Multilytics®
Rent Forecast
Accuracy Report

January–July 2023

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Executive Summary

Origin Multilytics® Rent Accuracy Report compares year-over-year rent growth predictions for Class A multifamily buildings in the U.S. from January to July 2023 with actual rents over the same period. These detailed market predictions were published in Multilytics Rent Forecast January 2023–January 2024 in February and first noted in December 2022. Rent growth data for the predictions is provided by Multilytics, our proprietary suite of machine-learning models. We use Multilytics to create the forecasts by aggregating data points ranging from the U.S. Census to local school rankings.

This report compares our predictions with actual rent data in the following areas:

- National, regional and gateway markets

- Origin's 15 investment markets: Austin, Dallas, Houston, San Antonio, Orlando, Tampa, Jacksonville, Nashville, Charlotte, Raleigh, Atlanta, Colorado Springs, Denver, Phoenix and Las Vegas

In February, we publicly predicted what Multilytics data had been telling us for more than a year: that early 2023 would be especially weak on a seasonally adjusted basis, and that many markets would approach or enter negative year-over-year rent growth for the first half of the year.

In general, that's how it has played out. Of our target markets, six recorded an average deviation within 1% of the point estimates, with Dallas recording a 0.04% deviation; four came within 1.0% to 2.0%; and four came in from 2.5% to 3.1%. Colorado Springs was the outlier, recording a deviation of 6.01%. In all cases where the forecast deviated, market rents were lower than estimated.
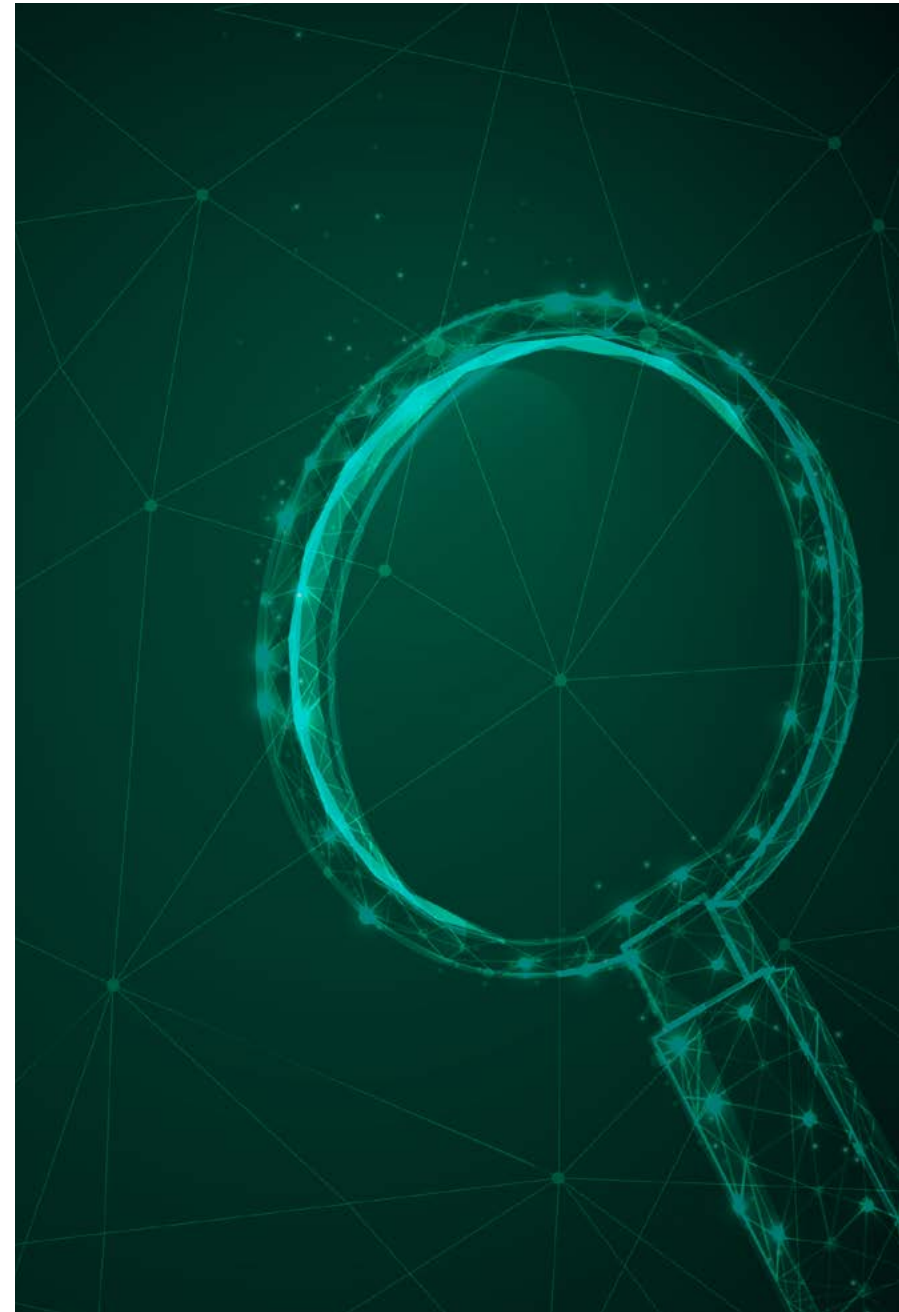
A Reckoning for Multifamily Real Estate

Introduction

For apartment dwellers in many markets in the United States, double-digit percentage hikes in rent have cooled, and living options are increasing as a near-record number of apartments come online—welcome news after two years when wage increases couldn't keep up with inflation. Rents aren't just cooling but reversing: According to Apartment List, 67 of the nation's top 100 most populous cities have seen negative year-over-year (YOY) rent growth as of July 2023.
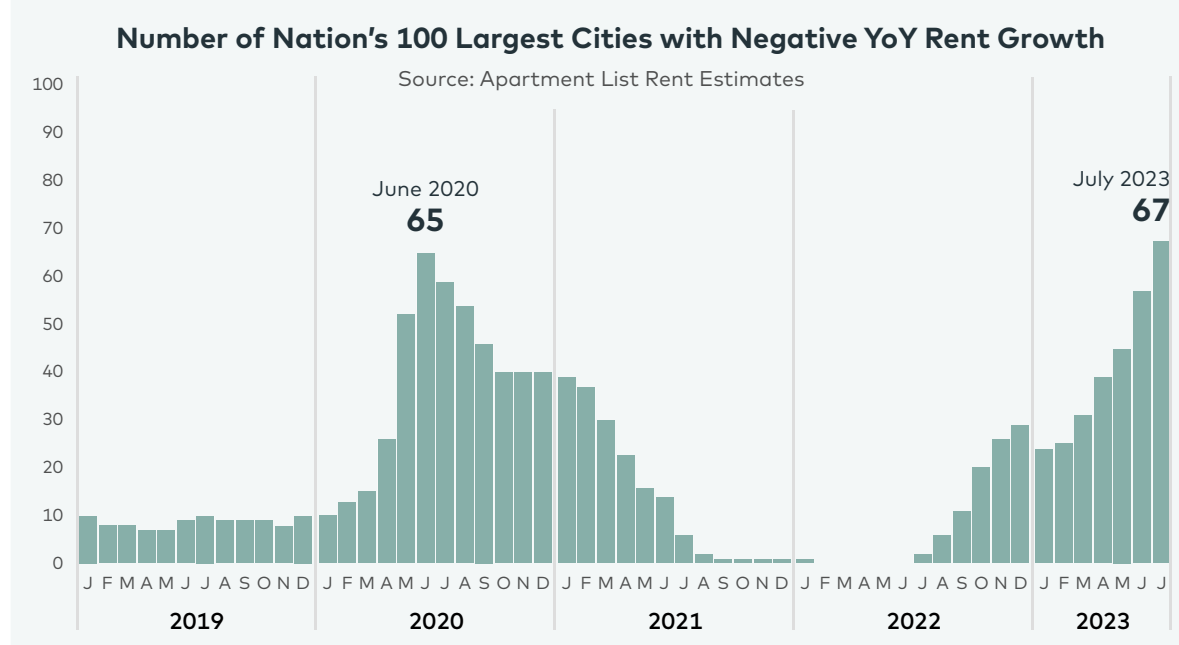
But as recently as late 2022, depending on the market, observers were predicting that YOY rent growth would remain above average—either way, still landing squarely in positive territory. We were the dissonant voice in that chorus: Origin Multilytics®, our proprietary suite of machine-learning models, had been projecting since late 2021 that YOY rent growth in Class A multifamily buildings would turn negative. In December 2022, we published our top 10 predictions for 2023, which included negative rent growth. As far as we are aware, we were the only market observer forecasting negative rent growth at that

time. And early this year, we published the Multilytics Rent Forecast for January 2023 to January 2024, putting percentages to the predictions for our target markets.

We rely on Multilytics to add critical, data-driven dimension to our study of submarkets down to the property level. With our February report, we put a stake in the ground to make its predictions public; in this

report, we are benchmarking the results—a public confirmation and commitment to be accountable to our investors.

To say that we are proud of the results is an understatement. We believe that Multilytics provides the most accurate predictions of rent that are commercially available, and that we outperform other market observers in terms of accuracy.

Number of Nation's 100 Largest Cities with Negative YoY Rent Growth

Source: Apartment List Rent Estimates

June 2020
65

July 2023
67

The numbers speak for themselves: Of our target markets, five came within $15 of the prediction; nine came within $55; one, Colorado Springs, recorded an average YOY rent deviation of $91.48, 6.01% from our prediction. We expect reality to converge with our forecast in the second half of the year, as we had predicted that any month-over-month summer rent growth would quickly recede. In all cases where the forecast deviated, market rents were lower than estimated.

Compared with several other market observers making similar estimates, our predictions were the most bearish. Take Austin: In February, we predicted YOY rent growth to fall to 1.17% over the next six months. Actual data showed that we were off by 3.07%. But other market observers believed that YOY rent growth would remain above 6%—well above average—in Austin throughout the year.

Market Correction

Negative YOY rent growth is emerging as multifamily real estate developers and investors deal with a host of challenges. The COVID-19 pandemic accelerated migration to lower-cost, tax-friendly and warm-weather states, even as it disrupted construction material supply chains. Buyers confident that rising rents would cover their low-cost debt fueled an overheated market for multifamily. But rising inflation in early 2022 kicked off a drumbeat of interest rate hikes that is expected to reverberate into 2024. Now, projects begun in more optimistic times are pinched by rising operating expenses and the contraction of high-cost credit.

We believe the current environment is a difficult correction necessary to encourage longer-term health in multifamily. While these periods are unsettling, their relative rarity speaks to the strength of multifamily housing as a long-term investment. In November, we will provide a full-year rent growth outlook for 2024 based on Multilytics' insights, but we believe our target markets will return to positive territory next year.

At Origin, we have anticipated and prepared for negative rent growth since late 2021. Guided by our conservative approach to risk management and the expertise of our experienced deal managers, we are positioned not only to navigate this challenging environment but to seek out emerging opportunities in credit and preferred equity.
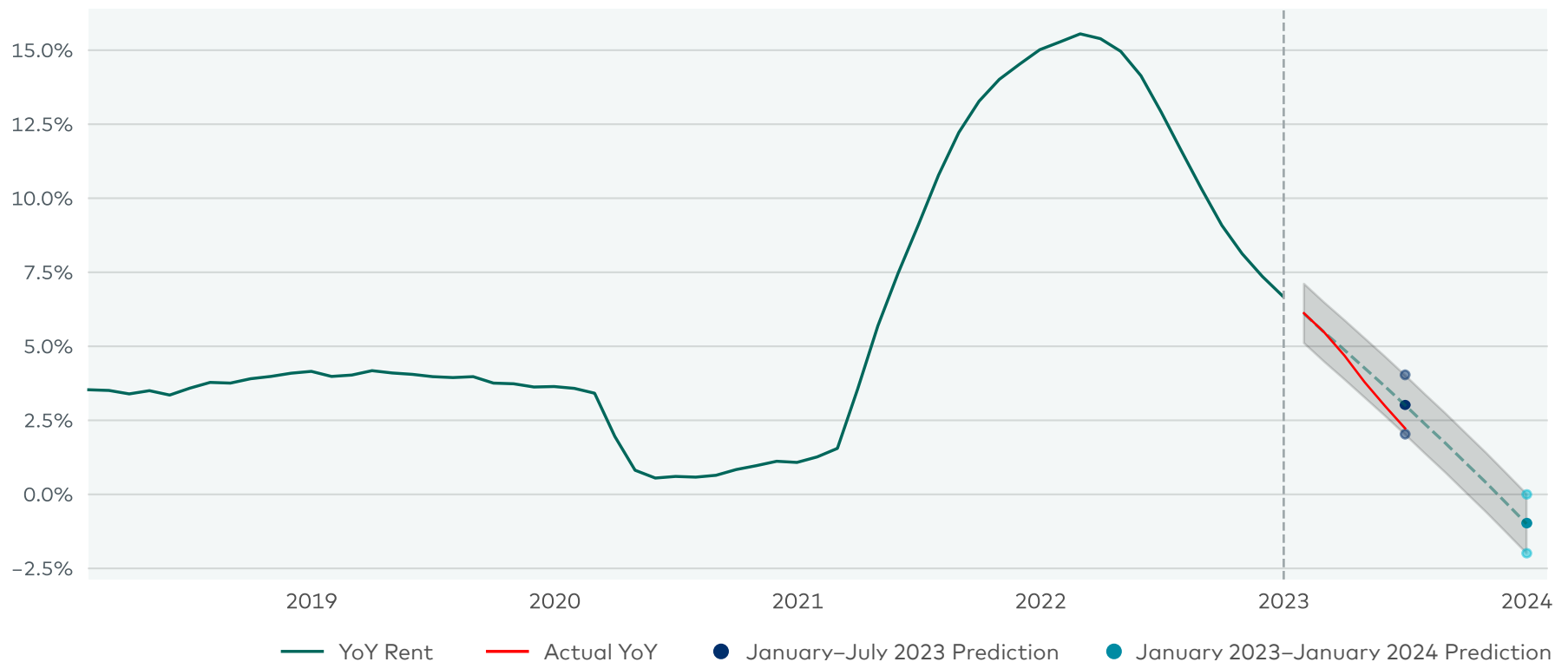
Rent Outlook
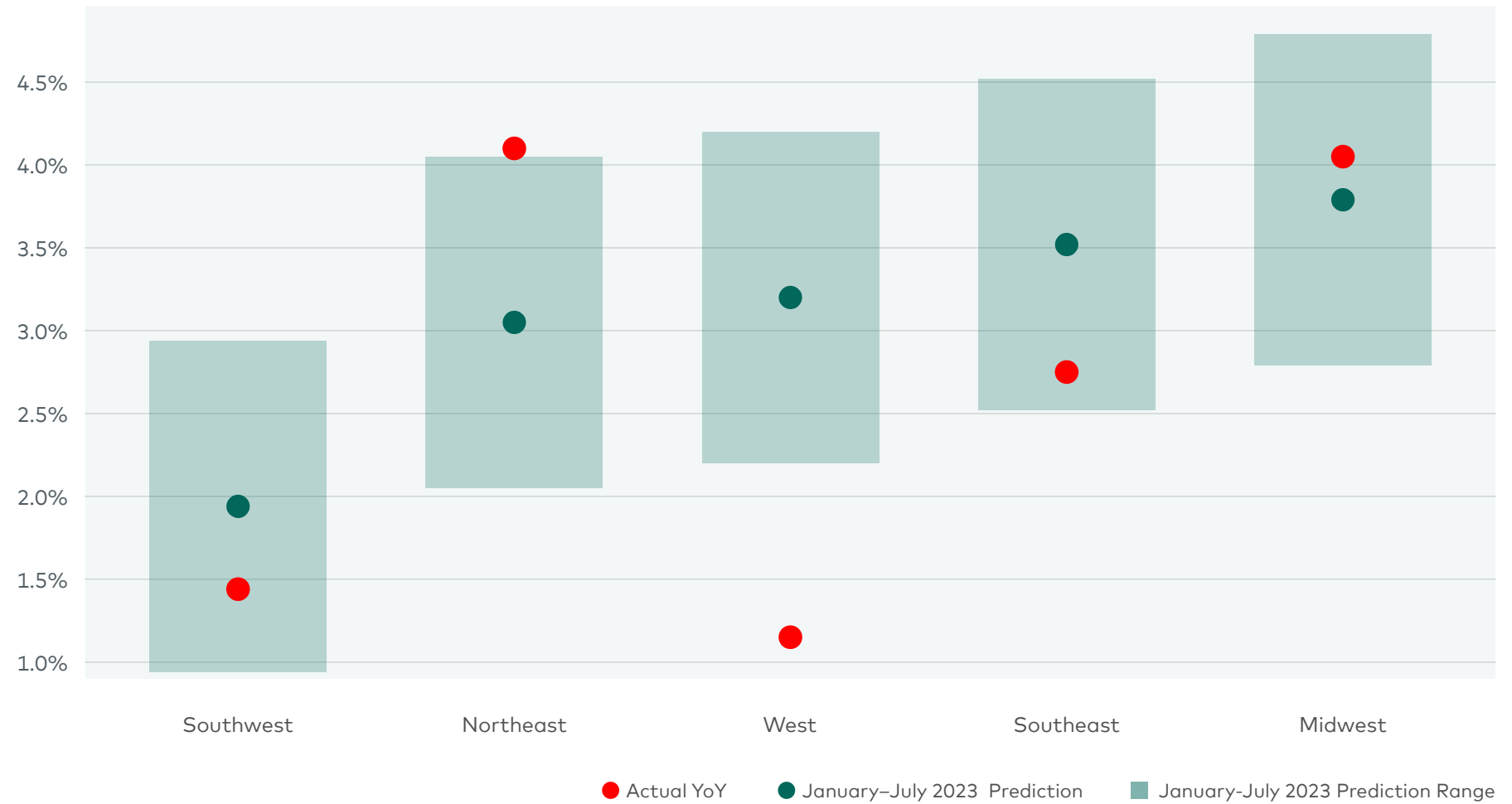## National, Regional and Gateway Markets Accuracy

Summary

We forecasted national year-over-year rent growth of 3.01% for July 2023. With actual growth of 2.22%, our prediction was optimistic, but less so than broader market sentiment and third-party forecasts. The deviation from our point estimate was driven in part by a pronounced rise in vacancies on a seasonally adjusted basis when accounting for new supply. We projected that the first half of 2023 would be especially weak on a seasonally adjusted basis despite month-over-month increases, and this turned out to be accurate.
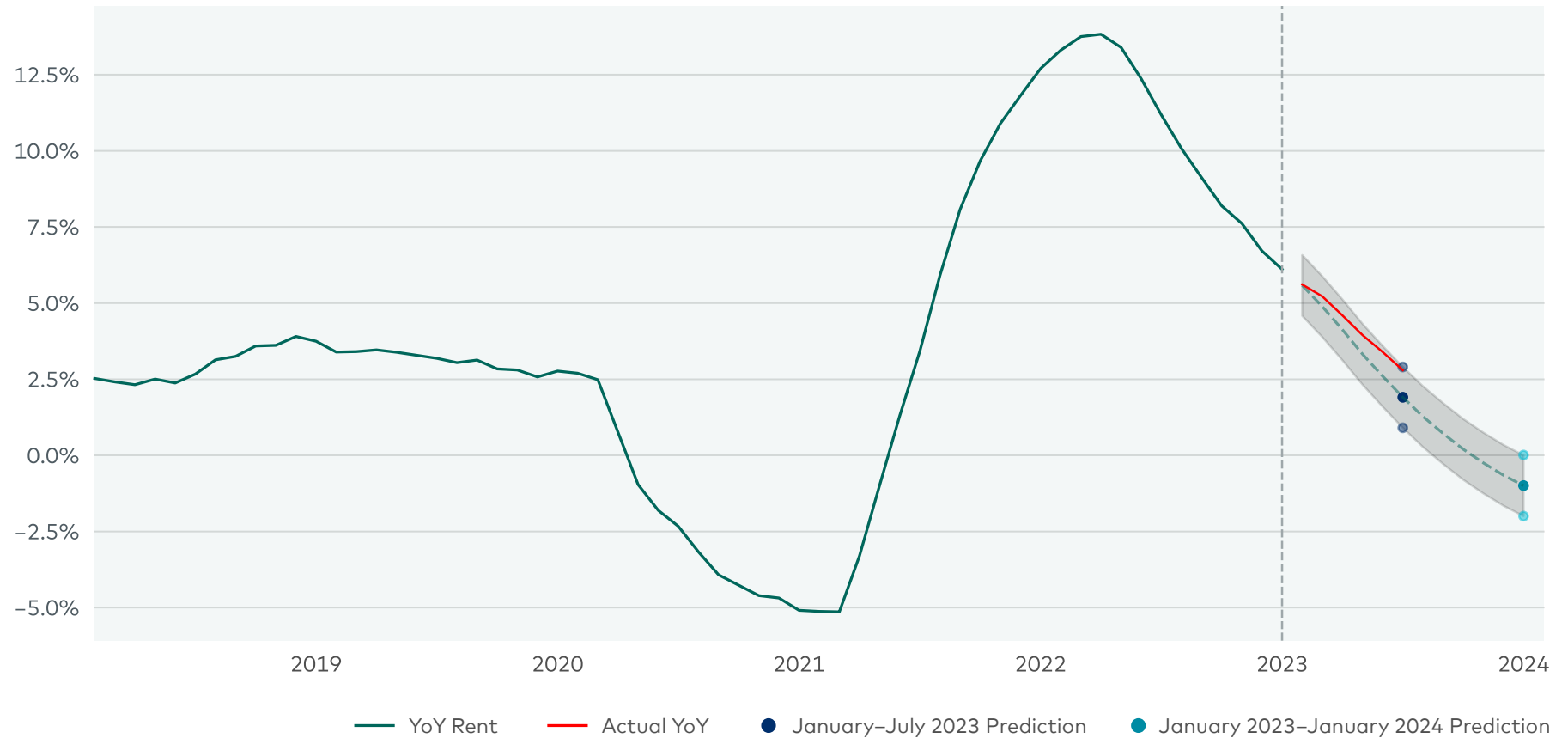
National Rent Forecast (%)

Legend: — YoY Rent — Actual YoY ● January–July 2023 Prediction ● January 2023–January 2024 Prediction

Regional Rent Forecast (%)

Legend:
- ● Actual YoY
- ● January–July 2023 Prediction
- ▮ January-July 2023 Prediction Range

X-axis: Southwest, Northeast, West, Southeast, Midwest

Y-axis: 1.0%, 1.5%, 2.0%, 2.5%, 3.0%, 3.5%, 4.0%, 4.5%

Gateway Rent Forecast (%)

Gateway markets include Los Angeles, San Francisco, Boston, New York City and Miami.

Legend: YoY Rent · Actual YoY · January–July 2023 Prediction · January 2023–January 2024 Prediction

Rent Outlook

Origin Investments Target Market Accuracy

Origin Investments Target Markets Rent Forecast (%)

Market	July '23 Predicted YoY Rent Growth	Actual YoY	Error (%)	Error ($)
National	3.01%	2.22%	0.79%	$13.29
Austin	1.17%	-1.84%	3.01%	$51.54
Dallas	2.27%	2.31%	0.04%	$(0.66)
Houston	2.30%	2.07%	0.23%	$3.06
San Antonio	1.06%	0.46%	0.60%	$7.42
Orlando	2.04%	0.29%	1.75%	$31.59
Tampa	1.42%	0.81%	0.61%	$11.18
Jacksonville	0.85%	-0.55%	1.40%	$21.41
Nashville	1.87%	0.47%	1.40%	$22.98
Charlotte	3.42%	0.90%	2.52%	$39.89
Raleigh	0.85%	0.20%	0.65%	$10.26
Atlanta	2.20%	-0.87%	3.07%	$52.01
Denver	2.49%	1.58%	0.91%	$17.14
Colorado Springs	4.63%	-1.38%	6.01%	$91.48
Phoenix	-1.81%	-3.61%	1.80%	$30.22
Las Vegas	-0.21%	-2.75%	2.54%	$38.29
Northeast	3.05%*	4.10%	1.05%	$(23.13)
Southwest	1.94%*	1.44%	0.50%	$6.98
West	3.20%*	1.15%	2.05%	$43.66
Southeast	3.52%*	2.75%	0.77%	$11.81
Midwest	3.79%*	4.05%	0.26%	$(3.19)
Gateway	1.90%	2.79%	0.89%	$(22.12)
Average (All)	2.04%	0.75%	1.49%	$25.15

*In the February report, rent growth predictions were expressed as a range, with the percentages in this column being the center of the range.

Austin

Summary

Austin rents were lower than expected: We had forecasted a stronger summer surge but also a quick dissipation of that surge. However, we anticipate that our original prediction of moderate negative year-over-year rent growth will hold. Others had projected more than 6% growth and for this to be the top market in terms of growth.

1.17%
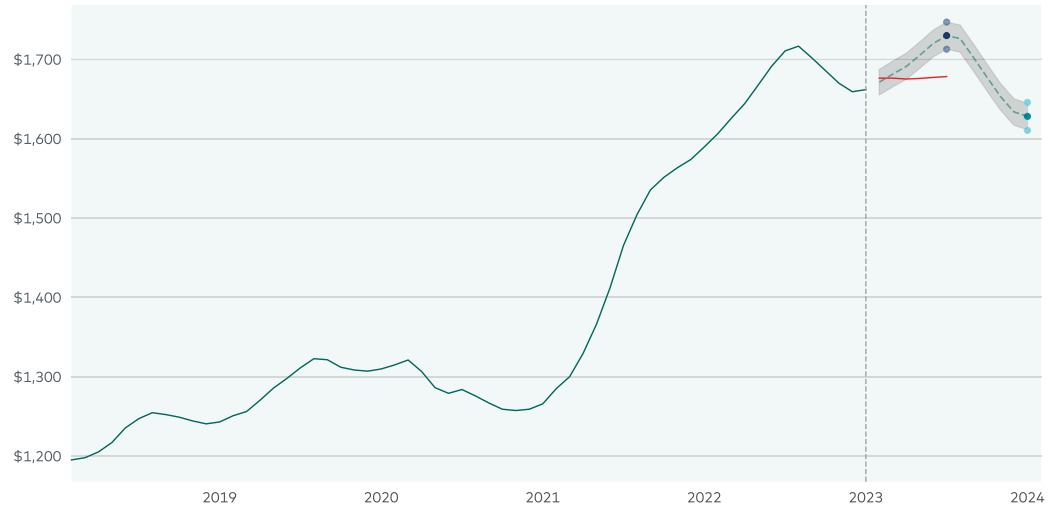July 2023 Predicted YoY Rent Growth
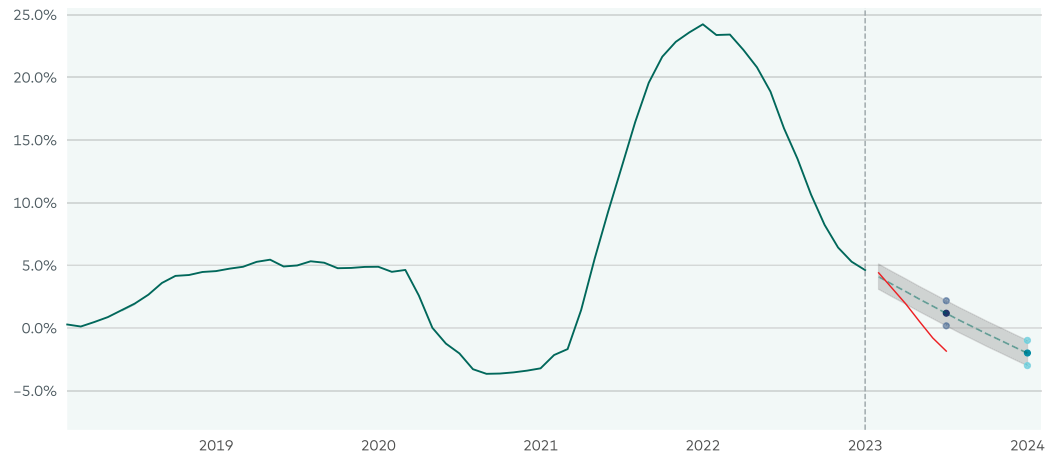
-1.84%
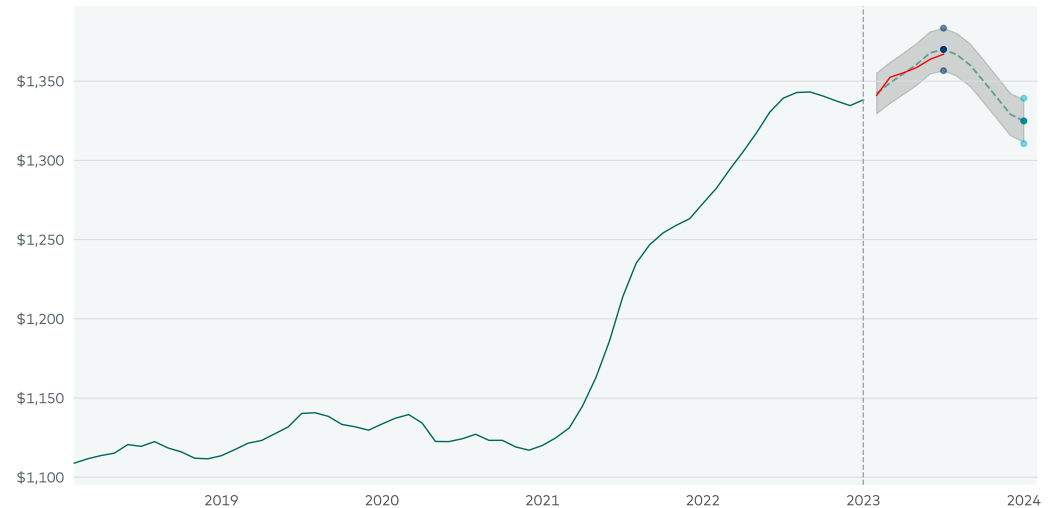Actual YoY

3.01%
Error (%)

$51.54
Error ($)

Rent Forecast ($)

Rent Forecast (%)

Legend:
— YoY Rent   — Actual YoY
● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Dallas

Summary

Dallas rents behaved as estimated. We expect slowing growth in year-over-year terms to continue but the rate of year-over-year decline to slow, as well.

2.27%
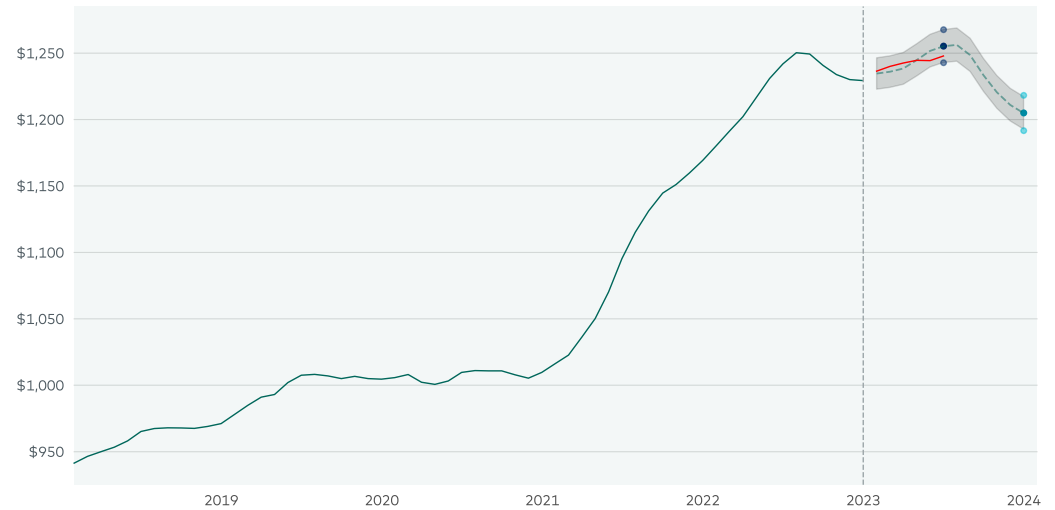July 2023 Predicted YoY Rent Growth
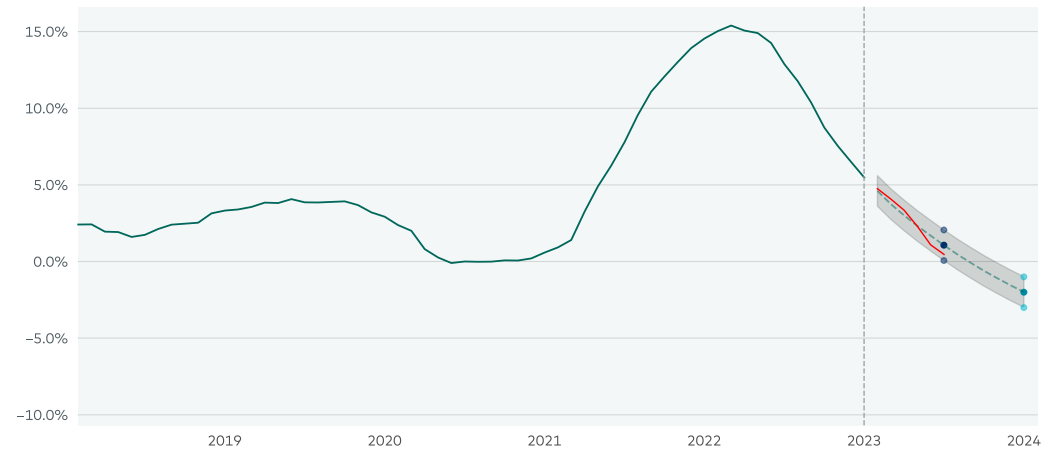
2.31%
Actual YoY

0.04%
Error (%)

$(0.66)
Error ($)

Rent Forecast ($)
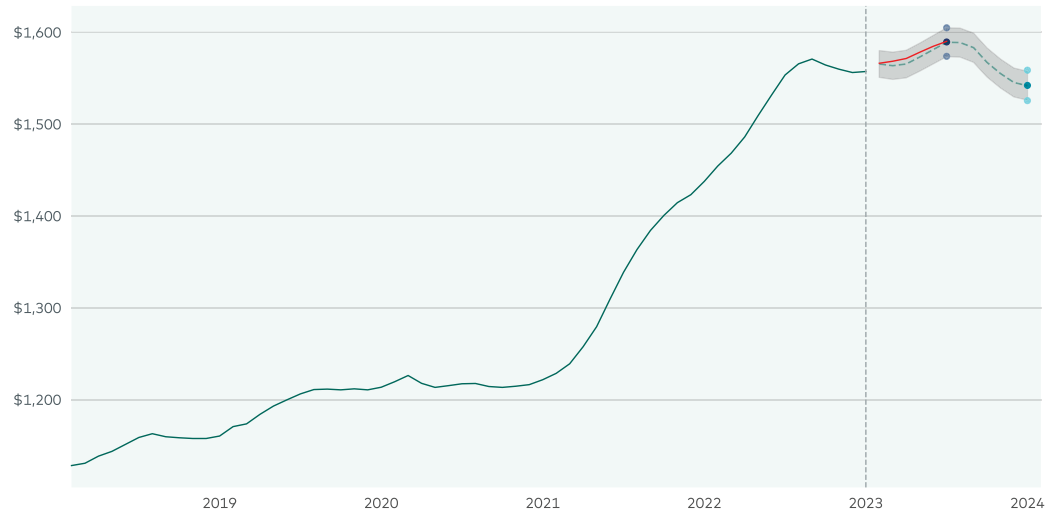
Rent Forecast (%)
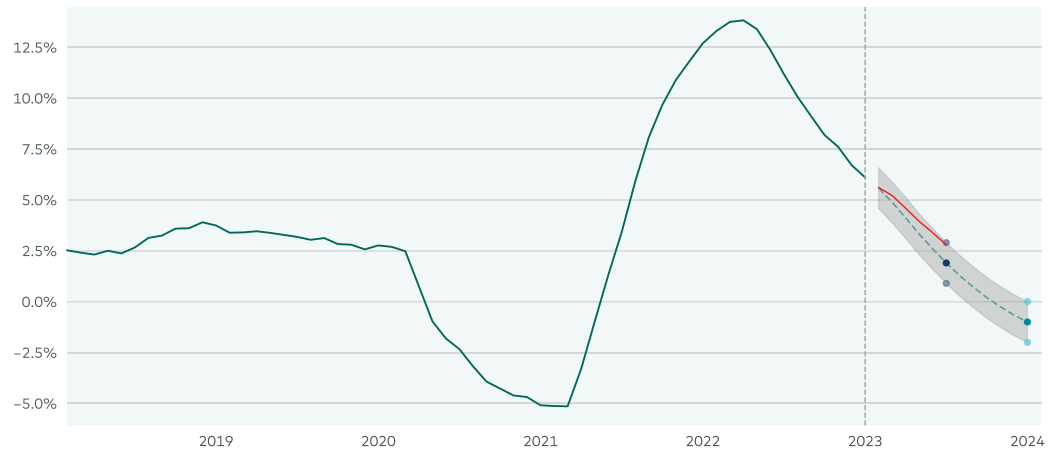
— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Houston

Summary

Houston rents behaved as estimated. This large market has many differences in growth among its various geographies, as is true in most metropolitan areas.

2.30%
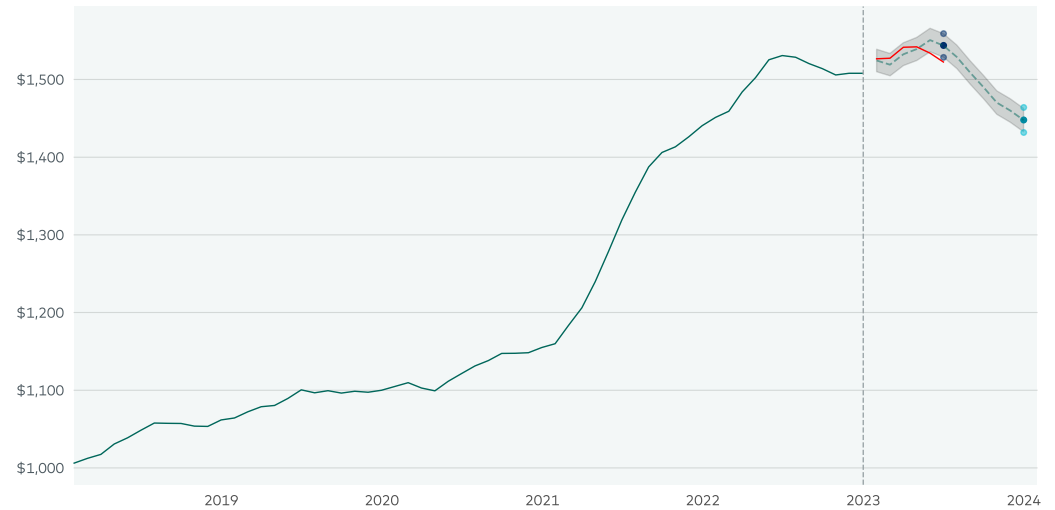July 2023 Predicted YoY Rent Growth

2.07%
Actual YoY

0.23%
Error (%)

$3.06
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

San Antonio

Summary

San Antonio rents behaved as estimated. Deal officers were told locally to expect double-digit growth in certain submarkets that ultimately did not come to pass.

1.06%
July 2023 Predicted YoY Rent Growth

0.46%
Actual YoY
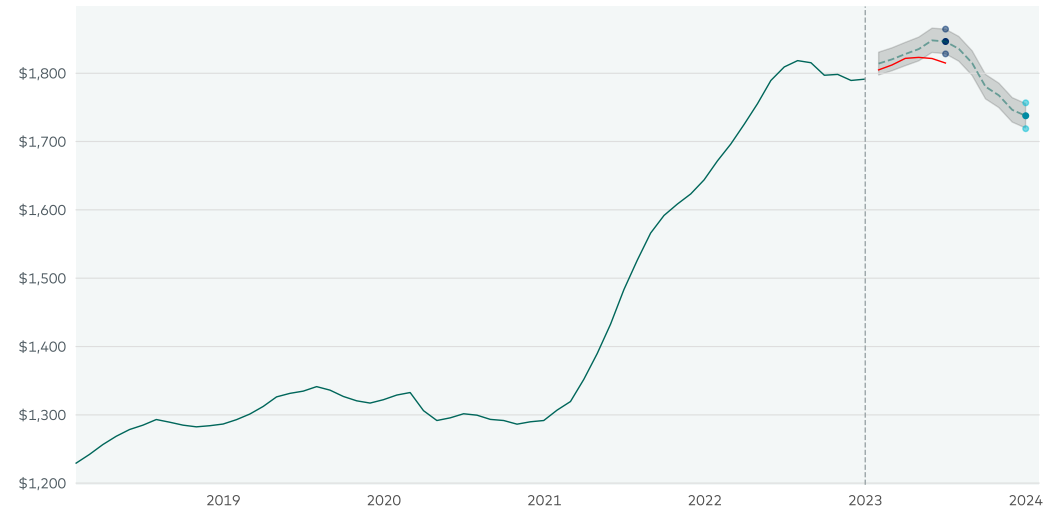
0.60%
Error (%)

$7.42
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Jacksonville

Summary

Jacksonville largely behaved as estimated. It and other Florida submarkets have reported a variety of outcomes in terms of year-over-year growth.

0.85%

July 2023 Predicted
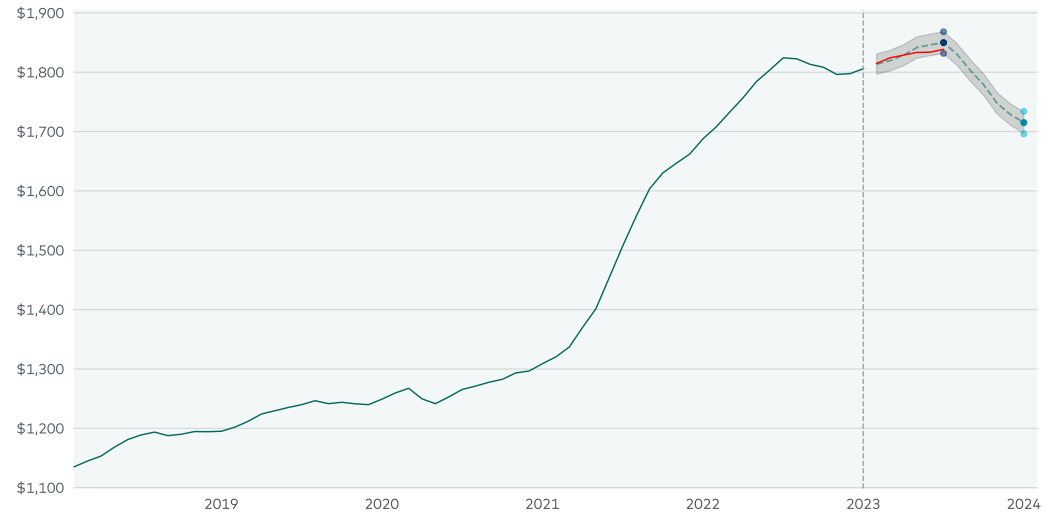YoY Rent Growth

-0.55%

Actual YoY

1.40%

Error (%)

$21.41

Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Orlando

Summary

Orlando rents behaved as estimated. It was one of several Florida markets that Multilytics predicted would approach negative rent growth despite local observers pointing to continuing significant growth.

2.04%
July 2023 Predicted YoY Rent Growth

0.29%
Actual YoY

1.75%
Error (%)

$31.59
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Tampa

Summary

Tampa rents behaved as estimated. Rents in this market are constrained by affordability and supply, neither of which was pointing toward continued record-breaking growth.

1.42%
July 2023 Predicted YoY Rent Growth

0.81%
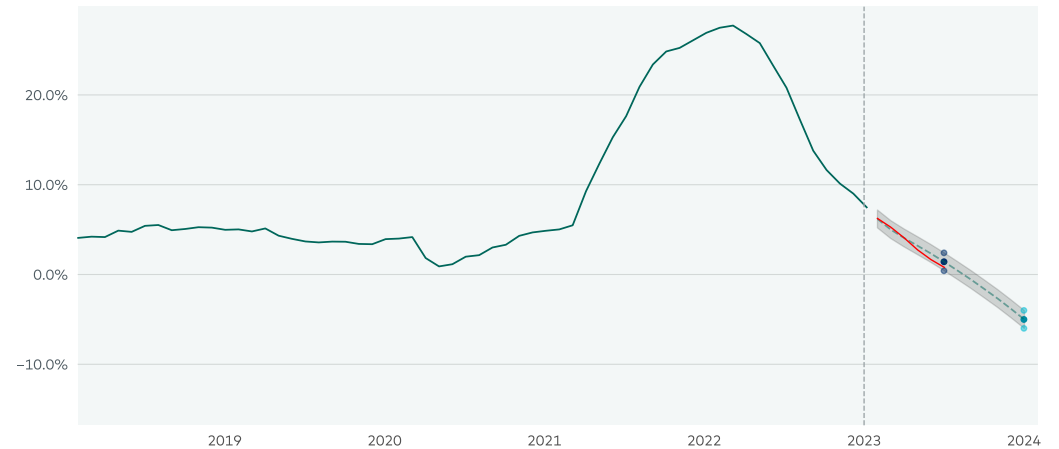Actual YoY

0.61%
Error (%)

$11.18
Error ($)

Rent Forecast ($)

Rent Forecast (%)

—— YoY Rent   —— Actual YoY
● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Nashville

Summary

Nashville rents were lower than expected. This vibrant city has attracted supply that we recognized as leading to cannibalization risk.

1.87%
July 2023 Predicted YoY Rent Growth
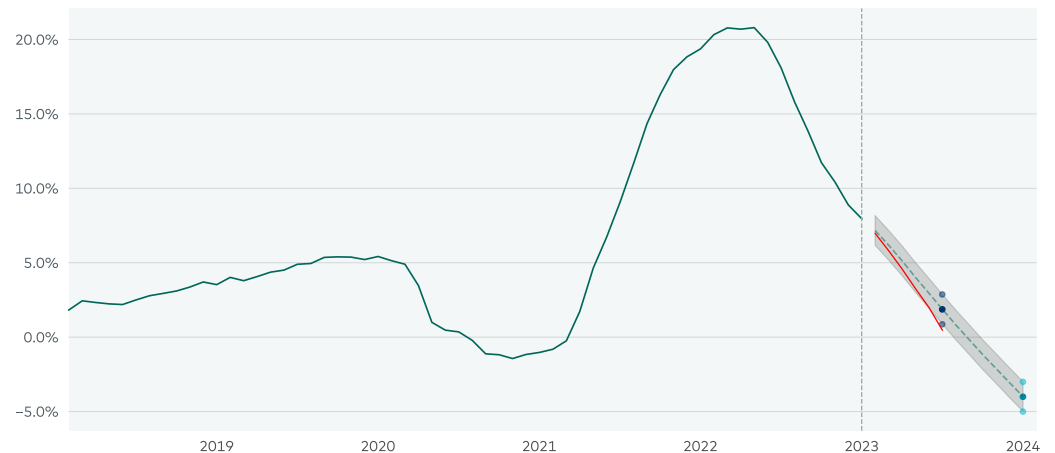
0.47%
Actual YoY

1.40%
Error (%)

$22.98
Error ($)

Rent Forecast ($)

Rent Forecast (%)

—— YoY Rent   —— Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Charlotte

Summary

Charlotte rents were lower than expected. We predicted a summer surge that did not materialize, but we maintain conviction in our original year-over-year forecast.

3.42%
July 2023 Predicted YoY Rent Growth
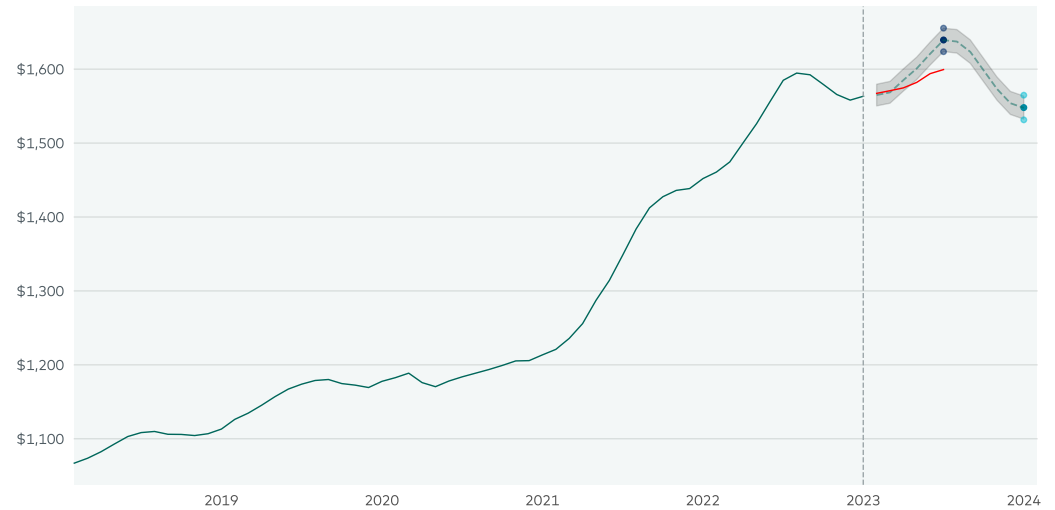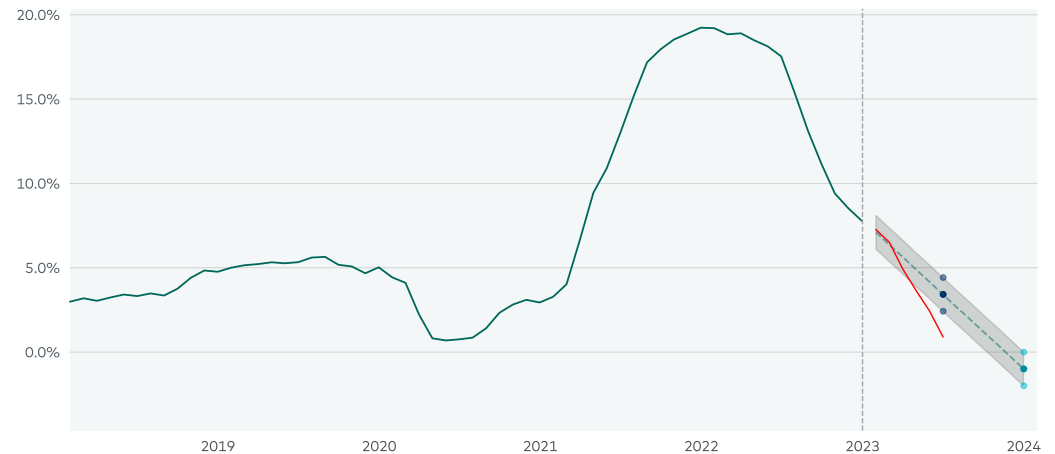
0.90%
Actual YoY

2.52%
Error (%)

$39.89
Error ($)

Rent Forecast ($)

Rent Forecast (%)

—— YoY Rent   —— Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Raleigh

Summary

Raleigh rents behaved as estimated, unlike its sister city, Charlotte, in part due to a lower degree of cannibalization.

0.85%
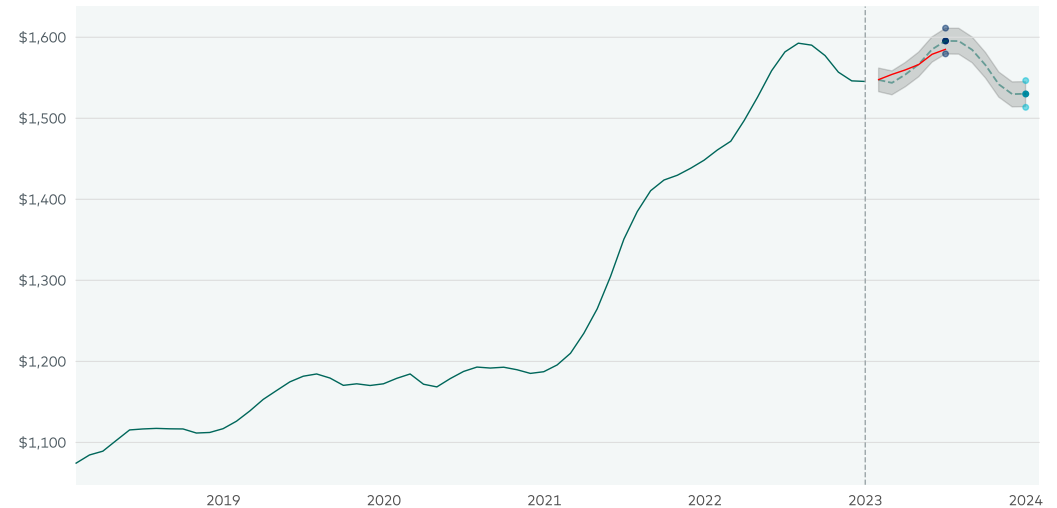July 2023 Predicted YoY Rent Growth

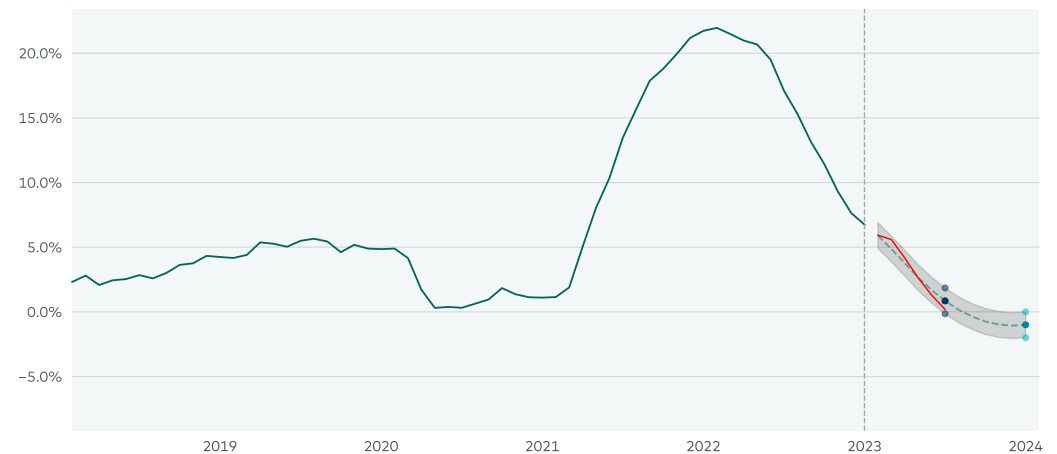**0.20%**
Actual YoY

0.65%
Error (%)

$10.26
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Atlanta

Summary

Atlanta rents were lower than expected due to our prediction of a summer surge that did not materialize. We were the only provider to foresee negative year-over-year rent growth in this market in our initial forecasts, and we expect that to occur here.

2.20%
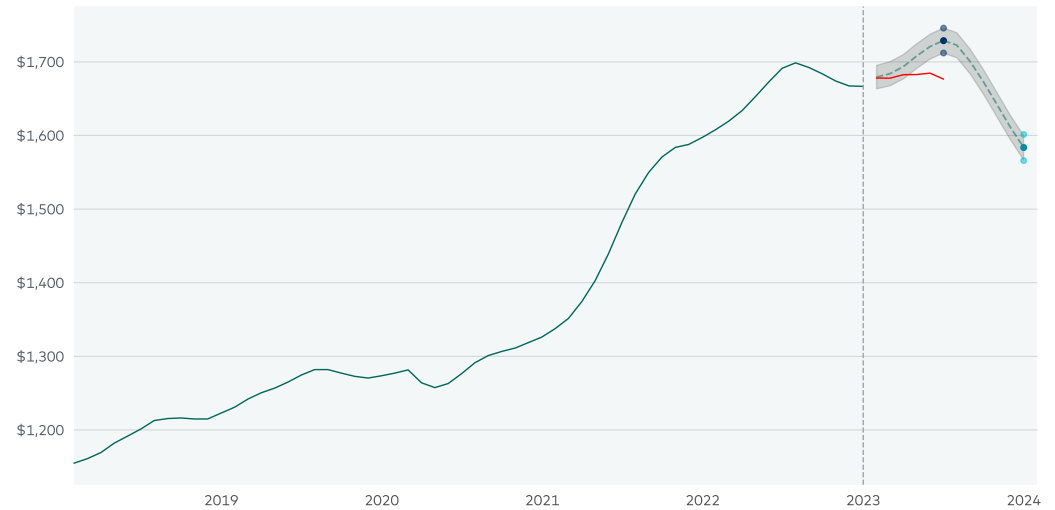July 2023 Predicted YoY Rent Growth
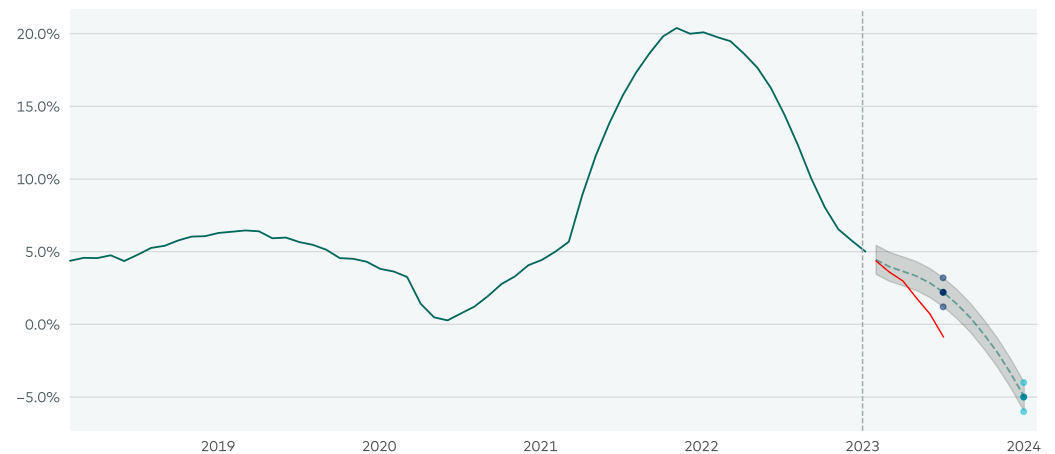
-0.87%
Actual YoY

3.07%
Error (%)

$52.01
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent   — Actual YoY
● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Colorado Springs

Summary

Colorado Springs rents were lower than expected due to a summer surge that didn't pan out, possibly because of troop deployments from the area. A relatively high proportion of new supply hit removed any month-over-month growth. We see reality converging closer with our 12-month forecast for the rest of the year.

4.63%
July 2023 Predicted
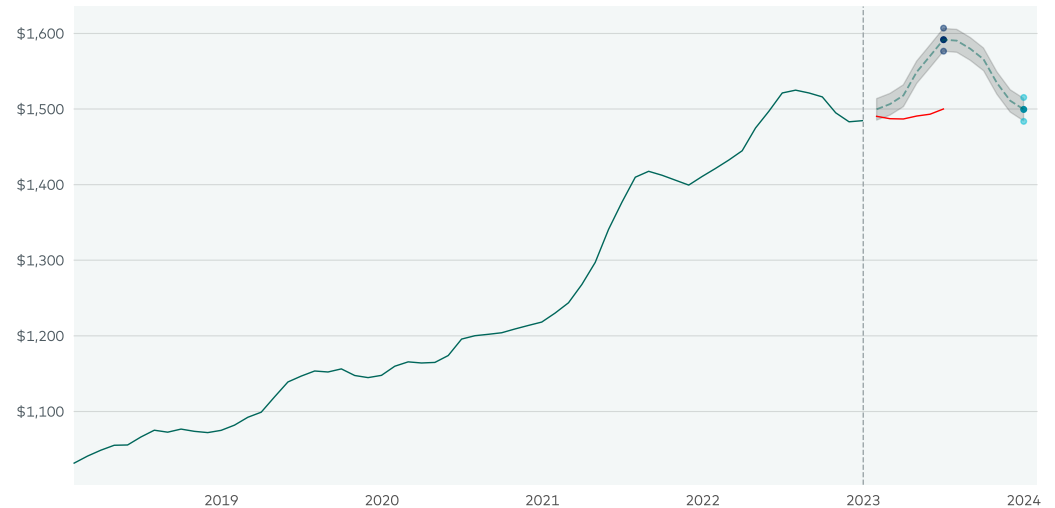YoY Rent Growth

-1.38%
Actual YoY

6.01%
Error (%)

$91.48
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent — Actual YoY

● January–July 2023 Prediction ● January 2023–January 2024 Prediction

Denver

Summary

Denver rents behaved as estimated—interesting given the strength of the summer surge we had forecasted relative to other target markets. But year-over-year rents continue their downward march to our end-of-year forecast.

2.49%
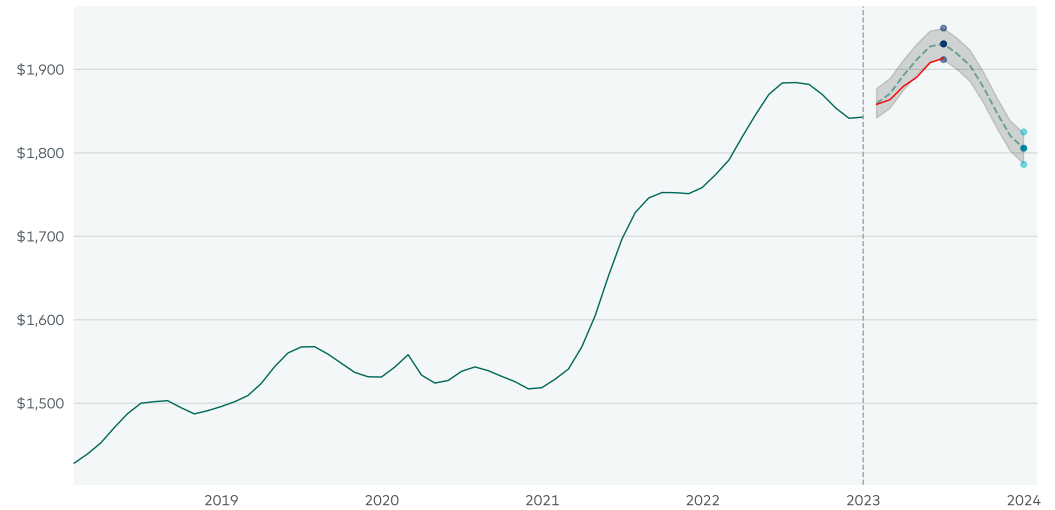July 2023 Predicted YoY Rent Growth

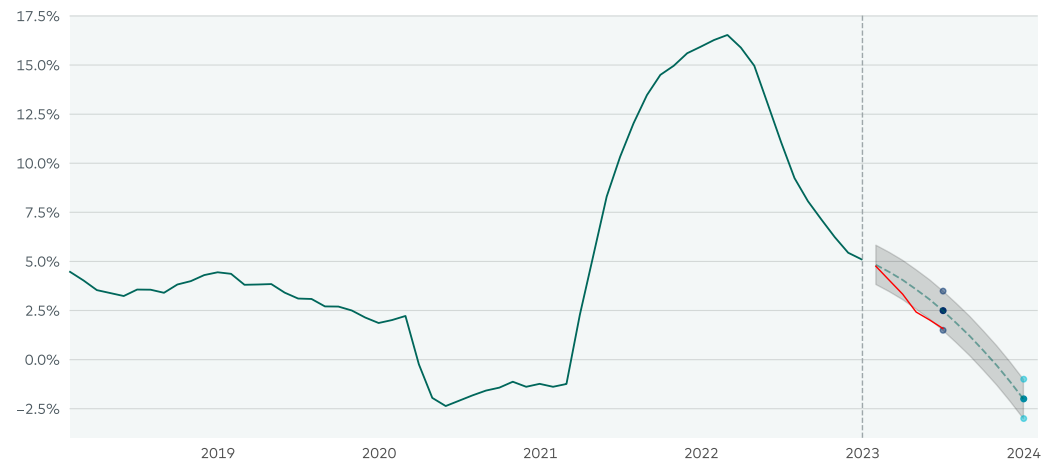**1.58%**
Actual YoY

0.91%
Error (%)

$17.14
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent　　— Actual YoY

● January–July 2023 Prediction　　● January 2023–January 2024 Prediction

Phoenix

Summary

Phoenix rents were slightly lower than expected, but we foresee them as being likely to converge with our year-over-year forecast in the near future.

-1.81%

July 2023 Predicted
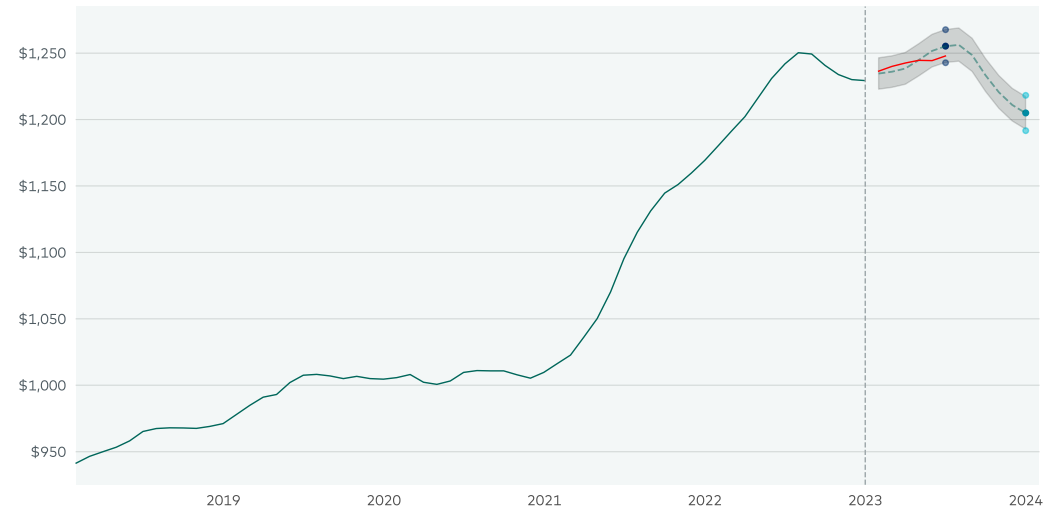YoY Rent Growth

-3.61%
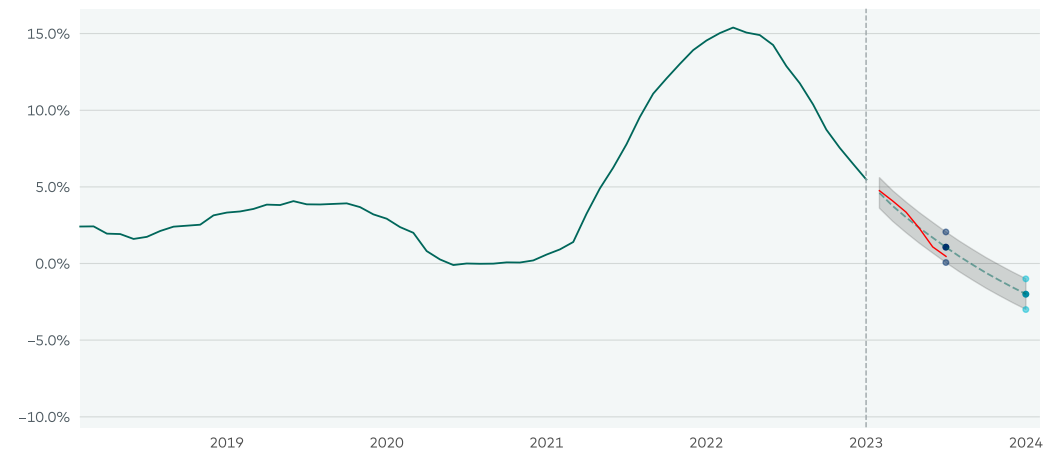
Actual YoY

1.80%

Error (%)

$30.22

Error ($)

Rent Forecast ($)

Rent Forecast (%)

── YoY Rent   ── Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

Las Vegas

Summary

Las Vegas rents were slightly lower than expected, but we believe they are likely to converge with the full-year forecast. This was one of the earlier markets to turn negative, which was true in other cycles as well.

-0.21%
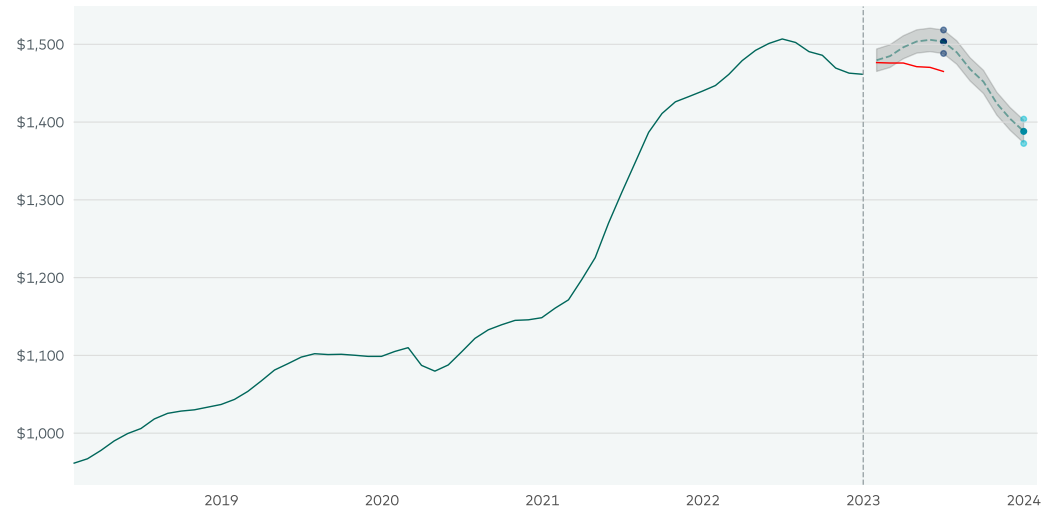July 2023 Predicted
YoY Rent Growth
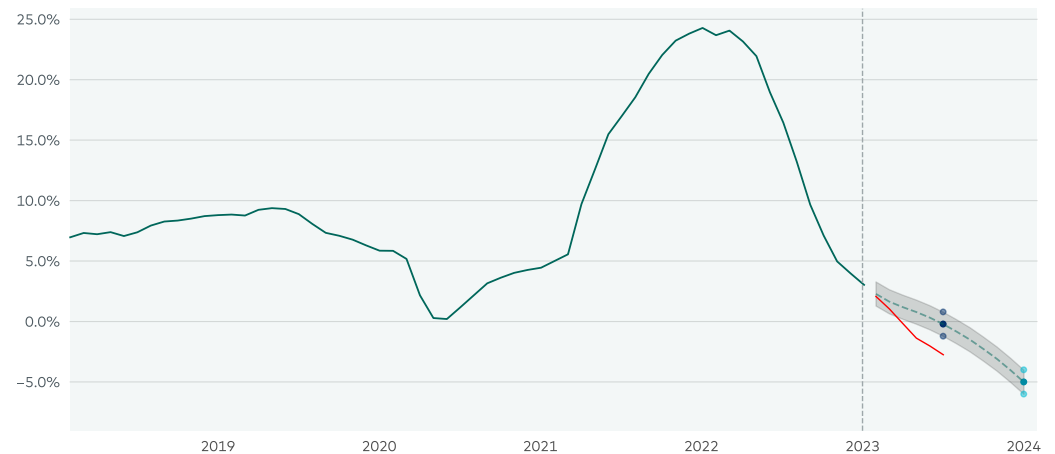
-2.75%
Actual YoY

2.54%
Error (%)

$38.29
Error ($)

Rent Forecast ($)

Rent Forecast (%)

— YoY Rent — Actual YoY

● January–July 2023 Prediction   ● January 2023–January 2024 Prediction

About Multilytics

The rent data in this report was compiled using Origin Multilytics®, our proprietary suite of machine-learning models. Multilytics aggregates and analyzes more than 3 billion datapoints per month, from hundreds of public and private sources that monitor economic and demographic trends, real-time data from property managers and spatial data such as local points of interest. It slices submarkets smaller than a ZIP code to pinpoint high-growth clusters and identifies average annual rent growth down to the property level. Its predictive analytics allow us to create and study a variety of multifamily-specific scenarios.

Multilytics predictions published by Origin Investments are not retroactively updated to minimize error. If the prediction changes, new figures are published, but we do not update or hide our previous predictions to sync with market drift.

The Multilytics model was developed by in-house data scientists and has been back-tested from 2015 onward. According to outcomes back-tested over a five-year period in the 150 largest metro areas, its rent growth predictions were accurate to within $10 to $15 annually. It's a powerful tool to give our local expertise and specialist teams the deeper knowledge and insights they need to help us discover, evaluate and develop the properties that comprise our real estate Funds. Find out more about how we use Multilytics.

About Origin Investments

Origin Investments helps high-net-worth investors, family offices and clients of registered investment advisors protect and grow their wealth by providing tax-efficient real estate solutions. We are a private real estate manager that builds, buys and finances multifamily real estate projects in fast-growing markets throughout the U.S. Since our founding in 2007, we have executed more than $2.8 billion in real estate transactions. To learn more, visit origininvestments.com.

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