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# US HOUSING CRISIS

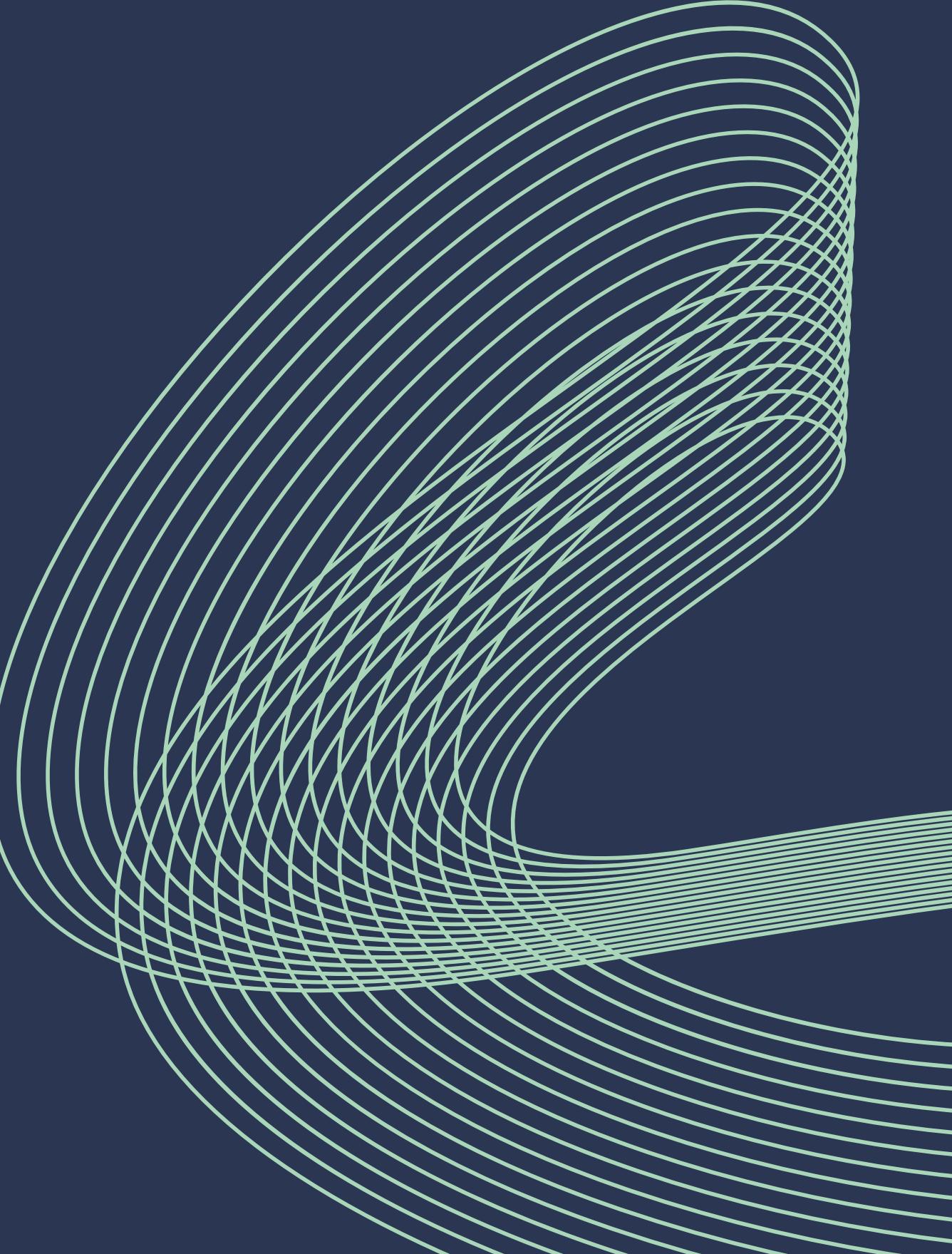
Will we be priced out of a home?

PRESENTED TO

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# INTRODUCTION

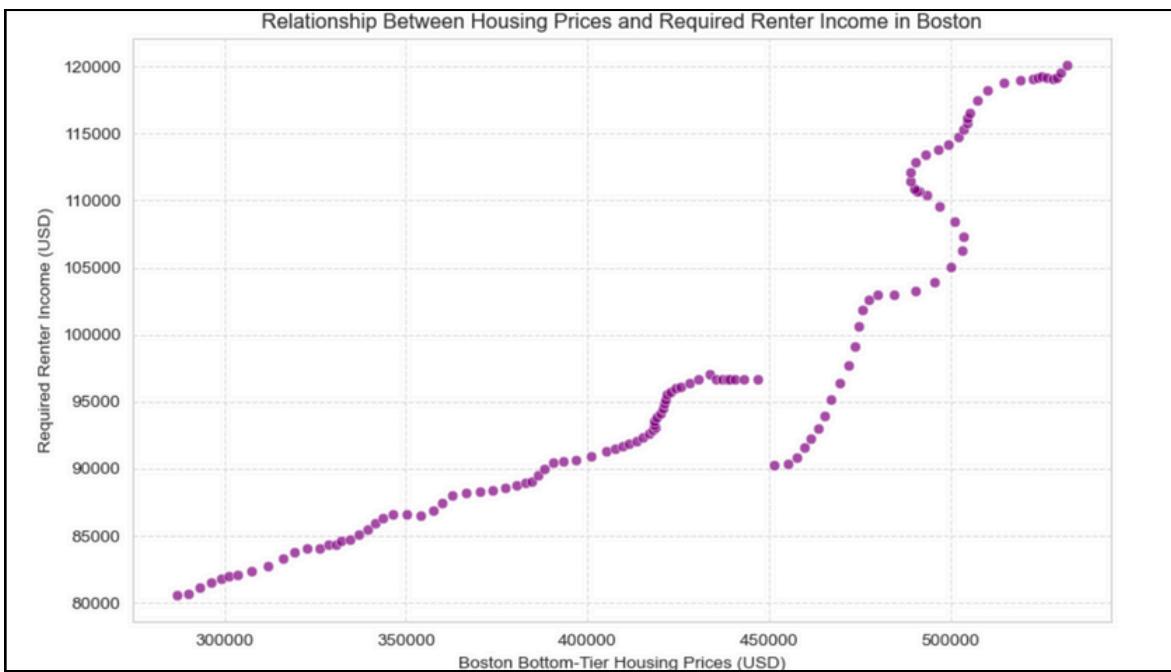
The rising cost of housing in the United States has raised concerns about affordability, financial strain, and the increasing risk of homelessness. This project analyzes key housing and economic indicators to assess whether current trends in homeownership and renting are sustainable for the average American. We examined the following datasets to gain insights into housing affordability and economic pressures on renters and homeowners:

- Zillow Home Value Index (ZHVI) – Tracking changes in housing prices over time.
- Mortgage Payment Trends – Evaluating the increasing financial burden of homeownership.
- New Renter Income Needed – Understanding how much income is required to afford rental housing.
- New Renter Affordability – Measuring the accessibility of rental housing for different income levels.
- National Average Wage Index - Social Security Administration

To analyze these trends, we leveraged GPT-powered insights and advanced data visualization techniques such as :Line charts to track historical trends and forecast future affordability. Correlation analysis to understand the relationship between housing prices, renter income, and wages. Bar charts to compare affordability across different economic conditions.

Through this analysis, we aim to determine whether the U.S. is heading toward a housing affordability crisis—and if current trends indicate a growing risk of homelessness.

# Boston Bottom: Tier Housing Revealed Rising Costs and the Struggle for Affordability

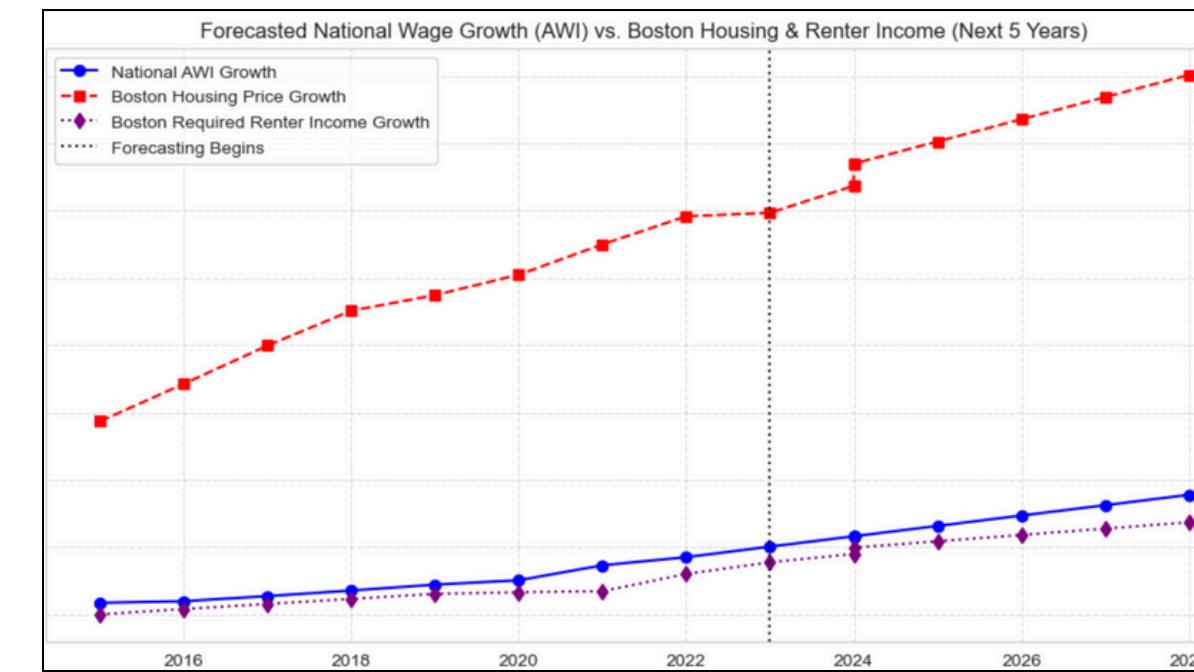


The strong positive correlation (0.92) between Boston's bottom-tier housing prices and the income required for new renters reflects a critical affordability crisis. As housing prices increase, the income necessary to secure rental housing also rises—often at a slower rate than actual home prices.

**1. The Widening Affordability Gap:** In 2016, housing prices increased by 11.42%, while required renter income grew by only 3.91%. By 2020, this gap widened further, reinforcing the strain on renters.

**2. Renting Is No Longer a Safety Net:** Projected Data: By 2029, new renters will need an estimated \$136,473.32 annually to afford housing—a 40.7% increase from 2024.

**3. Rising Housing Costs = Rising Homelessness Risk:** If wages fail to keep up with rental income requirements, more households will be forced into substandard housing, eviction cycles, or homelessness.. Lower-income and middle-income families face the highest risk, as they lack financial flexibility to absorb rising costs.



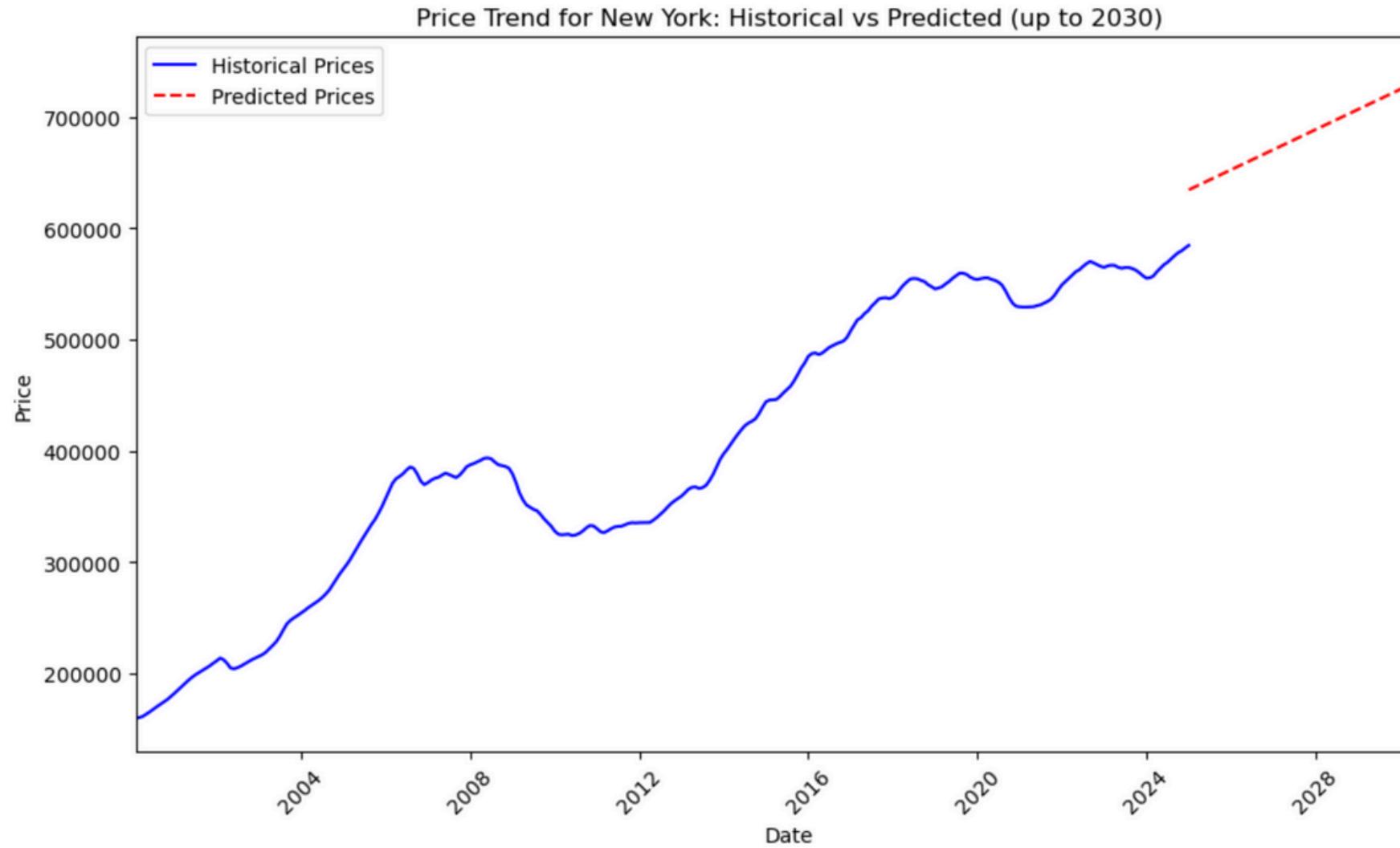
The visualization compares the forecasted growth of national wages (AWI), Boston housing prices, and required renter income from 2013 to 2029 (indexed to 100 in 2013).

**1. Housing Prices Are Outpacing Both Wages and Renter Income at an Accelerating Rate:** Boston's housing prices have increased nearly 4x faster than wages since 2013, creating a widening affordability gap. Projected 2029 data shows housing costs reaching nearly 500% of their 2013 levels, while wages will struggle to surpass 130% growth.

**2. The Required Renter Income Growth Hasn't Kept Pace with Housing Inflation:** By 2029, renters will need over \$125,000 annually, a drastic increase from \$82,158 in 2015, highlighting the growing financial strain.

**3. The Housing Market is Structurally Excluding Lower and Middle-Income Earners:** With both homeownership and renting becoming out of reach, Boston's housing crisis is no longer limited to just low-income residents. Middle-class workers, including professionals and service-sector employees, are being priced out, pushing them towards relocation.

# New York: Insights and Predictions from New York Housing Price Trend



## Historical Price Trend:

The graph shows a consistent upward trend in housing prices from the early 2000s to 2024, indicating strong demand driven by economic growth, urbanization, and limited housing supply.

## Price Growth Acceleration:

From the mid-2000s, the price increase becomes steeper, suggesting increased demand and possibly speculative investments, with a likely market crash around 2008 during the global financial crisis.

## Future Predictions:

Predicted prices, indicated by the dashed red line, are expected to continue rising sharply, reaching over \$700,000 by 2030, suggesting an ongoing upward trend in housing prices.

## Key Takeaways:

Demand: Strong, sustained demand has driven prices upward.

Affordability Concerns: Rising prices may lead to housing inequality and potential affordability crises.

Market Trends: Predicted continued price rise, which might not be sustainable in the long term.

## Response to "Will We Be Homeless?":

### Recommendations:

Focus on affordable housing and urban planning.

Consider regulations to manage housing prices and avoid speculative market bubbles.

### Conclusion:

Based on this trend, homelessness could increase if there is no intervention to control rising housing costs and ensure affordable housing for all income groups.

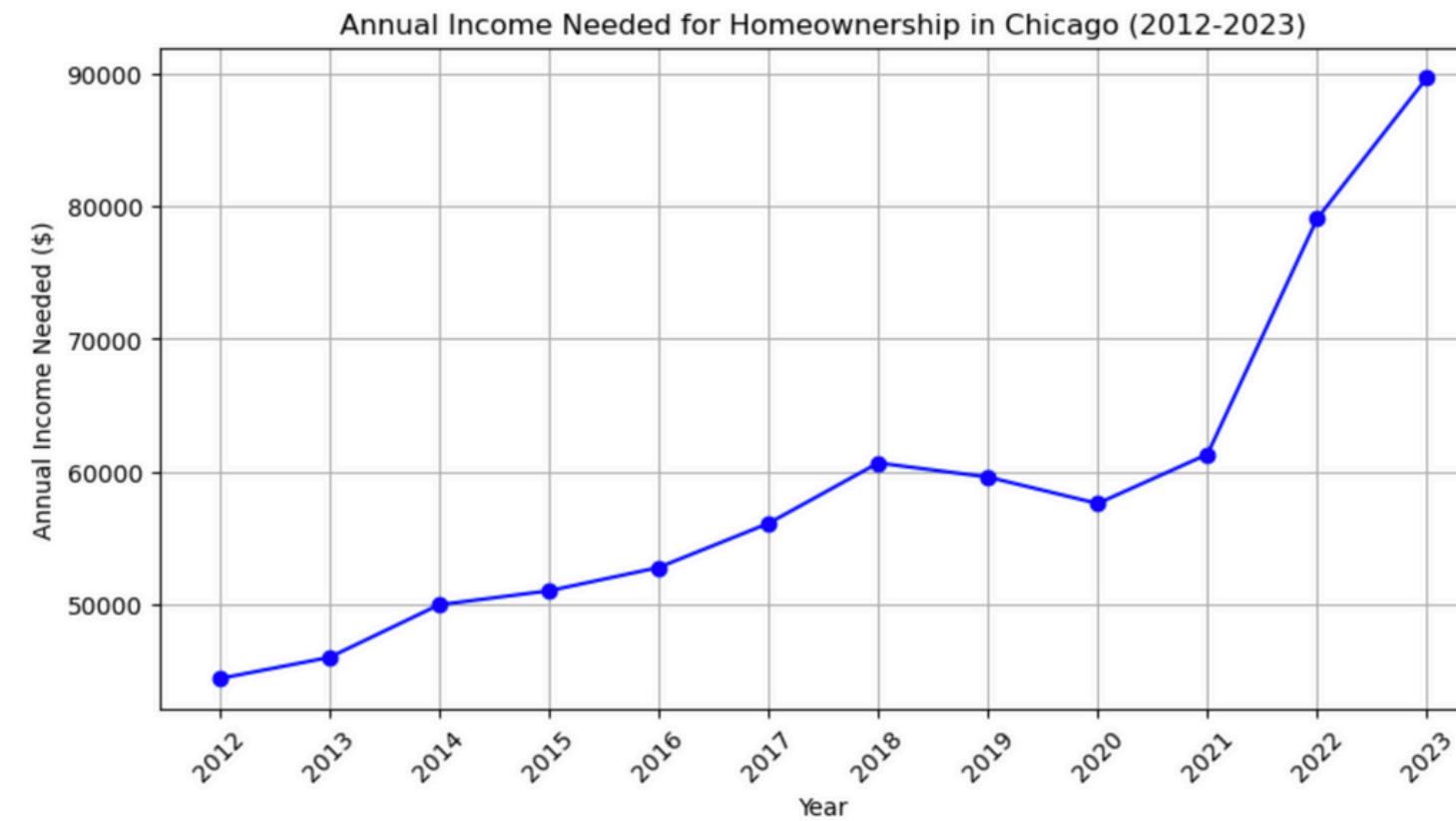
## Challenges:

Affordability Crisis: Rising prices may outpace wage growth, making homes less affordable.

Housing Inequality: Those unable to afford rising prices could face homelessness or housing instability.

Conclusion: Without intervention, homelessness could increase if the housing affordability issue is not addressed.

# Chicago: Income Needed For Home Ownership Vs Income Distribution



## Key Insights

### Steady Increase in Income Requirement:

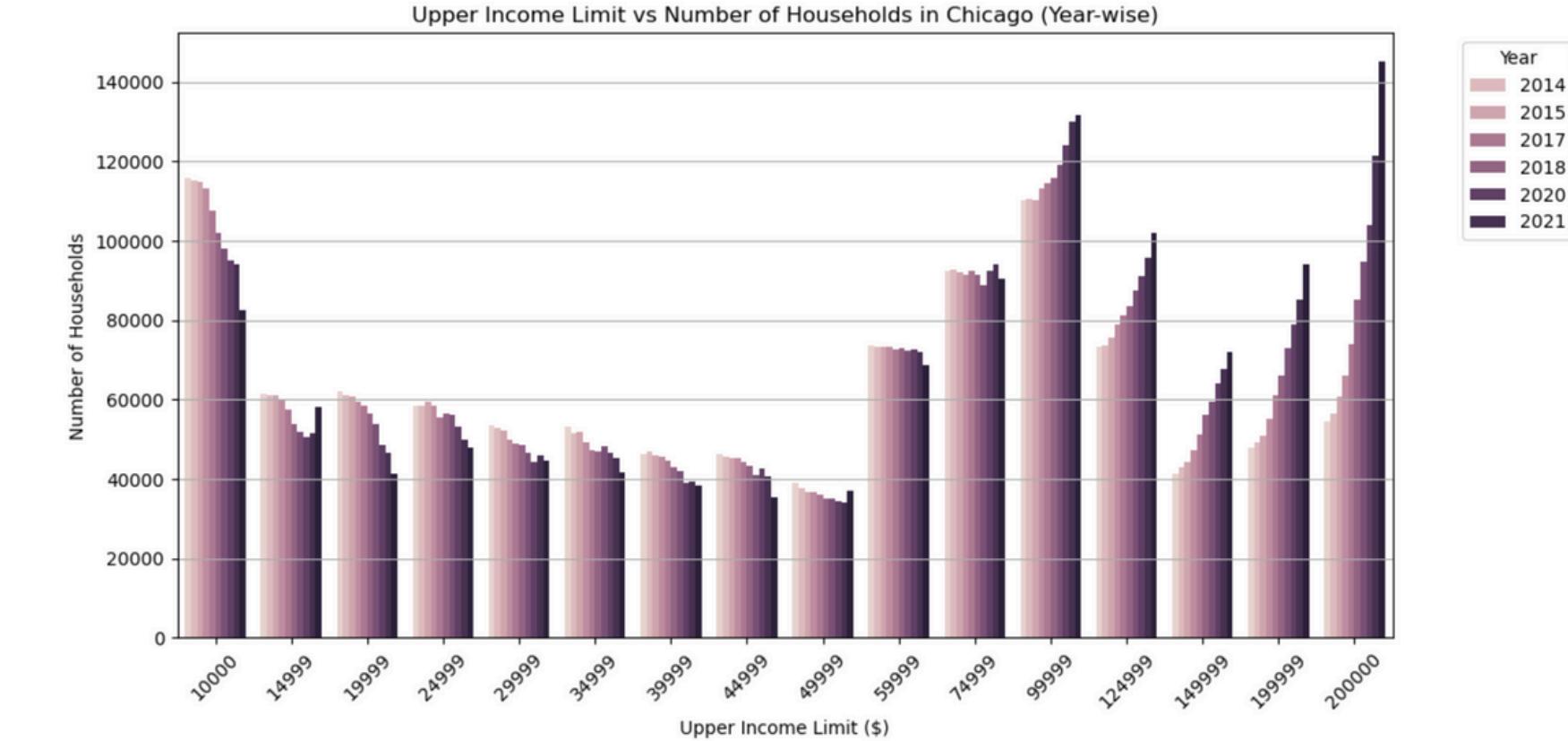
The annual income needed for homeownership in Chicago has consistently increased from 2012 to 2023, indicating declining affordability.

### Sharp Growth in Recent Years (2021-2023) post COVID-19:

A notable spike in income requirements post-2021 suggests rising home prices, mortgage rates, or inflation-driven costs.

### Future Affordability Concerns:

If this trend continues, Chicago residents will need significantly higher incomes in the future, making homeownership increasingly difficult.



## Key Insights

### Income Distribution Remains Fairly Consistent Across Years:

The number of households in each income bracket does not change drastically year over year, indicating a relatively stable income distribution in Chicago.

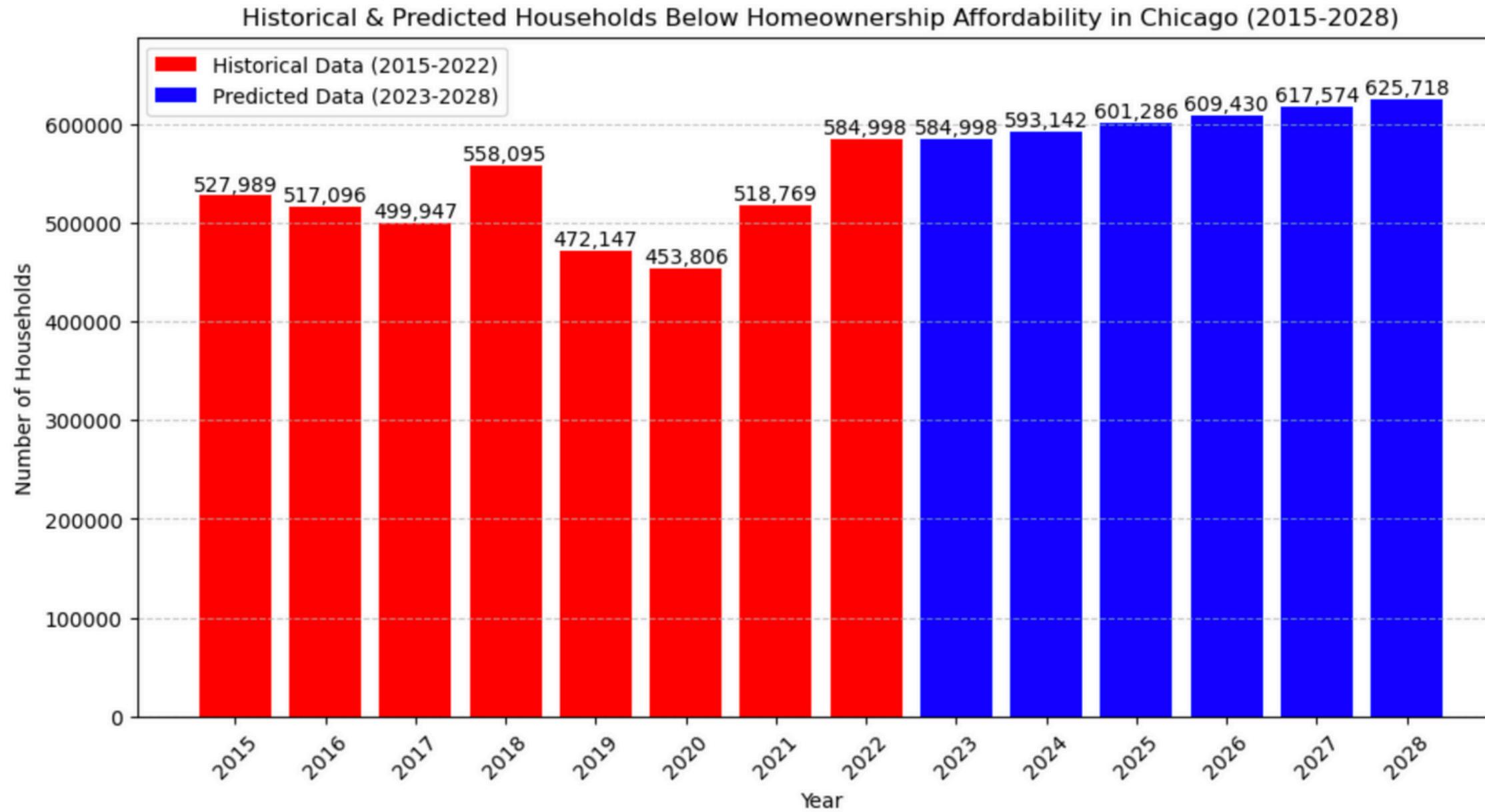
### Majority of Households Fall into Lower to Mid-Income Brackets:

Most households are concentrated in income brackets below \$100,000, showing that higher-income households are fewer in Chicago.

### Slight Growth in Higher Income Brackets Over Time:

There is a gradual increase in households in higher income brackets (\$100,000+), possibly due to income growth, economic shifts, or demographic changes in the city.

# Chicago: Conclusion



## Key Insights

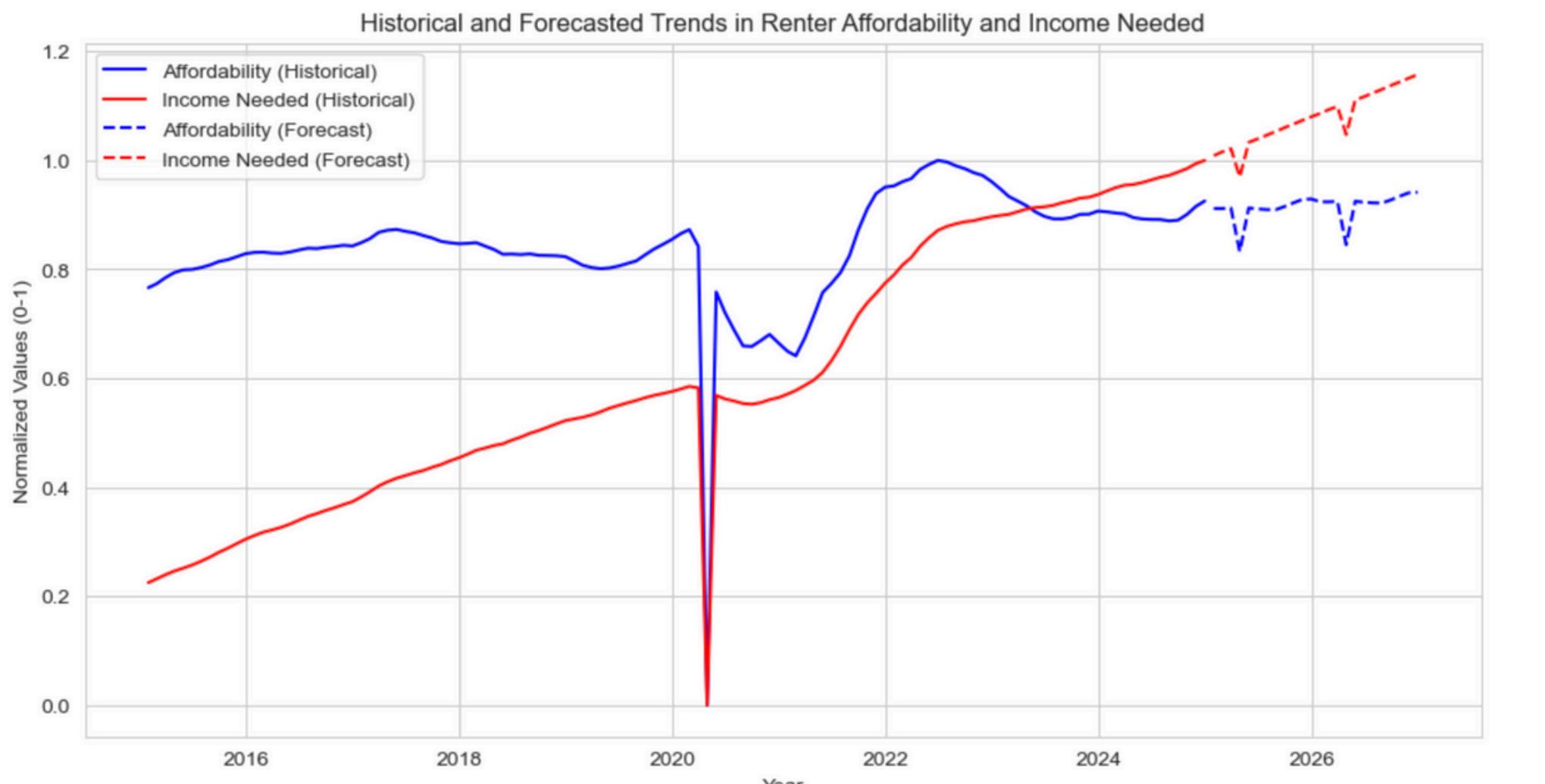
### A Clear Increase in Unaffordable Households (2023-2028):

The forecasted number of households unable to afford homeownership continues to rise sharply.

### The Affordability Crisis is Deepening:

Even after 2023, homeownership is projected to become increasingly unaffordable, likely due to rising home prices and stagnant wages.

# Los Angeles: Exploring factors Leading to Homelessness. Comparison of Renter's Affordability and Income Needed to Rent.



Projected Change in Renter Affordability (%): 0.02

Projected Change in Income Needed (\$): 0.16

Forecast suggests worsening rental affordability and higher income requirements, increasing risks of homelessness in Los Angeles.

This analysis examines trends in Renter Affordability (%) and Income Needed (\$) over timespan of 2015 to 2025 in Los Angeles to determine if renting has become more difficult.

## Key Findings:

### • Historical Trends:

- Both affordability and income needed have increased over time, indicating that renting has become harder.
- Income Needed (\$) has risen sharply, making it difficult for new renters to afford housing.

### • Forecasting (Next 2 Years):

- Renter Affordability (%) is expected to increase, meaning renters will spend more of their income on rent.
- Income Needed (\$) is projected to rise, further increasing financial barriers to housing.

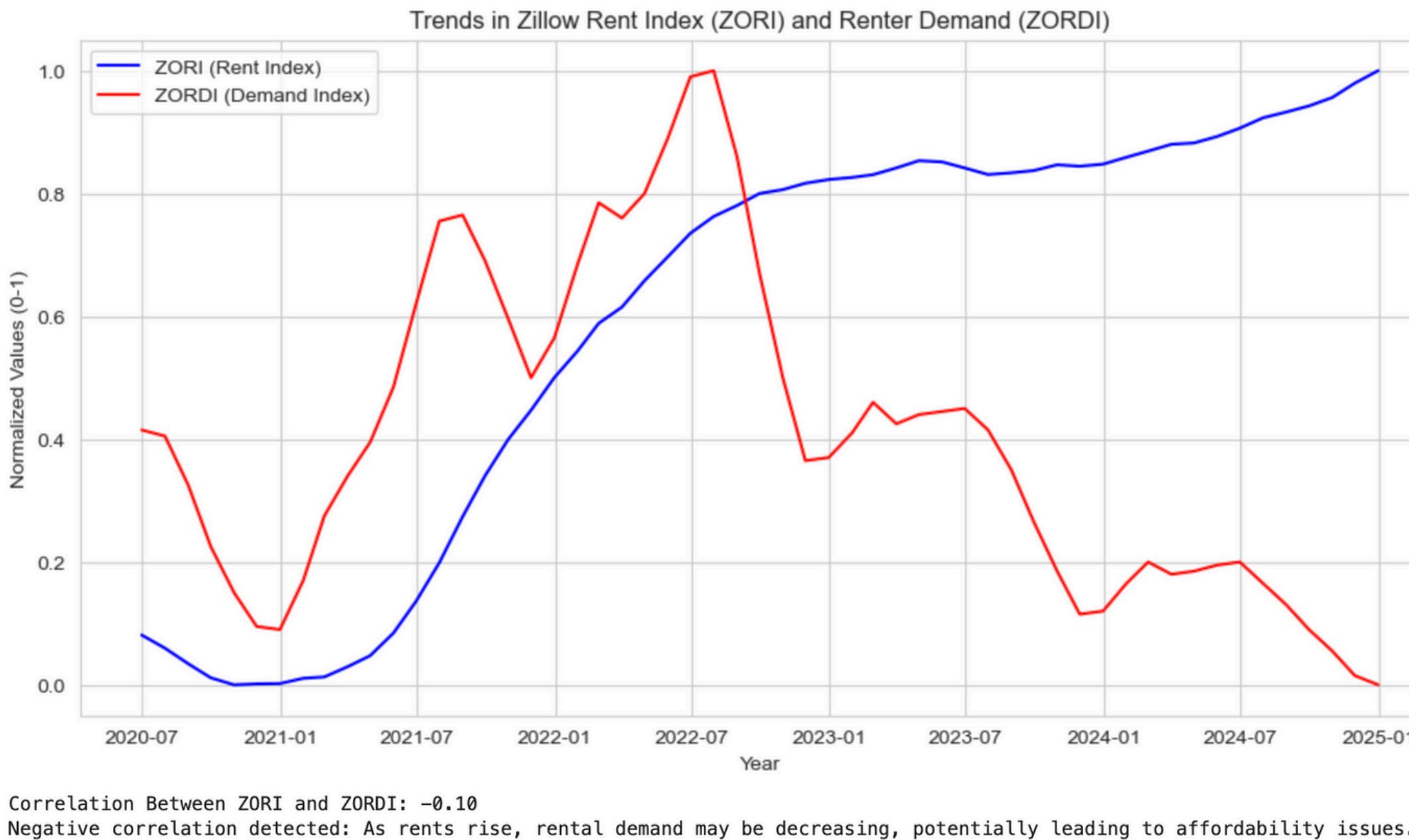
## Conclusion:

- Without intervention, renting will become even less affordable, increasing the risk of housing insecurity and homelessness.

## Implications:

- This study suggests that wage growth has not kept pace with rent increases, making affordability a growing concern.
- Policy interventions such as increasing housing supply or rental assistance programs may be needed to mitigate these effects.

# Los Angeles: Exploring Relation Between Observed Rent Index and Observed Renter Demand



This analysis examines trends in ZORI (Zillow Observed Rent Index) and ZORDI (Zillow Observed Renter Demand Index) to assess their impact on affordability and potential homelessness trends in Los Angeles.

## Key Findings:

- Correlation Analysis:

- If ZORI increases while ZORDI decreases, as the correlation is -0.10, it suggests that rising rents are pushing renters out of the market, leading to affordability issues.
- A negative correlation would indicate that as rents increase, demand falls, potentially increasing homelessness.

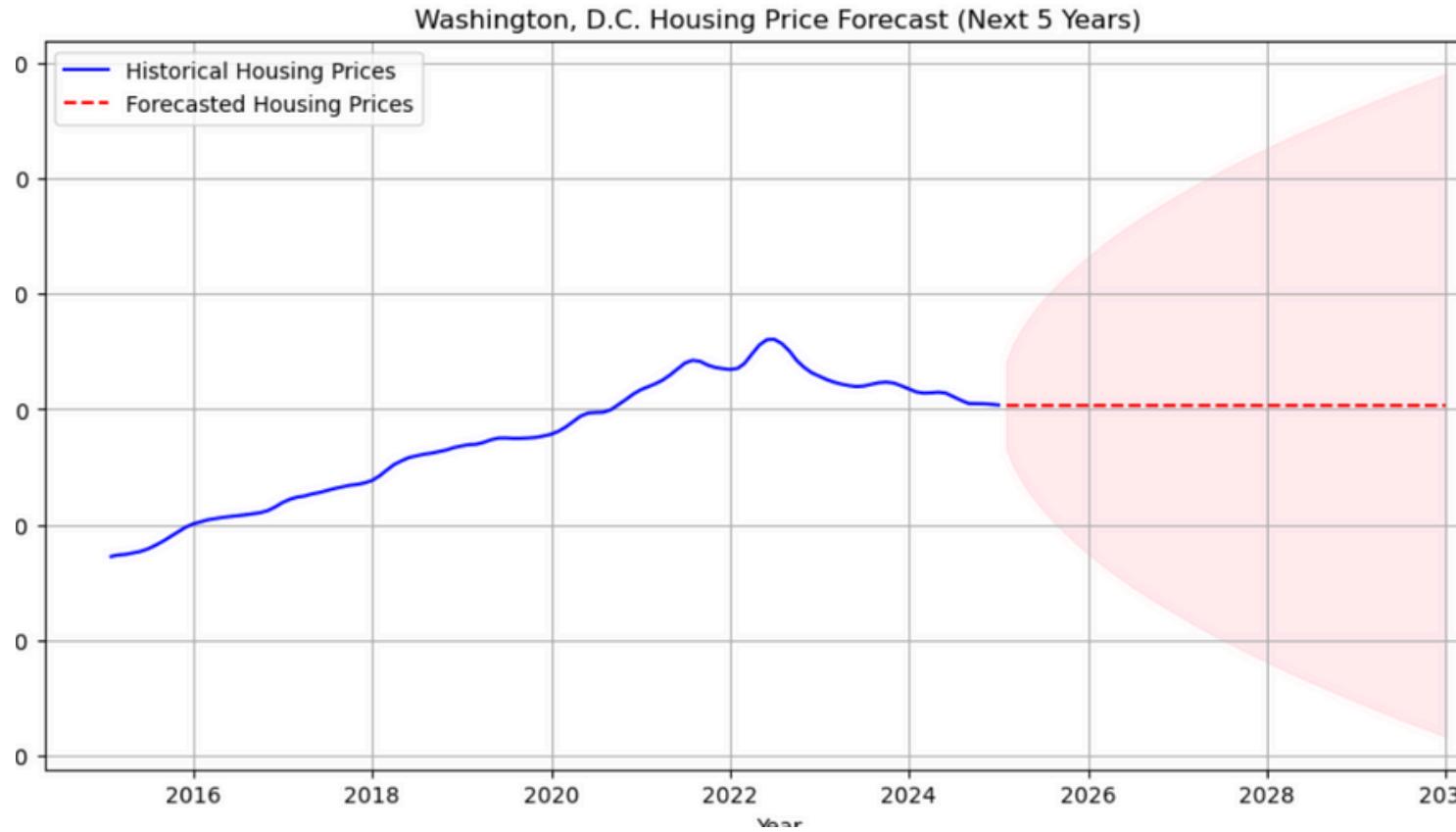
- Trend Analysis:

Tracking ZORI and ZORDI over time helps identify whether rising rental prices are making housing less accessible. Comparing with affordability data allows us to see if rent increases contribute to financial strain.

## Implications:

- Policy interventions may be required to balance rental affordability and demand.
- Future studies can incorporate homelessness data to establish a stronger connection between rental market trends and homelessness rates.

# Unveiling the Crisis: A Data-Driven Analysis of Homelessness Trends in Washington

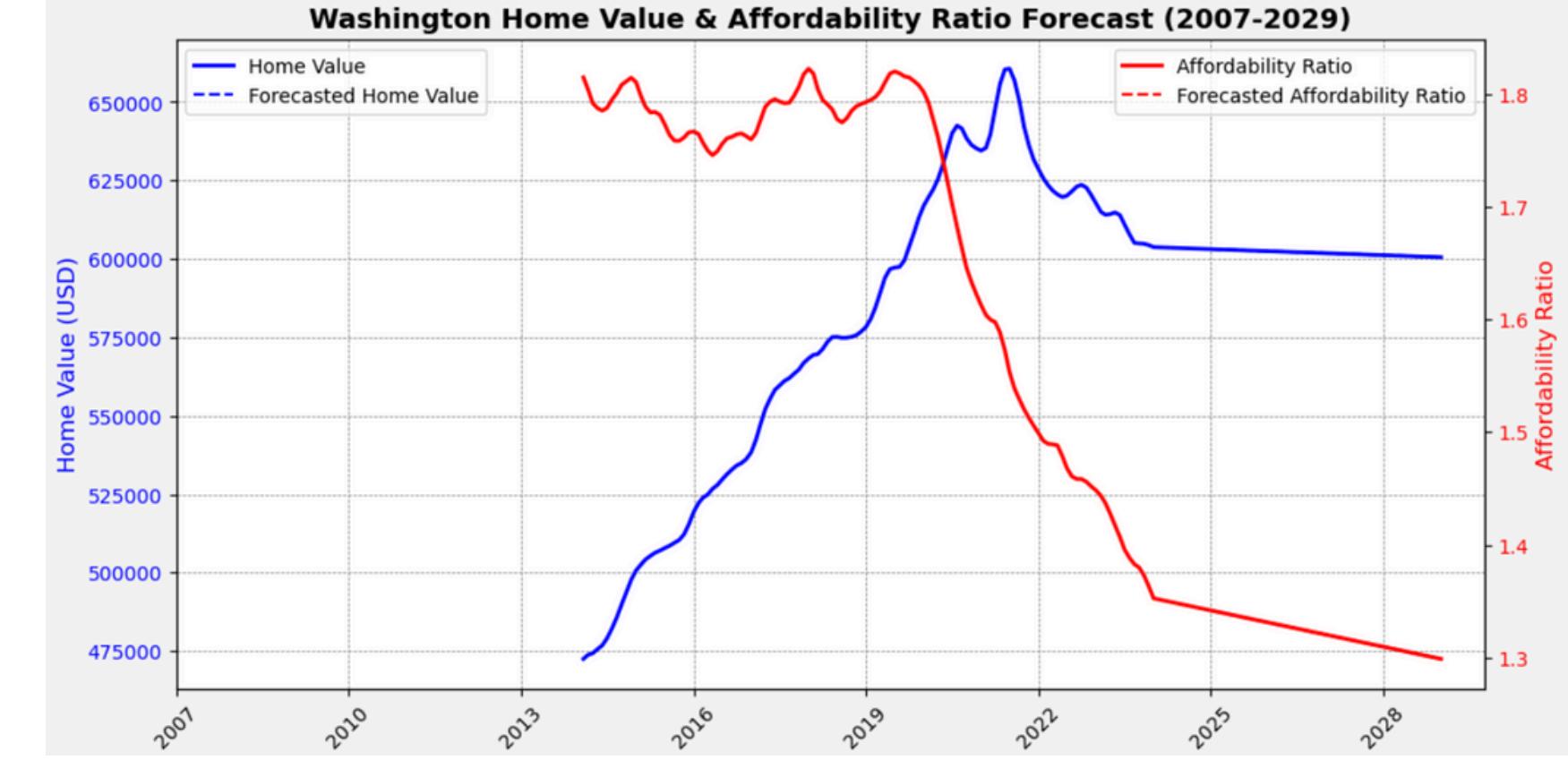


## Key Insights From Arima Forecast:

**Steady Increase in Housing Prices:** From 2015 to 2022, Washington, D.C. experienced a consistent rise in housing prices, culminating in a peak around 2022. This trend reflects the city's growing demand and economic development during that period.

**Market Stabilization Post-2022:** Following the 2022 peak, housing prices in Washington, D.C. have shown signs of stabilization or slight decline. Recent data indicates a 2.3% decrease in average home values over the past year, bringing the average to \$603,762.

**Future Affordability Concerns:** Projections for 2025 suggest a 4.7% increase in the median home sale price in the D.C. region, rising from \$609,700 in 2024 to \$638,310. This anticipated growth may pose challenges for prospective homeowners, potentially requiring higher incomes to afford properties in the area.



## Key Insights from Exponential Smoothing Forecast

- Continued Price Growth (2025-2029):** The model predicts a steady rise in home values, reinforcing the notion that D.C.'s housing market remains resilient.
- Declining Affordability Ratio:** Home prices are projected to outpace income growth, leading to an increasing affordability crisis for middle- and lower-income households.
- Shift Toward Rentals:** If trends continue, many potential buyers may be forced into the rental market or relocate outside D.C.



# CONCLUSION

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The analysis comprises on various key finds which hint towards housing prices have consistently outpaced wage growth, leading to a widening affordability gap. The data-driven insights underscore several critical concerns:

- Rising Housing Costs & Wage Disparity
  - Home values and rental prices have surged significantly since the early 2000s, with Boston's bottom-tier housing requiring nearly 40.7% more income by 2029.
  - National wages have failed to keep pace with rising housing costs, with projections showing affordability will decline further without intervention.
- Increased Risk of Homelessness
  - Cities like Los Angeles and Washington, D.C. are particularly vulnerable, where rental affordability and homeownership costs are projected to rise beyond sustainable levels.
- Structural Exclusion of Middle-Class & Low-Income Earners
  - In cities like Chicago, homeownership is becoming out of reach for the majority, with a sharp increase in unaffordable households expected between 2023 and 2028.

## Recommendations for Intervention

To address these escalating concerns, the following measures should be considered:

- Expansion of Affordable Housing: Implement policies that encourage the development of low- and middle-income housing.
- Regulation of Housing Prices: Introduce measures to prevent speculative bubbles and stabilize market growth.
- Wage Growth & Rent Control Policies: Ensure wages keep pace with inflation and housing costs, potentially through targeted rent assistance programs.
- Urban Planning Strategies: Invest in infrastructure that supports affordable housing initiatives and mitigates the risk of forced displacement.

## Final Outlook

If current trends persist without intervention, the U.S. housing market may see increased rates of homelessness and economic displacement. The affordability crisis is no longer confined to low-income individuals but is expanding to middle-class earners, making urgent policy responses essential. Addressing this issue through a combination of economic, regulatory, and social interventions will be crucial in ensuring sustainable housing for all.