

# THE HOUSING AFFORDABILITY GAP IN SOUTHERN NEVADA

AGENDA ITEM VII A-2 - HOUSING  
Meeting Date: 05-15-18

The Housing Affordability Gap in Southern Nevada report  
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August 8, 2017

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Ms. Lucy Klinkhammer  
Vice President of Resource Development  
Nevada HAND  
295 East Warm Springs Road, Suite 101  
Las Vegas, NV 89119

**RE: Housing Affordability Gap Analysis in Southern Nevada**

Dear Ms. Klinkhammer:

In accordance with your request, Applied Analysis ("AA") is pleased to submit this report on the gap in available affordable housing options in southern Nevada. AA was retained by Nevada HAND to assist in evaluating the region's economic, demographic and real estate trends and how they might impact availability of affordable housing units over the next 10 years. The findings in this report were determined by generating a custom equilibrium model that factored in more than a dozen variables to estimate the region's existing and future demand for housing, the supply of housing units by price point, and the shortage or surplus of affordable housing units based on household incomes and housing prices.

This report was designed by AA in response to your request. However, we make no representations as to the adequacy of these procedures for all purposes. Generally speaking, our findings and estimates are as of the date of this letter and utilize the most recent data available. This report contains economic, development, real estate, and other predominant market data. This information was collected from our internal databases and various third parties. The data were assembled by AA. While we have no reason to doubt its accuracy, the information collected was not subjected to any auditing or review procedures by AA; therefore, we can offer no representations or assurances as to its completeness.

This report is an executive summary. It is intended to provide an overview of the analyses conducted and a summary of our salient findings. AA will retain additional working papers relevant to this study. If you reproduce this report, it must be done so in its entirety. We welcome the opportunity to discuss this report with you at any time. Should you have any questions, please contact Jeremy Aguero or Brian Gordon at (702) 967-3333.

Sincerely,



Applied Analysis

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# Structure of this Report

## Part I: The Missing Middle

The primary question presented in this analysis is the extent to which a segment of southern Nevada's population is experiencing, or is likely to experience, an acute shortage in the available supply of affordable housing. This population segment, which earns between \$35,000 and \$60,000 in annual household income, is sometimes referred to as "The Missing Middle." Part I of this report provides an overview of The Missing Middle, including consideration of demographics, socioeconomic profile and geographic data as measured using an Equilibrium Housing Model.

## Part II: Southern Nevada Housing Market Analysis

To understand the affordable housing obstacles faced by The Missing Middle, and to evaluate potential solutions, it is important to examine the southern Nevada housing market as a whole. Part II provides a comprehensive overview of the regional housing market and the underlying demand, supply and pricing factors that shape the availability of housing throughout the region. This section also includes findings from the Equilibrium Housing Model analysis that illustrate current and future supply of and demand for housing affordability among all income groups.



# Part I **The Missing Middle**

**The Housing Affordability Gap in Southern Nevada**

# Primary Issue: The Missing Middle

## Issue

Is the southern Nevada housing market providing the necessary supply of affordable rental housing to satisfy current demand from households in The Missing Middle (see definition on Page 7)? Will the market satisfy this demand in the next 10 years given current trends?

## Conclusion

The housing market is currently experiencing a shortage of affordable rental housing options for The Missing Middle, particularly for households earning less than \$45,000. If current trends hold over the next decade, this shortage is projected to expand in degree and breadth, significantly impacting renter households across all income levels in The Missing Middle.

# The Missing Middle

1 in 4

Southern Nevada Households  
Fall into the Missing Middle



The lack of affordable housing is a growing concern for communities across the United States, including southern Nevada. When housing supply fails to keep pace with housing demand, prices can rise rapidly. As prices climb, households must spend larger shares of income on basic housing needs, leaving less income for other, often essential, goods and services.

Increasingly, the impacts of the affordable housing shortage are being felt by middle-income households. These households earn too much income to qualify for government housing subsidies and other public assistance programs, yet they are underserved by a housing market with a limited affordable inventory.

These households, which earn between \$35,000 and \$60,000 per year, are The Missing Middle.



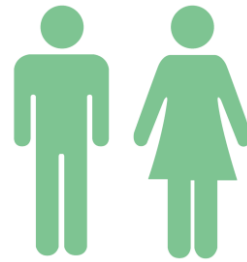
# The Missing Middle

## Who is the Missing Middle?



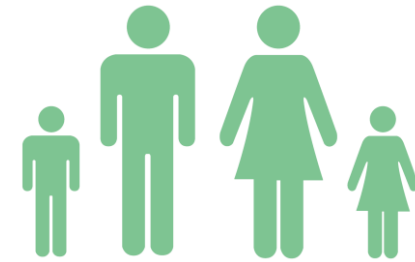
186,000

Households



129,500

Family Households



72,700

Households with Children

96,000

Renter Households

90,000

Homeowner Households

Source: U.S. Census Bureau, Applied Analysis

# The Missing Middle

## Who is the Missing Middle?

**248,000**  
Workers

Nearly a Quarter of  
Southern Nevada's Workforce



**Leisure and Hospitality**  
78,800



**Retail Trade**  
34,500



**Education and Health Services**  
29,900



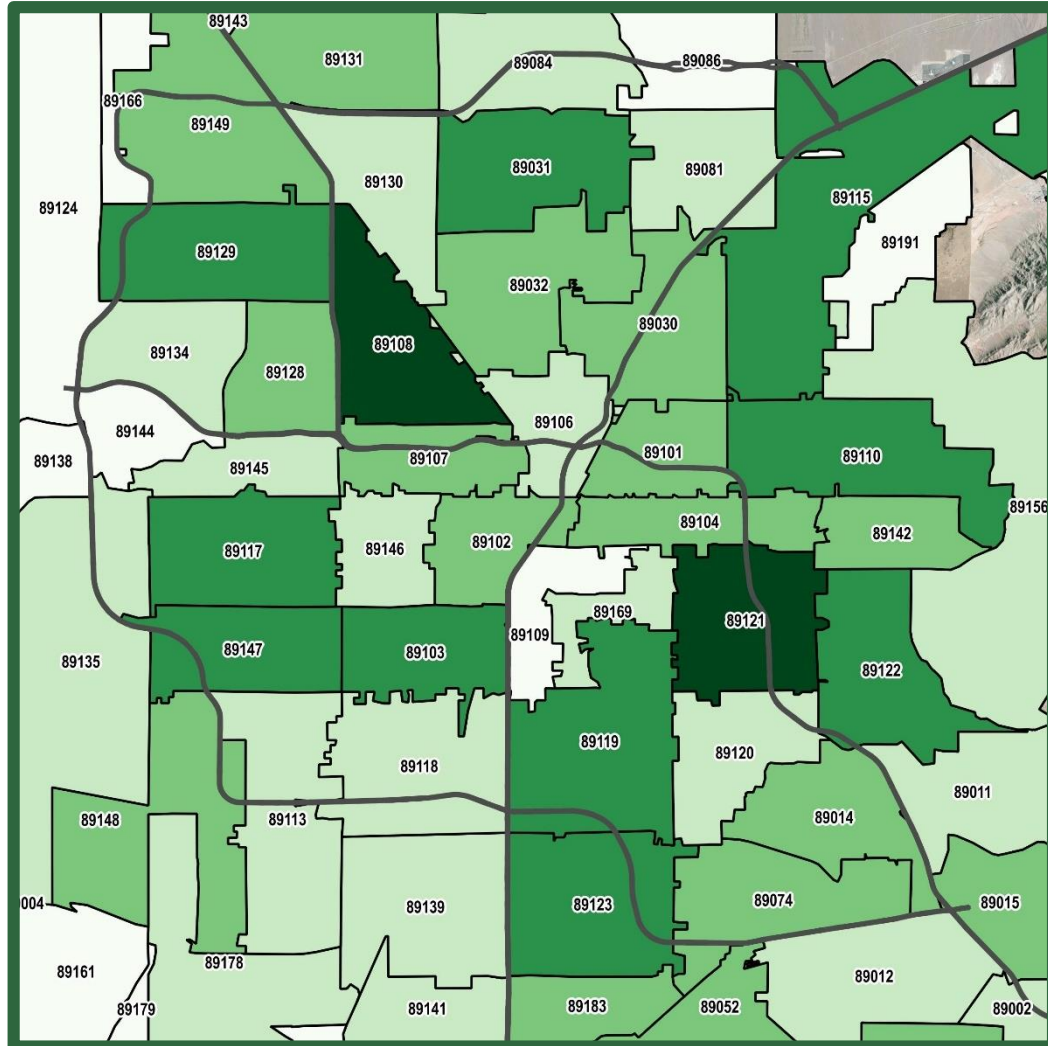
**Professional and Business Services**  
22,700



**Construction**  
16,700

Source: U.S. Census Bureau, Applied Analysis

# The Missing Middle



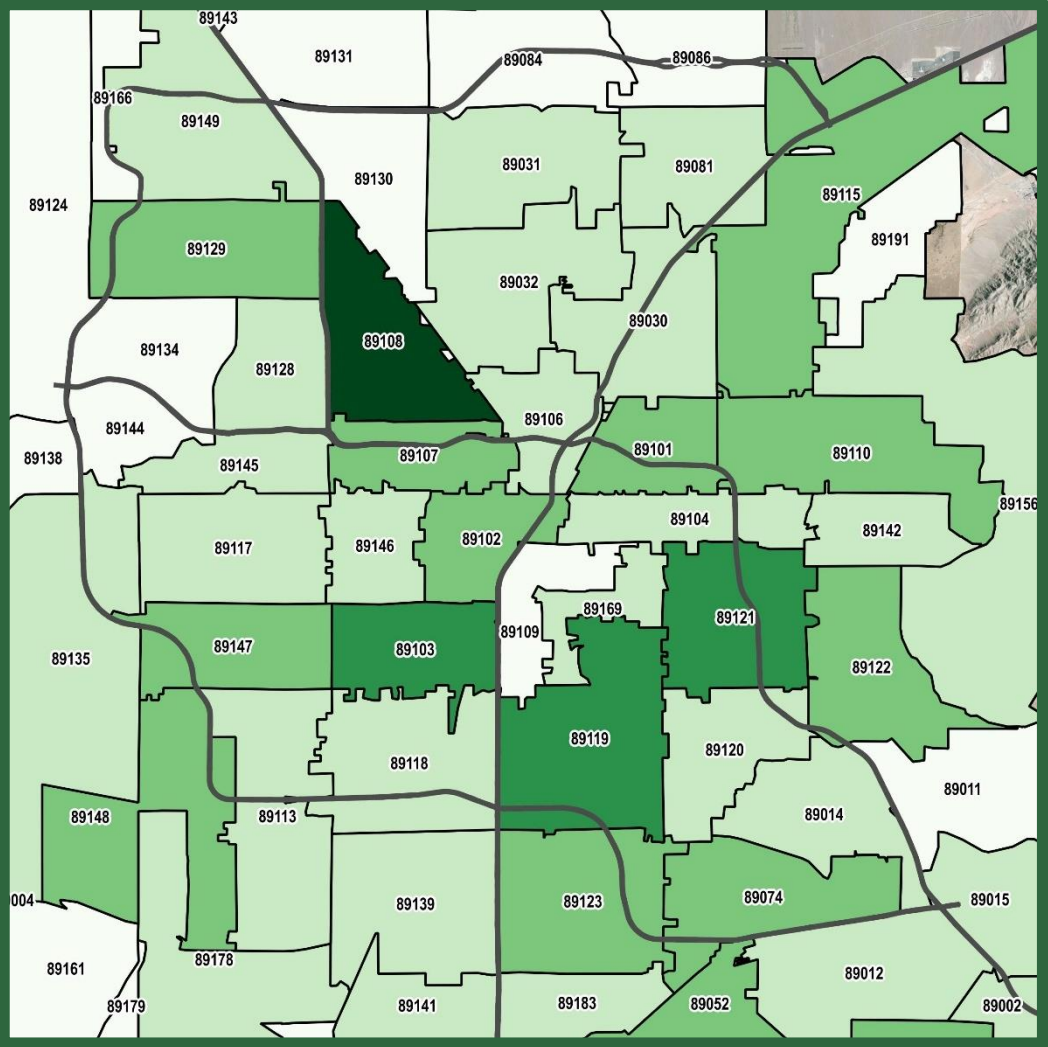
## Middle-Income Households

Households with Incomes  
Between \$35,000 and \$60,000

Legend	
	Less Than 1,500 Households
	1,500 to 2,999 Households
	3,000 to 4,499 Households
	4,500 to 5,999 Households
	6,000 Households or More

Source: U.S. Census Bureau

# The Missing Middle



## Middle-Income Renter Households

1 in 4 Renter Households in Southern Nevada Earn Between \$35,000 and \$60,000

Legend	
	Less Than 1,000 Households
	1,000 to 1,999 Households
	2,000 to 2,999 Households
	3,000 to 3,999 Households
	4,000 Households or More

Source: U.S. Census Bureau



# The Missing Middle

To understand the affordable housing obstacles faced by The Missing Middle, it is important to examine the southern Nevada housing market as a whole.

All income levels are linked in the housing market to some degree. Affordability shortages at lower income ranges mean those households must pay more for housing, creating a domino effect as they compete with middle-income households for a finite pool of affordable housing.

Middle-income households also face market competition from higher-income households that can spend a smaller share of income for a home that meets their needs.



# The Missing Middle

Because of the relationships between households across the income spectrum, understanding the affordable housing needs of The Missing Middle requires an evaluation of the entire housing market and the interplay of broader economic, demographic and housing trends that impact regional supply and demand.

For this purpose, a custom Housing Equilibrium Model was developed that considers a variety of demand, supply and pricing factors to estimate the current and future affordable housing market.

Key findings from the model for The Missing Middle and the broader market are presented in the following pages, along with a comprehensive summary of the various supply and demand factors that continue to shape southern Nevada's housing market.



**Demand**



**Supply**



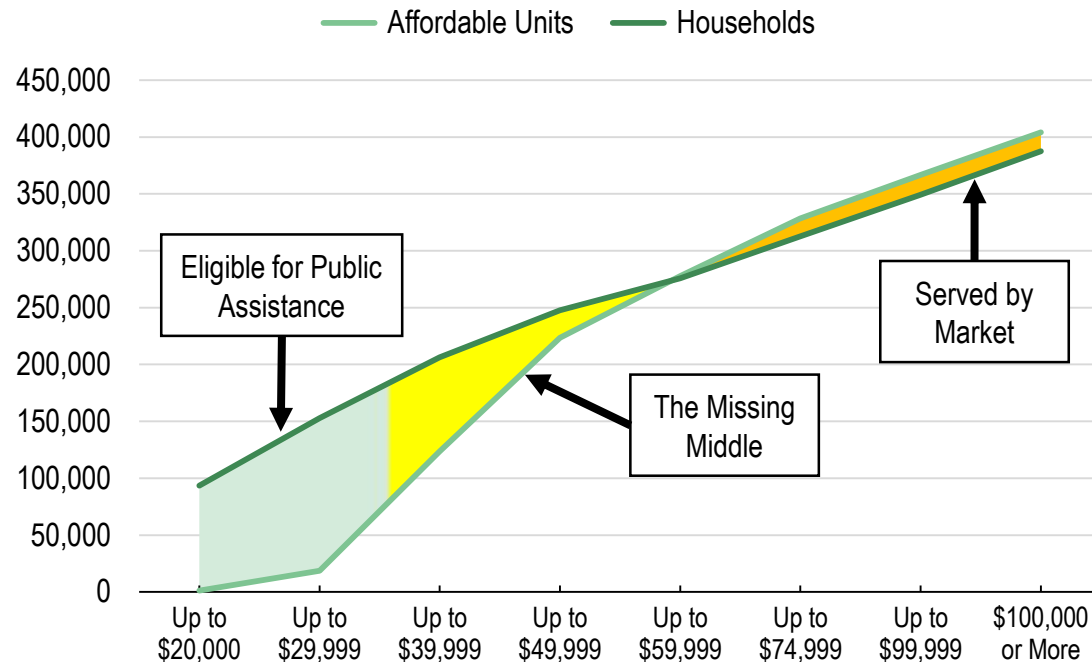
**Pricing**

# The Missing Middle

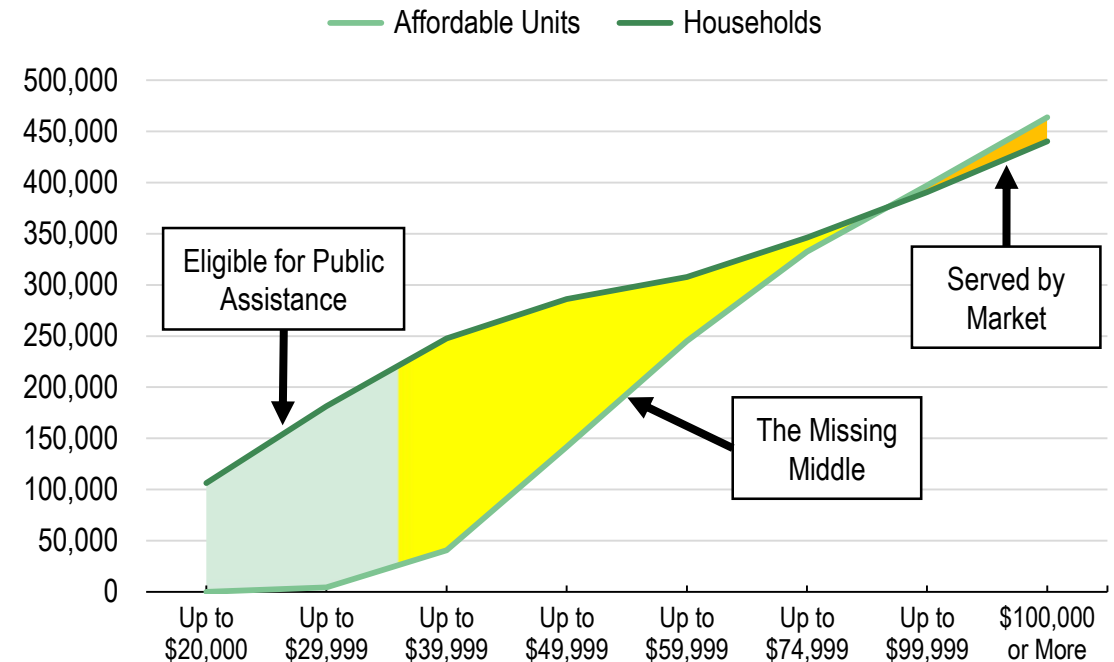
## Model Results: Renter-Occupied Households

Renter-occupied households shoulder the bulk of the regional affordable housing shortage. Over the next 10 years, the lack of affordable housing is projected to increase for renter households earning up to \$75,000, particularly those among the Missing Middle households.

Renter-Occupied Households (2017)



Renter-Occupied Households (2026)



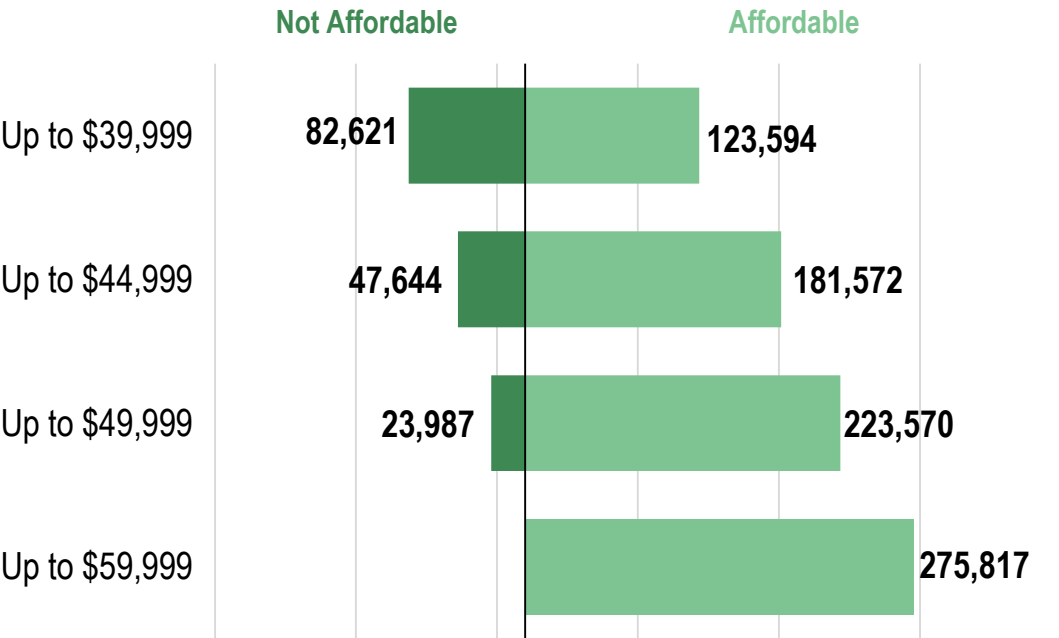
Source: Applied Analysis

# The Missing Middle

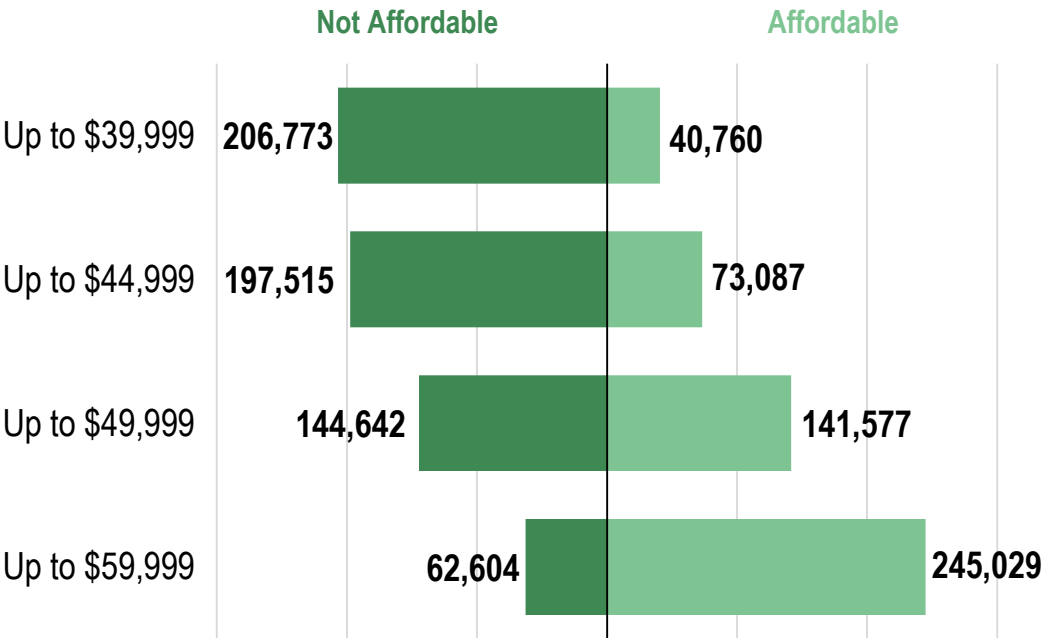
## Model Results: Renter-Occupied Households

The charts below illustrate the number of southern Nevada renter-occupied households in the Missing Middle that have adequate affordable housing options and those that don't. Note that these are cumulative totals that include lower-income households, which often compete with middle-income households for the same housing inventory.

Renter-Occupied Households (2017)



Renter-Occupied Households (2026)



Source: Applied Analysis





# **Part II**

# **Southern Nevada Housing Market Analysis**

# Housing Market Overview

## Housing Market Supply-Demand Balance

The market forces shaping the availability of affordable housing for The Missing Middle mirror those that exist within the broader marketplace.

### Supply

Several years of fast-paced population growth has absorbed much of the previous excess housing supply. New homebuilding activity has increased in recent years, but shrinking supplies and rising land prices are putting upward pressure on both new home prices and new apartment rents, effectively pricing most new inventory beyond the affordability levels of The Missing Middle.

### Demand

Population, employment and other growth metrics have rebounded to rank among the fastest in the nation, generating a new period of extended in-migration and increased housing demand. Expanded employment among many middle-income occupations, including those in leisure and hospitality, will increase demand for affordable housing among The Missing Middle households.

### Balance

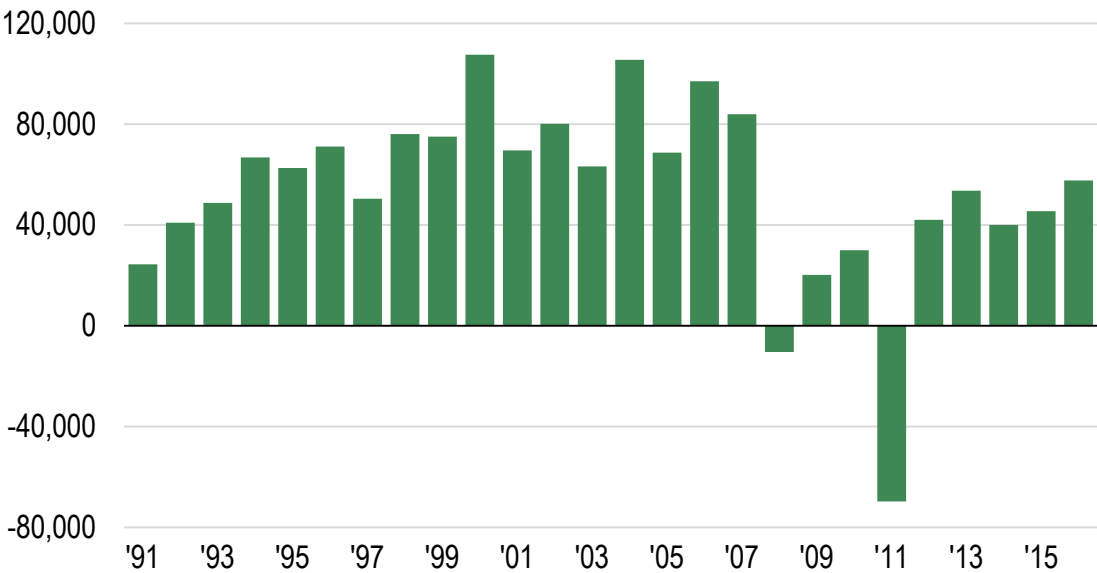
Rising demand and tightening supply have combined to trigger rapid pricing increases throughout the regional housing market. Prices in both the existing and new home markets, as well as the apartment rental market, have climbed quickly and are unlikely to stabilize without either a marked slowdown in population growth, a significant acceleration in homebuilding, or some combination of the two.

# Housing Market Overview

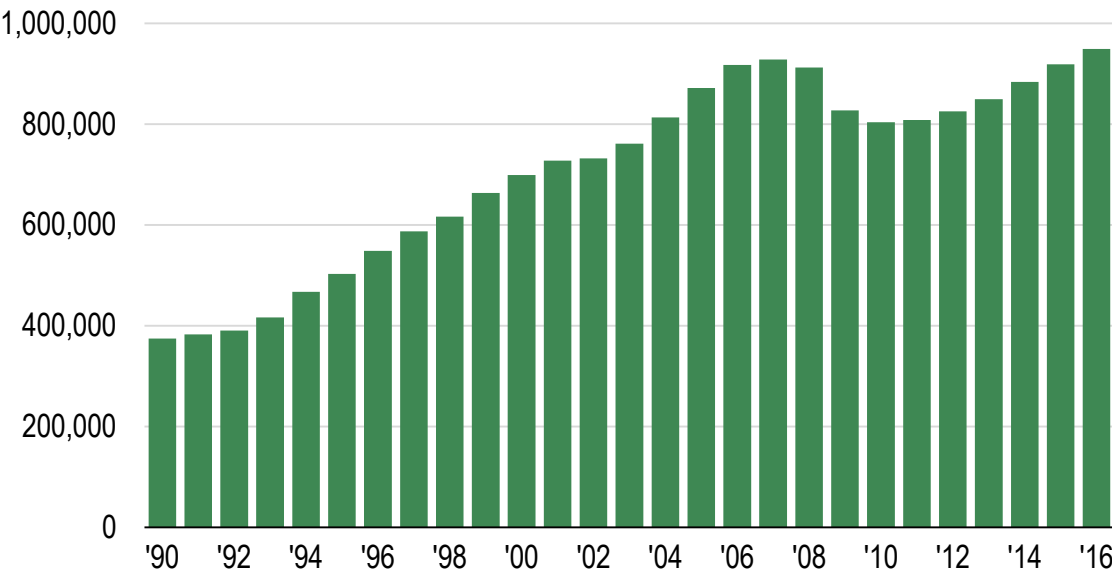
## Strong Growth Returns to Southern Nevada

Regional growth slowed and even declined during the economic downturn, but it has since rebounded to again rank among the fastest in the nation. Whether they are seeking job opportunities, retirement homes or educational degrees, these new residents are generating an increasing demand for incremental housing.

Clark County Population  
Annual Gain/Loss



Employment

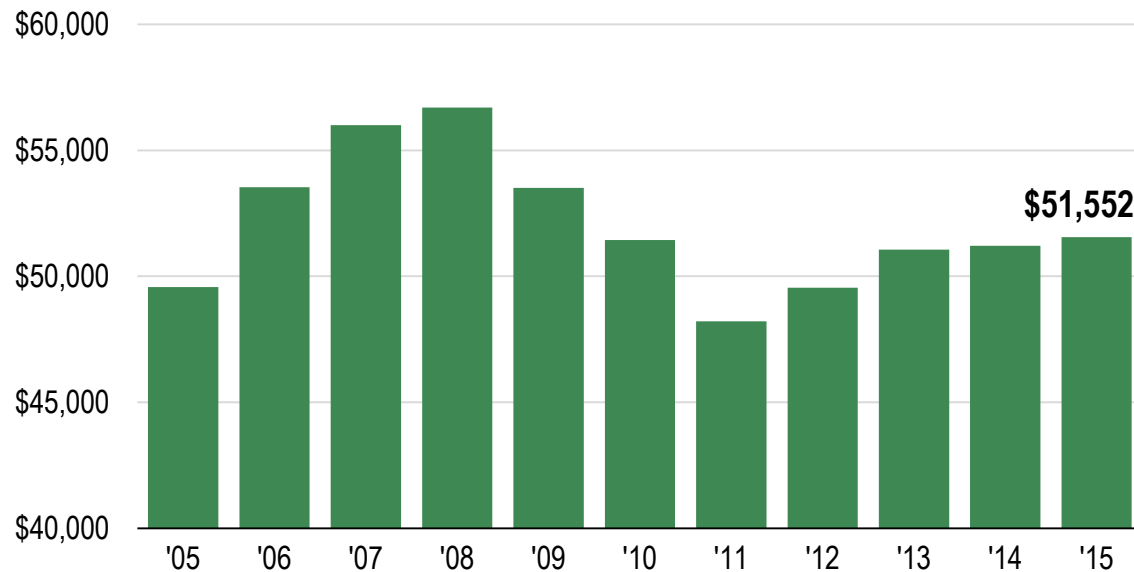


# Housing Market Overview

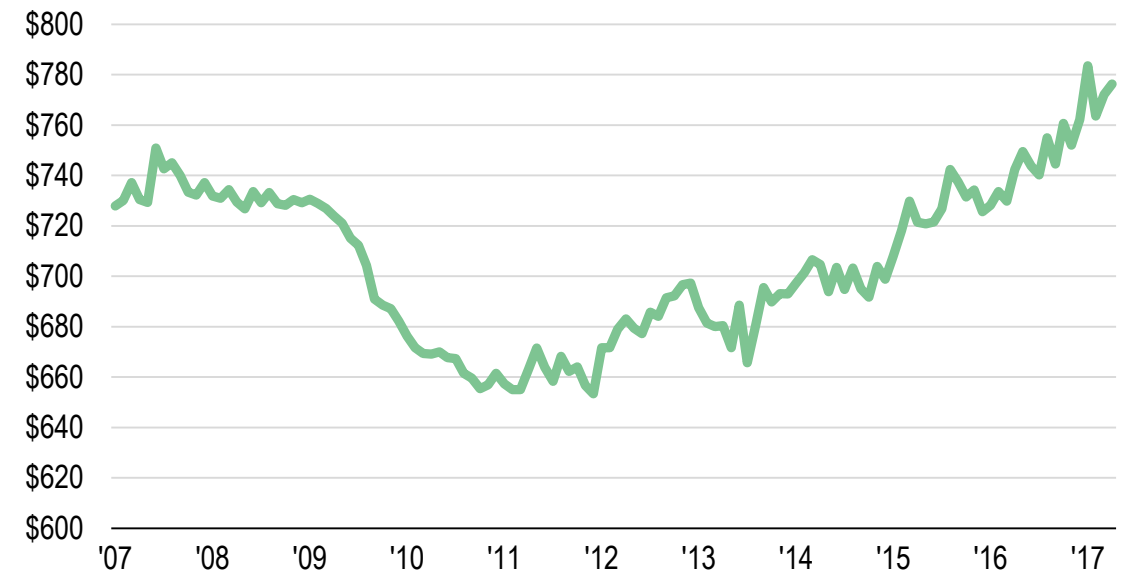
## Household Incomes Climbing But Not Recovered

Household incomes in southern Nevada have rebounded some but not completely in the period of economic recovery, according to U.S. Census Bureau data. More recent wage data suggests greater income gains have been realized as the unemployment rate has dropped and labor markets have tightened. How quickly incomes grow in relation to housing costs will greatly influence housing affordability in the coming years.

**Median Household Income**



**Average Weekly Wages**



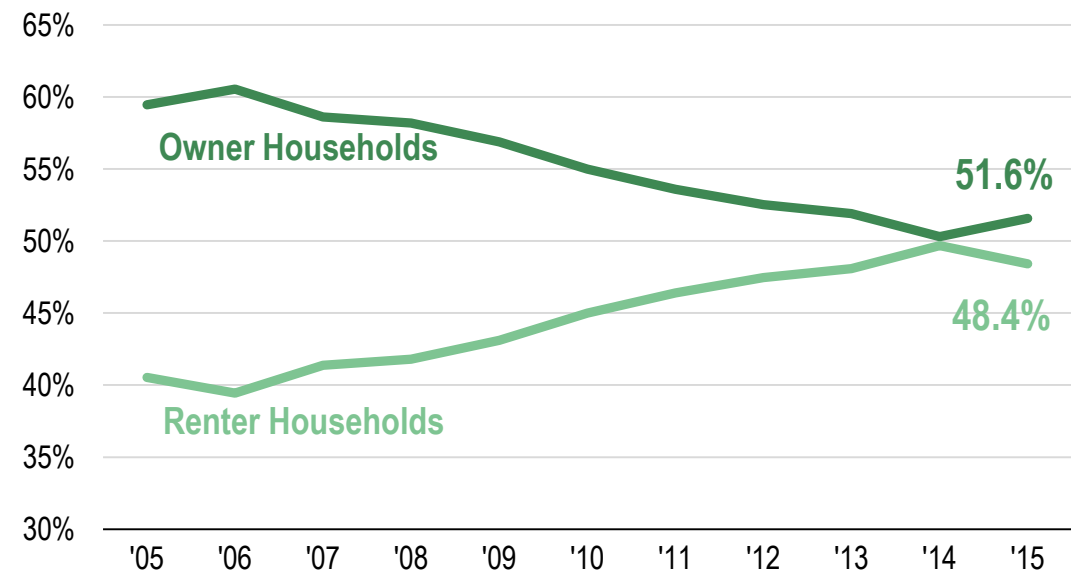


# Housing Market Overview

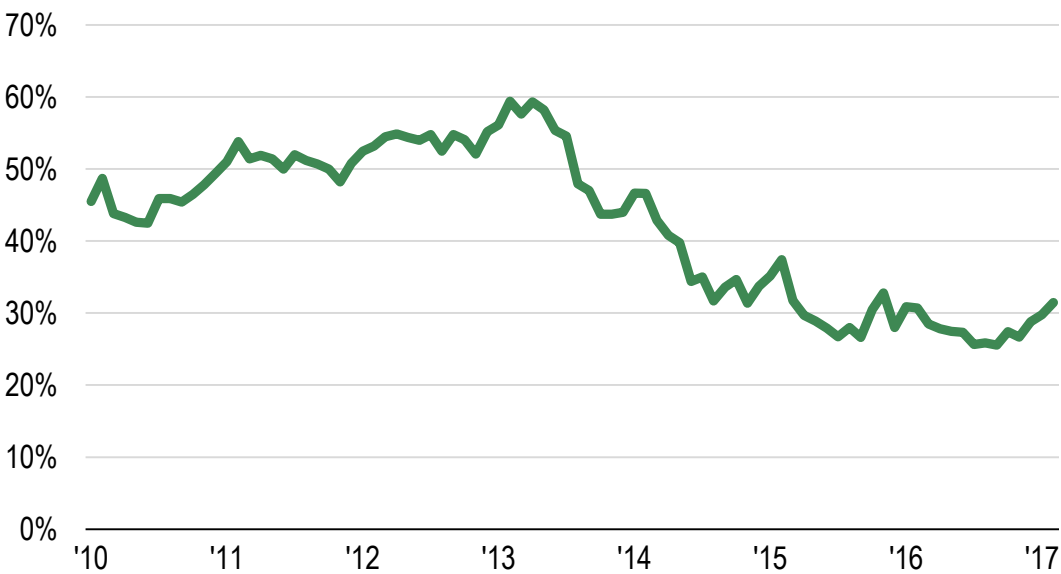
## Fewer Owners, More Renters

After the housing bubble burst, the homeowner share of households declined by more than 10 percentage points as banks foreclosed and investors found a market flush with real estate bargains. Today, the share of existing home cash purchases, a proxy for investor activity, account for about a third of home sales. Regionally, rental properties in southern Nevada make up an estimated 47 percent of all residential inventory.

Housing Tenure



Existing Home Cash Purchase Share

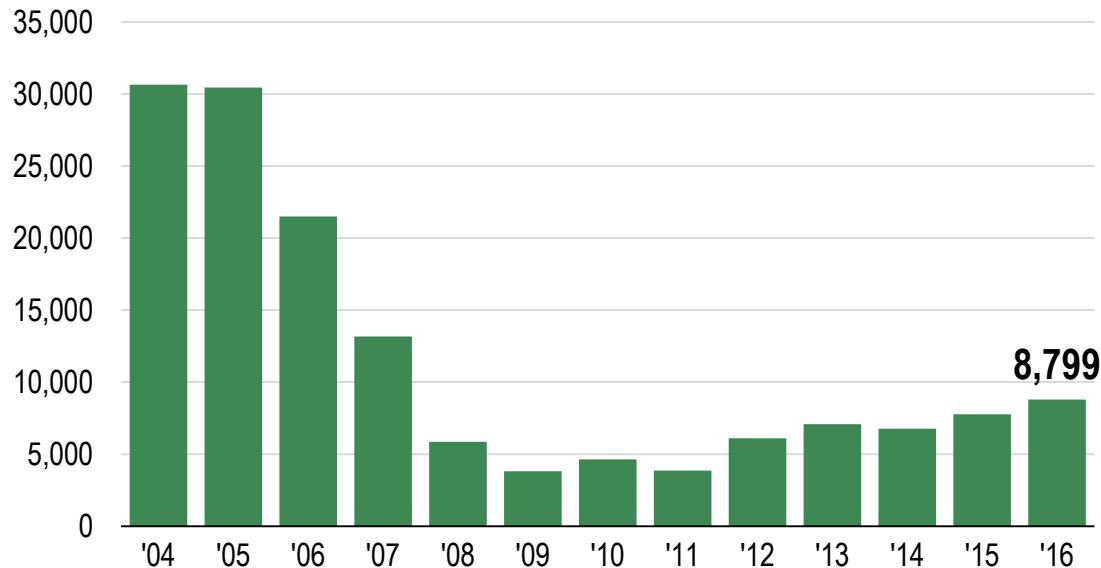


# Housing Market Overview

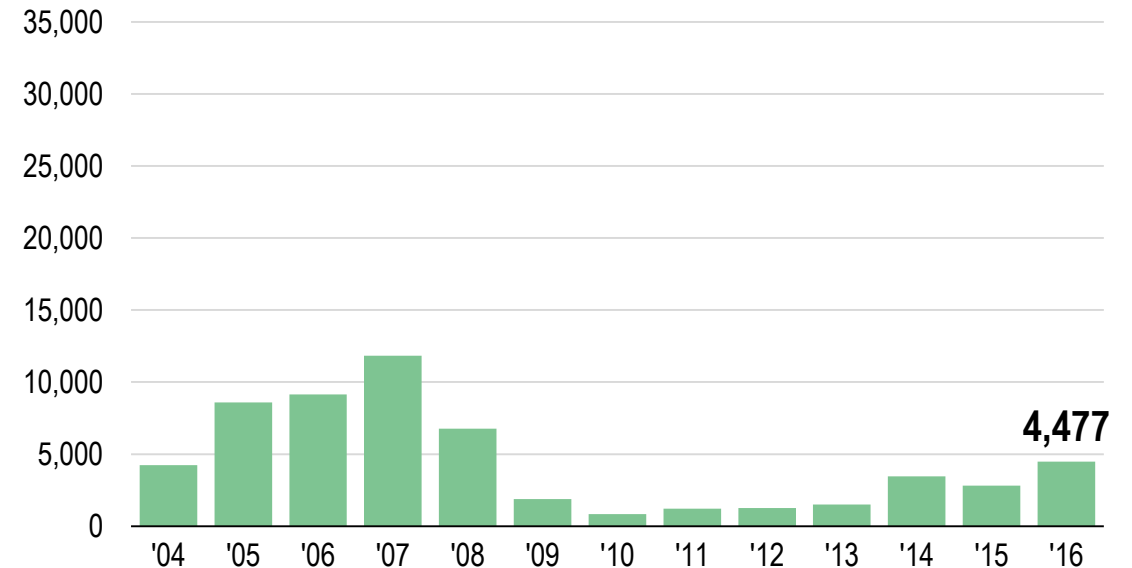
## Homebuilding Activity Gradually Rising

In recent years, single family permitting has been marked by steady growth, while multifamily permitting has experienced a notable rise since 2013. This rise appears to be linked to escalating land costs that make multifamily developments more financially viable for builders. Due to recent population growth, residential vacancy rates have dipped under 4 percent, suggesting strong current and future demand for new housing in the region.

**Single Family Residential Permits**



**Multifamily Residential Permits**



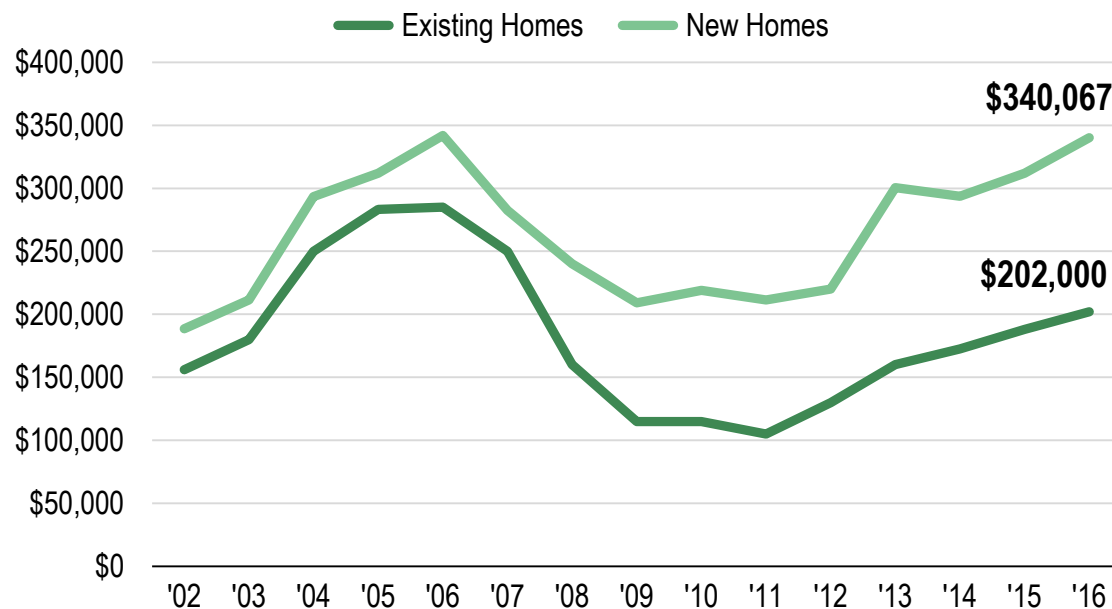
# Housing Market Overview

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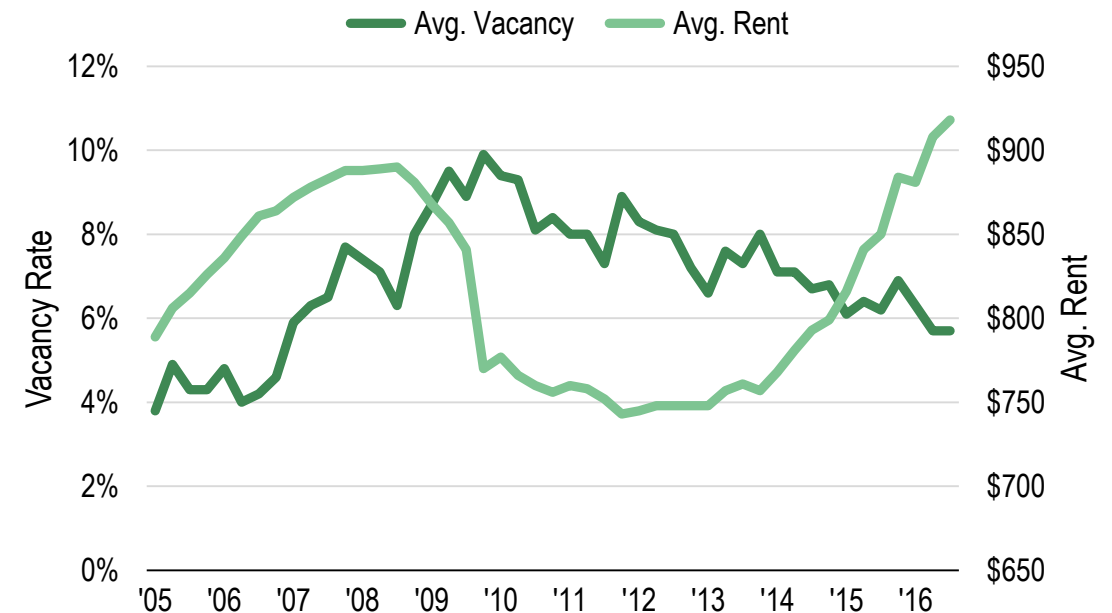
## Home and Apartment Prices Rapidly Rising

Demand for housing has been outpacing incremental supply, creating upward pricing pressures for both homeowners and renters. Another factor in rising housing costs has been the escalation of pricing for newly built homes and apartments. Newer properties are being priced higher as builders attempt to recoup rising construction and land costs.

### Home Median Sale Price

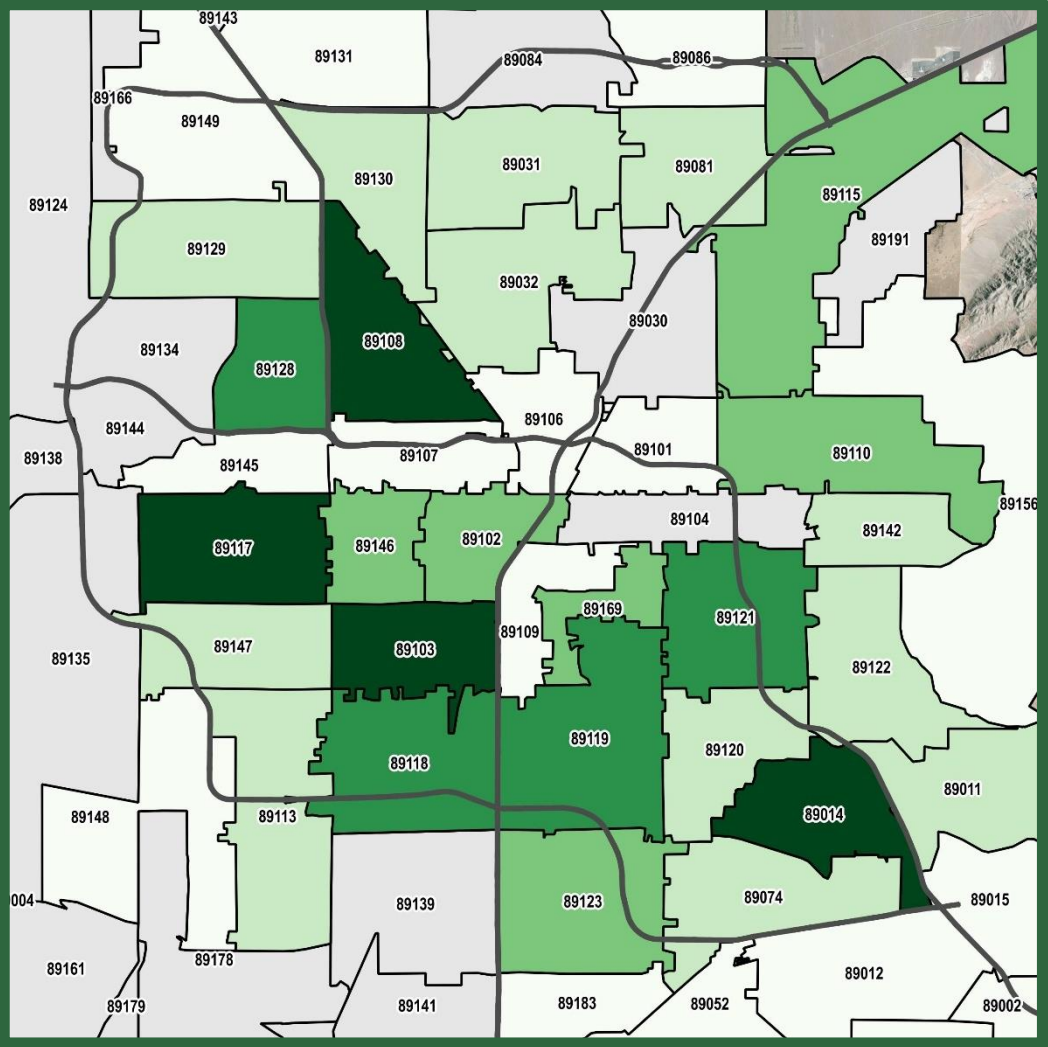


### Apartment Vacancy and Rent



Data through Q3 2016 for complexes of 100 units or more.

# Housing Market Overview



## Affordable Apartments

- 1-Bedroom Units with Rent Between \$614 to \$851
- 2-Bedroom Units with Rent Between \$851 to \$1,030
- Apartment Complexes with 100 Units or More
- Built in 1978 or Later

Legend	
	Less Than 500 Units
	500 to 999 Units
	1,000 to 1,499 Units
	1,500 to 1,999 Units
	2,000 Units or More

Note: Rents as of Q3 2016. Source: Applied Analysis



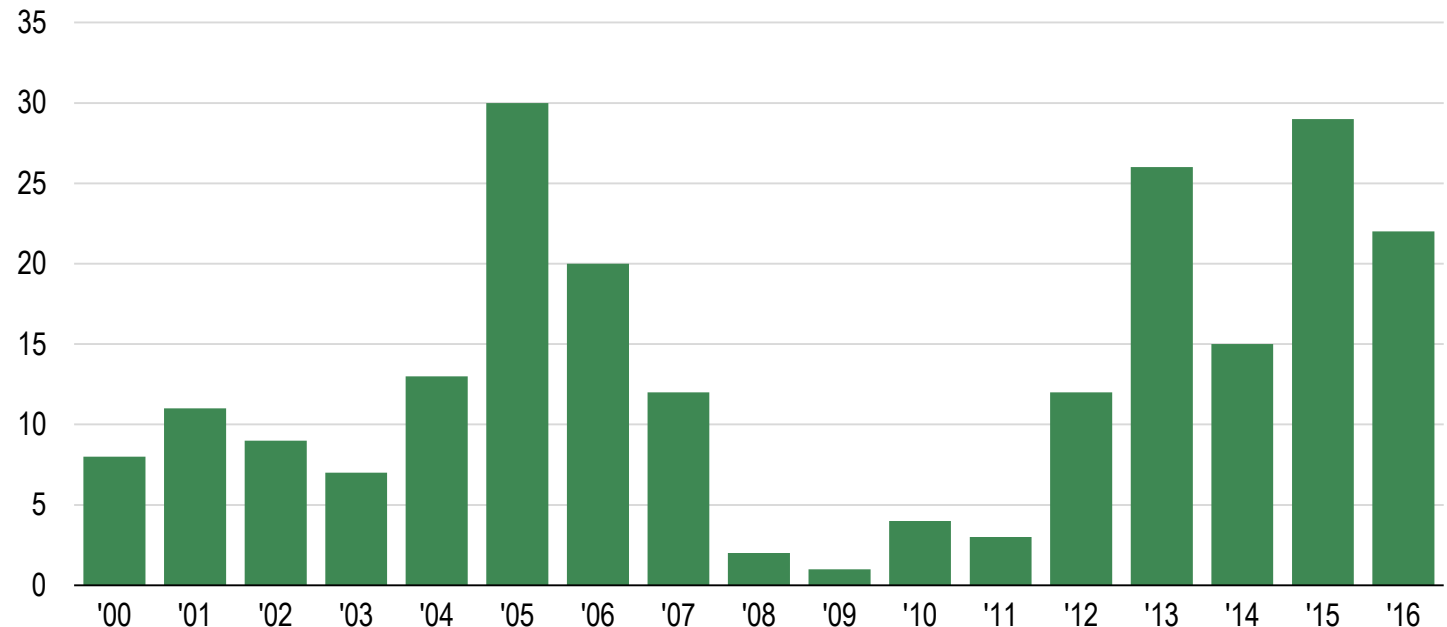
# Housing Market Overview

## Apartment Transactions

A majority of southern Nevada apartment complexes are owned by out-of-state interests. Additionally, the number of apartment complex sale transactions has increased in recent years.

Apartment Ownership		
State of Owner	Complexes	Share
California	174	47.4%
Nevada	71	19.3%
Arizona	17	4.6%
New York	8	2.2%
Rhode Island	8	2.2%
Illinois	7	1.9%
Texas	7	1.9%
Virginia	7	1.9%
Other/Unknown	68	18.5%
<b>Total</b>	<b>367</b>	<b>100%</b>

Apartment Complexes by Year of Most-Recent Sale



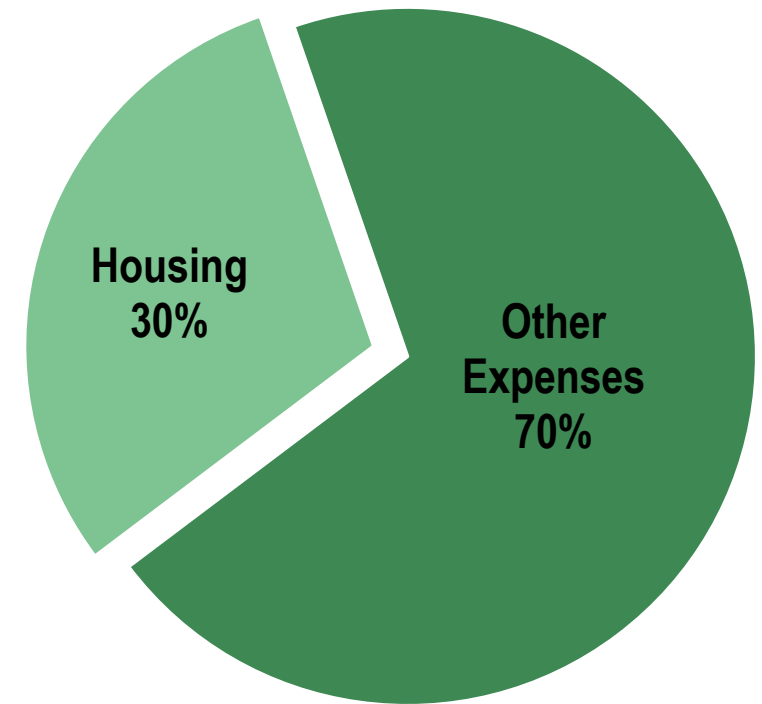
Source: Applied Analysis

# Housing Market Overview

## What is Affordable Housing?

- While no standard definition of affordable housing exists, the widely used guideline by the U.S. Department of Housing and Urban Development and researchers is that housing costs should account for no more than 30 percent of household income.
- Households that spend more than 30 percent of income on housing are considered burdened as they have less money for the many other essential expenses of daily life, such as food, transportation, clothing and medical care.
- Housing costs include the rent or mortgage, insurance, property taxes and utilities.
- The equilibrium model used for this report calculated housing costs excluding utilities. To account for the additional cost of utilities, the affordability baseline was set at 26 percent of household income. This figure was based on housing cost data from the U.S. Census Bureau.

**Affordable Housing Cost as Share of Household Expenses**

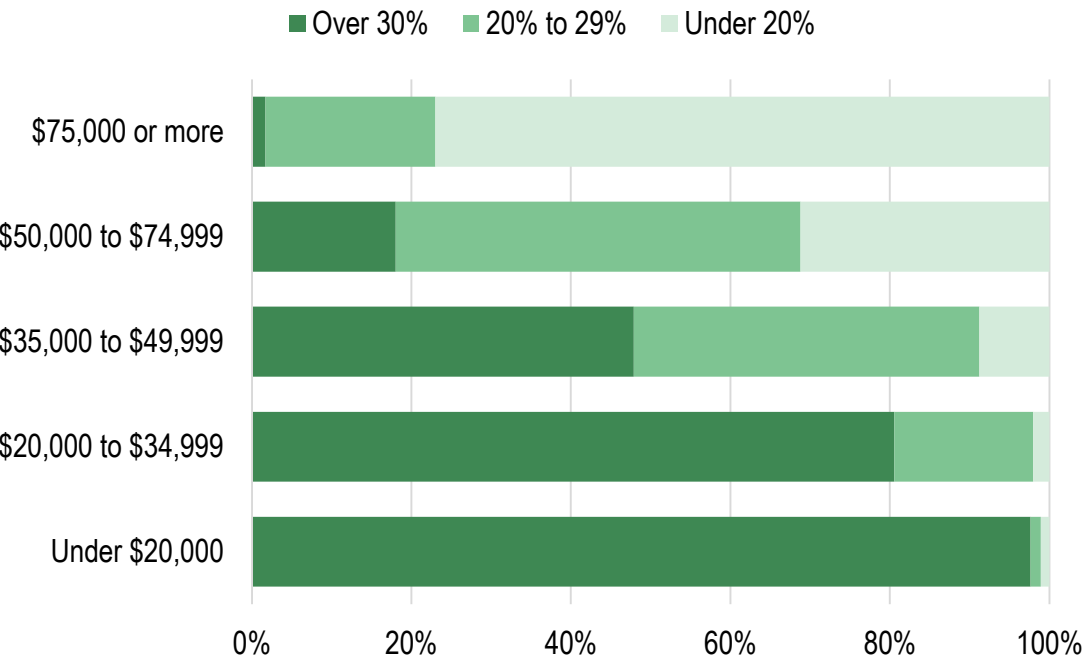


# Housing Market Overview

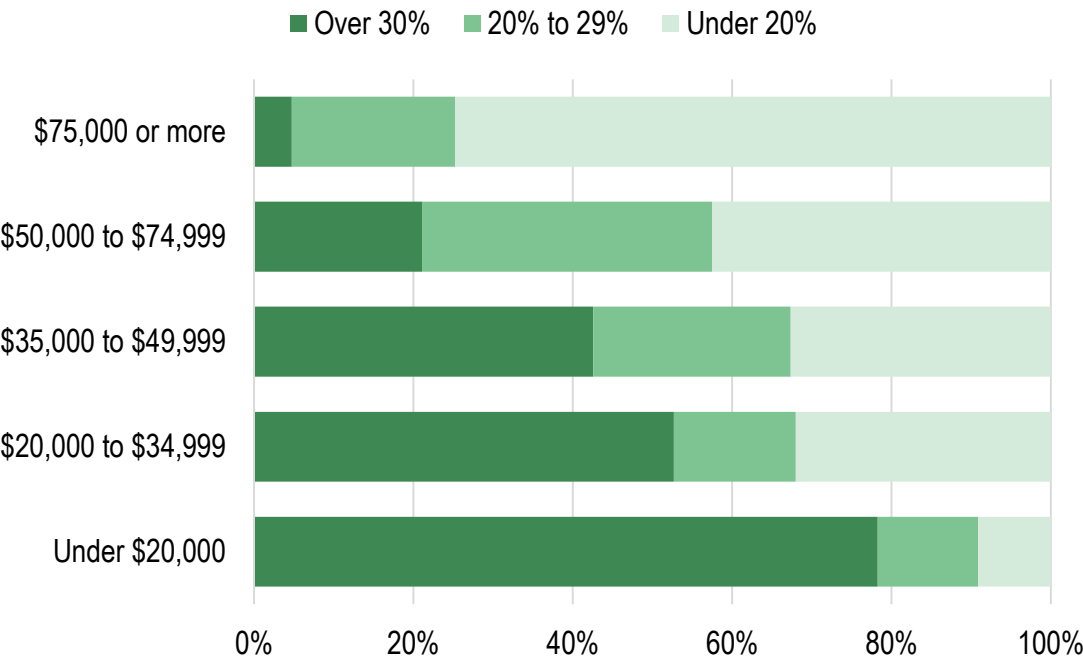
## Housing Cost Burden Affects Lower-Income Renters Most

In southern Nevada, nearly four in 10 households are housing cost burdened, with the majority (69 percent) of those households earning less than \$50,000 a year. Among households earning less than \$50,000, seven in 10 are burdened by housing costs, and among rental households in that income group, the rate rises to nearly eight in 10.

Renter Housing Costs as Share of Income (2015)

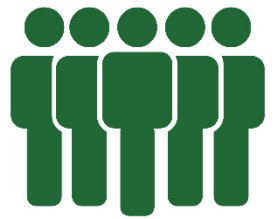


Owner Housing Costs as Share of Income (2015)



# Housing Equilibrium Model

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**Demand**

- Population Growth
- Income Growth
- Household Growth
- Housing Tenure



**Supply**

- Existing Home Sales
- Residential Inventory
- New Home Sales
- Homebuilding Activity



**Pricing**

- Existing Home Prices
- Apartment Rents
- New Home Prices
- Housing Cost Burden

# Housing Equilibrium Model

## Purpose

- To estimate the current and future demand for affordable housing in southern Nevada
- To estimate the current and future supply of affordable housing in southern Nevada
- Determine the shortage, or gap, between existing and future supply of and demand for affordable housing in southern Nevada

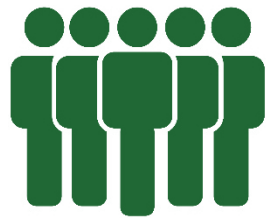
## Methodology

- The key findings in this report were determined by designing a custom equilibrium model that factored in more than a dozen variables to estimate the region's current and future gap in the availability of affordable housing units based on household incomes and housing prices.
- In general, the assumptions used in the model tended to be conservative. The findings of this report reflect a mid-case scenario based on those assumptions and projected trends. Faster or slower growth of any single factor, such as population, home prices or incomes, could widen or narrow the gap in available affordable housing.
- Data reflect Clark County or the Las Vegas metropolitan area, unless otherwise noted.



# Housing Equilibrium Model Factors

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**Demand**

Evaluate the population, household and income growth factors that help determine demand for housing

+



**Supply**

+



**Pricing**

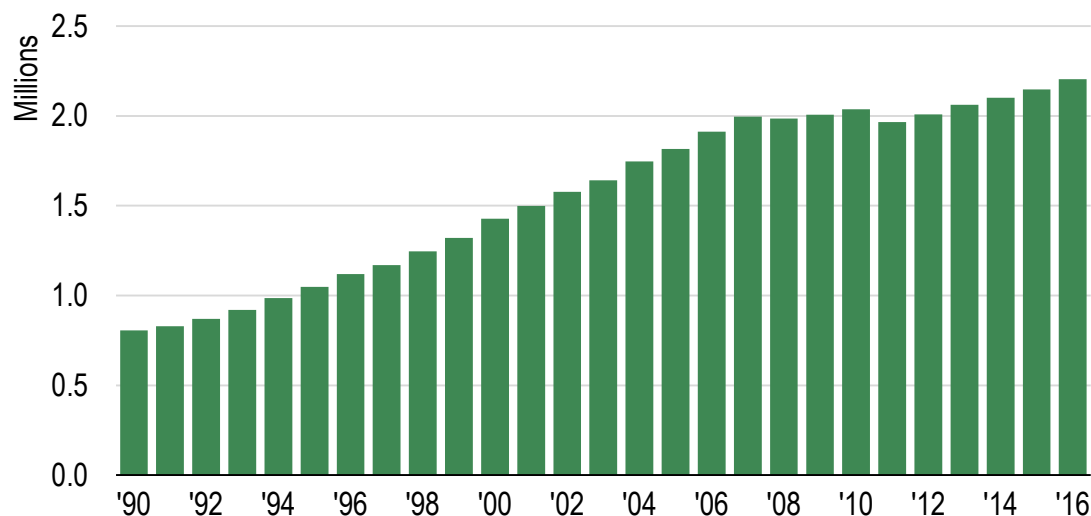
# Population

Throughout southern Nevada's history of prolific expansion, housing and population have grown in concert. Amid the economic crisis, regional population growth slowed and even contracted for a short period, but it has since rebounded along with the broader economy. While recent growth has not mirrored that of the early 2000s, the region has added at least 40,000 new residents in each of the past five years.

## 3rd

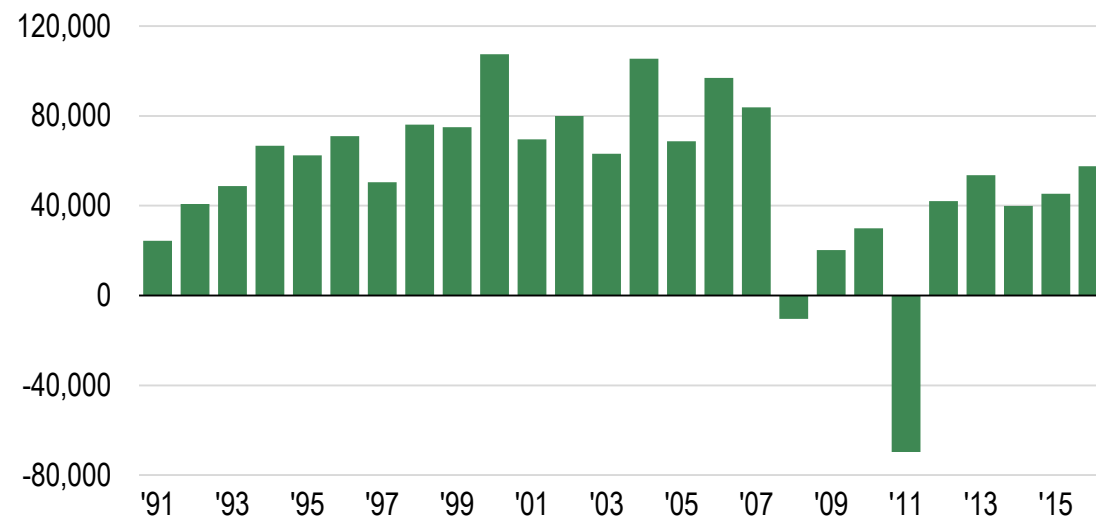
**Las Vegas MSA's Population Growth Rank  
Among the 35 Largest U.S. Metro Areas**

**Clark County Population**



**Clark County Population**

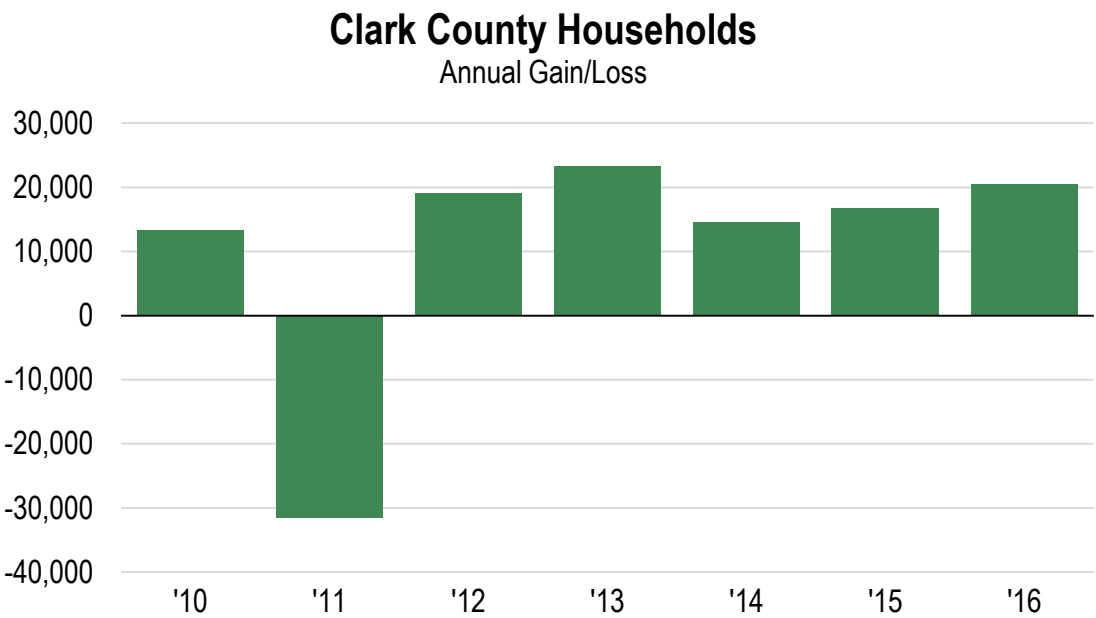
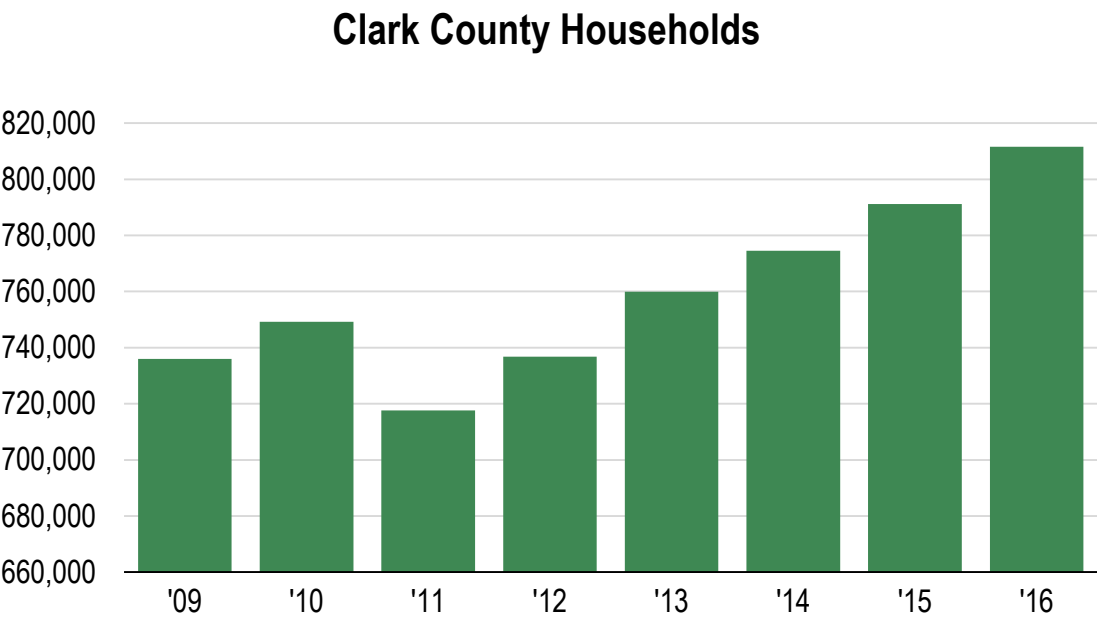
Annual Gain/Loss



Source: Clark County Comprehensive Planning

# Households

Recent population growth trends have equated to tens of thousands of new households being formed in southern Nevada. Clark County added more than 20,000 new households in 2016 alone, the vast majority of which require incremental housing.



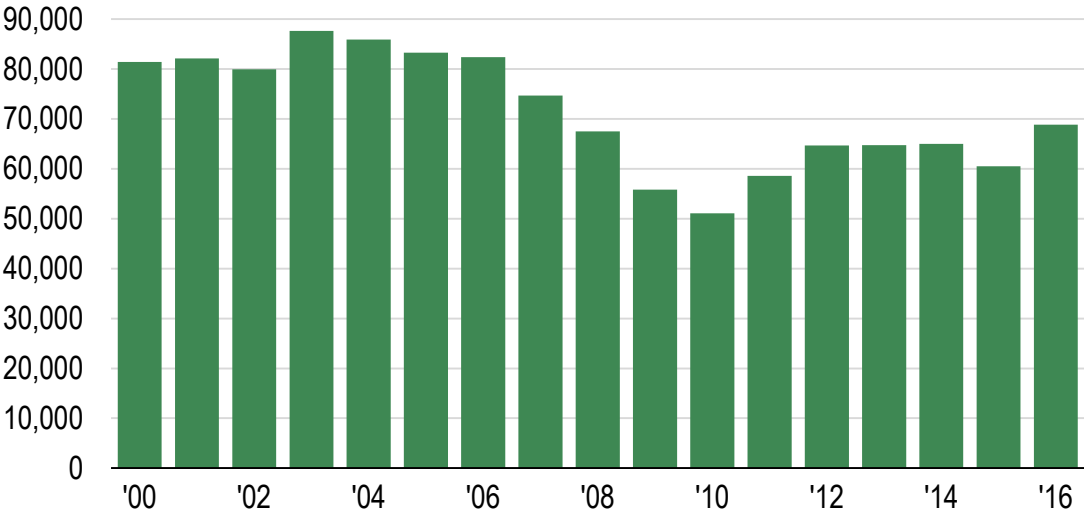
Source: Clark County Comprehensive Planning

# Growth Indicators

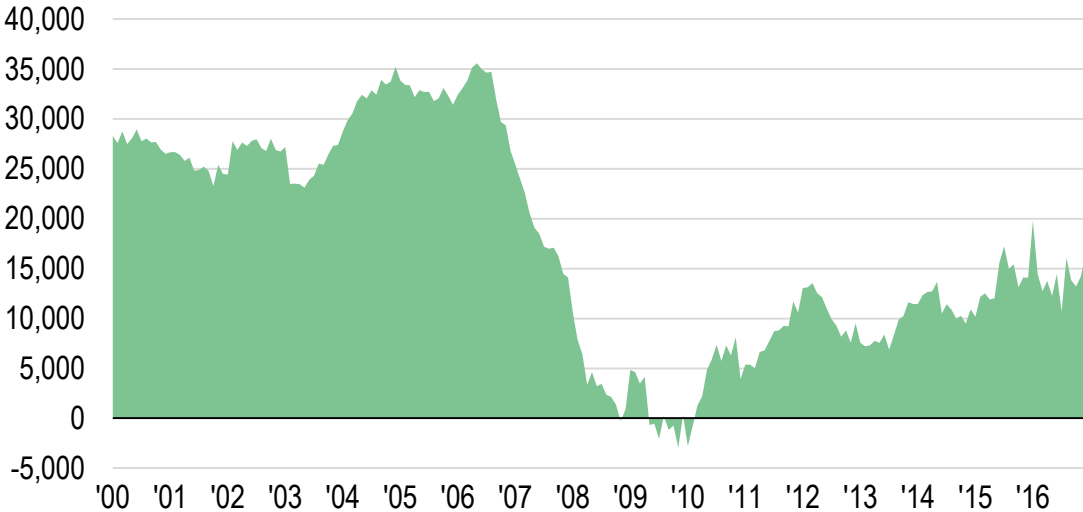
Underlying indicators of population growth, such as drivers license surrenders and electric meter hookups, suggest the upward trends will continue during the next 12 to 24 months. While neither indicator has returned to pre-recession levels, both suggest southern Nevada has returned to a period of steady expansion.

**68,900**  
**Drivers Licenses Surrendered**  
**in Clark County in 2016**

**Drivers License Surrenders**  
Annual Total



**Electric Meter Hookups**  
Year-Over-Year Change



Source: Nevada Department of Motor Vehicles, NV Energy

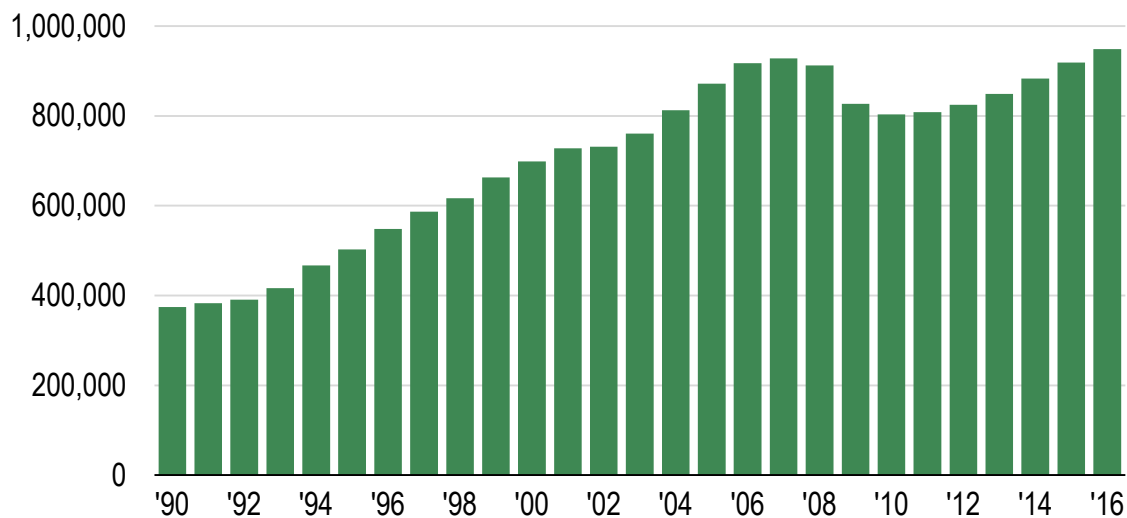
# Employment

The availability of jobs in southern Nevada has historically driven population growth as workers migrated to the region in search of employment opportunities. The number of jobs in the region last year surpassed the pre-recession peak to reach an all-time high, and the unemployment rate has fallen from among the highest in the country to just a half percentage point above the nationwide rate.

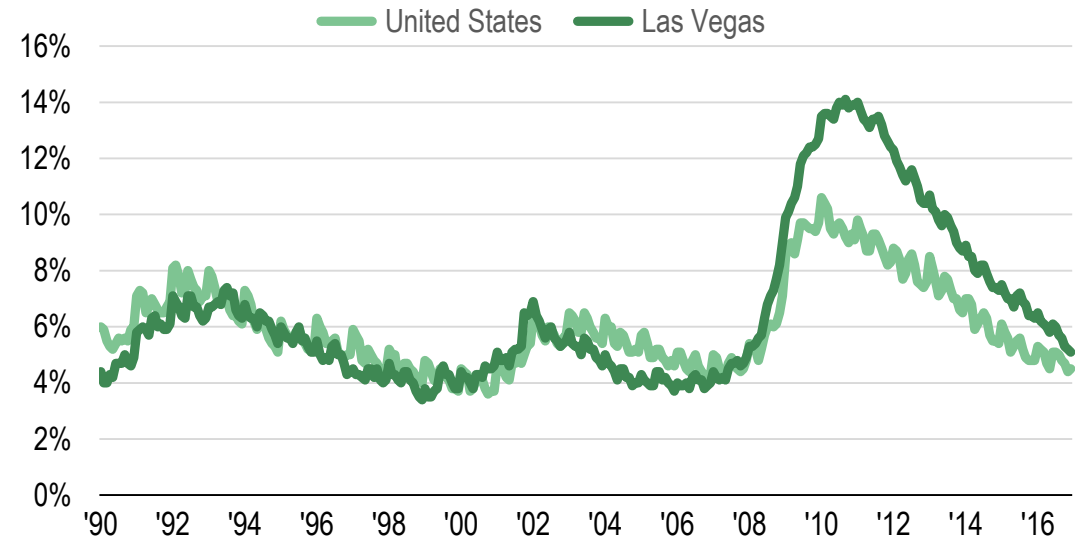
## 9th

**Las Vegas MSA's Employment Growth Rank  
Among the 35 Largest U.S. Metro Areas**

**Employment**



**Unemployment Rate**



Source: U.S. Bureau of Labor Statistics

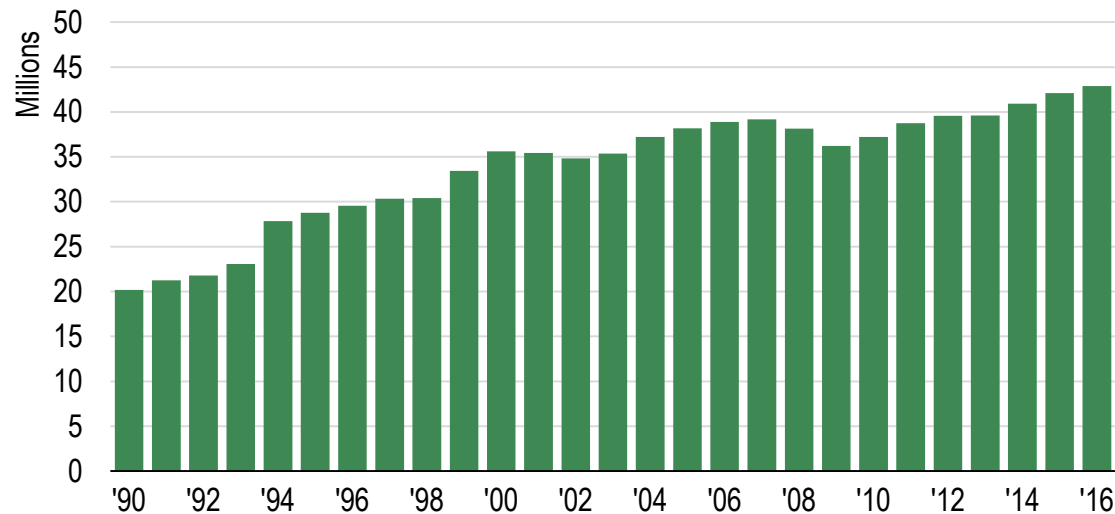


# Tourism

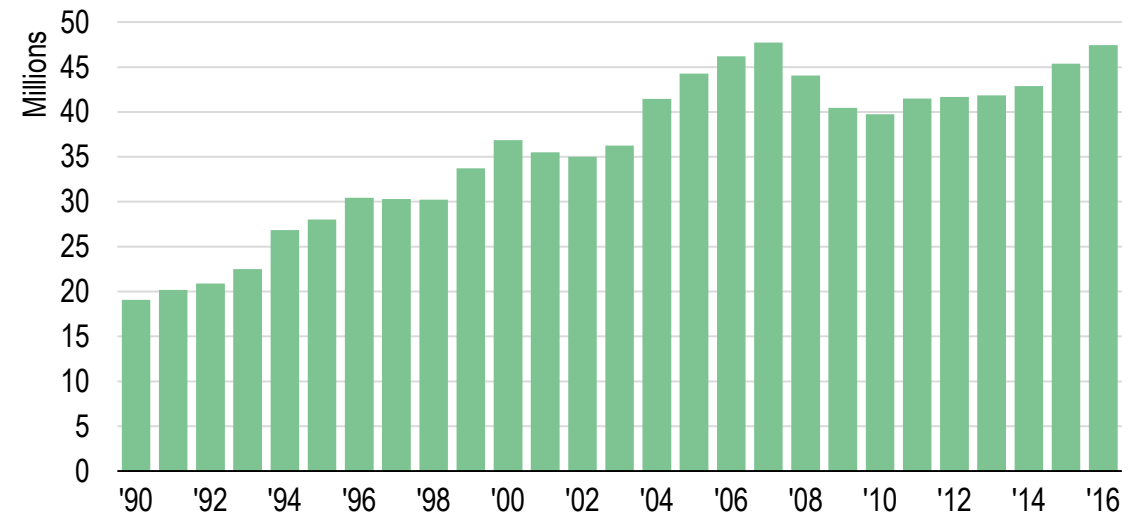
Tourism, southern Nevada's primary industry, displayed strong growth trends through 2016. Las Vegas visitor volume climbed to an all-time high of 42.9 million, the fifth consecutive year of record visitation, while McCarran International Airport welcomed 47.4 million passengers. On a trailing 12-month basis, the airport reached a near-record of 47.8 million passengers in April 2017.

**42.9 Million**  
**Visitors to Las Vegas in 2016**

**Las Vegas Visitor Volume**



**McCarran International Airport Passengers**



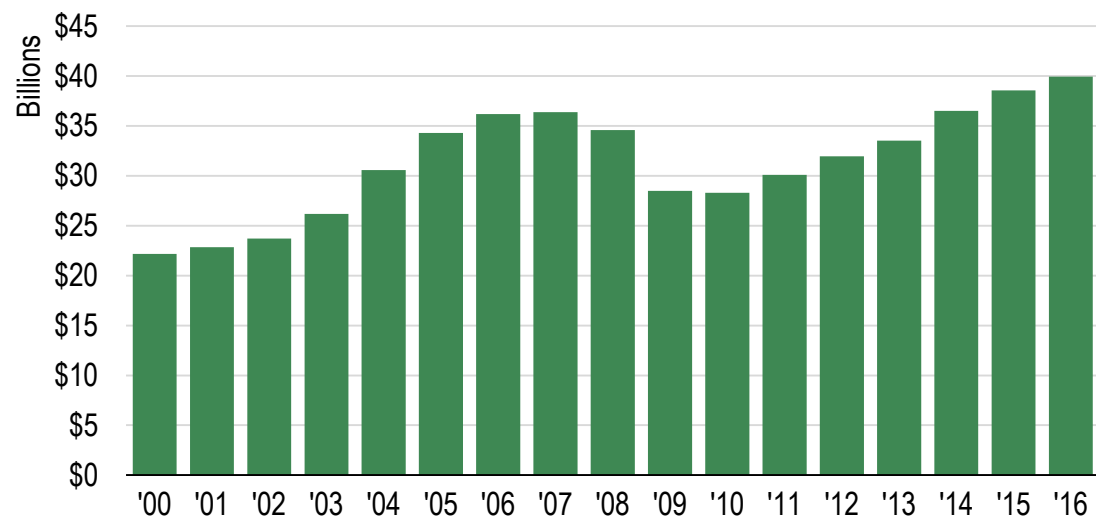
Source: Las Vegas Convention and Visitors Authority, McCarran International Airport

# Consumer Activity

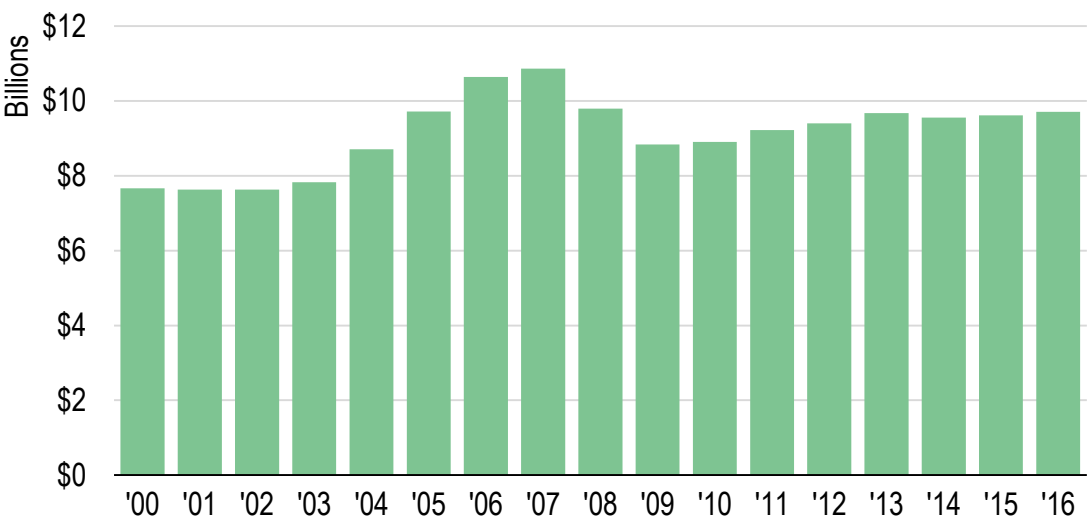
Taxable retail sales reached a record \$39.9 billion in 2016 in Clark County, reflecting growing employment, rising tourism, and increasing consumer confidence. By contrast, gross gaming revenue has recorded modest growth. However, gaming revenue continues to shrink as a share of total revenue for resorts, which are diversifying the non-gaming amenities available to visitors and residents.

Gaming Revenue Share of Las Vegas Strip Resort Revenue		
1996	2006	2016
52.9%	40.4%	34.2%

Taxable Retail Sales



Gross Gaming Revenue



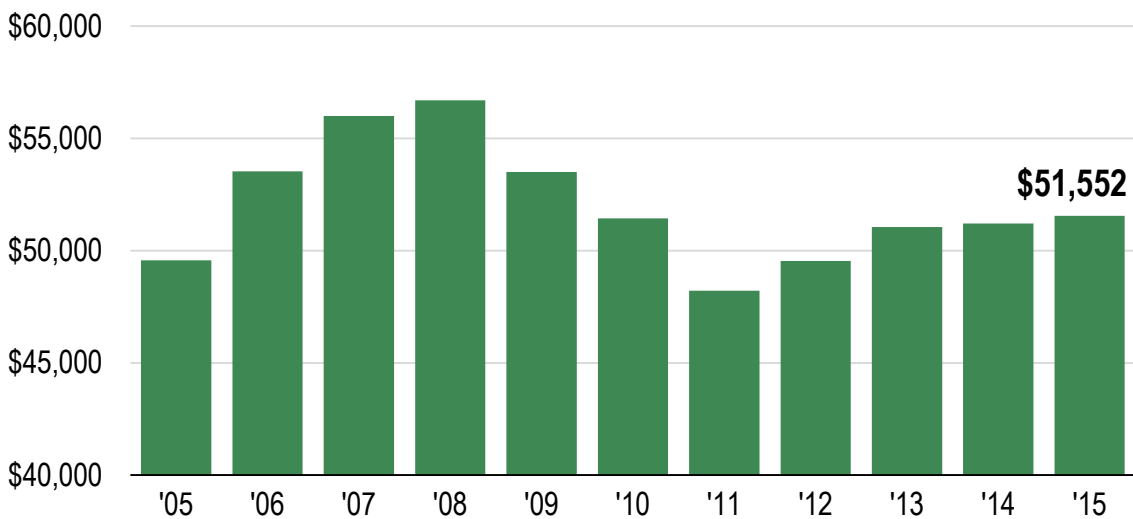
Source: Nevada Department of Taxation, Nevada Gaming Control Board

# Income

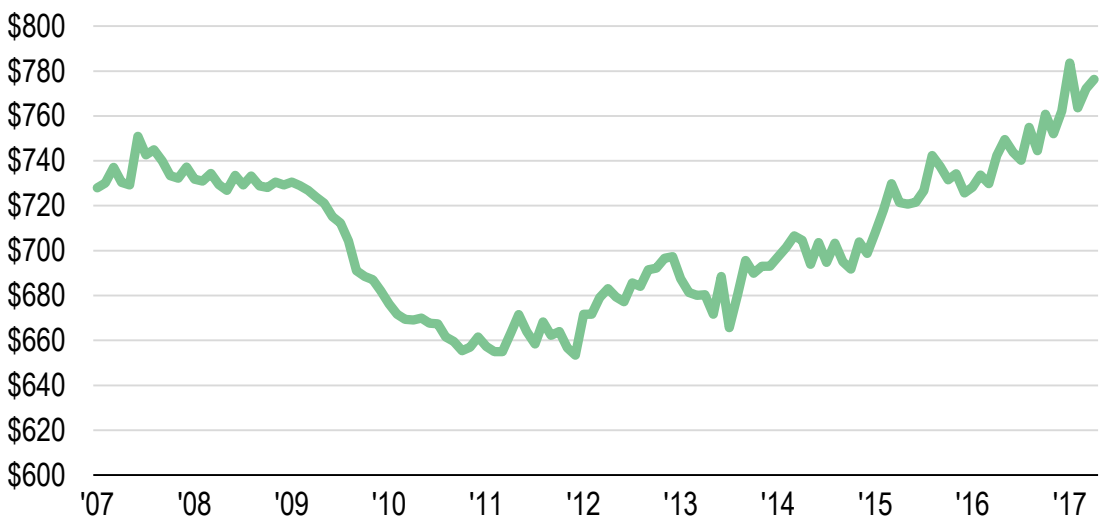
Household incomes in southern Nevada have recovered some but not completely in the period of economic recovery, according to Census Bureau data. More recent wage data suggests greater income gains have been realized as the unemployment rate has dropped and labor markets have tightened.

**2nd**  
**Las Vegas MSA's Weekly Wage Annual Growth Rate Rank Among the 30 Largest U.S. Metro Areas**

Median Household Income



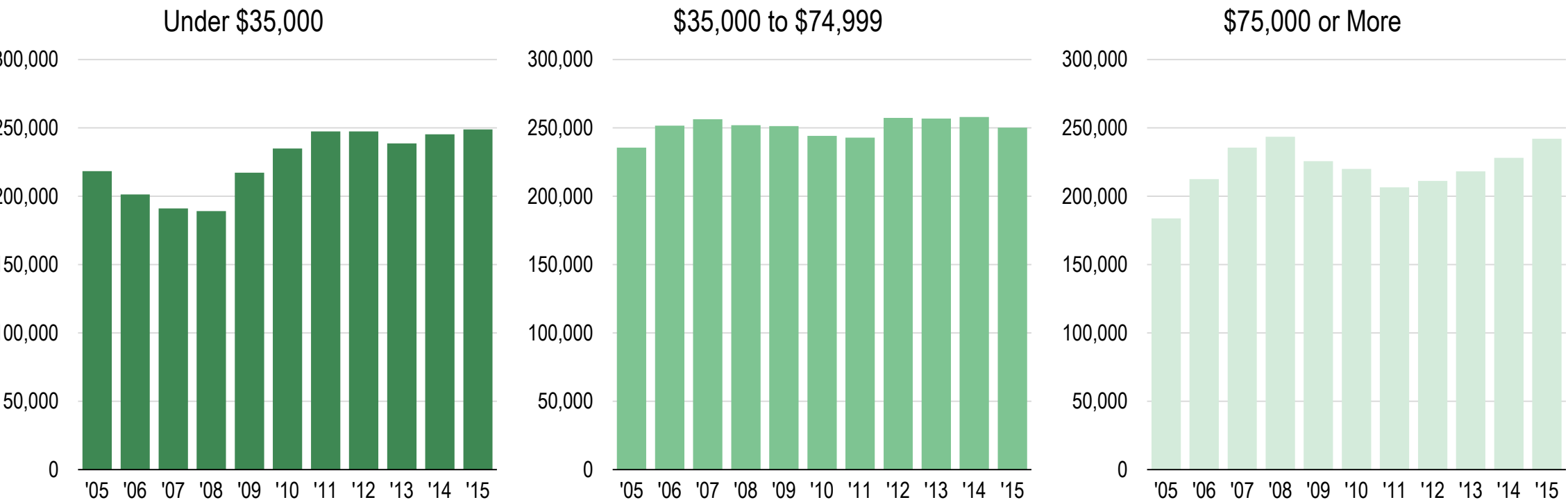
Average Weekly Wages



Source: U.S. Census Bureau, U.S. Bureau of Labor Statistics

# Households by Income

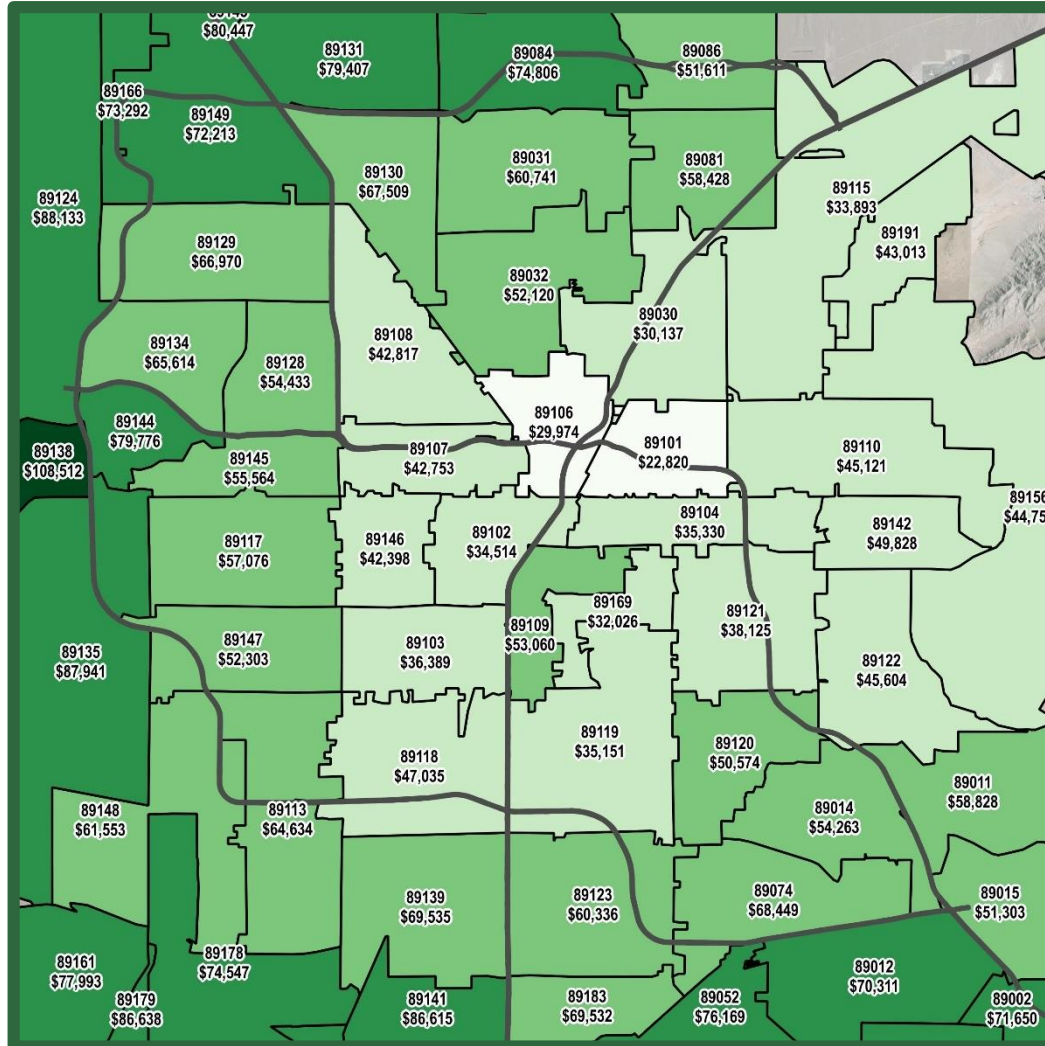
Between 2011 and 2015, households with incomes of \$75,000 or more have accounted for the most growth among southern Nevada’s 741,000 households. About eight in 10 new households earned \$75,000 or more. Comparatively, lower income groups recorded little or no growth over the same time period.



Note: U.S. Census Bureau household estimates generally fall below those generated by Clark County Comprehensive Planning.

Source: U.S. Census Bureau

# Median Income by Zip Code



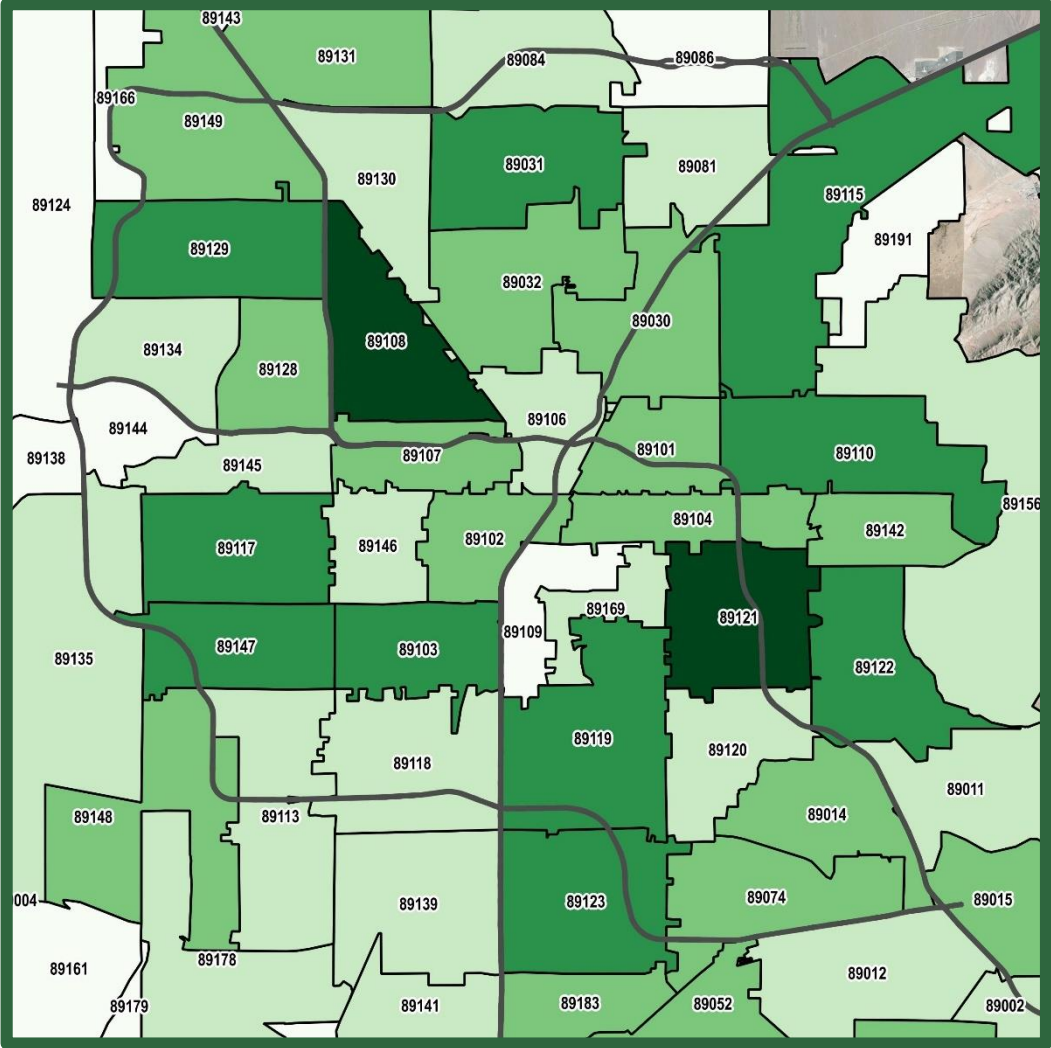
- Median incomes in southern Nevada tend to increase further from the urban core
- Zip codes with incomes below the regional median income are concentrated in the central and eastern areas of the Las Vegas Valley

Legend	
	Less than \$30,000
	\$30,000 to \$49,999
	\$50,000 to \$69,000
	\$70,000 to \$99,999
	\$100,000 or more

Source: Environics Analytics (2017)



# Middle-Income Households



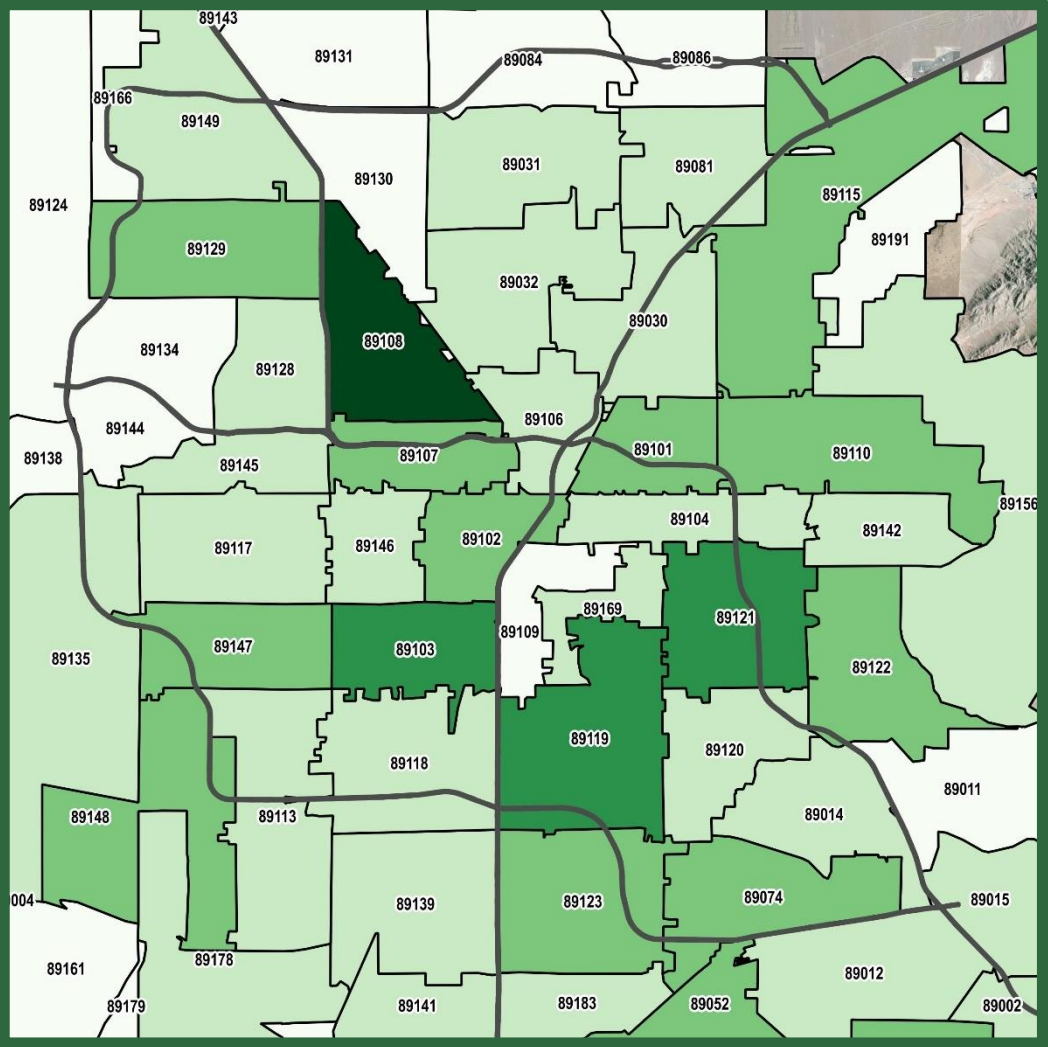
Density of Households with  
Incomes Between \$35,000  
and \$60,000

Legend	
	Less Than 1,500 Households
	1,500 to 2,999 Households
	3,000 to 4,499 Households
	4,500 to 5,999 Households
	6,000 Households or More

Source: U.S. Census Bureau

# Middle-Income Renter Households

1 in 4 Renter Households in Southern Nevada have Incomes Between \$35,000 and \$60,000



Legend	
	Less Than 1,000 Households
	1,000 to 1,999 Households
	2,000 to 2,999 Households
	3,000 to 3,999 Households
	4,000 Households or More

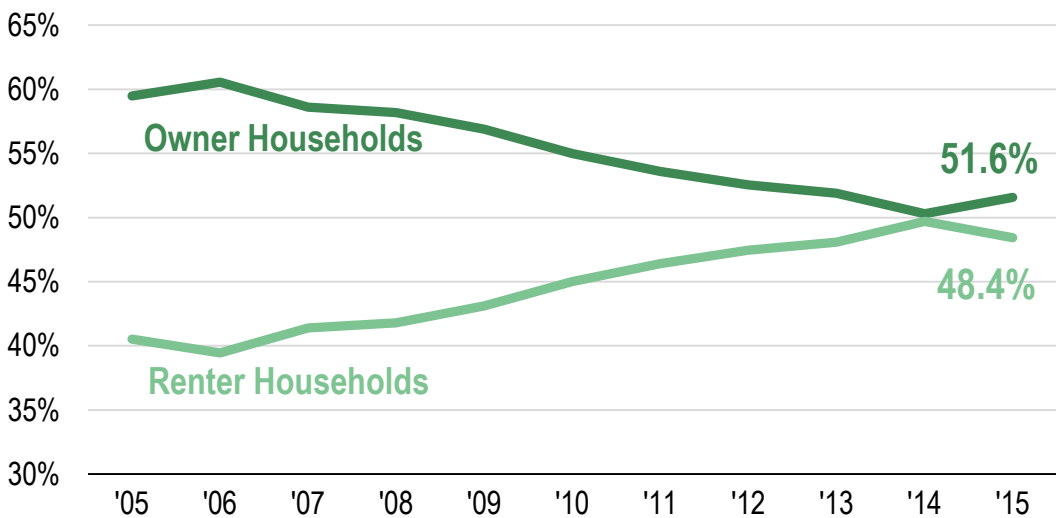
Source: U.S. Census Bureau

# Housing Tenure

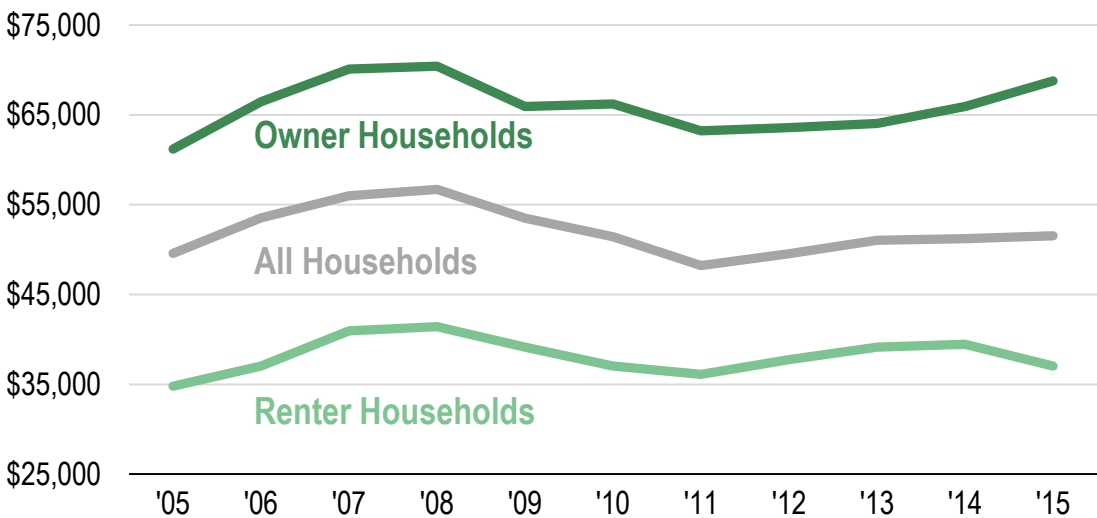
Before the housing crisis, nearly six in 10 southern Nevada households were owner-occupied. Today, that figure is closer to five in 10. Regional real estate and homebuilding trends suggest the current demand for rental housing will remain into the near future, which has implications for affordable housing availability as incomes for rental households are significantly lower than owner households.

Median Household Income (2015)		
All	Owner	Renter
\$51,552	\$68,794	\$37,037

Housing Tenure



Median Income by Housing Tenure



Source: U.S. Census Bureau

# Housing Tenure by Income

Southern Nevada's decade-long shift of homeowner households to renter households is evident in nearly every income range.

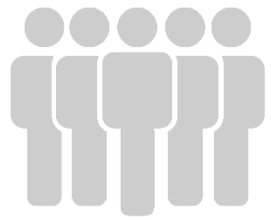
The rise in rental households among higher income ranges impacts affordable housing availability as the trend raises pricing pressures on rents as competition for rental properties grows.

Rental Household Share by Household Income											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
\$200,000 or more	14%	8%	10%	11%	14%	13%	15%	13%	15%	18%	15%
\$150,000 to \$199,999	20%	13%	14%	15%	14%	14%	19%	18%	20%	23%	22%
\$125,000 to \$149,999	13%	18%	17%	20%	19%	25%	16%	22%	27%	22%	24%
\$100,000 to \$124,999	17%	15%	22%	24%	23%	24%	26%	27%	30%	31%	30%
\$75,000 to \$99,999	24%	23%	28%	30%	34%	31%	34%	35%	33%	39%	35%
\$60,000 to \$74,999	34%	34%	38%	37%	39%	37%	39%	43%	41%	45%	43%
\$50,000 to \$59,999	37%	40%	41%	41%	41%	47%	45%	46%	50%	50%	45%
\$45,000 to \$49,999	35%	42%	50%	49%	47%	53%	52%	52%	52%	60%	52%
\$40,000 to \$44,999	46%	42%	48%	52%	50%	50%	45%	57%	59%	51%	57%
\$35,000 to \$39,999	46%	54%	52%	58%	55%	55%	49%	56%	58%	54%	56%
\$30,000 to \$34,999	53%	57%	54%	58%	57%	55%	57%	54%	54%	55%	64%
\$25,000 to \$29,999	57%	60%	55%	61%	57%	60%	56%	57%	58%	62%	63%
\$20,000 to \$24,999	55%	60%	61%	58%	59%	64%	60%	63%	62%	64%	69%
\$15,000 to \$19,999	65%	64%	65%	61%	57%	63%	69%	66%	66%	67%	61%
\$10,000 to \$14,999	64%	58%	63%	60%	68%	62%	68%	66%	69%	72%	72%
Less than \$10,000	69%	69%	73%	65%	68%	72%	71%	72%	72%	73%	75%

Source: U.S. Census Bureau

# Housing Equilibrium Model Factors

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Pricing

Evaluate the residential real estate market, homebuilding activity and other supply factors that determine the availability of housing units



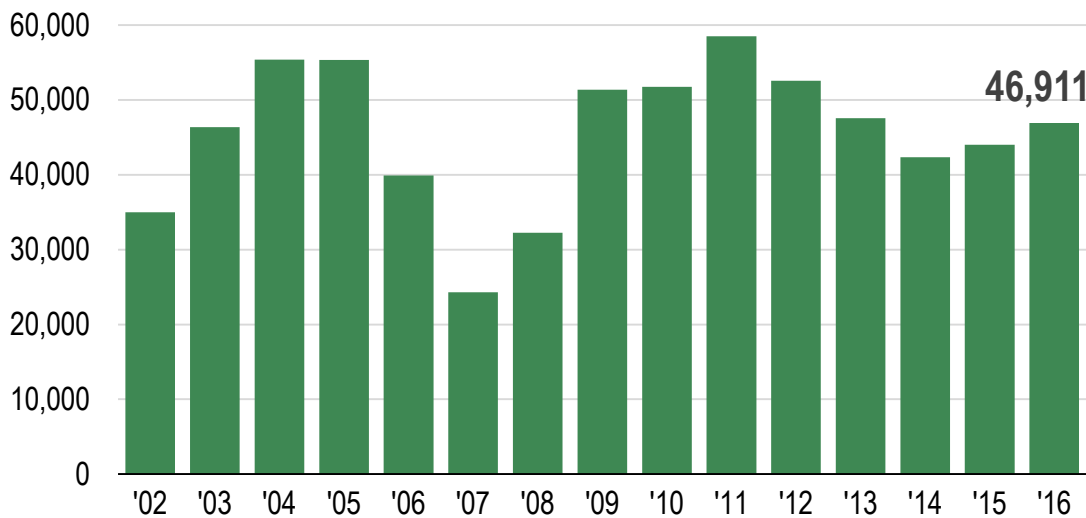
# Residential Market

Recent existing home sales data illustrates steady yet growing demand in the market. New home sales have recovered some in recent years but remain well below the volumes recorded a decade ago. This trend is consistent with homebuilding trends, though recent permitting data suggest homebuilders are gradually increasing activity to meet rising demand.

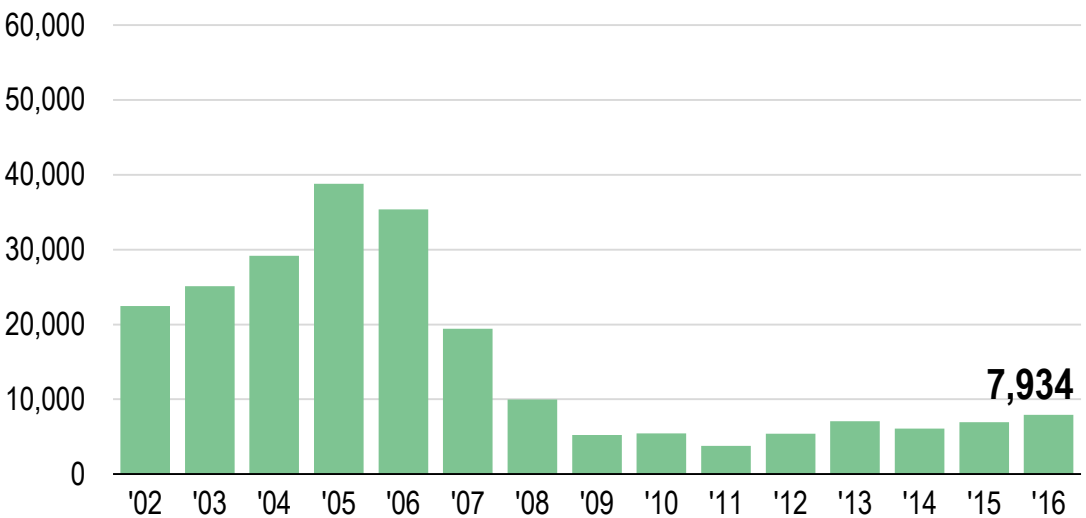
## Southern Nevada Total Home Sales

Peak (Mar. '06)	Present (Apr. '17)
95,511	56,071

Existing Home Sales



New Home Sales



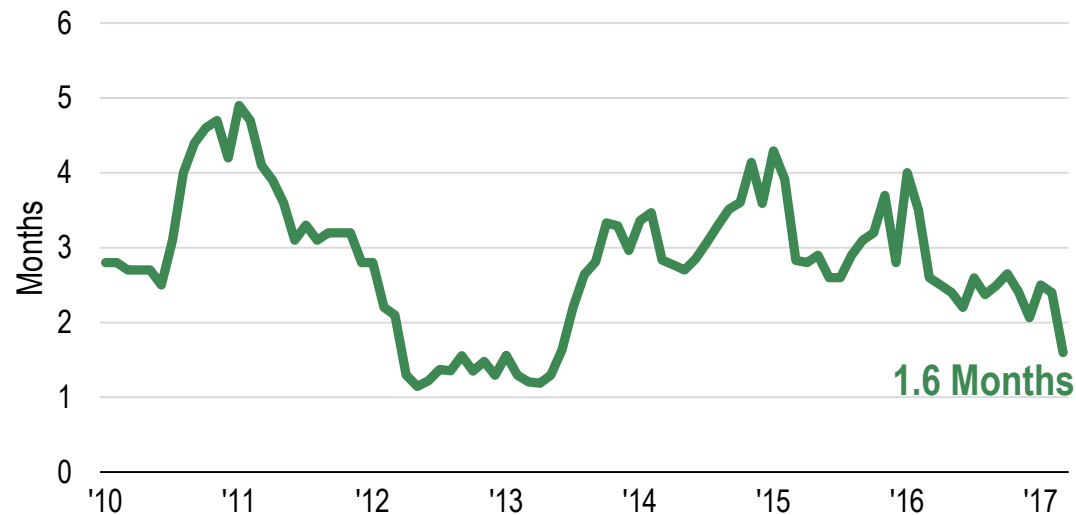
Source: SalesTraq, Applied Analysis

# Residential Market

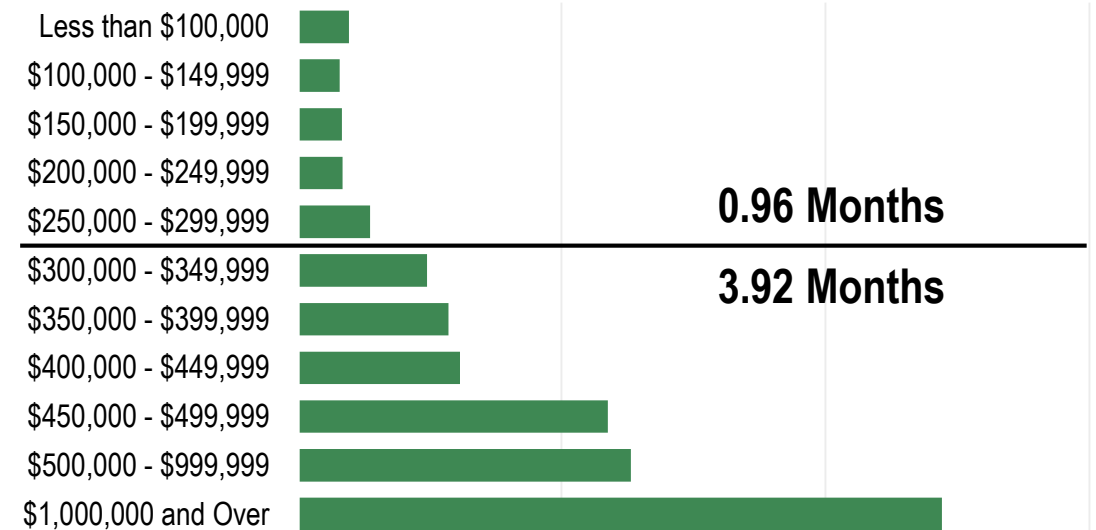
Rising demand for homes and a tightening supply of homes for sale has reduced the effective inventory to less than two months of supply, well below the six months that real estate agents consider a normal market. Tight supply is concentrated among lower price points, particularly among homes priced below \$300,000.

**Six months of inventory is considered a normal housing market.**

**Multiple Listing Service Effective Home Inventory**



**Months of Inventory By Price Segment**

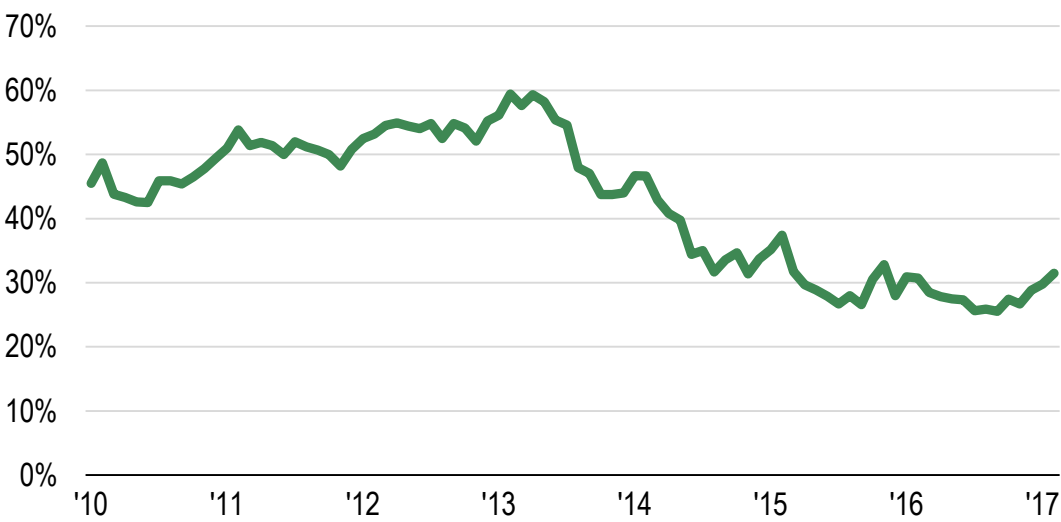


Source: SalesTraq, Applied Analysis

# Investor Activity

Homes purchased with cash, which provide a proxy for investor purchases, peaked in 2013 during a period of significant investor activity when the southern Nevada housing market was flush with undervalued properties. Investor purchases have declined from that peak yet still account for about a third of home sales. Currently, rental properties in southern Nevada account for an estimated 47.0 percent of all residential inventory.

Existing Home Cash Purchase Share



Residential Inventory (2017)

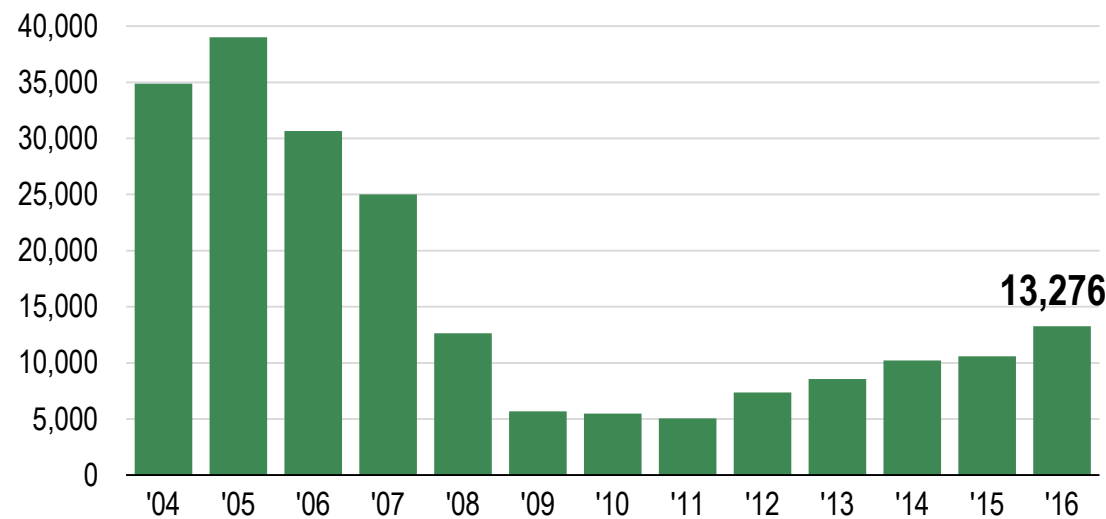
	Owned Units	Rented Units	Rental Share
Single Family Homes	413,000	141,400	25.5%
Multifamily Homes	30,500	64,900	68.0%
Apartments	0	173,900	100.0%
Mobile Homes	6,000	18,200	75.2%
Total	449,500	398,400	47.0%

Source: SalesTraq, Clark County Assessor's Office, Applied Analysis

# Residential Permitting

Residential permitting activity has steadily increased over the past five years, yet remains a fraction of what it was a decade ago. Historical trends suggest homebuilding activity is not keeping pace with current growth. Las Vegas is building one house for every 2.4 jobs created, while the United States is building one house for every 1.7 job created. Continued job growth without increased homebuilding could amplify the current market's tight supply and pricing trends.

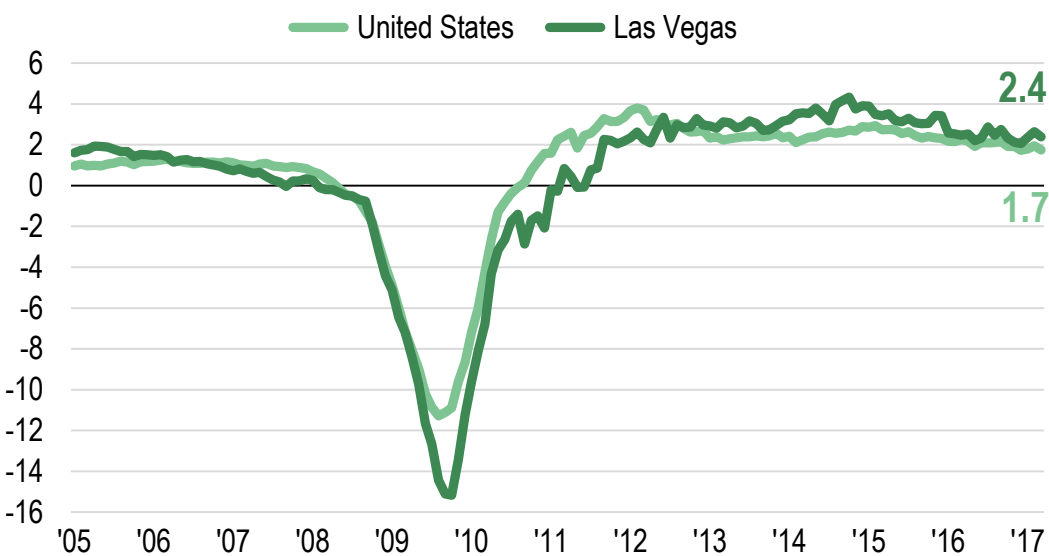
Residential Permits



## New Jobs Per Residential Permit

Jan. 2005	Jan. 2007	Jan. 2017
1.6	0.7	2.4

Employee-to-Permit Ratio



Source: U.S. Census Bureau; U.S. Bureau of Labor Statistics

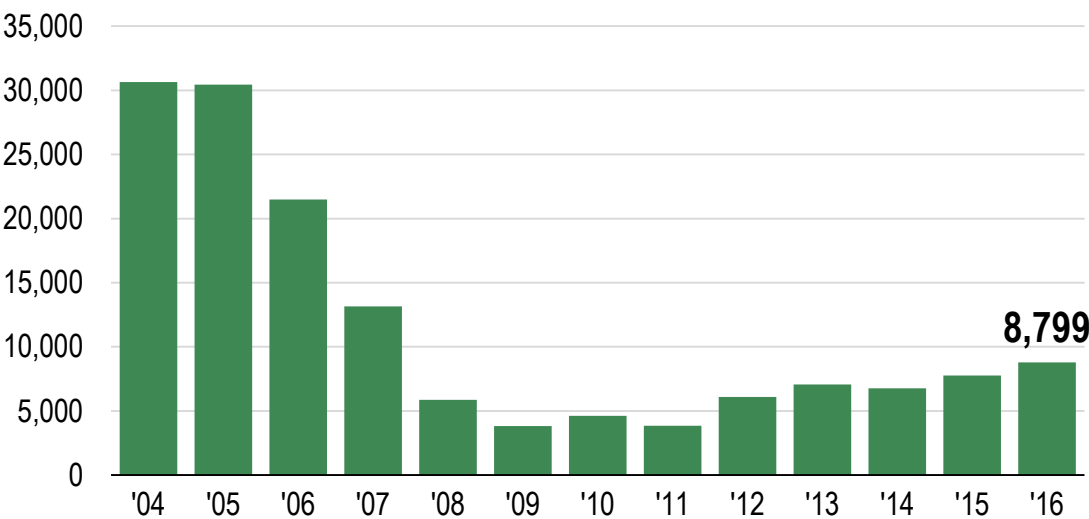
# Residential Permitting

Single family and multifamily permitting activity have both increased during the past five years. Single family permitting has been marked by steady growth, while multifamily permitting has experienced a notable rise since 2013. This rise appears to be linked to escalating land costs that make multifamily developments more financially viable for builders.

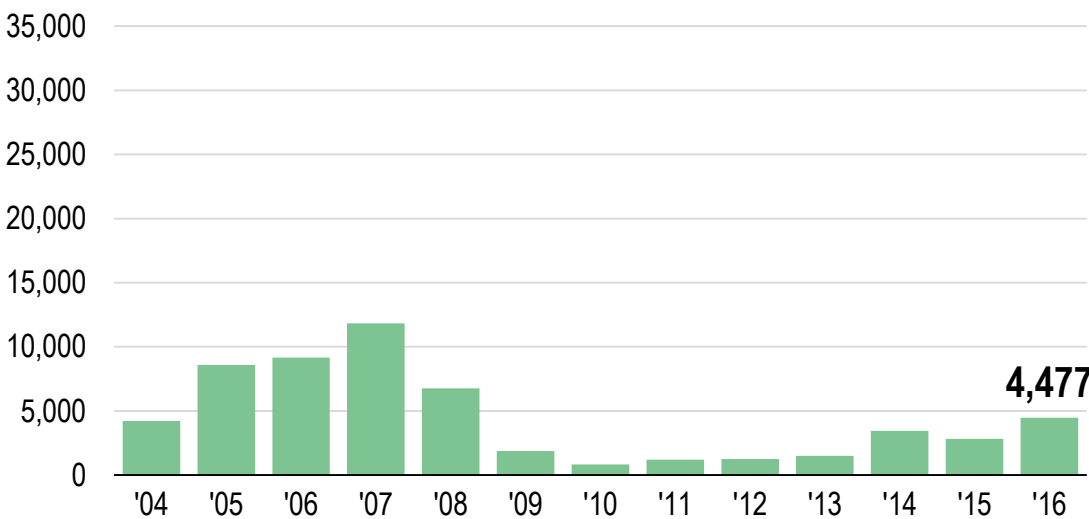
## Ratio of Single Family to Multifamily Permits

Dec. 2004	Dec. 2010	Dec. 2016
7.2	5.5	2.0

Single Family Residential Permits

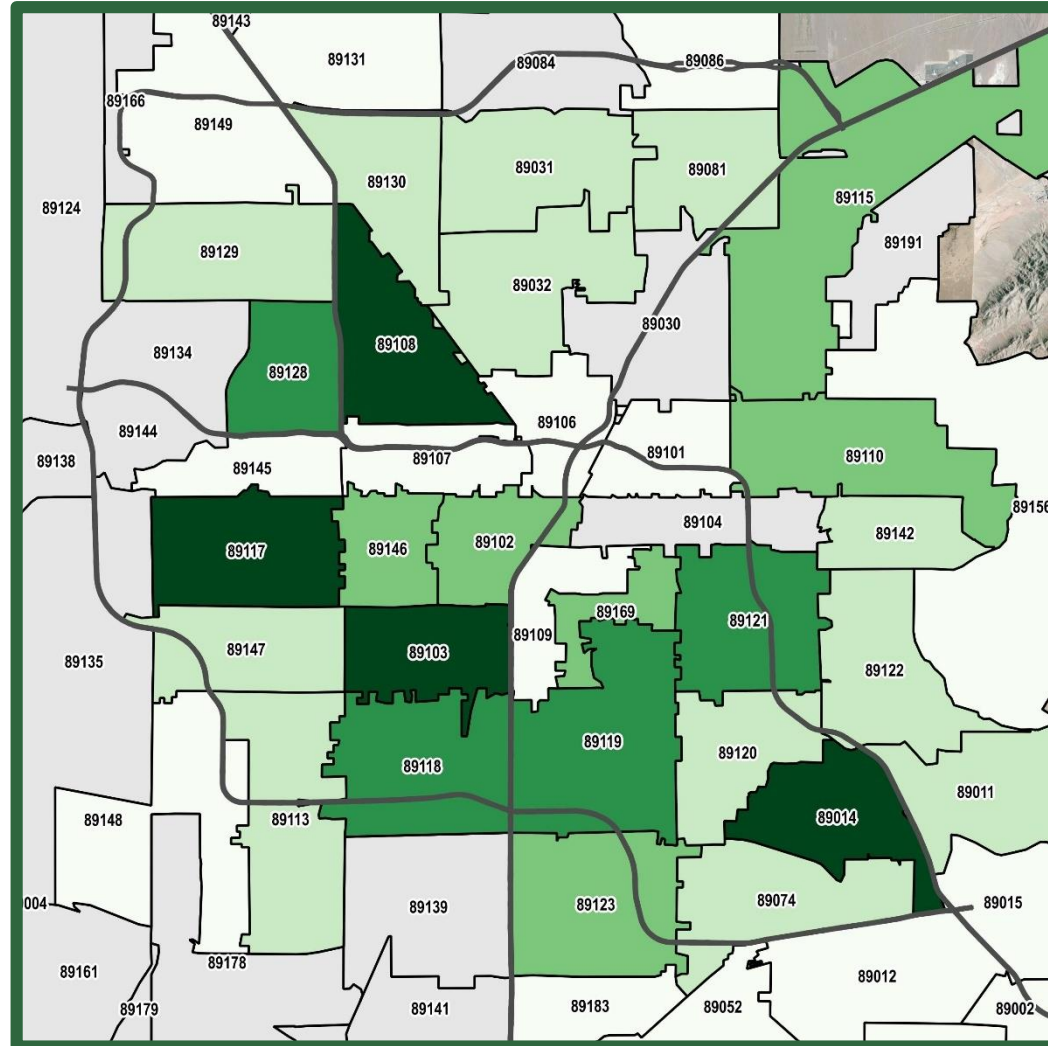


Multifamily Residential Permits



Source: U.S. Census Bureau

# Affordable Apartments by Zip Code



## Affordable Apartments

- 1-Bedroom Units with Rent Between \$614 to \$851
- 2-Bedroom Units with Rent Between \$851 to \$1,030
- Apartment Complexes with 100 Units or More
- Built in 1978 or Later

Legend	
	Less Than 500 Units
	500 to 999 Units
	1,000 to 1,499 Units
	1,500 to 1,999 Units
	2,000 Units or More

Note: Rents as of Q3 2016. Source: Applied Analysis



# Affordable Apartments by Zip Code

Zip Code	1 Bedroom	2 Bedrooms	Total
89103	1,988	1,930	3,918
89014	1,563	1,911	3,474
89117	1,121	2,081	3,202
89108	1,757	1,260	3,017
89121	1,498	352	1,850
89102	1,397	446	1,843
89128	589	1,240	1,829
89119	1,004	710	1,714
89169	1,170	0	1,170
89146	503	665	1,168
89123	428	737	1,165
89115	866	288	1,154
89074	313	792	1,105
89110	703	298	1,001
89129	565	409	974

Zip Code	1 Bedroom	2 Bedrooms	Total
89081	511	403	914
89147	208	700	908
89130	320	542	862
89120	507	332	839
89118	313	441	754
89011	400	250	650
89142	324	176	500
89106	291	150	441
89148	96	345	441
89156	232	208	440
89015	90	346	436
89032	96	336	432
89031	0	413	413
89086	200	211	411
89122	112	269	381

Zip Code	1 Bedroom	2 Bedrooms	Total
89113	160	178	338
89109	223	102	325
89183	0	322	322
89107	142	158	300
89084	110	175	285
89149	100	171	271
89131	112	144	256
89101	220	0	220
89052	0	164	164
89002	100	55	155
89145	80	74	154
89012	75	60	135
89030	101	0	101
89104	16	0	16

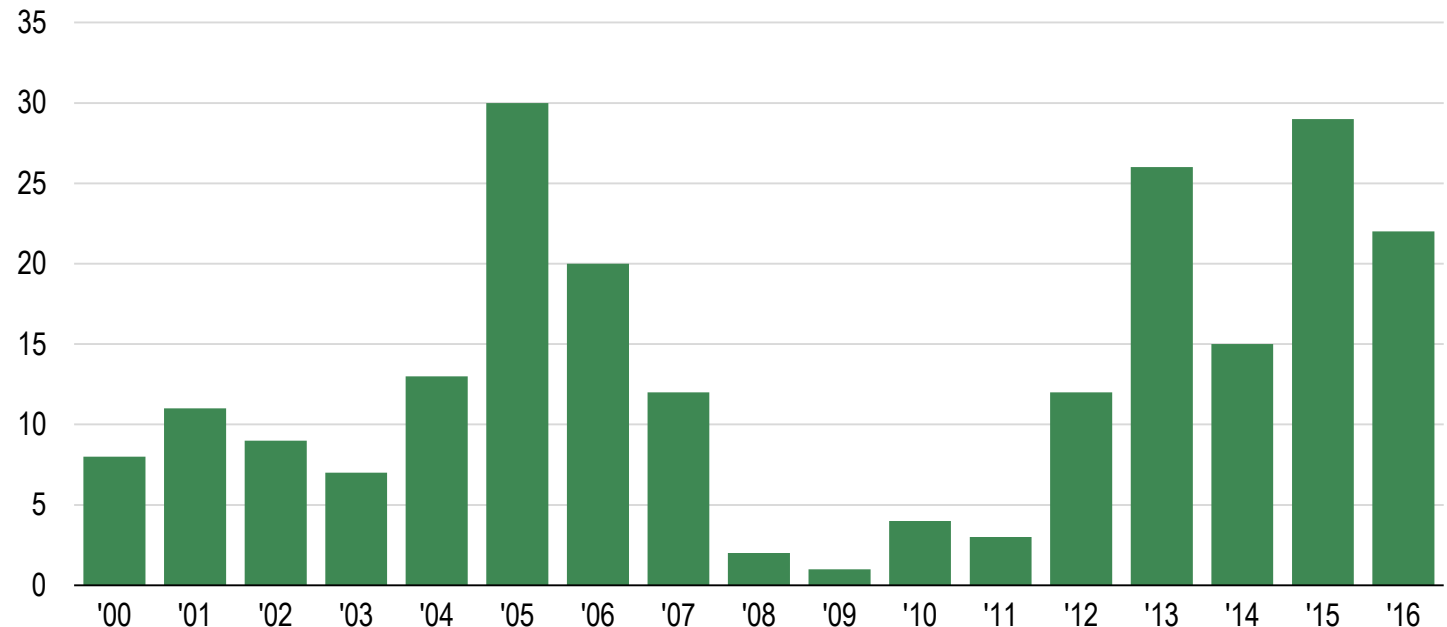
Source: Applied Analysis

# Apartment Transactions

A majority of southern Nevada apartment complexes are controlled by out-of-state interests. Additionally, the number of apartment complex sale transactions has increased in recent years as rents have climbed.

Apartment Ownership	
State of Owner	Complexes
California	174
Nevada	71
Arizona	17
New York	8
Rhode Island	8
Illinois	7
Texas	7
Virginia	7
All Others	68

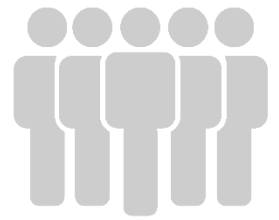
Apartment Complexes by Year of Most-Recent Sale



Source: Applied Analysis

# Housing Equilibrium Model Factors

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Pricing

Evaluate trends for existing and new home pricing, apartment rent and other pricing factors that determine housing affordability

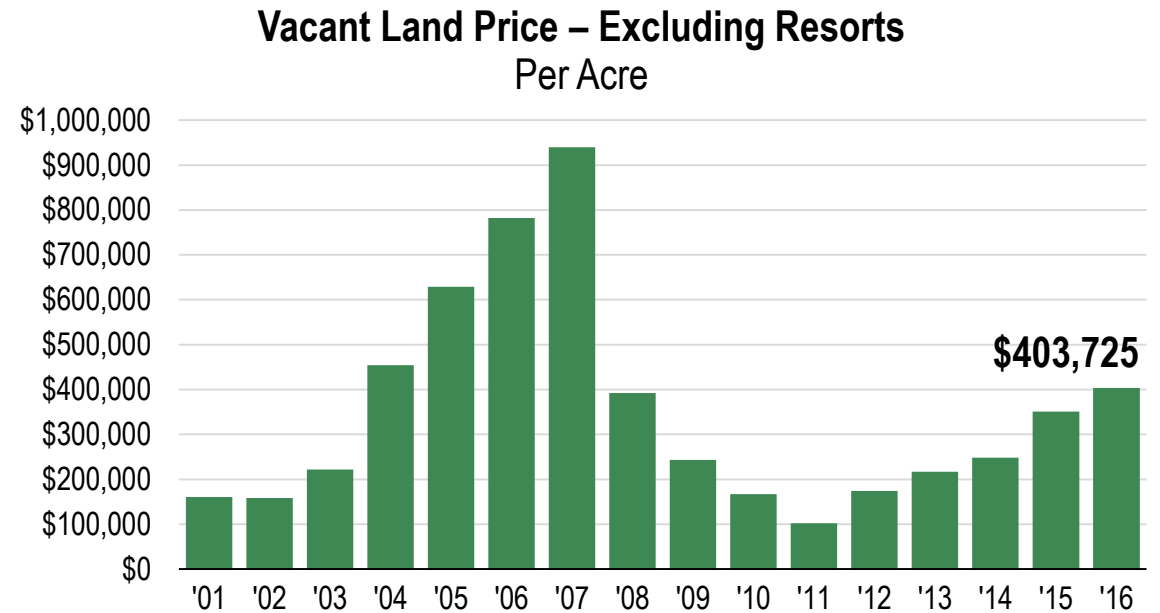
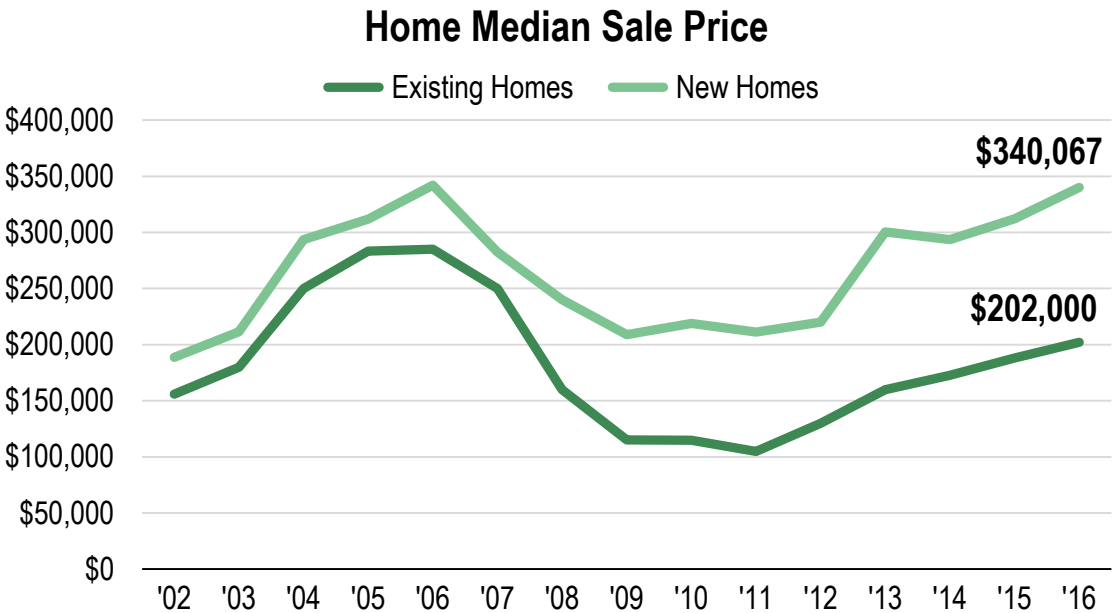
# Residential Market

New home prices are rising faster than existing home prices, in part due to newer home inventory featuring larger square footages and higher-end fixtures and amenities. Higher price points for new homes reflect the rapidly rising cost of land, which has roughly quadrupled in the past five years.

### Home Price Appreciation

Average Annual Growth (2012-2016)

Existing Homes	New Homes
11.6%	11.5%

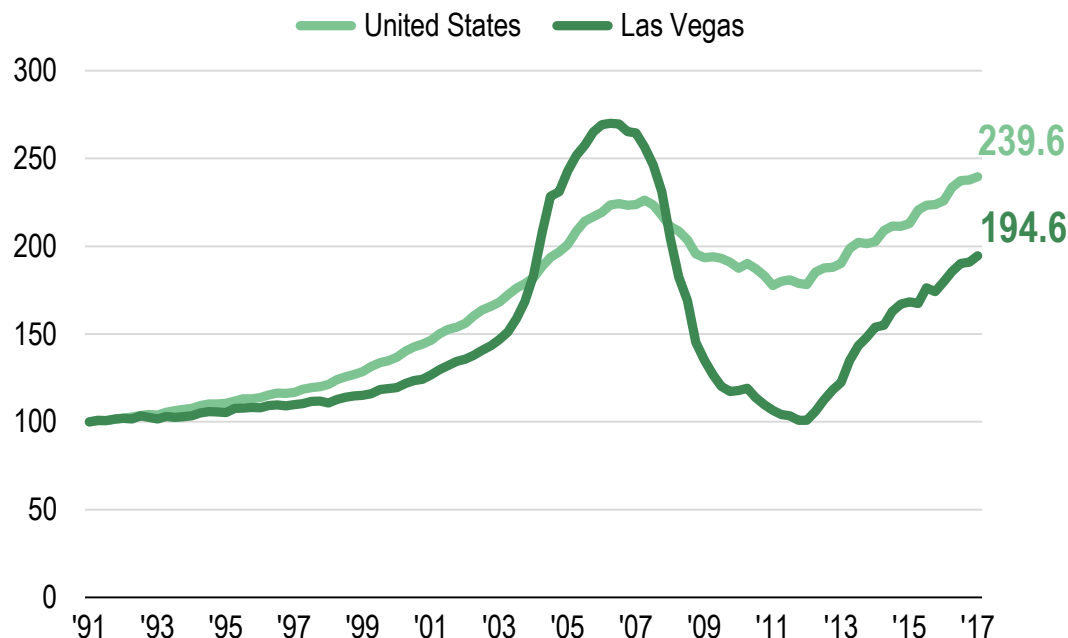


Source: SalesTraq, Federal Housing Finance Agency

# Residential Market

Southern Nevada home prices have appreciated faster in recent years compared with the nation, though they were recovering from a deeper decline. Even as regional home prices climb, southern Nevada remains relatively affordable compared to other Western U.S. markets, particularly those in California, contributing to increased migration into the region.

### House Price Index



### Housing Opportunity Index

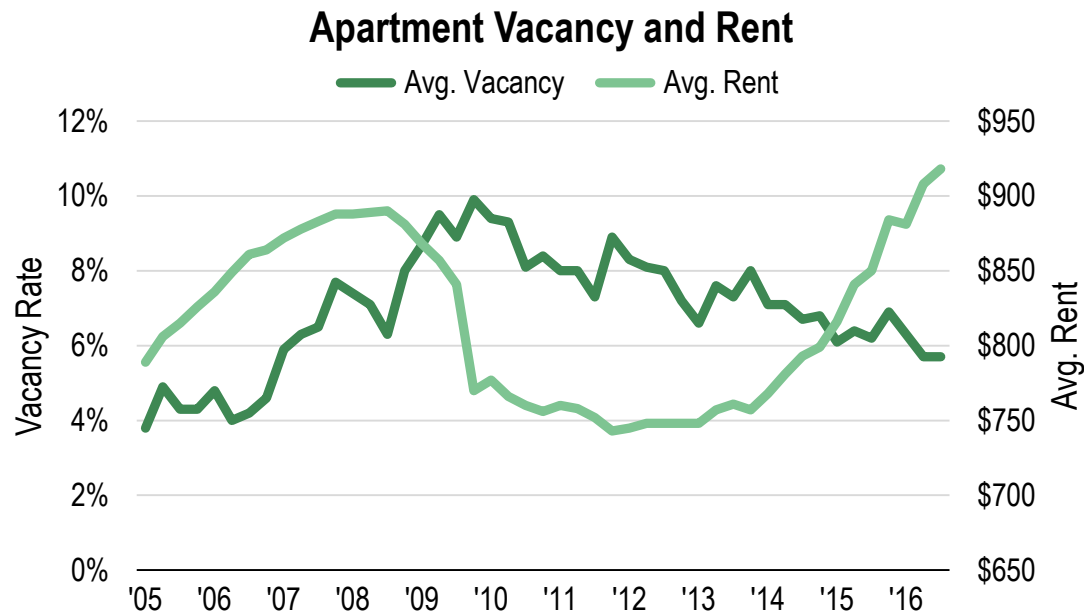
Selected Western Metropolitan Areas

MSA	Q1 '17 Index
Phoenix, AZ	67.9
<b>LAS VEGAS, NV</b>	<b>65.4</b>
Salt Lake City, UT	61.9
Sacramento, CA	45.8
Portland, OR	44.2
Riverside, CA	37.7
San Diego, CA	21.3
San Jose, CA	21.3
Los Angeles, CA	11.9
San Francisco, CA	11.8

Source: Federal Housing Finance Agency, National Association of Home Builders

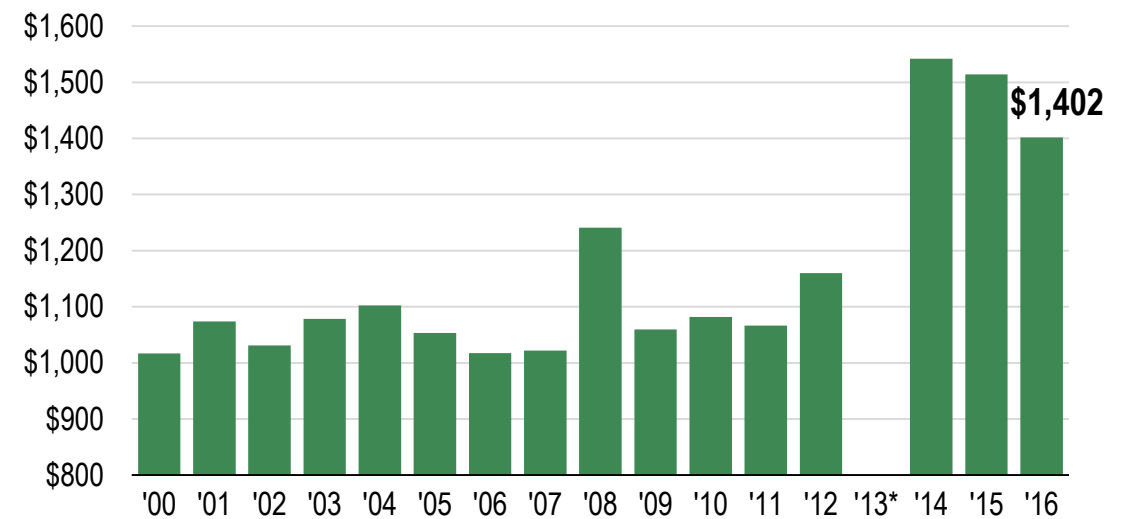
# Apartment Pricing

Apartment rents have faced rising price pressures as vacancies have declined. Rising rents have not been alleviated by new apartment construction as newer complexes have charged significantly higher monthly rent in an escalating pricing trend that mirrors the new home market.



Data through Q3 2016 for complexes of 100 units or more.

### Average Apartment Rent by Year Built



\* No complexes built in 2013. Data through Q3 2016 for complexes of 100 units or more.

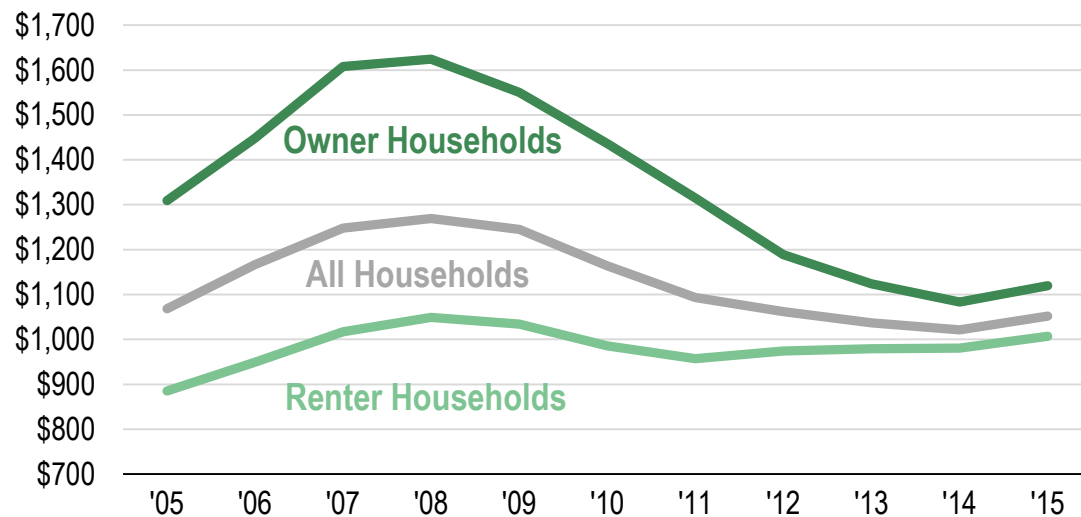
Source: Applied Analysis



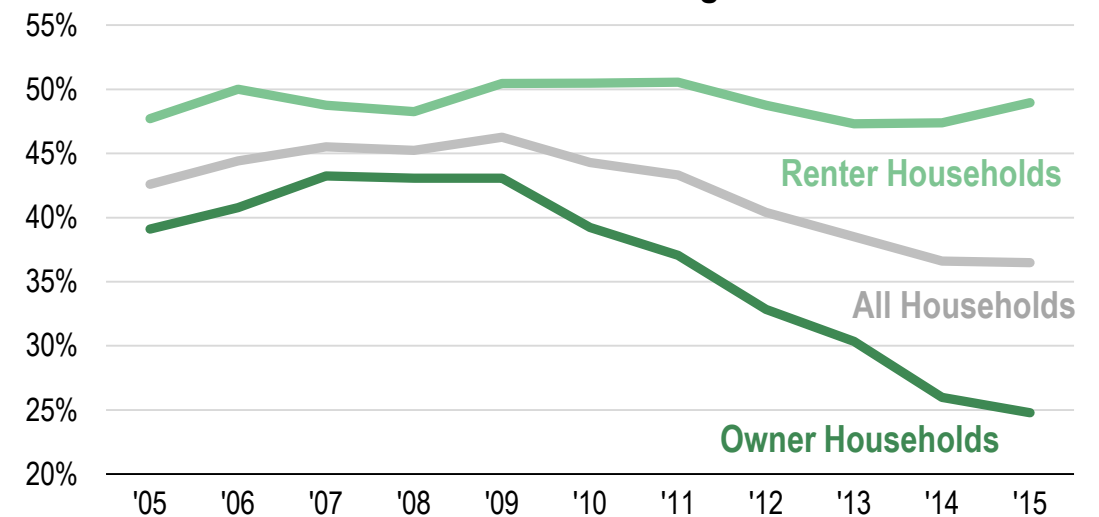
# Housing Costs

Housing costs for both homeowners and renters have entered a period of increase following a period of decline that roughly coincided with the economic downturn. The gap between median homeowner and renter costs has narrowed considerably. As a result, the share of homeowners who are paying 30 percent or more of their annual household income on housing has dramatically decreased. Notably, renter households remain disproportionately burdened by housing costs.

Median Housing Costs by Tenure



Share of Households Spending 30 Percent or More of Income on Housing

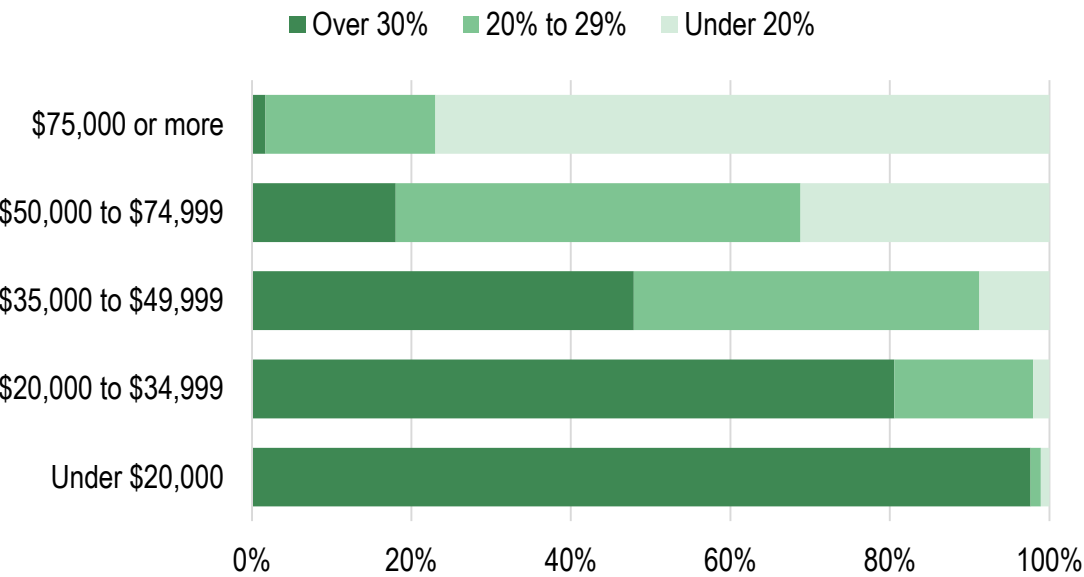


Source: U.S. Census Bureau

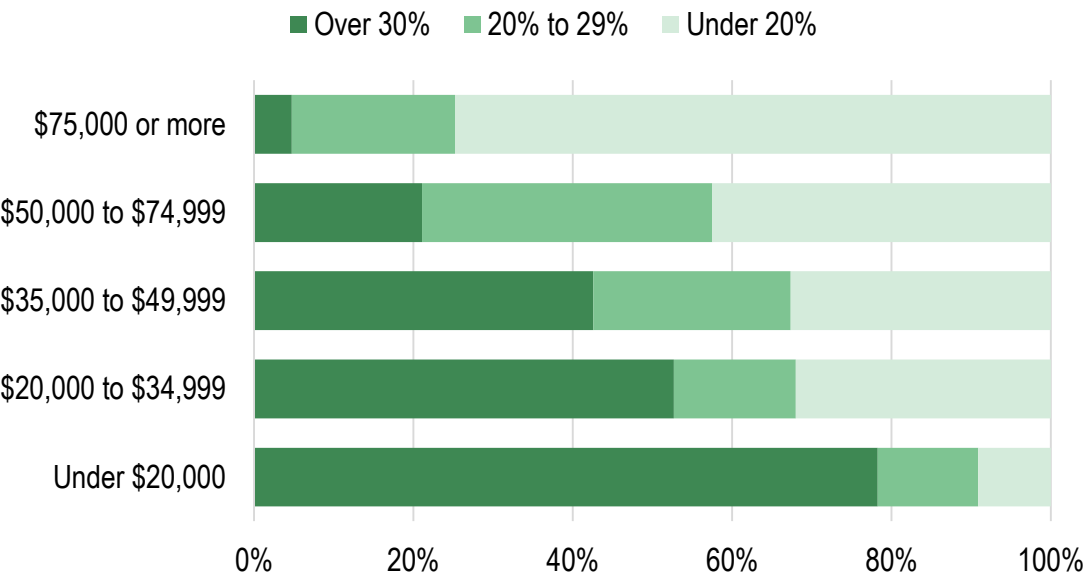
# Housing Cost Share of Income

The U.S. Department of Housing and Urban Development considers households to be cost burdened if they pay 30 percent or more of their income on housing. In southern Nevada, nearly four in 10 households are housing cost burdened, with the majority (69 percent) of those households earning less than \$50,000 a year. Among households earning less than \$50,000, seven in 10 are burdened by housing costs, and among rental households in that income group, the rate rises to nearly eight in 10.

Renter Housing Costs as Share of Income (2015)



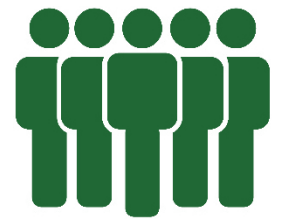
Owner Housing Costs as Share of Income (2015)



Source: U.S. Census Bureau

# Housing Model Results

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**Demand**

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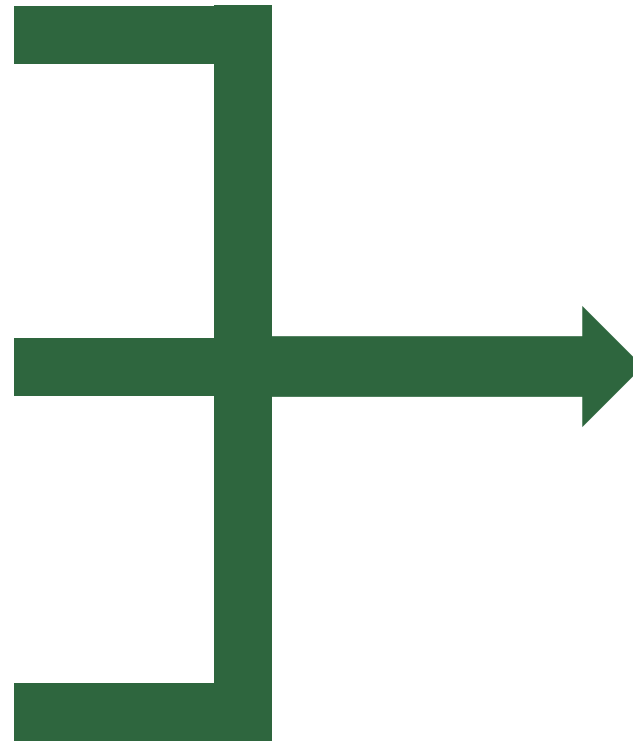


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**Pricing**



**Housing  
Affordability  
Gap  
Results**

# Housing Equilibrium Model Results

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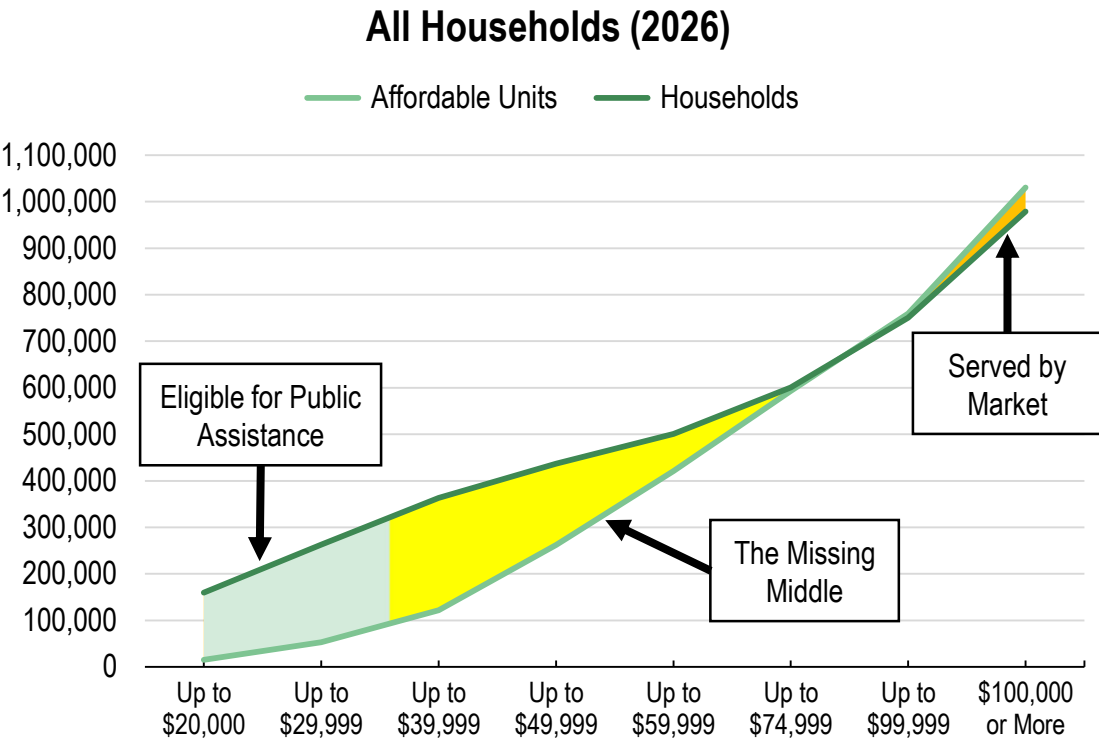
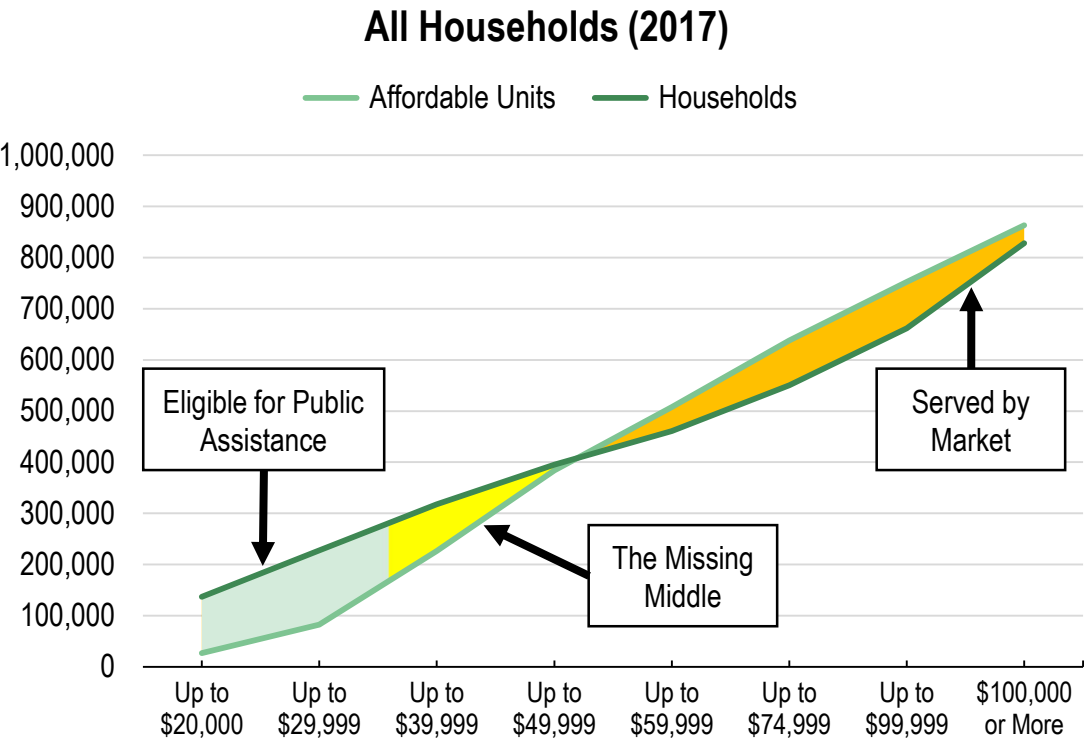
## Notes and Observations

- The following pages summarize the results produced by the equilibrium model for all households, owner-occupied households and renter-occupied households.
- Each chart illustrates a cumulative housing affordability gap metric at various income levels. Cumulative households and affordable housing units are used since a household in one income range can afford all of the available housing at lower income ranges.
- Available affordable housing units reflect all potentially available units at given income ranges. In reality, the true number of affordable units in a given income range can vary greatly as many households spend more or less than the affordability baseline of 26 percent of income.
- Affordability shortages at lower income ranges mean those households must pay more for housing. This creates a domino effect as lower income-households compete with middle-income households for a finite pool of affordable housing. Crowded out middle-income households then must pay more for housing beyond their affordability baseline levels. Middle-income households also face market competition from higher-income households that spend a smaller share of income on housing for a home or apartment that meets their needs.
- Subjective factors, such as proximity to work, school or family, could potentially limit a householder's affordable housing options. For example, a divorced parent may elect to pay higher housing costs to live closer to a child, even though more affordable options are available at a further distance away.

# Housing Affordability Gap

## All Households

Today, households earning less than \$40,000 in annual income face a notable shortage of affordable housing options. Over the next decade, this shortage is projected to widen for lower income households and extend into higher income ranges.

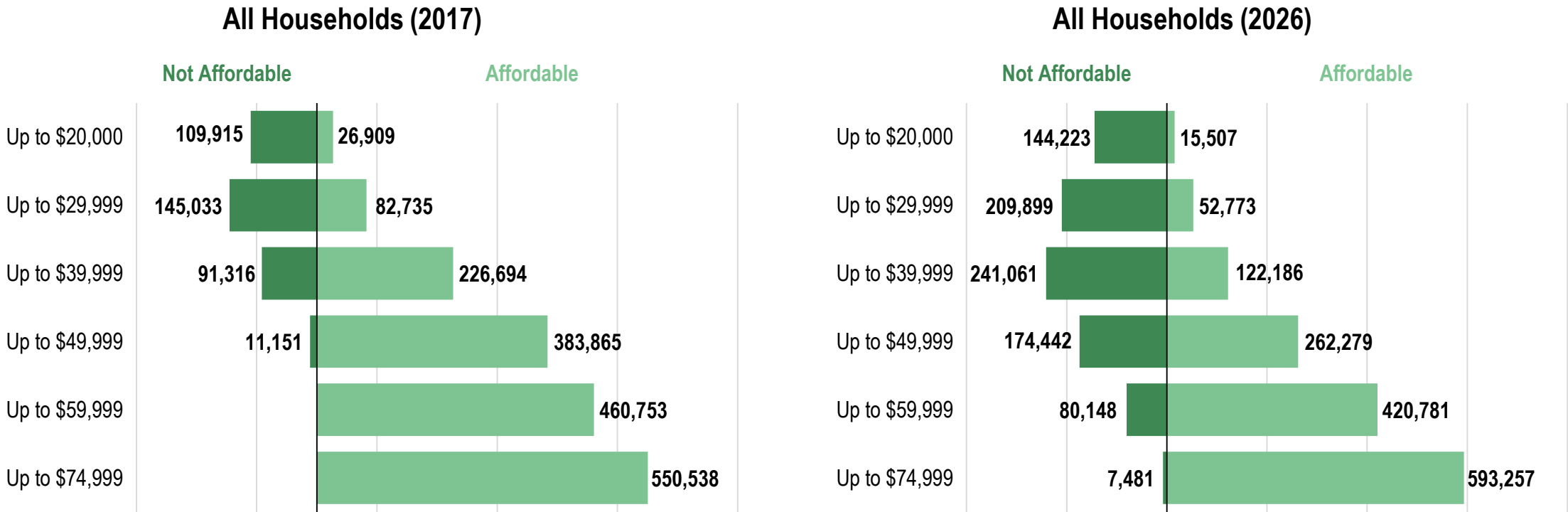


Source: Applied Analysis

# Housing Affordability Gap

## All Households

Today, households earning less than \$40,000 in annual income face a notable shortage of affordable housing options. Over the next decade, this shortage is projected to widen for lower income households and extend into higher income ranges. The charts below illustrate the number of southern Nevada households that have adequate affordable housing options and those that don't.



Source: Applied Analysis

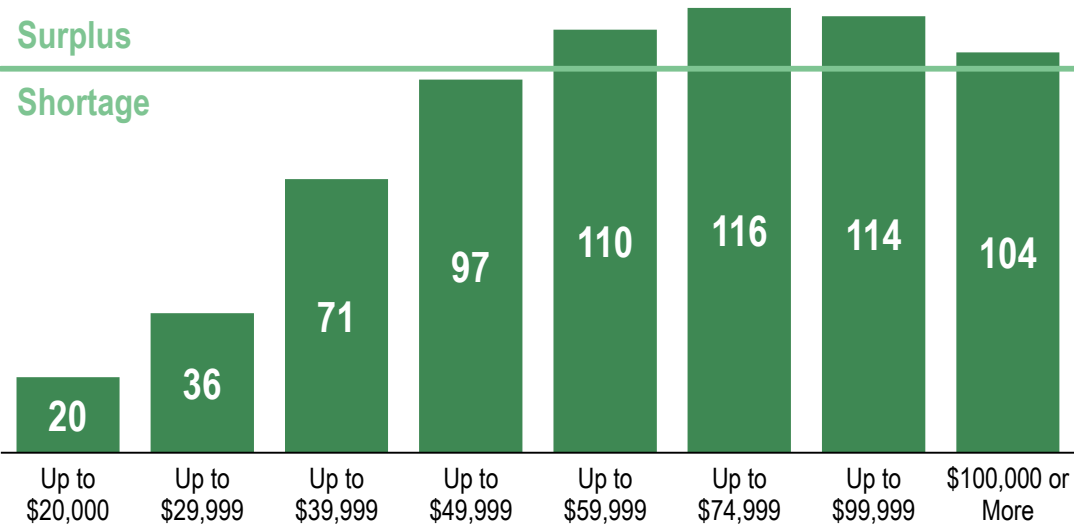


# Affordable Units Per Household

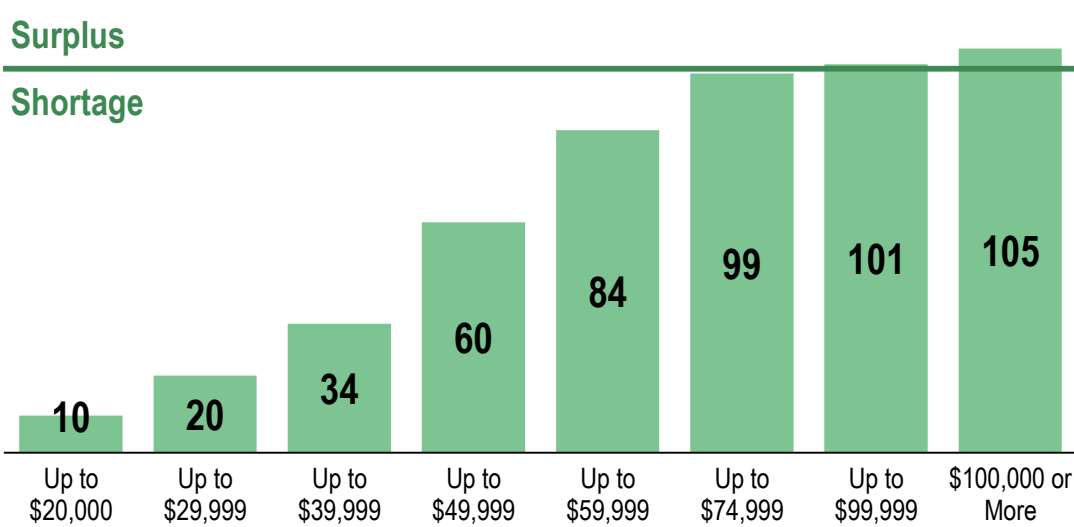
## All Households

The charts below illustrate the availability of affordable housing per 100 households for each income level. Today, there are 71 affordable housing units for every 100 households earning less than \$40,000 per year, a shortage of 29 units. By 2026, that gap will more than double to 66 units per 100 households earning less than \$40,000, and households earning up to \$60,000 will eventually face a notable shortage of affordable housing.

Affordable Units Per 100 Households  
All Households (2017)



Affordable Units Per 100 Households  
All Households (2026)

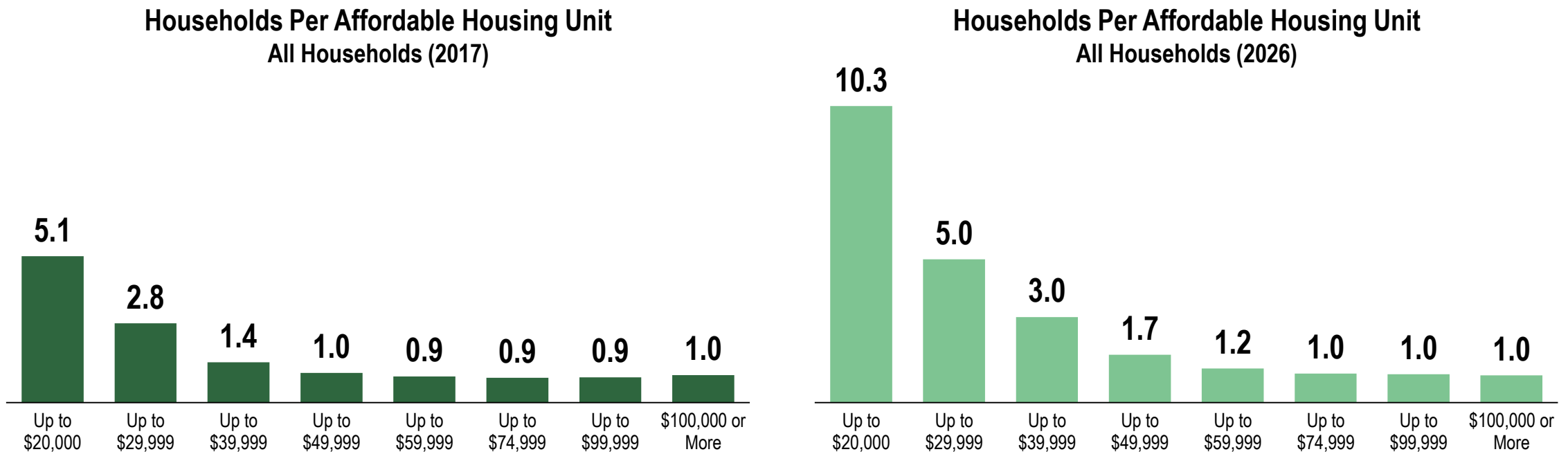


Source: Applied Analysis

# Households Per Affordable Unit

**All Households**

Analyzing available affordable housing based on the number of households per unit provides a difference perspective of the gap. Among households earning up to \$40,000, there are 1.4 households for every available affordable unit. By 2026, that figure more than doubles to 3.0, meaning there are three times more households than affordable housing units for that income range.

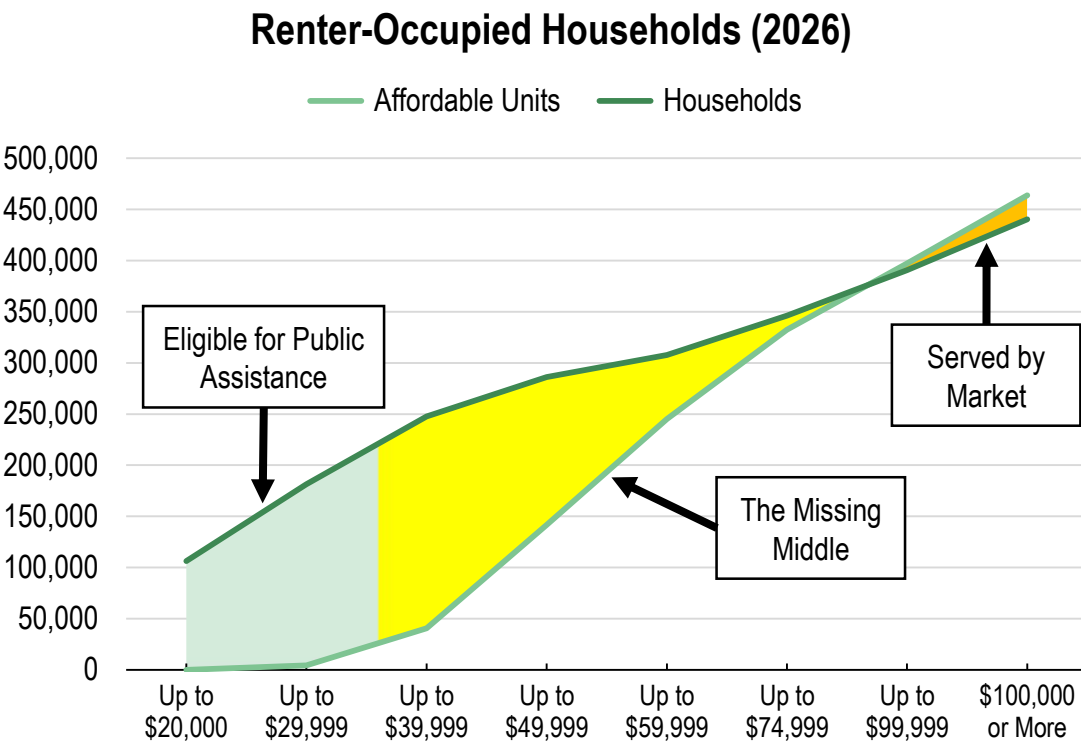
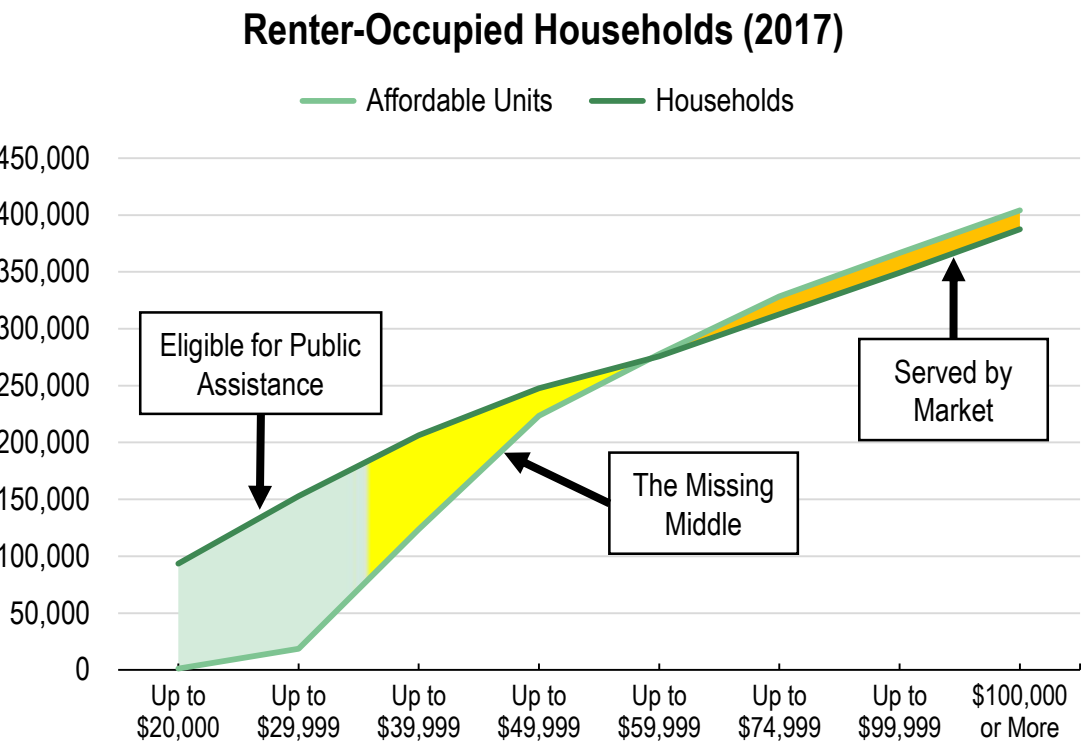


Source: Applied Analysis

# Housing Affordability Gap

## Renter-Occupied Households

Renter-occupied households shoulder the bulk of the regional affordable housing shortage. Over the next 10 years, the lack of affordable housing is projected to increase for renter households earning up to \$75,000, particularly those among the Missing Middle households.



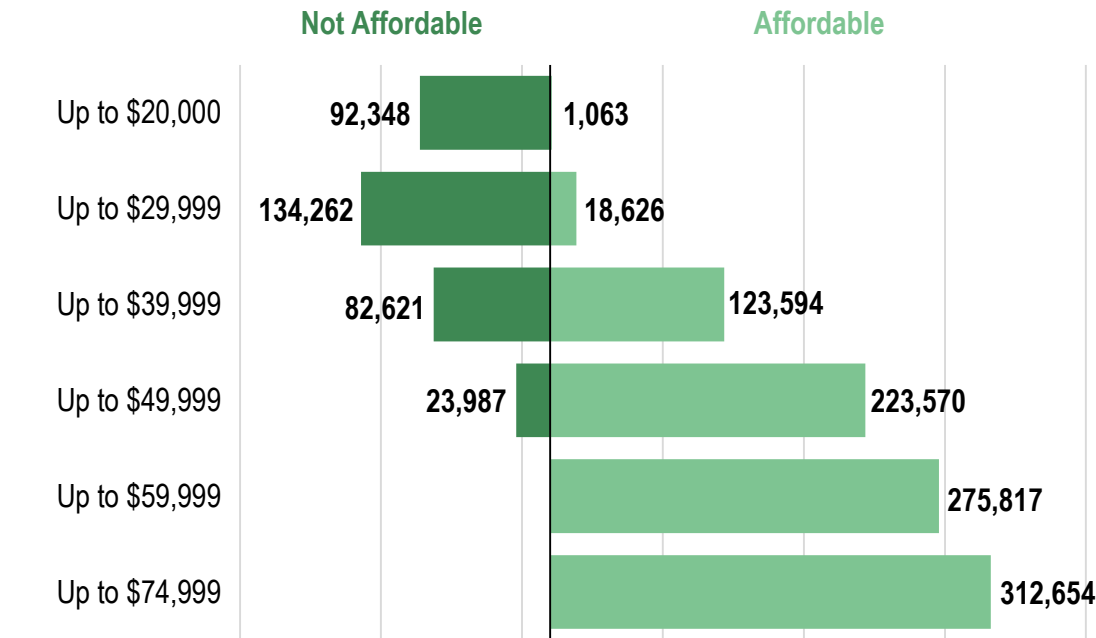
Source: Applied Analysis

# Housing Affordability Gap

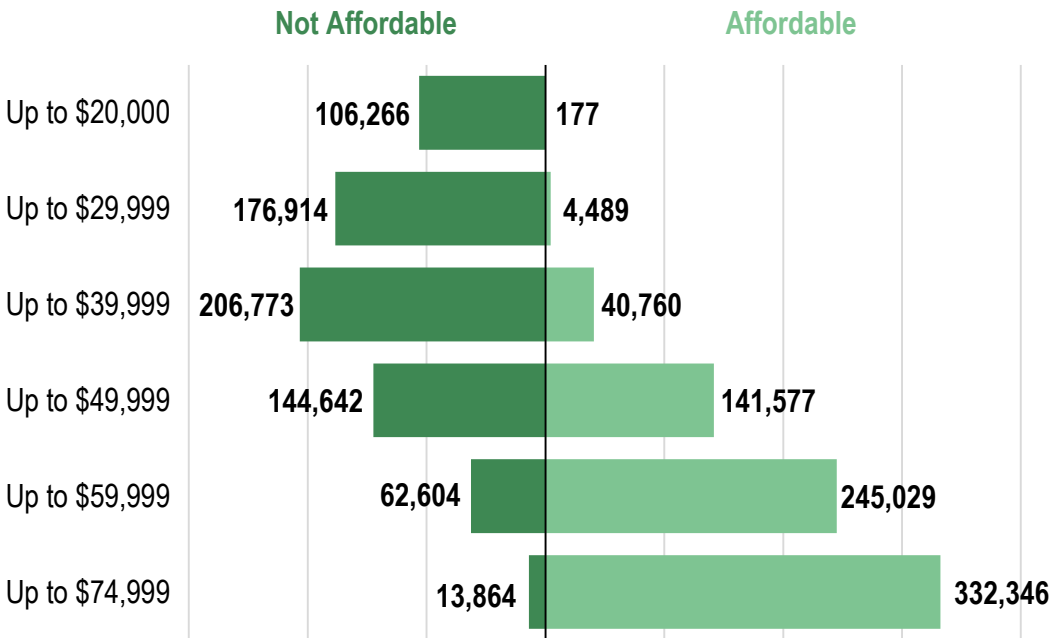
## Renter-Occupied Households

Renter-occupied households shoulder the bulk of the regional affordable housing shortage. Today, that shortage is concentrated among households earning less than \$40,000 a year, and it is projected to impact higher income levels in the coming decade. The charts below illustrate the number of southern Nevada renter-occupied households that have adequate affordable housing options and those that don't.

Renter-Occupied Households (2017)



Renter-Occupied Households (2026)



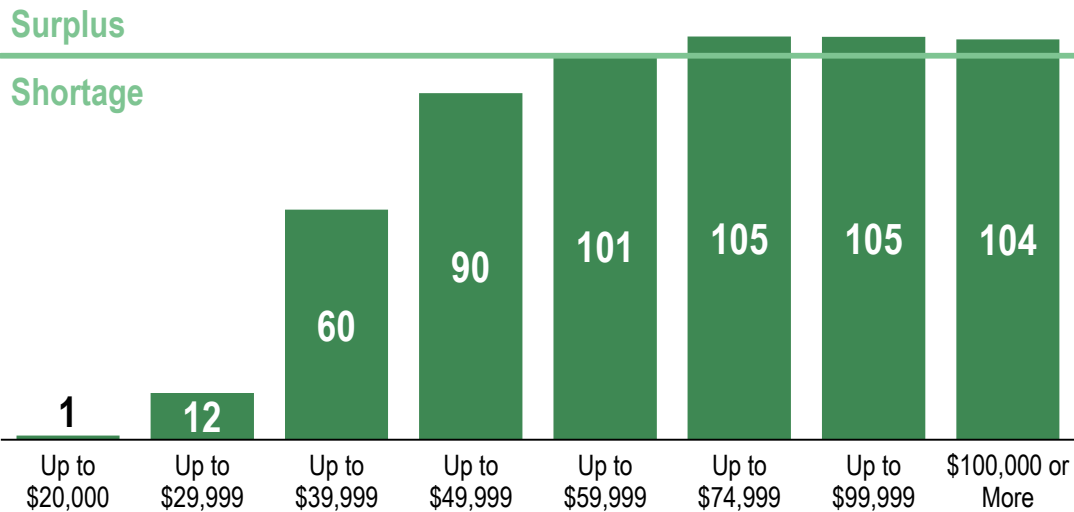
Source: Applied Analysis

# Affordable Units Per Household

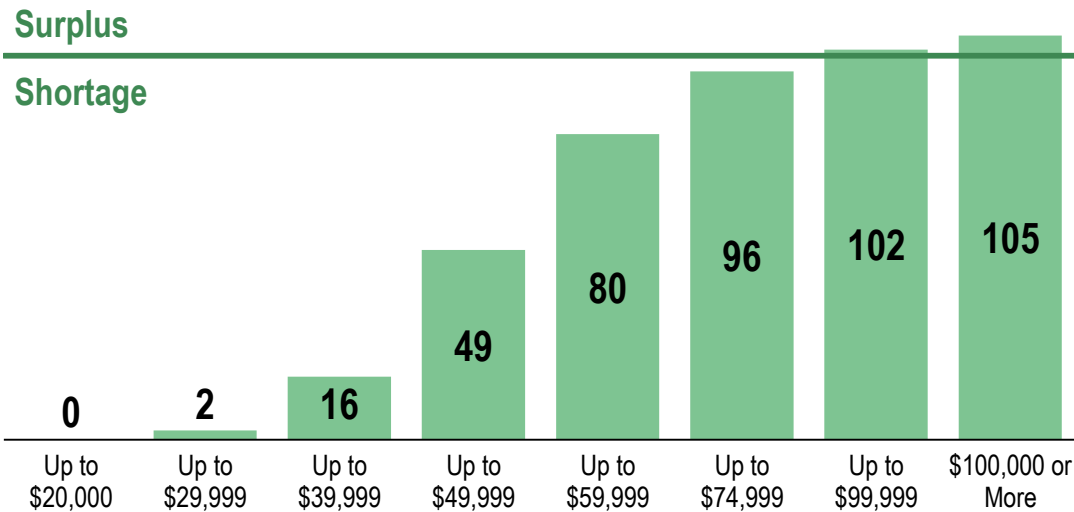
## Renter-Occupied Households

The charts below illustrate the availability of affordable housing per 100 households for each income level. Today, limited affordable housing options exist for renters earning less than \$30,000 per year, though availability improves for incomes up to \$50,000. By 2026, the affordable housing shortage will potentially impact households earning as much as \$75,000, and the gaps among lower-income ranges will increase significantly.

Affordable Units Per 100 Households  
Renter-Occupied Households (2017)



Affordable Units Per 100 Households  
Renter-Occupied Households (2026)

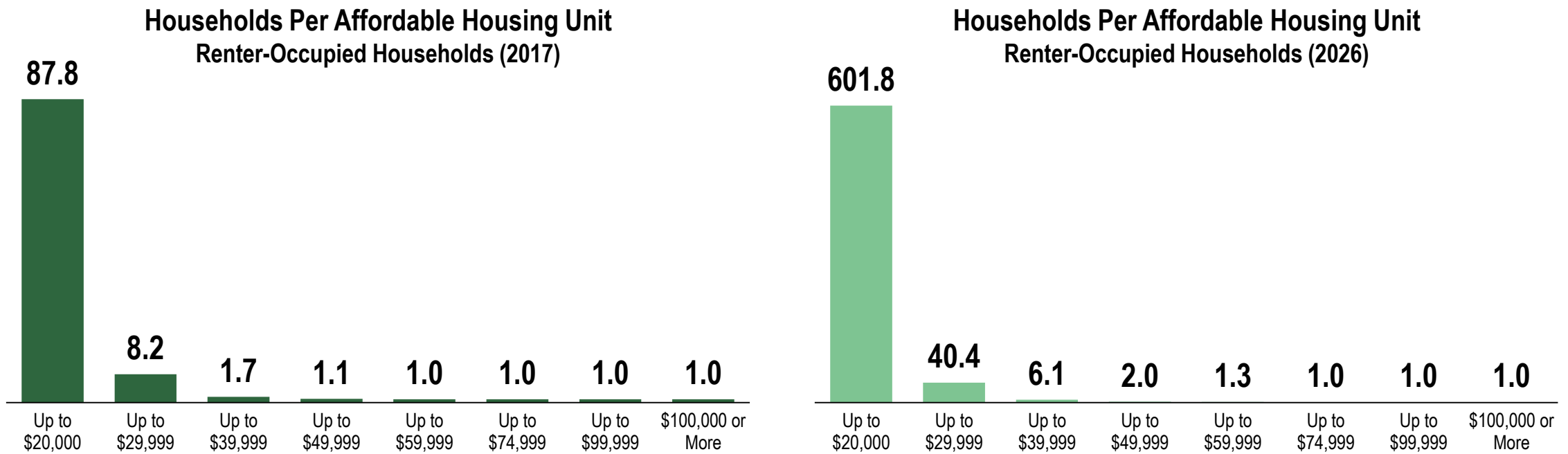


Source: Applied Analysis

# Households Per Affordable Unit

## Renter-Occupied Households

Low-income renters face the greatest shortages of affordable housing. Today among households earning less than \$30,000, there are more than eight renter-occupied households for every affordable housing unit. By 2026, that figure will increase five-fold as other income ranges experience elevated gaps in affordable coverage availability. As noted earlier, affordable housing shortages among lower-income households impact higher-income ranges because of the crowding out effects they create.



Source: Applied Analysis

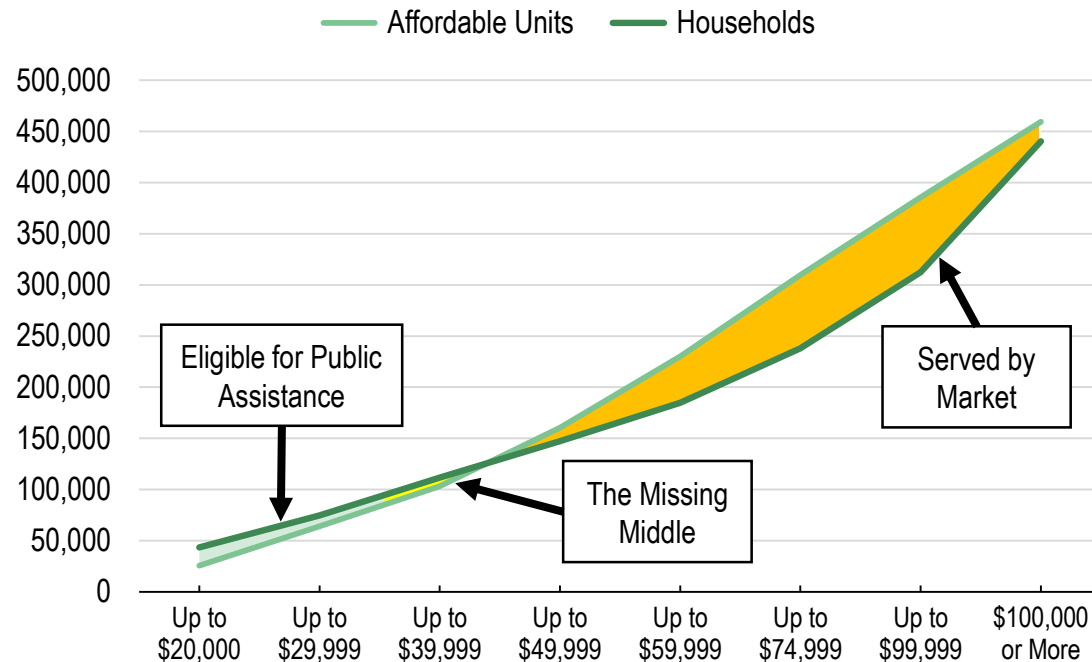


# Housing Affordability Gap

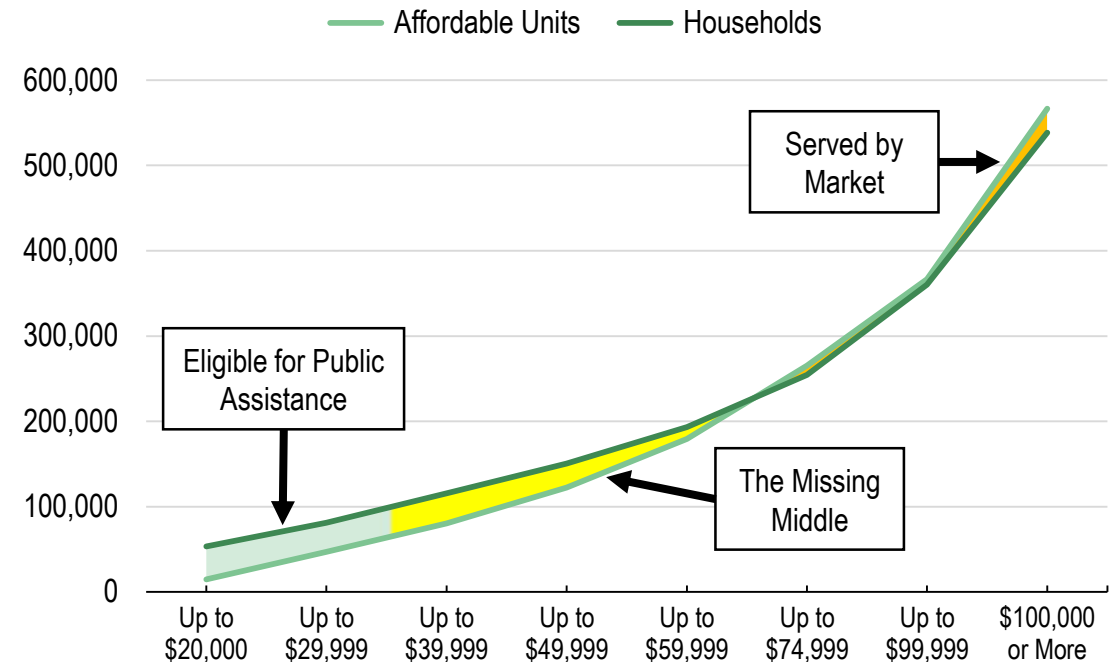
## Owner-Occupied Households

Today, a narrow housing affordability gap exists among lower-income owner-occupied households. The gap is projected to grow modestly over the next decade but will remain relatively narrow compared to renter-occupied households.

Owner-Occupied Households (2017)



Owner-Occupied Households (2026)



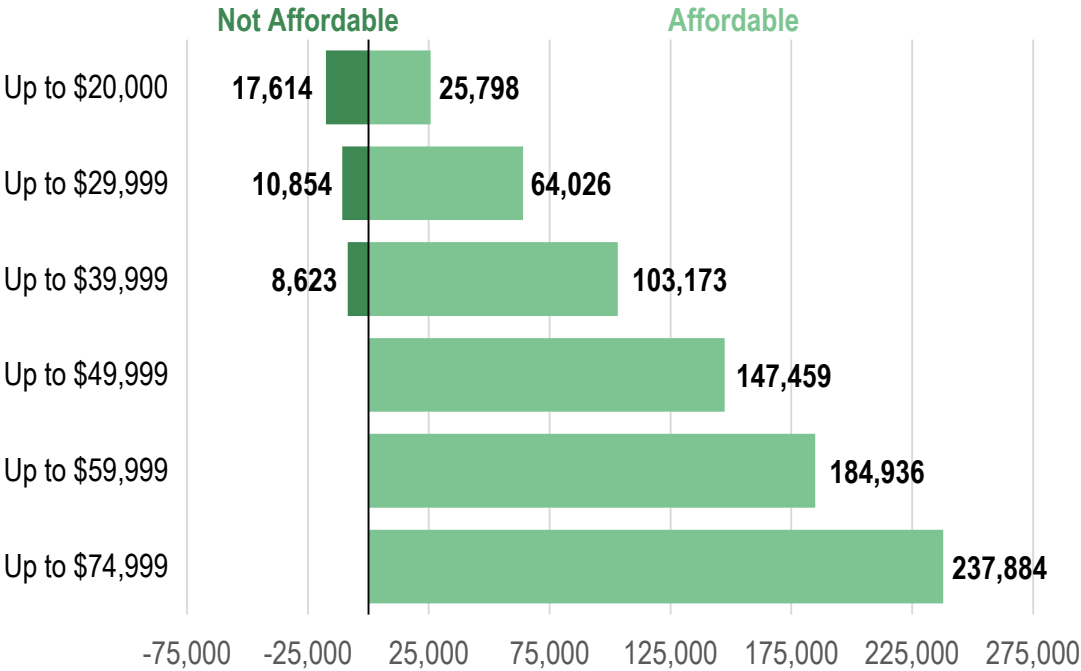
Source: Applied Analysis

# Housing Affordability Gap

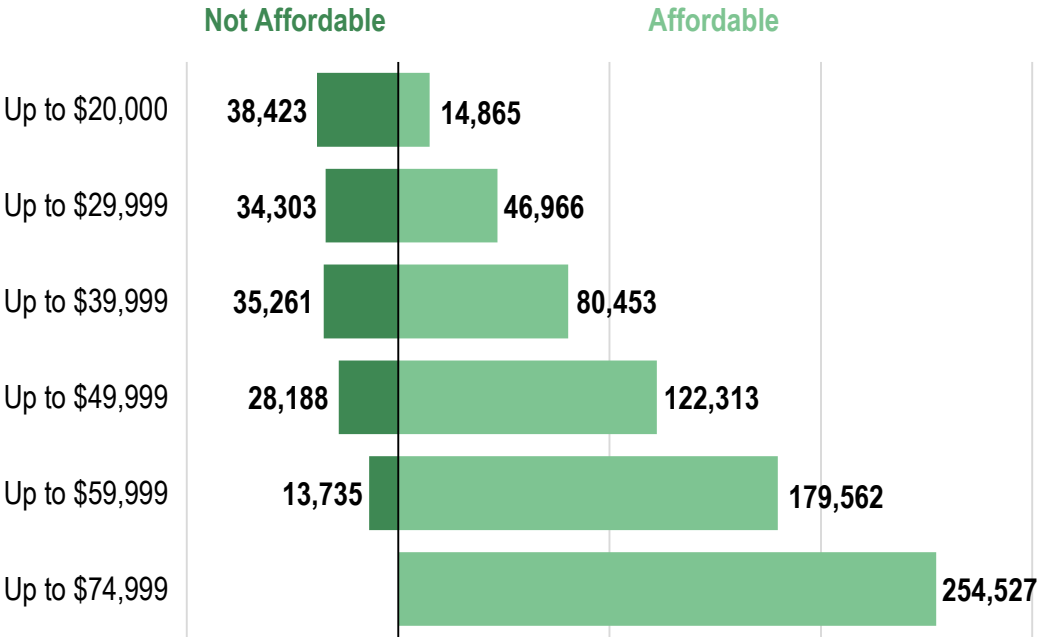
## Owner-Occupied Households

Compared with renter households, owner-occupied households face a relatively narrow affordable housing shortage. This is partially explained by differences in household income, as owner-occupied households earn nearly twice the median income of renter-occupied households. The charts below illustrate the number of southern Nevada owner-occupied households that have adequate affordable housing options and those that don't.

Owner-Occupied Households (2017)



Owner-Occupied Households (2026)



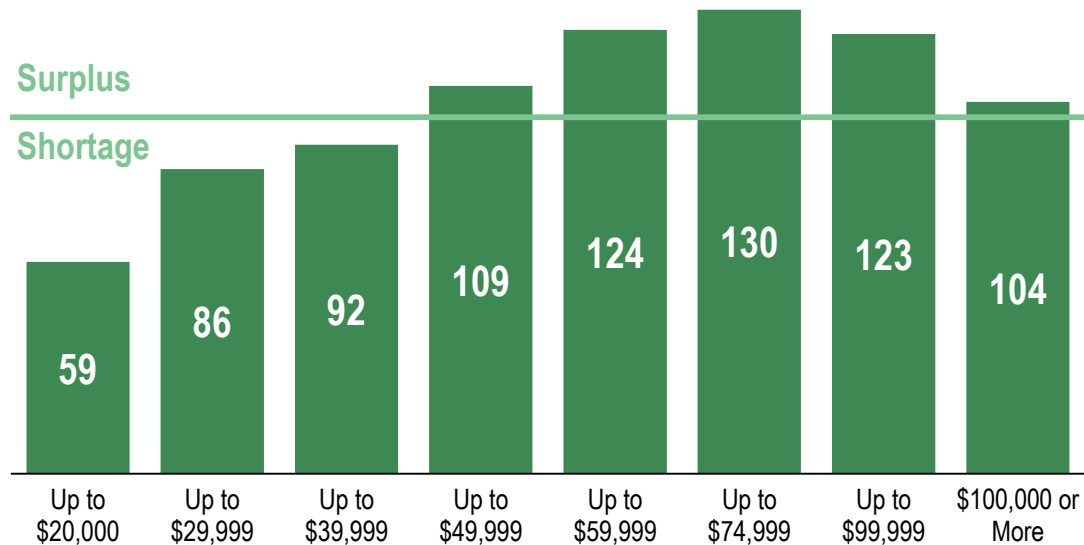
Source: Applied Analysis

# Affordable Units Per Household

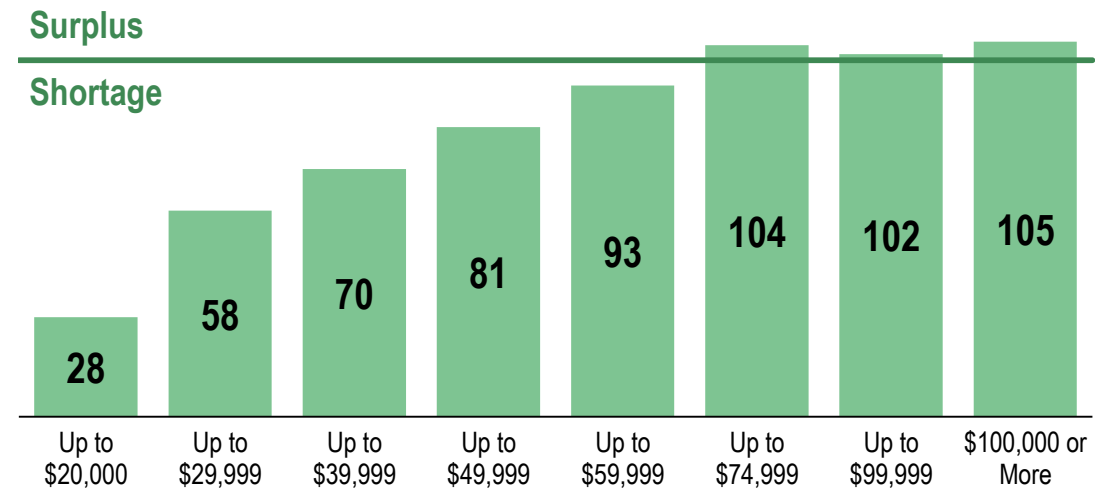
## Owner-Occupied Households

The charts below illustrate the availability of affordable housing per 100 owner-occupied households for each income level. Today, the affordable housing shortage is confined to households earning less than \$40,000 per year. By 2026, that lack of affordable housing will be felt among households earning as much as \$60,000.

**Affordable Units Per 100 Households  
Owner-Occupied Households (2017)**



**Affordable Units Per 100 Households  
Owner-Occupied Households (2026)**



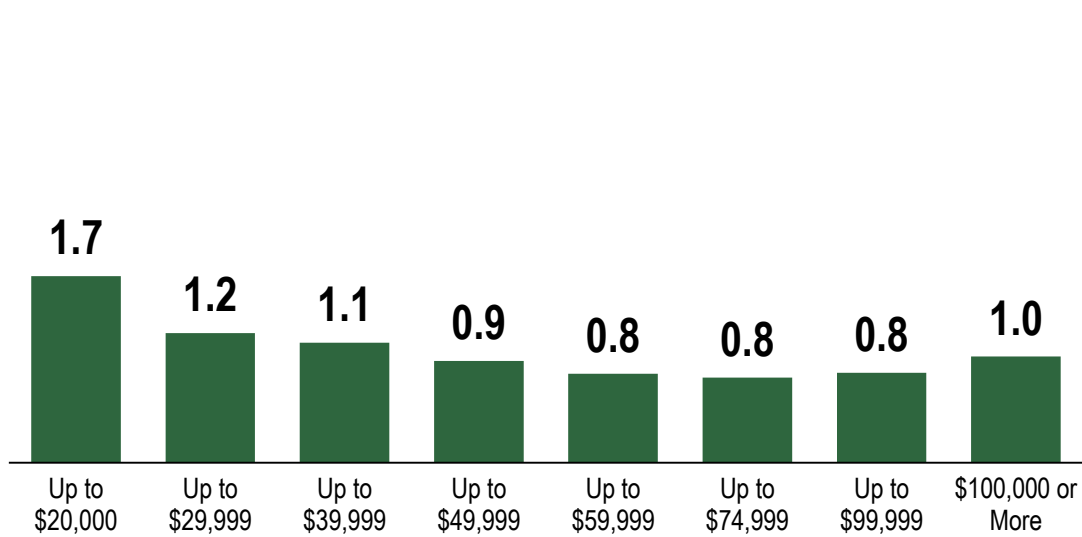
Source: Applied Analysis

# Households Per Affordable Unit

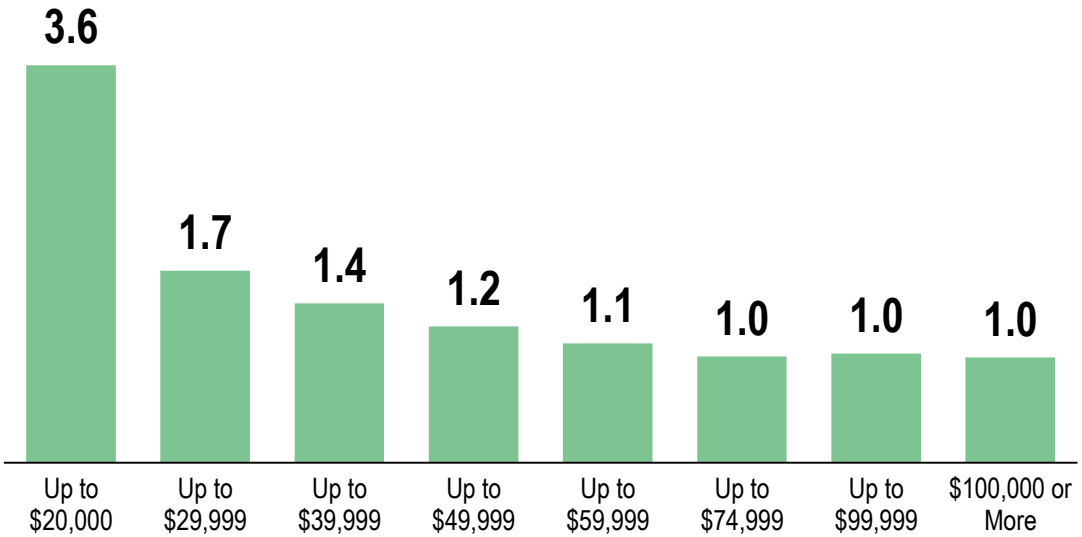
## Owner-Occupied Households

The shortage of affordable homes available to owner-occupied households is notably lower than for all households. For all but the lowest income levels, an appropriate level of affordable housing options is available today. Over the next decade, owner-occupied households across most income ranges will face increasing, though modest, competition for affordable housing.

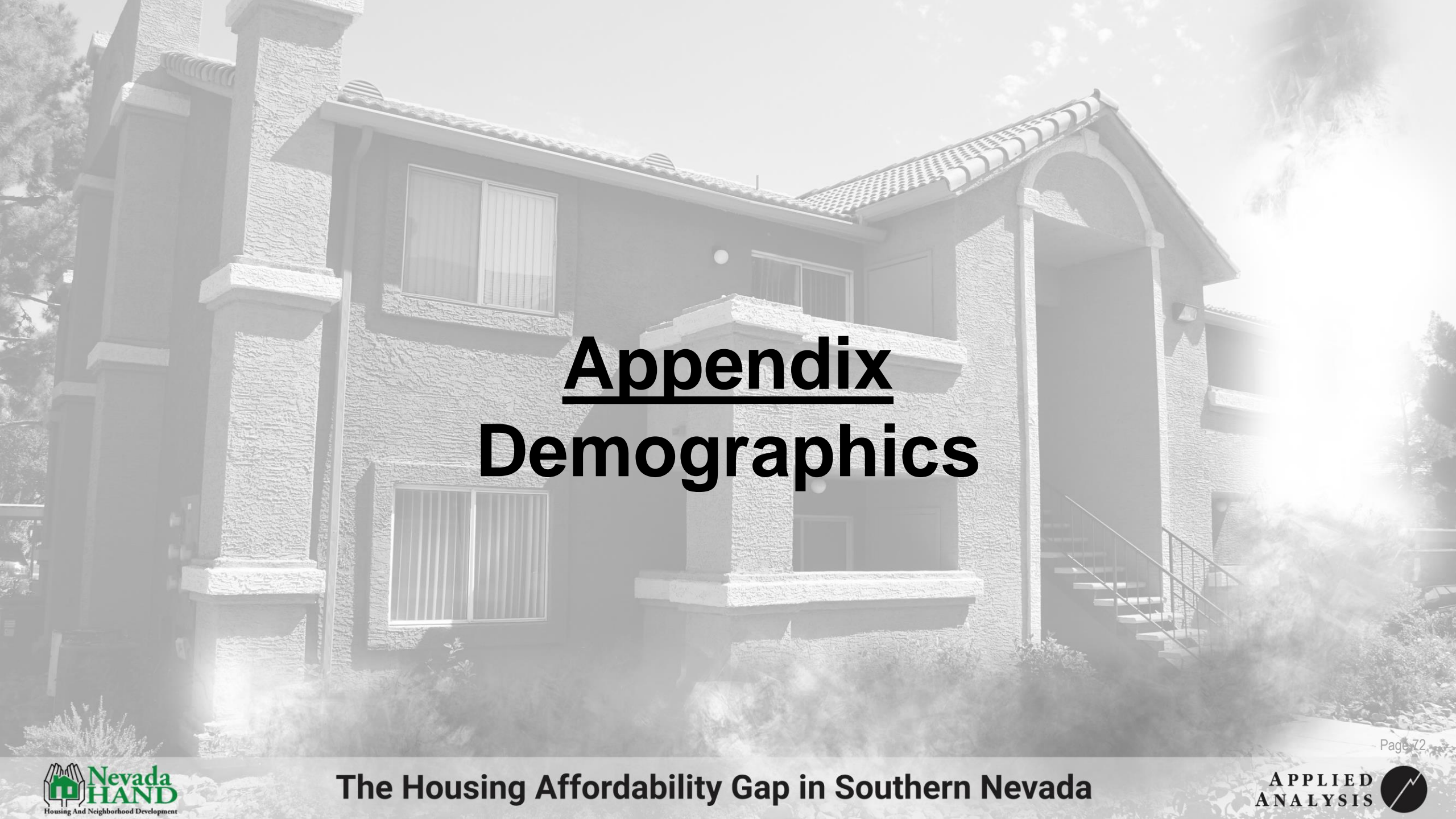
Households Per Affordable Housing Unit  
Owner-Occupied Households (2017)



Households Per Affordable Housing Unit  
Owner-Occupied Households (2026)



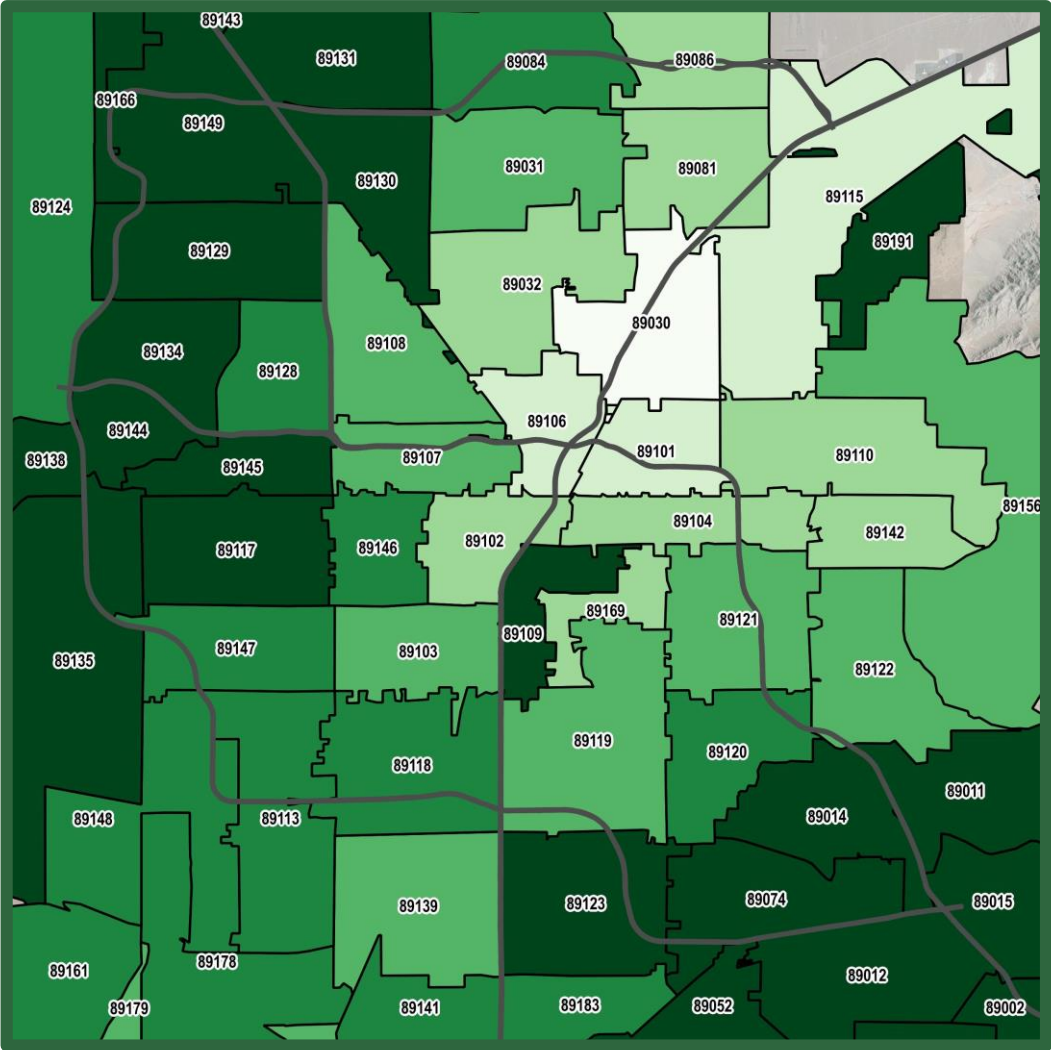
Source: Applied Analysis



# Appendix Demographics



# Demographics – Race



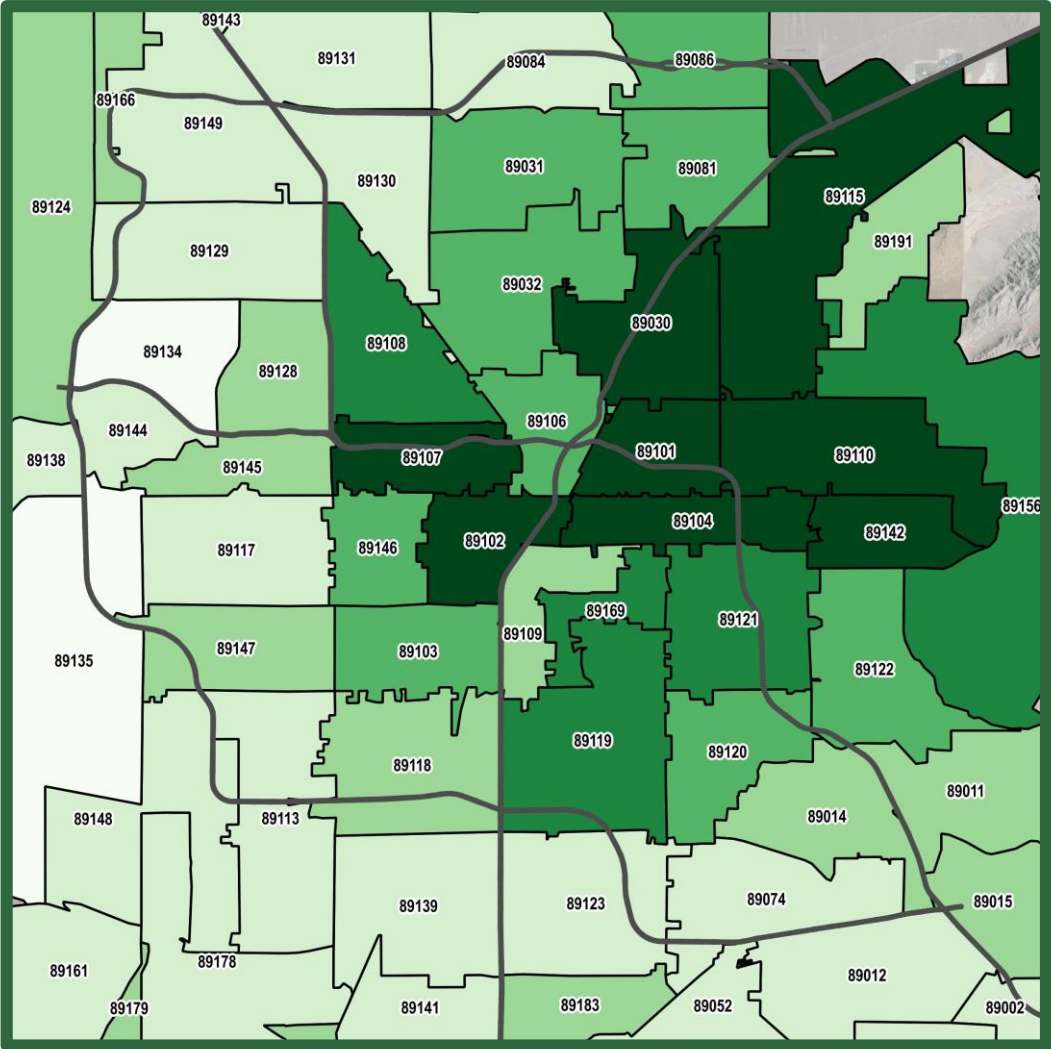
Population Share by Zip Code  
White

Legend	
	Less Than 10.0%
	10.0% to 19.9%
	20.0% to 29.9%
	30.0% to 39.9%
	40.0% to 49.9%
	50.0% or More

Source: U.S. Census Bureau, Applied Analysis



# Demographics – Race

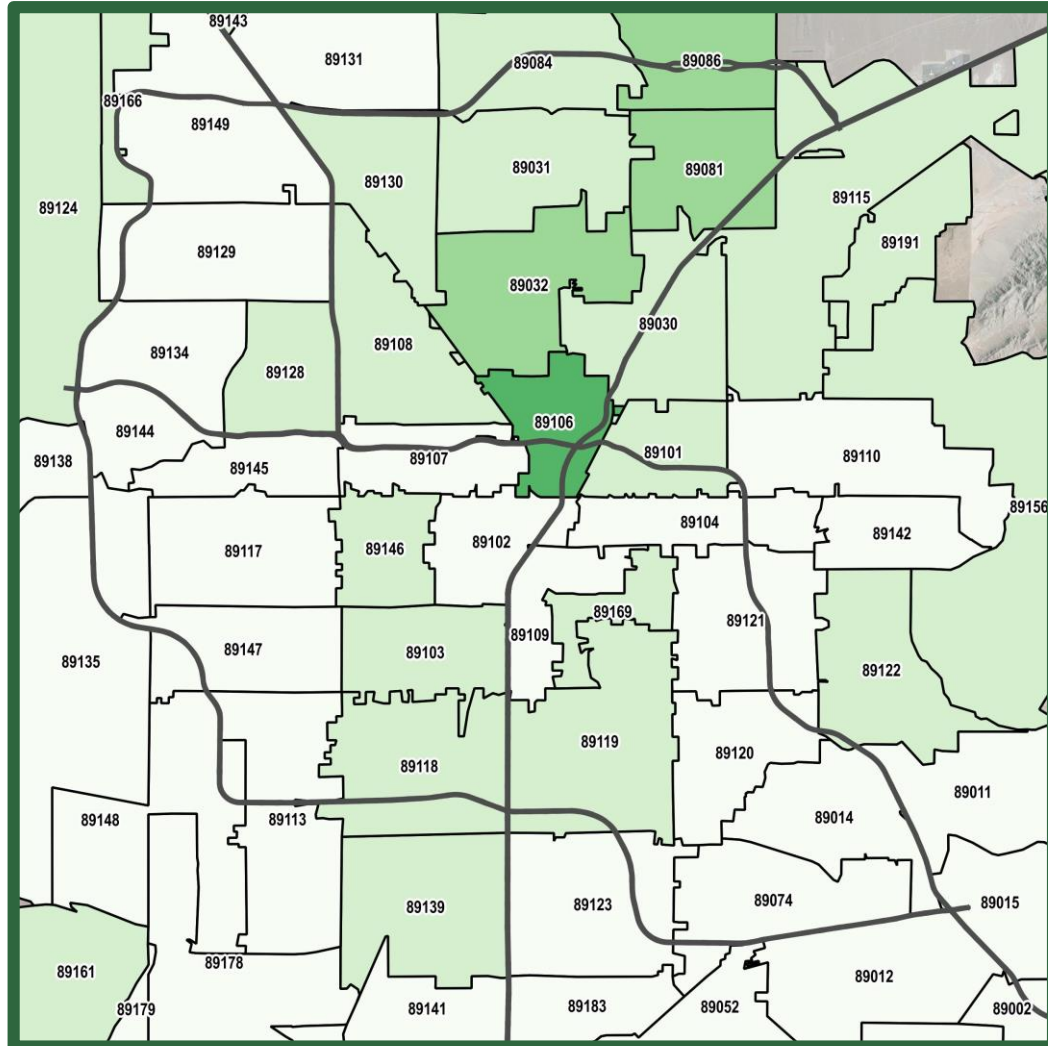


**Population Share by Zip Code**  
Hispanic/Latino

Legend	
	Less Than 10.0%
	10.0% to 19.9%
	20.0% to 29.9%
	30.0% to 39.9%
	40.0% to 49.9%
	50.0% or More

Source: U.S. Census Bureau, Applied Analysis

# Demographics – Race

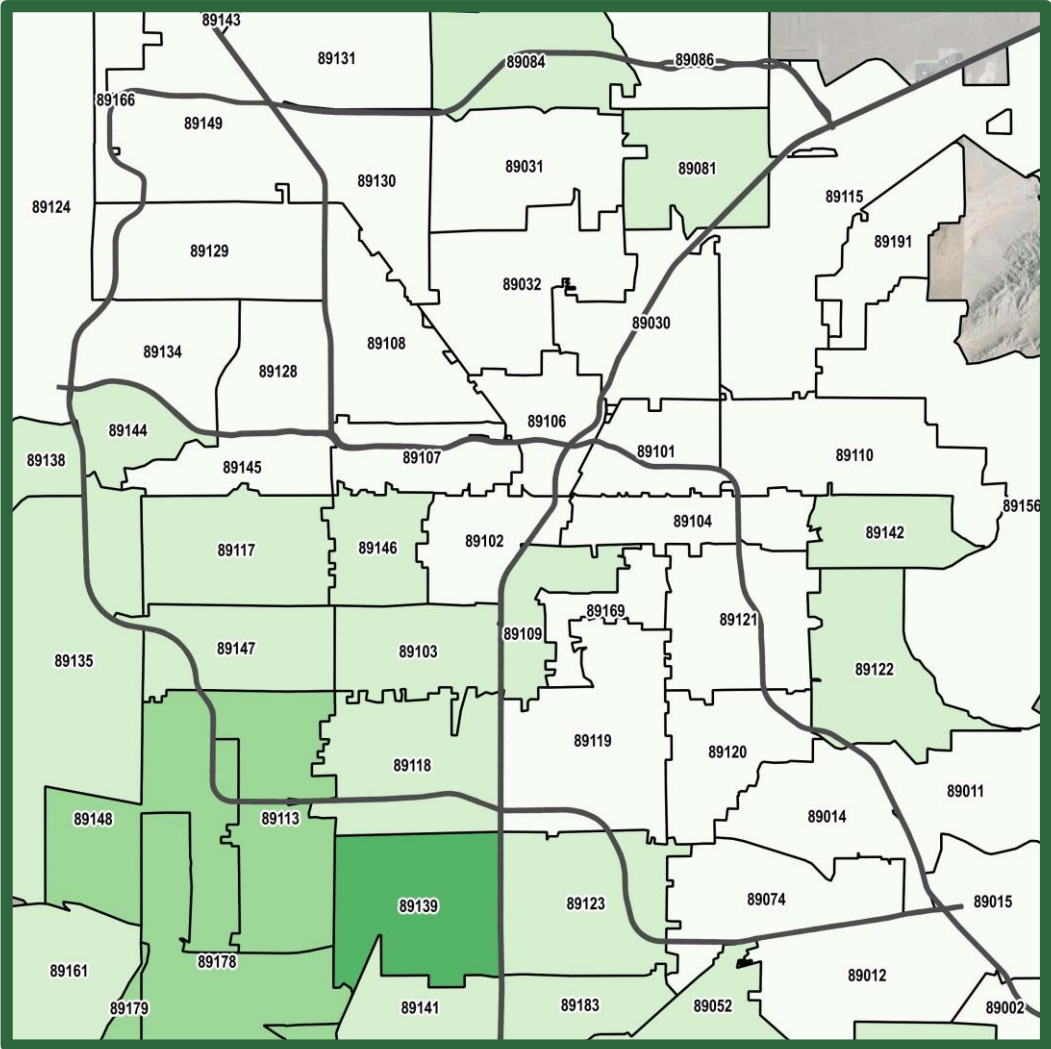


## Population Share by Zip Code Black/African American

Legend	
	Less Than 10.0%
	10.0% to 19.9%
	20.0% to 29.9%
	30.0% to 39.9%
	40.0% to 49.9%
	50.0% or More

Source: U.S. Census Bureau, Applied Analysis

# Demographics – Race

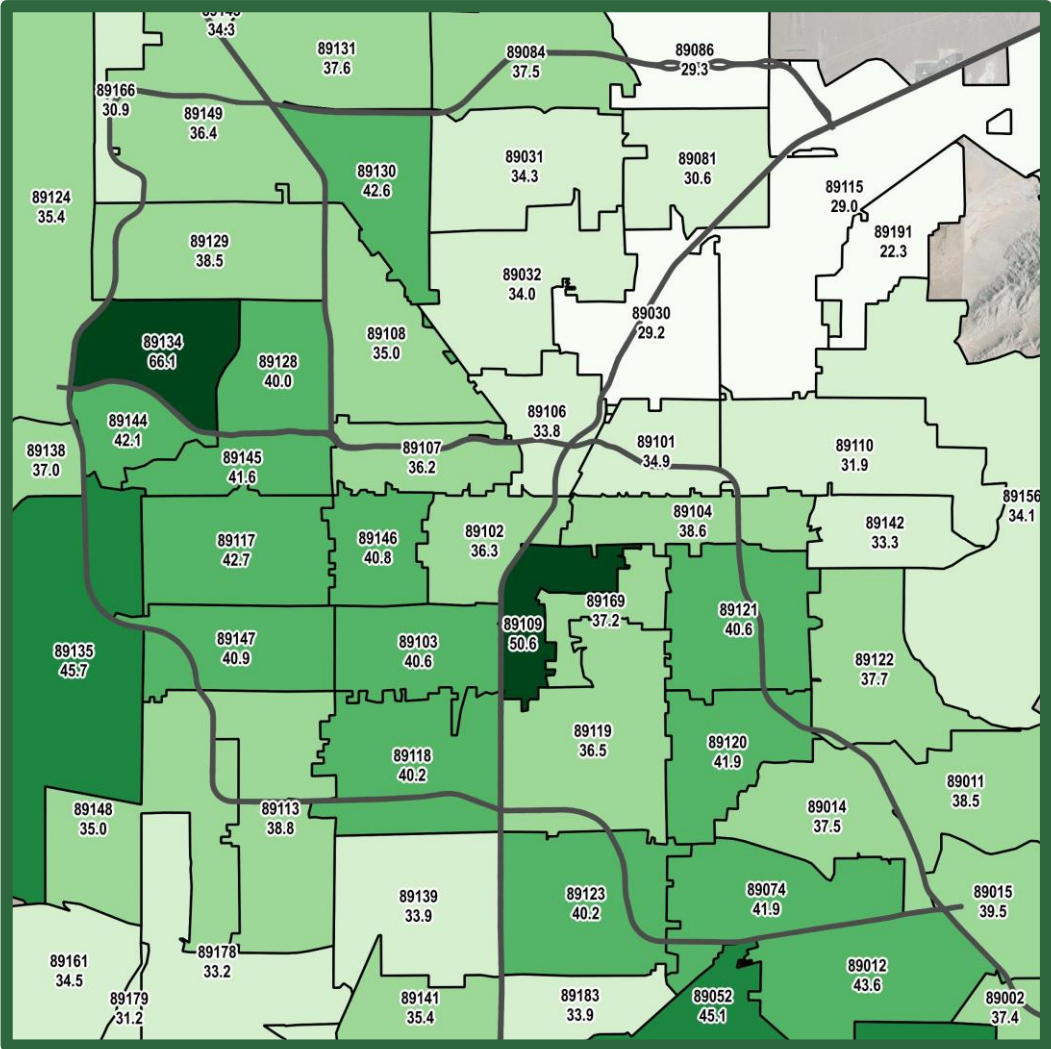


## Population Share by Zip Code Asian

Legend	
	Less Than 10.0%
	10.0% to 19.9%
	20.0% to 29.9%
	30.0% to 39.9%
	40.0% to 49.9%
	50.0% or More

Source: U.S. Census Bureau, Applied Analysis

# Demographics – Age



## Median Age by Zip Code

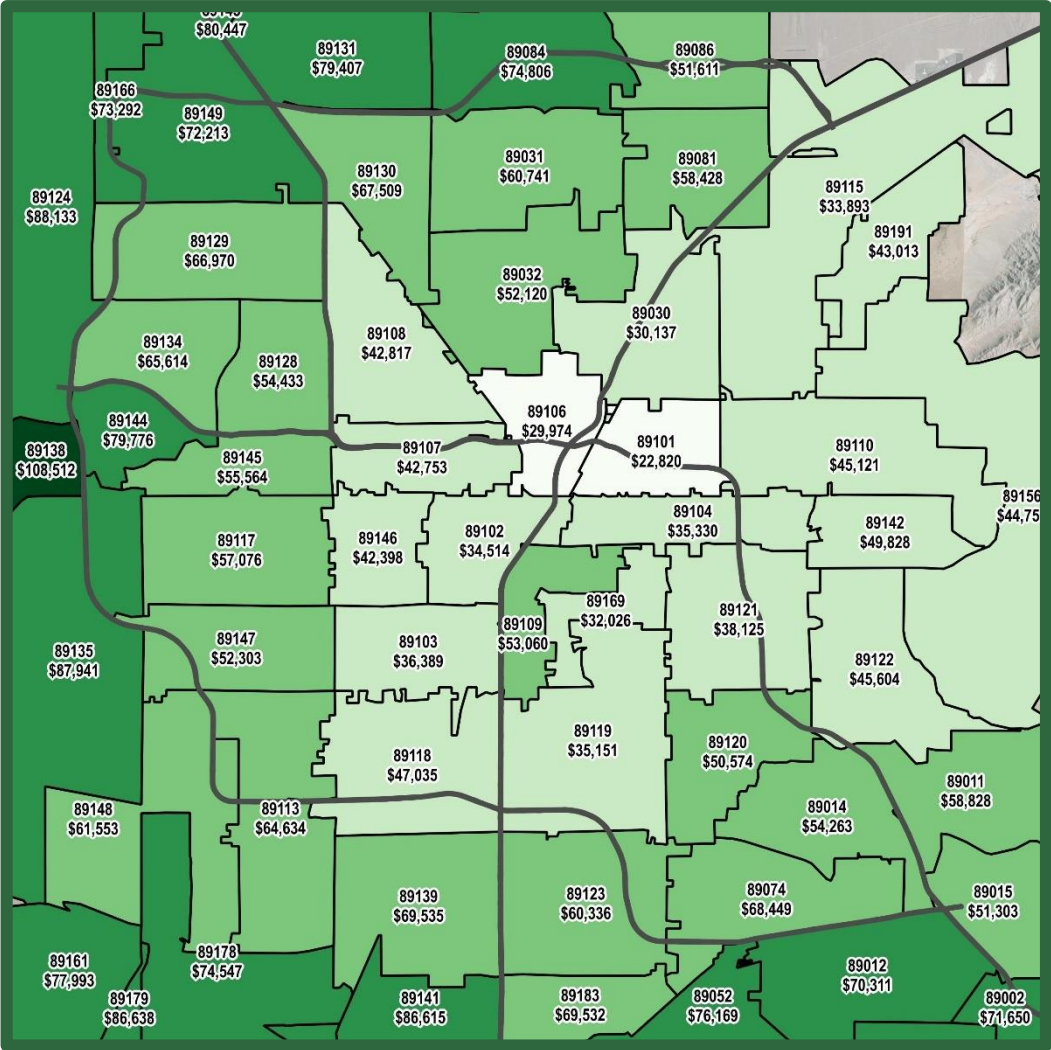
Clark County Median Age  
37.5

Legend	
	Under 30.0
	30.0 to 34.9
	35.0 to 39.9
	40.0 to 44.9
	45.0 to 49.9
	50.0 and Over

Source: U.S. Census Bureau, Applied Analysis



# Demographics – Income



## Median Income by Zip Code

Legend	
	Less than \$30,000
	\$30,000 to \$49,999
	\$50,000 to \$69,000
	\$70,000 to \$99,999
	\$100,000 or more

Source: Environics Analytics (2017)

# THE HOUSING AFFORDABILITY GAP IN SOUTHERN NEVADA