
Hawaii Labor Market Dynamics



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Executive Summary

This report provides a current overview of the local labor market and economy to inform those developing workforce development policies and making workforce investment decisions. The following are some of the significant findings for 2015:

- Among the 50 states, Hawaii held on to its 42nd place ranking in terms of labor force size expanding by 1.4 percent to 677,450.
- Labor force participation rose for the second year in a row, increasing to 62.1 percent which is slightly below the national rate of 62.7 percent
- Hawaii's unemployment rate decreased by 0.8 percentage point to 3.6 percent, well below the U.S. rate of 5.3 percent, ranking the state 6th in the nation. Unemployment in all four counties also dropped - Honolulu MSA posted the lowest rate (3.4 percent), followed by Maui County (3.8 percent), Kauai County (4.1 percent), and Hawaii County (4.5 percent).
- Hawaii's non-farm job count improved by 1.5 percent to 636,900, the fifth consecutive year of increases following the recession. All four counties reported job gains. Overall, the economy had regained 50,000 jobs since bottoming out in 2010.
- Nine out of ten major industries posted job gains following the recession. Three industries grew at faster than average rates in the post-recession period from 2010 to 2015: natural resources, mining and construction; professional and business services; and leisure and hospitality. Only information remained below its pre-recession job total.
- In 2015, Hawaii workers earned \$22.95 per hour compared to \$23.23 per hour nationally.
- According to the Local Employment Dynamics program's Quarterly Workforce Indicators (QWI) data, from the second quarter of 2005 to the second quarter of 2015, the number of hires was 14.0 percent lower, due to a significant dropoff during the recession, and separations were also down 7.1 percent.
- Average monthly earnings rose by 24.7 percent from 2005 to 2015, according to QWI data. Workers in more than half of Hawaii's 20 key industries fared well as wages outpaced the state's monthly average of \$3,763.
- The pace of job growth is expected to be better over the short-term with 1.4 percent average annual growth through 1st Quarter 2017 as the economy continues to expand, compared to the long-term period with 0.6 percent average annual growth through 2024. Industries with the most job growth will be construction; trade, transportation, and utilities; leisure and hospitality; education and health services; and professional and business services.
- The volume of online job advertisements declined in 2015 after rising for five consecutive years.

Introduction

The Hawaii Labor Market Dynamics report focuses on significant labor market statistics and trends that affected Hawaii's economy in 2015. This report looks at the dynamics occurring in the labor force, employment, and earnings over the past ten years, and provides both short- and long-term employment forecasts for the state.

Whenever feasible, comparisons are made between the state and the nation as a whole and the counties. The workforce and economic analyses provided in this report supports Hawaii's workforce information system as directed by the U.S. Department of Labor's Employment and Training Administration.

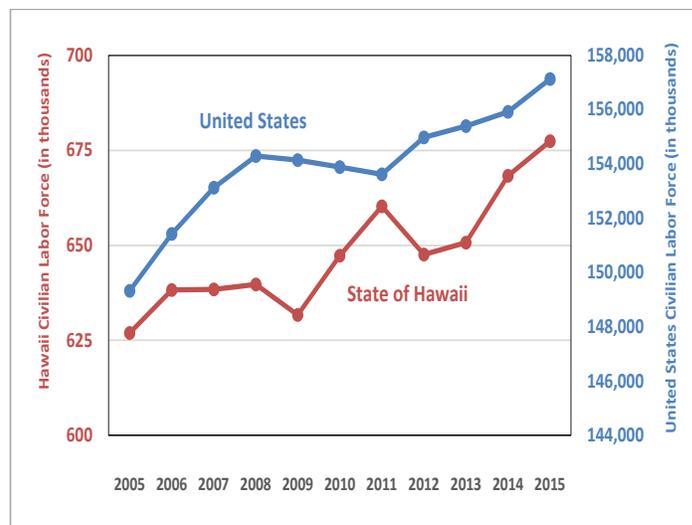
Hawaii's Labor Force Climbs Higher

After surging by the largest percentage in 2014, growth in Hawaii's civilian labor force tapered off in 2015, falling to a ranking of 14th fastest among the other 49 states in the nation. An annual hike of 9,100 generated an uptick of 1.4 percent to 677,450, consisting of 652,950 employed and 24,500 unemployed. Despite the slowdown, Hawaii's growth rate was still better than the national labor force which rose by 0.8 percent to 157,130,000. Delaware topped all states with an expansion of 3.1 and was the only state increasing by more than three percent, while Kentucky declined the most, dropping by 2.6 percent. Hawaii's labor force remains smaller compared to the other states, ranking 42nd in size.

Over the past 10 years, Hawaii's labor force posted a net increase of about 50,550 for a gain of 8.1 percent. In comparison, the nation expanded its labor force by 5.2 percent during the same decade. From 2005 to 2008, Hawaii's economy expanded in every year of that three year span (Figure 1). The economic impact of the Great Recession in 2009 drove Hawaii's labor force down by 1.3 percent. This drop was fairly steep relative to the other states, accounting for the sixth largest percentage loss in the nation, and placing Hawaii 45th out of 50 in

terms of over-the-year change. In 2010, the state's civilian labor force turned around and grew by the fourth fastest rate, with a gain of 2.5 percent, despite the continuing decline nationwide. This momentum continued into 2011 as Hawaii's labor force climbed by 2.0 percent, fifth fastest in the nation. Unfortunately, the labor

Figure 1. Civilian Labor Force, Hawaii vs. U.S., 2005-2015



Source: U.S. Bureau of Labor Statistics

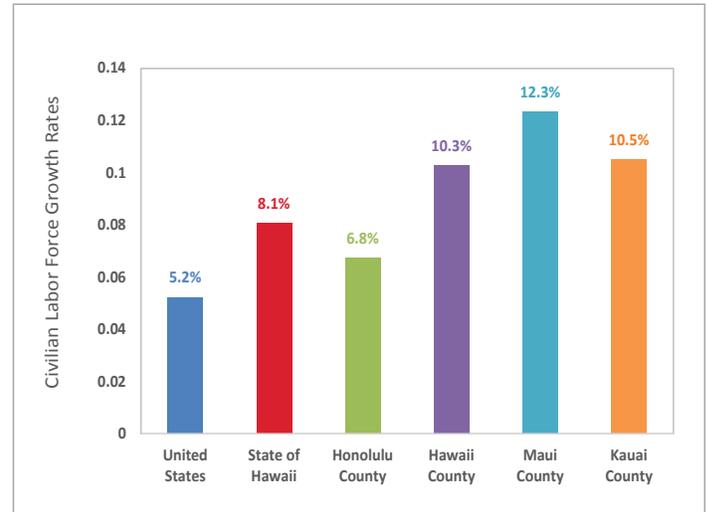
force contracted in 2012 and Hawaii placed 49th among the states in terms of over-the-year change, dropping by 1.9 percent. Similar to the nation, Hawaii's civilian labor force remained relatively stagnant in 2013 with an increase of 0.5 percent, ranking 16th among the states in terms of yearly change. Growth in Hawaii's labor

force picked up the following year and has exceeded the nation in 2014 and 2015.

From 2005 to 2015, Maui County’s civilian labor force recorded the greatest increase with an expansion rate of 12.3 percent (Figure 2). Kauai County was second fastest with 10.5 percent growth, followed closely by Hawaii County, which rose by 10.3 percent, both outpacing the state gain. Only Honolulu County lagged behind with growth that amounted to 6.8 percent over the same period.

Dividing the civilian labor force by the civilian

Figure 2. Civilian Labor Force Growth Rate, 2005-2015



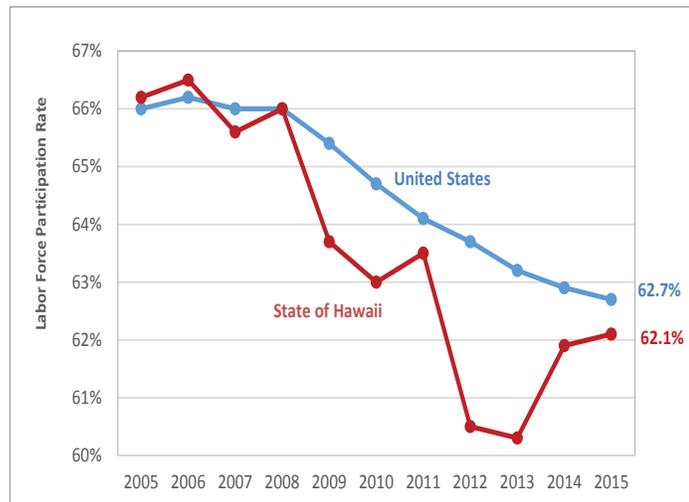
Source: U.S. Bureau of Labor Statistics.

Labor Force Participation Edges Closer to U.S.

noninstitutional population 16 years and older determines the labor force participation rate. After declining to a low of 60.3 percent in 2013, the statewide labor force participation ratio edged upward in 2015 for the second straight year (Figure 3). This brings Hawaii’s participation rate of 62.1 percent closer to the national rate of 62.7 percent in 2015.

Similar to the U.S., overall labor force participation in

Figure 3. Civilian Labor Force Participation Rates, Hawaii vs. U.S., 2005-2015



Source: U.S. Bureau of Labor Statistics.

Hawaii has steadily declined during the past ten years, though Hawaii’s ratio has shown some improvement from 2013 to 2015. Looking at the breakout of the civilian labor force by age group for both Hawaii and the nation (Figure 4), certain trends were apparent:

- The youngest workers - those between 16 to 24 years old, have shown the largest percentage decline. One likely cause may be that more members in this group were attending school longer to obtain advanced degrees needed in today’s competitive workplace.
- Even within the prime age group - those 25 to 54 years old, labor force participation has fallen. However, the drop has been smaller compared to the other age groups and labor force participation has remained at or above 80 percent throughout the 10-year period for all of the subgroups.
- Workers aged 55 and over, which consists of the

baby boom generation, have posted the biggest percentage jump in the workforce. Hawaii's workforce, in particular, experienced an increase of 49 percent for those aged 65 and older. Since baby boomers also account for a sizable portion of the population,

the overall labor force participation rate will most likely continue on a downward path as more workers in this generation retire.

Figure 4. Civilian Labor Force Participation Rate by Age, Hawaii and the U.S., 2005, 2010, and 2015

Age Group	Hawaii				United States			
	2005	2010	2015	% Change 2005-2015	2005	2010	2015	% Change 2005-2015
Total, all ages	66.2%	63.0%	62.1%	-6.2%	66.0%	64.7%	62.7%	-5.0%
16 to 19 years	42.4%	29.4%	31.3%	-26.2%	43.7%	34.9%	34.3%	-21.5%
20 to 24 years	72.9%	72.1%	66.0%	-9.5%	74.6%	71.4%	70.7%	-5.2%
25 to 34 years	84.7%	82.6%	80.9%	-4.5%	82.8%	82.2%	81.0%	-2.2%
35 to 44 years	85.1%	82.1%	84.7%	-0.5%	83.8%	83.2%	82.1%	-2.0%
45 to 54 years	86.3%	84.7%	80.7%	-6.5%	81.7%	81.2%	79.5%	-2.7%
55 to 64 years	67.0%	67.3%	67.0%	0.0%	62.9%	64.9%	63.9%	1.6%
65 years and over	14.5%	17.4%	21.6%	49.0%	15.1%	17.4%	18.9%	25.2%

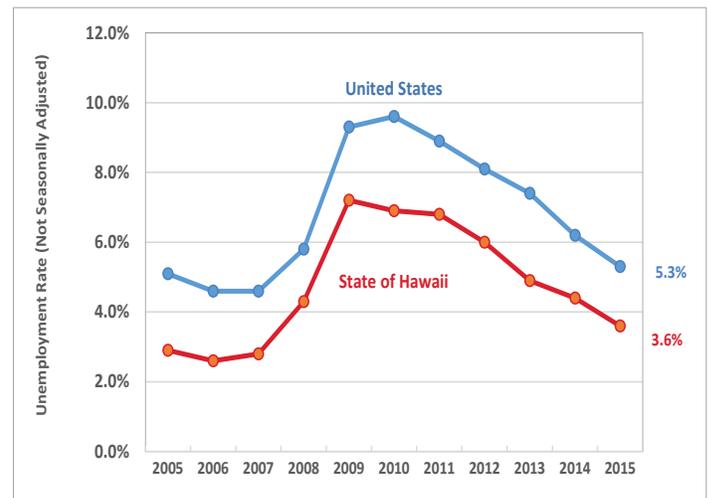
Source: U.S. Bureau of Labor Statistics.

Unemployment Rate Declines Further

Hawaii's unemployment rate, which has trended downward since 2009, fell again in 2015, dropping by 0.8 percentage point to 3.6 percent. Since peaking at 7.2 percent during the recession, the rate has declined by 50 percent. In comparison to the other 49 states, Hawaii's unemployment rate ranked 6th lowest. North Dakota reported the least unemployed at 2.7 percent, while Nevada and West Virginia topped all states with a rate of 6.7 percent each. Generally, the states with the lowest unemployment ratios also tended to be among the smaller populated states.

Throughout the past ten years, Hawaii's unemployment rate has remained consistently lower than the national rate (Figure 5). The gap has ranged from at least 1.5 percentage points (in 2008) to 2.7 percentage points (in 2010) below the national rate. As a result, Hawaii was among the 10 states with the lowest unemployment

Figure 5. Unemployment Rate, Hawaii vs. U.S., 2005-2015



Source: U.S. Bureau of Labor Statistics

ratio in six out of the last 10 years. In fact, from 2005 to 2007 Hawaii ranked either first or second. However, in 2008 and 2009, Hawaii was nudged out of the Top 10 until returning in 2010. After falling to number 13 in

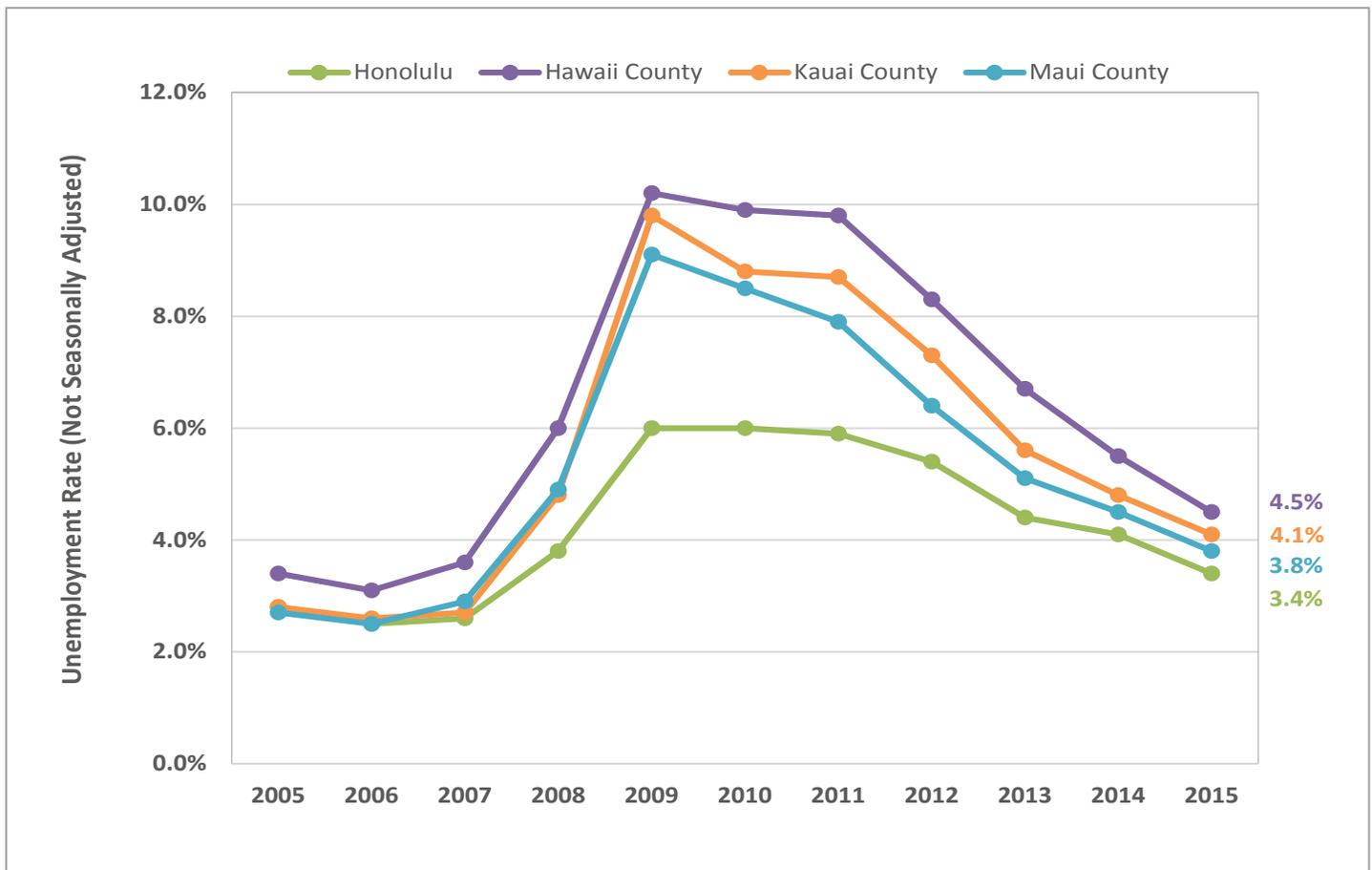
both 2011 and 2012, Hawaii’s rate has ranked in the top 10 over the last three years.

Although the state’s unemployment rate has been relatively low, among the counties, unemployment has been uneven. Since more opportunities normally exist in urban areas, the unemployment rates in these areas generally tend to be lower than those of more rural regions. In 2015, the unemployment ratio of all four counties improved at varying rates (Figure 5). Honolulu MSA posted the lowest unemployment ratio, edging downward by 0.7 percentage point. Maui County averaged the next lowest rate of 3.8 percent, followed by Kauai County’s ratio of 4.1 percent. Hawaii County’s rate fell by a full percentage point to 4.5 percent, signifying the largest improvement compared to the other counties.

In direct correlation to the state’s unemployment rate, from 2005-2015, Honolulu MSA has either posted the lowest rate or lingered near the low. Even throughout the economic slowdown from 2008 to 2010, the rate increase of 2.2 percentage points was the smallest among the counties. The annual unemployment rate of 3.4 percent in 2015, while below the other counties, was still 0.8 percentage point higher than the 2007 pre-recession unemployment rate.

Prior to 2007, Maui County’s unemployment ratio was at the same level as Honolulu MSA or even lower. However, during the recession, Maui’s unemployment rate nearly doubled, jumping to 4.9 percent in 2008 and went as high as 9.1 percent in 2009. The unemployment ratio finally eased a bit in 2010 and has continued to improve since then.

Figure 6. Unemployment Rates, Counties of Hawaii, 2005-2015



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, LAUS program.

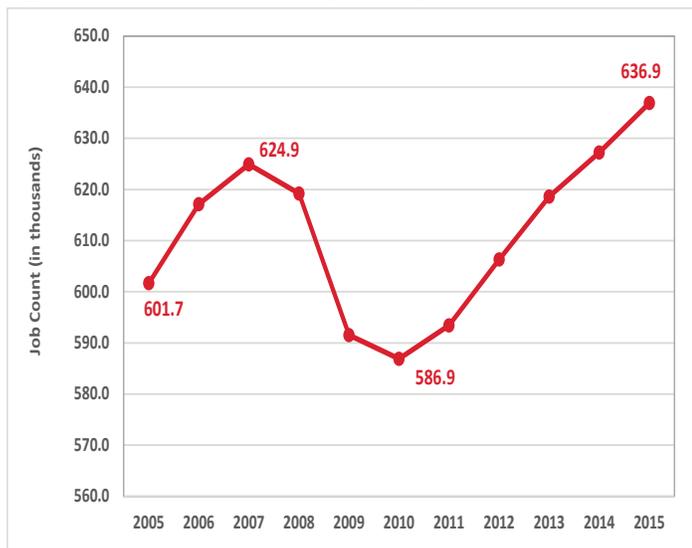
After hovering near the state's unemployment ratio through 2007, Kauai County's unemployment rate climbed the fastest, with a gain of 5.0 percentage points from 2008 to 2009. Since peaking at 9.8 percent in 2009, the ratio has declined by over 58 percent over the last six years.

At 10.2 percent, Hawaii County posted the highest unemployment rate of all the counties during the recession period. In fact, over the past 10 years, Hawaii

Job Count Still Growing

Following the end of the recession, Hawaii's non-farm job count, which is based on the monthly payroll survey of business establishments, rose for the fifth consecutive year. (Figure 7). With an over-the-year gain of 9,700 jobs, the nonfarm jobcount reached a new high of 636,900 in 2015 and kept pace with the majority of the other states. The gain of 1.5 percent placed Hawaii tied with five other states for the 23rd fastest increase in nonfarm jobs. Only three states- North Dakota, Wyoming, and West Virginia experienced a reduction in their numbers.

Figure 7. Non-Farm Job Count, Hawaii, 2005-2015



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, CES program.

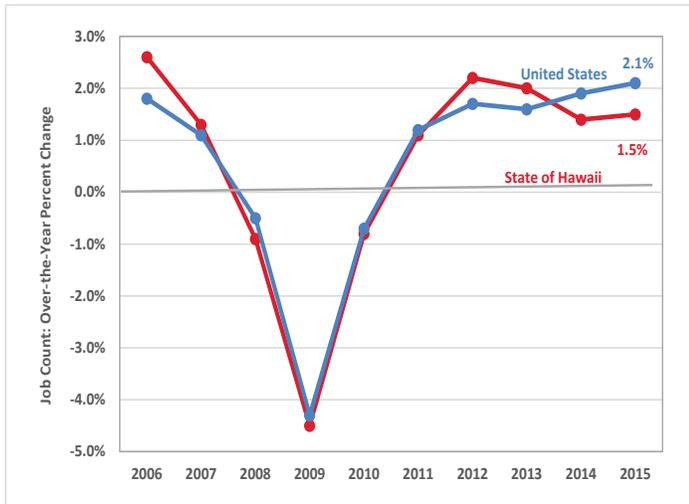
County's ratio has exceeded the other counties every year. After three years of increases, beginning in 2007, the ratio finally edged downward slightly by 0.3 percentage points to 9.9 percent in 2010. This momentum has continued since that time, bringing the county rate down to 4.5 percent in 2015.

Further improvement appears to be the trend in 2016. So far the unemployment rates for January through June 2016 are lower than the 2015 rates across all counties.

Over the past 10 years, the state's job count has grown by 35,200 jobs for an increase of 5.9 percent. The 2015 total of 636,900 jobs surpasses 2014's count and the previous peak of 624,850 jobs recorded in 2007. During that earlier time, the state's economy was booming following a succession of widespread gains. Hawaii's economy, along with the rest of the nation suffered a major setback over the next three years as the recession deeply impacted the job market. A slight decline in 2008 was followed by a large drop of 4.5 percent in 2009. Non-farm employment spiraled downward in 2010 to 586,900. In 2011, the state's economy began to recover and has added jobs over the past five years since bottoming out in 2010. Based on 2015 figures, Hawaii along with 36 other states or well over half of the 50 states surpassed their 2007 pre-recession job totals.

Prior to 2008, Hawaii's job growth outpaced the nation. During the downturn, from 2008 and into the early part of the recovery, up until 2011, Hawaii's trend paralleled the nation. Over the last four years, although the job count has continued to expand for both Hawaii and the U.S, Hawaii advanced faster in 2012 and 2013, then slowed down in 2014 and 2015 (Figure 8).

Figure 8. Job Count Over-the-Year Percent Change, Hawaii, vs. U.S., 2005-2015



Source: U.S. Bureau of Labor Statistics; Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, CES program.

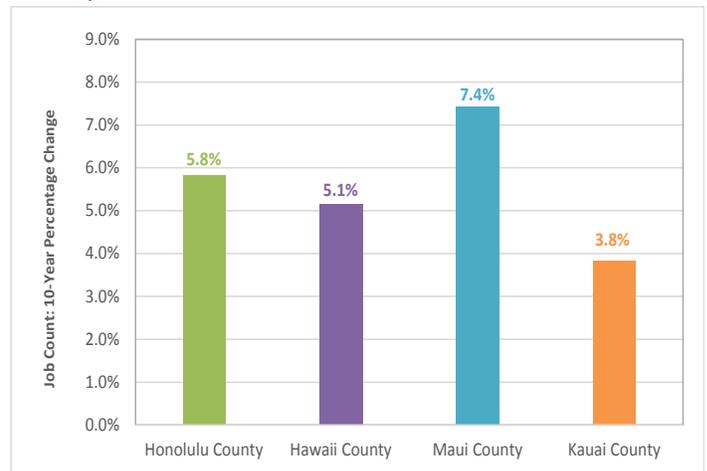
So far, given the available data for January through June 2016, Hawaii’s monthly job count is 2.1 percent higher than it was for the same 6-month period in the prior year. Meanwhile, the nation is averaging a 1.8 percent increase over a similar six month comparison between 2015 and 2016.

While the state’s job count expanded by 5.9 percent from 2005 to 2015, only one of the four counties gen-

erated gains in non-farm payroll jobs that exceeded the statewide growth rate (Figure 9). Maui County advanced the fastest with growth of 7.4 percent. Honolulu County followed with a gain of 5.8 percent. Hawaii County ranked third, with a 5.1 percent growth rate in the number of jobs. Kauai County was up by 3.8 percent, ranking last among the counties in percentage growth.

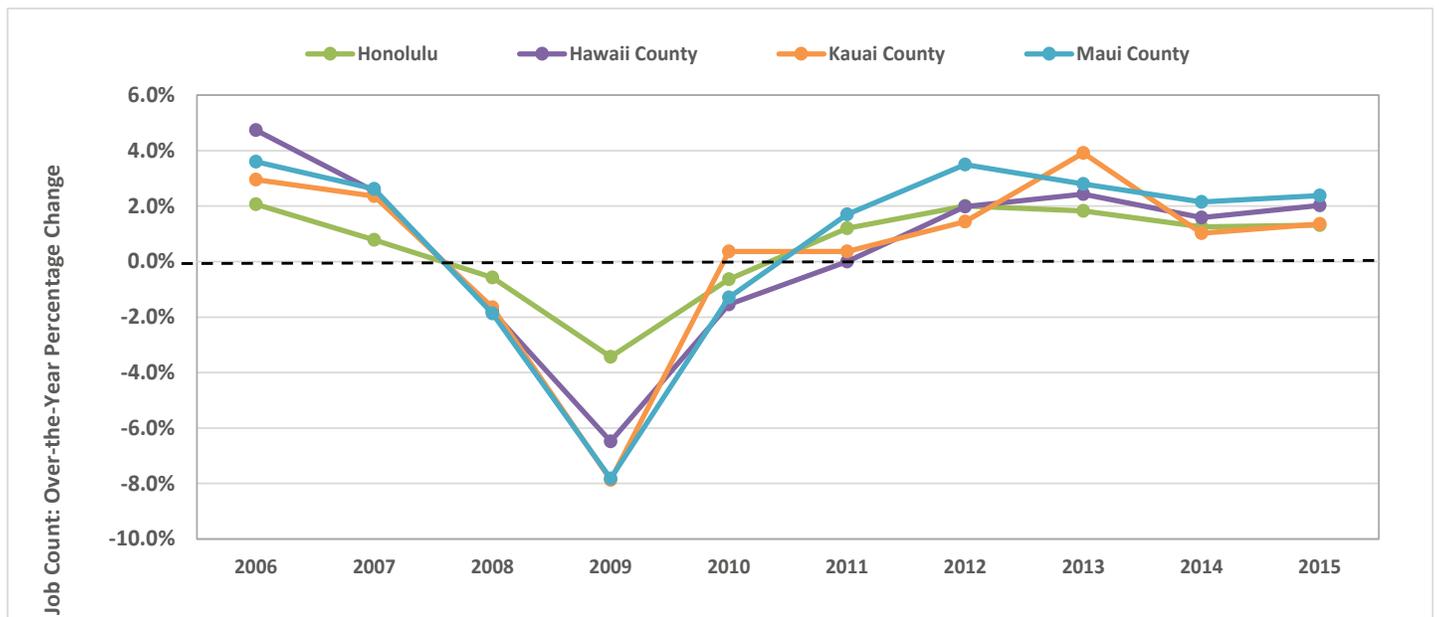
Between 2005 and 2015, over-the-year growth rates for the Counties generally followed the same trend as the

Figure 9. Job Count 10-Year Percent Change, Counties of Hawaii, 2005-2015



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, CES program.

Figure 10. Job Count Over-the-Year Percent Change, Counties of Hawaii, 2005-2015



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, CES program.

nation and the state - a big drop in 2009 and a rebound of jobs starting in 2011 (Figure 10). Honolulu County posted the smallest growth rates, in general, but also experienced the smallest declines.

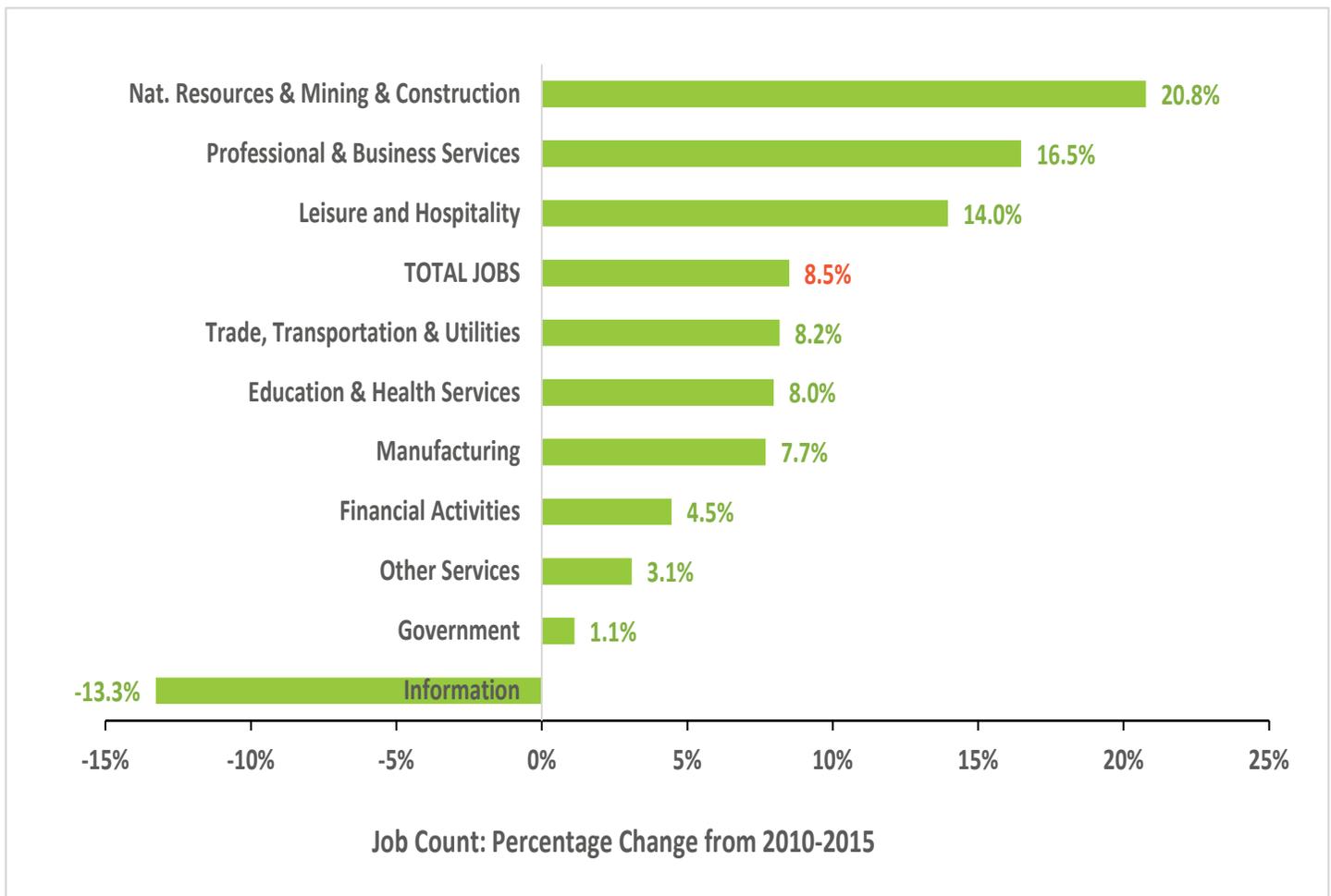
Based on the data for January through June, the job counts point to further improvement. Monthly totals for 2016 are ahead of 2015 job counts for every month in all counties.

Five-Year Industry Trend Mainly Positive

Prior to the Great Recession, which extended from December 2007 to June 2009, Hawaii enjoyed nine years of successive gains dating back to 1999. After peaking at 624,850 in 2007, the state lost nearly 38,000 jobs from 2008 to 2010. In the aftermath of the recession, the jobcount has continued to rebound with the addition of 50,000 jobs, moving past the pre-recession employment level.

Nine out of the ten major industries created jobs after the recession ended (Figure 11). Only information remains below the 2010 employment level, posting an overall loss of 1,300 positions from 2010 to 2015. Since information is the smallest industry sector, its relatively small size registered a large percentage drop of 13.3 percent. Much of the slowdown occurred in the motion picture and video industries but jobs were also nega-

Figure 11. Industry Job Count Percent Change, State of Hawaii, 2010-2015



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, CES program.

tively impacted by reductions at newspaper, book, and directory publishers. However, after initially falling to 8,500 in 2011, the job count has remained fairly close to that total for the last five years and may finally have stabilized.

Statewide, the job recovery after the recession stood at 8.5 percent. Three industries exceeded this growth rate and rebounded strongly after the trough in 2010.

The natural resources, mining, and construction sector expanded the fastest, climbing past the 2010 count by 20.8 percent. Special trades created nearly half of the jobs, while 2,400 slots were in building construction.

Professional and business services also showed strength after the recession with 16.5 percent growth, adding 11,800 new jobs from 2010 to 2015. The administrative, support, waste management, and remediation services sub-sector was responsible for 9,800 new jobs and a large chunk of 8,100 positions were created in the employment services area. Management of companies and enterprises contributed about 1,800, with the remaining 300 distributed among professional, scientific, and technical services positions.

The third fastest growing industry in the post-recession period was leisure and hospitality, up 14.0 percent, posting the greatest numerical gain of 14,000 new jobs. As tourism rebounded and reached record levels in terms of visitor counts and spending, the accommodations and food services sub-sector responded with the addition of 12,600 positions.

Trade, transportation, and utilities benefitted from a 8.2 percent hike, adding 9,000 jobs. The new jobs were evenly distributed between two sub-sectors, each adding 4,300 positions apiece. Various components of retail trade were responsible for the rise in that sector. Within transportation, warehousing, and utilities - transportation and warehousing contributed the bulk of the new jobs .

The education and health services industry, though an important and sizable industry, grew a little slower than the average for all industries. However, the 8.0 percent growth rate did translate into 6,000 new jobs. Although education jobs actually declined by 200 positions, hiring within health care and social assistance more than made up for the job loss with an increase totaling 6,200. Over 61 percent of the new healthcare jobs were in the ambulatory health care services sub-sector.

In 2015, government, which remained Hawaii's largest industry, reported an increase of 1,400 from 2010 to 2015 for a minimal rise of 1.1 percent post-recession. Over the last five years, the job count has fluctuated near the 2010 level. Combined growth in both State and Local government, offset cuts in the Federal branch.

There is reason for continued optimism that Hawaii's non-farm employment will improve further in 2016. In fact, looking at the 6-month average for January to June 2016, jobs are 2.1 percent higher than a year ago. With the exception of a few industries, the figures show positive trends.

State Average Wage Close to National Average

Workers in Hawaii received an average wage of \$22.95 per hour as of May 2015, a little over one percent less than the national average of \$23.23 per hour. National earnings exceeded Hawaii's wages in 10 out of the 22 major occupational groups. These groups are highlight-

ed in the table below that is sorted by the highest wages paid nationally (Figure 12).

According to the data, Hawaii's wages for the majority of the groups at the top of the list, while at the higher

Figure 12. Average Mean Hourly Wage, U.S. vs Hawaii, May 2015 (sorted by U.S. hourly wages)

Major Occupational Group	Mean Hourly Wage, May 2015			
	U.S.	State	Numerical Difference	Percent Difference
Management	\$55.30	\$44.81	-\$10.49	-19.0%
Legal	\$49.74	\$39.19	-\$10.55	-21.2%
Computer & Mathematical	\$41.43	\$36.75	-\$4.68	-11.3%
Architecture & Engineering	\$39.89	\$37.46	-\$2.43	-6.1%
Healthcare Practitioners & Technical	\$37.40	\$43.54	\$6.14	16.4%
Business & Financial Operations	\$35.48	\$30.78	-\$4.70	-13.2%
Life, Physical, & Social Science	\$34.24	\$32.18	-\$2.06	-6.0%
Arts, Design, Entertainment, Sports, & Media	\$27.39	\$24.77	-\$2.63	-9.6%
Education, Training, & Library	\$25.48	\$24.47	-\$1.01	-4.0%
Total, All Occupations	\$23.23	\$22.95	-\$0.28	-1.2%
Construction & Extraction	\$22.88	\$29.78	\$6.89	30.1%
Community & Social Service	\$22.19	\$23.68	\$1.48	6.7%
Installation, Maintenance, & Repair	\$22.11	\$25.13	\$3.02	13.7%
Protective Service	\$21.45	\$21.23	-\$0.22	-1.0%
Sales & Related	\$18.90	\$16.52	-\$2.39	-12.6%
Office & Administrative Support	\$17.47	\$18.11	\$0.64	3.6%
Production	\$17.41	\$18.03	\$0.62	3.6%
Transportation & Material Moving	\$16.90	\$21.02	\$4.12	24.4%
Healthcare Support	\$14.19	\$15.77	\$1.58	11.1%
Building & Grounds Cleaning & Maintenance	\$13.02	\$15.32	\$2.30	17.7%
Farming, Fishing, & Forestry	\$12.67	\$15.51	\$2.84	22.4%
Personal Care & Service	\$12.33	\$13.81	\$1.48	12.0%
Food Preparation & Serving Related	\$10.98	\$13.79	\$2.81	25.6%

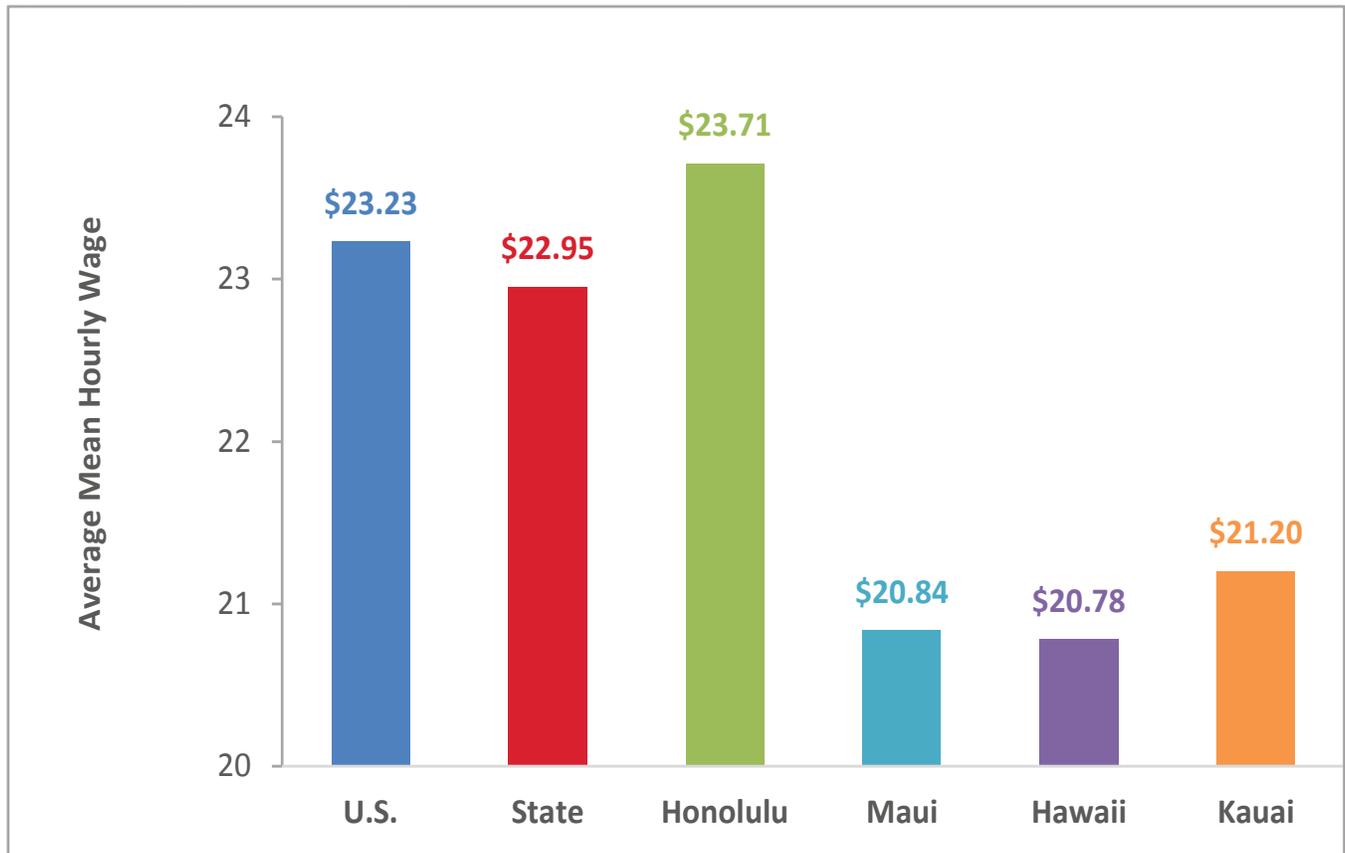
Source: Occupational Employment Statistics Program.

end of the pay scale, are below the national hourly rate. Workers in management and legal occupations earn about one-fifth less in the local market compared to their national cohorts. However, because of Hawaii's service-based economy, the concentration of workers in the higher paid occupational groups such as: legal; life, physical, and social science; computer and mathematical; and architecture and engineering occupations are relatively small compared to the other occupational groups. Instead, occupational groups that pay better wages in Hawaii as compared to the nation such as: food preparation and serving related; building and

grounds cleaning and maintenance; transportation and material moving; and construction provide more jobs for the state.

At the county level, Honolulu County's average wage of \$23.71 topped the state's average and was slightly above the national hourly rate (Figure 13). Wage earners in Kauai County took home the next highest hourly rate of \$21.20 per hour, while the average wage for Maui County at \$20.84 and Hawaii County's rate of \$20.78 was over nine percent less than Hawaii's overall hourly wage.

Figure 13. Average Mean Hourly Wage, U.S., State, and Counties of Hawaii, May 2015



Source: Occupational Employment Statistics Program.

Dynamics Evident in Hires and Separations

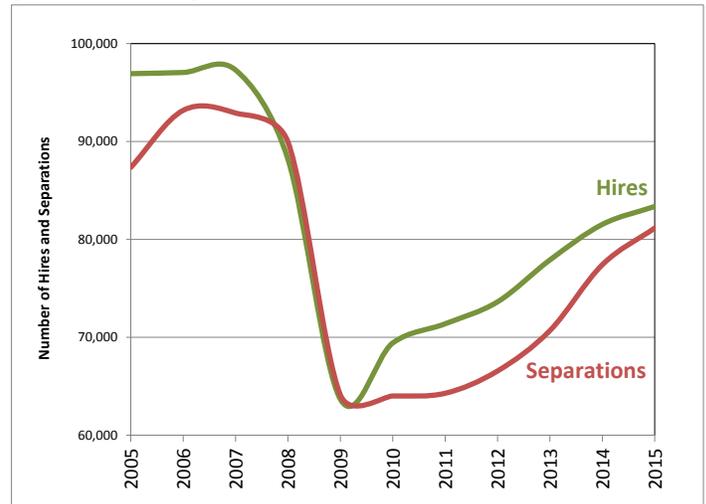
The U.S. Census Bureau's Local Employment Dynamic (LED) program produces Quarterly Workforce Indicators (QWI) that gives an overview of the State's workforce. The latest data available is for the second quarter of 2015 and comparisons against the same quarter of a prior ten year period illustrate some of the dynamics happening within the workforce. *Hires* are defined as the estimated number of workers who started a new job in the specified quarter - it is the sum of new hires and recalled hires. *Separations* are the estimated number of workers whose job with a given employer ended in the specified quarter.

In 2005, hires outnumbered separations and this continued through 2007, where hires peaked at 97,307 (Figure 14). Hires began to dwindle in 2008 as the recession took hold and reached its lowest point of 63,667 in 2009. During this 2-year downturn, separations slightly outnumbered hires. However, beginning in 2010 hires partially rebounded as Hawaii entered the recovery phase. However, in 2015 the number of hires were still about 14 percent lower than they were ten years prior.

Separations in 2015 were also down by 7.1 percent from 2005. This is interesting in that even during the recession period, there was a drop in separations. It most likely indicates that people hung onto their jobs during lean times, whereas during boom years, more people left their positions seeking to change, upgrade, or retire from their jobs.

Overall, Hawaii's economy performed favorably as hires outnumbered separations in all but two years during the last decade. Which industries fared better than others?

Figure 14. Hires vs. Separations, State of Hawaii, 2005-2015 (Second Quarter)



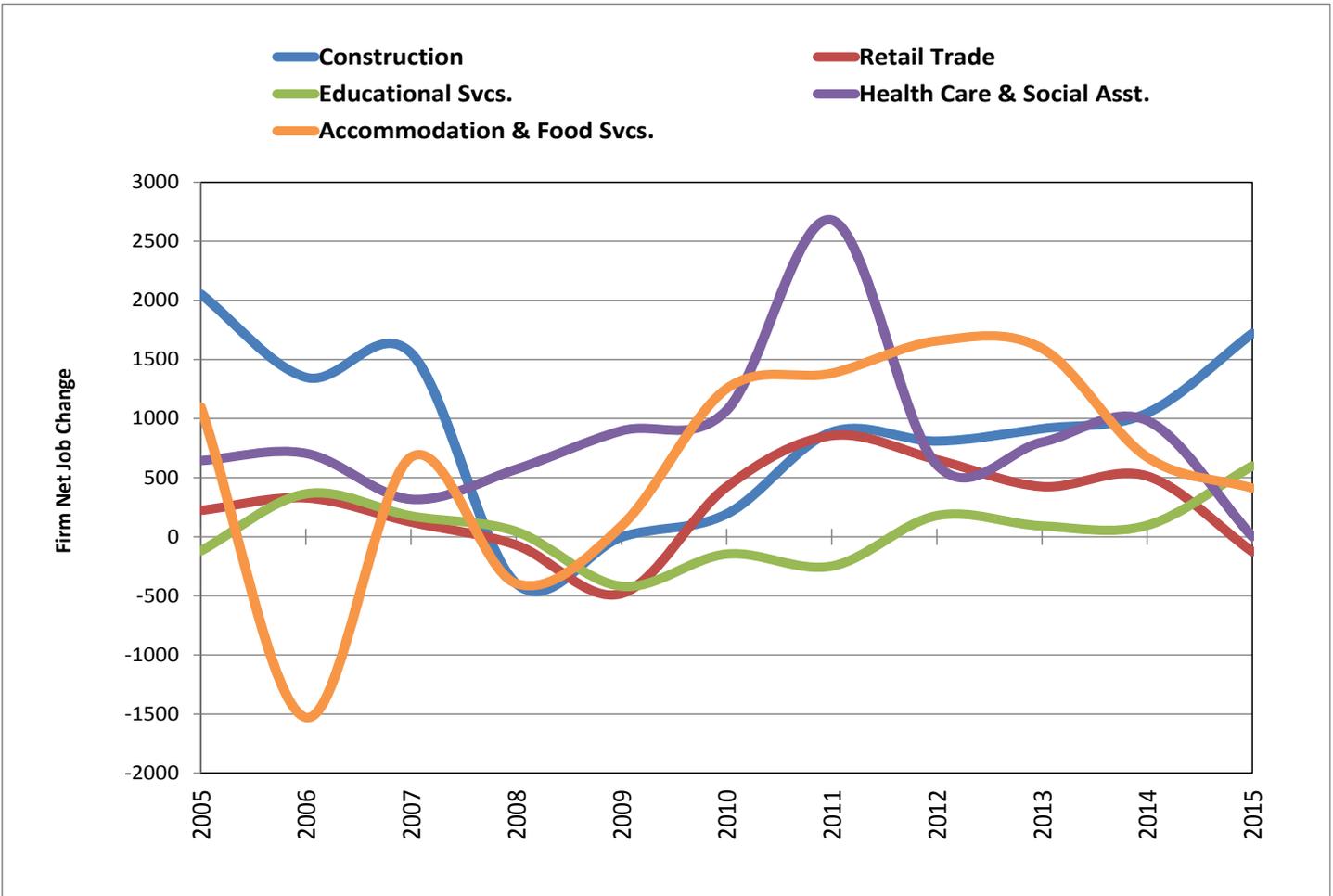
Source: U.S. Census Bureau, Local Employment Dynamics, Quarterly Workforce Indicators, LED Extraction tool, data as of 8/9/16.

In the LED program, there are many indicators that involve *firms* and not just *individuals* as was just previously addressed with the hires and separations.

Job creation is defined as the estimated number of jobs gained at firms throughout the quarter - a measure that counts total employment increase at firms that grew over the course of the quarter. *Job destruction*, on the other hand, is the estimated number of jobs lost at firms throughout the quarter - counts of employment decrease at firms that shrank over the course of the quarter. The difference between job creation and job destruction is the *firm net job change*, which can illustrate which industries moved in a positive direction over the last decade.

Looking at five of Hawaii's major industries, there is evidence that firm net job change fluctuated differently for various industries (Figure 15). It didn't always follow the job trend of the economic recession.

Figure 15. Firm Net Job Change by Industry, State of Hawaii, 2005-2015 (Second Quarter)



Source: U.S. Census Bureau, Local Employment Dynamics, Quarterly Workforce Indicators, LED Extraction tool, data as of 8/9/16

Construction displayed a positive trend for most of the decade, with net change running in the 1,000 – 2,000 range between 2005 and 2007. Then came a drop below zero in 2008 and 2009, followed by a recovery to 192 in 2010. Improvement continued in 2011 and reached 1,720 in 2015.

Educational services, on the other hand, exhibited a positive net change more than half of the time, hovering near zero most of the time. Its highest point was 599 in 2015 and its lowest point was -419 in 2009.

Firm net job change in accommodation and food services was much more volatile, with a deep plunge to -1,529 in 2006, then rising to 1,657 in 2012.

Surprisingly, the trend in retail trade was relatively stable for a high-turnover industry and mostly positive except for 2008, 2009 and 2015, when it fell to -70, -482 and -126, respectively. It peaked at 856 in 2011.

Health care and social assistance also exhibited large swings, all of it in the positive range with a sharp peak in 2011 at 2,680. Since then, it settled down near zero at 2 in 2015.

What these firm net job changes illustrate is that there is a lot of churning going on within companies that are not visible in other data sets dealing with employment. While overall jobs could appear to be stable on the outside, the dynamics may be very active on the inside.

Earnings Increase Despite Recession

Although Hawaii's workforce endured a significant amount of job losses during the recession, the good news is that average monthly earnings rose by 24.7 percent from 2005 to \$3,763 in 2015 (Figure 16) based on second quarter data from the Local Employment Dy-

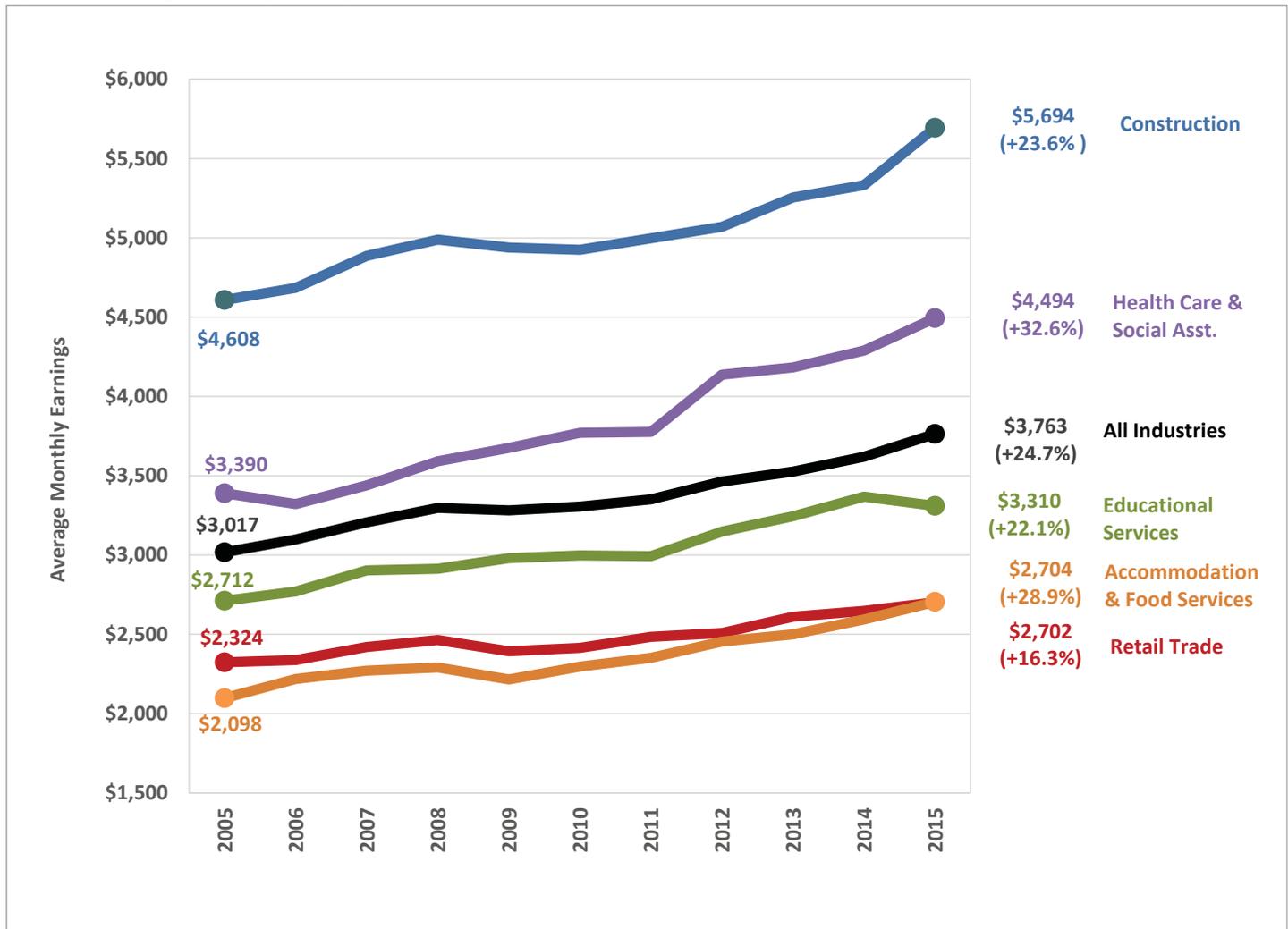
namics program. Average monthly earnings by industry discussed here include only employees with stable jobs (those that worked with the same firm throughout the quarter). In this respect, many of Hawaii's key industries fared well (Figure 17).

Figure 16. Average Monthly Earnings and Growth by Industry, State of Hawaii, 2005 and 2015 (Second Quarter)

Ranked by 2015 earnings	2005	2015	Percent Growth
Utilities	\$5,720	\$7,328	28.1%
Mining, Quarrying, and Oil and Gas Extraction	\$6,842	\$7,251	6.0%
Finance and Insurance	\$4,515	\$5,710	26.5%
Construction	\$4,608	\$5,694	23.6%
Professional, Scientific, and Technical Services	\$4,414	\$5,539	25.5%
Management of Companies and Enterprises	\$4,281	\$5,283	23.4%
Public Administration	\$4,113	\$5,260	27.9%
Wholesale Trade	\$3,625	\$4,523	24.8%
Health Care and Social Assistance	\$3,390	\$4,494	32.6%
Transportation and Warehousing	\$3,168	\$4,025	27.1%
Real Estate and Rental and Leasing	\$3,254	\$3,971	22.0%
All Industries	\$3,017	\$3,763	24.7%
Information	\$3,963	\$3,761	-5.1%
Manufacturing	\$2,947	\$3,572	21.2%
Educational Services	\$2,712	\$3,310	22.1%
Agriculture, Forestry, Fishing and Hunting	\$2,257	\$3,026	34.1%
Admin. & Support & Waste Mgmt. & Remediation Services	\$2,438	\$2,998	23.0%
Other Services (except Public Administration)	\$2,321	\$2,796	20.5%
Accommodation and Food Services	\$2,098	\$2,704	28.9%
Retail Trade	\$2,324	\$2,702	16.3%
Arts, Entertainment, and Recreation	\$2,020	\$2,565	27.0%

Source: U.S. Census Bureau, Local Employment Dynamics, Quarterly Workforce Indicators, QWI Explorer, data as of 8/11/16.

Figure 17. Average Monthly Earnings for Key Industries, State of Hawaii, 2005-2015 (Second Quarter)



Source: U.S. Census Bureau, Local Employment Dynamics, Quarterly Workforce Indicators, QWI Explorer tool, data as of 8/11/16.

Construction industry average monthly earnings rose 23.6 percent in the ten year period from 2005 to 2015, slightly slower than the overall average. However, with \$5,694 monthly earnings in 2015, construction workers have higher average wages than many other workers.

Workers in the health care and social assistance industry benefited from a wage increase of 32.6 percent between 2005 and 2015, better than the average worker. Wages in this field at \$4,494 in 2015 are also higher than the average pay for all industries.

Educational services employees realized an earnings increase of 22.1 percent from 2005 to 2015, lower than

the overall average. Wages in this industry at \$3,310 in 2015 are below the average pay for all industries.

Retail trade employees realized an increase of 16.3 percent from 2005 to 2015, growing slower than the overall average. Wages in this industry, \$2,702 in 2015, are among the lowest of all industries.

Workers in the accommodations and food services industry benefitted from earnings growth of 28.9 percent between 2005 and 2015. But this faster than average growth rate still kept the low monthly pay at \$2,704 in 2015 lower than the all-industry average.

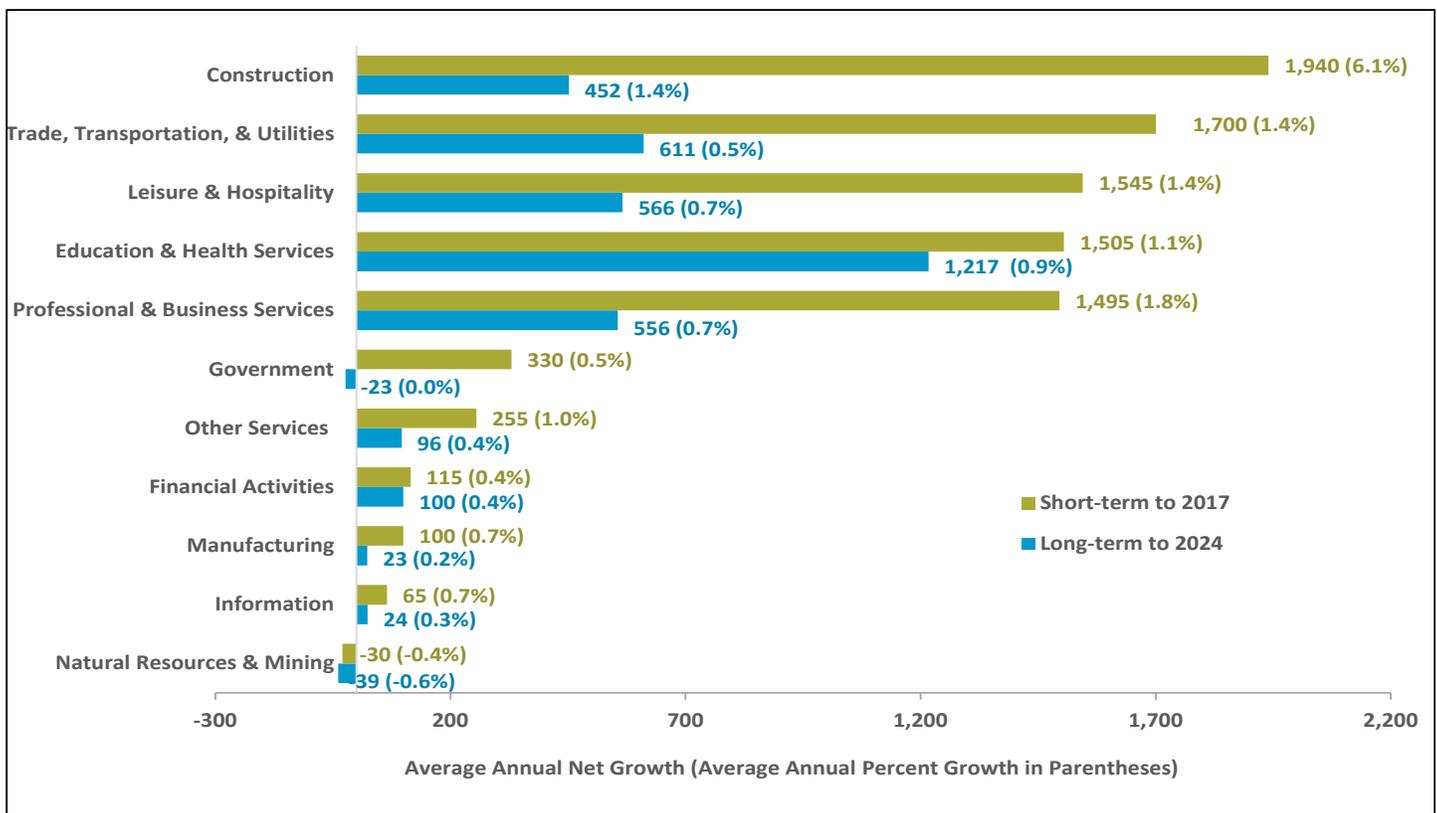
Short- and Long-Term Job Forecasts are Positive

Future job growth in Hawaii for both the short-term and the long-term remains positive. The short-term forecast from 2015 to 2017 points to further improvement in the economy, growing at 1.4 percent per year. Growth over the longer term will average a more modest rate of increase at 0.6 percent annually from 2014 to 2024. Short- and long-term projections are calculated independently using different starting and ending periods, making direct comparisons difficult. In addition, the methodology for the short-term forecast attempts to incorporate the current business cycle, whereas the long-term projections assumes structural stability in the economy. This explains why growth rates may be higher in the short-term as Hawaii's economy continues to

expand following the recession compared to the long-term which assumes full employment. Therefore, to lessen the impact of the differences between short- and long-term methodologies, average growth is presented on an annual basis.

In the near future, most of the job gains will be in the following major industries (Figure 18): construction; trade, transportation, and utilities; leisure and hospitality; education and health services; and professional and business services. With the exception of construction, these are the largest industries, and therefore, it is not surprising that they will provide the most job growth in the coming years.

Figure 18. Projected Average Annual Job Growth by Industry for Short- and Long-Term



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, Projections program.

Although construction is not a very large industry, it is poised to be the fastest growing over the short- and long-term future as it emerges from a deep downcycle and benefits from rail transit and other commercial and residential projects. The specialty trades will contribute the most new construction jobs, followed by building construction, and to a lesser degree, heavy and civil engineering construction.

Government, on the flip side, is a large industry that is expected to contract over the long-term despite positive growth forecasted for the short-term. Expected job losses in the federal branch will negate the anticipated gains in local and state government.

Other industries projected to expand the most such as the trade, transportation, and utilities sector along with the leisure and hospitality sector will continue to benefit from visitor spending. Gains in the education and health services industry over the ten-year projected period will outpace the statewide rate. Meanwhile, the administrative and support services sector will boost the professional and business services industry.

These forecasted new jobs are just one part of the future job openings, and are attributed to economic growth. However, when a current worker leaves the labor force or changes occupation, it also creates a job opening, which we refer to as replacement openings. The combined total of the openings due to growth and replacements represent the total openings.

Many of the future job openings will occur in entry level, transitional jobs in which there is a constant turnover of workers, such as those related to food preparation and serving, sales, and office and administrative support. (Figure 19). However, occupations with higher

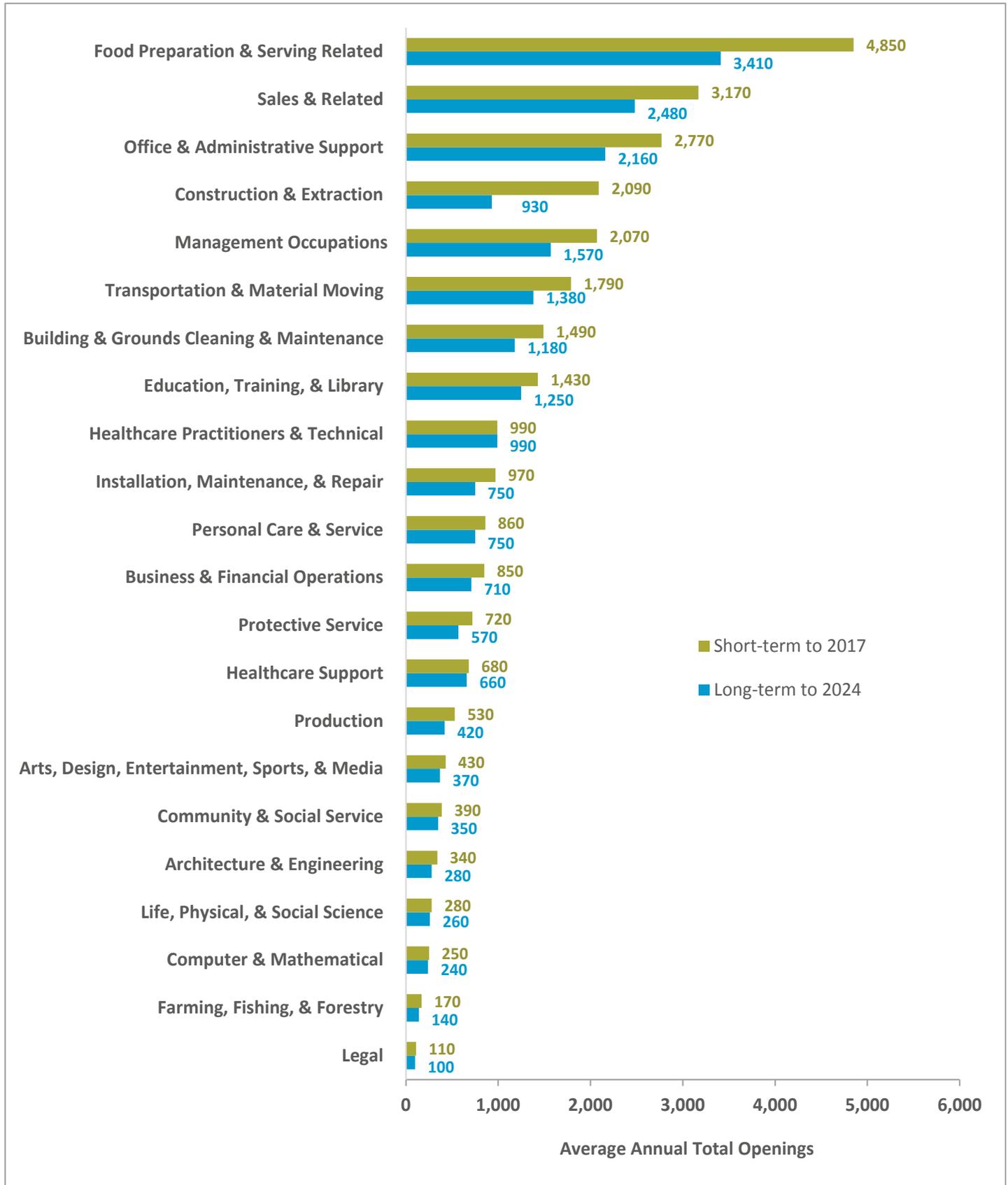
education and training such as management, education, and healthcare are also expected to provide lots of openings. It is noteworthy to see that construction and extraction type occupations will have many openings, more so in the short-term as the building industry and trades continue to emerge from a prolonged downcycle and future projects offer further employment opportunities.

Figure 20 lists the 15 occupations projected to average the most job openings annually for the long-term as well as the short-term future. Retail salespersons, the largest occupation, tops the list with over 1,100 openings projected for the short-term and the long-term. In fact, the top five jobs with the most projected openings share the same ranking for both time periods. Most of the positions listed are either directly or indirectly related to tourism. Two jobs are office-related - general office clerks, and stock clerks and order fillers. Registered nurses is the only job within the healthcare field.

Not surprisingly, wages for most of the top 15 jobs are on the lower end of the payscale, with minimal education and training requirements. General and operations managers and registered nurses are the only two occupations that require a bachelor's degree and also earn more than the overall average of \$47,740 for all occupations. Restaurant cooks do not require any formal education but involve moderate-term on-the-job training. The other 12 occupations need only a HS diploma or less education and short-term on-the-job training.

Overall, more than 69 percent of the state's projected job openings through 2024 require only a high school diploma or less (Figure 21). About 18 percent of the future openings will require a Bachelor's degree and another 2 percent will need an Associate's degree. The

Figure 19. Projected Average Annual Total Job Openings by Occupation Group for Short- and Long-Term



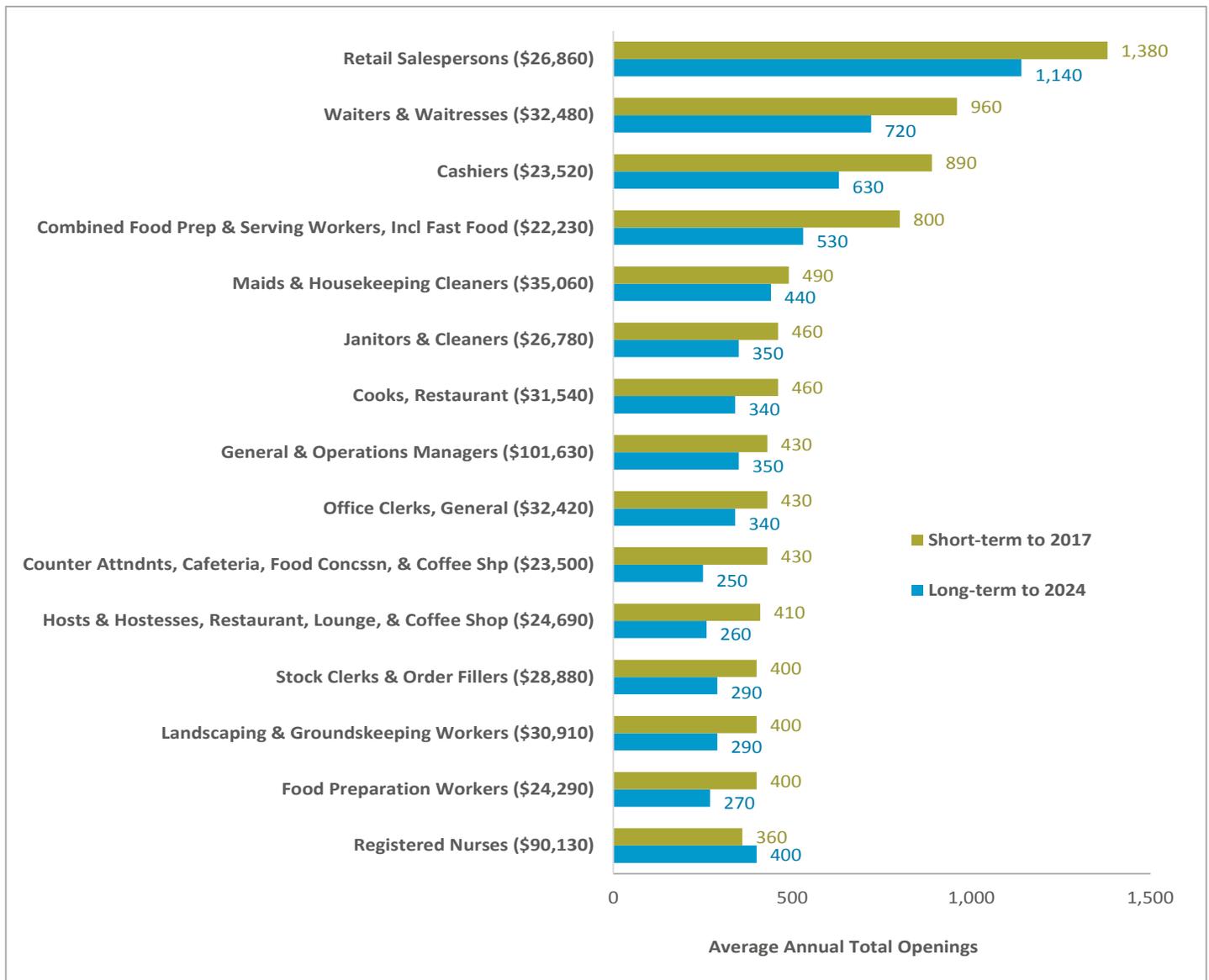
Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, Projections program.

prerequisite for almost 2 percent of all openings will be a Master's degree while another 2 percent will necessitate a Doctoral/Professional degree for employment. The remaining job opportunities call for a postsecondary certificate (5 percent) or some college (2 percent).

A significant portion of job openings, 84 percent, will not demand any related work experience. About 11 percent will require less than 5 years experience and the remaining 5 percent will need 5 or more years.

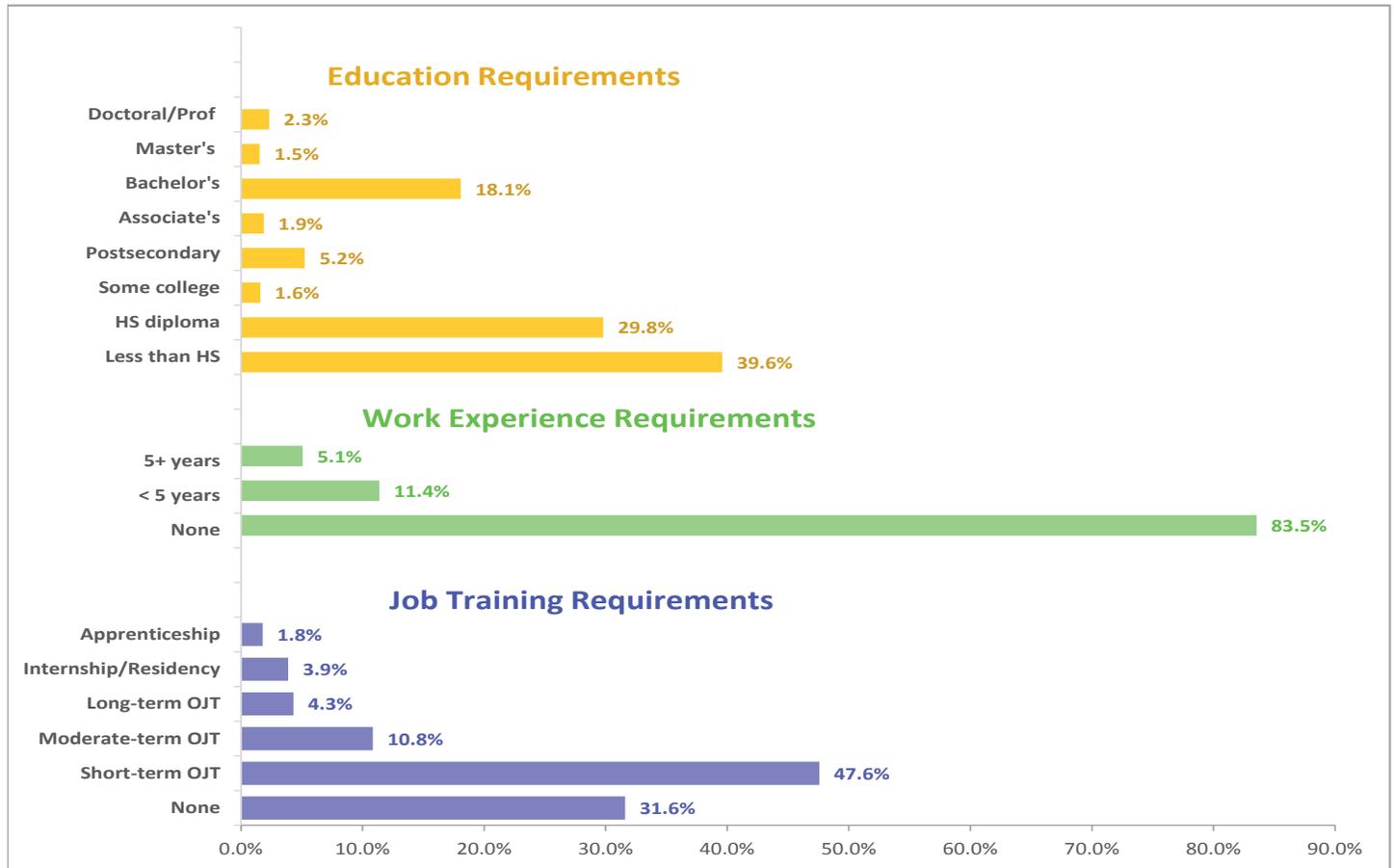
Over 31 percent of the job openings will also have no job training requirements. Nearly half, or 48 percent will require short-term on-the-job training and another 11 percent will require moderate-term on-the-job training. Long-term on-the-job training will be needed for just 4 percent of job openings. The rest of the openings will need an internship/residency (4 percent) or an apprenticeship training program (2 percent).

Figure 20. Occupations with the Most Projected Average Annual Total Job Openings in the Short- and Long-Term



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, Projections program.

Figure 21. Distribution of Projected Average Annual Total Job Openings by Education, Work Experience, and Job Training Requirements, 2014-2024



Source: Hawaii State Department of Labor and Industrial Relations, Research and Statistics Office, Projections program.

Advertised Online Jobs

After peaking in 2014, the number of jobs advertised online fell by more than 40 percent in 2015 for the state, Honolulu County, Maui County, and Kauai County. Hawaii County's decline was not as drastic, falling by 27 percent (Figure 22). This marks the first decline in the statewide totals since demand for workers started

improving in 2010. However, the current volume was still above the 2012 levels for all areas.

Following the slowdown in 2009, job advertisements in three out of the four counties continued to increase every year from 2010 to 2014. Only Honolulu County

Figure 22. Total Annual Advertised Openings for the State and Counties, 2010-2015

Area	2010	2011	2012	2013	2014	2015
State of Hawaii	105,314	132,203	133,646	208,761	270,810	155,947
Honolulu County	81,670	99,701	94,907	148,840	192,764	107,683
Maui County	10,073	14,677	16,551	28,129	38,295	21,239
Hawaii County	8,406	11,038	12,832	19,136	24,688	18,075
Kauai County	5,164	6,773	7,416	11,290	14,765	8,100

Source: Online advertised jobs data, America's Labor Market Analyzer (ALMA)

experienced a slight dip in 2012, followed by a pickup in employment opportunities over the next two years. The recovery was particularly evident between 2012 and 2013 when the number of job listings posted a pronounced rise in hiring throughout the state.

Although 2015 job postings dropped, the number of unemployed persons also fell in each of the counties (Figure 23). In fact, when computing the ratio of the number of unemployed persons per job opening,

each county's ratio remained below one, meaning there were more job openings than jobseekers. Honolulu and Maui County ranked lowest with a ratio of 0.15, Kauai County followed with 0.18, while Hawaii County posted a ratio of 0.22 per opening.

The number of advertised jobs appear to be on the rise in 2016. So far, a monthly comparison from January to July of 2016, versus the same time period for 2015 is generating higher job volume in 2016 for all counties.

Figure 23. Ratio of Unemployed per Job Opening for the State and Counties, 2010-2015

	Year	2010	2011	2012	2013	2014	2015
State	Unemployed	44,967	44,934	38,903	31,620	29,198	24,500
	Advertised Job Openings	105,314	132,203	133,646	208,761	270,810	155,947
	No. Unemployed Per Job Opening	0.43	0.34	0.29	0.15	0.11	0.16
Honolulu County	Unemployed	26,558	26,795	24,154	19,876	18,882	15,920
	Advertised Job Openings	81,670	99,701	94,907	148,840	192,764	107,683
	No. Unemployed Per Job Opening	0.33	0.27	0.25	0.13	0.10	0.15
Maui County	Unemployed	6,743	6,382	5,090	4,107	3,751	3,164
	Advertised Job Openings	10,073	14,677	16,551	28,129	38,295	21,239
	No. Unemployed Per Job Opening	0.67	0.43	0.31	0.15	0.10	0.15
Hawaii County	Unemployed	8,662	8,723	7,174	5,723	4,874	3,973
	Advertised Job Openings	8,406	11,038	12,832	19,136	24,688	18,075
	No. Unemployed Per Job Opening	1.03	0.79	0.56	0.30	0.20	0.22
Kauai County	Unemployed	3,004	3,035	2,486	1,915	1,691	1,443
	Advertised Job Openings	5,164	6,773	7,416	11,290	14,765	8,100
	No. Unemployed Per Job Opening	0.58	0.45	0.34	0.17	0.11	0.18

Source: Bureau of Labor Statistics, Local Area Unemployment Statistics program and Online Advertised Jobs data.

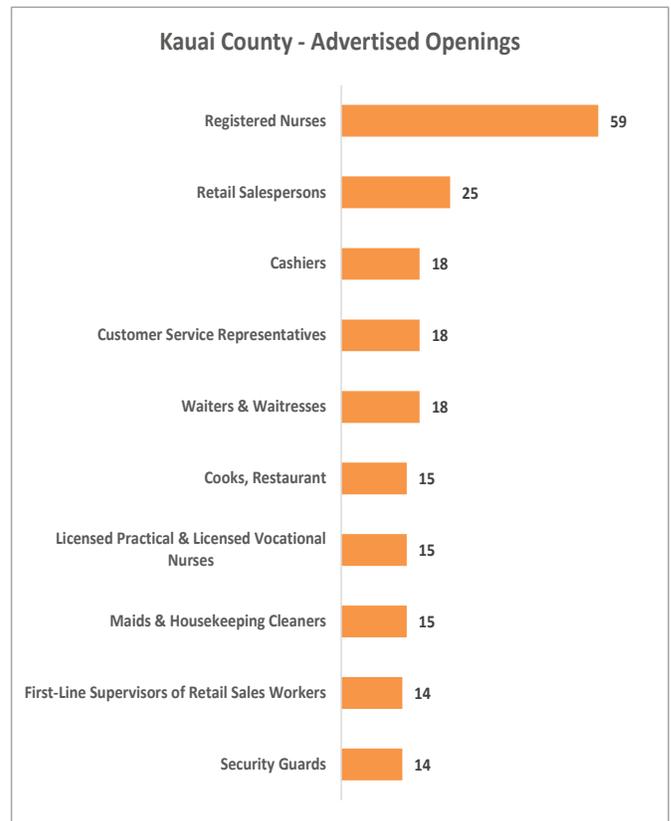
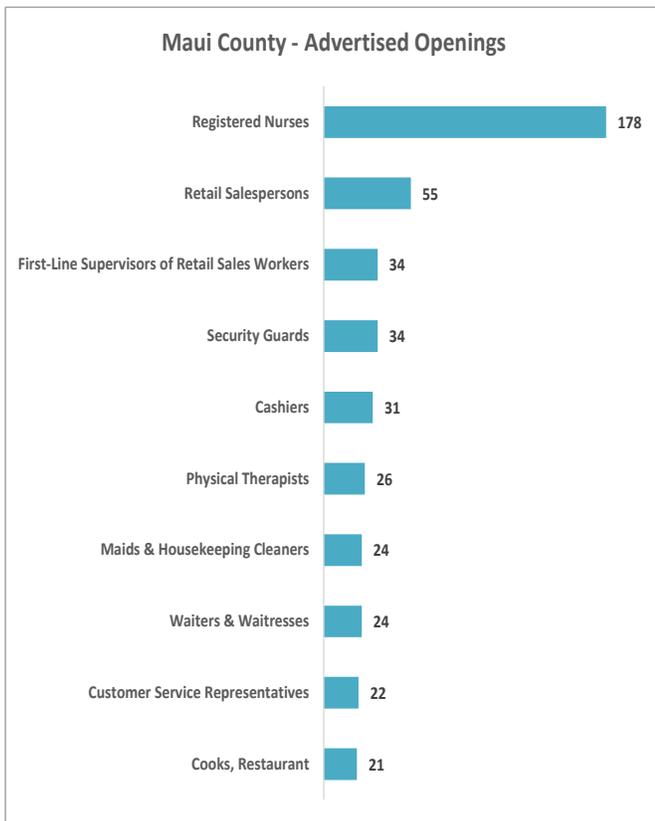
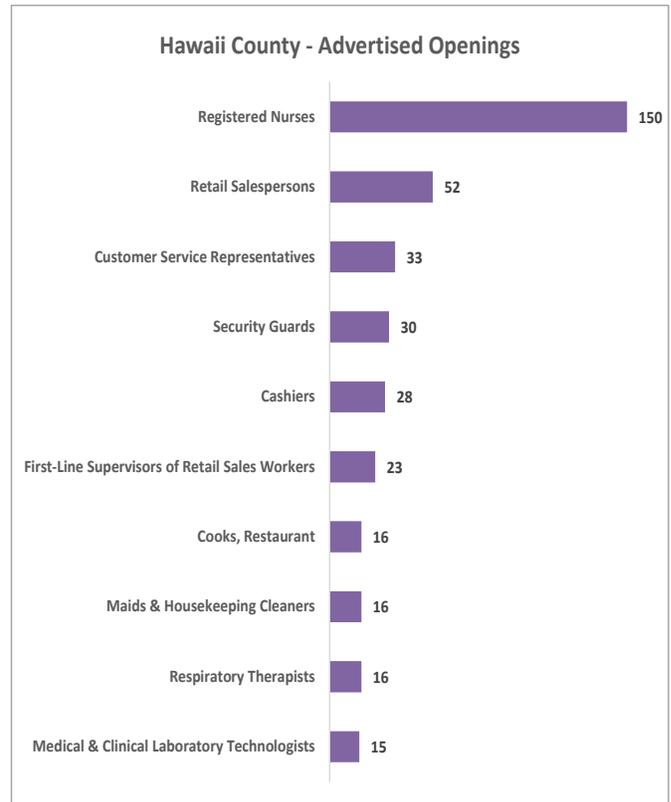
Top 10 Jobs with the Most Advertised Openings by County

As of August 23, 2016, the top advertised jobs within each county offer a mixture of opportunities for job-seekers. The following graphs (Figure 24) display the top 10 occupations with the most openings for each county.

Seven of the occupations common to all counties include: registered nurses, retail salespersons, customer service representatives, security guards, firstline supervisors of retail workers, cashiers, and restaurant cooks.

Although more than half of the jobs in each county can be obtained with a high school diploma or less, employment for employees with postsecondary training also exist. These are found in the following positions: in Honolulu MSA, registered nurses, managers, and occupational therapists; in Maui County, registered nurses and physical therapists; in Hawaii County, registered nurses, respiratory therapists, and medical and clinical laboratory technologists; and in Kauai County, registered nurses, and licensed practical and licensed vocational nurses.

Figure 24. Top 10 Advertised Job Openings by County



Source: Online Advertised Jobs Data as of August 21, 2016

More Labor Market Information Available on Hawaii Workforce Infonet Website

For more information, visit the Research and Statistics Office's website at www.hiwi.org. There you will find many publications that the Labor Market Research Section produces about the state of the local labor market as well as employment projections by industry and occupations and detailed analyses. Recently published reports include:

- Affirmative Action Programs – Labor Information tables for state and counties updated Table 1- Labor Force Information by Sex and Race with 2015 Annual Local Area Unemployment Statistics (LAUS) data and based on 2006-2010 Census.
- Employment Forecasts for the Short-Term Future provides short-term industry and occupational projections for Hawaii, using 1st Quarter 2015 employment data to forecast employment for the 1st Quarter 2017.
- Local Employment Dynamics reports can be generated for Hawaii private industries based on quarterly workforce indicators such as employment, job creation and flow via new hires and separations, worker turnover, and wages by industry, age, and gender.
- Long-Term Industry and Occupational Projections, State of Hawaii 2014-2024 tables contain state employment for industries and occupations and expected growth amounts for the designated time period as well as occupational openings based on growth and replacement needs.
- Long-Term Industry and Occupational Projections, Counties 2014-2024 tables contain county employment for industries and occupations and expected growth amounts for the designated time period as well as occupational openings based on growth and replacement needs.
- Occupational Employment and Wages in Hawaii 2015 is an annual report compiling the results of the Occupational Employment Statistics survey, collecting employment and wage data by occupation over a three-year period from approximately 3,500 establishments.
- Soft Skills Survey Results and Analysis report presents the soft skills ranked by importance in four in-demand industries: construction, healthcare, hospitality, and information technology. Data was generated by survey responses from 250 employers within the State of Hawaii.



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