



2019 STATE OF THE WORKFORCE REPORT

SANTA CRUZ COUNTY



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PREPARED BY BEACON ECONOMICS

Founded in 2007, Beacon Economics, an LLC and certified Small Business Enterprise (SBE) with the state of California, is an independent research and consulting firm dedicated to delivering accurate, insightful, and objectively-based economic analysis. Leveraging unique proprietary models, vast databases, and sophisticated data processing, the company specializes in services like industry analysis, economic policy analysis, economic impact analysis, and real estate market analysis. Beacon Economics equips its clients with both the data and analysis required to understand the significance of on-the-ground realities and make informed business and policy decisions.

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The Workforce Development Board (WDB) of Santa Cruz County

Comprised of local business leaders, educational leaders, elected officials, and community-based organization leaders; the Santa Cruz County Workforce Development Board of Directors (WDB) oversees the services of Workforce Santa Cruz County. The WDB is dedicated to help Santa Cruz jobseekers access the tools they need to manage their careers and to help local employers find the skilled workers they need to compete and succeed.

The WDB is responsible for providing oversight and policy direction for the utilization of Workforce Innovation and Opportunity Act (WIOA) funds in Santa Cruz County. The WDB is a majority business-led body, appointed by the Santa Cruz County Board of Supervisors. The WDB, whose composition is defined by the WIOA, includes 25 individuals representing business, one-stop partners, community-based organizations, local educational entities, economic development agencies, and labor.

This WIOA Title I – financially assisted program or activity is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities.



SPECIAL THANKS TO

Alia Ayyad, Center for Employment Training; Barbara Mason, County of Santa Cruz; Bryce Root, The Root Group; Candice Elliott, Fortress and Flourish; Carmen Herrera-Mansir, El Pajaro Community Development Corp.; Carol Siegel, Santa Cruz Seaside Company; Christina Cuevas, Cabrillo College; Diane Berry-Wahrer, Department of Rehabilitation; Dustin Vereker, Discretion Brewing Company; Elisa Orona, Health Improvement Partnership of Santa Cruz County; Elyse Destout, Photography by Elyse Destout; Francisco Rodriguez, PVFT Union Local 1936; Glen Schaller, Monterey Bay Central Labor Council, AFL-CIO; Katie Borges, Palo Alto Medical Foundation; Mark Hodges, County Office of Education Regional Occupational Program; MariaElena De La Garza, Community Action Board; Marshall Delk, Santa Cruz County Bank; Rob Morse, Pacific Gas & Electric Company; Sean Hebard, Carpenters Local 505; Shaz Roth, Pajaro Valley Chamber of Commerce; Todd Livingstone, Watsonville/Aptos Adult Education; Yuko Duckworth, Employment Development Department; Andy Stone, Workforce Development Board, County of Santa Cruz.

The contents of this report are based on information derived from carefully selected sources we believe are reasonable. We do not guarantee its accuracy or completeness and nothing in this document shall be construed to be a representation of such a guarantee.



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KEY FINDINGS

The Santa Cruz County Workforce Development Board (WDB) engaged Beacon Economics to analyze a range of indicators related to the County's labor market and economy and provide policy recommendations pertaining to workforce development based on the challenges and opportunities identified in the analysis.

Key goals of the Santa Cruz County Workforce Development Board (WDB) in commissioning this report include analyzing the region's changing economic and workforce landscape and identifying actionable opportunities to connect the local talent pipeline with the evolving needs of the County's employers and key industries.

WORKFORCE PROFILE SUMMARY

- Between 2012 and 2017, the number of employed residents living in Santa Cruz County decreased 0.4% and the number of workers in Santa Cruz County decreased 1.2% over that same period.
- In 2017, non-Hispanic whites made up over 60% of the County's working-age resident population, followed by Hispanic/Latino residents who made up 30% of the County's working-age population. The County's workforce population has a higher share of racial minorities than the County's resident profile.
- 33.4% of the County's resident population age 16 and older had a bachelor's degree or above and 33.2% held a high school diploma or less. This means that the number of working-age residents with at least a bachelor's degree outnumbered residents with a high school diploma or less by a mere 500.

- There are slightly more females than males in Santa Cruz County both in terms of total resident population and resident working-age population but the opposite is true for the workforce population where males outnumber females 101.3 to every 100.
- Young professionals ages 25 to 34 is the largest age group for workforce demographics while the 55 to 64 age group is the largest group for resident demographics.
- Just under one-third of high school graduates in the Class of 2018 in Santa Cruz County are deemed prepared, according to the College/Career Indicator.
- Between 2012 and 2017, the number of individuals whose income was between \$150,000 and \$199,999 doubled, while those making \$200,000 to \$250,000 and over \$250,000 increased 61% and 55%, respectively.
- The proportion of the workforce population making less than \$50,000 per annum has declined notably from 70% in 2012 to 59% in 2017, while the share of the workforce population making at least \$50,000 but less than \$75,000 increased from 14% to 20% during the same period.
- Among young professionals ages 25 to 29, the percentage share who are living with parents or parents-in-laws jumped from 17% to 46% between 2012 and 2017.
- Among residents age 25 and above who work, the average (both mean and median) wages of those who work in the Bay Area are at least double the average wages of those who work in Santa Cruz County.
- The County's resident population is growing, and so is employment among the resident population, yet its workforce growth is lagging behind, suggesting that more residents are being employed outside of the County.



KEY INDICATORS SUMMARY



KEY INDICATOR 1 — LABOR FORCE PARTICIPATION RATE:

Except for County residents ages 16 to 24 and 55 to 59, LFPR is lower in 2017 than it was in 2012 for all other age groups.



KEY INDICATOR 2 — AGING RESIDENT POPULATION:

Given the significant rise in seniors in the County, it follows that the retiree-to-worker ratio (elderly dependency ratio) has also rapidly increased¹ from 16.7 in 2012 to 21.6 in 2017. The County's elderly dependency ratio has now surpassed that of Alameda County, San Francisco County, Santa Clara County, Monterey County, and California state.



KEY INDICATOR 3 — COMMUTE PATTERNS:

Unlike the commuting trends at play among the resident population – a larger share of which commute north to the Bay Area (17%) than south to Monterey County (5%) -- the opposite dynamics are at play among the workforce population. Just 5% of the workforce population hails from the Bay Area, compared to 9% from Monterey County.



KEY INDICATOR 4 — COST OF LIVING:

For County residents earning between \$50,000 and \$99,999, those living in South County are twice as likely to rent than their similarly earning North County² peers (50% vs. 25%).



FORECAST AND GEOGRAPHIC ANALYSIS SUMMARY

- Beacon Economics expects the County of Santa Cruz to reach roughly 109,430 employees by 2022. The three-year projected growth rate is 5.3% - or an additional 5,530 workers over that time horizon.
- The Northern subregion of Santa Cruz County has seen employment expand by 16.3%, while the Southern subregion has grown by only 8.0%. Total employment in North Santa Cruz County reached roughly 59,600 workers in 2016 – while South Santa Cruz County employment stood at approximately 12,240 employees.

¹ A measure derived by dividing the population 65 years and over by the 18 to 64 years population and multiplying by 100.

² Please see Table 3.1 in the Regional Analysis section of this report for a complete listing of zip codes included in North Santa Cruz County and in South Santa Cruz County.



- The two largest employing industries in order of employment footprint were Trade/Transport/Utilities and Education/Health for both the Northern and Southern sub-regions of Santa Cruz County.
- The County's self-employed figures have seen notable changes in the past few years. According to the latest data from the Census, the number of self-employed workers in Santa Cruz County has increased from 23,300 in 2011 to 25,080 in 2016 – an increase of 7.5%. The largest industry represented by self-employed workers is Professional/Business.

TARGET INDUSTRIES AND OCCUPATIONS SUMMARY

- **TARGET INDUSTRY 1:** The Education/Health industry with almost 18,000 workers represented the second largest employer in Santa Cruz County and the County's largest private employer.
- **TARGET INDUSTRY 2:** With a growth rate of 27.7%, Transport/Warehouse/Utilities, a subsector of the Trade/Transport/Utilities umbrella industry, has emerged as one of the fastest growing industries in the Santa Cruz County economy.
- **TARGET INDUSTRY 3:** The Finance and Insurance industry is the highest paying sector in the region with an annual average wage of \$77,560.
- **INDUSTRY SPOTLIGHT:** With an annual average wage in the industry of \$68,180, Manufacturing has become one of the fast growing and highest paying industries in the County of Santa Cruz.
- Four target occupations were selected for prioritization by the County independent of industry targets based on scoring methodology: (1) Management; (2) Business and Financial; (3) Computer and Mathematical; and (4) Healthcare Practitioners and Technical.
- The first three target occupations are applicable across the three target industries, while the Healthcare Practitioners and Technical occupation, which scored poorly in transferability, is mostly applicable to the Education/Healthcare target industry.
- Of the top three industry-agnostic occupations in the County – meaning, occupations employed by a variety of industries, Management and Business & Financial are also target occupations.





INTRODUCTION

The Santa Cruz County Workforce Development Board (WDB) engaged Beacon Economics to undertake an analysis of a range of indicators related to the labor market and economy of the County and provide policy recommendations based on the challenges and opportunities resultant of the analysis.

Key goals of the Santa Cruz County Workforce Development Board (WDB) in commissioning this report include analyzing the region's changing economic and workforce landscape and identifying actionable opportunities to connect the local talent pipeline with the evolving needs of the County's employers and key industries.

WORKFORCE PROFILE

DEMOGRAPHIC ANALYSIS

For the purpose of this study, Beacon will focus on the working age population (ages 16 and up) and will provide an overview of the resident population³ and of the workforce population⁴ pertaining to the working age population only. Santa Cruz County is considered to be part of the Central Coast, which also consists of Monterey County, San Luis Obispo County, and Santa Barbara County. However, due to its proximity to Santa Clara County and the Bay Area in general, many of its residents commute from Santa Cruz County to the Bay Area where jobs tend to be higher-paying. For this reason, the demographics section will draw comparisons to both the Central Coast as well as the Bay Area.

³ Individuals who *reside* in Santa Cruz County but may or may not work in Santa Cruz County.

⁴ Individuals who *work* in Santa Cruz County but may or may not live in Santa Cruz County.



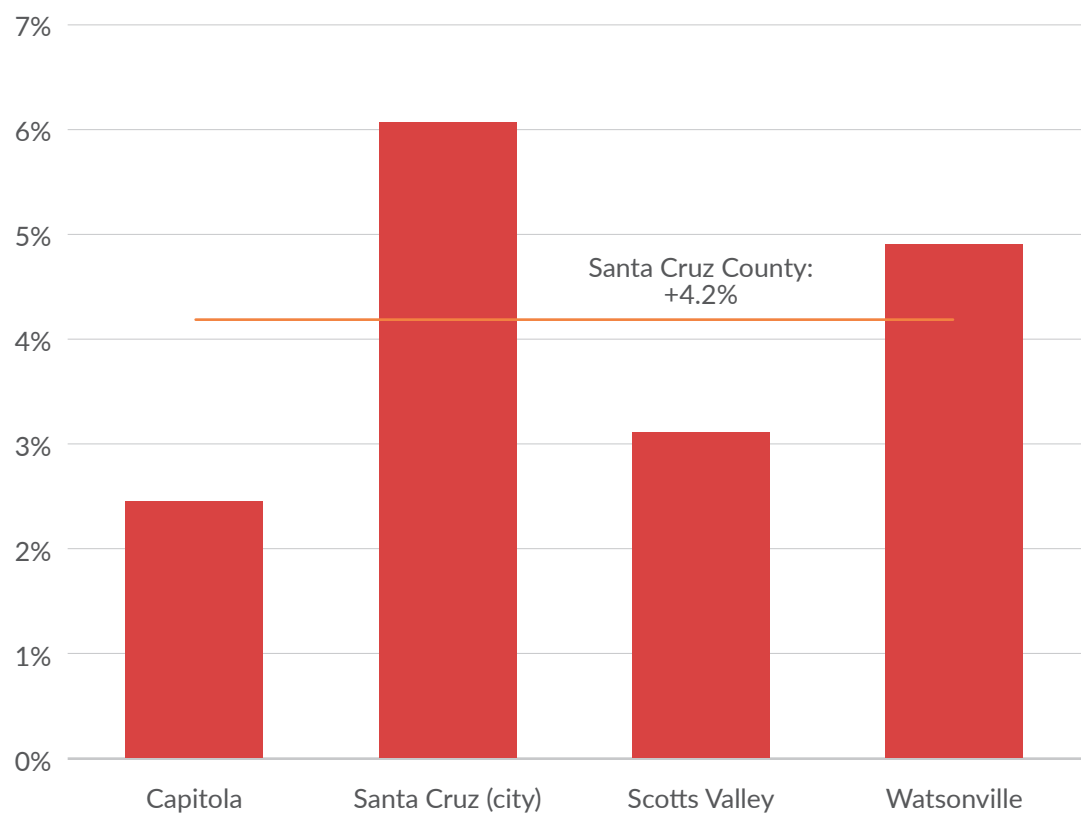
POPULATION

RESIDENT POPULATION

From 2012 to 2017⁵, the total population of Santa Cruz County expanded by 4.2%, slightly above the 3.9% population growth rate in the state overall over the same period. Population growth from 2012 to 2017 was strongest in the County's two largest cities – Santa Cruz City (+6.1%) and Watsonville (+4.9%) – while smaller cities such as Capitola (+2.5%) and Scotts Valley (+3.1%) recorded more modest gains during that same period.

POPULATION GROWTH 2012-2017 BY CITY, SANTA CRUZ COUNTY

Figure 1.1



Source: U.S. Census Bureau, American Community Survey 5-Year Estimates; Analysis by Beacon Economics

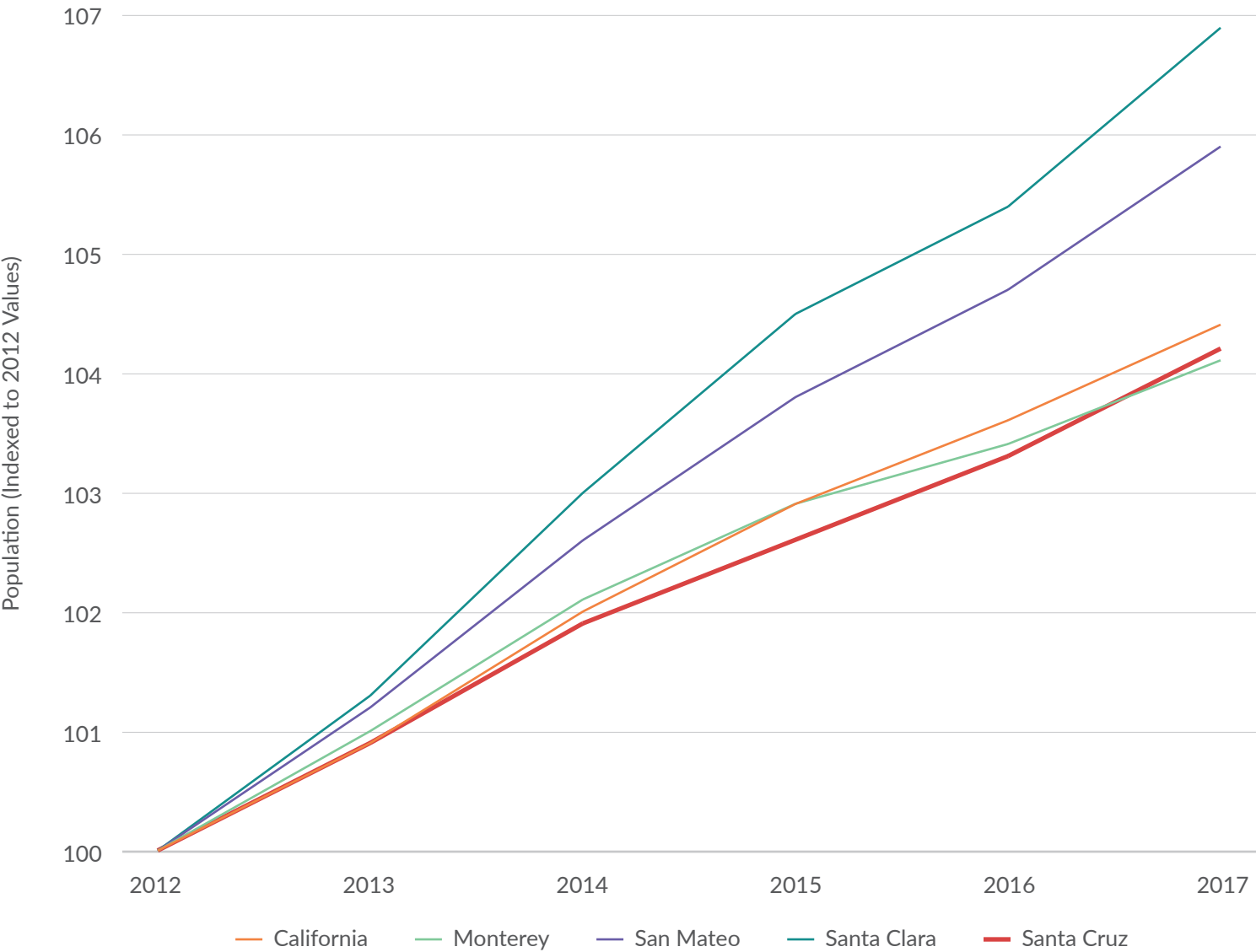
⁵ While 1-year estimates are available at the county level, Beacon has opted to use 5-year estimates to be consistent with the city level data, which do not all have available 1-year estimates

Compared to its neighboring counties, total population growth of Santa Cruz County is most similar to Monterey County, where population grew 4.1% from 2012 to 2017. Despite their higher costs of living, Santa Clara County (+6.9%) and San Mateo County (+5.9%) to the north both had faster population growth rates than Santa Cruz County during the same period – presumably because their higher wages and array of job opportunities outweigh the higher costs of living in the Bay Area.

Santa Cruz County’s working age population grew 4.1% from 2012 to 2017, which is essentially the same as the County’s total population growth rate.

POPULATION GROWTH, 2012-2017 BY COUNTY

Figure 1.2



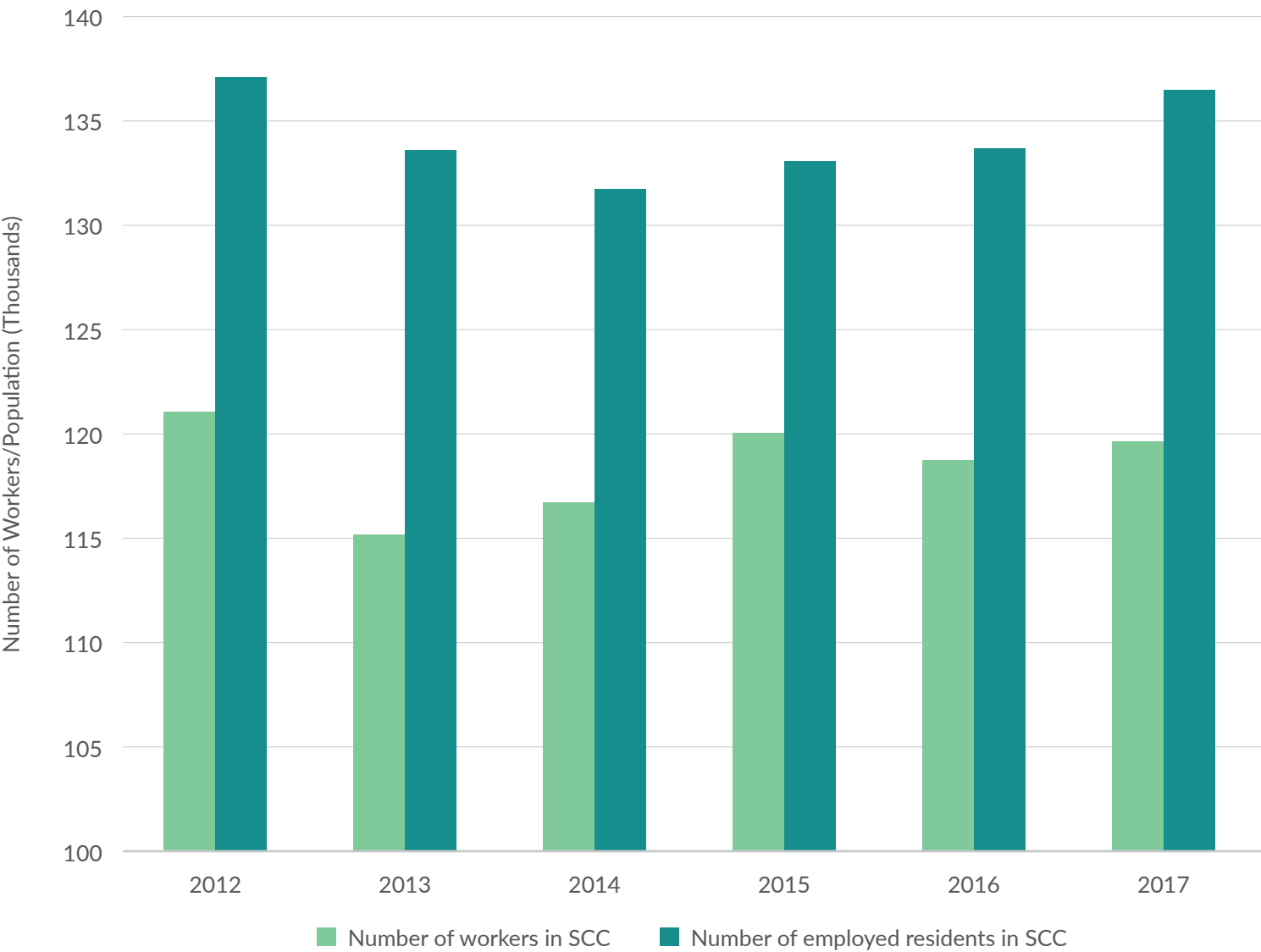
Source: U.S. Census Bureau, American Community Survey 5-Year Estimates; Analysis by Beacon Economics

WORKFORCE POPULATION

There are more County residents who work than there are people employed as workers in the County. Furthermore, between 2012 and 2017, while the number of employed residents living in Santa Cruz County decreased 0.4%, the number of workers in Santa Cruz County decreased 1.2% over that same period.

RESIDENT WORKERS VS WORKFORCE POPULATION, SANTA CRUZ COUNTY

Figure 1.3



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

RACE/ETHNICITY

RESIDENT POPULATION, RACE/ETHNICITY

In 2017, non-Hispanic whites made up over 60% of the County's working-age resident population, followed by Hispanic/Latino residents who made up 30% of the County's working-age population. However, there are notable differences with regard to subregional racial composition within the County. In South Santa Cruz County⁶, which includes the City of Santa Cruz and the City of Capitola, two-thirds (66.5%) of the working-age resident population is non-Hispanic white, which would be even slightly higher if the student population from UC Santa Cruz was excluded, which has significantly higher shares of Hispanic and Asian populations relative to the County sub-region⁷. Hispanic is the next largest ethnicity, but making up only 21% of the South County region's working-age resident population. In North Santa Cruz County, which includes the City of Watsonville and the City of Scotts Valley, non-Hispanic Whites were the largest group at 53% followed by Hispanics at 37%. Asians, Blacks, and Other groups each made up less than 5% of the sub-region.

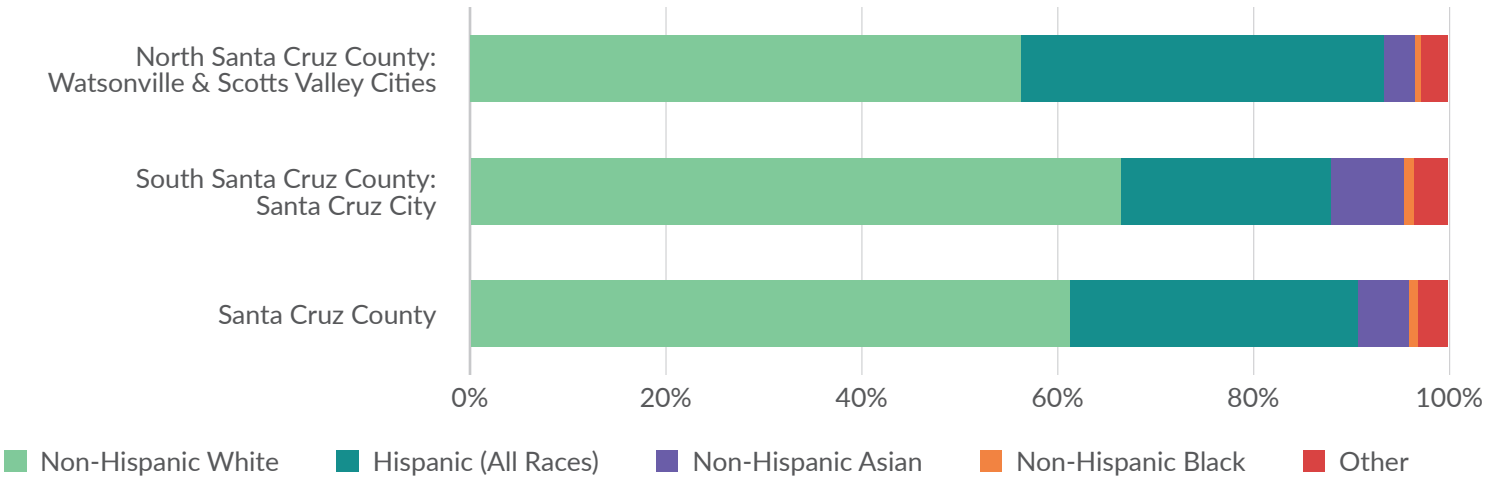
While the County's workforce has a higher share of racial minorities than the County's resident profile, its Hispanic workforce declined 10% from 43,900 to 39,600 between 2012 and 2017. Many of these Hispanic workers also have less than a high school education.

⁶ 2010 PUMA 8702

⁷ The UC Santa Cruz student population by ethnicity for the 2018 Fall Quarter can be retrieved here: https://diversity.ucsc.edu/diversity/images/student_demo2018.pdf

POPULATION BY RACE, AGES 16 AND OVER, 2017

Figure 1.4



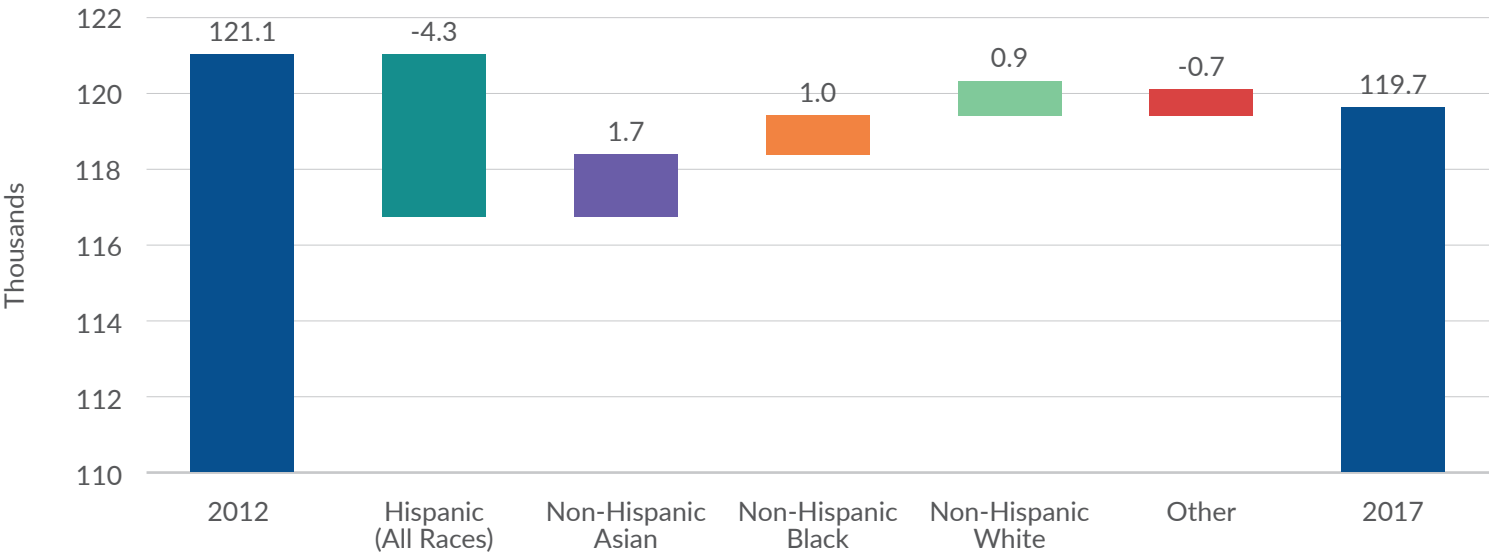
Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

WORKFORCE POPULATION, RACE/ETHNICITY

While the County’s workforce has a higher share of racial minorities than the County’s resident profile, its Hispanic workforce declined 10% from 43,900 to 39,600 between 2012 and 2017. Many of these Hispanic workers also have less than a high school education.

CHANGE IN WORKFORCE DEMOGRAPHICS BY RACE

Figure 1.5



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

RESIDENT POPULATION, GENDER

There are slightly more females than males in Santa Cruz County both in terms of total resident population and resident working-age population. With regard to the County's total resident population, there are 98.6 males for every 100 females and for its resident working-age population, there are 96.8 males for every 100 females.

The seemingly balanced gender ratio at the county level masks the underlying gender imbalances at the census tract level. For example, there are fewer than 85 males for every 100 females in census tracts corresponding to west Santa Cruz City, UC Santa Cruz, east Capitola, northwest Live Oak, and west Watsonville. On the other hand, there are more than 115 males for every 100 females in census tracts corresponding to Watsonville Municipal Airport, Downtown Watsonville, UC Santa Cruz Coastal Science Campus, and Castle Rock State Park.

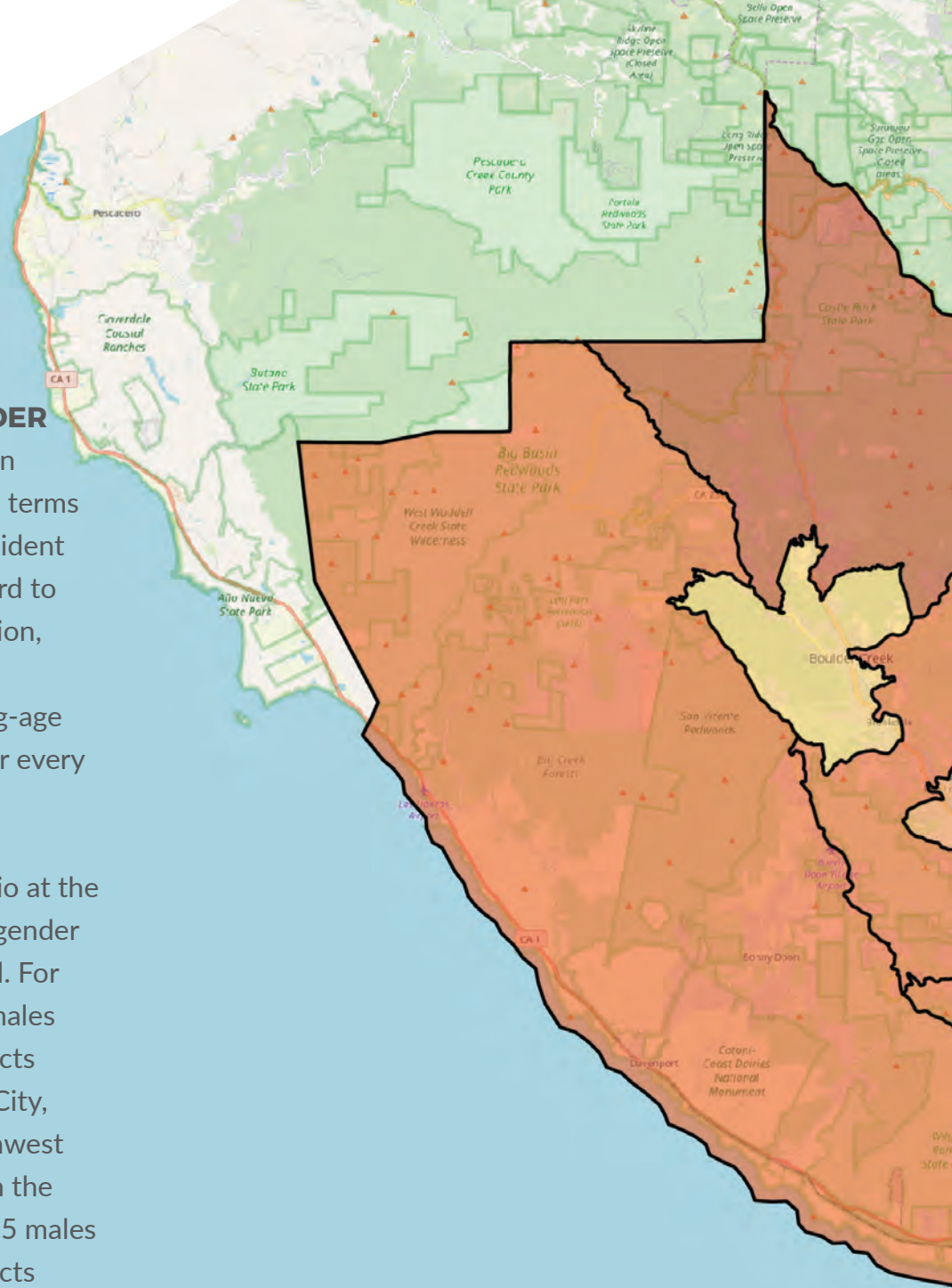
WORKFORCE POPULATION, GENDER

The opposite is true for the County's workforce population: There are slightly more males than females. There are 101.3 males for every 100.

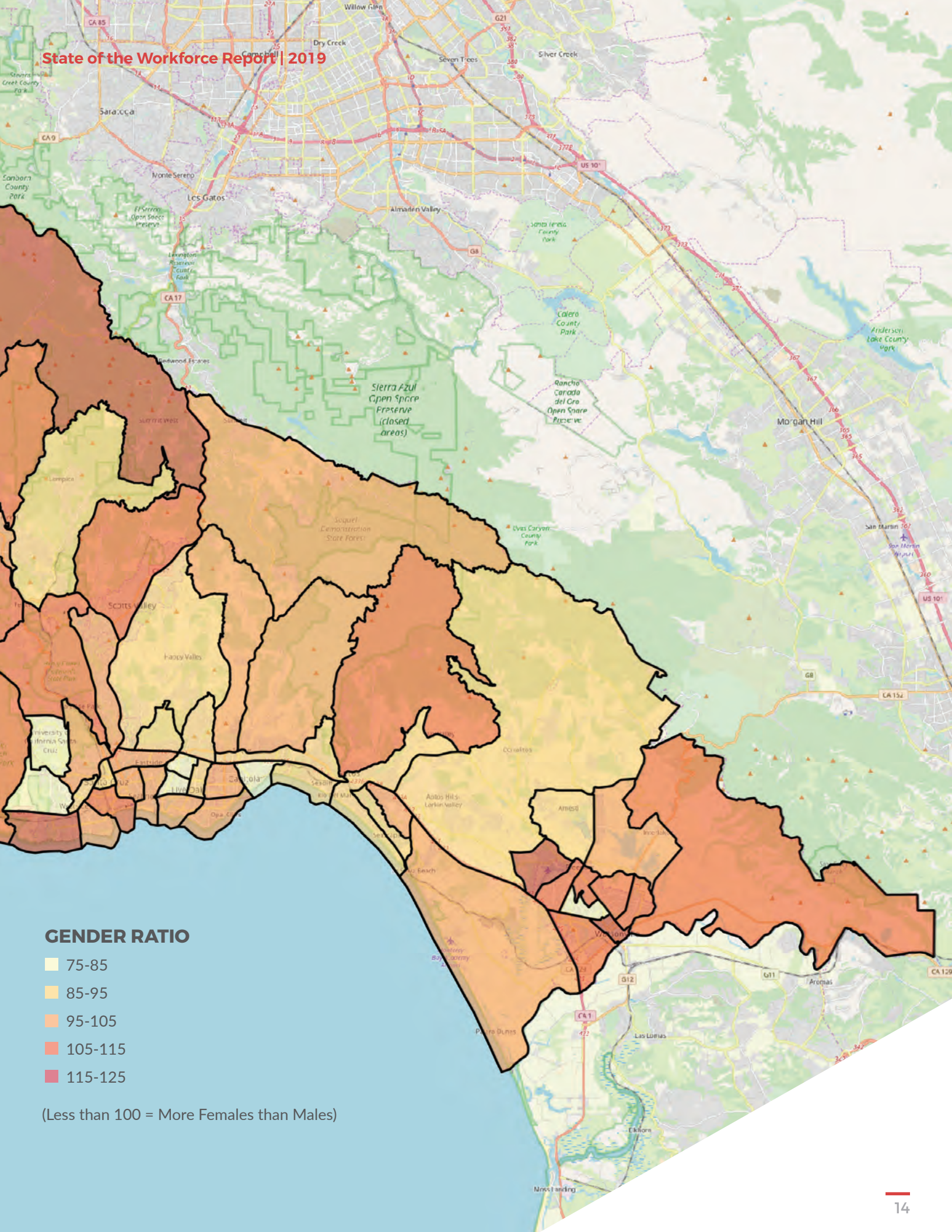
GENDER RATIO IN SANTA CRUZ COUNTY BY CENSUS TRACT

Figure 1.6

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates; Analysis by Beacon Economics



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GENDER RATIO

- 75-85
- 85-95
- 95-105
- 105-115
- 115-125

(Less than 100 = More Females than Males)

AGE

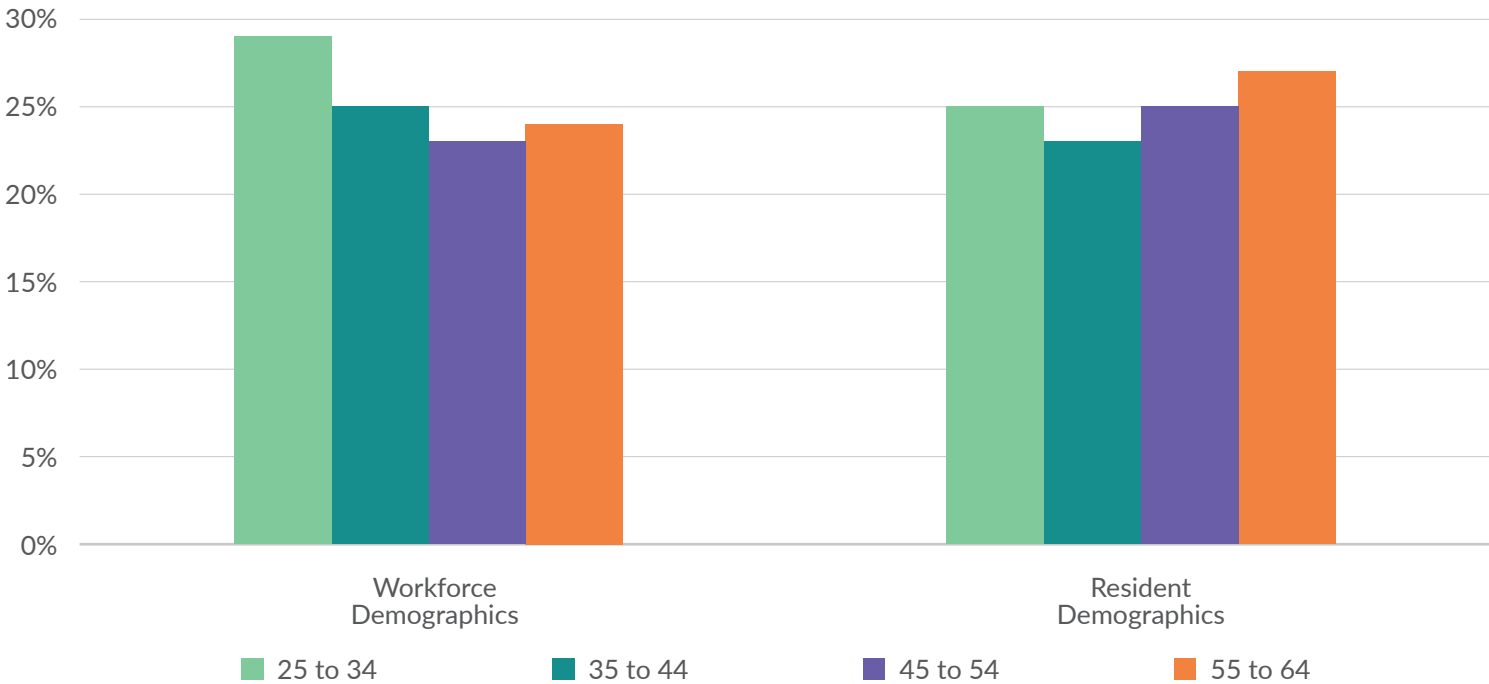
RESIDENT POPULATION VS. WORKFORCE POPULATION

Among the prime working age group (ages 25 to 64), the County’s workforce demographics trend younger compared to its resident demographics. Young professionals ages 25 to 34 is the largest age group for workforce demographics while the 55 to 64 age group is the largest group for resident demographics.



PRIME WORKING AGE POPULATION, WORKFORCE VS. RESIDENT DEMOGRAPHICS, 2017

Figure 1.7



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics



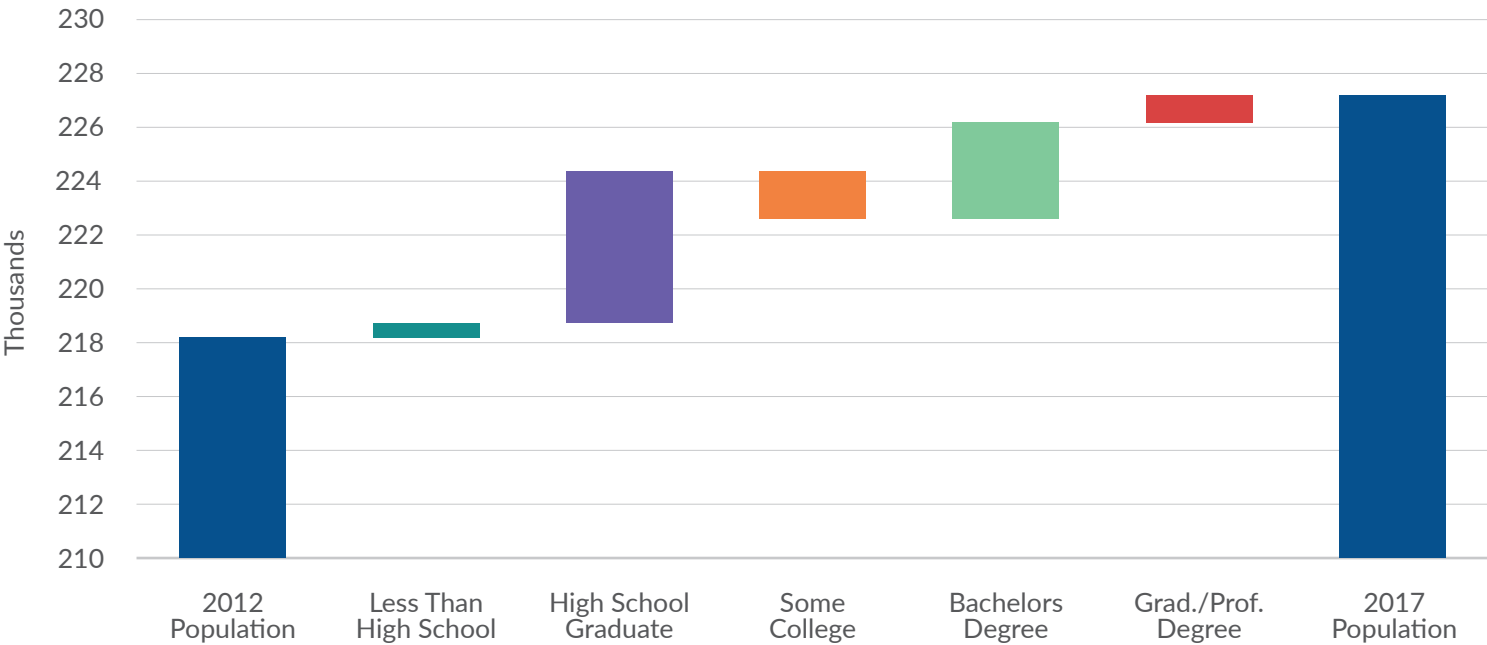
EDUCATIONAL ATTAINMENT

RESIDENT POPULATION, EDUCATIONAL ATTAINMENT

In 2017, 33.4% of the County’s resident population age 16 and older had a bachelor’s degree or above, a slight increase compared to 2012’s 32.7%. Meanwhile, those with a high school diploma or less accounted for a similar share (33.2%) of the County’s working-age resident population in 2017. This means the number of working-age residents with at least a bachelor’s degree outnumbered residents with a high school diploma or less by a mere 500. Among the 9,000 new working-age residents added to the resident population between 2012 and 2017, high school graduates (+5,600) and those with a bachelor’s degree (+3,600) accounted for the largest shares of new residents.

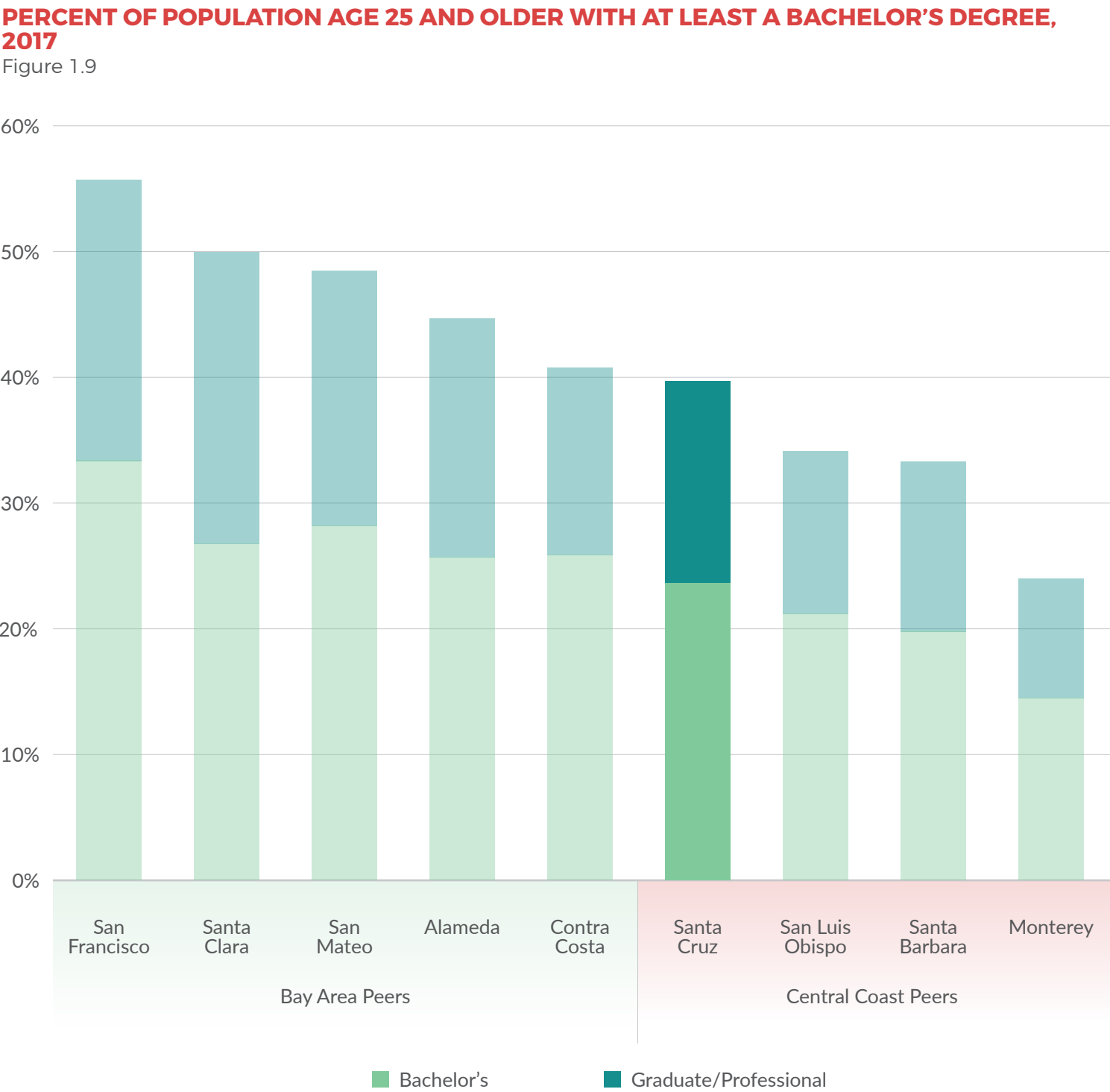
POPULATION CHANGE BY EDUCATIONAL ATTAINMENT, RESIDENT POPULATION AGES 16 AND OLDER, SANTA CRUZ COUNTY, 2012 VS 2017

Figure 1.8



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

Among the resident population age 25 and older, 40% had at least a bachelor’s degree in 2017, a share significantly higher than that of the County’s Central Coast peers but lower than that of its Bay Area counterparts.



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

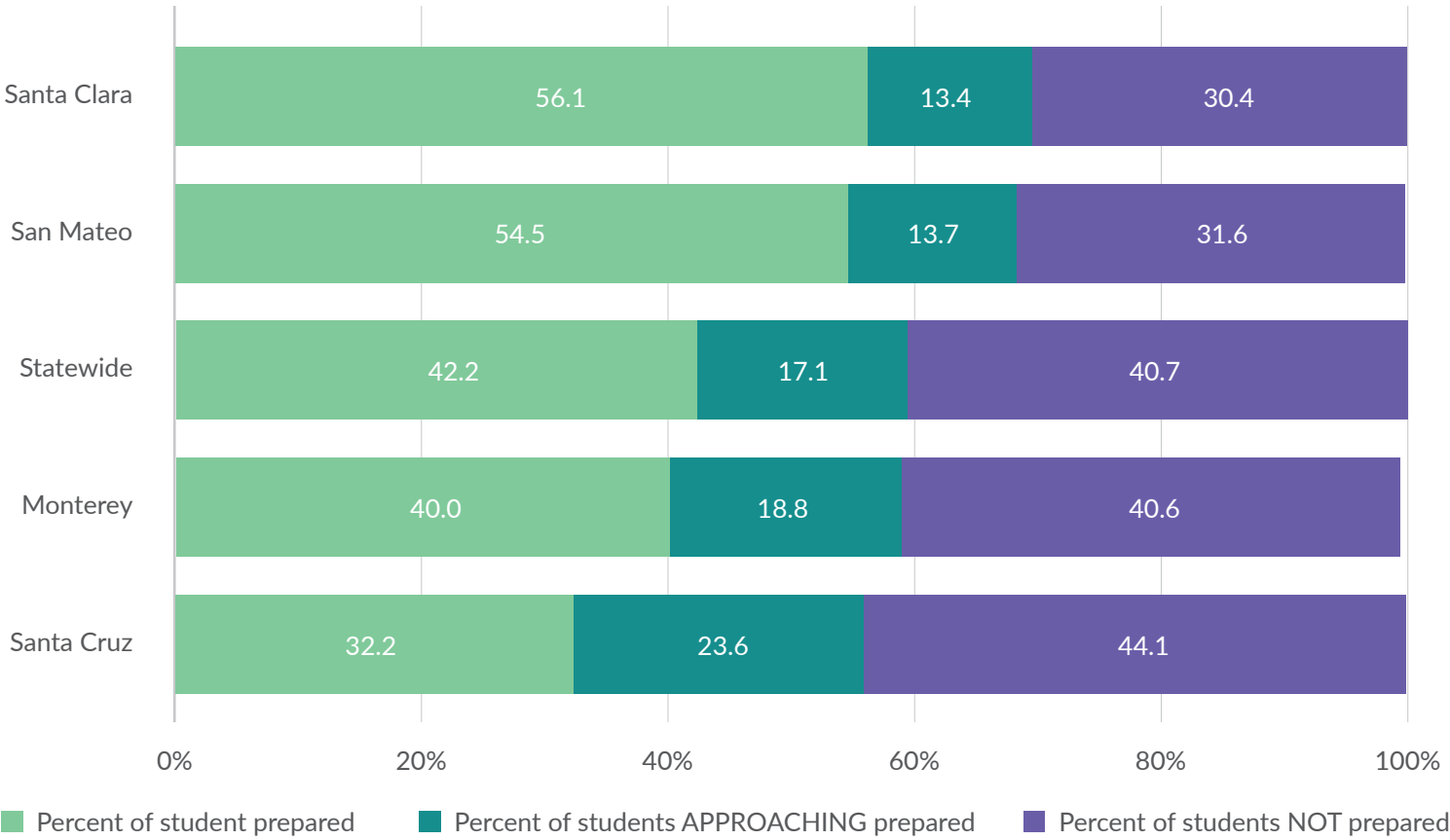
RESIDENT POPULATION, EDUCATIONAL
ATTAINMENT: EDUCATIONAL OUTCOMES OF
CLASS OF 2018

Because the County’s high school graduates represent its future talent pipeline, it is important to assess how well-prepared they are for either post-secondary education or career development.

Just under one-third of high school graduates in the Class of 2018 in Santa Cruz County are deemed prepared, according to the College/Career Indicator⁸. The County’s peer regions all have a higher percentage of high school graduates who are considered to be prepared by the same metrics. Notably, Santa Cruz County’s share of prepared students is also 10-percentage points lower than the statewide average.

PREPAREDNESS OF 2018 HS GRADUATES (COLLEGE/CAREER INDICATOR)

Figure 1.10

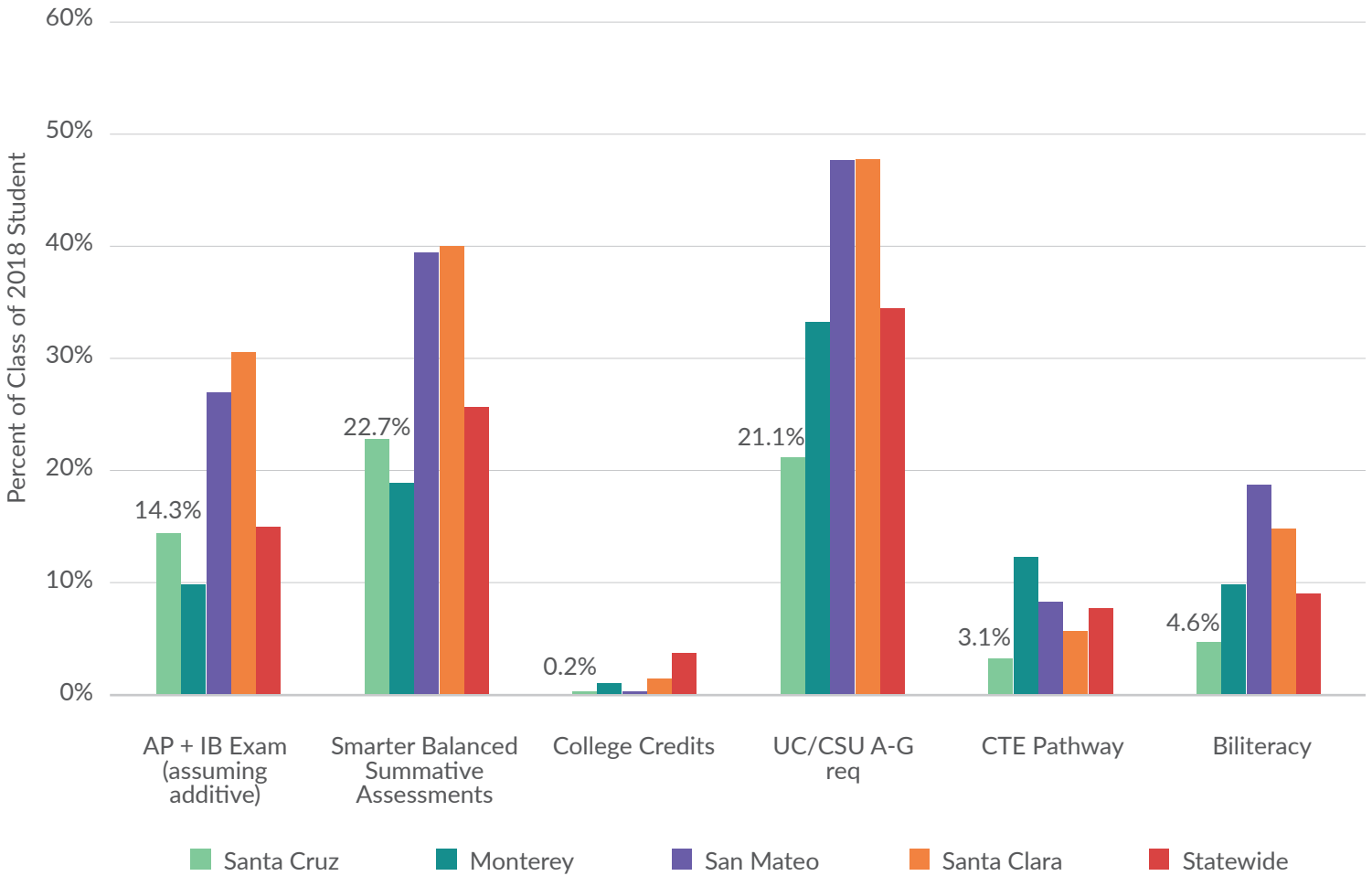


Source: California Department of Education; Analysis by Beacon Economics

⁸ The College/Career Indicator (CCI) measures how well local educational agencies (LEAs) and schools are preparing students for likely success after graduation. Currently, the following are measure in the CCI: CTE Pathway Completion, Smart Balanced Summative Assessments, Advanced Placement Exams, International Baccalaureate Exams, Dual Enrollment (College Credit), UC/CSU a-g Completion, State Seal of Bi-literacy, and Leadership/Military Experience. For more information, please see the CCI dashboard flyer at: <https://www.cde.ca.gov/ta/ac/cm/documents/ccidashboardflyer.pdf>

SANTA CRUZ COUNTY STUDENTS LESS READY FOR POST-HIGH SCHOOL CLASS OF 2018

Figure 1.11



Source: California Department of Education; Analysis by Beacon Economics

Santa Cruz County's high school students are falling behind their peers in each of the individual CCI measure. For example, just 21% of the students have met the UC and CSU a-g requirements⁹, compared to 33% in Monterey County, 48% in Santa Clara County, 48% in San

Mateo County, and 34% statewide. In every measure, Santa Cruz County students perform below state averages and only perform better than their Monterey County counterparts in AP/IB exams¹⁰ and Smart Balanced Summative Assessments.¹¹

⁹ The a-g requirements are the absolute minimum standards in order for a student to be eligible for admissions to the CSU and UC system and by no means guarantee entry. Most incoming CSU and UC freshmen far exceed the standards prescribed in the a-g requirements.

¹⁰ Score of 3 (passing grade) or higher on two AP exams and Score of 4 or higher on two IB exams.

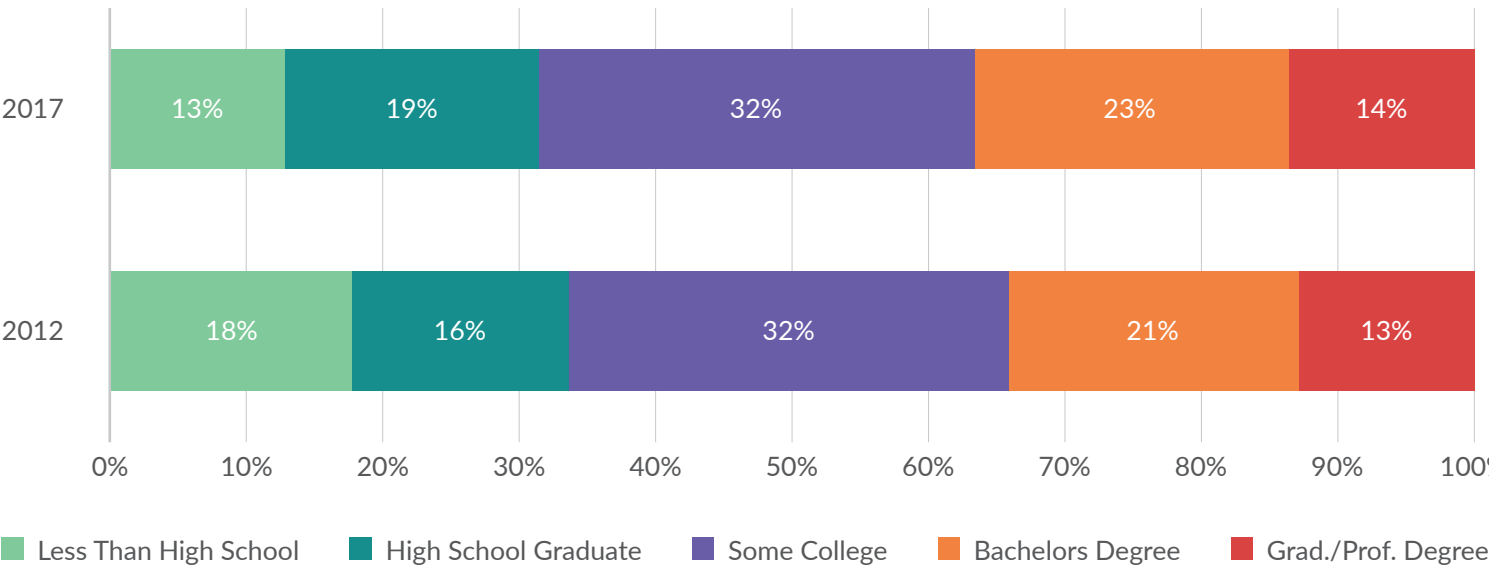
¹¹ Score of Level 3 "Standard Met" or higher on both English language arts/literacy (ELA) and mathematics.

WORKFORCE POPULATION, EDUCATIONAL ATTAINMENT

The County’s workforce is becoming increasingly well-educated. The share of the County’s workforce with at least a bachelor’s degree increased from 34% in 2012 to 37% in 2017. But this increase in educational attainment level across the County’s workforce may in part be due to a decrease in less educated workers. Between 2012 and 2017 the County shed over 6,000 workers with less than a high school diploma, reflecting an almost 30% decline just five years.

EDUCATIONAL ATTAINMENT OF COUNTY WORKFORCE

Figure 1.12



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

INCOME

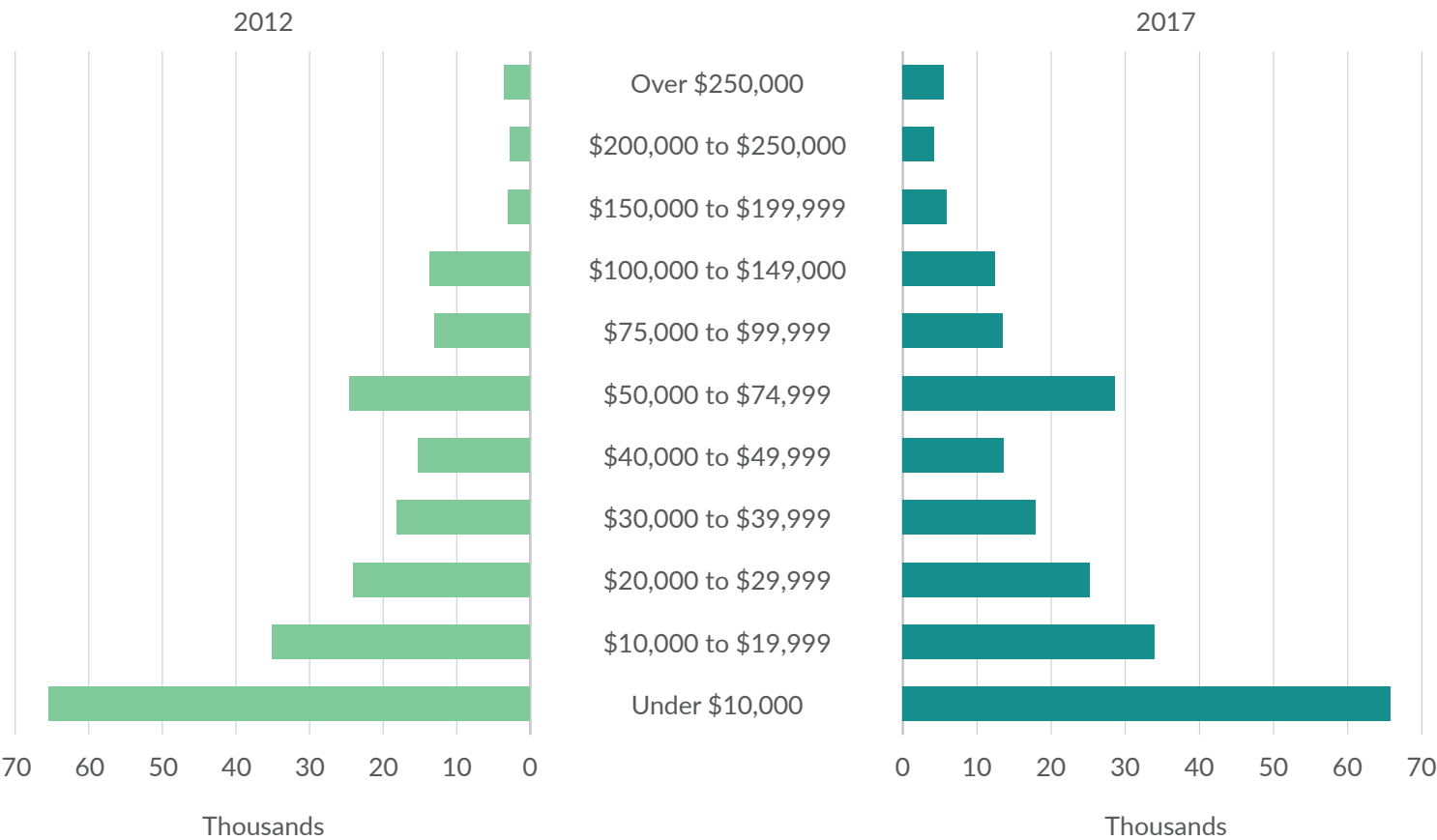
RESIDENT POPULATION, INCOME

In 2017, 29% of the working-age resident population had an income of under \$10,000, which is about the same as 2012’s share (30%). 55% had an income less than \$30,000 while just 12% had at least a six-figure income in 2017.

Percentage wise, individuals earning at least \$150,000 represented the fastest growing groups. Between 2012 and 2017, the number of individuals whose income was between \$150,000 and \$199,999 doubled, while those making \$200,000 to \$250,000 and over \$250,000 increased 61% and 55%, respectively. Nevertheless, these high earning residents collectively make up only 7% of the County’s working-age resident population.

INCOME OF COUNTY WORKFORCE

Figure 1.13



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

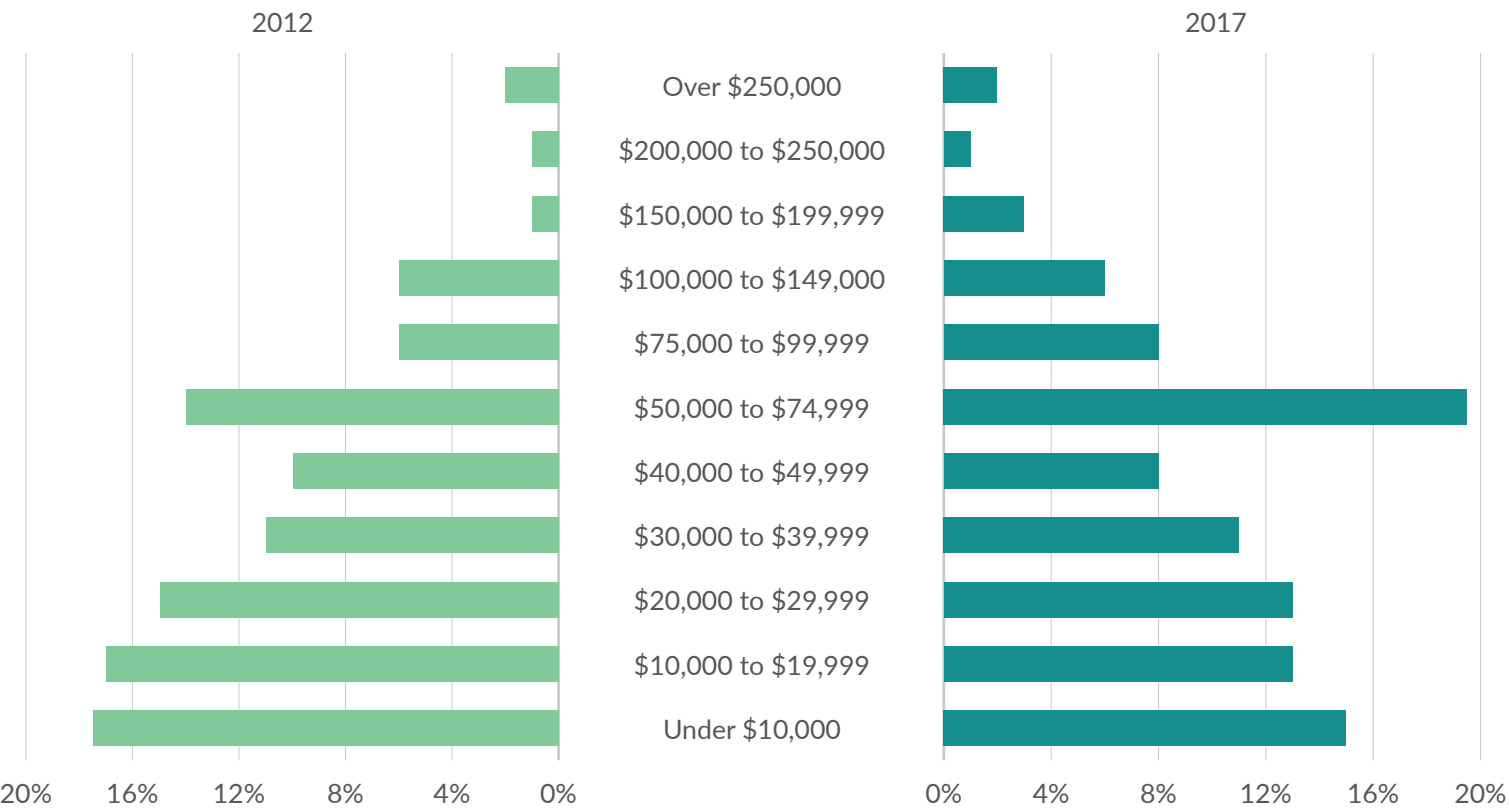
WORKFORCE POPULATION, INCOME

The proportion of the workforce population making less than \$50,000 per annum has declined notably from 70% in 2012 to 59% in 2017, while the share of the workforce population making at least \$50,000 but less than \$75,000 increased from 14% to 20% during the same period.

Percentage wise, individuals earning at least \$150,000 represented the fastest growing groups. The number of individuals in the workforce population whose income was between \$150,000 and \$199,999 tripled between 2012 and 2017. Nevertheless, these high earning residents collectively make up just 7% of the County’s working age population.

INCOME OF COUNTY WORKFORCE

Figure 1.14



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics



TENURE

RESIDENT POPULATION, TENURE

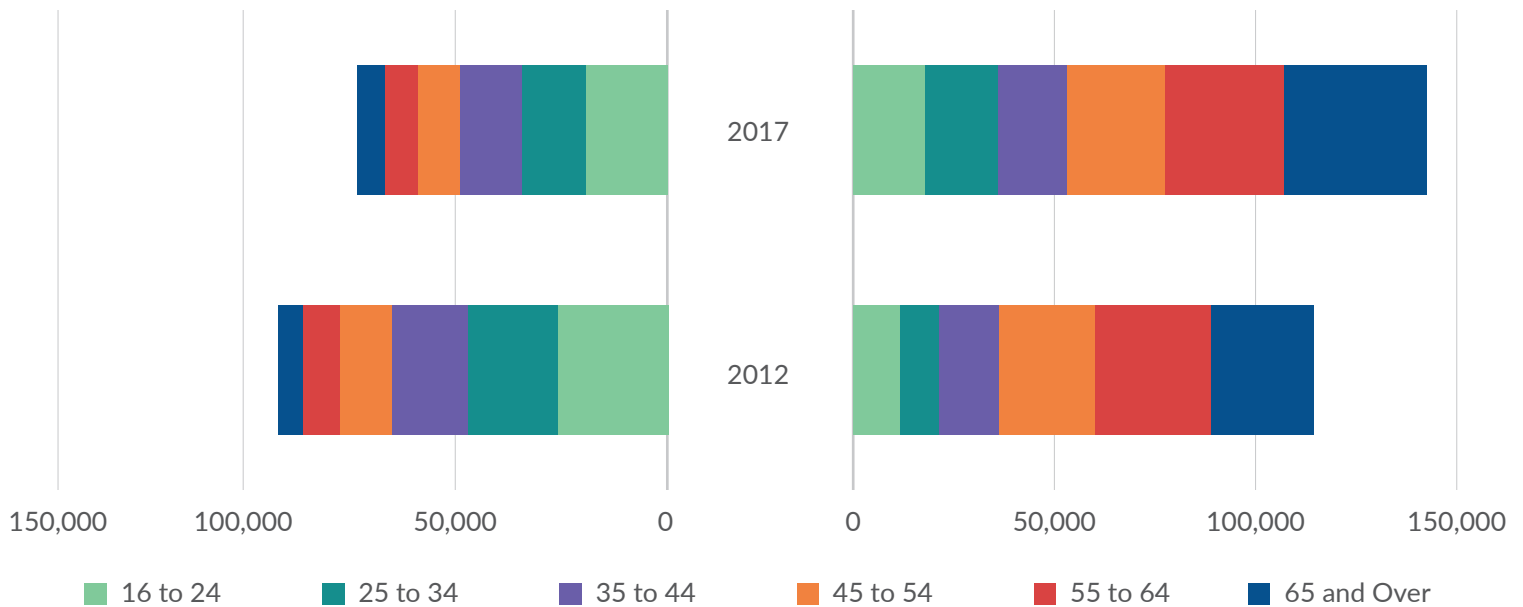
Despite a statewide housing shortage and exacerbating affordability issues, more residents from every age group are living in owned units in 2017 than in 2012.

WORKFORCE POPULATION, TENURE

While the share of the County's workforce population living in owner-occupied households has ticked up significantly between 2012 (49%) to 2017 (65%), an increasing number are also living with their parents or parent-in-laws.

POPULATION BY HOUSING TENURE LIVING IN RENTED UNITS VS OWNED UNITS

Figure 1.15

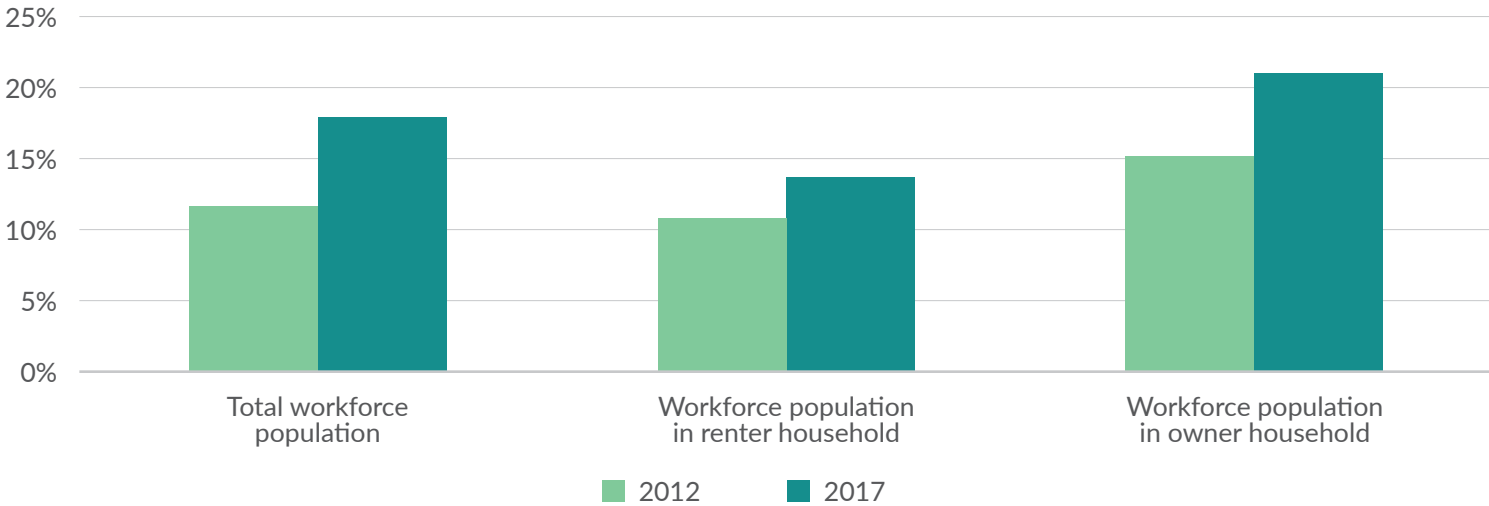


Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

The situation is most acute among young professionals ages 25 to 29, where the percentage share who are living with parents or parents-in-laws jumped from 17% to 46% between 2012 and 2017. The share of the workforce population ages 30 to 34 living with parents or parents-in-law has also spiked from 10% to 24% over that same time.

SHARE OF WORKFORCE POPULATION LIVING WITH PARENTS OR PARENT-IN-LAWS, BY HOUSING TENURE

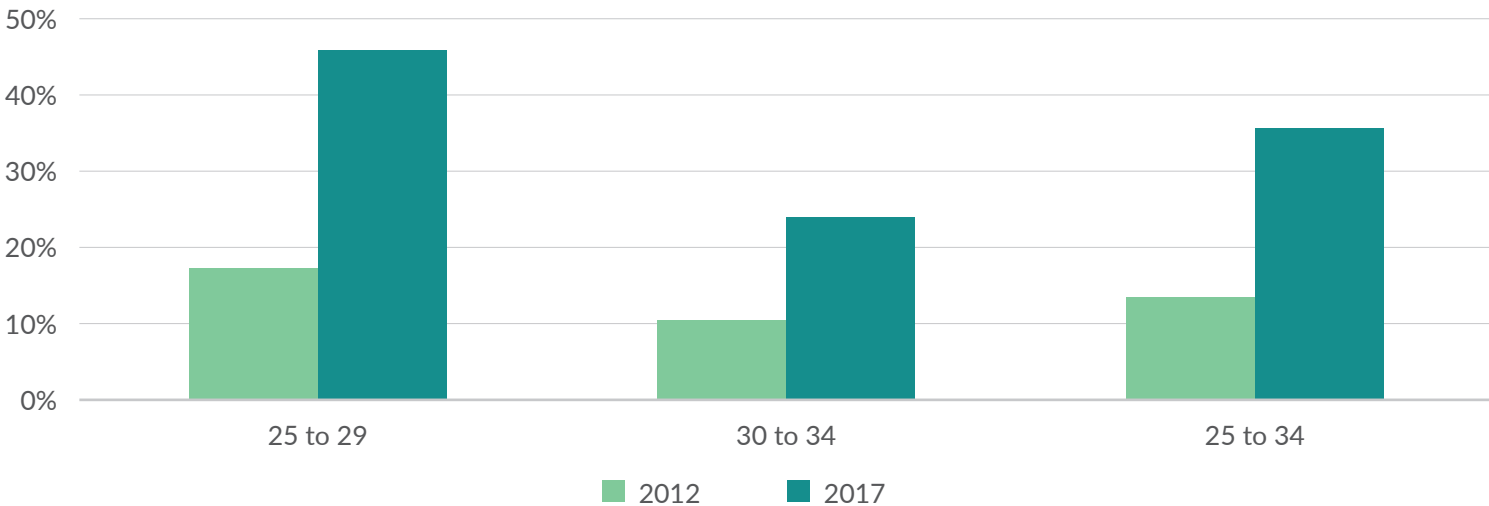
Figure 1.16



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

SHARE OF WORKFORCE POPULATION LIVING WITH PARENTS OR PARENT-IN-LAWS, YOUNG PROFESSIONALS

Figure 1.17



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

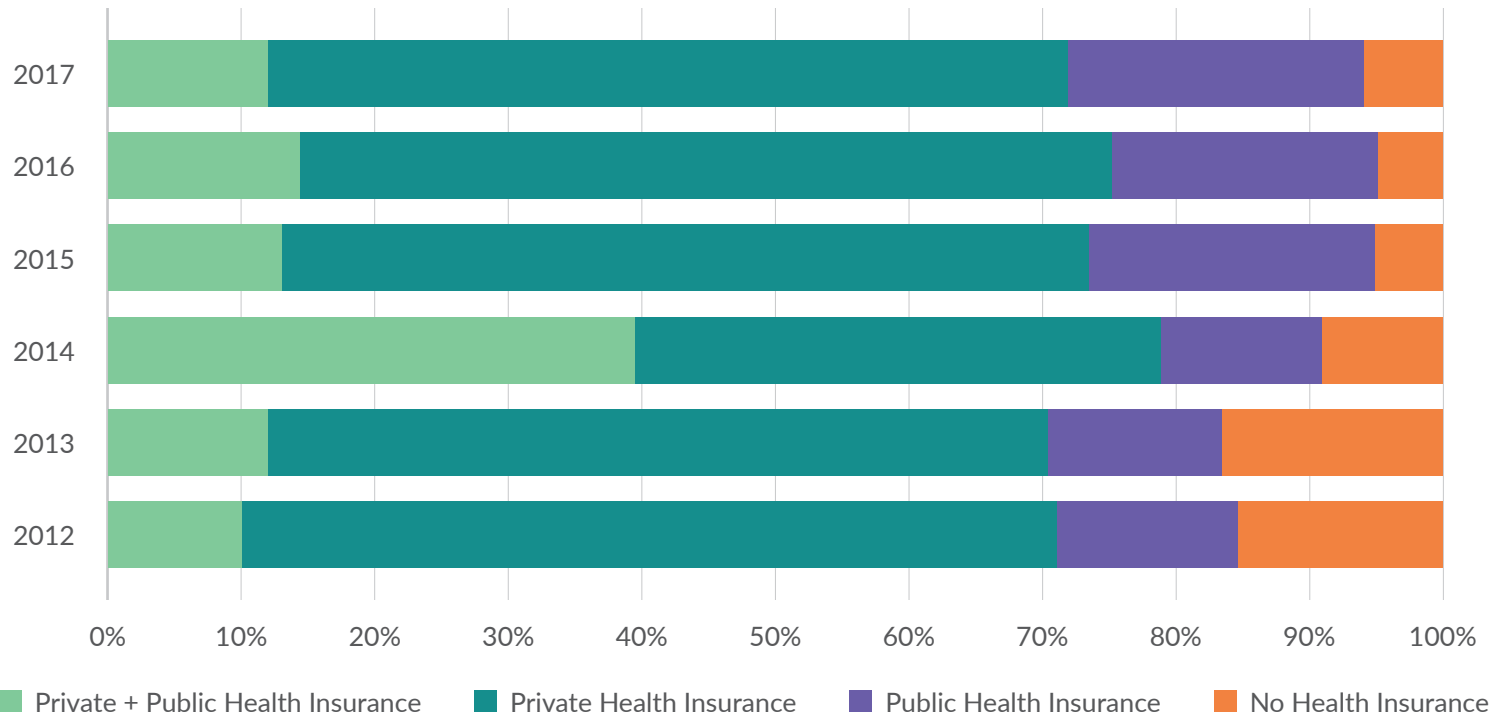
HEALTH INSURANCE COVERAGE

The percentage of working-age residents without insurance (6% in 2017) was cut in half between 2014 and 2015 and has remained low since. The majority of residents formerly without insurance are now on public health insurance. 60% of working-age residents have only private health insurance. However, with the mandate repealed by the current administration, Beacon Economics expects the percentage of uninsured residents to likely increase in the future.

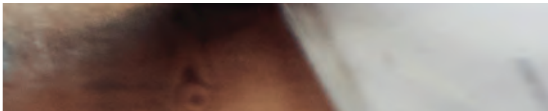


HEALTH INSURANCE COVERAGE, RESIDENT POPULATION AGES 16 AND OLDER SANTA CRUZ COUNTY

Figure 1.18



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics



WAGE

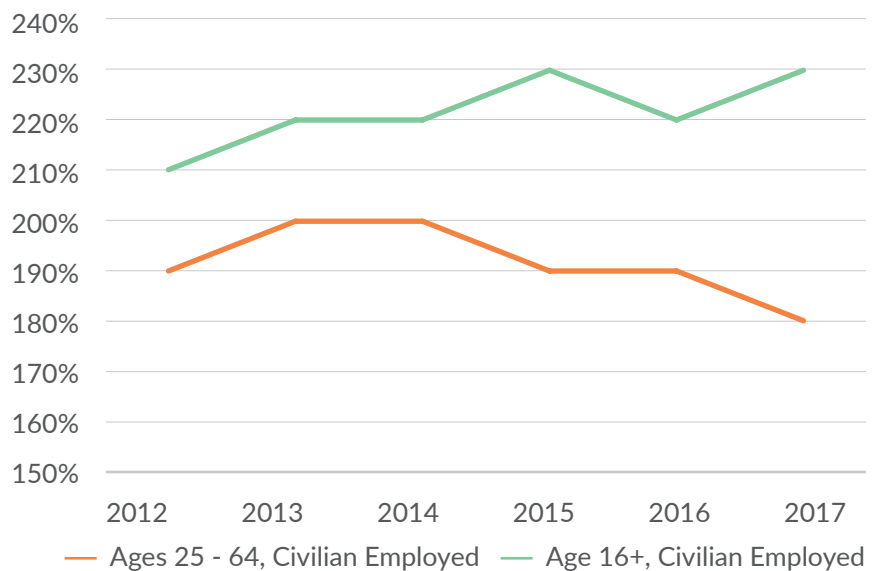
RESIDENT POPULATION, WAGES

The median wage for County residents of working age (16+) and at work (excluding those in armed forces) was around \$30,000 in 2017 and \$45,000 for those ages 25 to 64 in 2017. Among residents of working age (16+) and at work and those ages 25 to 64 and at work, the median wage earned for the 75th percentile worker was \$69,000 and \$80,000 respectively in 2017.

The P75/median wage premium is important because it provides information on wage distribution. A high P75/wage premium means wages tend to be top-heavy, which may represent a high wage ceiling. A low P75/median wage premium means the median worker earns just slightly less than a worker making the 75th percentile wage. On the flip side, an increasing wage premium could imply greater wage disparity over time.

P75/MEDIAN WAGE PREMIUM - RESIDENTS WHO WORK

Figure 1.19



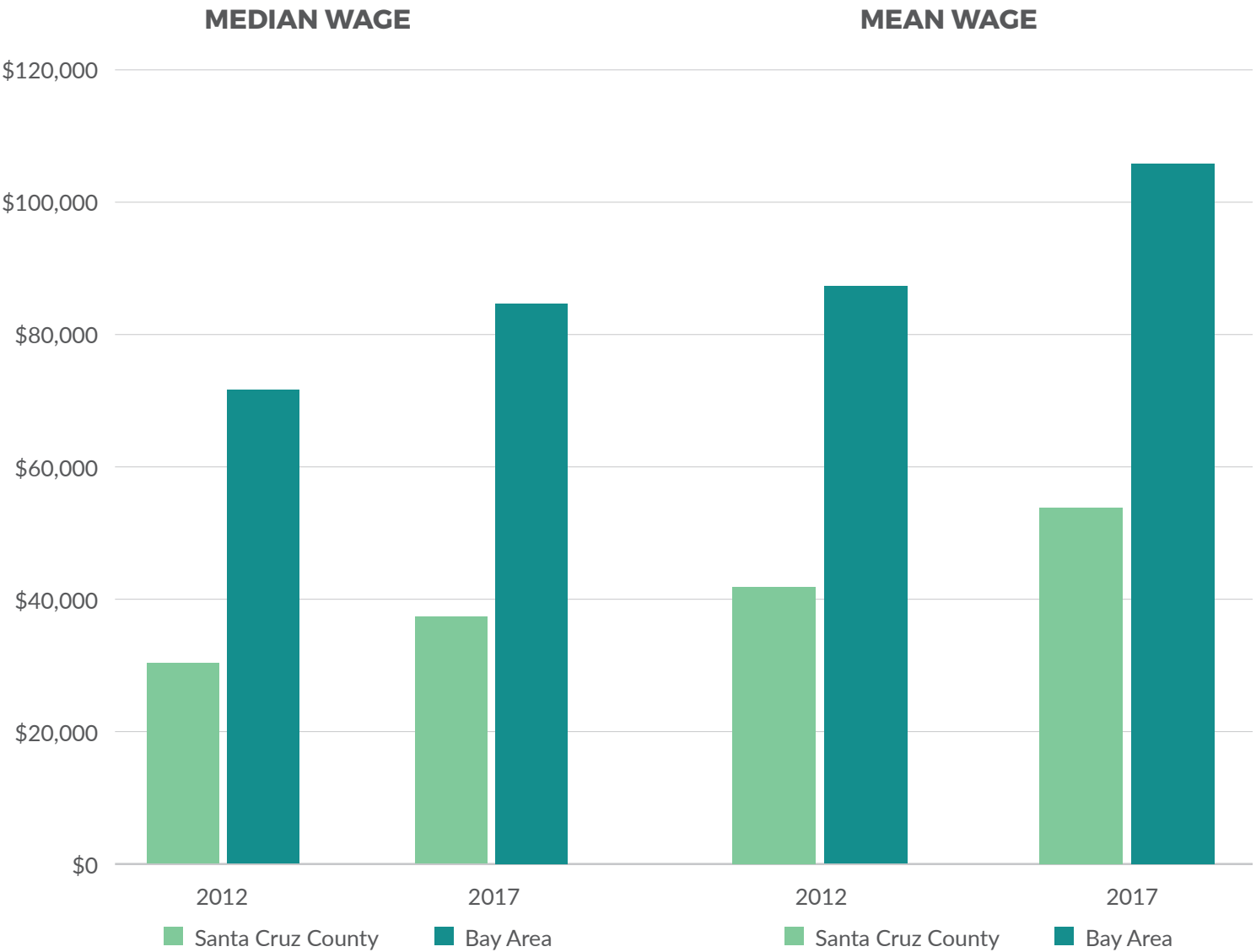
Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

Over time, the wage premium of the 75th percentile worker over the median earner narrowed from 194% in 2012 to 178% in 2017 among residents ages 25 to 64 and employed. However, the opposite is true among all residents who worked; the premium widened from 208% to 230%. This is mostly driven by the higher wage differences among those ages 65 and above.

Among residents age 25 and above who work, the average (both mean and median) wages of those who work in the Bay Area are at least double the average wages of those who work in Santa Cruz County. This is important to remember when considering talent attraction and retention strategies.

COUNTY RESIDENTS AGE 25 AND OLDER WHO WORK IN... MEDIAN VS. MEAN WAGE

Figure 1.20



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics



KEY INDICATORS OF WORKFORCE HEALTH

Based on this analysis, Beacon Economics selected four key indicators to gauge and describe the County's workforce health. These indicators were chosen based on economic, demographic, and geographic characteristics unique to Santa Cruz County. Those four indicators and associated questions are:



LABOR FORCE PARTICIPATION OF RESIDENT POPULATION

Are you employing your prime working age populations? Are your younger workers completing degrees?



AGING OF RESIDENT POPULATION

Is your population replenishing the workforce? Is there balance between older, retiring populations and young working populations?



COMMUTING PATTERNS

Are regional workers traveling to work in your economy? Are your residents traveling outside for opportunity?



COST OF LIVING

Is the local economy providing enough housing for your workforce? Are costs to households significantly outpacing wages?

LABOR FORCE PARTICIPATION OF RESIDENT POPULATION

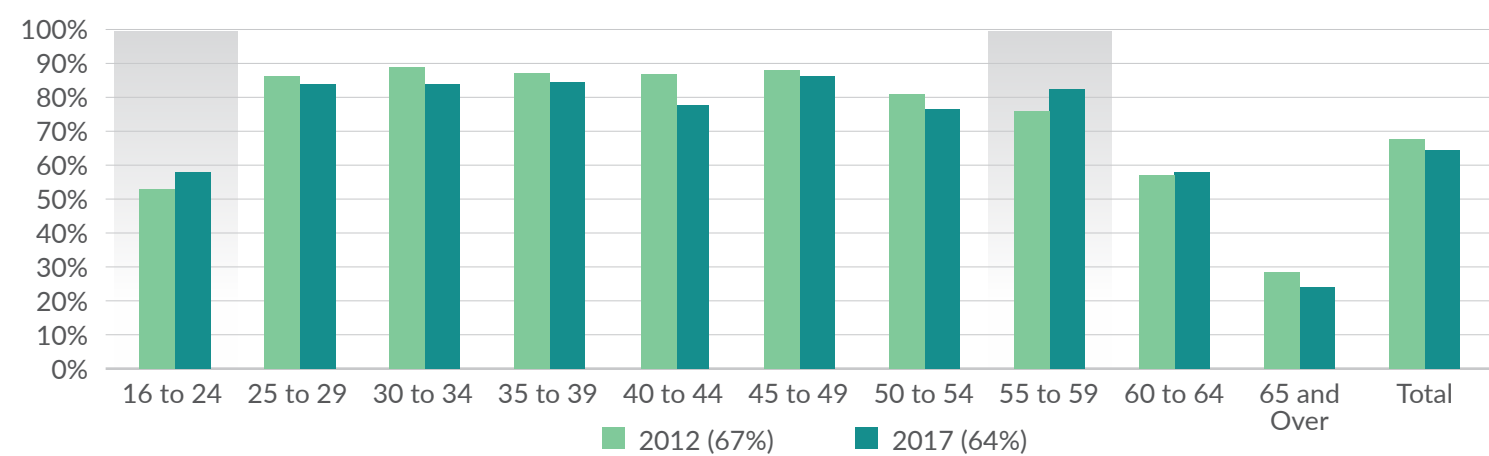
The labor force participation rate (LFPR) among County residents age 16 and above was 64% in 2017, down 3% from 2012.

Except for County residents ages 16 to 24 and 55 to 59, LFPR is lower in 2017 than it was in 2012 for all other age groups.

LFPR has also declined for all educational attainment groups, except high school graduates. County residents with a graduate or professional degree recorded the largest decline (-8%) from 2012 to 2017.

LABOR FORCE PARTICIPATION RATE BY AGE

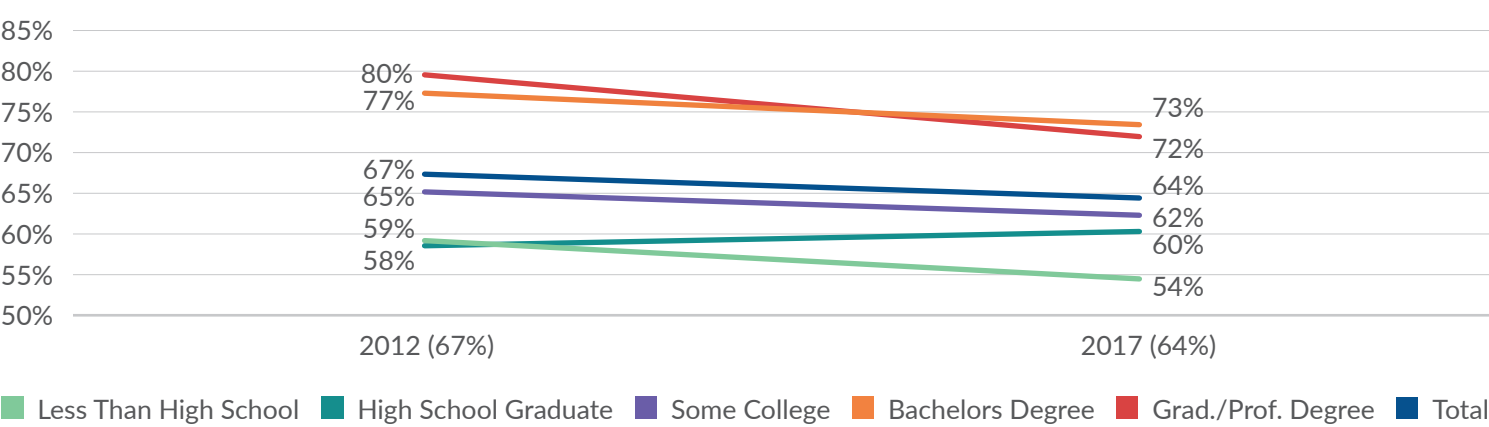
Figure 1.21



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

LABOR FORCE PARTICIPATION RATE BY EDUCATIONAL ATTAINMENT

Figure 1.22



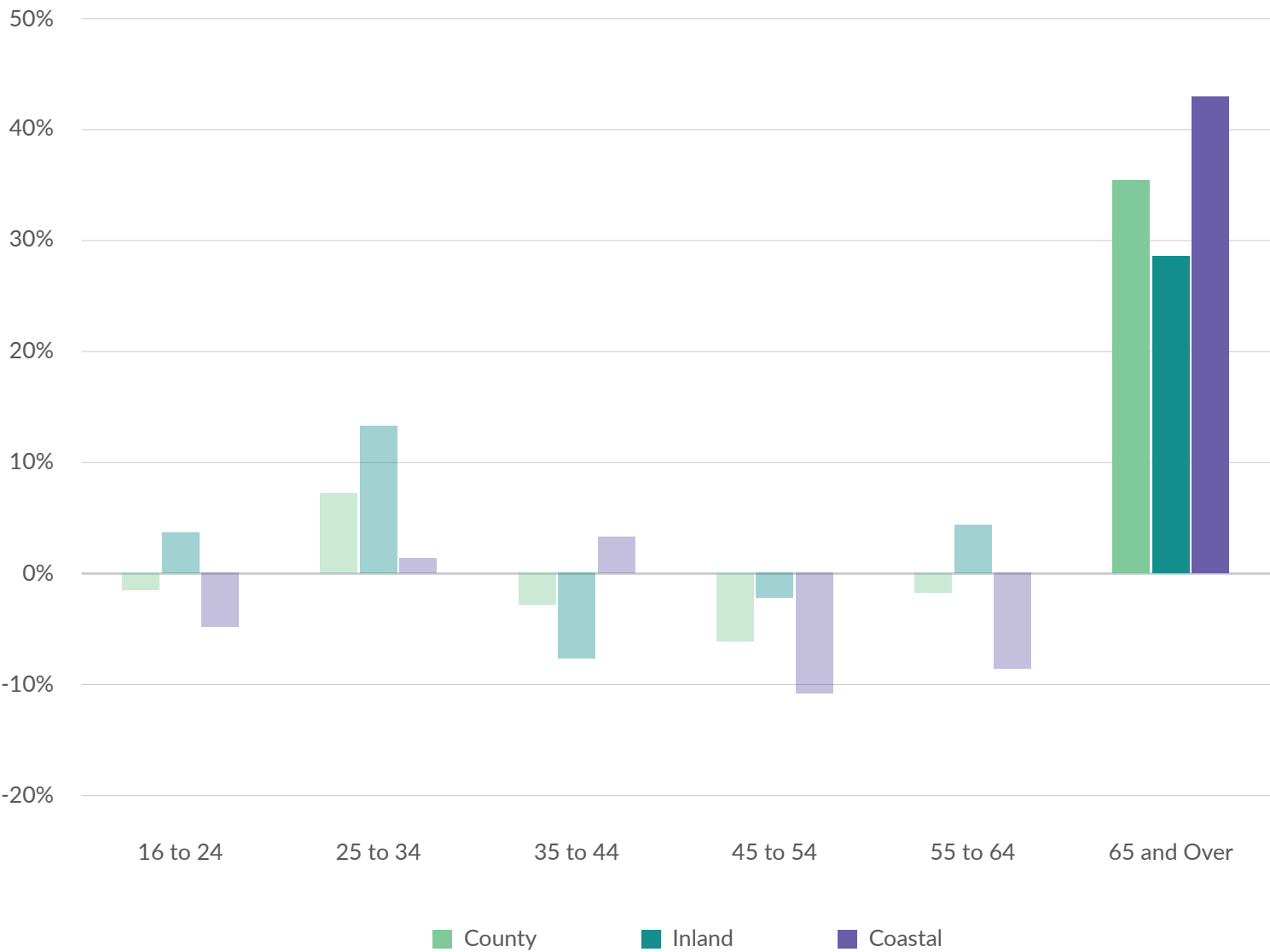
Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

AGING OF RESIDENT POPULATION

Santa Cruz County is undergoing rapid population aging. From 2012 to 2017, the share of the resident population age 65 and over was the fastest growing age group – a remarkable 35% increase. On the other hand, with the exception of the 25 to 34 years old age group, there was a decline in every other age group: Ages 16 to 24 (-2%), 35 to 44 (-3%), 45 to 54 (-6%), and 55 to 64 (-1.7%). In other words, excluding the retiree age group, the County actually experienced a 1% decline among its working-age resident population instead of the 4% increase noted earlier for the total resident population.

POPULATION CHANGE BY AGE GROUP, 2012 TO 2017

Figure 1.23

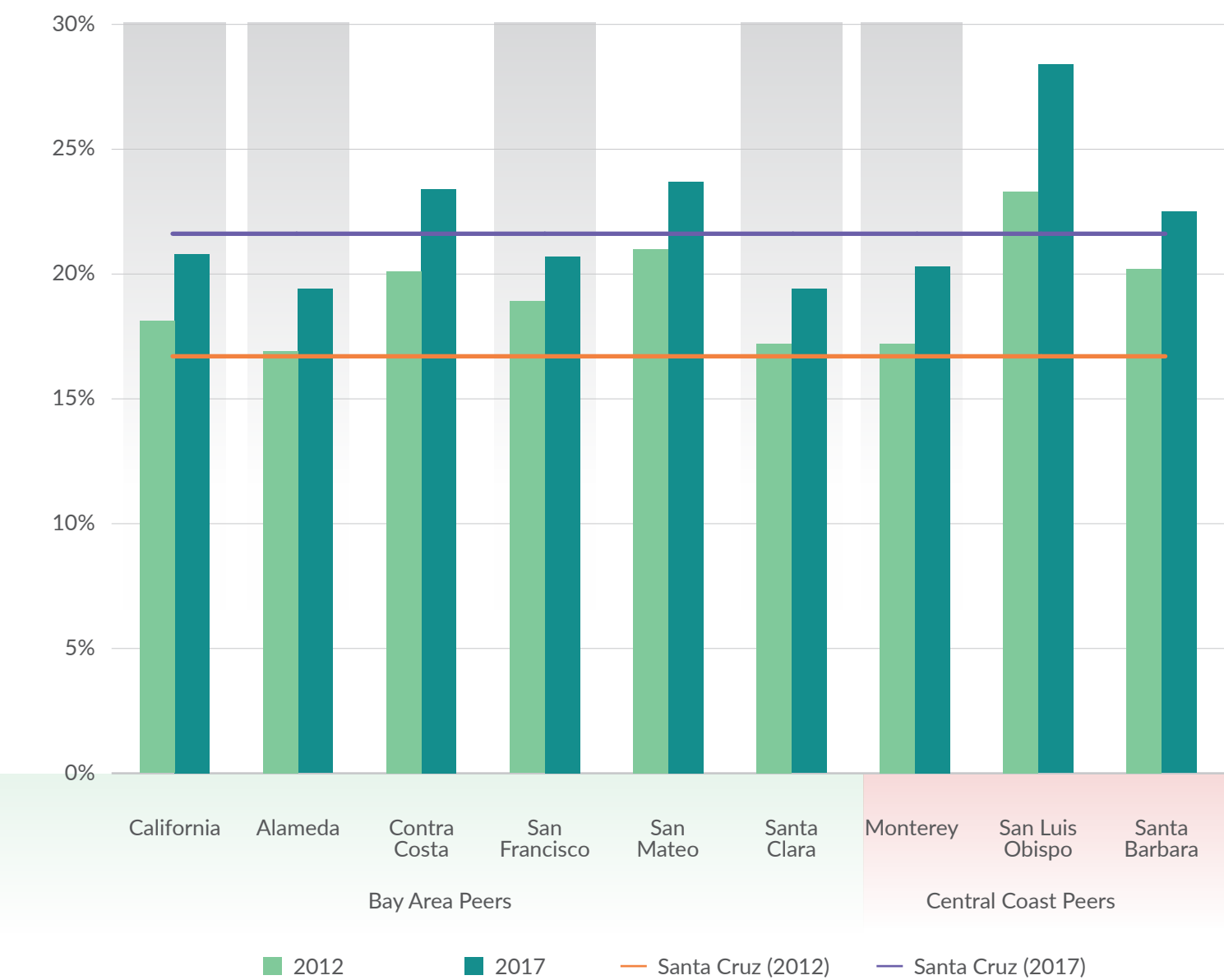


Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

Given the significant rise in seniors in the County, it follows that the retiree-to-worker ratio (elderly dependency ratio) has also rapidly increased¹² from 16.7 in 2012 to 21.6 in 2017. The rapid increase in the retiree population in Santa Cruz County means that the County has now *surpassed* the following counties with its higher elderly dependency ratio: Alameda County, San Francisco County, Santa Clara County, and Monterey County. The County’s elderly dependency ratio has also surpassed California’s.

RETIREES TO WORKING AGE POPULATION RATIO

Figure 1.24



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

¹² A measure derived by dividing the population 65 years and over by the 18 to 64 years population and multiplying by 100.

The ratio of the resident population over 65 to the resident working-age population tends to be the highest among coastal and sparsely populated areas and lowest in the County’s two largest cities – Santa Cruz and Watsonville.

ELDERLY DEPENDENCY RATIO IN SANTA CRUZ COUNTY BY CENSUS TRACT
Figure 1.25

ELDERLY DEPENDENCY RATIO

- 0.0 - 15.0
- 15.0 - 25.0
- 25.0 - 30.0
- 30.0 - 35.0
- 35.0 - 47.8

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates; Analysis by Beacon Economics

COMMUTING PATTERN

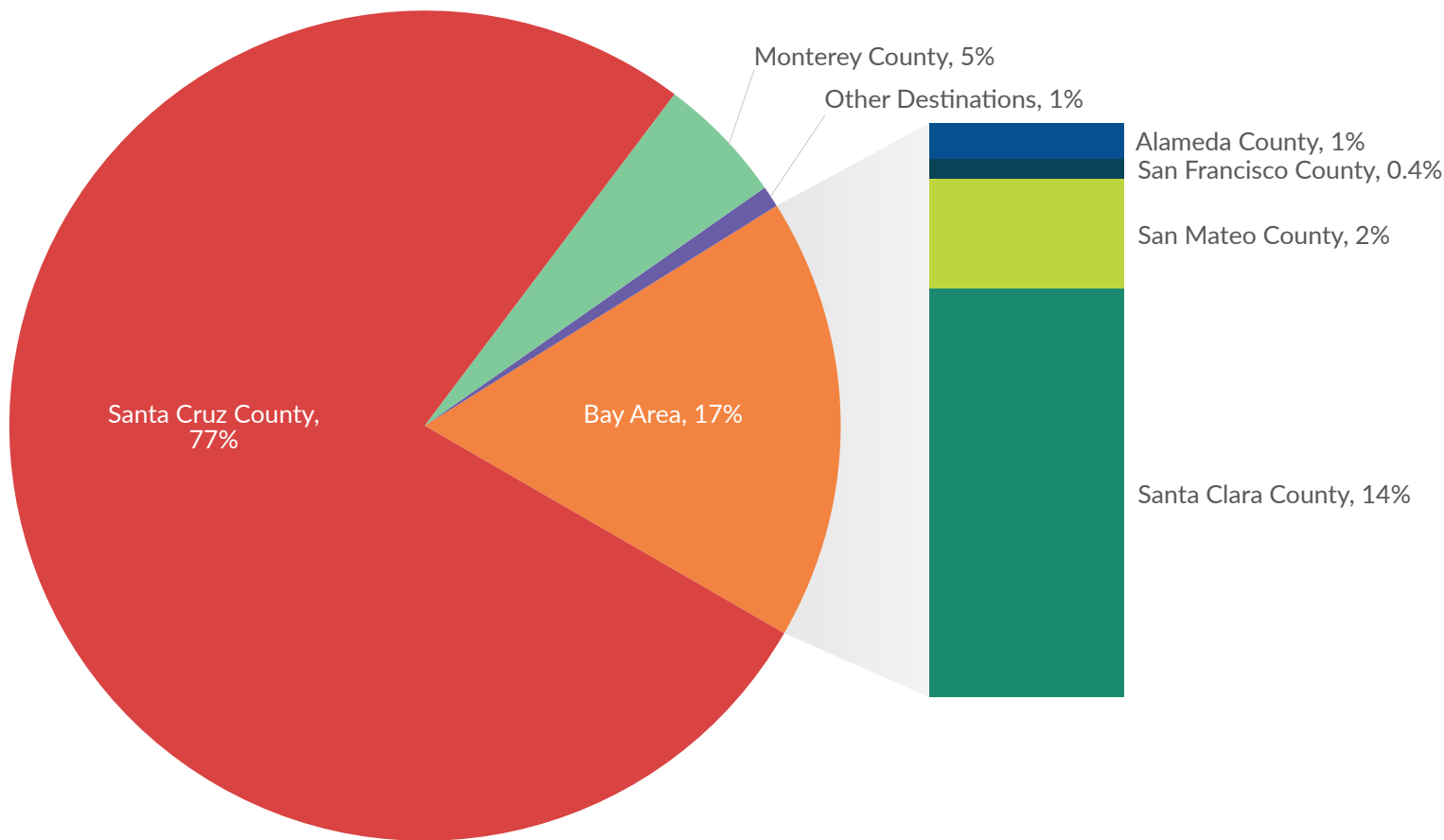
RESIDENT POPULATION, COMMUTING PATTERN

The percentage of working residents who commute outside of the County for work has hovered consistently between 20% to 25% from 2012 to 2017.

Slightly over 3 out of 4 Santa Cruz County residents also work in Santa Cruz County. 1 out of 6 commute northward to the Bay Area, with Santa Clara County being the most popular Bay Area destination (14%). 1 out of 20 commute southbound to Monterey County, where wages are lower than Santa Cruz County. In other words, more residents commute north to the Bay Area for work than south to Monterey County by a ratio of 3.7 to 1.

COMMUTE DESTINATION OF RESIDENT WORKERS, SANTA CRUZ COUNTY POPULATION AGES 16 AND OLDER, 2017

Figure 1.26



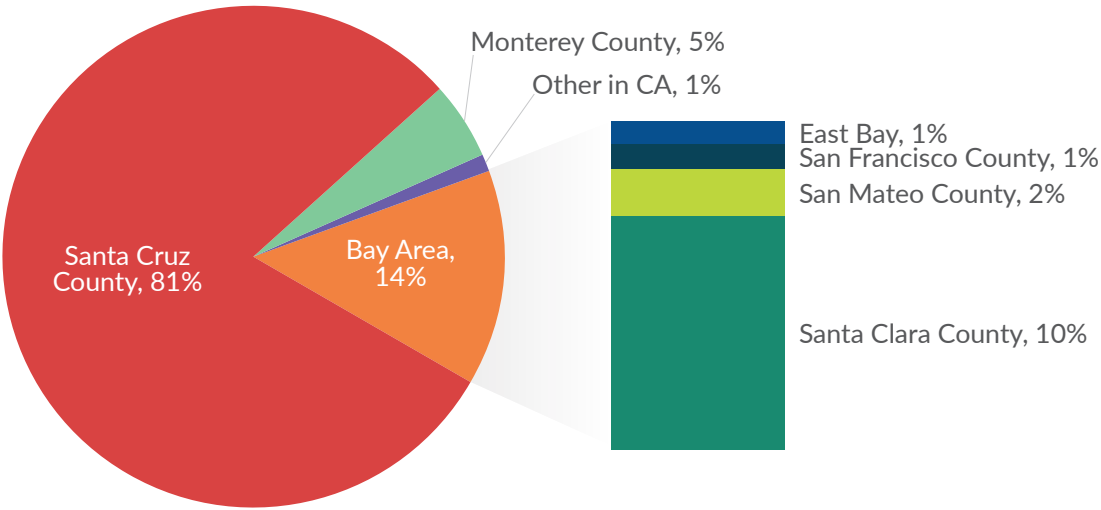
Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

RESIDENT POPULATION, COMMUTING PATTERNS BY AGE

With regard to commute patterns by age, the share of residents ages 45 to 64 (22%) are more likely to commute to the Bay Area for work than residents ages 25 to 44 (14%) but are equally likely to work in Monterey County (5%).

COMMUTING PATTERNS OF WORKING RESIDENTS AGES 25 TO 44, 2017

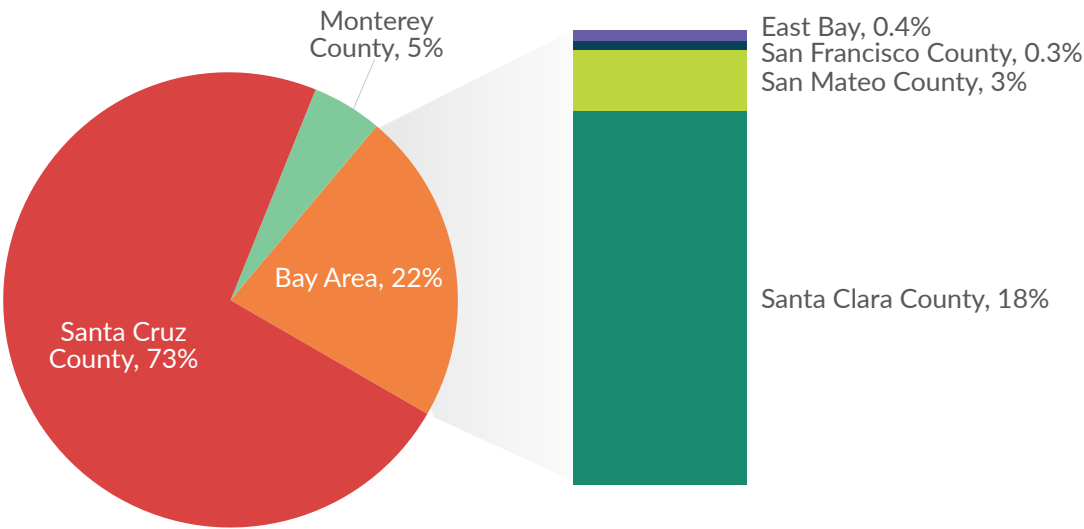
Figure 1.27



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

COMMUTING PATTERNS OF WORKING RESIDENTS AGES 45 TO 64, 2017

Figure 1.28



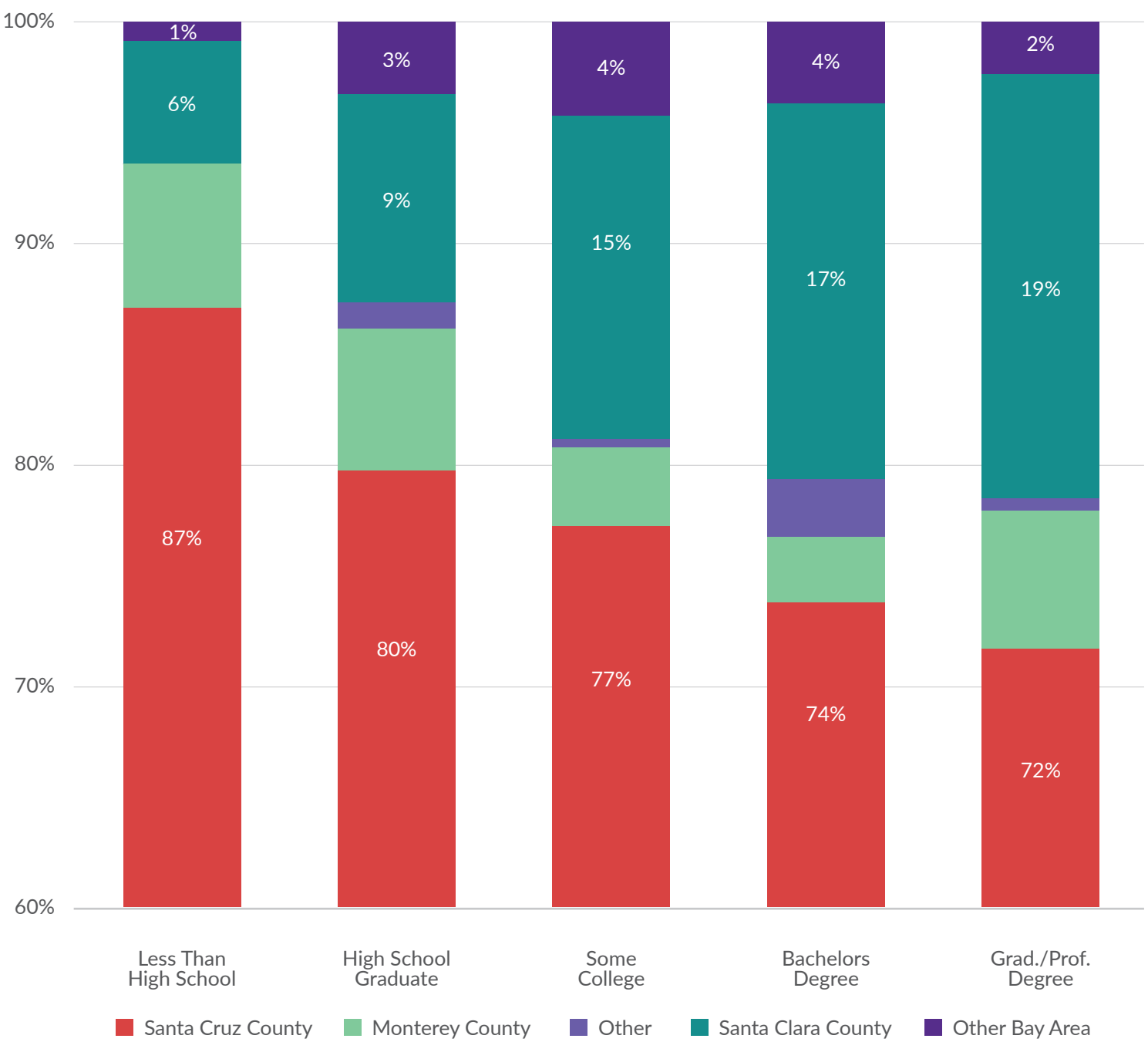
Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

RESIDENT POPULATION, COMMUTING PATTERNS BY EDUCATIONAL ATTAINMENT

Santa Cruz County residents with at least a bachelor’s degree are about twice as likely to be working in the Bay Area compared to those with just a high school diploma.

WHERE ARE RESIDENTS AGE 16 AND ABOVE COMMUTING TO WORK? BY EDUCATIONAL ATTAINMENT

Figure 1.29



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

**RESIDENT POPULATION,
COMMUTING PATTERNS
BY OCCUPATION**

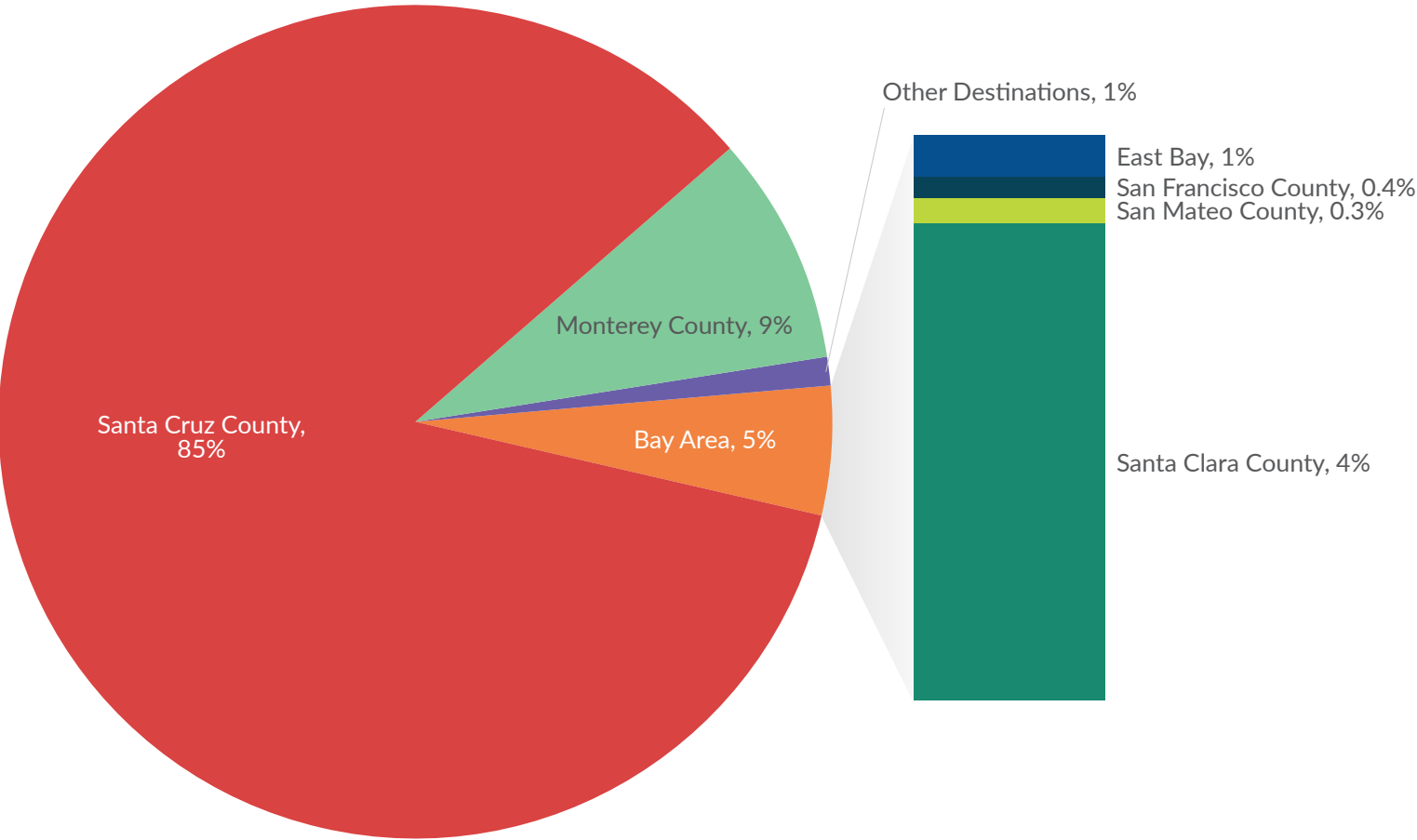
Occupations that are high paying and often require at least a bachelor’s degree - Architecture/Engineering (39%), Computer/Mathematics (32%), and Management (22%) occupations - see the highest share of residents working in the Bay Area.

WORKFORCE POPULATION, COMMUTING PATTERNS

Unlike the commuting trends at play among the resident population – a larger share of which commute north to the Bay Area (17%) than south to Monterey County (5%) -- the opposite dynamics are at play among the workforce population. Just 5% of the workforce population hails from the Bay Area, compared to 9% from Monterey County. To clarify, commuting patterns for the resident population reflect where Santa Cruz County residents are commuting to for work; whereas commuting patterns for the workforce population reflect from where Santa Cruz County workers are commuting to work in the County. Fewer Santa Cruz County workers commute from the Bay Area than from Monterey County by a ratio of 0.57 to 1.

COMMUTE ORIGINS OF WORKFORCE POPULATION, SANTA CRUZ COUNTY POPULATION AGES 16 AND OLDER, 2017

Figure 1.30



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

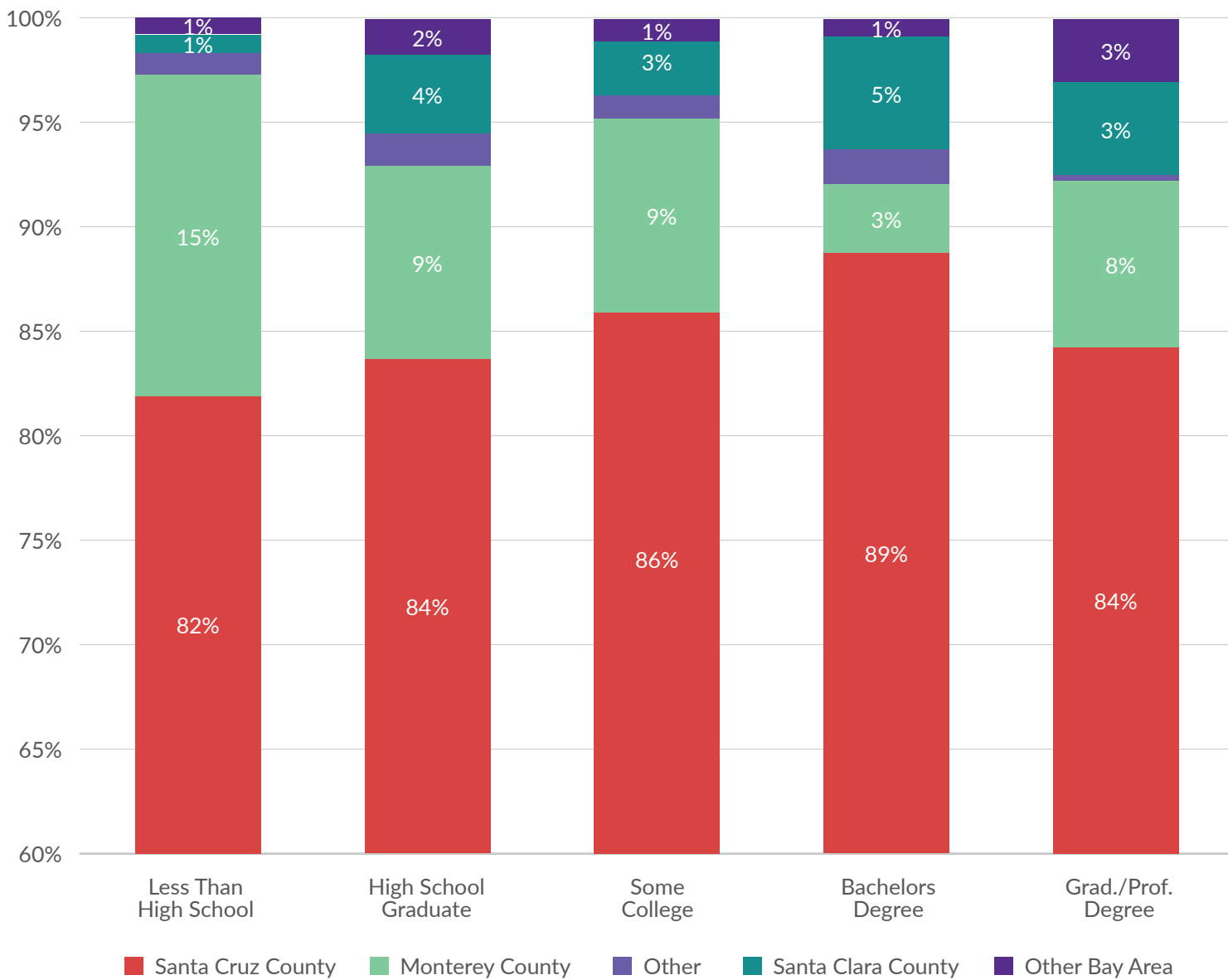
WORKFORCE POPULATION, COMMUTING PATTERNS BY EDUCATIONAL ATTAINMENT

Unlike residents’ commuting pattern, where a higher share of highly educated residents commute outside the County for work, specifically northbound to the Bay Area, than the share of less educated residents,

here with regard to the workforce population’s commuting pattern as it pertains to educational attainment the relationship is not as clear. There is little to no evidence of the County successfully attracting higher educated workers living outside of the County to work in the County.

WHERE ARE WORKERS AGE 16 AND ABOVE COMMUTING FROM? BY EDUCATIONAL ATTAINMENT

Figure 1.31



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

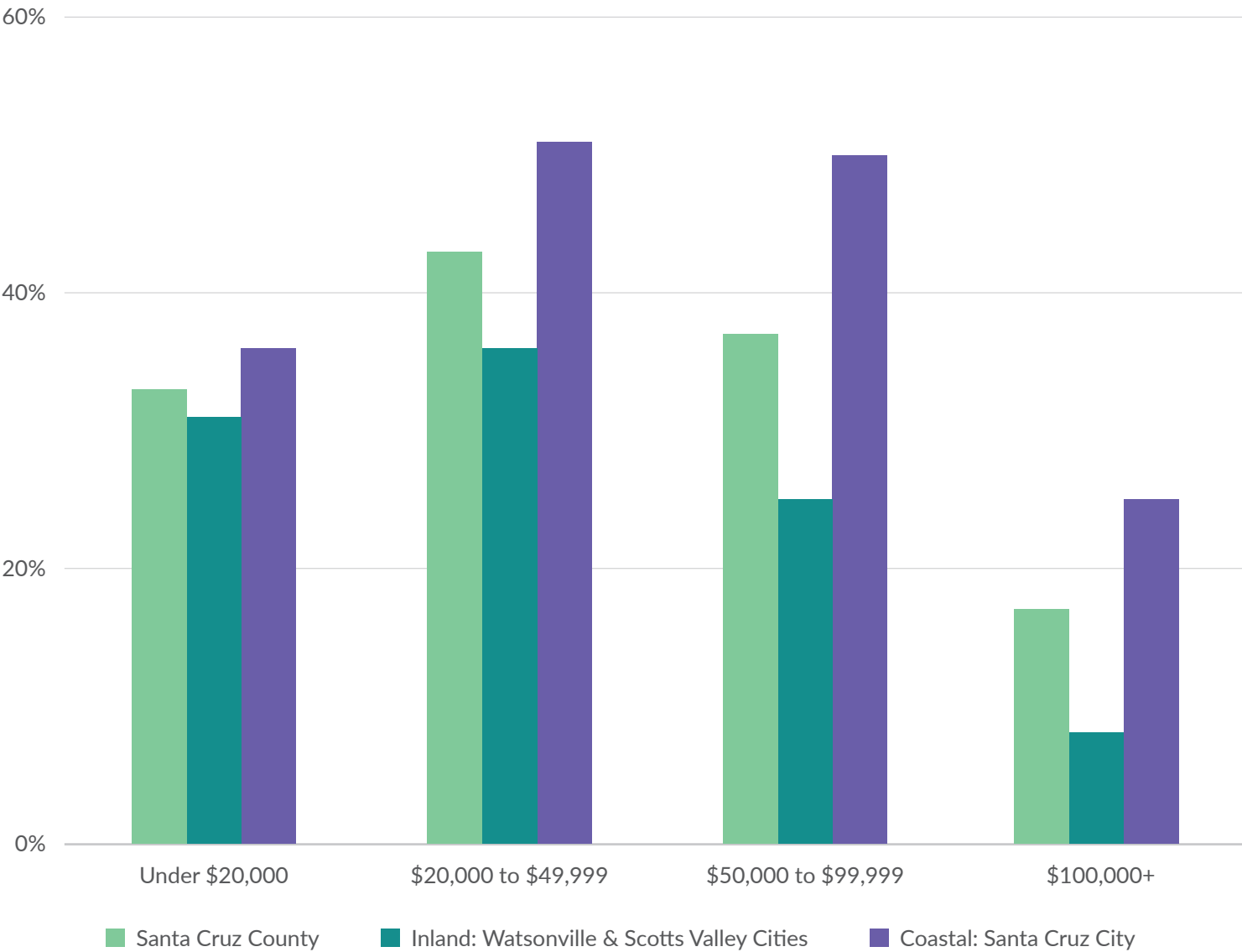
COST OF LIVING

Across all income levels, a higher percentage of residents rent in the Coastal Area than in the Inland Area. This is not surprising given how much higher home prices are in coastal areas.

For County residents earning between \$50,000 and \$99,999, those living in coastal areas are twice as likely to rent than their similarly earning inland peers (50% vs. 25%). The odds increase to three times among those earning six figures (25% vs. 8%).

PERCENT RENTING BY WAGE LEVELS

Figure 1.30



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics



ECONOMIC FORECAST

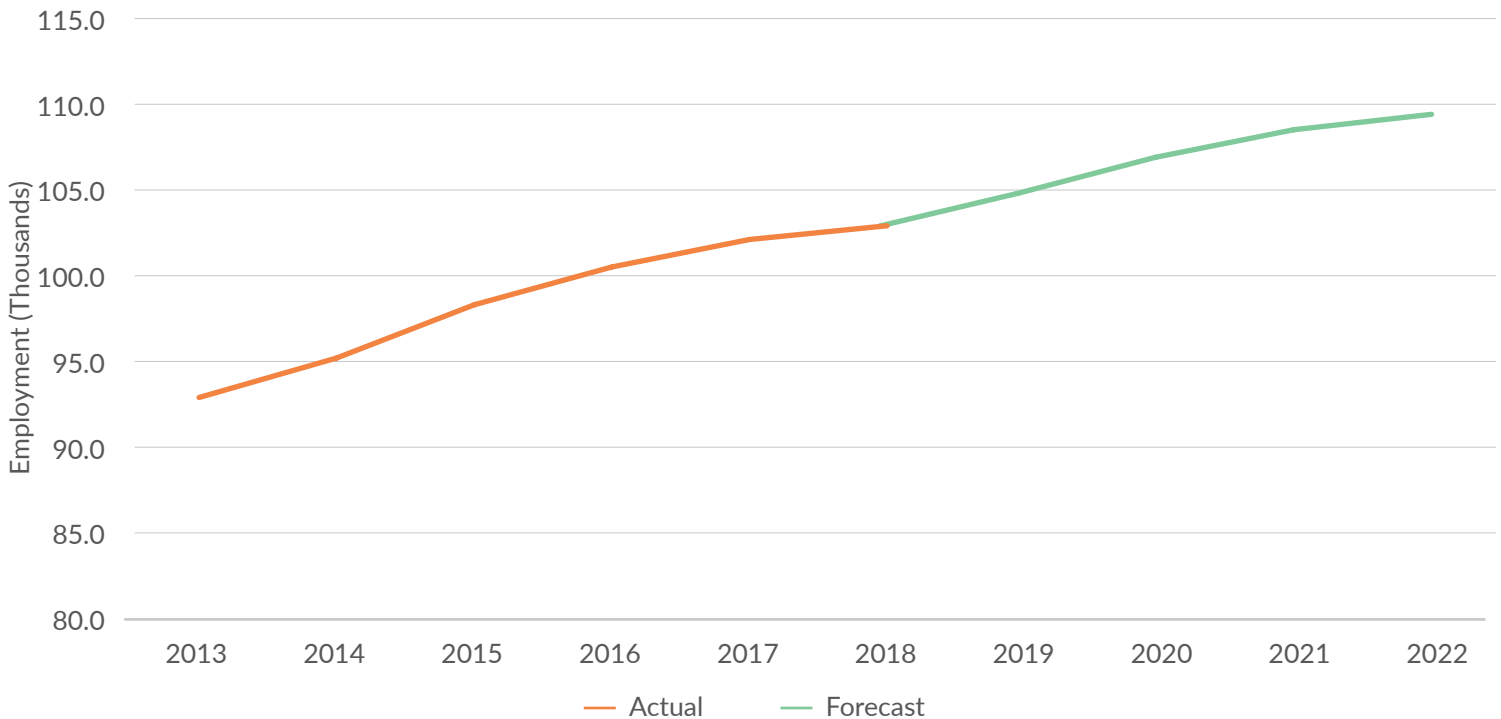
FORECAST ANALYSIS

Beacon Economics' forecast methodology relies on statewide and national drivers as well as historical trends for employment across industries to project a reliable and robust output model. For the industries in Santa Cruz County, the forecasts in part depended on the historical trend, the employment levels, and the estimated employment growth for industries across California.

Beacon Economics expects the County of Santa Cruz to reach roughly 109,430 employees by 2022. The three-year projected growth rate is 5.3% - or an additional 5,530 workers over that time horizon. Government, Education/Health, and Trade/Transport/Utilities sectors are expected to remain the dominant industries in the County in terms of industry size and employment footprint, with the total number of workers across the three industries expected to reach over 61,000 employees.

TOTAL EMPLOYMENT FORECAST, SANTA CRUZ COUNTY, 2013 TO 2022

Figure 2.1



Source: California Employment Development Department; Analysis by Beacon Economics

EMPLOYMENT BY INDUSTRY: 5-YEAR % GROWTH AND PROJECTED GROWTH

Table 2.1

Industry	Q1-2019 Employment	Q1-2022 Projected Employment	5-Year % Growth (2014 – 2019)	3-Year Projected % Growth
Total Nonfarm	103,900	109,430	10.0%	5.3%
Government	22,360	24,260	6.6%	8.5%
Education/Health	17,900	19,670	6.8%	9.9%
Trade/Transport/Util.	17,000	17,480	3.5%	2.8%
Leisure & Hospitality	14,700	14,880	14.8%	1.2%
Professional/Business	10,500	10,610	10.9%	1.0%
Manufacturing	7,400	7,790	22.4%	5.3%
Other Services	5,340	5,440	24.6%	1.9%
Natural Resources/Construction	4,500	4,940	32.9%	9.8%
Financial Activities	3,540	3,740	2.6%	1.5%
Information	600	620	-25.1%	4.0%

Source: California Employment Development Department; Analysis by Beacon Economics

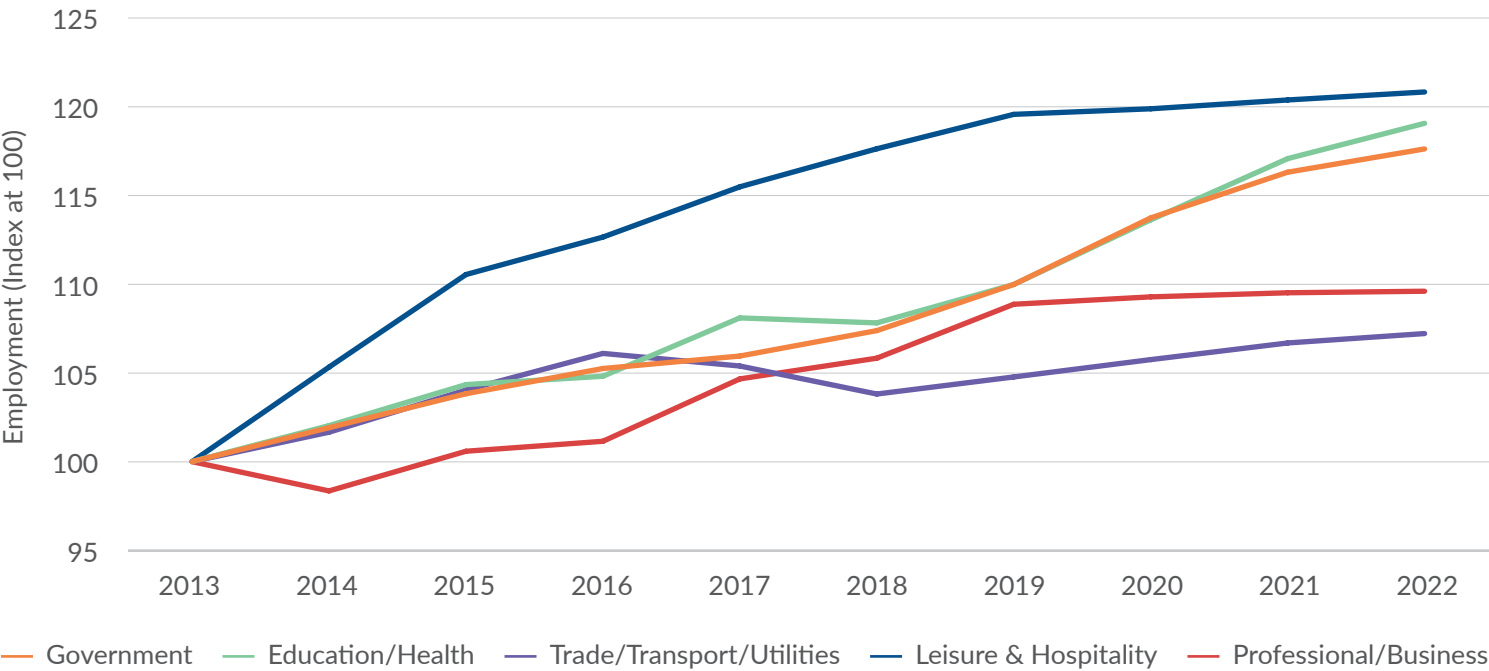
Figure 2.2 shows the projected forecast for the top five employing industries in the County of Santa Cruz. Of the five industries, the most significant growth is expected to be observed in Government and Education/Health industries. Trade/Transport/Utilities, Leisure & Hospitality, and Professional/Business sectors are expected to grow modestly, but not within the range of growth observed for those sectors historically, between 2014 and 2019.

Natural Resources/Construction is expected to continue to dominate the County’s fastest growing industries through 2022, with a three-year projected forecast of 9.7%, the second highest forecasted growth rate after Education/Health (9.9%). Manufacturing is projected to be the County’s third fastest growing industry by 2022, with a three-year projected growth rate of 5.3%. Transport/Warehouse/Utilities, Other Services, and Leisure & Hospitality are expected to grow modestly, with slower growth anticipated due to a tightening labor market.

Natural Resources/Construction, Manufacturing, and Government are expected to demonstrate the most significant growth among the highest paying industries between 2019 and 2022, as a result of both heightened demand and recent trends in the market. Professional/Business and Finance & Insurance are expected to grow modestly, but the three-year projected growth rates for those industries are lower than that of the County economy’s overall average.

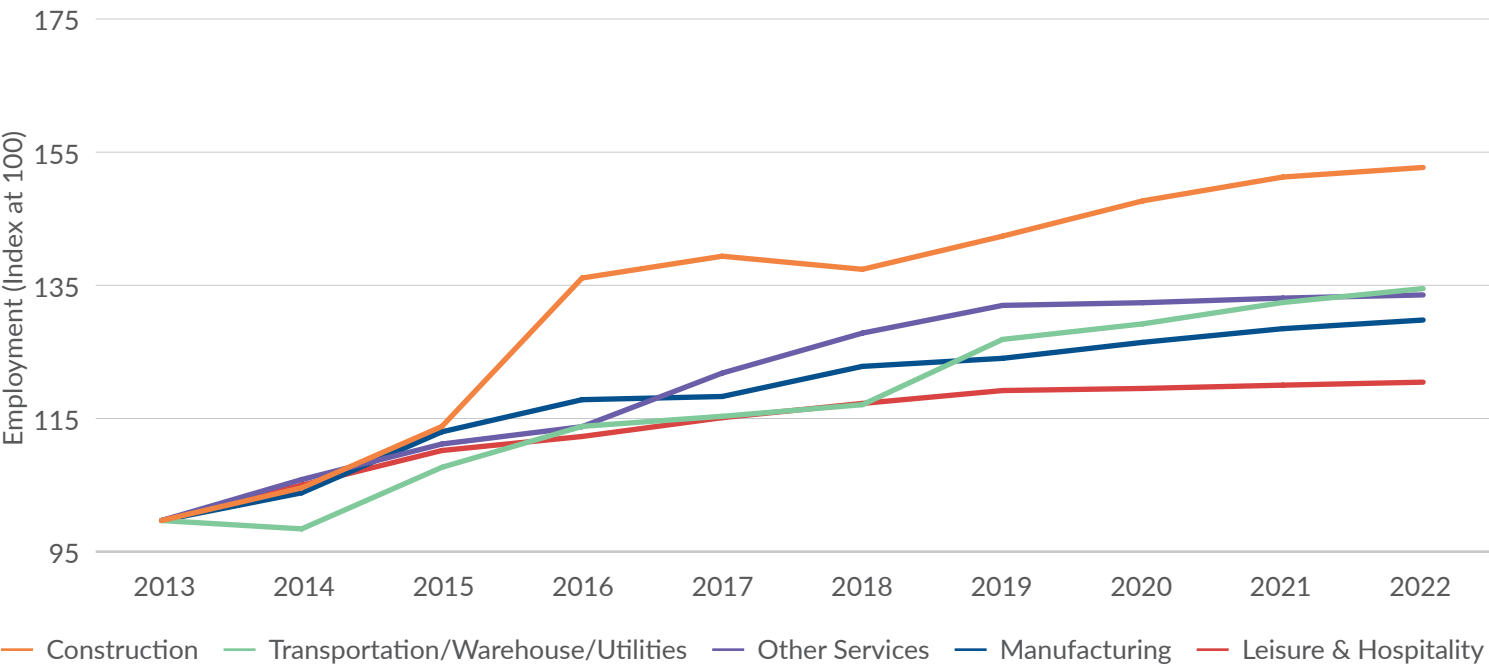
EMPLOYMENT FOR LARGEST INDUSTRIES, SANTA CRUZ COUNTY, 2013 TO 2022

Figure 2.2



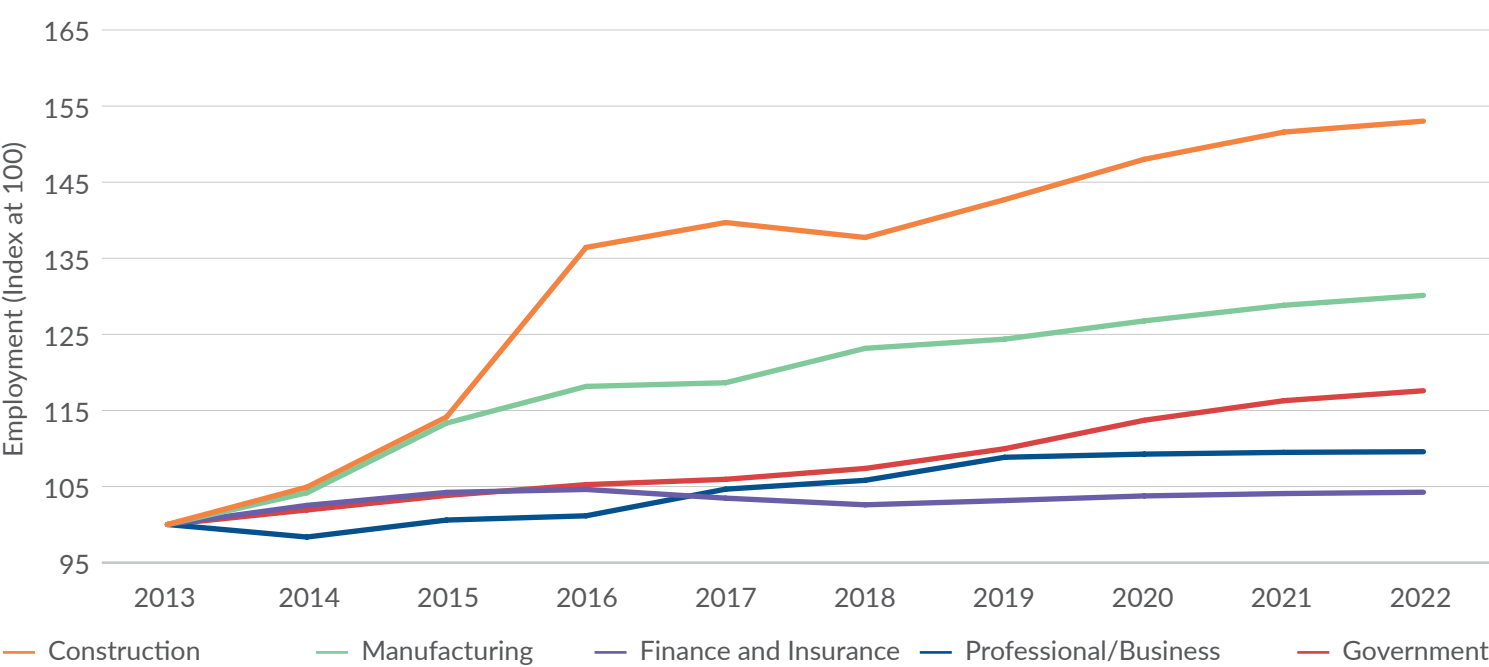
Source: California Employment Development Department; Analysis by Beacon Economics

EMPLOYMENT FOR FASTEST GROWING INDUSTRIES, SANTA CRUZ COUNTY, 2013 TO 2022
Figure 2.3



Source: California Employment Development Department; Analysis by Beacon Economics

EMPLOYMENT FOR HIGHEST PAYING INDUSTRIES, SANTA CRUZ COUNTY, 2013 TO 2022
Figure 2.4



Source: California Employment Development Department; Analysis by Beacon Economics



REGIONAL ANALYSIS

GEOGRAPHICAL ANALYSIS

Santa Cruz County has experienced notable changes in the number of establishments, specifically with regards to locations across the region. Between 2011 and 2016, North Santa Cruz County increased by 300 establishments to reach a total of 5,640. Meanwhile, South Santa Cruz County had in 2016 a total of 1,580 establishments, reflecting an increase of 86 businesses since 2011.

In terms of employment growth, Northern Santa Cruz County has seen larger increases between 2011 and 2016 than its Southern counterpart. Over the five-year period, the Northern subregion of Santa Cruz County has seen employment expand by 16.3%, while the Southern subregion has grown by only 8.0%. Total employment in North Santa Cruz County reached roughly 59,600 workers in 2016 – while South Santa Cruz County employment stood at approximately 12,240 employees.

SANTA CRUZ COUNTY REGIONAL DEFINITIONS BY ZIP CODE

Table 3.1

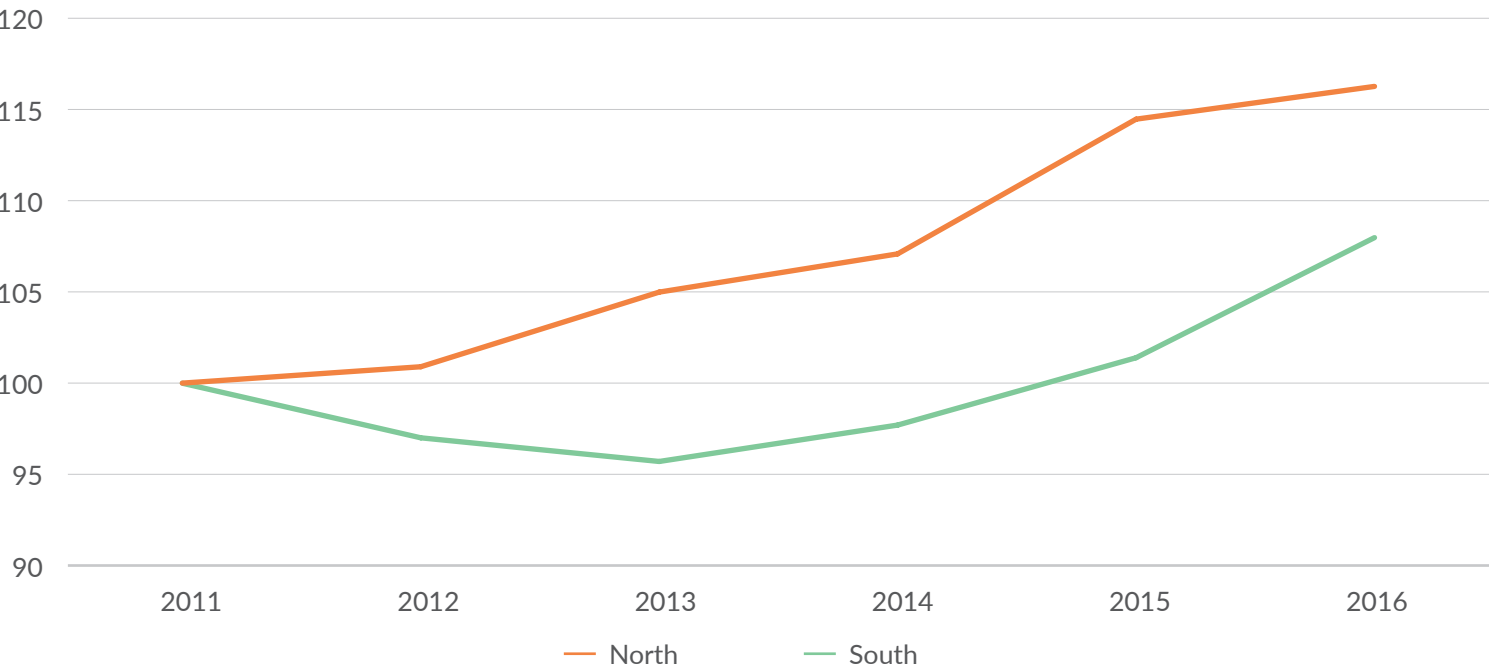
Region	Zip Code
South Santa Cruz County	95019, 95076, 95077
North Santa Cruz County	95001, 95003, 95005, 95006, 95007, 95010, 95017, 95018, 95033, 95041, 95060, 95061, 95062, 95063, 95064, 95065, 95066, 95067, 95073

Source: California Employment Development Department; Analysis by Beacon Economics

The two largest employing industries in order of employment footprint were Trade/Transport/Utilities and Education/Health for both regions. However, the Trade/Transport/Utilities industry has seen an 11.4% growth in employment between 2011 and 2016 in the North, while the industry in the Southern part of the County has dropped 4.1% in terms of employment within the same time period. Furthermore, Natural Resources/Construction and Leisure & Hospitality were the fastest growing industries for both North and South Santa Cruz County.

EMPLOYMENT GROWTH

Figure 3.1



Source: County Business Patterns; Analysis by Beacon Economics



REGIONAL COMPARISONS

Santa Cruz County falls just south of the Bay Area, and is directly surrounded by the San Jose MSA (Santa Clara and San Benito counties) to the east. The Bay Area has seen tremendous growth in several areas of the economy, most notably within the Tech and Professional sectors.

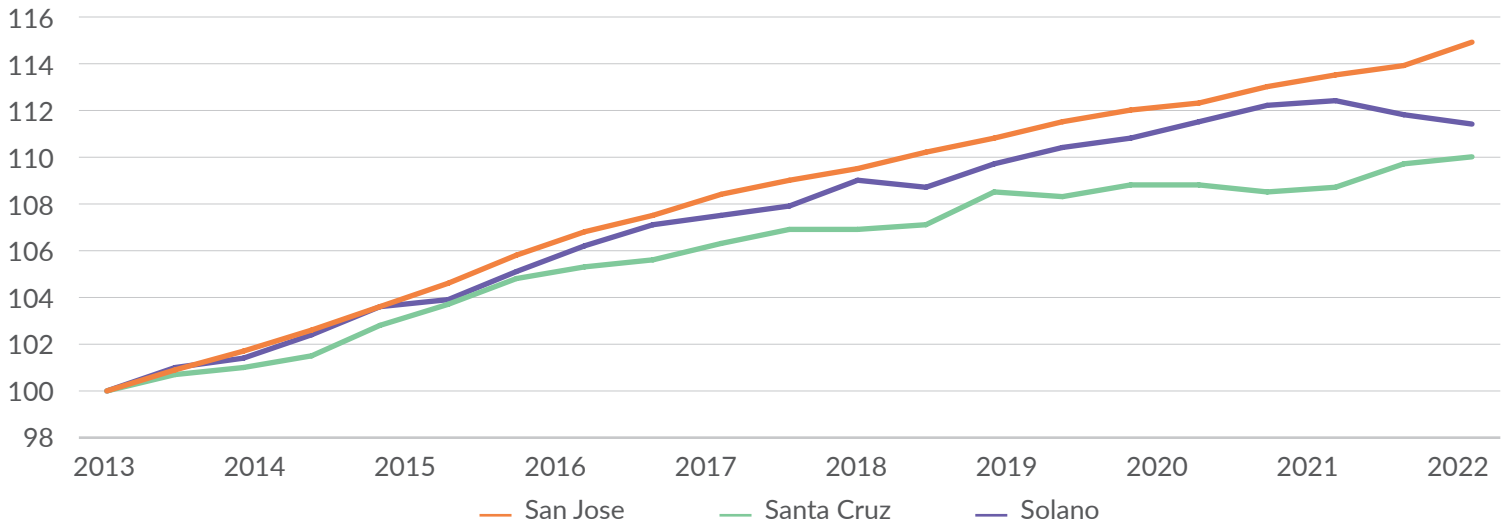
When compared to the San Jose MSA¹³, Santa Cruz County's growth falls short over the past few years. However, when compared to an economy more sufficiently similar to the Santa Cruz County economy in terms of industry and worker composition, such as Solano County, the levels of growth seen in the County fare much better.

Between the fourth quarter of 2014 and the fourth quarter of 2019, total nonfarm employment in the San Jose MSA and Solano County grew respectively by 14.9% and 11.4%, outpacing Santa Cruz County's nonfarm employment growth rate of 10.0%. In terms of year-over-year employment growth, the San Jose MSA grew by 2.3% between the first quarter of 2018 and the first quarter of 2019, while Solano County total nonfarm had not changed. Santa Cruz County's year-over-year nonfarm employment increased by 1.1%. Solano County and Santa Cruz County's total nonfarm employment levels are relatively similar at 140,700 and 104,000 respectively, while the San Jose MSA, which includes Santa Clara and San Benito counties, has 1.14 million workers.

¹³ Metropolitan Statistical Area

TOTAL NONFARM EMPLOYMENT

Figure 3.2



Source: California Employment Development Department; Analysis by Beacon Economics

Santa Cruz County's top employing industries align with those of Solano County, with the Trade/Transport/Utilities sector, the Education/Health sector, and Government all filing to the top of both counties' largest industries in terms of employment. Compared to the San Jose MSA however, the industry mix of Santa Cruz County is significantly different. Professional/Business, Manufacturing, and Education/Health ranked among the top three of the largest employing industries of the San Jose MSA.

With regards to the fastest growing sectors, all three regions saw Natural Resources/Construction fall among the top three industries. Growth in Natural Resources/Construction employment was most significant in Santa Cruz County between the first quarter of 2014 and the first quarter of 2019 at a rate of 32.9%, a rate above that of the industry's growth in Solano County (29.6%) and the San Jose MSA (23.3%). The San Jose MSA's fastest growing industry on the other hand was Information

Services, with a growth rate of 60.7% between the first quarter of 2014 and the first quarter of 2019. The fastest growing industry in Solano County was Transport/Warehouse/Utilities, with a five-year growth rate of 43.9%, outpacing Santa Cruz County's growth in the industry (27.7%) over that same time period.

The three regions shared similarities with regard to their highest paying industries, with Finance & Insurance as well as Manufacturing appearing in the top three in all three geographies. The Manufacturing industry was Solano County's highest paying industry at \$90,780 which is higher than Santa Cruz County's average wage of \$68,180 for the sector. The San Jose MSA's highest paying industry was Information with an average wage of \$310,290, far above the average annual wage for the industry in Santa Cruz County (\$56,740).



INDUSTRY ANALYSIS & TARGET INDUSTRIES

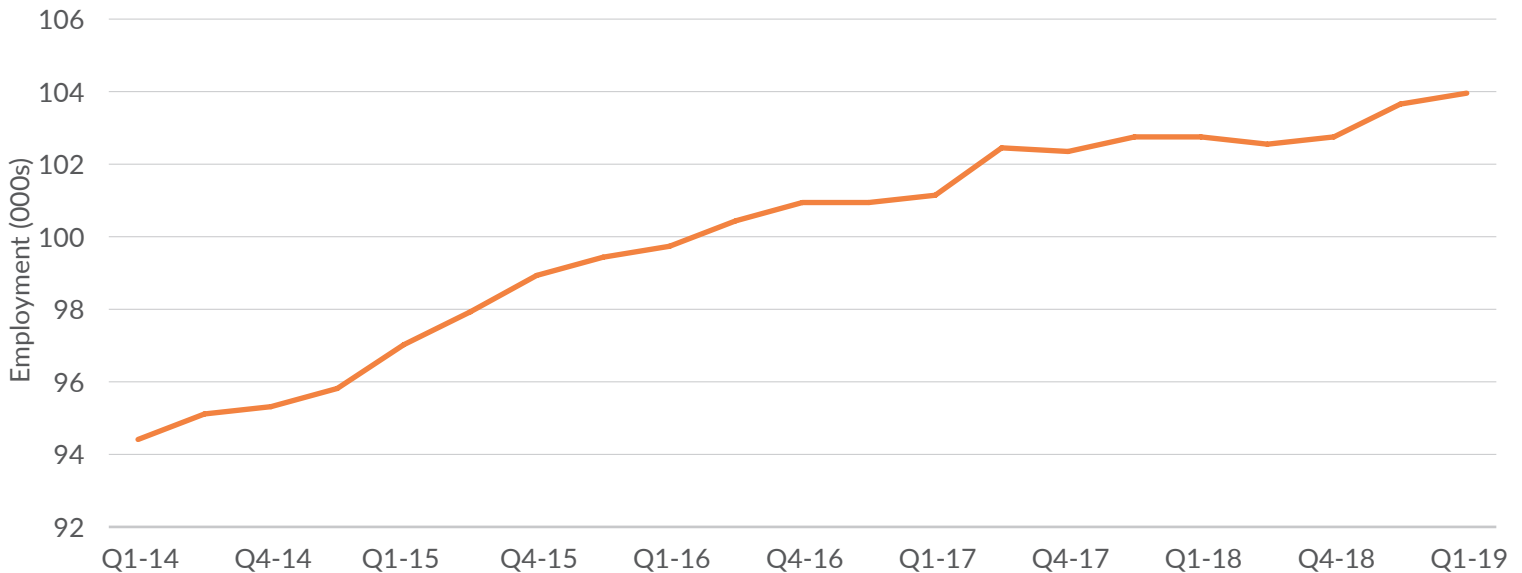
INDUSTRY ANALYSIS

The County of Santa Cruz has reached 103,900 workers as of the first quarter of 2019. With a year-over-year growth rate of 2.3%, the County saw about 1,200 new jobs added between the first quarter of 2018 and the first quarter of 2019. Over a five-year period, Santa Cruz County's total nonfarm employment grew by 10%, with more than 9,400 employees added to the workforce.

The County's unemployment rate reached 5.2% as of the first quarter of 2019, falling by more than 4 percentage points since 2014 and increasing by only 0.1 of a percentage point since 2018. The County's labor force growth has been lagged compared to labor force growth statewide and in neighboring regions; the County's five-year growth labor force growth rate was 1.7%, compared to California's five-year growth of 5.1%.

TOTAL NONFARM EMPLOYMENT, SANTA CRUZ COUNTY, Q1-2014 TO Q1-2019

Figure 4.1



Source: California Employment Development Department; Analysis by Beacon Economics

The County's self-employed figures have seen notable changes in the past few years. According to the latest data from the Census, the number of self-employed workers in Santa Cruz County has increased from 23,300 in 2011 to 25,080 in 2016 – an increase of 7.5%. The largest industry represented by self-employed workers is Professional/Business, which had over 7,000 workers as of 2016. Education/Health also had a large number of self-employed individuals, with more than 3,400 workers. The largest five-year increases in self-employed workers have come from Leisure & Hospitality (365 workers), Professional/Business (340 workers), and Other Services (220) workers.

INDUSTRY EMPLOYMENT AND LOCATION QUOTIENT

Table 4.1

Industry	Q1-2019 Employment	Location Quotient
Government	22,360	1.4
Other Services ¹⁴	5,350	1.3
Leisure and Hospitality	14,670	1.3
Education/Health	17,880	1.1
Trade/Transport/Utilities	17,040	0.9
Manufacturing	7,400	0.8
Natural Resources/Construction	4,540	0.8
Professional/Business	10,490	0.7
Financial Activities	3,540	0.6
Information	600	0.3

Source: California Employment Development Department, Bureau of Labor Services; Analysis by Beacon Economics

¹⁴ Other Services include repair and maintenance services, personal and laundry services, services from religious, grantmaking, civic, and professional organizations, and private household services such as services rendered by maids, cooks, and chauffeurs.



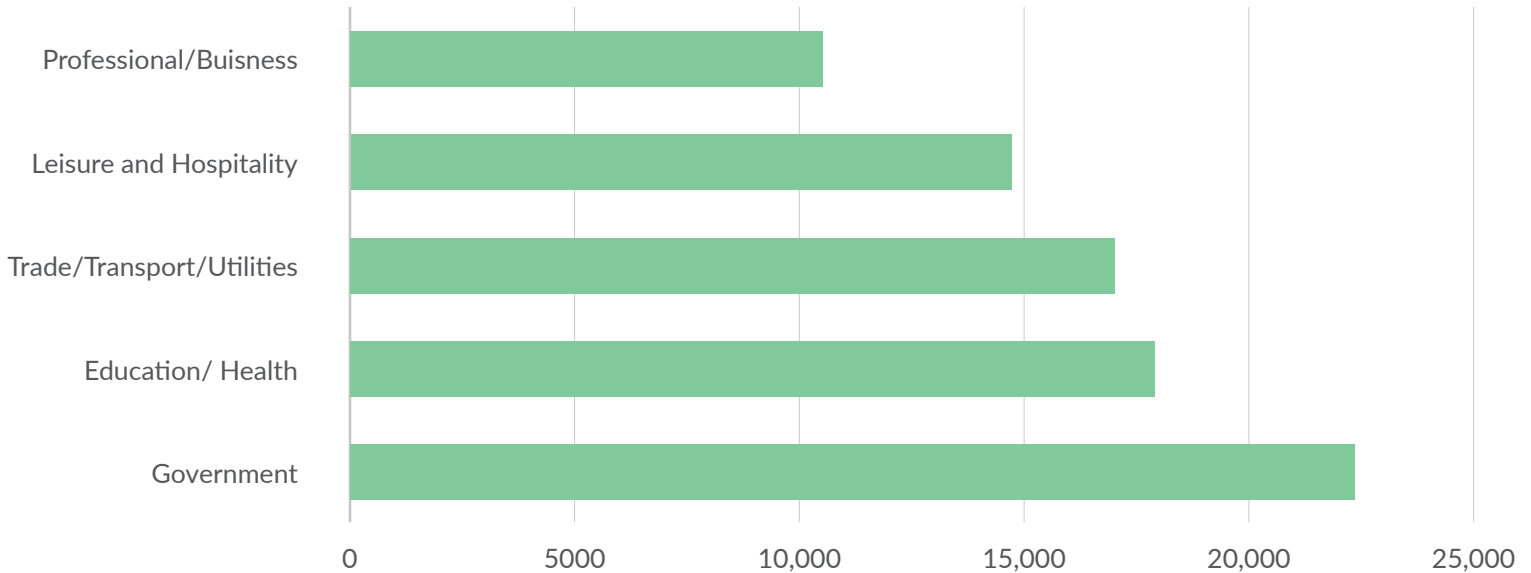
LARGEST EMPLOYING INDUSTRIES

With over 57,000 employees, the County's top three largest employers – Government, Education/Health, Trade/Transport/Utilities – accounted for more than 55% of total nonfarm workers in the first quarter of 2019. Despite the large number of workers in these three industries combined, they each individually over the past five years fell short of the countywide economic growth rate of 10.0%.

Government continues to top Santa Cruz County's industry employment, accounting for over one-fifth of total nonfarm employment at 22,400 employees. Between the first quarter of 2018 and the first quarter of 2019, Government employment in Santa Cruz County increased by 1.6%, adding over 350 workers. Between 2014 and 2019, Government employment has increased by 6.6%, with almost 1,400 jobs added – or 14.7% of the total nonfarm jobs added in Santa Cruz County over the five-year period.

LARGEST EMPLOYING INDUSTRIES, SANTA CRUZ COUNTY, Q1-2014 TO Q1-2019

Figure 4.2



Source: California Employment Development Department; Analysis by Beacon Economics

Education & Health Services is the second largest employer in the region, with 17,900 workers. Year-over-year and five-year growth rates for Education & Health have been 0.8% and 6.8% respectively, with over 1,130 employees added to the sector between the first quarter of 2014 and the first quarter of 2019. Self-employed individuals in the Education/Health sector have also seen an uptick over the same five-year period, with the number of self-employed individuals in the sector growing to 3,440 in 2016 according to the Census and reflecting a growth rate of 4.0%.

The third largest employing industry in Santa Cruz County is Trade/Transport/Utilities – with roughly 17,000 workers. The industry, which includes a roll up of Trade sectors (Wholesale and Retail), Transportation/Warehouse, and Utilities, has grown by 3.5% between the first quarter of 2014 and the first quarter of 2019.

While not in the top five employing industries, farm employment still has a significant presence in the County's overall total employment, accounting for roughly 5.8% of total workers in Santa Cruz County with 7,900 employees. However, the industry has been on the decline with a 7.2% drop in employment between the first quarter of 2014 and the first quarter of 2019. And, this has been a consistent trend, as the County saw a contraction of 1.9% in the sector in year-over-year terms from 2018 to 2019. Nonetheless, Farm remains a dominant industry share in Santa Cruz County when compared to the national average – with a location quotient of 2.9, this means that the share of farm employment to total employment is three times more present in Santa Cruz County compared to the nation.

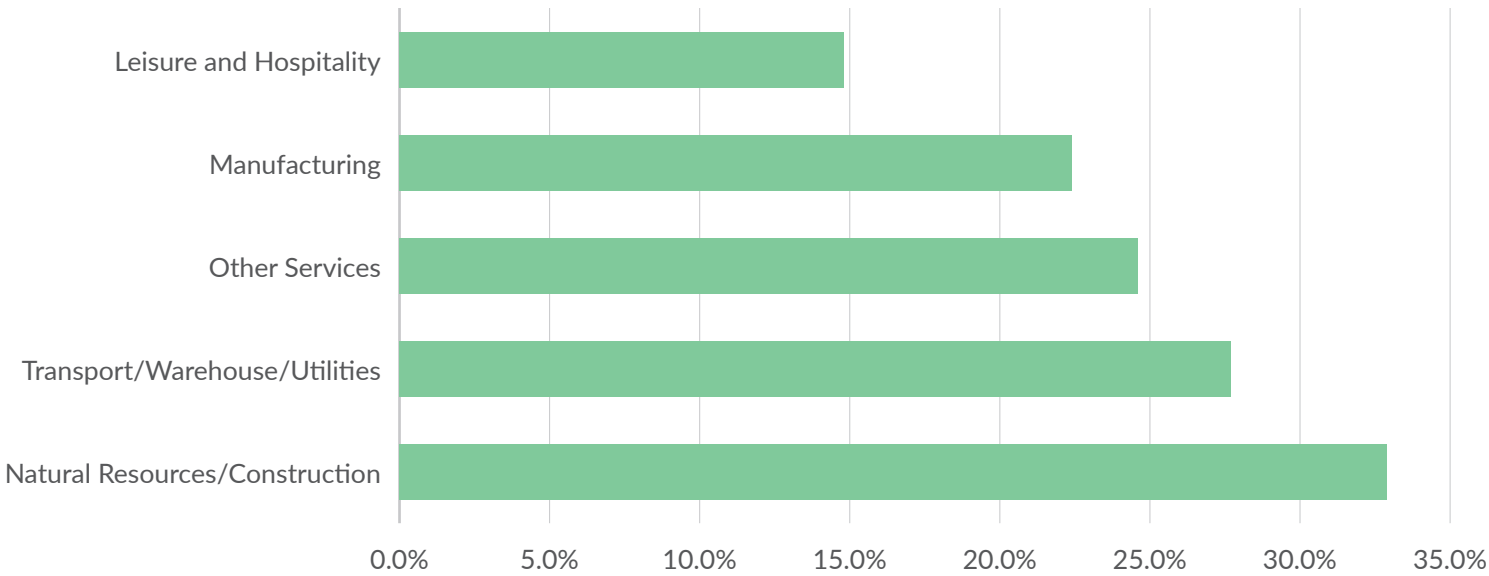


FASTEST GROWING INDUSTRIES

Natural Resources/Construction, Transport/Warehouse/Utilities, and Other Services topped the fastest growing industry list for the County of Santa Cruz. Cumulatively, the three industries represented a total of 11,600 employees by the first quarter of 2019, a collective increase of 29.1% since the first quarter of 2014 – or roughly 2,600 workers added.

FASTEST GROWING INDUSTRIES, COUNTY OF SANTA CRUZ, 5-YEAR % GROWTH, 1-2014 TO Q1-2019

Figure 4.3



Source: California Employment Development Department; Analysis by Beacon Economics

Natural Resources/Construction was the fastest growing industry over the past five years, expanding by 32.9% to a total of 4,500 workers between the first quarter of 2014 and the first quarter of 2019. The sector which tends to be cyclical has slowed down recently, with a year-over-year growth rate of 0.5% between the first quarter of 2018 and the first quarter of 2019.

With a five-year growth rate of 27.7% to reach a total of 1,700 workers in the sector as of the first quarter of 2019, Transport/Warehouse/Utilities (subsector of Trade/Transport/Utilities – excluding Trade sectors), was the second fastest growing industry in the County. A subsector of Trade/Transport/Utilities, Transport/Warehouse/Utilities

fared much better than the overall umbrella industry which had a much slower growth rate of 3.5% over the same five year period, slower even than the County economy’s average growth rate.

Other Services and Manufacturing both reflected strong growth trends over the last five years, with a percentage increase of 24.6% and 22.4% respectively. Consisting of subsectors such as personal and household care services, Other Services reached 5,300 workers by the first quarter of 2019, boosted by a year-over-year growth rate of 5.3%. The Manufacturing sector in Santa Cruz County employs 7,400 workers and its demonstrably positive growth rate stands in contrast to the slower growth rates of the sector at the state and nation levels.



HIGHEST PAYING INDUSTRIES

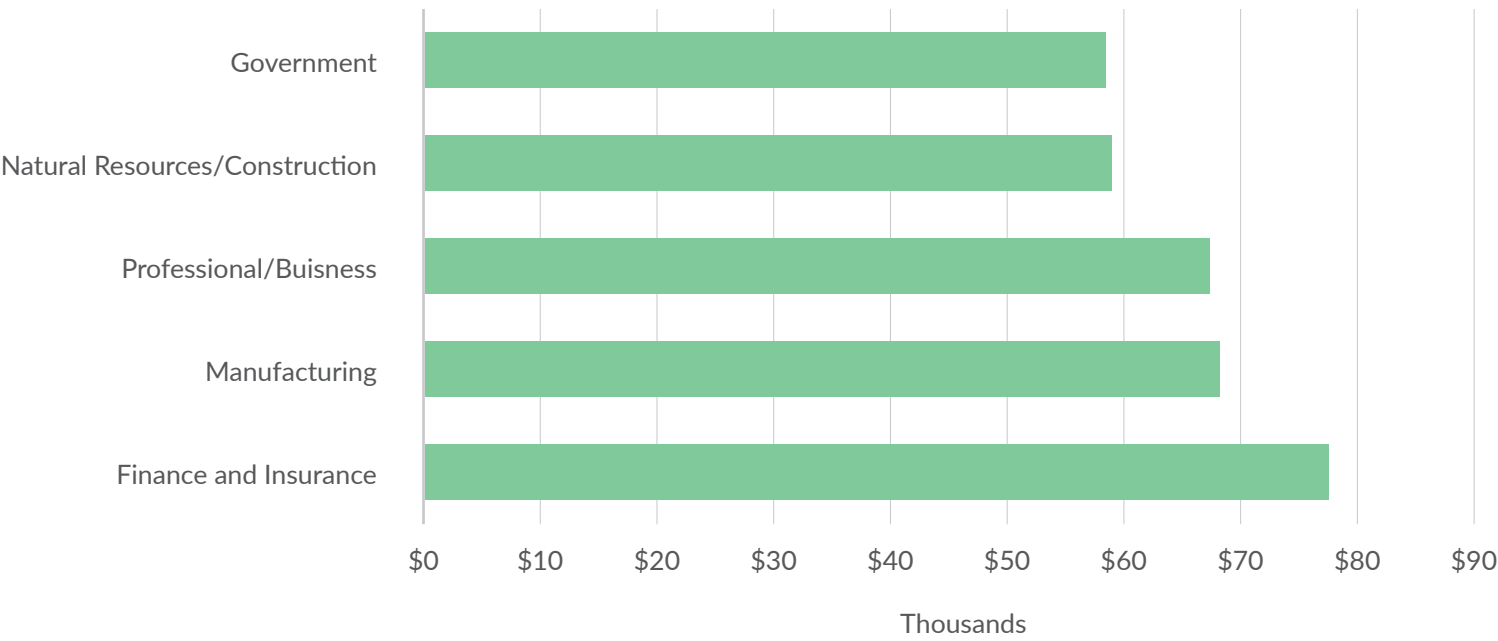
Annual average wages in Santa Cruz County reached \$50,850 in the third quarter of 2018, expanding by 3.6% from the third quarter of 2017 and 12.9% from the third quarter of 2013.¹⁵ The highest paying industries in the County of Santa Cruz are Finance & Insurance, Manufacturing, and Professional/Business sectors.

With roughly 2,000 employees, Finance & Insurance is the highest paying industry in Santa Cruz County, paying an average annual wage of \$77,560. Wages in Finance & Insurance have gone up by 21.3% between the third quarter of 2013 and third quarter of 2018 – slightly lower wage growth than that of California (23.3%), but faster than that of the U.S. overall (15.9%). Employment in the industry has grown at a slower pace however – with only a 0.2% increase in Finance & Insurance workers between the first quarter of 2014 and the first quarter of 2019.

¹⁵ Please note that the percentage point increase refers to nominal wages. In real terms, annual average wage growth between the third quarter of 2013 and the third quarter of 2018 equates to 4.7%.

HIGHEST PAYING INDUSTRIES, COUNTY OF SANTA CRUZ, Q3-2018

Figure 4.4



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Analysis by Beacon Economics

Manufacturing is the second highest paying industry in Santa Cruz County as of the third quarter of 2018, with an average annual wage of \$68,180. However, this annual average is the result of an 8.9% drop in the sector’s average wages from the third quarter of 2013 to the third quarter of 2018. Wages in Manufacturing in Santa Cruz County have not reflected the same positive trends as those at play in the state and nation where Manufacturing wages went up by 18.4% and 11.0% respectively. Conversely, Manufacturing employment in the County has seen a surge. Between the first quarter of 2014 and the first

quarter of 2019, employment has gone up by 22.6% - outpacing both the State and the nation by far (4.8% and 6.0% respectively).

With an average annual wage of \$67,310, Professional/Business was the third highest paying industry as of the third quarter of 2018. Like Manufacturing, the Professional/Business industry saw a 9.0% decline in average annual wages from the third quarter of 2013, in contrast with positive wage growth trends statewide and at the national level.



TARGET INDUSTRIES

LARGEST EMPLOYER BY HIGHEST PAYING

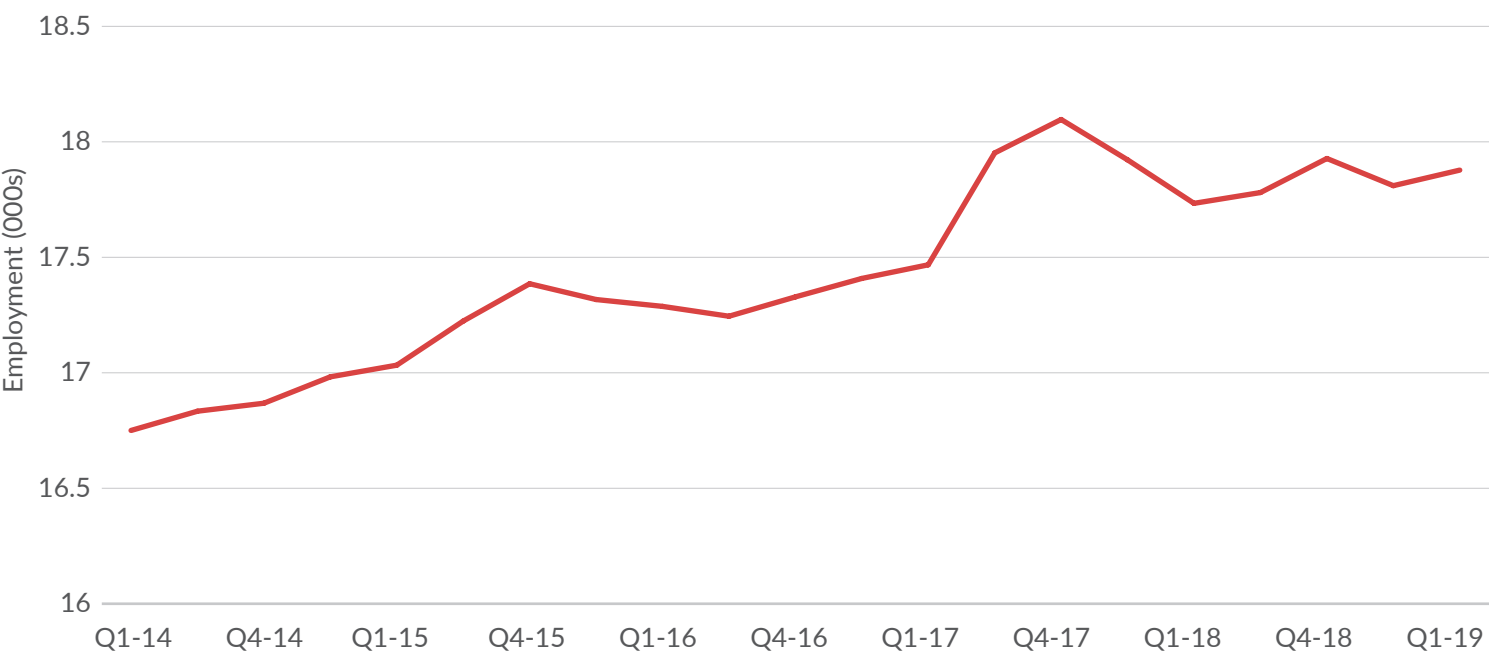
As aforementioned, the Education/Health industry with almost 18,000 workers represented the second largest employer in Santa Cruz County and the County's largest private employer. The sector's large employment footprint, coupled with its relatively high wages as the highest paying industry of the County's top three largest employers, made Education/Health an intuitive choice for a target industry with regard to this analysis.

The annual average wage for the Education/Health industry in Santa Cruz County was \$53,630 as of the third quarter of 2018, higher than California's average annual wage for the industry (\$51,550) and the nation's (\$50,110). Furthermore, wage growth has been strong in Education/Health in the County of Santa Cruz, growing by almost 21% between the third quarter of 2018 and the third quarter of 2019.

With a location quotient of 1.1 – Education/Health has a slightly larger presence in the Santa Cruz County economy as a share of total employment compared to the ratio at the national level. The Education/Health industry is comprised of generally high employment subsectors with steady growth trends that track demographics by and large; therefore, it's no surprise to see the share of workers in Education/Health in Santa Cruz County align with the average share nationally.

EDUCATION/HEALTH, COUNTY OF SANTA CRUZ, EMPLOYMENT

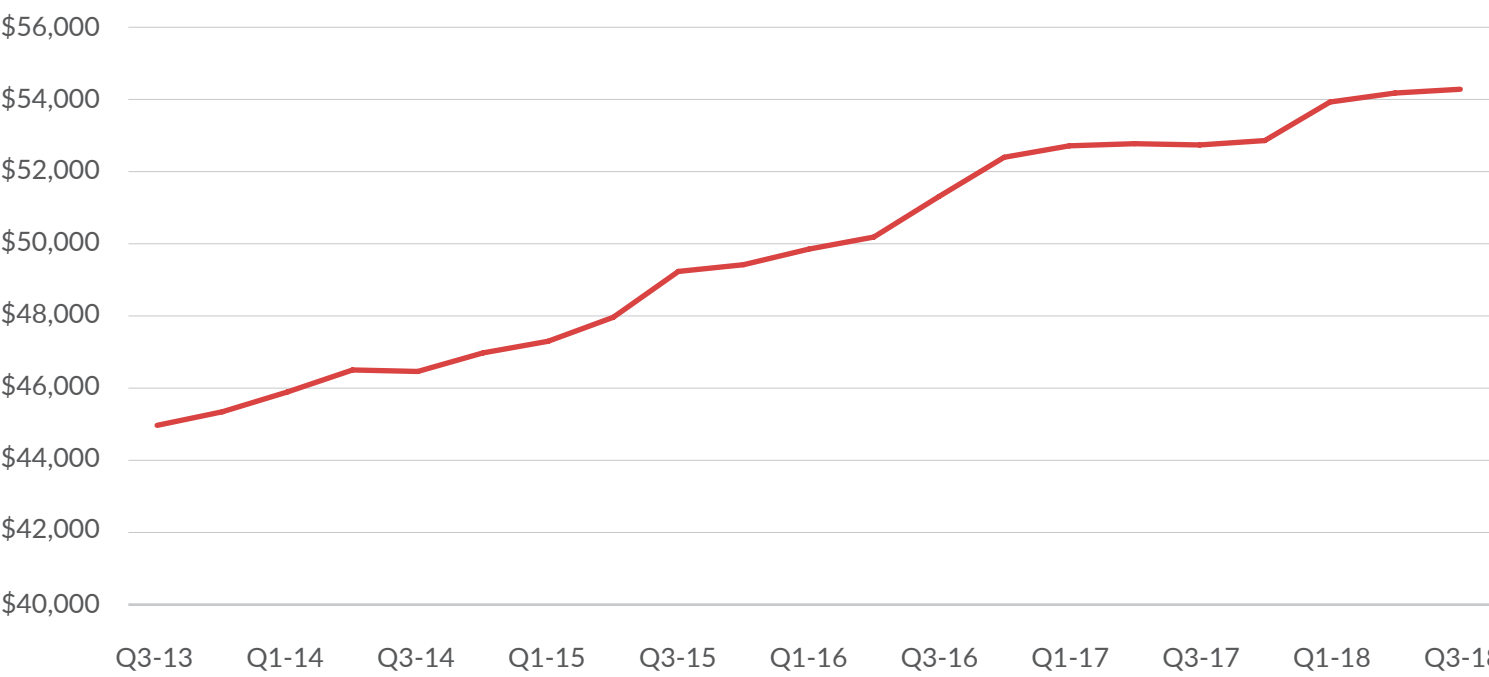
Figure 4.5



Source: California Employment Development Department; Analysis by Beacon Economics

EDUCATION/HEALTH, COUNTY OF SANTA CRUZ, ANNUAL AVERAGE WAGE

Figure 4.6

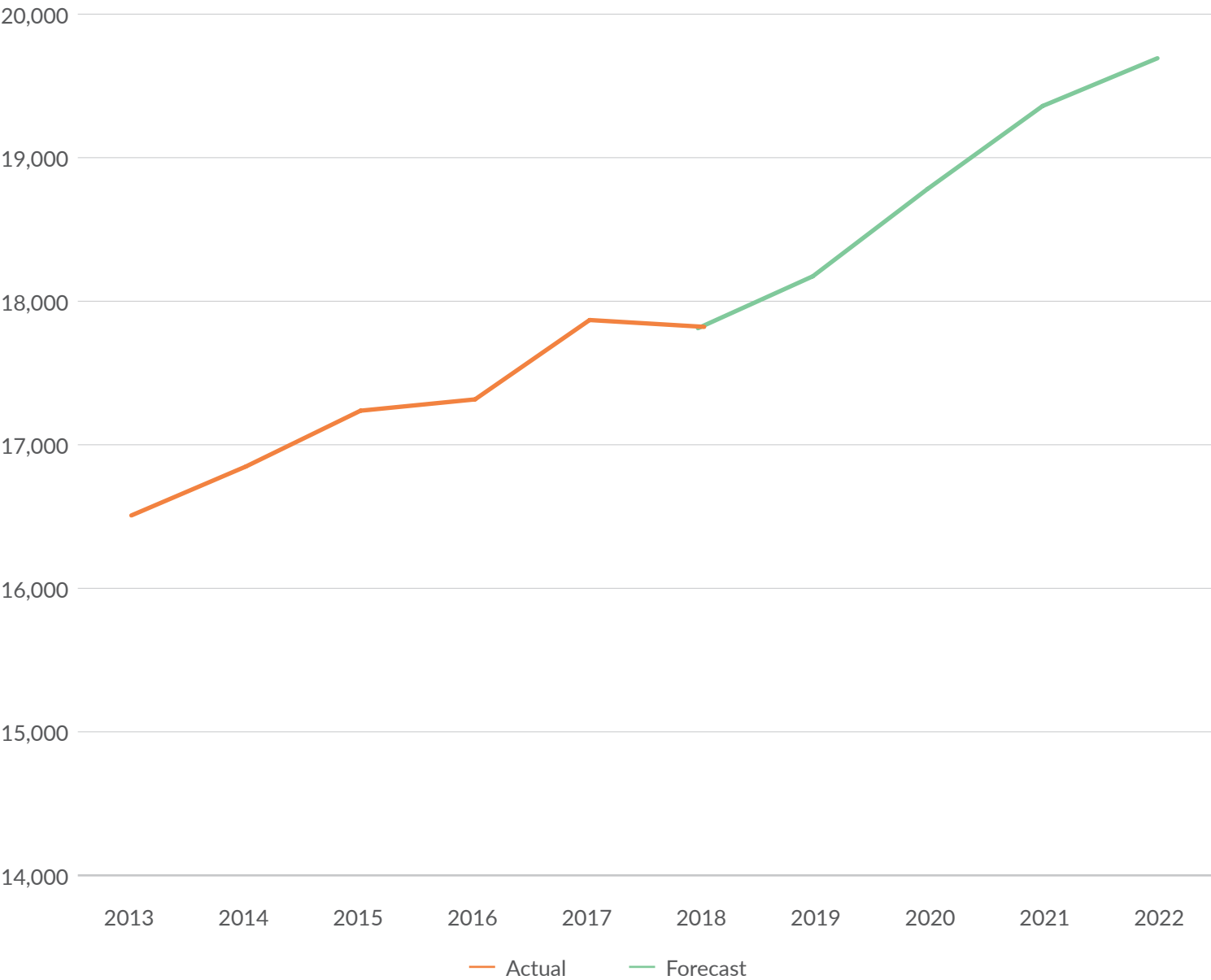


Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Analysis by Beacon Economics

Education/Health is expected to continue growing at a fast rate in alignment with recent trends in the sector’s employment. By 2022, the industry is expected to reach roughly 24,300 workers in Santa Cruz County, growing by 9.9% between 2019 and 2022. This would make Education/Health the fastest growing industry in the County over the next few years. The growth of the sector in Santa Cruz County is expected to slightly outpace the industry’s growth in California between 2019 and 2022, with the statewide employment growth rate expected to be around 8% for Education/Health.

EDUCATION/HEALTH, COUNTY OF SANTA CRUZ, EMPLOYMENT FORECAST, 2013 TO 2022

Figure 4.7



Source: California Employment Development Department; Analysis by Beacon Economics

FASTEST GROWING BY HIGHEST PAYING

Trade/Transport/Utilities has been a stronghold of employment in the County of Santa Cruz, employing roughly 17,000 workers and accounting for 16.4% of the County's total nonfarm employment. Transport/Warehouse/Utilities, a subsector of the Trade/Transport/Utilities umbrella industry, has emerged as one of the fastest growing industries in the Santa Cruz County economy.

With a growth rate of 27.7%, Transport/Warehouse/Utilities has grown by almost 400 workers between the first quarter of 2014 and the first quarter of 2019 to reach a total of 1,700 workers in the County.

Because Transport/Warehouse/Utilities workers represent a relatively small share of total employment in the County, data suppression exists with regard to the subsector's historical wage data. Nonetheless, the latest data available show that the average annual wage for the Transport/Warehouse/Utilities subsector was \$54,680 as of the third quarter of 2018. The inclusion of the Utilities subsector in the Transport/Warehouse/Utilities roll up has a demonstrable impact on the average wage.

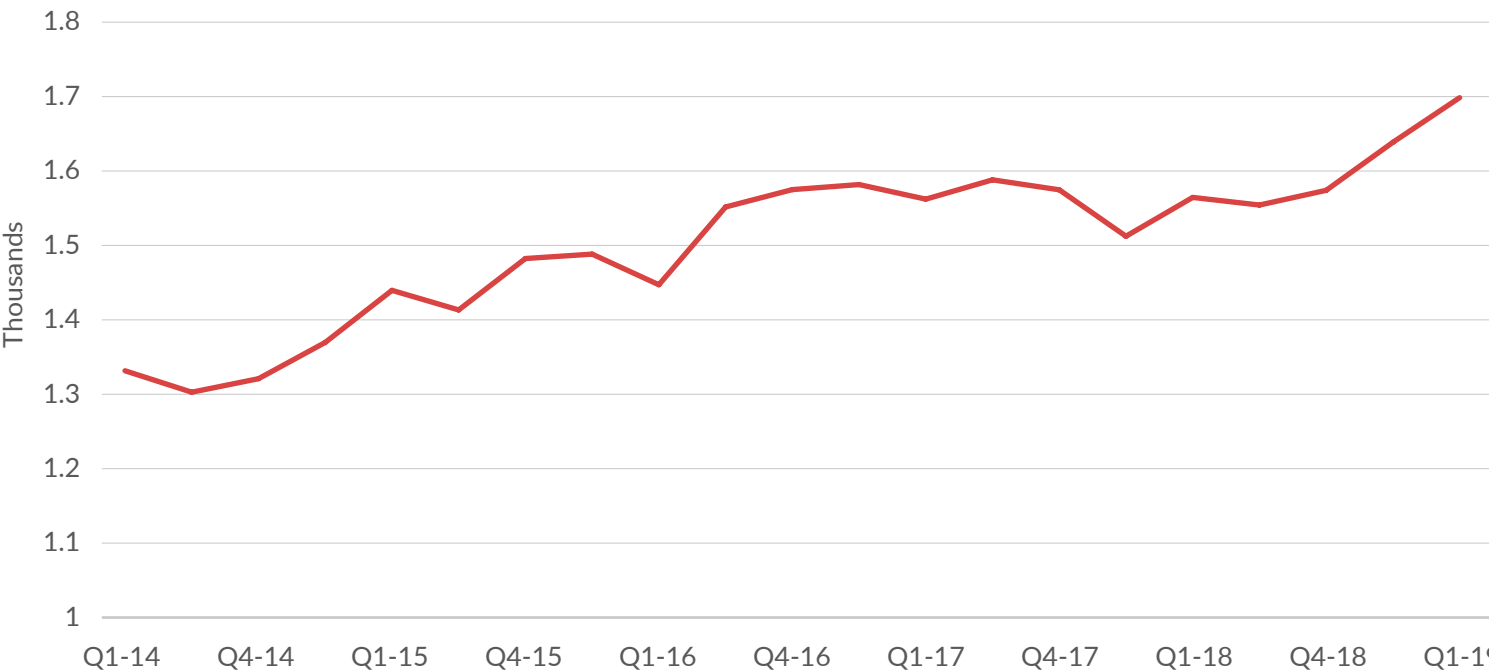


Transport/Warehousing as its own independent subsector has an average annual wage of just over \$45,000, while Utilities has an annual average wage of roughly \$124,000.

Transport/Warehouse/Utilities is projected to continue growing at a strong pace, with a projected growth rate of 6.0% between 2019 and 2022 in Santa Cruz County, outpacing the 5.2% projected growth rate for the County's economy overall during that same time period. Compared to the projected growth for the statewide industry, the County is expected to fall short, as Beacon expects California's Transport/Warehouse/Utilities sector to grow at around 12.1% between 2019 and 2022.

TRANSPORT/WAREHOUSE/UTILITIES, COUNTY OF SANTA CRUZ, EMPLOYMENT

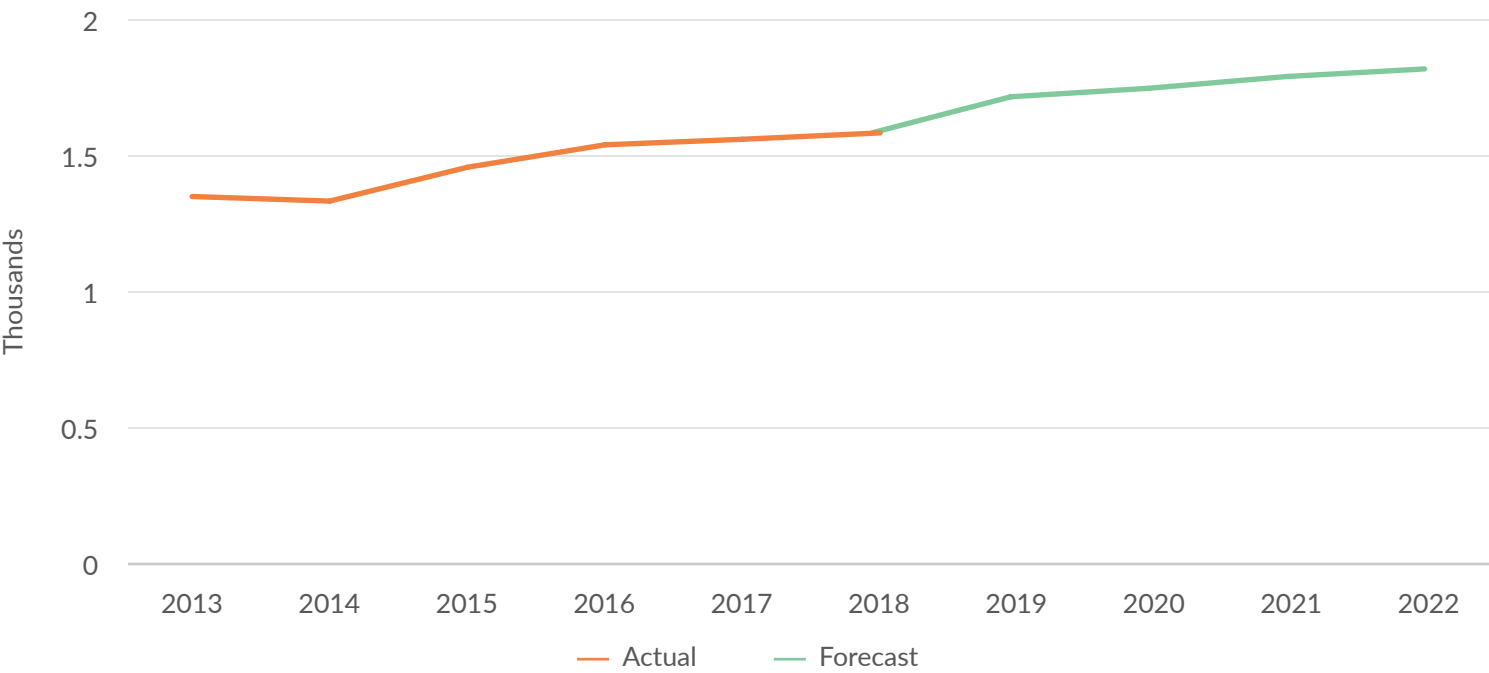
Figure 4.8



Source: California Employment Development Department; Analysis by Beacon Economics

TRANSPORT/WAREHOUSE/UTILITIES, COUNTY OF SANTA CRUZ, EMPLOYMENT FORECAST

Figure 4.9



Source: California Employment Development Department; Analysis by Beacon Economics



HIGHEST PAYING BY LARGEST EMPLOYING

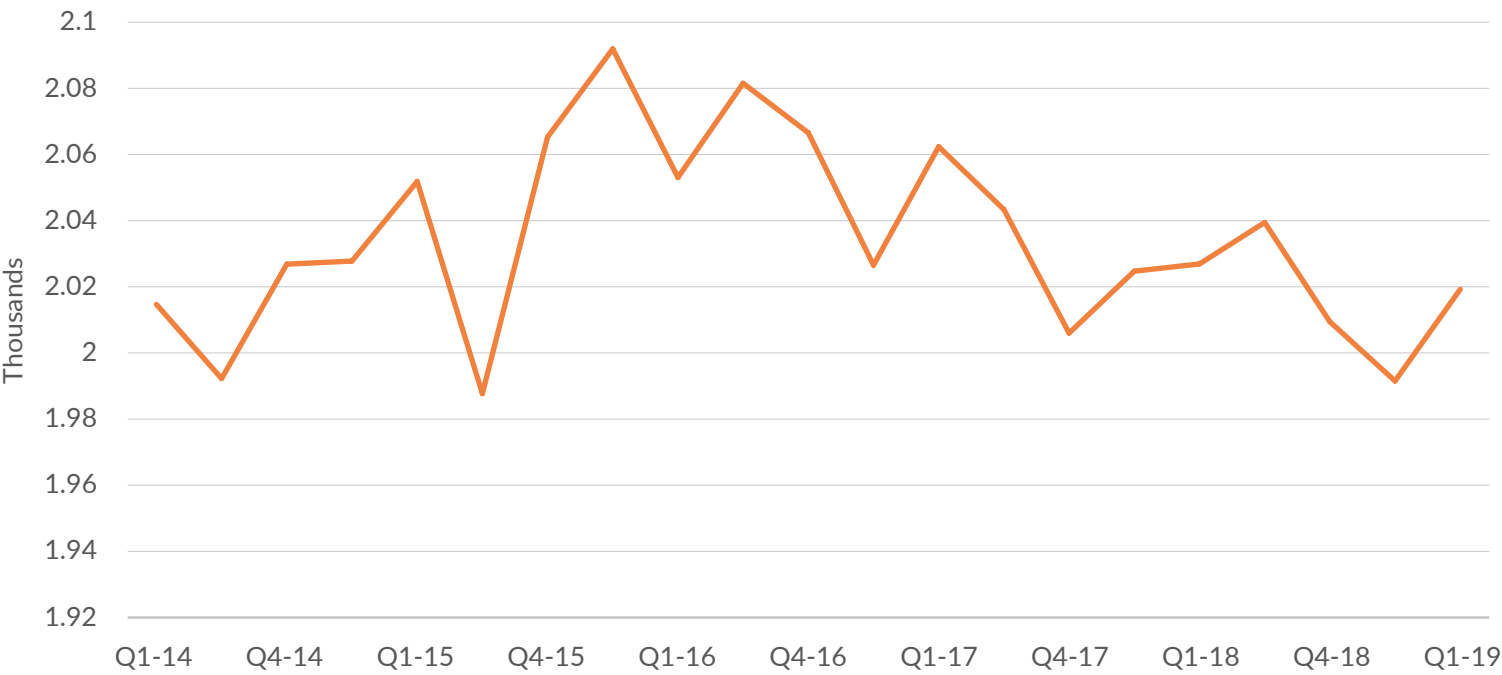
Employment for the Finance & Insurance sector reached roughly 2,000 workers in the first quarter of 2019, with no significant change over the last five years – a negligible 0.3% growth since the first quarter of 2014. However, the industry is the highest paying sector in the region with an annual average wage of \$77,560. Compared to the average wages for Finance & Insurance at the state and national levels, the County’s local industry pays less.

The U.S. annual average wage for Finance & Insurance was \$90,800 as of the third quarter of 2018, while California’s average wage for the industry was \$112,120. Yet, wages in Finance & Insurance have gone up in Santa Cruz County by 21.3% between the third quarter of 2013 and the third quarter of 2018, outpacing the nationwide wage growth of 15.9% for the industry but falling short of California’s wage growth for the industry at 23.3%.

The share of employees in Finance & Insurance relative to total employment falls much lower than the national average – as indicated by the County’s location quotient of 0.5 for the sector. This means that share of total County employment represented by the County’s Finance & Insurance employees is about half of the nationwide share for the sector when compared to the national total employment figure.

FINANCE AND INSURANCE, COUNTY OF SANTA CRUZ, EMPLOYMENT

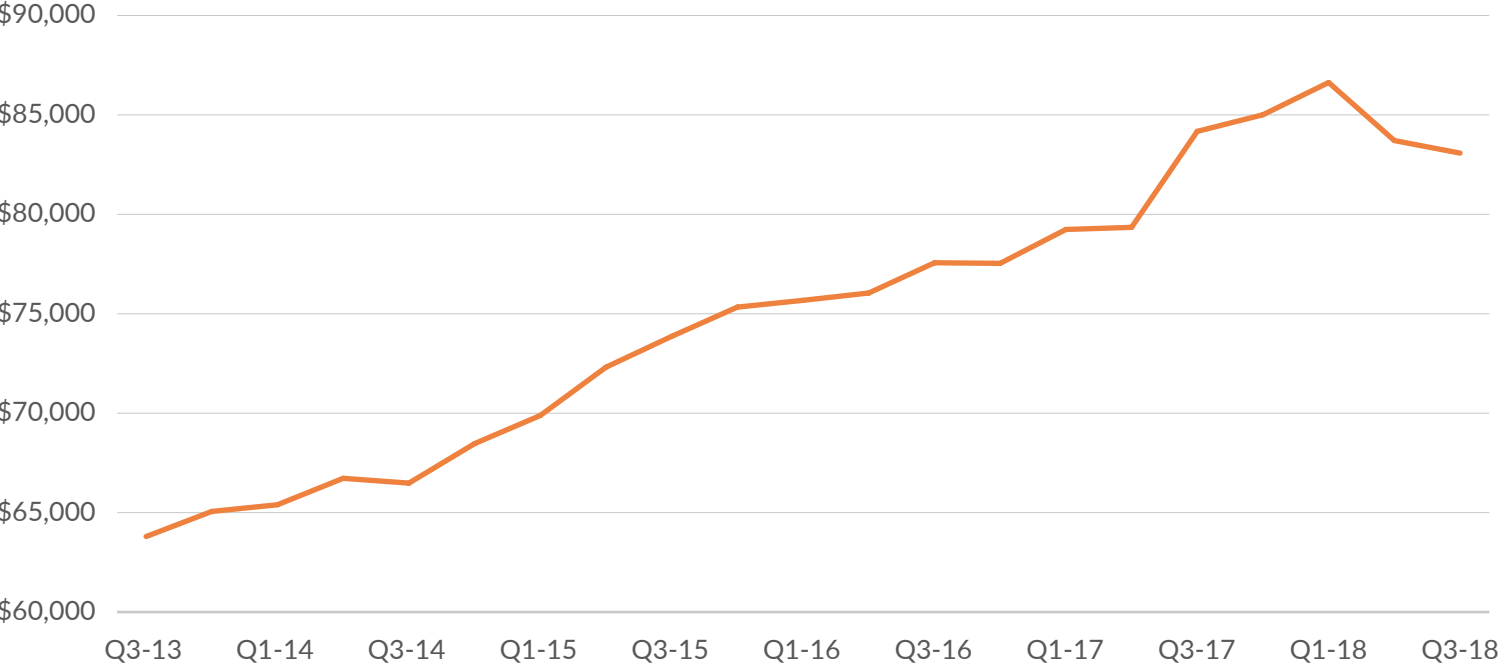
Figure 4.10



Source: California Employment Development Department; Analysis by Beacon Economics

FINANCE AND INSURANCE, COUNTY OF SANTA CRUZ, ANNUAL AVERAGE WAGE

Figure 4.11

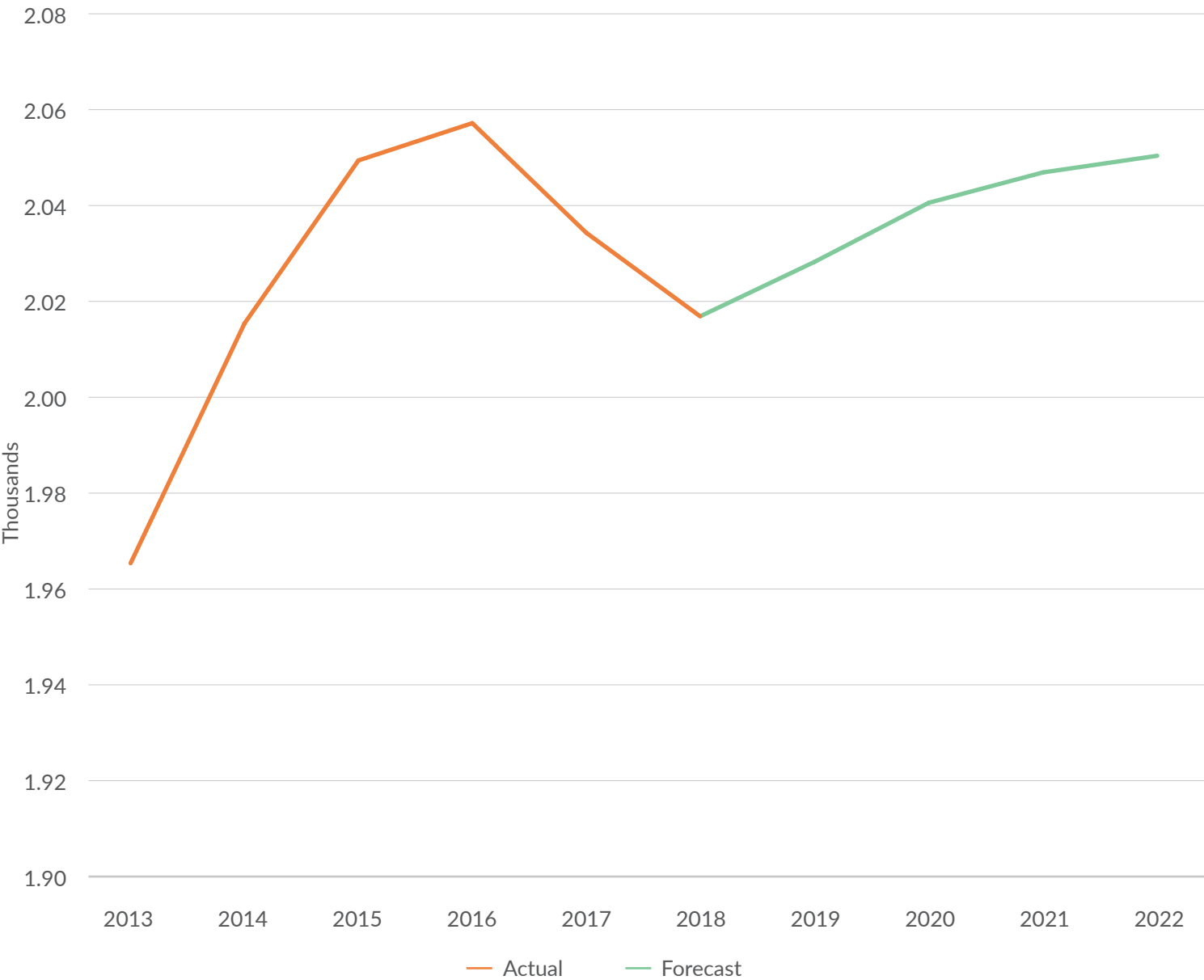


Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Analysis by Beacon Economics

Based on trends in the Finance & Insurance market as well as broader economic statewide drivers, Beacon Economics expects employment in Finance & Insurance to pick up over the next three years in the County of Santa Cruz and reach almost 2,050 employees – with a projected growth rate of 1.6% between 2019 and 2022. This pace of growth for the sector at the County level is expected to outstrip the growth of California’s Finance & Insurance sector, which is projected to expand at a rate of 0.5% between 2019 and 2022.

FINANCE AND INSURANCE, COUNTY OF SANTA CRUZ, EMPLOYMENT FORECAST, 2013 TO 2022

Figure 4.7



Source: California Employment Development Department; Analysis by Beacon Economics



SPOTLIGHT: MANUFACTURING

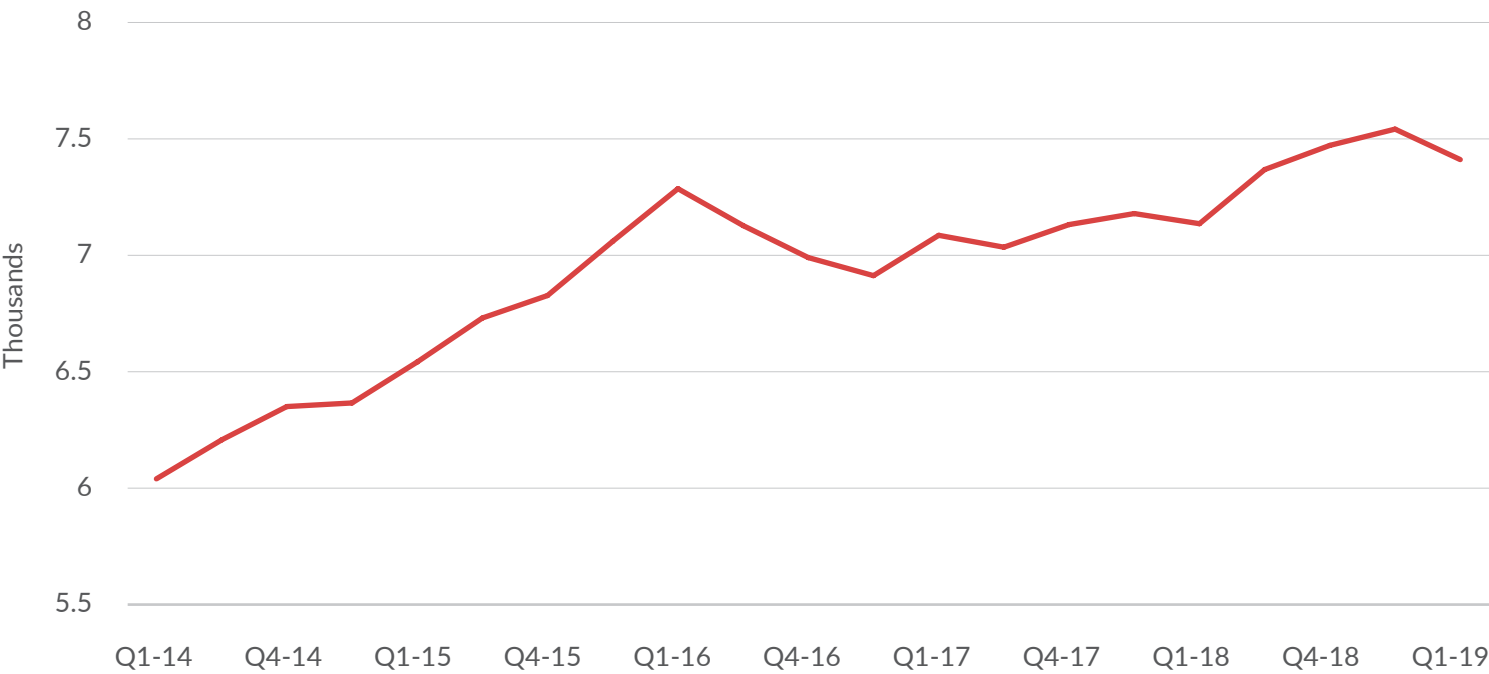
Between the first quarter of 2014 and the first quarter of 2019, Manufacturing has had a significant increase in employment with a five-year growth rate of 22.6%. With the number of workers in Manufacturing reaching 7,400 as of the first quarter of 2019 and with an annual average wage in the industry of \$68,180, Manufacturing has become one of the fast growing and highest paying industries in the County of Santa Cruz and a sector the County should continue to monitor.

Compared to California and the nation, Santa Cruz County has a unique record of growth for the Manufacturing sector. Statewide, Manufacturing has grown by 4.8% between the first quarter of 2014 and the first quarter of 2019, while the national sector grew by 6.0%, meaning the County of Santa Cruz eclipsed both rates of growth in terms of employment. Nonetheless, the location quotient for Manufacturing in Santa Cruz County

relative to the nation is 0.8; that means that the industry's share of the County's total employment falls slightly behind that of the industry's share of the U.S. economy overall. The location quotient has shifted up slightly over the past five years – ticking up from 0.7 to 0.8 as Manufacturing increased as a share of total County employment relative to the national average.

MANUFACTURING, COUNTY OF SANTA CRUZ, EMPLOYMENT

Figure 4.13



Source: California Employment Development Department; Analysis by Beacon Economics

MANUFACTURING, COUNTY OF SANTA CRUZ, ANNUAL AVERAGE WAGE

Figure 4.14

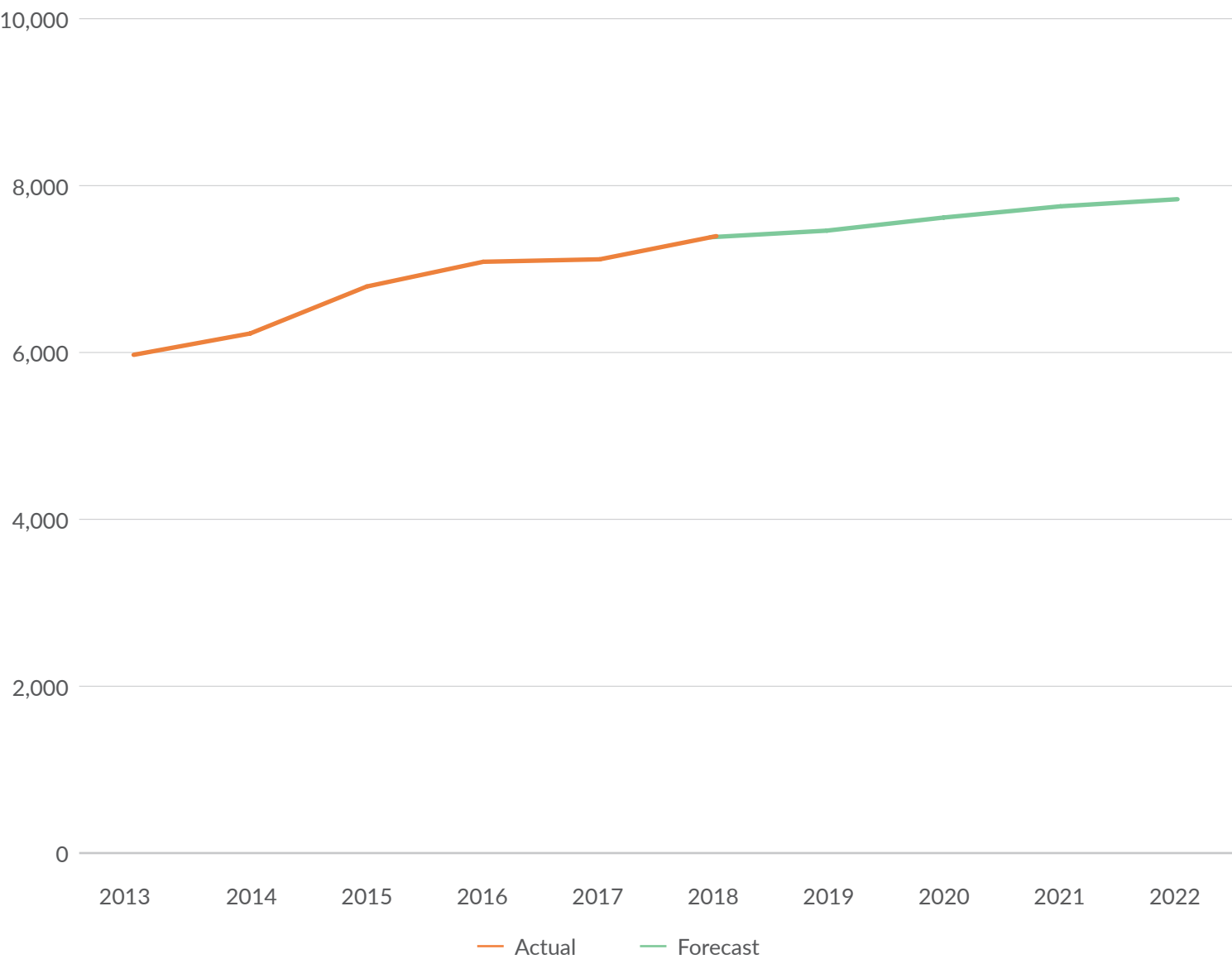


Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Analysis by Beacon Economics

Manufacturing is projected to add roughly 400 jobs to the County economy between 2019 and 2022 with a forecasted growth rate of 5.3%. The industry was one of the fastest growing sectors between 2014 and 2019, and that trend is not expected to slow down in the near future, as Manufacturing is projected to be the fourth fastest growing industry in the County by 2022. The three-year projected growth rate for the industry is expected to mirror the County’s total nonfarm employment growth rate of 5.2%. Comparatively, Manufacturing in California is expected to grow at a much slower pace, with the state’s three-year projected growth rate for the industry estimated to be 0.2% by 2022.

MANUFACTURING, COUNTY OF SANTA CRUZ, EMPLOYMENT FORECAST, 2013 TO 2022

Figure 4.15



Source: California Employment Development Department; Analysis by Beacon Economics





OCCUPATION ANALYSIS

OCCUPATION OVERVIEW (ALL INDUSTRIES)

EMPLOYMENT BY OCCUPATION

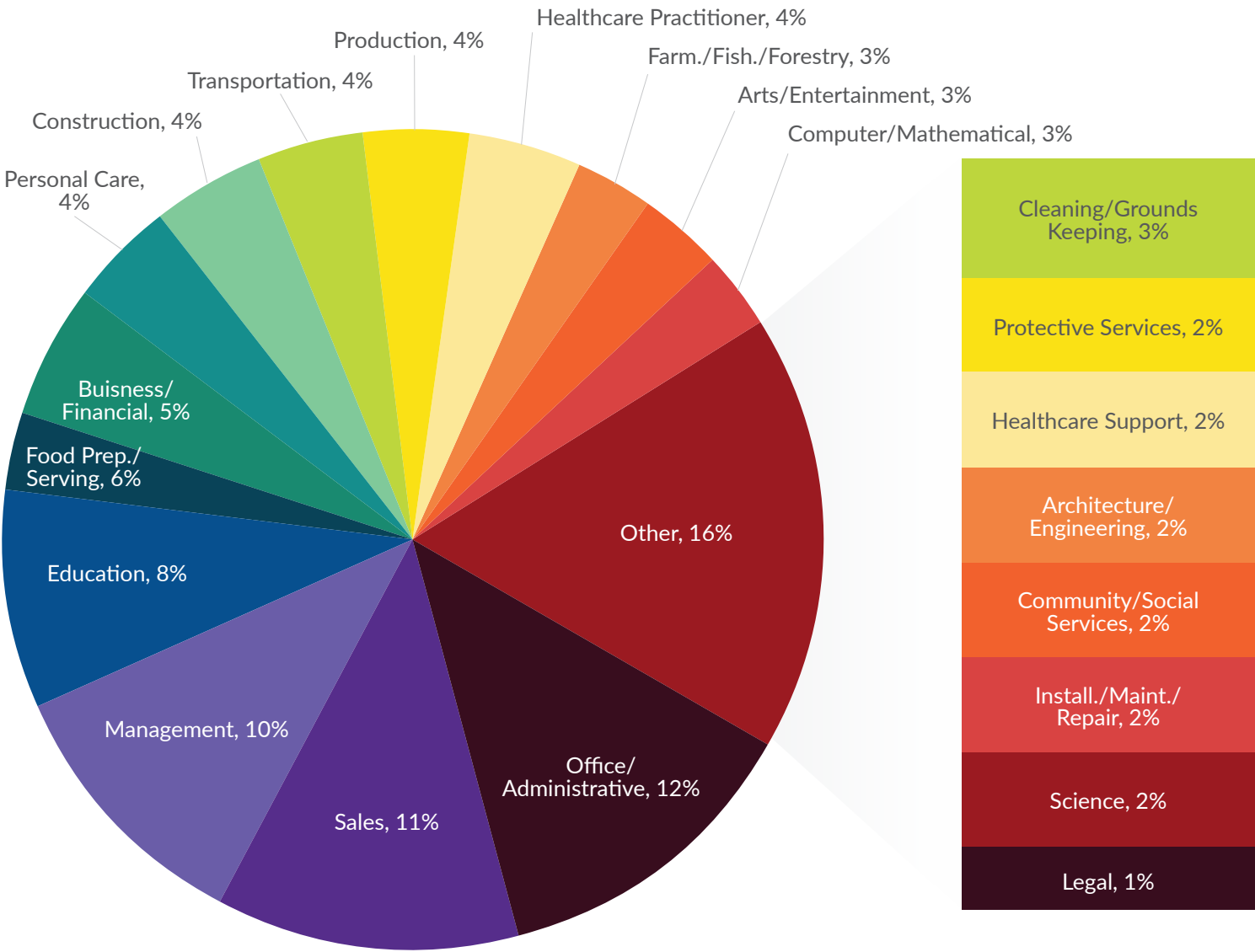
The overall occupational profiles of Santa Cruz County's resident population and workforce population are similar with some notable differences. For the resident population, employment grew 5% between 2012 and 2017; however, for the workforce population, employment decreased 1% during the same period. The County's resident population is growing, and so is employment among the resident population, yet its workforce growth is lagging behind, suggesting that more residents are being employed outside of the County.

LARGEST EMPLOYING OCCUPATIONS

The five largest occupations are the same for both the County's resident population and its workforce population: (1) Office and Administrative Support, (2) Sales, (3) Management, (4) Education, Training, and Library, and (5) Food Preparation and Serving. Out of the twenty-two broad occupations, the top five occupations make up about half of employment for both resident and workforce populations.

RESIDENT EMPLOYMENT BY OCCUPATION, AGES 16 AND OLDER, SANTA CRUZ COUNTY, 2017

Figure 5.1



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

RESIDENT POPULATION

For employed residents, compared to five years ago, there have been few changes with regard to the composition of the largest employing occupations. There was a notable increase in residents employed in the Office and Administrative Support occupation, and it went from being the third largest occupation in 2012 to the largest in 2017.

TOP FIVE LARGEST EMPLOYING OCCUPATIONS, RESIDENT POPULATION, 2012 AND 2017

Table 5.1

Rank	2012	2017
1	Sales (13.5%)	Office and Administrative Support (12%)
2	Management (11.1%)	Sales (10.7%)
3	Office and Administrative Support (10.3%)	Management (10.3%)
4	Food Preparation and Serving (8%)	Education, Training, and Library (8.2%)
5	Education, Training, and Library (6.6%)	Food Preparation and Serving (6%)

Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

WORKFORCE POPULATION

Compared to five years ago and with regard to the County's workforce population, there have been few changes in the composition of the largest employing occupations. A notable exception is Farming/Fishing/Forestry which was previously a top five occupation in 2012, but the sector's subsequent decline in employment pushed it out of the County's top five by 2017.

Compared to California, the location quotients (the share of employment of an occupation with respect to total employment) in Santa Cruz County are similar for Office and Administrative Support and Sales occupations and higher for Management, Education, and Food Preparation and Serving occupations.

TOP FIVE LARGEST EMPLOYING OCCUPATIONS, WORKFORCE POPULATION, 2012 AND 2017

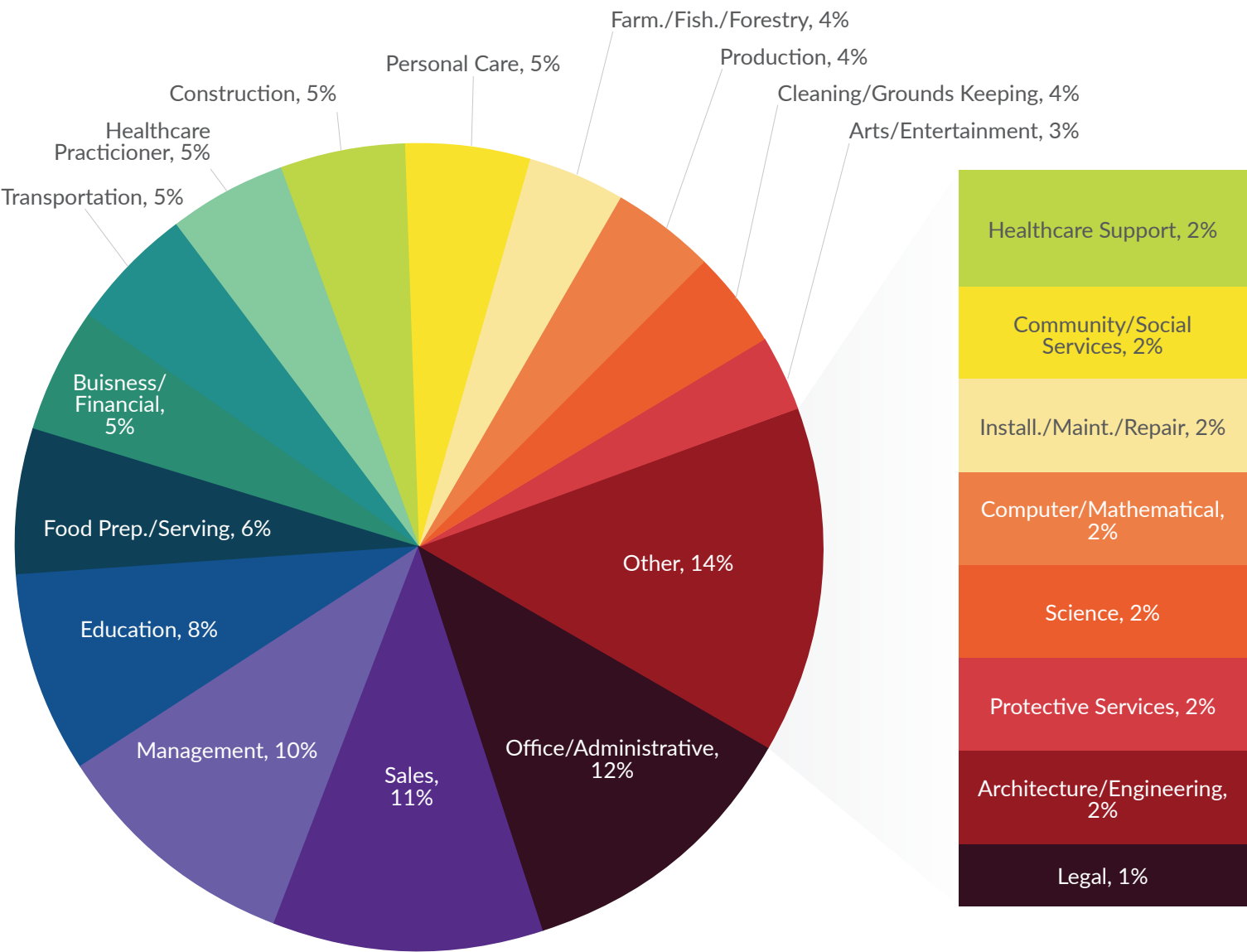
Table 5.1

Rank	2012	2017
1	Sales (12.4%)	Office and Administrative Support (11.6%)
2	Office and Administrative Support (10.7%)	Sales (11.4%)
3	Management (10.3%)	Management (9.7%)
4	Food Preparation and Serving (8.8%)	Education, Training, and Library (7.9%)
5	Farming, Fishing, and Forestry (7.7%)	Food Preparation and Serving (5.9%)

Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

WORKFORCE EMPLOYMENT BY OCCUPATION, AGES 16 AND OLDER, SANTA CRUZ COUNTY, 2017

Figure 5.2



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

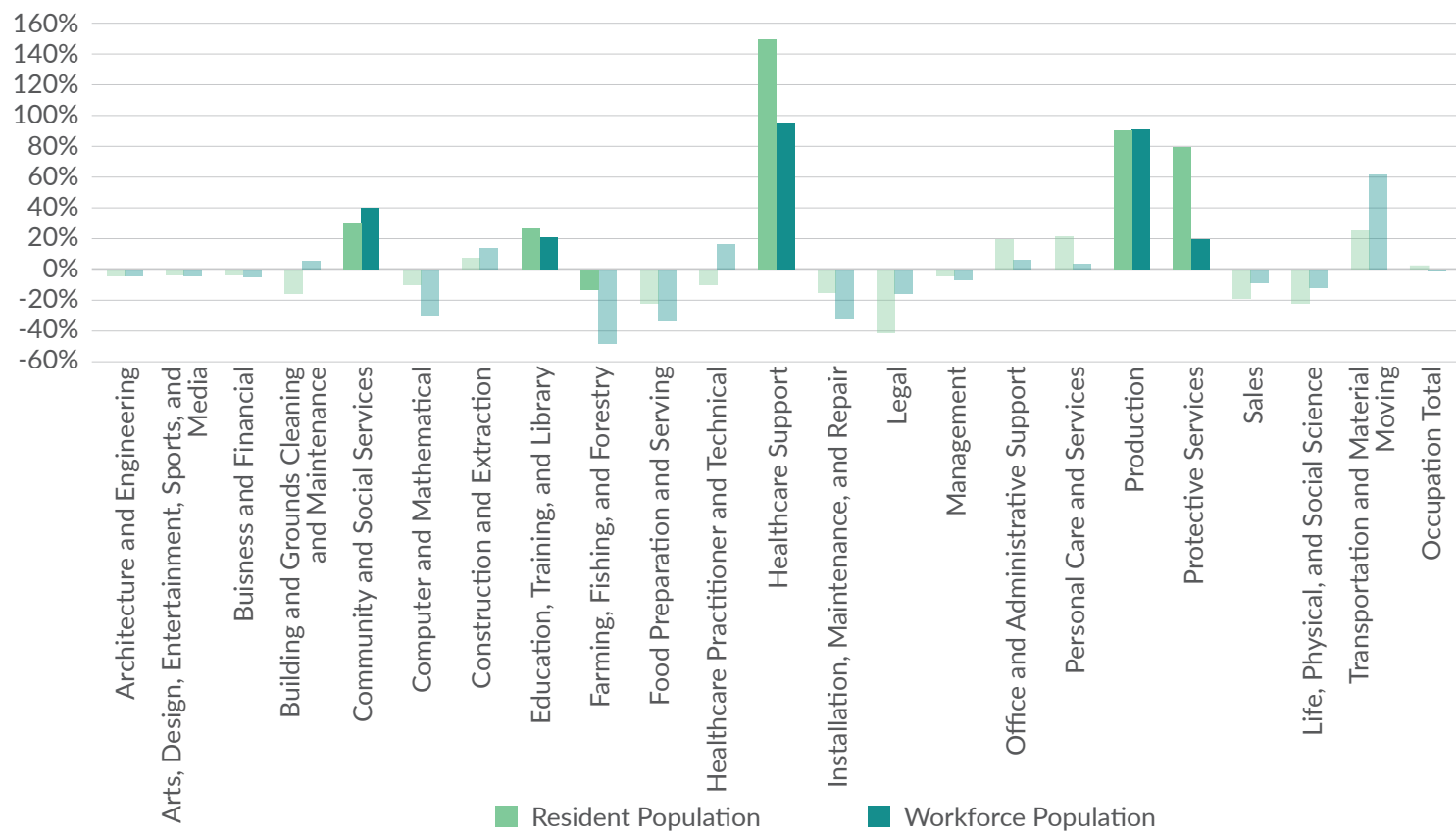
FASTEST GROWING OCCUPATIONS

The Healthcare Support occupation, while not a top five occupation in terms of size and accounting for less than 3% of total employment, has by far been the fastest growing occupation for both the resident population and workforce population. This is possibly a result of the increased demand from the County’s rapidly aging population. The Production occupation has also seen impressive growth, increasing by 90% from 2012 to 2017.

Of the fastest growing occupations in Santa Cruz County, (1) Community and Social Services, (2) Education, Training, and Library, (3) Healthcare Support, and (4) Production are the top five fastest growing occupations for both resident and workforce populations. Among the County’s employed residents, Protective Services rounded out the last seat of the top five fastest growing occupations while among its workforce population, Transportation and Materials Moving was the fifth fastest growing occupation.

CHANGE IN OCCUPATION EMPLOYMENT, 2012 TO 2017, RESIDENT POPULATION AND WORKFORCE POPULATION

Figure 5.3



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

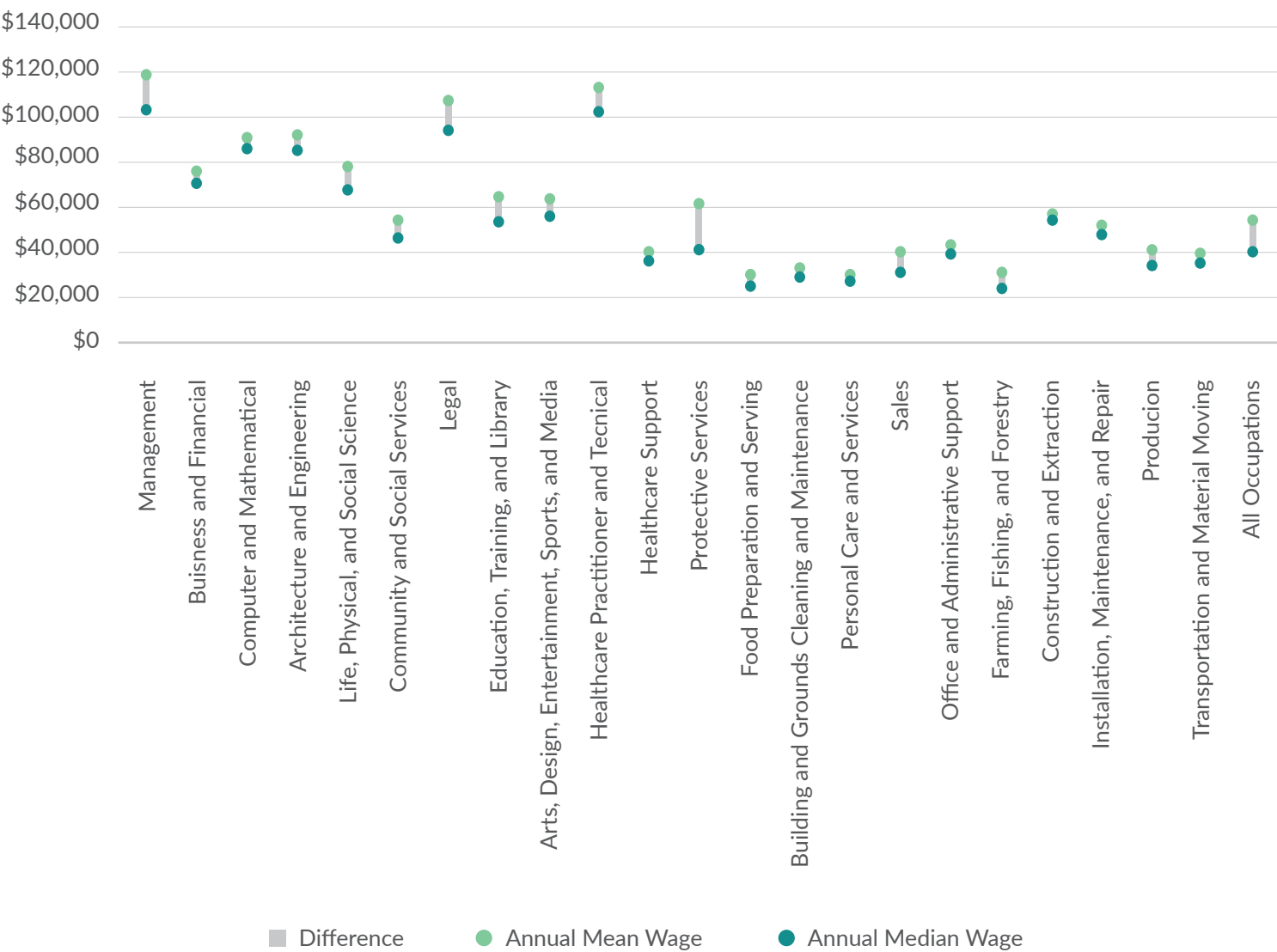
HIGHEST PAYING OCCUPATIONS

Based on the Bureau of Labor Statistics’ May 2018 Occupation Employment Statistics, the highest paying occupations by annualized mean wages in Santa Cruz County are Management (\$118,000), Healthcare Practitioner and Technical (\$112,720),

and Legal (\$106,840). By annualized median wages, these occupations would reflect the following pay: \$103,020 (Management), \$101,710 (Healthcare Practitioner and Technical), and \$93,440 (Legal).

MEAN AND MEDIAN ANNUALIZED WAGE BY OCCUPATION, 2018, SANTA CRUZ COUNTY

Figure 5.4



Source: Bureau of Labor Statistics, May 2018 Occupational Employment Statistics; Analysis by Beacon Economics

MEAN = MEDIAN WAGE DISPARITY

Both mean and median wages should be considered when identifying target industries and target occupations. For some occupations such as Protective Services, there may be a small number of very high paying positions relative to the critical mass of jobs reflected in that occupation. These occupations tend to have relatively high mean wages but low median wages. On the other hand, the difference between mean and median wages may be more equalized in occupations such as Construction and Extraction. The following tables summarize occupations with the largest and smallest wage disparities between mean wages and median wages.

Finally, note that these are annualized wages assuming full time employment. In reality, while increasing shares of the resident population and the workforce population in Santa Cruz County are employed full time in 2017 compared to 2012, many are not employed full time particularly for those employed in Arts, Design, Entertainment, Sports, and Media occupations.

OCCUPATIONS WITH THE LARGEST WAGE DISPARITIES BETWEEN MEAN AND MEDIAN

Table 5.3

Occupation	Mean Wage	Median Wage	Ratio
Protective Service	\$61,230	\$41,040	1.49
Sales	\$40,860	\$31,220	1.31
Farming, Fishing, and Forestry	\$30,510	\$24,750	1.23
Education, Training, and Library	\$64,040	\$53,790	1.19
Production	\$40,730	\$34,440	1.18

Source: Bureau of Labor Statistics, May 2018 Occupational Employment Statistics; Analysis by Beacon Economics

OCCUPATIONS WITH THE SMALLEST WAGE DISPARITIES BETWEEN MEAN AND MEDIAN

Table 5.4

Occupation	Mean Wage	Median Wage	Ratio
Construction and Extraction	\$57,030	\$54,770	1.04
Computer and Mathematical	\$90,800	\$86,160	1.05
Installation, Maintenance, and Repair	\$51,440	\$48,440	1.06
Architecture and Engineering	\$91,370	\$85,000	1.07
Business and Financial	\$75,970	\$70,060	1.08

Source: Bureau of Labor Statistics, May 2018 Occupational Employment Statistics; Analysis by Beacon Economics

Among the County's workforce population, the highest paying occupations by mean wages are: Legal (\$131,000), Computer and Mathematical (\$102,000), and Healthcare Practitioner and Technical (\$89,000). The highest paying occupations by median wages are: Computer and Mathematical (\$77,000), Management (\$63,000), and Architecture and Engineering (\$56,000). Notably, the highest paying occupation by mean wage, Legal, paid just \$31,000 by median wage, or \$100,000 less than its mean wage.



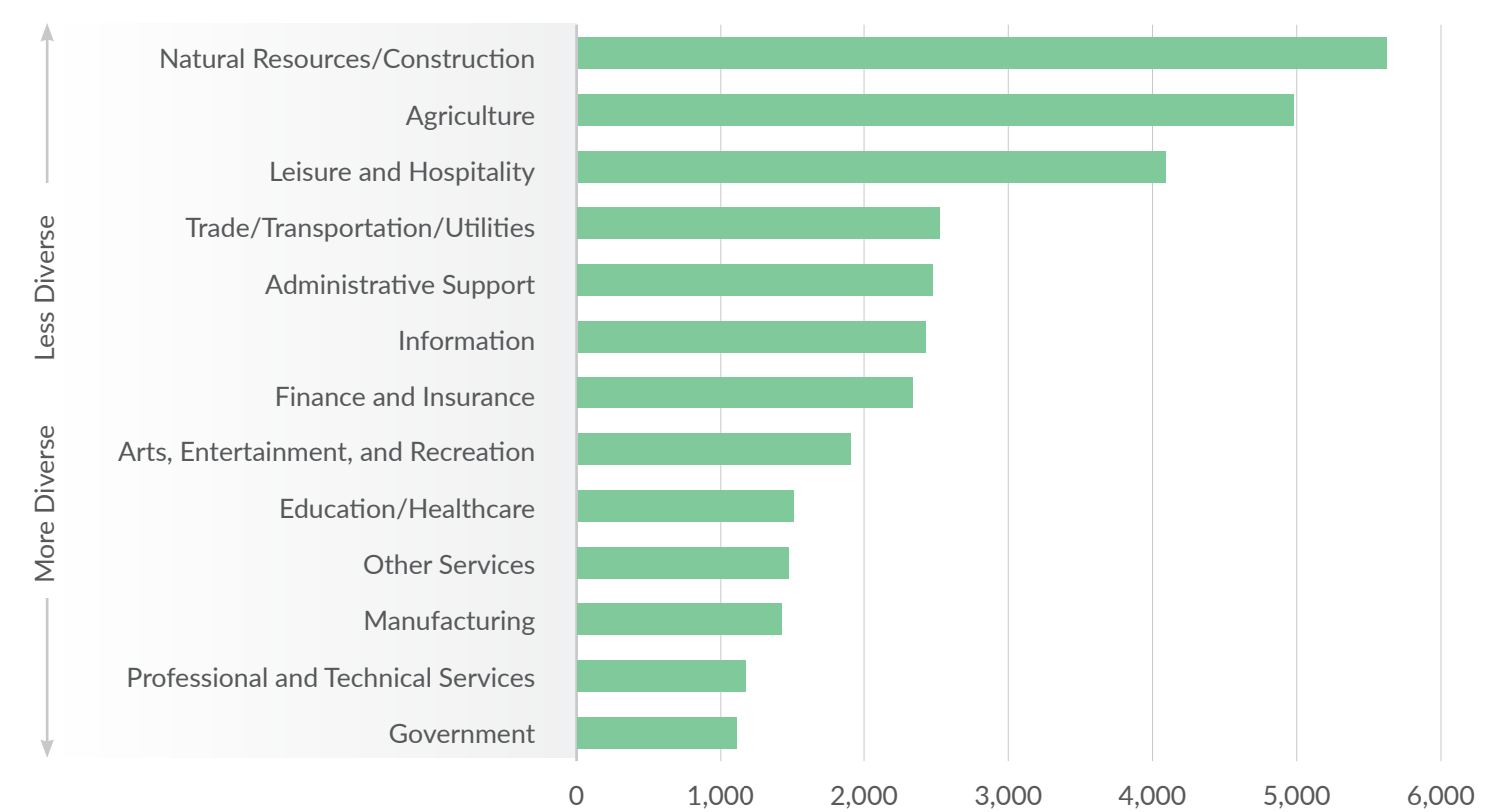
OCCUPATION DIVERSITY BY INDUSTRY

While most industries have a primary matching occupation (e.g., Manufacturing industry -> Production occupation, Education/Healthcare -> Education, Training, and Library, Leisure and Hospitality -> Food Preparation and Serving, and so forth), some industries employ a wide-ranging array of occupations while others employ only a few occupations. A scoring system similar to the Herfindahl-Hirschman Index¹⁶ is used to determine occupational diversity by industry.

In Santa Cruz County, the industries with the most diverse occupations are (1) Government, (2) Professional and Technical Services, and (3) Manufacturing. Industries with the most niche occupations are (1) Natural Resource and Mining/Construction, (2) Agriculture, and (3) Leisure and Hospitality. The target industries ranked intentionally somewhere in the middle of these two extreme groups.

OCCUPATION DIVERSITY BY INDUSTRY

Figure 5.5



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

¹⁶ The Herfindahl-Hirschman Index (HHI) is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in a market and then summing the resulting numbers and the score ranges from 0 (least concentrated) to 10,000 (most concentrated).





TARGET OCCUPATIONS

Identifying target occupations is a decidedly difficult task. The 2018 report used highest wages as the primary factor in deciding target industries and occupations. Below is a short list of additional considerations for identifying target occupations in Santa Cruz County.



A DIVERSITY OF OCCUPATIONS IN SANTA CRUZ COUNTY BY INDUSTRY:

The three target industries have considerably different occupational profiles.



NICHE CAN MEAN LOWER TRANSFERABILITY:

For Finance and Insurance as well as Trade, Transportation, and Utilities, the highest paying occupations are also very niche, which may mean a lack of transferability between and among industries.



INDUSTRY-AGNOSTIC CAN MEAN LOWER WAGE:

On the other hand, occupations that are generally industry agnostic may also not require substantial skills/trainings/formal education (e.g., Office and Administrative Support).



TIME-COSTS AND TALENT DRAINAGE:

Finally, some target occupations, while high paying in Santa Cruz County, may be even higher paying elsewhere. If the local talent pool perceives the wage premium elsewhere worth enduring the commuting and time costs, talent drainage may result.

It is important to note that the even among the exact same occupation, wages can vary considerably depending on the industry. For example, a marketing specialist in the Finance and Insurance industry may command a higher salary than a marketing specialist in the Manufacturing Industry. The following section discusses target occupations based on the above parameters in the context of target industries.

TARGET INDUSTRY #1:
EDUCATION/HEALTHCARE

For the Education and Healthcare industry, there exists a wide range of occupations as an industry cluster, but the separate industries (education, healthcare) less so. The largest occupations are Education, Training, and Library (30%) followed by Healthcare Practitioner and Technical (17%), and Office and Administrative Support (11%).

The highest paying occupations, based on annualized mean wage, are Management (\$109,000), Computer and Mathematical (\$96,000), and Healthcare Practitioner and Technical (\$94,000). Based on median wage, the highest paying occupations are Computer and Mathematical (\$90,000), Management (\$69,000), and Healthcare Practitioner and Technical (\$60,000).



Since there are a wide range of occupations within the Education/Healthcare target industry, there is no one determinant career pathway. Instead, for careers such as nursing, the career pathway is typically more linear than diagnostic services careers.

EXAMPLE CAREER PATHWAY: EDUCATION/HEALTHCARE

Figure 5.6

LINEAR PATHWAY EXAMPLE: NURSING

	Nursing Assistant	▶	LVN / LPN	▶	Registered Nurse
Mean Hourly Wage:	\$17.00		\$28.00		\$66.00
Employment:	430		280		1,480
Entry-level Edu.:	High School Diploma		Associate's Degree / Postsecondary Nondegree		Bachelor's

GENERALIZED HEALTHCARE CAREER PATHWAY EXAMPLE: DIAGNOSTIC SERVICES

Home Health Aid / Nursing Assistants	▶	Phlebotomist / Laboratory Asst. / Medical Technologist / Lab Tech	▶	MRI Technologist / Radiologic Technologist / Radiation Oncologist Technologist
ENTRY-LEVEL EDUCATION: High School Diploma		ENTRY-LEVEL EDUCATION: Associates degree / Postsecondary Nondegree		ENTRY-LEVEL EDUCATION: Associates degree — Bachelor's plus Internships

TARGET INDUSTRY #2:
TRADE/TRANSPORTATION/UTILITIES

For the Trade/Transportation/Utilities industry, there exists a narrow range of occupations as an industry cluster and even more so in the separate industries (transportation, utilities, and retail trade) and less so for wholesale trade. The largest occupations are Sales (43%) followed by Office and Administrative Support (18%), and Transportation and Materials Moving (16%).

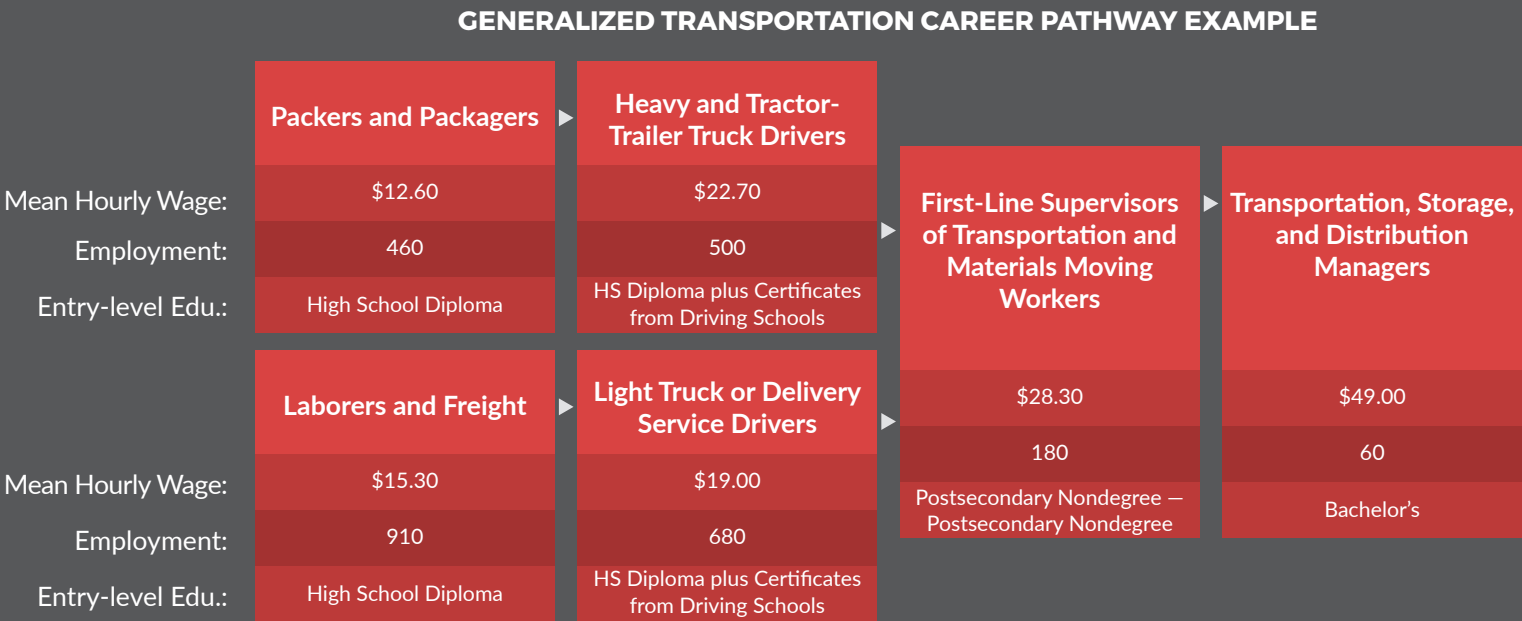
The highest paying occupations based on annualized mean wage are Life, Physical, Social Science (\$120,000), Farming, Fishing, and Forestry (\$105,000), and Management (\$68,000). Based on median wage, the highest paying occupations are Life, Physical, Social Science (\$120,000), Farming, Fishing, and Forestry (\$105,000), and Management (\$72,000).

While highest paying, the Life, Physical, Social Science and Farming, Fishing, and Forestry occupations are very small in the Trade/Transportation/Utilities (together, these make up just 1% of the industry cluster).¹⁷

Most workers in the Trade/Transportation/Utilities have fairly low educational attainment and tend to work in occupations that are low skilled. As these workers gain more experience and move up in the career path, the more entry-level positions tend to converge into supervisory positions such as First-Line Supervisors of Transportation and Materials Moving Workers and Transportation, Storage, and Distribution Managers.

EXAMPLE CAREER PATHWAY: TRADE/TRANSPORTATION/UTILITIES

Figure 5.7



¹⁷ The small employment is also the reason why these occupations have the same mean and median wages. It is not because there is little disparity, it is because of the small employment sample sizes.

TARGET INDUSTRY #3: FINANCE AND INSURANCE

For the Finance and Insurance industry, there exists a moderately narrow range of occupations as an industry cluster and slightly more so in the separate industries (finance, insurance, and real estate) but less so for wholesale trade. The largest occupations are Office and Administrative Support (31%), Sales (28%) and Management (17%).

The highest paying occupations, based on annualized mean wage, are Computer and Mathematical (\$200,000), Business and Financial (\$166,000), and Management (\$81,000). Based on median wage, the highest paying occupations are Computer and Mathematical (\$200,000), Business and Financial (\$90,000), and Management (\$55,000).

While highest paying, the Computer and Mathematical occupation is very small in Finance/Insurance (making up just 1% of the industry cluster).

As one of the highest paying industries, the skills required tend to be specialized to the industry itself, and thus the career pathways tend to be more definite.



EXAMPLE CAREER PATHWAY: FINANCE AND INSURANCE

Figure 5.8

LINEAR PATHWAY EXAMPLE: ACCOUNTING

	Billing / Posting Clerk	Bookkeeper / Accounting Clerk	Accountants and Auditors
Mean Hourly Wage:	\$21.60	\$24.00	\$33.50
Employment:	260	1,380	590
Entry-level Edu.:	High School Diploma / Associate's	Associate's Degree	Bachelor's



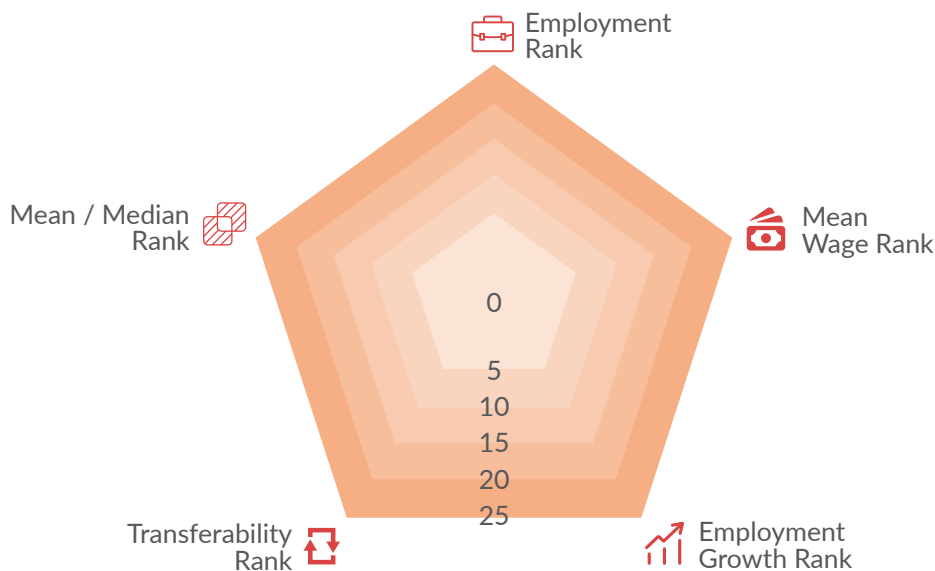
TARGET OCCUPATIONS INDEPENDENT OF INDUSTRY TARGETS

The discussion thus far reveals that each target industry has different “ideal” occupations in terms of largest employing and highest paying. As mentioned, some occupations in an industry may demand a very niche skill set that may not be transferable to other industries.

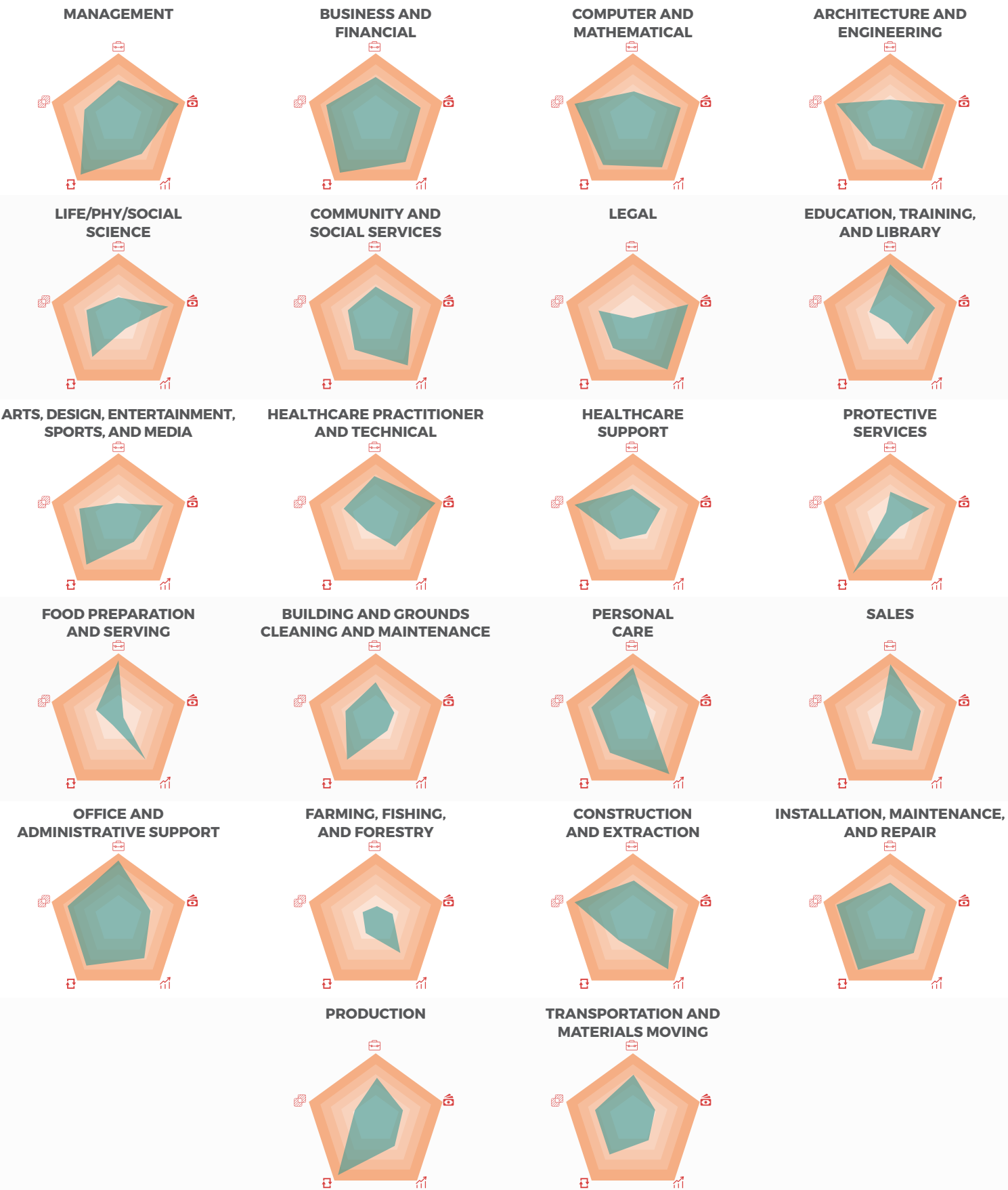
Some high paying occupations may have very low overall employment and vice versa. Based on the discussed metrics – (1) Largest employing; (2) Highest paying; (3) Fastest growing; and, (4) Wage disparity [mean = median, with lowest disparity being the goal] - each major occupation group was assigned sub-scores. An additional fifth criterion, transferability, is also considered in the overall score. For the twenty-two occupations, the results are as follows:

OCCUPATION RANKING SYSTEM LEGEND

Figure 5.9



Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Bureau of Labor Statistics, 2013 - 2018 Occupational Employment Statistics; Bureau of Labor Statistics, Quarterly Census of Employment and Wages; Analysis by Beacon Economics



Each radar chart corresponds to an occupation. The further out a factor (point) is, the larger the area of the radar becomes. Based on the overall scores, four target occupations have been selected: (1) Management; (2) Business and Financial; (3) Computer and Mathematical; and (4) Healthcare Practitioner and Technical. The first three target occupations are applicable across the three target industries while the Healthcare Practitioner and Technical occupation, which scored poorly in transferability, is mostly applicable for the Education/Healthcare target industry. However, given that Education/Healthcare is the largest employing industry in Santa Cruz County, it is expected to continue growing at a fast rate in accordance with recent trends in employment, and the Healthcare Practitioner and Technical occupation is one of the highest paying occupations. These special factors make Healthcare Practitioner and Technical a sufficiently prominent target occupation.

On the other hand, while the target industries all have primary occupations (e.g., Finance/Insurance: Sales, Office and Admin Support; Trade/Transportation/Utilities: Transportation, Sales), these are not target occupations due to a combination of factors such as low mean and median wages, low employment growth, poor transferability (prone to automation), and ambiguous career pathways.

All target occupations scored well in at least three out of five criteria. The strengths and weaknesses of each of the target occupation are summarized in the following table.

OCCUPATION TRANSFERABILITY

In the age of digital disruption and automation threats, the importance of transferability cannot be underscored enough. Using the same methodology, the transferability of each occupation is examined

TARGET OCCUPATIONS TABLE SUMMARY

Table 5.5

Target Occupation	Strengths	Weaknesses
Management	Large employment, high pay, high transferability	Average employment growth, high wage disparity between mean and median wages
Business and Financial	Above average employment, pay, and employment growth, high transferability	Moderate disparity between mean and median wages
Computer and Mathematical	High pay, high employment growth, high transferability, low wage disparity	Low employment
Healthcare Practitioner and Technical	High pay, above average employment, moderately low wage disparity	Low transferability

Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

across industries. A low score (out of 10,000) implies industry agnosticism while a high score implies industry specification. Based on the scores, Beacon Economics has identified industry agnostic and industry specific occupations. These occupations along with the top industries that employ these occupations are summarized in the following tables.

Of the top three industry-agnostic occupations – meaning, occupations employed by a variety of industries, Management and Business & Financial are also target occupations. The top industries that

employ Management occupations are Education/Healthcare (17%, which is also a target industry), Professional, Scientific, and Technical Services (13%), and Manufacturing (13%, an industry targeted for continued monitoring).

Of the top three industry-specific occupations – meaning, occupations employed by a select few industries, Healthcare Practitioners and Technical is also a target occupation. Unsurprisingly, most of the professionals in this occupation are employed in the Education/Healthcare industry.

INDUSTRY AGNOSTIC OCCUPATIONS

Table 5.6

Occupation	Top Industry 1	Top Industry 2	Top Industry 3
Management	Education/Healthcare (17%)	Professional, Scientific, and Technical Services (13%)	Manufacturing (13%)
Business and Financial	Professional, Scientific, and Technical Services (22%)	Finance and Insurance (17%)	Education/Healthcare (13%)
Installation, Maintenance, and Repair	Manufacturing (27%)	Other Services (25%)	Education/Healthcare (13%)

Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

Note: Target industries are bolded and target occupations are highlighted

INDUSTRY SPECIFIC OCCUPATIONS

Table 5.7

Occupation	Top Industry 1	Top Industry 2	Top Industry 3
Education, Training, and Library	Education/Healthcare (100%)	—	—
Food Preparation and Serving	Leisure and Hospitality (92%)	Education/Healthcare (5%)	Trade/Transportation/Utilities (3%)
Healthcare Practitioner and Technical	Education/Healthcare (92%)	Professional, Scientific, and Technical Services (4%)	Trade/Transportation/Utilities (2%)

Source: U.S. Census Bureau, American Community Survey Public Use Microdata Samples; Analysis by Beacon Economics

Note: Target industries are bolded and target occupations are highlighted



RECOMMENDATIONS

Based on the analysis, the Beacon team recommends that the Santa Cruz County Workforce Development Board consider the following action items and next steps.



CONSIDER OLDER UNDEREMPLOYED OR UNEMPLOYED WORKERS:

The labor force participation rate of Santa Cruz County residents is lower in 2017 than it was in 2012 except for residents ages 16 to 24 and 55 to 59. While focusing on talent cultivation and the development of the local talent pipeline is important for strengthening the future labor pool of the County, there are opportunities to engage older workers who are unemployed or underemployed. The County may consider interventions apart from those focused on the educational system, such as awareness campaigns and the strategic dissemination of information about employment opportunities and upskilling or retraining programs.



PRIORITIZE THE EXPANSION OF THE LOCAL INDUSTRY BASE AND BUSINESS COMMUNITY:

The rapidly aging population of the County means an increasingly dependent elderly population. At the same time County residents are increasingly employed outside of the County. Growth-oriented interventions directed at businesses and the local industry base may help bolster the availability of local opportunity.



EXPLORE THE NEEDS OF THE SELF-EMPLOYED:

The recent jump in self-employment rates may represent an opportunity for scale. The County may consider strategically engaging the self-employed population of Santa Cruz County to identify any overarching needs for growth and evaluate whether or not they align with the County's ability to provide resources.



MAKE GOOD, DATA-DRIVEN COMPARISONS WHEN IDENTIFYING BIG PICTURE OPPORTUNITIES AND CHALLENGES:

As evidenced by the geographic analysis of this report, it is important to compare Santa Cruz County to relevant and sufficiently similar economies. Santa Cruz County policymakers do not benefit from comparisons made exclusively to jurisdictions in close proximity to Santa Cruz County but with vastly different industry bases and core economic drivers. This does not mean that for example nearby geographies shouldn't be considered when evaluating investment in occupations that command significantly higher wages in commutable distances. But in articulating broad goals, opportunities, and challenges for the local economy and labor pool, it is important to do so with a localized approach leveraging substantively relevant comparisons where needed.



CONSIDER TARGET INDUSTRIES TOGETHER WITH THEIR OCCUPATIONAL OPPORTUNITIES:

When considering workforce development investment opportunities, industry targets should speak to occupational targets and occupational insight.

**INDUSTRY TARGET 1:
HEALTHCARE/EDUCATION**

Given the size and health of the Healthcare/Education industry and the high wages associated with the Healthcare Practitioners and Technical occupation, it was selected as a target occupation independent of its industry relevance. Given the infrastructure that already exists in the Healthcare/Education industry around workforce development, this target may represent opportunity to engage the formal educational system in strengthening local curriculum and credentialing for the Health/Education industry cluster.

**INDUSTRY TARGET 2:
TRANSPORT/WAREHOUSE/
UTILITIES**

As workers in this industry gain experience and move up in their respective careers, the more entry-level positions tend to converge into supervisory positions. This industry-occupational dynamic may represent opportunity for the County to work directly with a consortium of firms in the industry cluster to support workforce and professional development of currently employed workers.

**INDUSTRY TARGET 3:
FINANCE AND INSURANCE**

Given the small employment numbers but high wages associated with the Finance and Insurance sectors' occupational range, the County may focus on talent and firm retention as it applies to this industry sector and its presence in the County. While occupations that tend to be more niche or specialized to an industry's needs are often higher paying, like those of Finance and Insurance, they can also be less transferable which can be a risk for workers equipped with skills pertinent to a finite set of industries.



MEAN WAGES ARE NOT A SUFFICIENT INDICATOR. CONSIDER THE DISPARITY BETWEEN AN OCCUPATION'S MEAN AND MEDIAN WAGE TO IDENTIFY MIDDLE-WAGE EMPLOYMENT OPPORTUNITIES:

Both mean and median wages should be considered when identifying target industries and target occupations. There may be a small number of very high paying positions relative to the critical mass of jobs reflected in an occupation. These occupations tend to have relatively high mean wages but low median wages. On the other hand, the difference between mean and median wages may be more equalized in occupations such as Construction and Extraction. If policymakers use mean wages alone, they may significantly mischaracterize an industry's or an occupation's wages.



CONSIDER OCCUPATIONAL STRENGTHS INDEPENDENT OF LOCAL INDUSTRY STRENGTHS:

While it is important to map occupational competencies onto tangible employment opportunities in local industries (see recommendation above), the County may also consider cross-industry functional strengths of its labor pool by targeting occupations independent of the local industry base. Beacon scored the County's occupational groupings based on their (a) employment size; (b) projected employed growth; (c) mean wage; (d) disparity between mean and median wage; and (e) transferability (employment by a diversity of industries). Based on these criteria, 4 target occupations were identified: (1) Management; (2) Business and Financial; (3) Computer and Mathematical; and (4) Healthcare Practitioners and Technical.



CONSIDER TRANSFERABILITY OF OCCUPATIONS THOUGH TRANSFERABILITY MAY IN SOME CASES CORRELATE WITH LOWER WAGES:

Of the top three industry-agnostic occupations in the County – meaning, occupations employed by a variety of industries, Management and Business & Financial are also target occupations.

TRAIN FOR THE LOCAL ECONOMY OF THE COUNTY, NOT FOR NEARBY ECONOMIES:

Some occupations like Computer and Mathematical occupations, are high paying in Santa Cruz County but generally even higher paying in nearby jurisdictions. If the local talent pool perceives the wage premium elsewhere worth enduring the commuting and time costs, talent drainage may be a risk for the County. It is important to invest in the tech-enabled skillsets and computer proficiency of the County's youth, but the County may consider doing so in a way that has intentional tethers to its local industry base. For example, students exploring computer/mathematical curriculum might benefit from exposure to how that skillset can be applied to the core legacy industries of Santa Cruz County like Transportation, Manufacturing, or Logistics. Technology-oriented or entrepreneurship-related educational programming is best tied to regional economic drivers, providing young workers with transferrable 21st century skillsets and simultaneously demonstrating how they can be applied to their local industries in and outside of the context of firm starts.



THE WORKFORCE DEVELOPMENT BOARD MAY WORK WITH ITS SISTER AGENCIES AND COUNTY ENTITIES TO ADDRESS HOUSING AVAILABILITY, HOUSING AFFORDABILITY, AND TRANSIT-ORIENTED DEVELOPMENT:

Overwhelming, industry stakeholders in Santa Cruz County indicated that local housing availability, time-consuming traffic, and the County's cost of living were at the top of their list of challenges in terms of attracting and retaining talent in Santa Cruz County. The Workforce Development Board may consider collaborating with other County agencies to address zoning and land use in order to support local employers and their ability to grow and stay in Santa Cruz County.