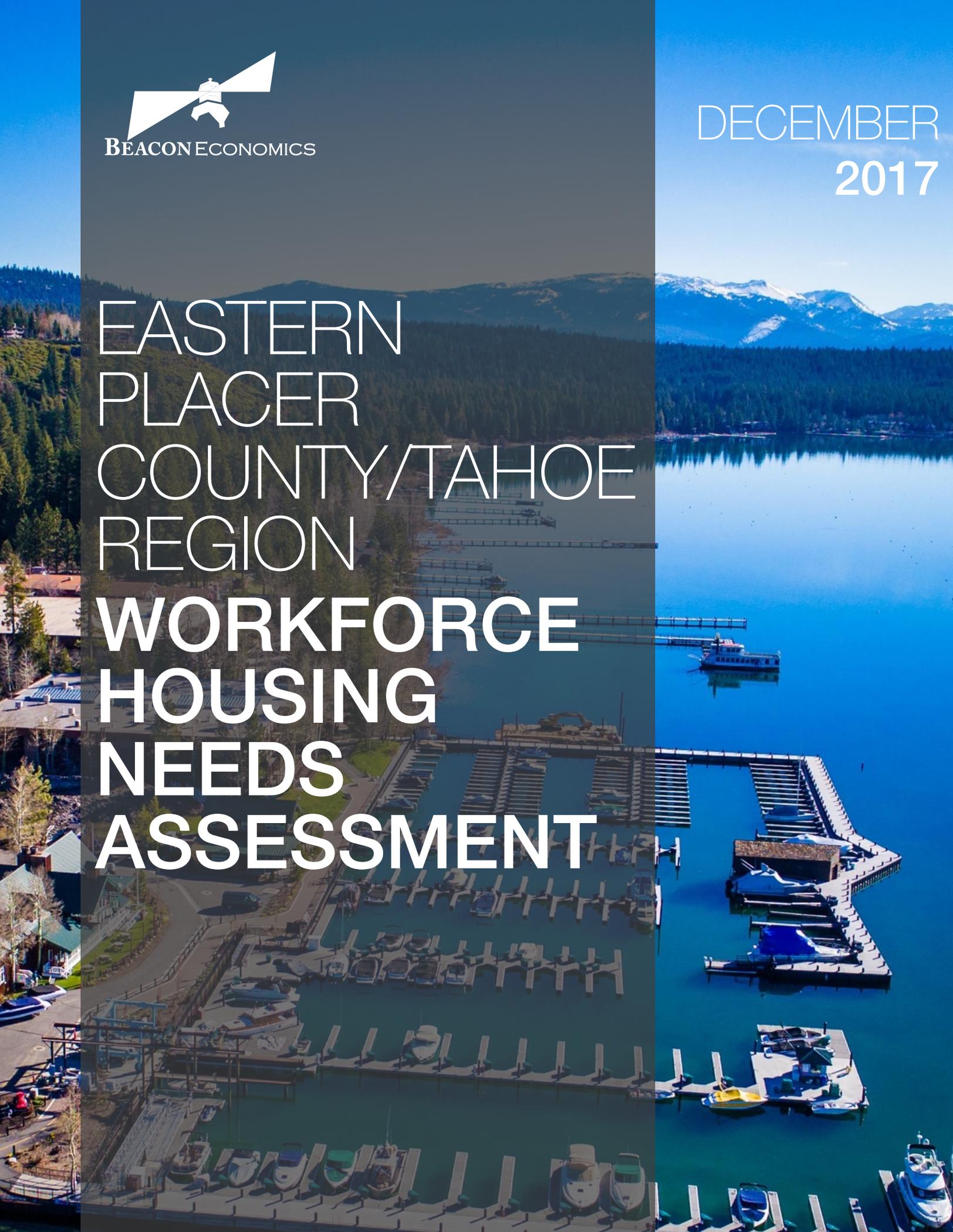




DECEMBER
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EASTERN
PLACER
COUNTY/TAHOE
REGION

WORKFORCE
HOUSING
NEEDS
ASSESSMENT



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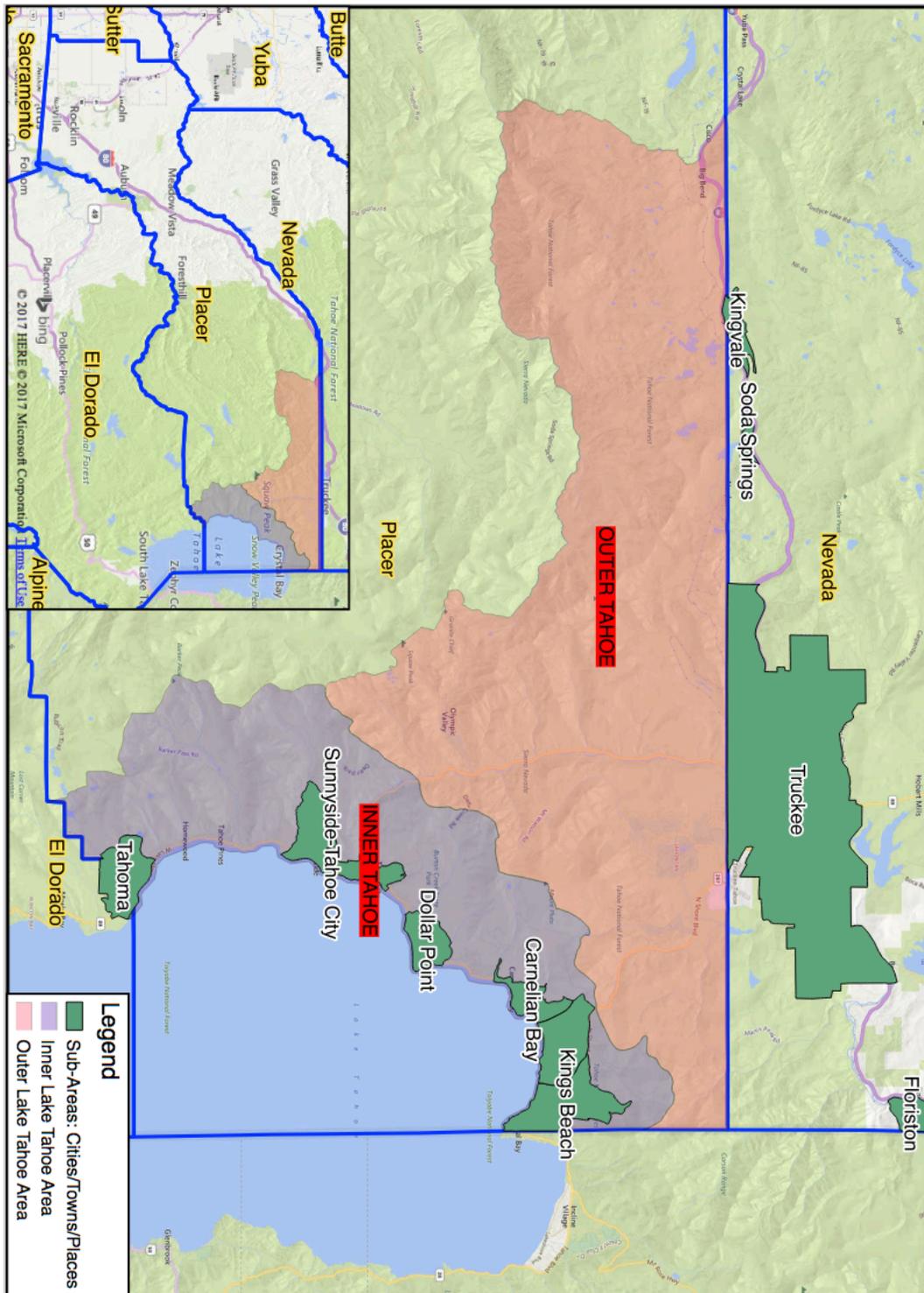
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INTRODUCTION AND PURPOSE OF STUDY

Figure 1. Tahoe Study Area Map



The North Lake Tahoe Region of Placer County (Tahoe Region) is a top destination for those who wish to escape city life from time to time. It lies within the broader Tahoe Basin area that includes counties in both California and Nevada that abut Lake Tahoe. Tourism is the primary economic driver in the Tahoe Region, which gets more than 3 million visitor days per year. In 2016, tourism was estimated to support 6,450 jobs locally, a figure that has surely grown since then.¹ As such, Leisure and Hospitality is by far the largest industry in the study area.

Population growth in the Tahoe Region averaged 1.3% from 2010 to 2015, which was similar to the 1.4% growth rate for the County as a whole during the period. This represents a dramatic slowdown for the county after decades of gains that averaged over 3% per year. Relatively slow population growth was attributable in part to the recession, but has been picking up in recent years. Still, population gains in both the Tahoe Region and the County are still considerably higher than California's 0.7%.

From an economic development perspective, the region would like to capitalize on the strength of tourism and other key industries that generate jobs for local residents. As a part of pursuing that goal, it must also determine how to ensure that the local economy is supported by a sufficient workforce. But, for many resident workers, especially those in tourism and related industries, the cost of housing tends to be high relative to their wages. As a result, many who work in the Tahoe Region must live in other parts of the broader Tahoe Basin that are less expensive.

The purpose of this study is to create an independent estimate of housing needs in the Tahoe Region. Because of affordability challenges facing the region's workforce, the housing needs projections contained in this report were based directly on anticipated growth in the industries of the Tahoe Region. Beacon Economics produced employment forecasts of each industry in the region, and then used those forecasts to project housing needs by industry for the region from the base period, 2016, to the year 2020. Then, using profiles of household and housing characteristics by industry, a more detailed picture of housing needs could be painted in terms of tenure, housing types, home prices, and other characteristics.

DATA AND METHODOLOGY

Many factors such as employment, demographics, and housing market conditions drive housing needs in the Tahoe Region. Beacon Economics has employed a variety of data sources to create employment, demographic, and housing market forecasts for the region and to pave way for the final housing needs projections. The data sources used in this study are described below.

Employment:

This report makes use of three measures of employment.

- **Payroll employment by place of work** refers to wage and salary employment based on the location of establishments.

¹The Economic Significance of Travel to the North Lake Tahoe Area, October 2017, Dean Runyan Associates.

- **Payroll employment by place of residence** refers to wage and salary employment in the worker's area of residence.
- **Household or civilian employment** refers to resident job holders in a given area and includes both wage and salary workers and self-employed individuals, regardless of whether their job is located in that area or outside that area.

California Employment Development Department (EDD): Confidential data for Placer County establishments is available from the California Employment Development Department and is used to develop trends in payroll employment by place of work for the Tahoe Region. In addition to providing top-level employment data, the EDD data also breaks down employment and wage information by industry, which is useful to understand employment dynamics within industries.

U.S. Census Longitudinal Employer-Household Dynamics (LEHD): The Center for Economics Studies at the U.S. Census Bureau combines federal, state, and Census Bureau data on employers and wage and salary employees into a unique dataset known as the Longitudinal Employer-Household Dynamics (LEHD), that allows for establishment-level analysis and for analysis of wage and salary workers and their households by industry, all at a variety of geographic specifications. Beacon Economics uses the LEHD data to develop a profile of workers by their place of residence in a given labor market, both in terms of overall job counts and in terms of individual industries. This source is used to describe the employment by place of residence of the Tahoe Region.

Household Characteristics

U.S. Census American Community Survey: Demographic information comes from the U.S. Census Bureau's American Community Survey (ACS). ACS is used to uniquely associate data on the region's households with the industries of the region, to produce industry-specific household profiles, including homeownership, income, home value, household size, household budget, housing burden, and housing over-crowdedness. In particular, ACS is used to estimate household employment by industry, the third employment measure mentioned above, which forms the basis for housing needs projections below. Due to the population size and geographical regions that are of interest in this study are small, the results presented are based on 5-year ACS sample data.

Census tract level ACS data is used to profile households in the Placer Tahoe region, while ACS *Public Use Micro-Sample (PUMS)* data is used to profile the broader Tahoe Basin regional labor market in the housing needs analysis below.

Housing Market Conditions

DQNews/CoreLogic: Beacon Economics uses sales and price data from DQNews/CoreLogic to conduct analysis on the single-family housing market and condominium housing market. Data are collected at the zip code level and are aggregated and customized to represent the Tahoe Region's housing market.

U.S. Census' American Community Survey: For housing stock, which includes information on occupied and vacant housing units, data comes from the American Community Survey.

RECENT LABOR MARKET AND INDUSTRY TRENDS

Data on establishments that are located in the Tahoe Region was obtained from the California Employment Development Department (EDD) in the form of EDD's Confidential Data for the county. Payroll data for the region shows solid gains over the past several years. Local employers reported payrolls of 7,650 in 2016, representing an annual growth rate of 7.1% and a faster rate of increase than the County (up 5.2% year to year) and the State (up 2.6% year to year). These gains have been driven primarily by small businesses in the area, which have accounted for over half of employment gains between 2010 and 2015. The local tourism sector has been a primary driver of growth, and is by far the largest employer in the Tahoe Region.

Payroll Employment, North Lake Tahoe Region

Year	Total Employment
2010	6,541
2011	6,662
2012	6,753
2013	7,030
2014	6,959
2015	7,138
2016	7,659

Source: California EDD

Of the jobs gained in the last year, the Leisure and Hospitality sector had the largest share (338 jobs), followed by Education/Health (41) and Administrative Support (34).² Despite having the second-largest share of total jobs, Construction employment is still below pre-recession levels.³ Meanwhile, employment in the Leisure and Hospitality industry — including Arts, Entertainment and Recreation and Accommodation and Food Services sub-industries — is far higher compared with the earliest available data.

²Source: Work Area Profile Report, U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD).

³A recent study by the Economic Planning Systems Inc. (EPS) shows that although total employment changed very little from 2002 to 2011, there was a dramatic shift within employment industries. Particularly, Construction and Transportation and Warehousing lost close to half of the jobs during the study period, while Leisure and Hospitality, Government and Real Estate and Rental and Leasing industries gained 1,129 jobs combined. The March 2015 EPS report "The Economic Benefits of the North Lake Tahoe/Truckee Transit Vision," which was conducted for the North Lake Tahoe Resort Association, can be retrieved from https://www.gotahoenorth.com/wp-content/uploads/2015/09/EconomicBenefits_NLTruckeeTransitVision.pdf

Tahoe Region Payroll Employment by Place of Work, 2016

Industry	Employment	Growth (%) since 2010	Change since 2010
Total (Total Private plus Government)	7,659	17.1%	1,119
Government	460	11.8%	50
Total Private	7,180	17.0%	1,040
Leisure and Hospitality	4,020	15.4%	540
NR/Construction	870	57.0%	320
Trade	760	0.7%	10
Admin Support	370	11.4%	40
Fin. Svcs. and Real Estate	370	9.3%	30
Other Services	300	35.1%	80
Education/Health	200	43.7%	60
Prof, Sci, Tech, and Mgmt	170	-10.1%	-20
Manufacturing and Logistics	80	0.0%	0
Information	50	-2.0%	0

Source: California EDD

Note: Given the small employment counts, numbers may be suppressed within certain industries, so that numbers may not add up to total.

Annual employment numbers do not reflect the fact that parts of the local economy are quite seasonal in nature, notably the two largest industries by job count, Leisure and Hospitality and Natural Resources and Construction. Within these industries are such sectors as eating and drinking establishments, lodging, recreational activities such as ski resorts, and construction. All except construction are tied to the busy ski and winter activities time of the year that draws visitors from the late fall through the late spring of each year.

For the Leisure and Hospitality industry, the first quarter of a year has the highest employment count, since the winter months are popular for skiing activities in the Lake Tahoe region. In contrast, as ski resorts close at spring, the second quarter of a year sports the lowest employment count. In 2016, Leisure and Hospitality employment peaked in the first quarter of 2016 with 4,719 job count, whereas the second quarter of 2016 had the lowest job count at 3,629, or 23% lower than the first quarter. For the Natural Resources and Construction industry, the highest seasonal employment tends to occur during the second half of the year. In 2016, the third quarter had the highest employment count at 952 jobs, followed by the fourth quarter with 895 jobs. On the other hand, the first quarter had the lowest employment count at 775 jobs.

Projected payroll employment growth reflects a positive outlook for the region, and is expected to pick up moving forward. Beacon Economics is projecting average annual employment gains of 0.9% between 2016 and 2020, up from a historical growth rate of 0.1% seen between 2008 and 2016. In particular, Other Services and Natural Resources/Construction are expected to be primary drivers of growth.

SOCIO-ECONOMIC OVERVIEW OF TAHOE REGION HOUSEHOLDS

Median household income in Placer North Lake Tahoe region has dropped slightly in recent years, decreasing by 3.7% from \$65,833 in 2010 to \$63,386 in 2015. The region fared worse than Placer County as a whole, which saw a relatively slight 0.7% decrease from \$74,447 to \$73,948. The change in median household income is also a marked departure compared to South Placer County, where 90% of the county population resides, which saw a modest 0.4% increase in median household income from \$75,802 in 2010 to \$76,139 in 2015. More recent year-over-year growth trend shows that North Lake Tahoe continues to lag behind compared the County average as a whole.

Data on the distribution of income indicates that for the entire Tahoe Region, the share of households at the extremes of the income earnings distribution have increased, while the middle has contracted. There are also differences within the region as a whole. The Outer Lake Tahoe sub-region is generally home to higher income households with 67% of its households earning more than \$50,000, and an annual median household income of nearly \$78,000 in 2015. For the Inner Lake Tahoe sub-region, median household income was significantly lower at nearly \$59,000, with just over half of all households earning more than \$50,000 annually.

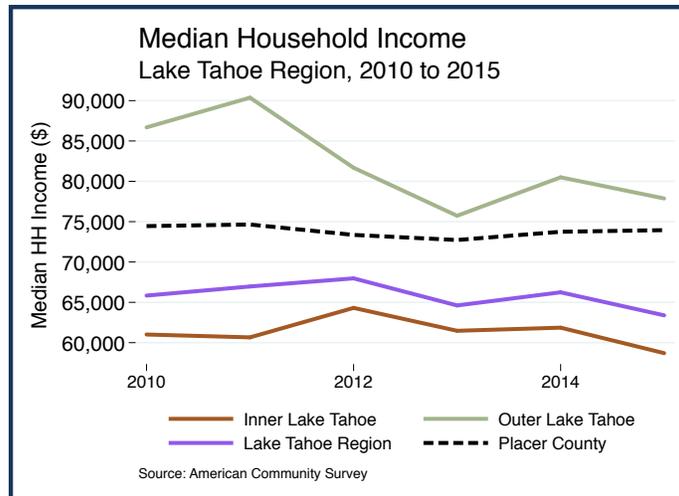
Tahoe Income Distribution

	Inner Tahoe	Outer Tahoe	Total Tahoe
2015			
Less than \$25,000	22%	19%	21%
\$25,000 to \$49,999	25%	15%	23%
\$50,000 to \$99,999	26%	31%	27%
\$100,000 or more	26%	36%	29%
Median Household Income	\$58,698	\$77,873	\$63,386
2010			
Less than \$25,000	20%	16%	19%
\$25,000 to \$49,999	21%	16%	20%
\$50,000 to \$99,999	36%	38%	36%
\$100,000 or more	23%	30%	24%
Median Household Income	\$61,009	\$86,682	\$65,833

Source: American Community Survey

Note: Data were tabulated at the Census Tract level using 5-year Census ACS data

While median household income in the Outer Lake Tahoe region is significantly higher than that of the Inner Lake Tahoe region, the gap has shrunk from 2010 to 2015. What is concerning is that the reason for the gap is not due to Inner Lake Tahoe closing the gap – rather, median household income has been decreasing for households in the Outer Lake Tahoe region. Furthermore, from 2010 to 2015, median household income actually decreased for both Inner and Outer Lake Tahoe regions. Finally, the share of households earning less than \$50,000 per year have inched up in both Inner Lake Tahoe (+6%) and Outer Lake Tahoe (+2%) during the same period.



Households in the Tahoe Region as a whole are slightly smaller than those in the broader County, due to differences in household composition. “Nonfamily” households, often single householders without children, make up four in ten households in the Region. In 2015, the average household size was about 2.5 people, a modest increase from the 2.4 average in 2010. By comparison, the County household size was 2.7 people in 2015.

Household types most represented in Tahoe are nonfamily households (often single householders), and married-couple households. On the other hand, single heads of households are relatively rare, comprising 12.8% of households in the Inner Tahoe sub-region and 2.7% in Outer Tahoe. Although small sample sizes for the area mean that margins of error are relatively wide, the estimates from 2010 to 2015 persistently indicate that single-male householder families are better represented in the Tahoe Region than their single-female counterparts.

Household Type, 2015

Household Type	Households	Share (%)
Inner Tahoe Subregion		
Married-couple	1,639	43.6
Male Householder	233	6.2
Female Householder	247	6.6
Nonfamily Household	1,639	43.6
Outer Tahoe Subregion		
Married-couple	673	55.3
Male Householder	28	2.3
Female Householder	5	0.4
Nonfamily Household	510	41.9

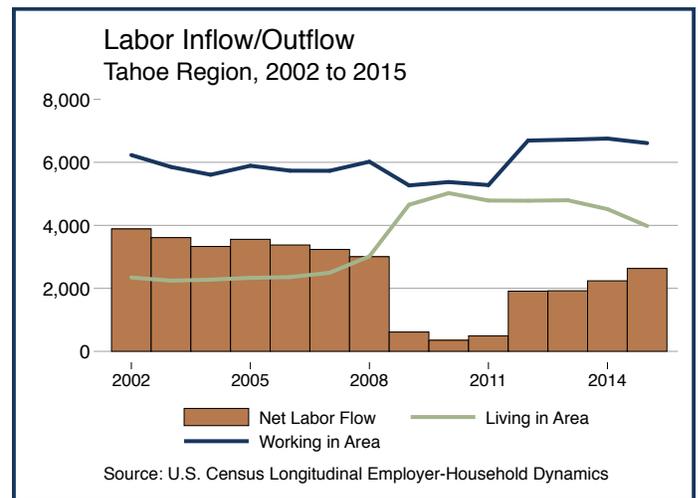
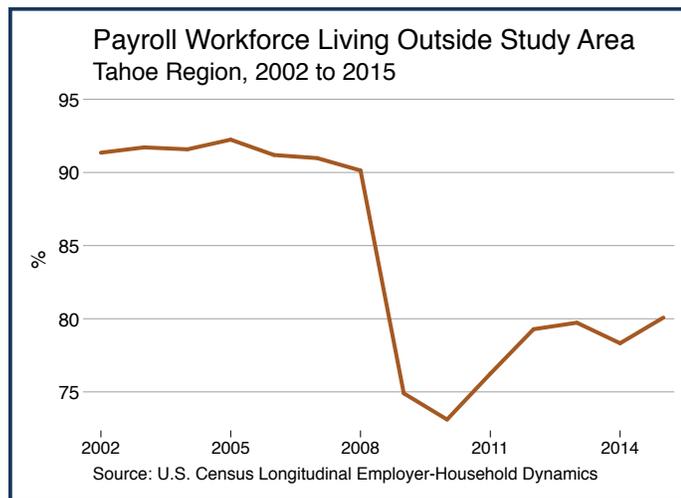
Source: American Community Survey

Note: 5-year Census ACS data used.

WORKFORCE COMMUTING PROFILE

Most payroll jobs in the Tahoe Region are held by individuals who live outside it. Based on data from the Census Bureau Longitudinal Employer-Household Dynamics (LEHD), 80% of those who work in the Tahoe Region lived outside the region in 2015. A relatively large share of payroll employees commute across state and county borders.

After record-low net labor inflows from 2009 to 2011, net labor inflow has increased significantly. In 2015, 2,600 more workers were employed in the study area than lived in it. More generally, the area has historically had high net labor inflows.⁴ Notably, the 2015 figure is lower than the mid-2000s, when over 90% of the payroll workforce lived outside Tahoe.



This phenomenon is both structural, in that it has held true over several years, and cyclical, in the sense that it increases as the economy improves. One reason, if not the primary reason, for this phenomenon is the high cost of housing in the region. Housing options for lower and middle income wage earners are limited in the region, thereby creating notable differences between those who work in the area and those who live there.

A more detailed geographic analysis shows that the share of payroll workers who lived and worked in Tahoe fell from 27% in 2010 to 20% in 2015. More than 20% of payroll workers commuted from Truckee Town, Nevada County, Calif., and 12% commuted from Reno, Nevada. Overall, just under one-fourth of the payroll workers commuted from areas of Tahoe outside the study area, and a small number of commuters (1.3%) lived in South Lake Tahoe. Notably, the share of payroll workers who live in Nevada communities such as Reno and Incline Village has increased since 2010. In recent years, there has been a surge of workers employed in Lake Tahoe Region who reside in Reno, Nevada. This is unsurprising, given that housing prices are considerably lower in Reno compared to the Lake Tahoe Region. In 2015, the medium single-family home prices were \$258,567 and \$530,000 in Reno, NV and Placer North Lake Tahoe Region,

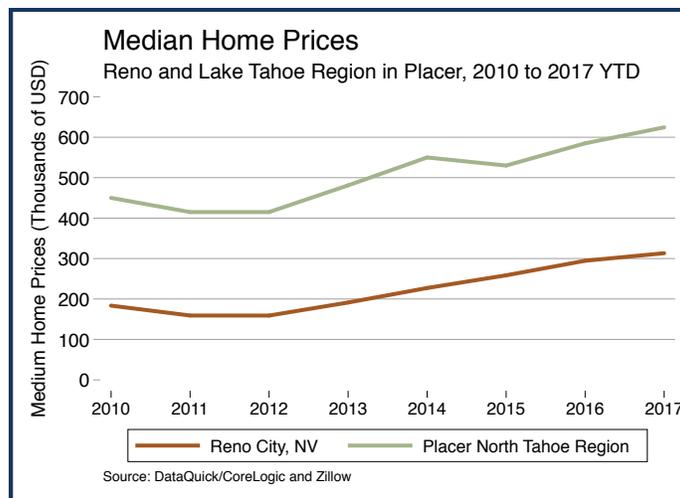
⁴Defined by the U.S. Census Bureau as the difference between civilian and payroll employment. An area has a net job inflow if the number of persons employed in an area (payroll employment) exceeds the number of persons living in the area (civilian employment).

respectively. In addition, the opening of the Tesla Giga-factory has also helped to attract more people to move and settle in Reno.⁵

Top Cities and CDPs of Residence for Payroll Workers, 2010 v. 2015

Location	2010	2015	Change (p.p)
North Lake Tahoe, Placer County, CA			
Dollar Point CDP, CA	3.9%	2.7%	-1.2
Kings Beach CDP, CA	3.8%	4.1%	0.3
Sparks City, NV	1.3%	2%	0.6
Sunnyside-Tahoe City CDP, CA	5.7%	3.6%	-2.1
Tahoe Vista CDP, CA	2%	1.7%	-0.3
North Lake Tahoe not in Placer County, CA			
Truckee town, CA	19.7%	20.5%	0.8
Incline Village CDP, NV	0.8%	3.8%	3
South Lake Tahoe City, CA	1.3%	1.3%	0
Reno City, NV	6.3%	12.1%	5.8
Carson City, NV	0.9%	1.7%	0.7
All Other Locations	54.2%	46.6%	-7.6

Source: Longitudinal Employer-Household Dynamics, U.S. Census Bureau
 Calculations by Beacon Economics

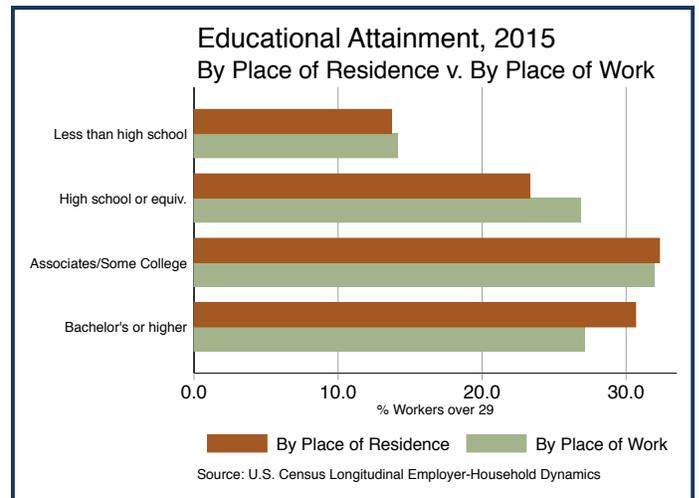
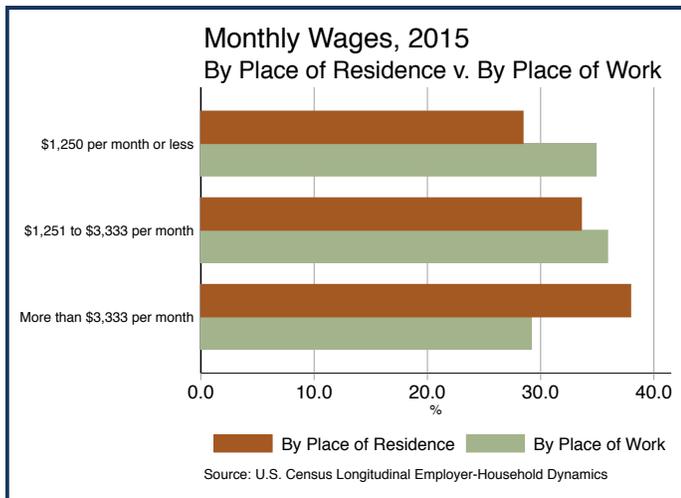


There are differences between the workers who reside in the Tahoe Region and those employed at establishments within the region. Compared with the workers who live in the Tahoe Region, those who work in the region are less educated, earn less and are more likely to identify as white. In 2015, 27.1% of those working at an establishment within the region have a bachelor’s degree, compared with 30.7% of the resi-

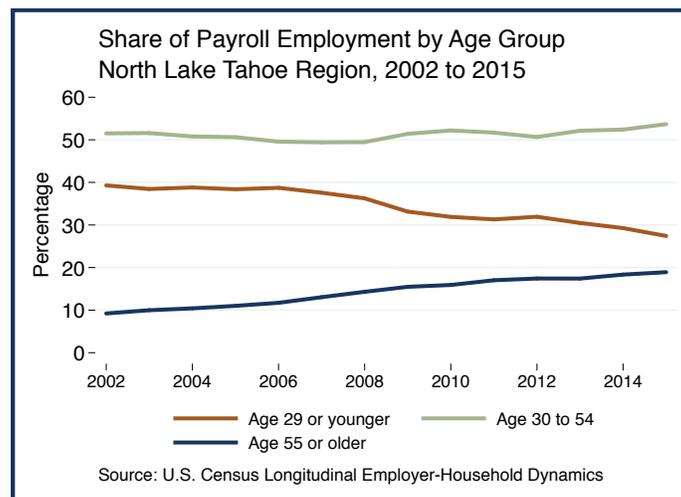
⁵Weise, K. (2017, June 22). “Reno Is Starting to Look More Like Silicon Valley.” Bloomberg Businessweek. Retrieved from: <https://www.bloomberg.com/news/articles/2017-06-22/reno-is-starting-to-look-more-like-silicon-valley>

dent workforce. Given the high proportions of employment in the Leisure and Hospitality industry, which typically consists of low-paying jobs, earned wages for both the workers by place of residence and workers by place of work are low. Among the job holders in the region’s establishments, just 29.2% earned more than \$3,333 per month (\$40,000 per year) compared with 37.9% of the resident workforce in 2015.

The racial-ethnicity makeup of the workforce has been relatively unchanged in the recent years. In 2015, 93.1% of the workers in the region’s establishments identified as white alone⁶ compared with 87.7% of the resident workforce. Finally, just 14.0% of the workforce by place of work identified as Hispanic or Latino (all races) in 2015, which is less than that of the resident workforce (17.7%).



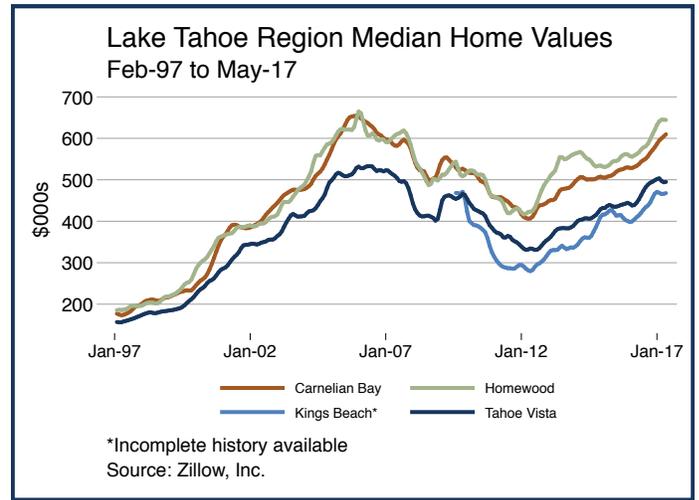
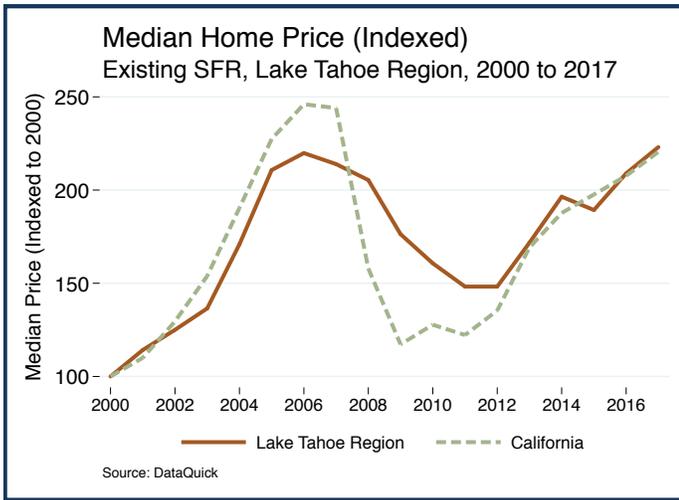
Over the last several years, the establishment workforce has been aging. Workers aged 30 to 54 made up more than half of the payroll employment of the region’s establishments in 2015. Although the share of workers from 30 to 54 years old remained fairly stable from 2002 to 2015, the share of workers aged 55 and older increased from 15.9% to 18.9%. Meanwhile, the share of workers aged 30 and younger decreased from 31.9% to 27.4%.



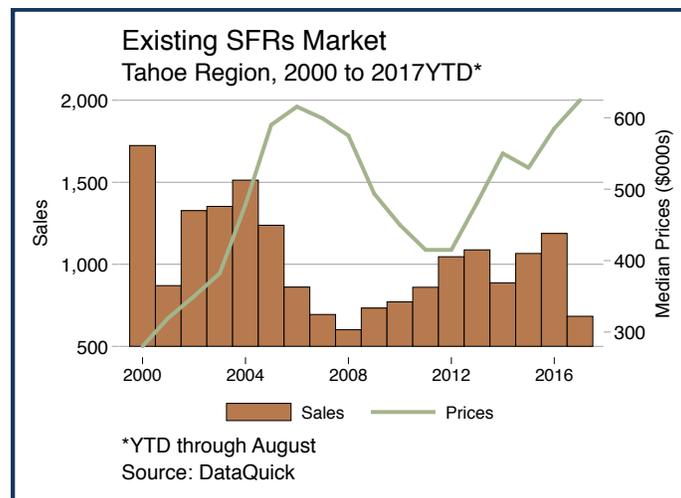
⁶Race and Hispanic/Latino ethnicity have been treated as mutually exclusive.

HOUSING MARKET CONDITIONS

The housing market in the Tahoe Region as a whole has come back from the Great Recession. In August 2017, the median home value stood at \$624,500, an increase of 6.8% over the past year. Having posted a 32.5% peak-to-trough decrease from 2006 to 2011, the median price rose by 50.5% from 2011 to August 2017, regaining ground that was lost during the downturn. By comparison, a number of other cities and communities in the broader Tahoe Basin area have not yet seen values return to prerecession highs.



Prices are fueled by demand, and the 1,200 home sales in 2016 represented the highest level of activity in the Tahoe Region since 2005. Though lower than the peak sales figures preceding the recession, sales have shown a general upward trend since hitting bottom in 2008. Most recently, home sales rose by 9.3% in Tahoe-Vista to 13.8% in Homewood year-over-year from May 2016 to May 2017 depending on the city.



Although data on home sales do not differentiate between owner-occupied homes and vacation/second homes, data from the American Community Survey can shed light on the mix of housing stock across these home types as well as net changes in stock in recent years. In 2010, the region was home to an estimated 16,959 housing units, of which 66.7% were identified as vacation units. By 2015, the total housing stock

increased by 1,260 to 18,219 units, an increase of 7.4%. However, vacation units accounted for the lion's share of that increase at 1,027 units.

Change in Housing Stock Between 2010 and 2015, North Lake Tahoe

	All Vacant Units	Vacation Homes	Occupied Housing	Total Housing Stock
2010	12,015	11,305	4,944	16,959
2015	13,245	12,332	4,974	18,219
Change in units	1,230	1,027	30	1,260
Percent Change in units	10.2%	9.1%	0.0%	0.0%

Source: American Community Survey

Note: 5-year Census ACS data used.

Between 2010 and 2015, the number of vacation homes increased by 1,027, or 81.5% of total housing stock. As a result, the percentage of vacation homes over total housing stock increased from 66.7% in 2010 to 67.7% in 2015. Also note that in the Inner Lake Tahoe sub-region, total housing stock increased by 134 from 2010 to 2015, yet total occupied housing decreased by 257 units, implying that some units that were previously occupied by residents have become vacation units.

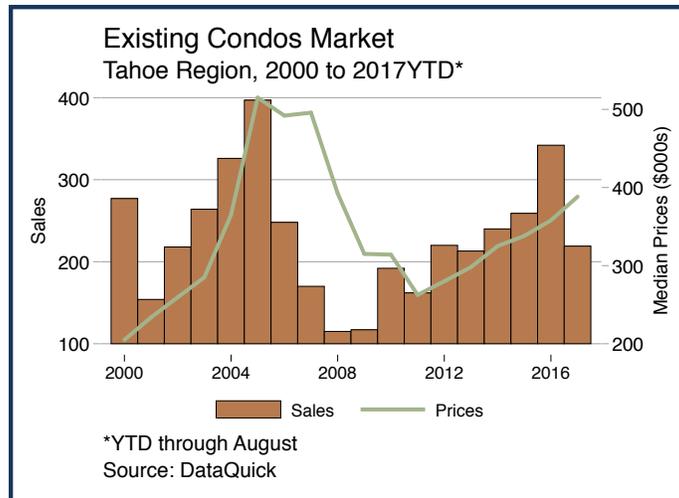
Change in Housing Stock Between 2010 and 2015 by Sub-Region

	All Vacant Units	Vacation Homes	Occupied Housing	Net New Homes
Inner Lake Tahoe	391	379	-257	134
Outer Lake Tahoe	839	648	287	1,126
Total	1,230	1,027	30	1,260

Source: American Community Survey

Note: 5-year Census ACS data used.

By comparison, the multifamily segment of the housing market has been recovering much more slowly. Eight months into 2017, the median value for condos in the Tahoe Region remained 21.7% below pre-recession highs, at \$388,300, but had been steadily moving upwards. Similarly, the rental market appears to be lagging single-family housing. In 2015, the average rent in the region was \$1,300 per month, measured across all housing types – both single-family and multi-family rental units – representing a 4.7% nominal gain since 2010.



Although the median household income in the Tahoe Region is somewhat higher than California’s, the median price of an existing single-family home in the study area is one-third higher than California’s. Furthermore, housing prices have outpaced wages in the area, resulting in a decrease in affordability. This is not unique to the Tahoe Region, but with a 3.7% decline in the median household income from 2010 to 2015, the gap between housing costs and incomes has grown rapidly.

North Tahoe Housing Affordability Comparison

	2010	2015	% Change
North Tahoe Region			
Median Existing SFR Price	\$450,000	\$530,000	17.8%
Median Household Income	\$65,833	\$63,386	-3.7%
Price to Income Ratio	6.84	8.36	
California			
Median Existing SFR Price	\$256,250	\$396,250	54.6%
Median Household Income	\$57,708	\$64,500	11.8%
Price to Income Ratio	4.44	6.14	

Source: American Community Survey

Note: 5-year Census ACS data used.

One measure of affordability is the price-to-income ratio, with higher ratios implying a worsening of affordability. As of 2015, the median price of a single-family home was more than 8 times the median household income in the Tahoe Region compared with just over 6 in the State overall. Affordability has worsened since then. More recently, the median price in August 2017 was more than \$600,000, a price at which a household must earn in excess of \$120,000 per year to afford. In fact, recent studies show that afford-

ability in Tahoe is worse than in the Bay Area,^{7 8} a symptom of many years of restrictions on growth in a very desirable part of the County and state.

High home prices are a particular concern as they relate to the region's important tourism sector. Employment in the Tahoe region has been growing at a good pace, but recent job gains have mainly occurred in the Leisure and Hospitality. This major industry encompasses a number of individual tourism-related industries that are characterized by large numbers of entry-level and low-paying jobs. For workers in these industries, housing affordability is a major concern, and there is a growing disconnect between jobs available and costs of living.

POPULATION AND HOUSING DYNAMICS

Note: Much of the Tahoe Region consists of unincorporated areas that are home to a sizable share of the region's population. In the following section, population and housing stock information based on the American Community Survey is presented for the Inner and Outer Tahoe sub-regions, as shown in Figure 1 earlier in the report, as well as the combined Tahoe region.⁹

The population of the Tahoe Region declined from 2000 to 2010, but that trend turned around in the early part of the current decade. Population in the region was 6.6% higher in 2015 than in 2010, roughly the same as the 6.4% gain for the county as a whole. However, almost two-thirds of the gain occurred in the more sparsely populated Outer Tahoe sub-region, where population increased by 21.2% (a 7.3% compound annual growth rate), with a much smaller rate of increase occurring in the Inner Tahoe sub-region, consisting of the area adjacent to Lake Tahoe.

The total stock of housing in the County grew more slowly than the population, averaging just 0.6% growth annually from 2010 to 2015. The Tahoe region did somewhat better with an annual growth rate of 0.8% per year. However, more than 80% of new housing units added since 2010 have been vacation units, and thus have not been available to the recently arrived resident population.

Although these units remain vacant most of the time, vacation homes are typically neither for rent nor for sale and thus are essentially not considered as part of the housing supply. Additionally, even if a vacation home is listed for rent, it is mostly used as short-term rentals. Historically – and especially before the advent of online short-term lodging rental platforms such as AirBnB – vacation rental housing market did not compete for existing housing supply.

⁷Economic Planning Systems Inc. (2015, March). The Economic Benefits of the North Lake Tahoe/Truckee Transit Vision. Retrieved from https://www.gotahoenorth.com/wp-content/uploads/2015/09/EconomicBenefits_NLTTTruckeeTransitVision.pdf

⁸Applied Development Economics (2015, Oct. 21). Measuring for Prosperity: Community and Economic Indicators for the Lake Tahoe Basin. Retrieved from: <http://tahoeprosperity.org/wp-content/uploads/Tahoe-Basin-Indicators-Final-Report-102215.pdf>

⁹For this report, the Tahoe Region is determined at the Census tract level and comprises Census tracts 201.04, 201.05, 201.06, 201.07, 220.11, 220.14, 221, 222 and 223. Furthermore, the Census tracts are further grouped into the Outer and Inner sub-regions. The Outer sub-region comprises tracts 220.11 and 220.14 and the Inner sub-region comprises the rest of the tracts. Figure 1 illustrates the North Tahoe Region boundary.

Population and Net Housing Stock Growth, North Tahoe Subregions

	Inner Tahoe	Outer Tahoe	Total North Tahoe	Placer County
Population				
2010	9,354	2,310	11,664	348,432
2015	9,634	2,799	12,433	370,710
Percent Change 2010-2015	3.0%	21.6%	6.6%	6.4%
Population CAGR	0.6%	3.9%	1.3%	1.2%
Total Housing Stock				
2010	12,109	4,850	16,959	152,648
2015	12,243	5,976	18,219	158,518
Percent Change 2010-2015	1.1%	23.2%	7.4%	3.8%
Total Housing Stock CAGR	0.2%	4.3%	1.4%	0.8%
Net Housing Stock				
2010	4,526	1,128	5,654	140,194
2015	4,281	1,606	5,887	144,387
Net Housing CAGR	-1.1%	7.3%	0.8%	0.6%
Pop/Net Housing Stock (2010)	2.07	2.05	2.06	2.49
Pop/Net Housing Stock (2015)	2.25	1.74	2.11	2.57

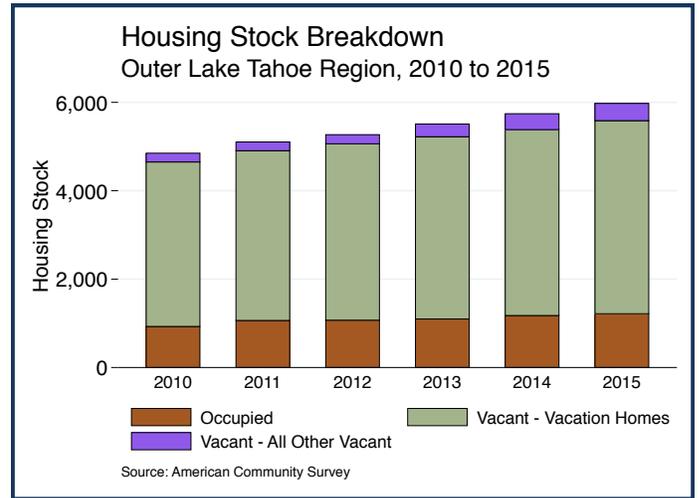
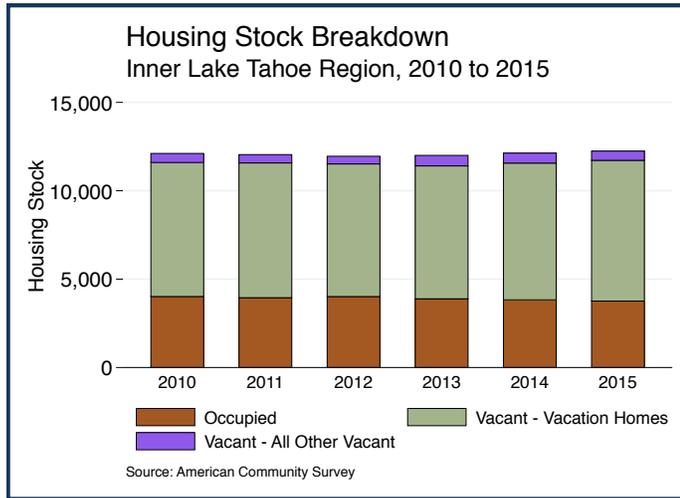
Source: American Community Survey (CAGR: Compounded Annual Growth Rate)

Note: 5-year Census ACS data used. Net Housing Stock refers to total occupied plus vacant excluding vacation homes

Developers have been adding housing in the Tahoe Region, and as of 2015, total housing stood at 18,200 units. This represented a 1.5% annual average growth rate from 2010, compared to a 0.9% rate in the broader County. But population and housing stock growth has been stronger in the Outer Tahoe sub-region in recent years, as seen in vacation rentals and residential housing. By contrast, the Inner Tahoe sub-region sustained a 6.4% decline in traditional housing occupancy over the most recent five-year period. The table above details the growth of net housing stock, which excludes vacation homes but includes other vacant homes. The net housing stock growth trails far behind population growth for all census-designated places, and as a result, the population to net housing stock ratio has increased significantly across all places in Tahoe.

In fact, much of the housing stock consists of vacation homes that may be vacant for a good part of the year. Vacation housing in both sub-regions of the Tahoe Region remained dominant in 2015, outnumbering residential housing by a factor of 1.9 in the Inner Tahoe sub-region, and 2.7 in the Outer Tahoe sub-region. At 67.7% of the stock, vacation homes account for a larger share in the Tahoe Region compared to Placer County and the state as a whole where vacation properties represent 8.9% and 2.7%, respectively, of the total stock. By comparison, the share of vacation homes in San Luis Obispo County, another area of California that is thought to have a high concentration of vacation and second homes, was 8.1%. Even in the

City of Palm Springs, a well-known resort city in Southern California, vacation homes represented only 27.5% of all housing stock.



The Inner Tahoe sub-region, being much more densely populated, accounts for almost 70% of the existing housing stock in the study area. The numbers reveal a diverging pattern between the Inner Tahoe and Outer Tahoe sub-regions. From 2010 to 2015, net housing stock in the Outer Tahoe sub-region grew at an average of 7.3% annually, while population increased 3.9% per year during the period. On the other hand, the Inner Tahoe sub-region, where most of the Tahoe population lives, had 0.6% annual population growth but a 1.1% decrease in net housing stock per year.

Of the housing occupied year-round, units are mostly owner-occupied single-family homes. Single-family homes also constitute the lion’s share of total development in the past five years, as more than 80% of housing added since 2010 has been single-family.

At a more granular level, population growth and housing stock growth varied widely across the Tahoe Region. The table below illustrates the annual growth rates of available census-designated places in Tahoe. Annual population growth varied from -2.3% in Tahoe Vista to 8.3% in Carnelian Bay from 2010 to 2015. As for housing stock, Tahoe Vista had the highest average annual growth at 1.3%, and Carnelian Bay lost 3.1% per year on average.

Population and Housing Stock Growth, North Tahoe Subregions

	Carnelian Bay	Dollar Point	Kings Beach	Tahoe Vista	Tahoma
Population					
2010	291	1,090	3,315	1,539	1,038
2015	433	1,135	3,620	1,367	943
Percent Change	48.8%	4.1%	9.2%	-11.2%	-9.2%
Population CAGR	8.3%	0.8%	1.8%	-2.3%	-1.9%
Housing Stock					
2010	1,007	1,848	2,382	1,404	2,004
2015	860	1,900	2,420	1,496	2,109
Percent Change	-14.6%	2.8%	1.6%	6.6%	5.2%
Population CAGR	-3.1%	0.6%	0.3%	1.3%	1.0%
Net Housing Stock					
2010	170	568	1,307	770	475
2015	185	504	1,319	504	422
Percent Change	8.8%	-11.3%	0.9%	-34.5%	-11.2%
Housing CAGR	1.7%	-2.4%	0.2%	-8.1%	-2.3%

Source: American Community Survey

Note: 5-year Census ACS data used.

Note: Housing Stock refers to total including vacation homes. Net Housing Stock refers to total occupied plus vacant excluding vacation homes.

HOUSING NEEDS ASSESSMENT

Housing needs assessments were essentially driven by forecasts of employment in the Tahoe Region. The base period for the assessment was 2016 and forecasts were developed for the year 2020. Projected housing needs were based on profiles of household and housing characteristics across the region's industries.

Beacon Economics developed a time series sample of household employment for the Tahoe Region that includes both wage and salary workers and self-employed individuals, and is based upon the American Community Survey. Beacon Economics used payroll data, which are more complete and more consistent than data on resident employment, as the foundation for projections of household employment through the year 2020. Employment forecasts were developed for each industry in the region as well as a total employment forecast over all of the region's industries.

As a functional economic area, the Tahoe Region in Placer County has greater connectivity to and much more in common with other Tahoe Basin adjacent communities than Placer County as a whole. For example, Tahoe Region households earn less than in the broader County — in 2015, the median household in Tahoe made 83.3% of the median household in the County and was closer to the median for the Tahoe Basin area. Furthermore, while the Leisure and Hospitality sector dwarfs any other industry in the Tahoe Region, Trade and Education/Health sectors are the largest sectors in the County. In brief, from an eco-

conomic perspective, the Tahoe Region bears greater similarity to a larger economic area that surrounds Lake Tahoe and spans parts of both California and Nevada. Finally, as was described earlier in the commuting trends section of this report, local employers draw most of their workers from outside the Tahoe Region. Since the Tahoe Region in Placer County is so closely integrated with the economy of the Tahoe Basin as a whole, Beacon Economics assumed that the broader Tahoe Basin can serve as a suitable labor market area for the region. As such, the following housing needs analysis relies on the household and housing characteristics for the broader Tahoe Basin region, which were derived from Census-based Public Use Micro Sample (PUMS) data for the Tahoe Basin. This area includes the Placer Tahoe Region along with El Dorado County in the south, and also Washoe County, Douglas County, and Carson.¹⁰

Estimates show that the typical civilian worker in the Tahoe Basin area lives in a household of three and is one of two income earners in the household. The corresponding median household income was \$92,000 in 2015, and the household owned a \$350,000 single-family home. However, industry breakouts reveal large variance in many of these factors, depending on the industry. For instance, the “typical” household income in Tahoe Basin area ranged from \$71,000 in the Leisure and Hospitality sector to \$118,000 in the Professional, Scientific, Tech, and Management sector.

Differences in average pay also have a large impact on typical living conditions. Workers in Leisure and Hospitality and Retail Trade are notably more likely to live in housing-cost-burdened and over-crowded households than the average worker. Generally, workers in lower-wage sectors live in larger households but in smaller living spaces — leading to more overcrowding. Workers in Administrative Support and Waste and Leisure and Hospitality sectors also demonstrate much lower homeownership rates than the broader Tahoe Basin area, at 58.7% and 52.7%, respectively.

Household Characteristics by Industry, 2015

Industry	Ownership Rate (%)	Over-crowded Rate (%)	Housing Burden Rate (%)	Average Household Size	Average Workers in Household	Median Household Income (\$)	Housing Budget (\$/month)
Total	69.6	5.8	25.2	3.2	2	92,000	2,556
Trade	67.3	3.4	23.7	3.2	1.9	81,600	2,267
Prof, Sci, Tech, and Mgmt	83.8	2.8	20.2	2.9	2	122,300	3,397
Other Svcs.	76.9	2.1	20.8	3.1	1.9	81,000	2,250
NR/Construction	67.6	8.2	32.2	3.4	1.9	86,000	2,389
Manufacturing and Logistics	72	5.3	21.3	3.1	1.9	92,000	2,556
Leisure and Hospitality	47.3	14.5	31.1	3.8	2	73,000	2,028
Information	74.1	5.3	26.1	2.9	1.6	92,100	2,558
Government	70.6	1.4	19.7	3	1.8	101,800	2,828
Fin. Svcs. and Real Estate	83.3	4.9	23.5	3	1.9	112,000	3,111
Education/Health	75.3	3.8	25	3	1.9	103,000	2,861
Admin Support	58.6	7.8	34.8	3.2	1.9	71,700	1,992

Source: U.S. Census Bureau Public Use Microdata Samples

¹⁰The following PUMAs encompass the Tahoe Basin area: 606103 (Placer County, CA), 601700 (El Dorado County, CA), 3200102 (Washoe County, NV), and 3200200 (Douglas County, NV). PUMA 00200 also includes Carson City, which is an independent city not belonging to any county in Nevada.

Much like the Tahoe Region, the housing stock in the broader Tahoe Basin area is dominated by single-family units. An estimated 88% of the civilian workforce lived in single-family homes, which suggests that a sizable share of renters live in single-family as well as multi-family housing. The median housing budget¹¹ came out to \$2,556 per month for the area, although this too had sizable variation by industry. The typical worker in Professional, Scientific and Technical Services could afford to spend almost twice the amount that the typical worker in the Leisure and Hospitality sector could.

Housing Characteristics by Industry, 2015

Industry	Median Home Value(\$)	Multi-Family (%)	Single-Family (%)	Average Bedrooms	0 to 2 Bedrooms	3 to 4 Bedrooms	5 or More Bedrooms
Total	\$350,000	11.9%	88.1%	3.2	56,619	216,560	18,505
Admin Support	\$300,000	12.5%	87.5%	3.1	2,447	7,254	1,316
Education/Health	\$380,000	10.0%	90.0%	3.2	10,303	40,831	4,598
Farm	\$300,000	6.3%	93.7%	3.5	246	2,154	361
Fin. Svcs. and Real Estate	\$395,000	12.7%	87.3%	3.2	3,866	14,525	1,318
Government	\$350,000	9.0%	91.0%	3.1	4,205	17,957	819
Information	\$375,000	14.7%	85.3%	3.0	2,574	3,619	448
Leisure and Hospitality	\$350,000	21.9%	78.1%	3.0	10,017	25,428	1,320
Manufacturing	\$375,000	15.8%	84.2%	3.2	5,352	16,930	2,012
NR/Construction	\$350,000	10.0%	90.0%	3.1	5,066	19,323	752
Other Services	\$350,000	3.9%	96.1%	3.2	1,103	9,873	536
Prof, Sci, Tech, and Mgmt	\$450,000	4.9%	95.1%	3.4	3,215	19,094	2,523
Retail Trade	\$400,000	10.3%	89.7%	3.2	5,270	26,015	1,573
Transport/Warehouse/Util	\$260,000	5.7%	94.3%	3.1	2,443	9,151	595
Wholesale Trade	\$375,000	8.0%	92.0%	3.3	512	4,406	334

Source: U.S. Census Bureau Public Use Microdata Samples

The vast majority of Tahoe Basin residents live in single-family housing that they own (70.6%), followed by renters in single-family housing (18.1%). 9.4% of resident workers live in multi-family housing units that they rent. Below is a detailed breakdown by industry.

¹¹Calculated as 30% of monthly household income.

Housing Characteristics by Industry, 2015

Industry	Owner, Single-Family %	Owner, Multi-Family %	Renter, Single-Family %	Renter, Multi-Bedrooms	Total
Total	70.6%	2.0%	18.1%	9.4%	291,684
Admin Support	58.7%	2.3%	28.7%	10.3%	11,017
Education/Health	75.0%	2.2%	15.1%	7.7%	55,732
Farm	81.5%	0.0%	12.2%	6.3%	2,761
Fin. Svcs. and Real Estate	80.4%	2.1%	6.9%	10.6%	19,709
Government	74.8%	0.8%	16.2%	8.2%	22,981
Information	66.5%	1.8%	18.9%	12.9%	6,641
Leisure and Hospitality	54.9%	2.5%	23.3%	19.3%	36,765
Manufacturing	69.2%	5.6%	15.0%	10.3%	24,294
NR/Construction	66.0%	1.9%	23.9%	8.1%	25,141
Other Services	73.9%	1.0%	22.2%	2.9%	11,512
Prof, Sci, Tech, and Mgmt.	83.6%	0.6%	11.5%	4.3%	24,832
Retail Trade	66.8%	1.3%	22.9%	9.0%	32,858
Transport/Warehouse/Util	74.1%	0.3%	20.2%	5.4%	12,189
Wholesale Trade	76.3%	4.0%	15.7%	4.1%	5,252

Source: U.S. Census Bureau Public Use Microdata Samples

In addition, depending on whether a resident worker is a head of household, the employment by industry profile can be rather different depending on the industry. For example, non-head of household members are more likely than head of household to be employed in Leisure and Hospitality, which is typically a low paying industry. On the other hand, workers who are heads of households are more likely to be employed in professional and management roles than non-heads of households. Detailed housing characteristics by industry and by head of household statuses are included in the Appendix.

As shown in the following table, projected employment by industry was the first step in estimating the Tahoe Region's housing needs. Beacon Economics then established a relationship between employment and number of housing units by industry. Once the total incremental housing need was established for each industry, those units were allocated to a mix of housing types and tenure based on historical patterns in the region.

Based on this analysis, the growth in housing units needed to accommodate projected household employment growth over the period is 5.6%, which translates to 224 new housing units needed, or just over 56 units per year over the four-year horizon. By comparison, the housing needs called for in the 2013 Housing Element amounted to 75 units per year.

North Tahoe Region Household Employment and Housing Needs, 2016 to 2020

Industry	Civilian Employment			Housing Needs			Single-Family Needs			Multi-Family Needs		
	2016	2020	Change	2016	2020	Change	2016	2020	Change	2016	2020	Change
Total	7,769	8,202	433	4,039	4,264	225	3,560	3,758	198	479	506	27
Admin Support	310	347	37	159	179	19	138	155	17	21	24	3
Education Health	1,169	1,246	78	603	643	40	536	571	36	67	71	4
Financial Activities	554	580	27	289	302	14	254	266	12	34	36	2
Government	219	212	-7	121	117	-4	108	105	-3	13	12	0
Information	67	72	6	43	47	4	35	38	3	8	8	1
Leisure and Hospitality	2,441	2,492	51	1,205	1,230	25	937	956	19	269	274	6
Manufacturing and Logistics	388	485	97	206	257	51	179	224	45	27	33	7
NR Construction	1,007	1,074	67	521	556	35	472	503	31	49	53	3
Other Svcs.	427	477	50	220	246	26	210	235	25	10	11	1
Prof, Sci, Tech, and Mgmt	487	505	18	245	254	9	233	242	9	12	13	0
Trade	701	711	10	369	374	5	335	339	5	34	35	0

Beacon Economics, LLC

The number of new housing units needed per industry of employed resident varies from a high of 51 units for Manufacturing and Logistics workers, to a low 4 units for Information industry workers. For Leisure and Hospitality workers specifically, and additional 25 housing units will be needed.

When stratified by price range, housing needs are somewhat concentrated below \$400,000, with just under 60% of estimated housing needs falling under that threshold, approximately evenly divided across the three constituent price intervals. Smaller shares are found in the \$400 to \$500 thousand (12%), the \$500 to \$700 thousand range (17%), and above \$700 thousand (14%). It should be noted that these calculations do not account for the incremental housing needs of those who live outside the region but are employed in the region.

Contingency Cost Assumptions

Price Range	Housing Needs	Pct. of Total
Under \$200,000	41	18%
\$200,000 to \$299,999	42	19%
\$300,000 to \$399,999	44	20%
\$400,000 to \$499,999	27	12%
\$500,000 to \$699,999	38	17%
\$700,000 and above	32	14%
Total	224	100%

Source: Beacon Economics

The above approach resulted in a forecast of housing needs that would match up to growth in civilian employment. This estimate does not account for housing needs as they relate to commuters. Beacon forecasts that there will be 7,939 payroll or establishment jobs in the Tahoe Region in 2020, up from 7,659 in 2016. Based on Longitudinal Employer-Household Dynamics in 2015, 80.0% of the payroll workforce commuted from outside the Tahoe Region. Assuming this share is constant over the forecast period, 6,351 of the projected 7,939 Tahoe Region payroll jobs in 2020 will be held by nonresidents, an increase of 223 jobs from 6,127 in 2016. Corresponding to this growth in payroll jobs, housing nonresident housing needs would in-

crease by 114 housing units through 2020 and incremental annual housing needs would increase from 56 additional units for growth in resident households to up to 84 additional units per year, depending on the extent to which additional housing is produced to meet the needs of the region’s commuters.

Housing Needs for...				
Residing in Placer Tahoe Region, Working Anywhere	PLUS Share of Nonresident Housing Needs	Number of Units for Nonresidents	Combined Total	Combined Total in Average Annual Terms
224	0%	0	224	56
224	10%	11	235	59
224	25%	29	252	63
224	50%	57	281	70
224	75%	86	309	77
224	100%	114	338	84

Source: Beacon Economics

CONCLUSION

While the Tahoe Region is known as a tourist destination, it is also home to thousands of jobs, including many jobs that are tied to the addition to the ebb and flow of the tourist season. Because of growth constraints in the environmentally-sensitive Tahoe Basin, and because most homes serve as second/vacation homes for households that tend to earn more than resident households, permanent residents and seasonal workers must compete for a limited supply of available owner-occupied and rental units. This has driven up both the sales prices of homes and rents for apartments and other rental units in the Placer Tahoe Region relative to other parts of the Tahoe Basin. This has resulted in a significant share of workers who must commute from more affordable locations into the Placer Tahoe Region for work.

This is a significant problem for households whose members work in Tahoe’s signature tourism related industries such as eating and drinking establishments, lodging, recreational activities such as ski resorts. These households operate in a seasonal segment of the economy and generally make below-average wages. In order to sustain growth in the tourism sector and the general economy, the Tahoe Region must identify ways to increase the stock of housing for these households, specifically the stock of rental housing at rents that these households can afford.

APPENDIX: HOUSING CHARACTERISTICS BY INDUSTRY AND BY HEAD OF HOUSEHOLD STATUS

Housing Characteristics by Industry, Head of Household Resident Workers

Lake Tahoe Basin

Industry	Median Home Value(\$)	Single-Family (%)	Multi-Family (%)	Average Bedrooms	0 to 2 Bedrooms	3 to 4 Bedrooms	5 or More Bedrooms
Total	\$365,000	87.4%	12.6%	3	33,610	102,279	8,205
Admin Support	\$300,000	86.6%	13.4%	3.1	1,410	5,340	736
Education/Health	\$350,000	88.4%	11.6%	3.2	6,532	20,102	2,011
Farm	\$292,000	100%	0%	3.4	0	1,466	170
Fin. Svcs. and Real Estate	\$375,000	84.7%	15.3%	3.1	2,460	7,514	487
Government	\$320,000	90.7%	9.3%	3.1	3,055	9,792	581
Information	\$375,000	82.5%	17.5%	3.1	1,560	2,259	285
Leisure and Hospitality	\$300,000	74.8%	25.2%	2.5	6,416	7,351	349
Manufacturing	\$365,000	86.2%	13.8%	3.2	2,828	8,155	1,272
NR/Construction	\$350,000	89.9%	10.1%	3.1	2,287	10,062	498
Other Services	\$360,000	90.7%	9.3%	3	839	3,833	167
Prof, Sci, Tech, and Mgmt.	\$450,000	94.5%	5.5%	3.2	2,271	10,845	1,137
Retail Trade	\$400,000	83.6%	16.4%	3	2,424	8,949	104
Transport/Warehouse/Util	\$250,000	90.8%	9.2%	3.1	1,357	4,319	340
Wholesale Trade	\$375,000	100%	0%	3.2	171	2,292	68

Source: U.S. Census Bureau Public Use Microdata Samples

Housing Tenure by Industry, Head of Household Resident Workers

Lake Tahoe Basin

Industry	Owner, Single-Family %	Owner, Multi-Family %	Renter, Single-Family %	Renter, Multi-Bedrooms	Total
Total	69.5%	1.5%	17.9%	11.0%	144,094
Admin Support	59.1%	3.4%	27.5%	10.0%	7,486
Education/Health	75.4%	1.9%	13.0%	9.8%	28,645
Farm	96.0%	0.0%	4.0%	0.0%	1,636
Fin. Svcs. and Real Estate	79.7%	2.0%	4.9%	13.4%	10,461
Government	74.8%	1.4%	15.8%	7.9%	13,428
Information	66.9%	1.4%	15.6%	16.1%	4,104
Leisure and Hospitality	44.6%	0.2%	30.2%	25.0%	14,116
Manufacturing	73.6%	1.5%	12.6%	12.3%	12,255
NR/Construction	67.5%	2.2%	22.4%	7.8%	12,847
Other Services	65.1%	2.3%	25.6%	7.0%	4,839
Prof, Sci, Tech, and Mgmt.	82.5%	0.7%	11.9%	4.8%	14,253
Retail Trade	56.2%	2.5%	27.4%	13.9%	11,477
Transport/Warehouse/Util	72.6%	0.0%	18.3%	9.2%	6,016
Wholesale Trade	68.7%	0.0%	31.3%	0.0%	2,531

Source: U.S. Census Bureau Public Use Microdata Samples

**Housing Characteristics by Industry, Non-Head of Household Resident Workers
Lake Tahoe Basin**

Industry	Median Home Value(\$)	Single-Family (%)	Multi-Family (%)	Average Bedrooms	0 to 2 Bedrooms	3 to 4 Bedrooms	5 or More Bedrooms
Total	\$380,000	89.8%	10.2%	3.3	23,009	114,281	10,300
Admin Support	\$375,000	89.3%	10.7%	3.1	1,037	1,914	580
Education/Health	\$400,000	91.8%	8.2%	3.3	3,771	20,729	2,587
Farm	\$375,000	84.5%	15.5%	3.6	246	688	191
Fin. Svcs. and Real Estate	\$450,000	90.3%	9.7%	3.3	1,406	7,011	831
Government	\$350,000	91.4%	8.6%	3.2	1,150	8,165	238
Information	\$375,000	89.9%	10.1%	2.9	1,014	1,360	163
Leisure and Hospitality	\$360,000	80.2%	19.8%	3.2	3,601	18,077	971
Manufacturing	\$380,000	82.1%	18.0%	3.2	2,524	8,775	740
NR/Construction	\$380,000	90.0%	10.0%	3.0	2,779	9,261	254
Other Services	\$350,000	100.0%	0.0%	3.4	264	6,040	369
Prof, Sci, Tech, and Mgmt.	\$450,000	96.0%	4.0%	3.5	944	8,249	1,386
Retail Trade	\$400,000	93.0%	7.0%	3.3	2,846	17,066	1,469
Transport/Warehouse/Util	\$260,000	97.7%	2.3%	3.2	1,086	4,832	255
Wholesale Trade	\$340,000	84.5%	15.5%	3.3	341	2,114	266

Source: U.S. Census Bureau Public Use Microdata Samples

**Housing Tenure by Industry, Non-Head of Household Resident Workers
Lake Tahoe Basin**

Industry	Owner, Single-Family %	Owner, Multi-Family %	Renter, Single-Family %	Renter, Multi-Bedrooms	Total
Total	71.6%	2.5%	18.2%	7.8%	147,590
Admin Support	57.9%	0.0%	31.4%	10.7%	3,531
Education/Health	74.5%	2.6%	17.2%	5.6%	27,087
Farm	60.3%	0.0%	24.3%	15.5%	1,125
Fin. Svcs. and Real Estate	81.2%	2.2%	9.1%	7.5%	9,248
Government	74.8%	0.0%	16.7%	8.6%	9,553
Information	65.7%	2.4%	24.2%	7.8%	2,537
Leisure and Hospitality	61.3%	3.9%	18.9%	15.8%	22,649
Manufacturing	64.6%	9.7%	17.4%	8.2%	12,039
NR/Construction	64.5%	1.6%	25.5%	8.5%	12,294
Other Services	80.2%	0.0%	19.8%	0.0%	6,673
Prof, Sci, Tech, and Mgmt.	85.0%	0.4%	11.0%	3.6%	10,579
Retail Trade	72.5%	0.6%	20.5%	6.4%	21,381
Transport/Warehouse/Util	75.7%	0.6%	22.0%	1.7%	6,173
Wholesale Trade	83.4%	7.6%	1.1%	7.8%	2,721

Source: U.S. Census Bureau Public Use Microdata Samples

ABOUT BEACON ECONOMICS

Beacon Economics, LLC is a leading provider of economic research, forecasting, industry analysis, and data services. By delivering independent, rigorous analysis we give our clients the knowledge they need to make the right strategic decisions about investment, growth, revenue, and policy. Learn more at www.BeaconEcon.com.

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