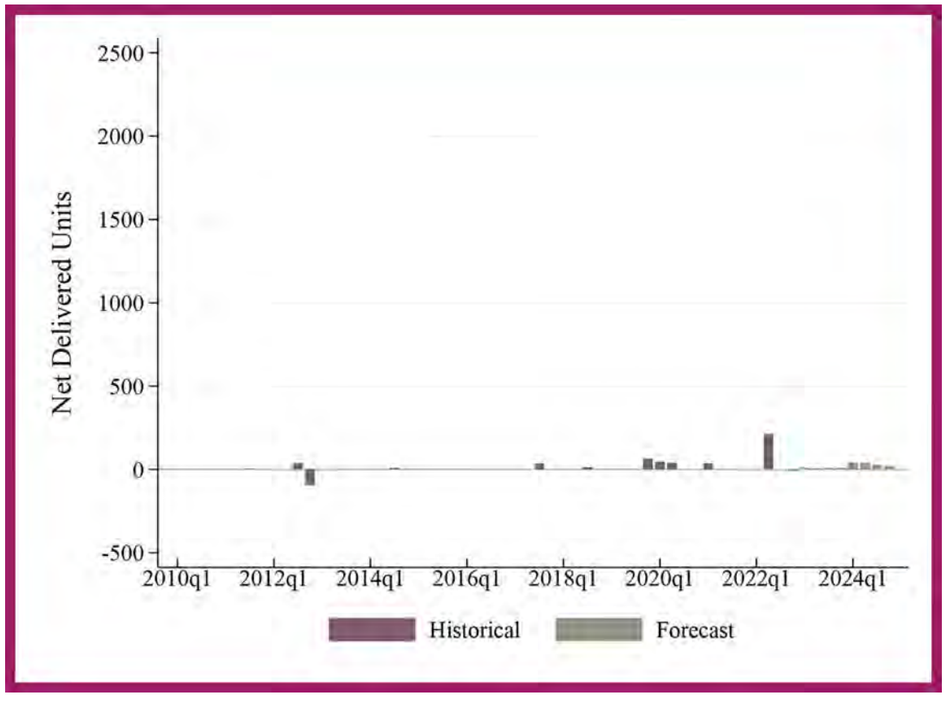
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

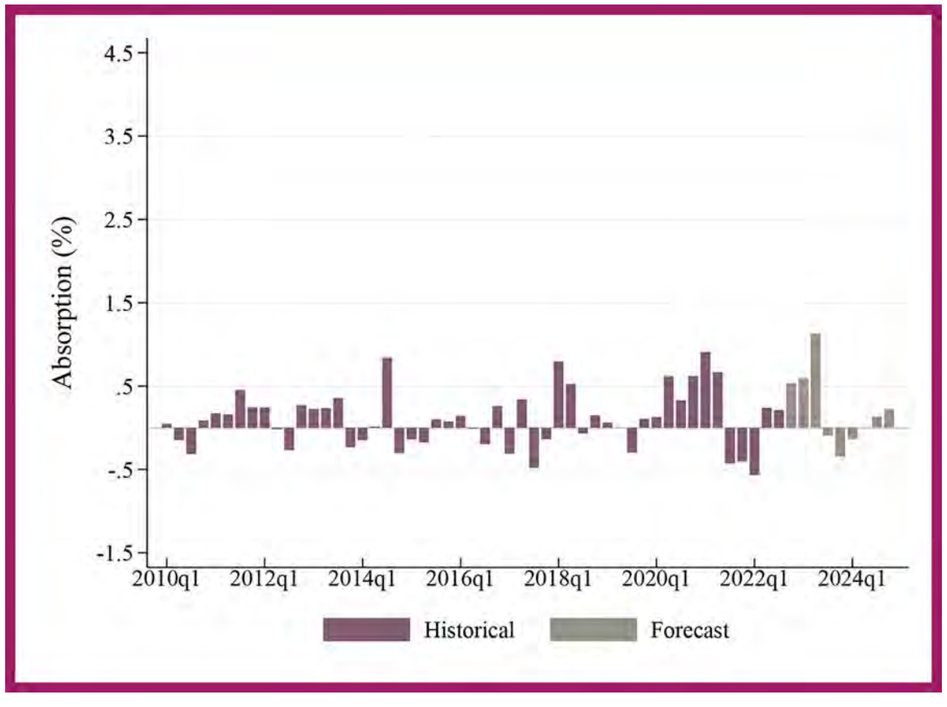
Simi Valley- Thousand Oaks

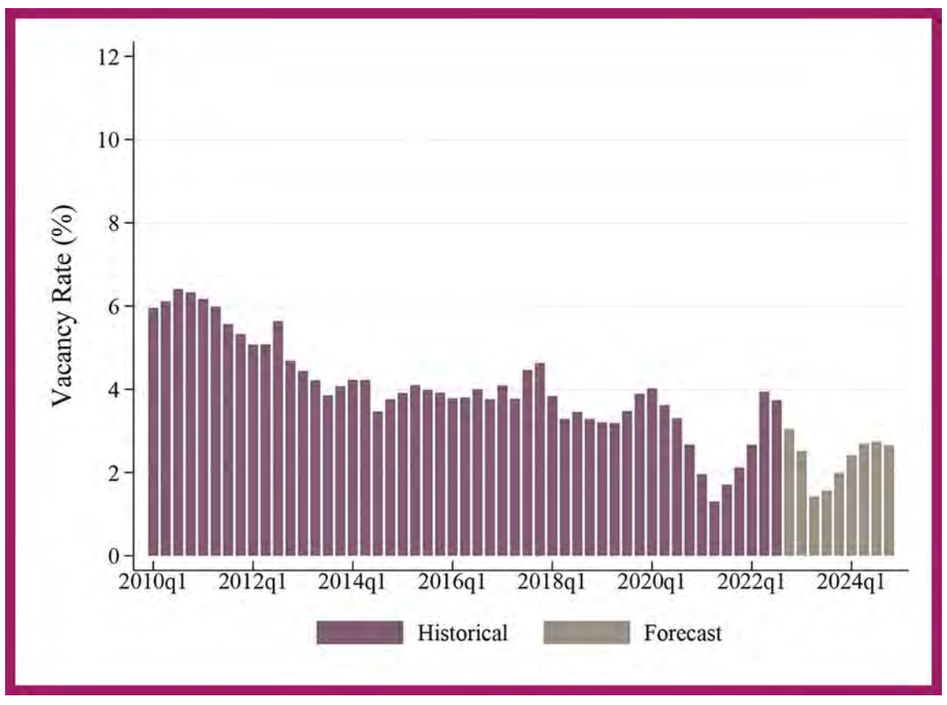


Source: CoStar

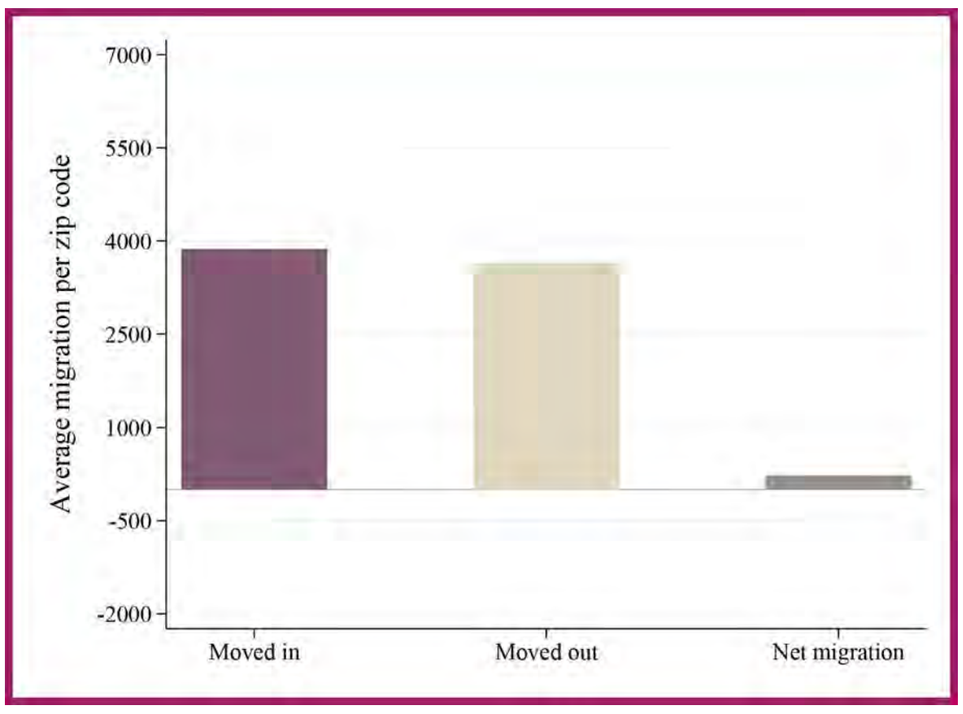
Simi Valley- Thousand Oaks · Delivered Units, Absorption, Vacancy, and Migration · Ventura County, 2010-2024





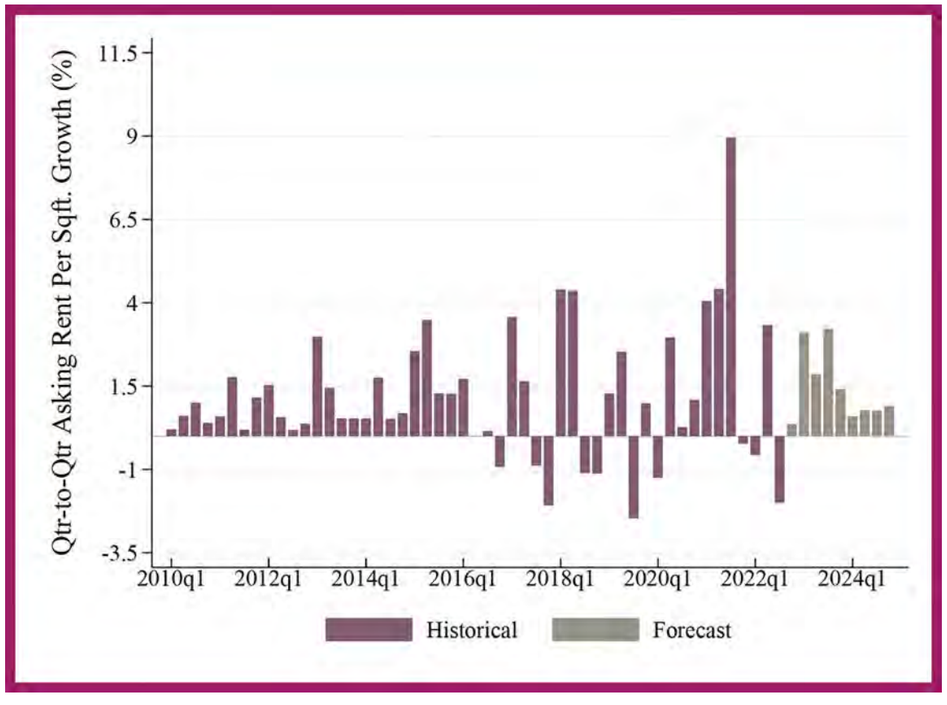


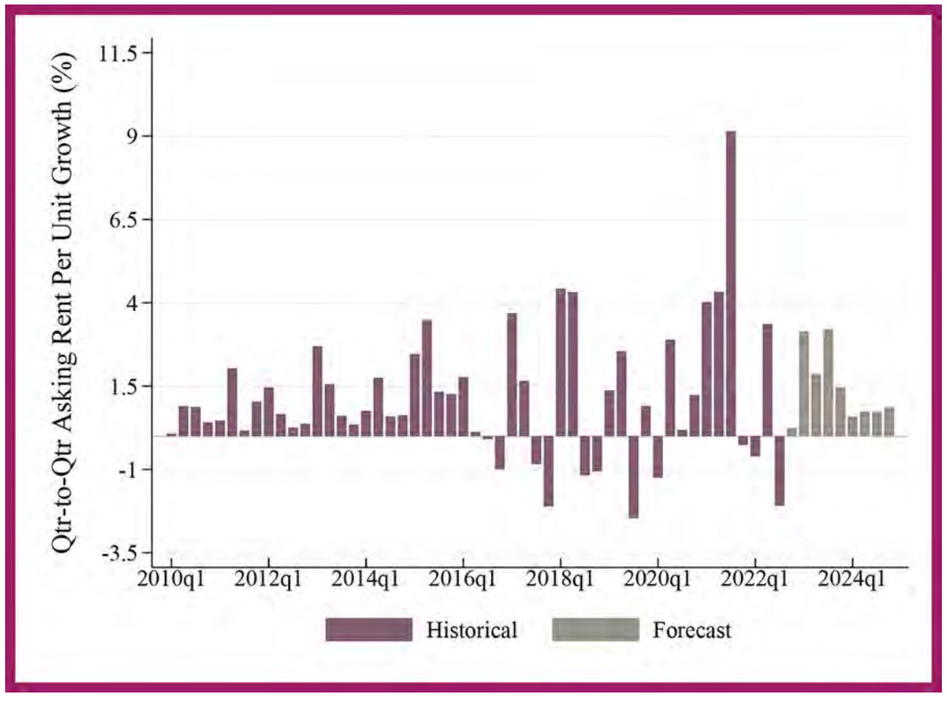
Simi Valley- Thousand Oaks Migration since the start of COVID-19

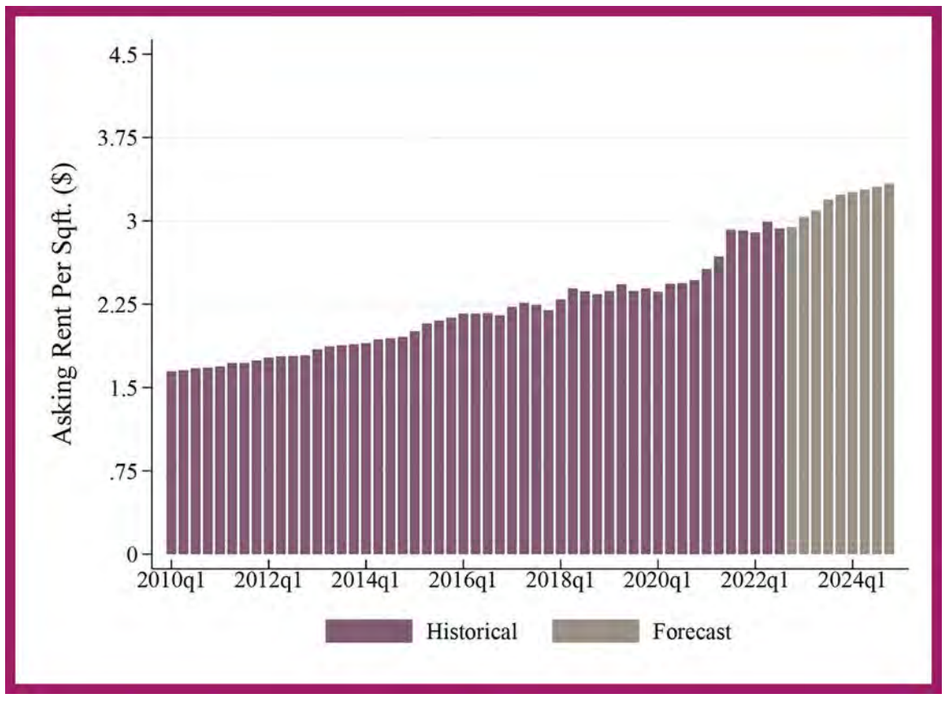


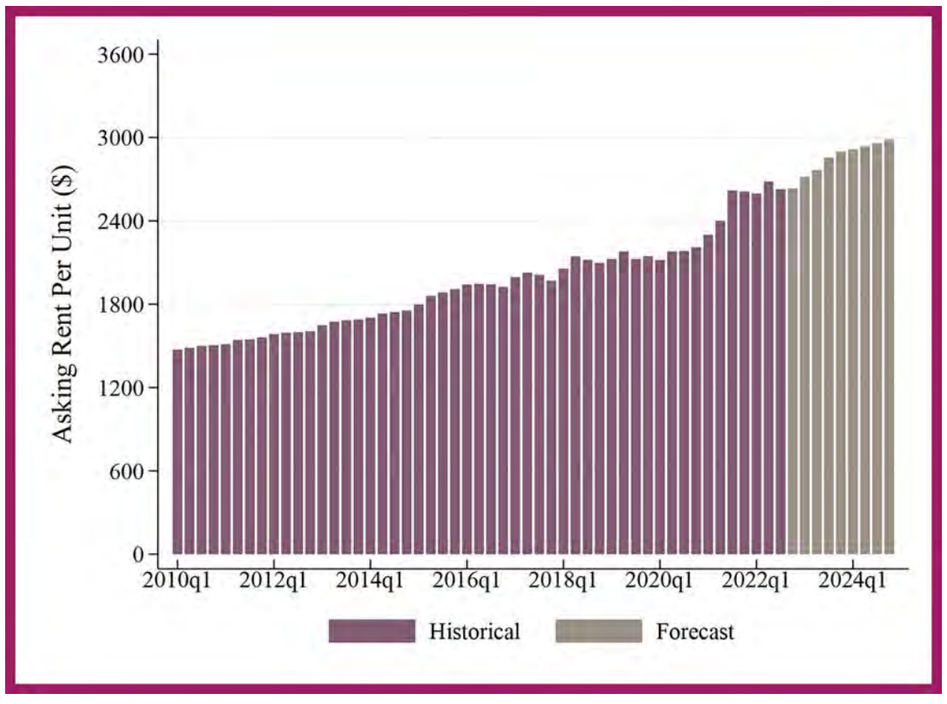
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Simi Valley- Thousand Oaks · Asking Rents · Ventura County, 2010-2024



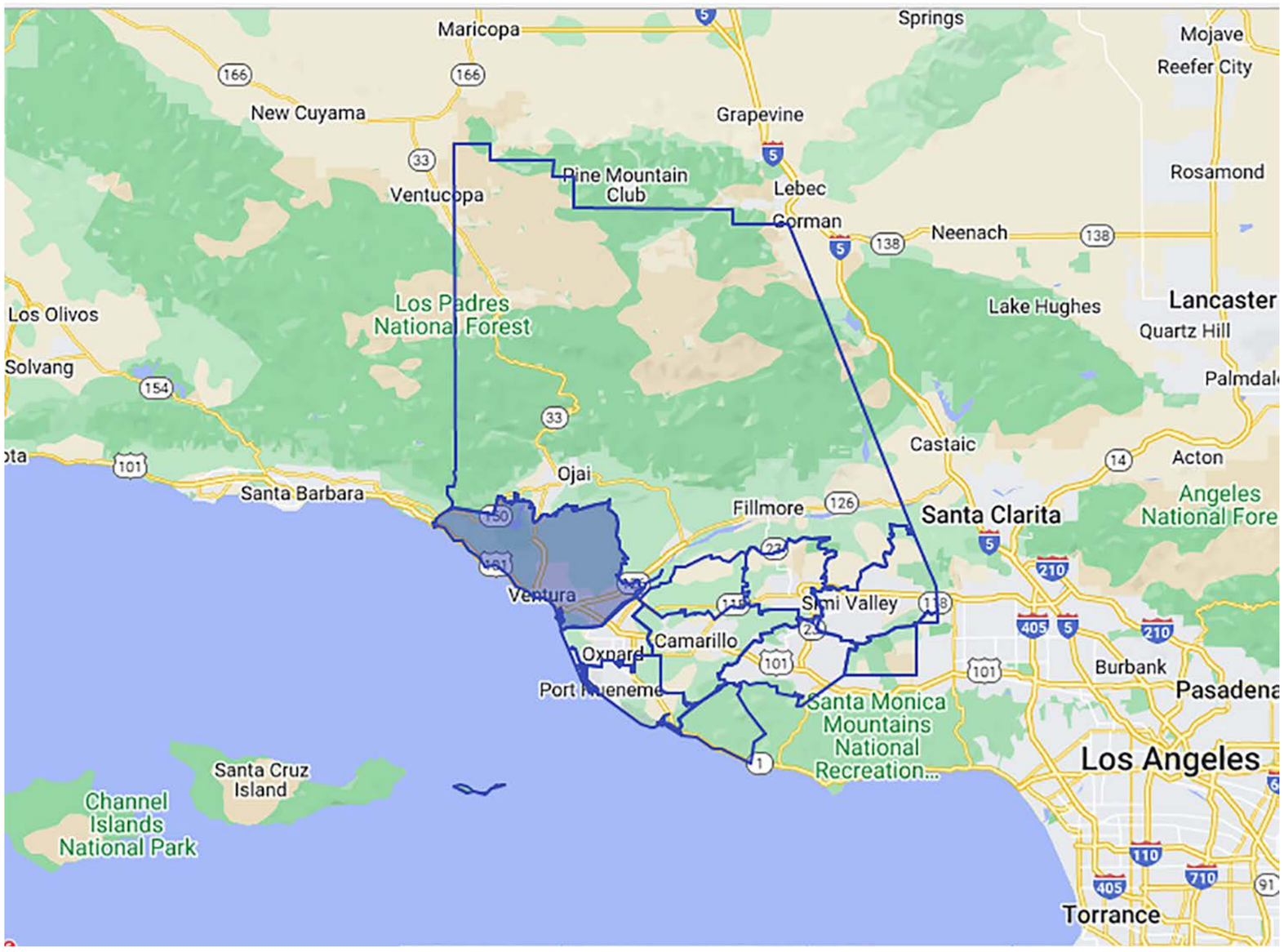






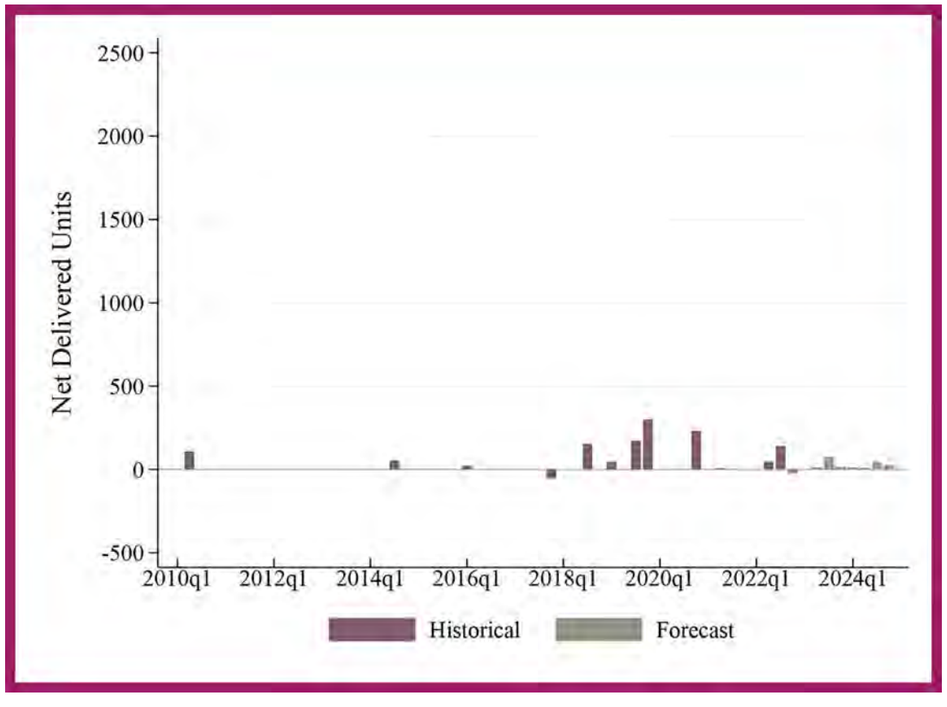
Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

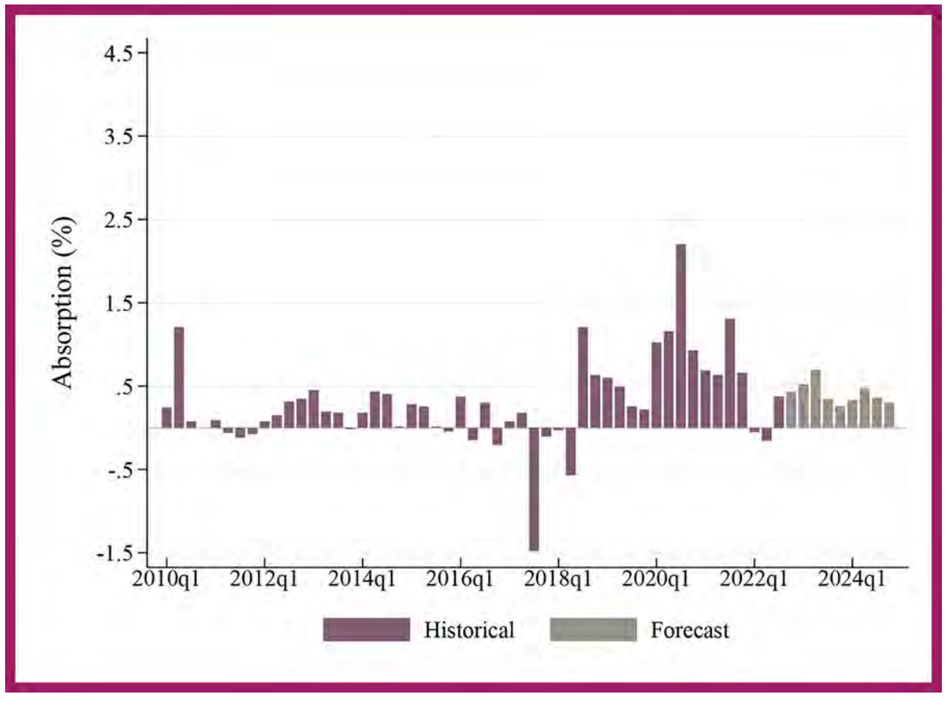
Ventura

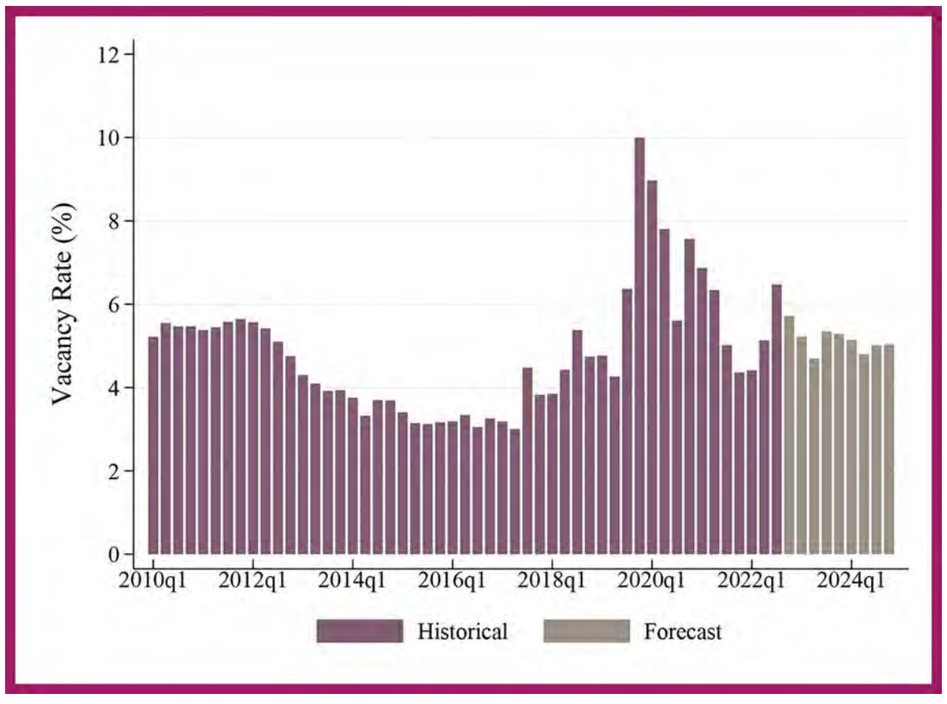


Source: CoStar

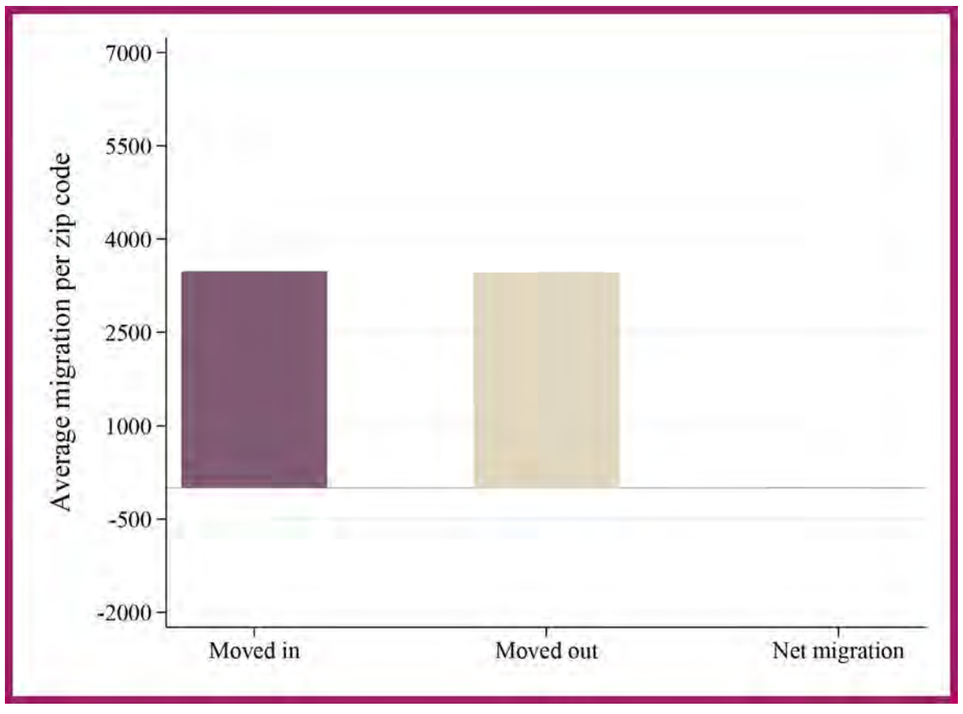
Ventura · Delivered Units, Absorption, Vacancy, and Migration · Ventura County, 2010-2024







Ventura Migration since the start of COVID-19



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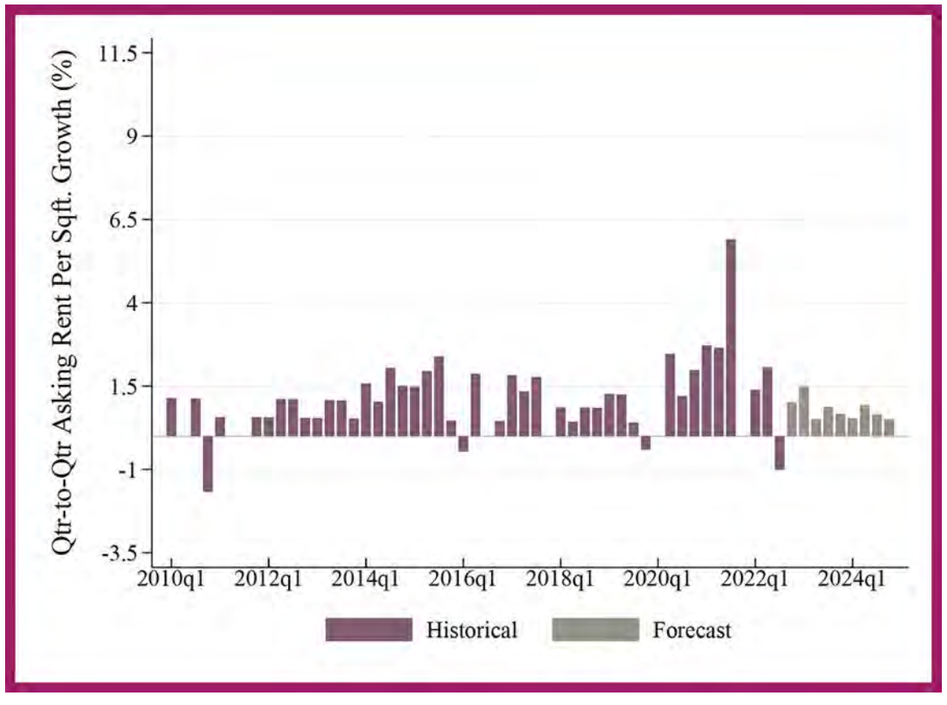
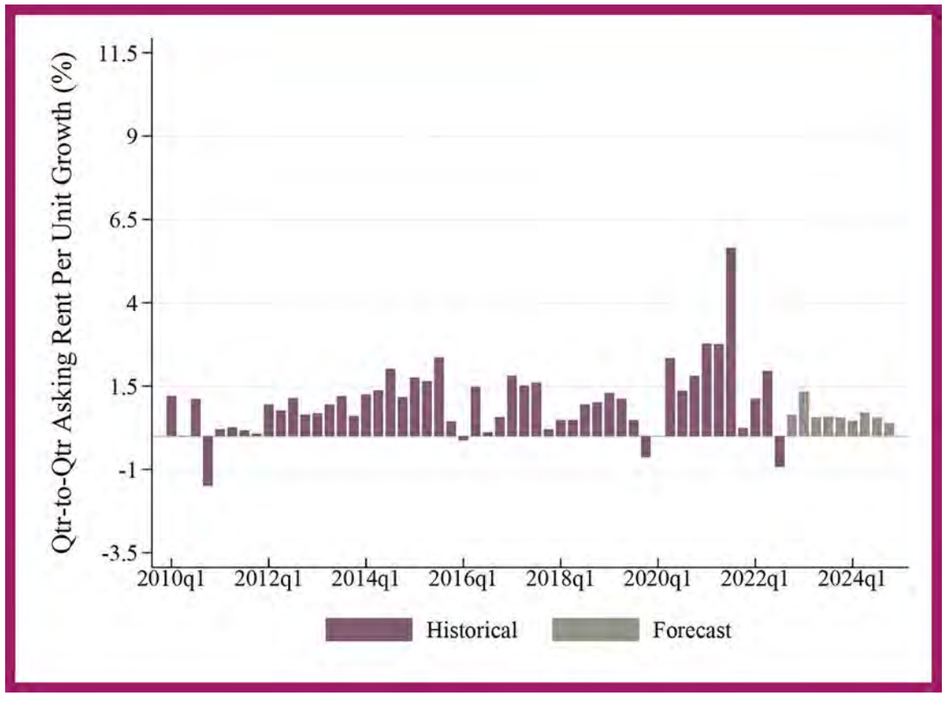
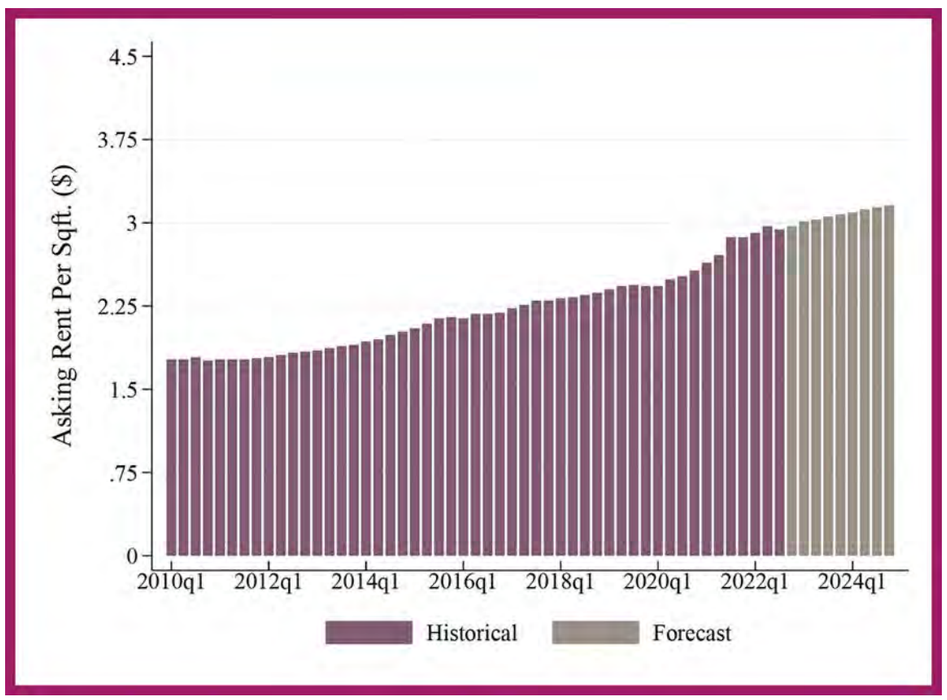
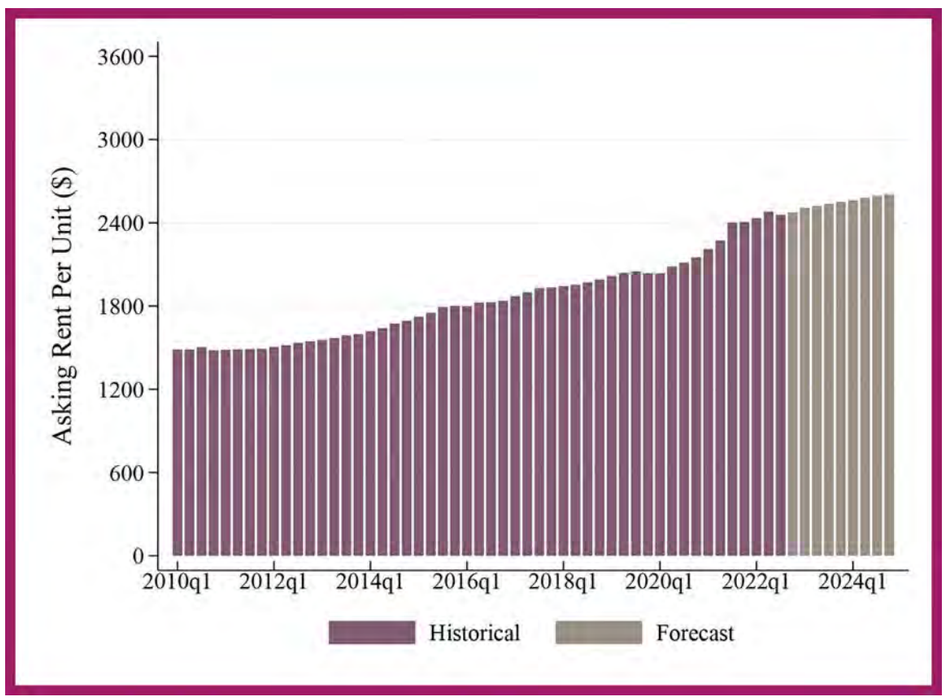
Ventura · Asking Rents · Ventura County, 2010-2024









Source: USC Casden forecasts based on CoStar data and USPS net-migration data.

Camarillo-Moorpark-Newbury Park Renters

Race	
White	55%
Black	1%
Asian	3%
Hispanic	15%
Others	26%
Education	
Less than HS	35%
HS diploma	17%
Some college	29%
Bachelors degree	11%
Graduate degree	8%
Rental units by size of structure	
1 unit	58%
2-4 units	6%
5-9 units	8%
10-19 units	11%
20+ units	17%
Rental units by age of structure	
Before 1970	14%
1970-1999	61%
2000 and after	25%
Household statistics	
Share of households that are renting	34%
Share of rent-burdened households*	54%
Percent with children	48%
Median household income	$71,000
Average household size	2.76
Migration statistics for last year	
Percent living in same house	83%
Percent moved within California	16%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Outlying Ventura County Renters

Race	
White	26%
Black	5%
Asian	1%
Hispanic	17%
Others	51%
Education	
Less than HS	50%
HS diploma	14%
Some college	23%
Bachelors degree	8%
Graduate degree	6%
Rental units by size of structure	
1 unit	70%
2-4 units	11%
5-9 units	2%
10-19 units	5%
20+ units	12%
Rental units by age of structure	
Before 1970	52%
1970-1999	42%
2000 and after	6%
Household statistics	
Share of households that are renting	37%
Share of rent-burdened households*	60%
Percent with children	45%
Median household income	$48,400
Average household size	2.64
Migration statistics for last year	
Percent living in same house	91%
Percent moved within California	6%
Percent moved from other states to California	3%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Oxnard- Port Hueneme Renters

Race	
White	15%
Black	2%
Asian	4%
Hispanic	23%
Others	56%
Education	
Less than HS	56%
HS diploma	18%
Some college	16%
Bachelors degree	7%
Graduate degree	3%
Rental units by size of structure	
1 unit	50%
2-4 units	20%
5-9 units	7%
10-19 units	10%
20+ units	13%
Rental units by age of structure	
Before 1970	39%
1970-1999	48%
2000 and after	13%
Household statistics	
Share of households that are renting	46%
Share of rent-burdened households*	57%
Percent with children	68%
Median household income	$60,200
Average household size	3.46
Migration statistics for last year	
Percent living in same house	93%
Percent moved within California	6%
Percent moved from other states to California	1%
Percent moved from abroad	0%

Simi Valley- Thousand Oaks Renters

Race	
White	55%
Black	2%
Asian	6%
Hispanic	5%
Others	32%
Education	
Less than HS	28%
HS diploma	18%
Some college	30%
Bachelors degree	15%
Graduate degree	9%
Rental units by size of structure	
1 unit	48%
2-4 units	13%
5-9 units	13%
10-19 units	6%
20+ units	19%
Rental units by age of structure	
Before 1970	22%
1970-1999	65%
2000 and after	13%
Household statistics	
Share of households that are renting	32%
Share of rent-burdened households*	55%
Percent with children	43%
Median household income	$70,000
Average household size	2.42
Migration statistics for last year	
Percent living in same house	85%
Percent moved within California	12%
Percent moved from other states to California	3%
Percent moved from abroad	0%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

Ventura Renters

Race	
White	43%
Black	1%
Asian	4%
Hispanic	14%
Others	38%
Education	
Less than HS	28%
HS diploma	17%
Some college	30%
Bachelors degree	19%
Graduate degree	6%
Rental units by size of structure	
1 unit	37%
2-4 units	11%
5-9 units	15%
10-19 units	9%
20+ units	29%
Rental units by age of structure	
Before 1970	40%
1970-1999	46%
2000 and after	14%
Household statistics	
Share of households that are renting	44%
Share of rent-burdened households*	56%
Percent with children	38%
Median household income	$67,000
Average household size	2.28
Migration statistics for last year	
Percent living in same house	86%
Percent moved within California	12%
Percent moved from other states to California	1%
Percent moved from abroad	1%

Source: 2020 American Community Survey • *Rent burden is the share of households whose rent payments exceed 30% of income.

TECHNICAL NOTES

Overall Disclaimer

Some of the data in this report was gathered from third party sources and was not independently verified. The Casden Forecast does not make any warranties or representations as to the completeness or accuracy thereof.

METHODOLOGY

- *Quarterly data on rents, vacancies, absorption rates, and net deliveries for rental housing with 2 or more units come from CoStar at the CoStar sub-market level for 2000-2022 Q3. Sub-markets were aggregated manually by the researchers to geographies that were made as similar as possible to the PUMA-based geographies used for reporting demographic data.*
- *County-level employment quotients come from the U.S. Bureau of Labor Statistics for the year 2022 Q1.*
- *Metro-level building permit data come from the U.S. Census Bureau for 2004 - 2021.*
- *All household, demographic, and housing statistics reported in the tables are obtained from the 2020 1-year American Community Survey at the PUMA level. PUMAs were then aggregated to match the sub-market geographies based on prior Casden reports.*
- *ZIP code-level migration data come from the U.S. Postal Service change-of-address information. ZIP codes are matched to sub-market geographies based on prior Casden reports.*
- *Forecasts presented in this report use standard time-series econometric techniques based on historical correlations of key housing variables including rents, vacancy rates, absorption rates, and unit construction at the quarterly level.*

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