



UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

UHERO FORECAST FOR THE STATE OF HAWAII

DELTA WAVE SWAMPS TOURISM, BUT RETURN TO RECOVERY EXPECTED

SEPTEMBER 24, 2021





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UHERO FORECAST FOR THE STATE OF HAWAII

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Executive Summary

Hawaii's recovery has experienced a setback with the recent surge in COVID-19. Record virus numbers and preventive policy responses have caused an abrupt tourism pullback and are signalling a near-term decline in overall economic activity. While the Delta wave may now have turned the corner, we are in for a period of weakness before growth resumes late in the year. The end to federal fiscal support will weigh on recovery going forward, and a full return to pre-pandemic conditions remains several years down the road.

- US economic recovery began in earnest in the second half of 2020, bringing output above its previous peak by the second quarter of this year. The Delta COVID-19 wave threatens to slow US and global activity. Even before this, the recovery had been mixed, with labor markets lagging. Beyond this pandemic surge, global recovery will resume, but prospects are bleak for the poorest countries where vaccination progress has been painfully slow.
- Visitors from the US mainland reached an all-time high in July, driven by healthy US incomes and pent-up demand. Occupancy rates across all accommodations reached 80%. But after the surge in Covid-19 cases, the number of visitors fell sharply, prompted by virus concerns, new preventive measures, and Governor Ige's request for visitors to delay Hawaii vacations. International visitors, who have been absent in the recovery so far, will begin to return in 2022, reaching more than half their pre-pandemic level by the middle of the year. Overall arrivals will recover from the fall slump by early summer.
- The labor market faces pandemic-induced weakness and structural challenges. Hiring has been slow despite the large number of job openings. School and childcare closures, enhanced unemployment benefits, and ongoing virus concerns have discouraged re-employment. As a result, there are significant shortages of workers in a number of sectors. While employment gains will resume, job numbers will not match pre-pandemic levels for several years.
- The end of federal pandemic support will significantly reduce income for many families. This includes the end of special unemployment programs that supplemented weekly benefits, extended eligibility periods, and extended benefits to contract workers. The Child Tax Credit that began mid-July will help, but is slated to end in December. Incomes will decline into early next year before growth resumes.
- Housing markets have been hot, paralleling developments on the US mainland. Low interest rates and demand from mainland buyers have helped boost Hawaii home resale prices to new records. Rents have turned up at the same time that the eviction moratorium is ending. Residential homebuilding has been strong, and there has been some improvement in commercial occupancy, although temporary retail and restaurant closures threaten this progress.
- The future path for the economy remains very uncertain, with risks tilted to the downside. In our baseline forecast we expect the adverse impact of the Delta variant and associated restrictions to continue through the fall. The pessimistic scenario considers the possibility that persistent restrictions due to Covid-19 could weigh more heavily on economic activity in Hawaii, on the US mainland, and globally. The optimistic scenario envisions a faster recovery from the Delta variant and a return of pent-up demand leading to a strong winter season and more rapid return to employment and income recovery.

Forecast Summary

MAJOR ECONOMIC INDICATORS BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|----------|-----------|
| STATE OF HAWAII | | | | | | |
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 576.3 | 606.0 | 634.1 | 645.9 |
| % Change | 0.0 | -14.8 | 2.7 | 5.2 | 4.6 | 1.9 |
| Unemployment Rate (%) | 2.5 | 11.8 | 8.3 | 6.8 | 4.3 | 3.6 |
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 85,370.3 | 81,206.2 | 83,544.3 | 85,179.2 |
| % Change | 1.3 | 5.2 | -1.1 | -4.9 | 2.9 | 2.0 |
| Real GDP (Mil 2020\$) | 97,246.8 | 89,860.5 | 93,003.0 | 95,226.3 | 98,332.4 | 100,132.2 |
| % Change | 1.2 | -7.6 | 3.5 | 2.4 | 3.3 | 1.8 |
| Total Visitor Arrivals by Air (Thou) | 10,385.8 | 2,716.2 | 6,598.4 | 8,566.7 | 9,318.0 | 9,729.4 |
| % Change | 5.0 | -73.8 | 142.9 | 29.8 | 8.8 | 4.4 |
| Visitor Days (Thou) | 89,690.4 | 28,559.6 | 62,962.8 | 75,830.7 | 82,910.5 | 86,953.1 |
| % Change | 2.2 | -68.2 | 120.5 | 20.4 | 9.3 | 4.9 |
| Real Visitor Expenditures (Mil 2020\$) | 17,994.4 | 4,784.0 | 11,235.9 | 14,119.4 | 15,666.6 | 16,888.9 |
| % Change | -0.4 | -73.4 | 134.9 | 25.7 | 11.0 | 7.8 |
| HONOLULU COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 473.8 | 415.5 | 418.3 | 437.8 | 458.5 | 466.2 |
| % Change | 0.1 | -12.3 | 0.7 | 4.7 | 4.7 | 1.7 |
| Unemployment Rate (%) | 2.3 | 10.3 | 7.4 | 6.4 | 3.8 | 3.2 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020\$) | 60,554.4 | 63,563.8 | 62,743.9 | 59,990.6 | 61,756.7 | 62,927.6 |
| % Change | 0.9 | 5.0 | -1.3 | -4.4 | 2.9 | 1.9 |
| Total Visitor Arrivals by Air (Thou) | 6,153.9 | 1,515.0 | 3,223.0 | 4,788.9 | 5,349.1 | 5,644.8 |
| % Change | 5.0 | -75.4 | 112.7 | 48.6 | 11.7 | 5.5 |
| HAWAII COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 70.9 | 61.8 | 64.0 | 66.0 | 68.2 | 69.5 |
| % Change | -0.1 | -12.8 | 3.5 | 3.1 | 3.4 | 1.8 |
| Unemployment Rate (%) | 3.1 | 11.5 | 7.5 | 6.8 | 5.1 | 4.4 |
| Real Personal Income (Mil 2020\$) | 8,919.6 | 9,476.4 | 9,430.3 | 8,820.9 | 9,072.5 | 9,276.1 |
| % Change | 1.5 | 6.2 | -0.5 | -6.5 | 2.9 | 2.2 |
| Total Visitor Arrivals by Air (Thou) | 1,763.9 | 477.3 | 1,176.4 | 1,526.7 | 1,667.1 | 1,749.1 |
| % Change | 3.4 | -72.9 | 146.4 | 29.8 | 9.2 | 4.9 |
| MAUI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 80.7 | 58.1 | 67.7 | 73.4 | 76.6 | 78.5 |
| % Change | 0.2 | -28.0 | 16.5 | 8.4 | 4.5 | 2.4 |
| Unemployment Rate (%) | 2.4 | 18.1 | 10.8 | 8.3 | 5.6 | 4.3 |
| Real Personal Income (Mil 2020\$) | 8,736.0 | 9,231.9 | 9,203.6 | 8,631.1 | 8,873.2 | 9,057.2 |
| % Change | 3.1 | 5.7 | -0.3 | -6.2 | 2.8 | 2.1 |
| Total Visitor Arrivals by Air (Thou) | 3,111.1 | 846.2 | 2,401.9 | 2,870.7 | 3,072.7 | 3,196.6 |
| % Change | 5.0 | -72.8 | 183.8 | 19.5 | 7.0 | 4.0 |
| KAUAI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 33.3 | 25.5 | 26.3 | 28.8 | 30.7 | 31.8 |
| % Change | 1.8 | -23.4 | 3.1 | 9.7 | 6.6 | 3.3 |
| Unemployment Rate (%) | 2.4 | 16.3 | 11.7 | 9.1 | 5.5 | 3.8 |
| Real Personal Income (Mil 2020\$) | 3,784.9 | 4,005.1 | 3,992.5 | 3,763.6 | 3,842.0 | 3,918.2 |
| % Change | 2.3 | 5.8 | -0.3 | -5.7 | 2.1 | 2.0 |
| Total Visitor Arrivals by Air (Thou) | 1,370.0 | 345.8 | 871.0 | 1,259.6 | 1,336.8 | 1,381.2 |
| % Change | -1.3 | -74.8 | 151.9 | 44.6 | 6.1 | 3.3 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for county income for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

Third Quarter Hawaii Forecast

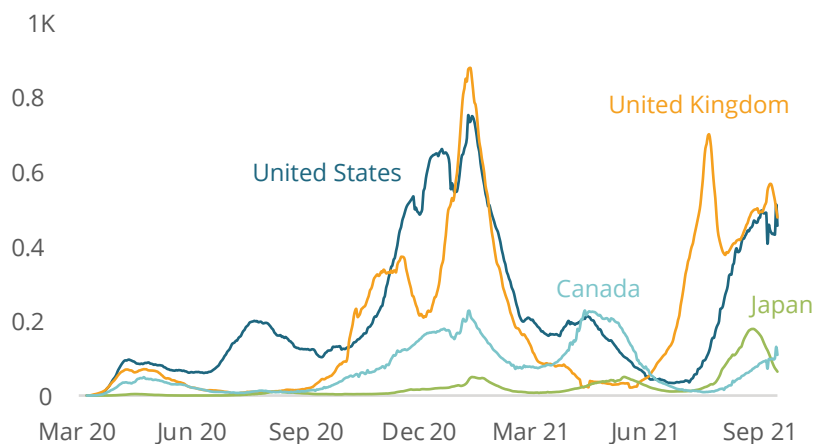
The economic costs to Hawaii of the COVID-19 pandemic have been high. Preventive restrictions and travelers' hesitancy led to a precipitous decline in tourism and local economic activity in the wake of the virus outbreak. Recovery began in earnest late last year, with a strong rebound of US visitor arrivals powered by healthy US household finances and pent-up travel demand, as well as the gradual reopening of the local economy. While employment gains lagged, recovery continued steadily through early summer, and by July Hawaii had regained about half of its pandemic-related job losses.

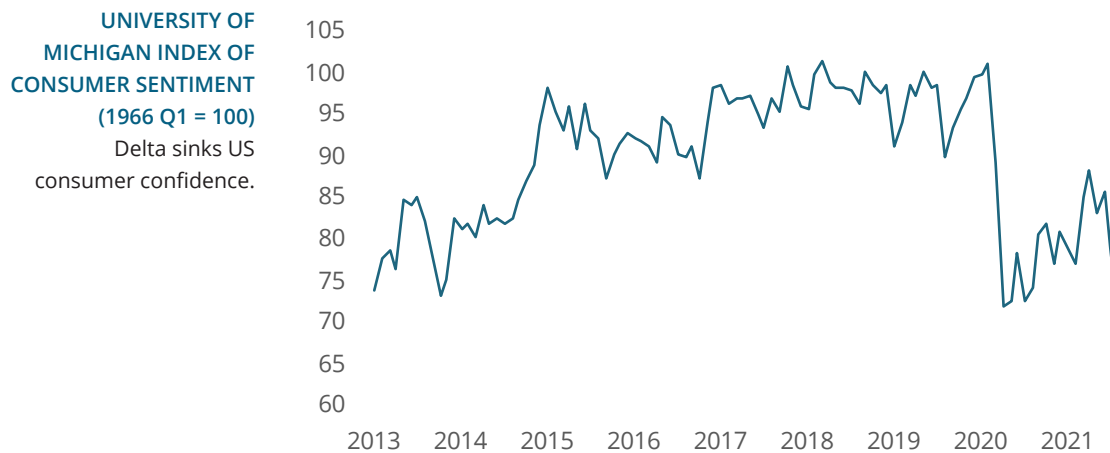
Until recently, Hawaii had skirted the worst of the COVID-19 pandemic. But the Delta wave ended Hawaii's virus exceptionalism, and the state saw record new cases beginning in the second half of July. (See the Box, *Delta wave washes over Hawaii*.) This led to new local restrictions and the Governor's call for visitors to delay Hawaii travel through the end of October, dealing a sharp blow to the visitor industry. At the time of this writing there are promising signs that Hawaii COVID-19 cases have turned the corner, and that the intense pressure on hospital capacity may be easing. We expect the current economic pullback to be relatively brief and for growth to resume later this fall, although the persistence of COVID-19 in many mainland locations and abroad presents significant downside risks. In any case, a full recovery for Hawaii remains several years down the road.

Delta wave a setback for global recovery

The US economy took an unprecedentedly large hit in 2020 from the COVID-19 pandemic. But recovery began in earnest in the second half of last year, before being dented somewhat by the surge in new cases at year's end. Ongoing progress in 2021 brought total economic activity, as measured by real gross domestic product, above its previous peak by the second quarter. Both manufacturing and service sides of the economy expanded steadily. Outside the US, the picture was mixed, with countries that are furthest along in vaccination progress, such as the United Kingdom, generally outperforming those that have lagged, such as Japan.

**NEW CASES PER
MILLION PEOPLE, 7-DAY
MOVING AVERAGE**
COVID-19 case counts
have soared. Are they
now turning?



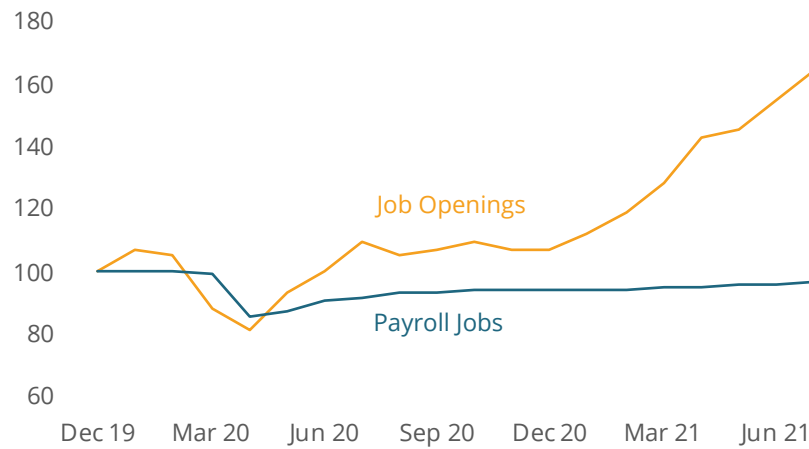


The Delta wave of COVID-19, which began in June in the UK and then in the US and many other major economies in July, threatens to slow global recovery progress. Evidence of adverse economic impacts at the global level is limited so far. There was marginal flattening of business and consumer confidence across OECD countries in July and August, and purchasing managers indexes have retreated a bit in some countries. In the UK, high frequency indicators of activity, such as credit card transactions and retail foot traffic, fell a few percentage points in June, but have stabilized recently. In the US, consumer confidence took a tumble in August to its lowest level in more than a decade. High frequency indicators are just beginning to edge downward. Time spent outside the home has moved down a few percentage points recently, and consumer spending has flattened, albeit at a high level. There is not a clear correlation between the severity of the Delta surge and US regional impacts on spending or behavior, presumably because moves to tighten health restrictions have been more widespread in states with relatively lower case counts.

If this wave of the coronavirus follows past experience, the peak may soon be behind us. A fallback is already evident in some US states and localities, although new infections countrywide have not yet made a clear turn downward. The experience of the UK provides a cautionary tale: full reopening of the British economy has led to a damaging second Delta wave. Assuming that US COVID-19 conditions continue to improve into the fall, the Delta wave could represent just a hiccup in overall US recovery progress.

Even before the recent COVID-19 Delta surge, the US recovery has been a mixed one. Labor markets have lagged considerably behind the gains we have seen in production and consumer spending. As of July, consumer spending was running about 3% above its pre-pandemic level, while employment remained 4% below its level in December, 2019. This comes despite a record level of job openings and widespread anecdotal evidence of worker shortages. There exist a number of possible explanations for this circumstance, which we will take up in the Hawaii section, below. In any case, the failure to get more people back to work is acting as a constraint on faster overall economic recovery.

US JOB OPENINGS AND
FILLED JOBS (INDEX,
DECEMBER 2019 = 100)
Record job openings
go unfilled.



Global supply chain bottlenecks are also acting as a constraint on growth. Production of key components has lagged, and limits to surface shipping capacity have been a particular problem. These appear to stem both from cuts to capacity made during the pandemic and the periodic closure of Chinese and other ports to address COVID-19 flare-ups. The vulnerability of production to global value chain production arrangements has been made particularly clear in the auto industry, where reliance on specialized semiconductor components has led to a sharp cutback in US auto production, which has in turn driven up the sales price of used vehicles. At present, there is significant concern about the impact of shipping constraints on the all-important Christmas shopping season.

Higher shipping and other costs are feeding into measured US inflation. While in part this reflects comparison to extremely low inflation during the worst of the pandemic last year, inflation is nevertheless significantly higher than in recent years. There are reasons to expect that a good portion of this is transitory and will wane as supply constraints ease.

High inflation is now cutting into the purchasing power of workers' wages. During the late stages of the pre-COVID-19 expansion, wages measured at current prices had outstripped inflation, with the former rising by about 3% per year, significantly higher than inflation, which was running closer to 2%. The gains were particularly large for lower-income workers and actually accelerated during the first year of the pandemic. With the recent spike in inflation, wages are no longer keeping up with the cost of living. It remains to be seen whether inflation will recede enough over the next year to return real (inflation-adjusted) wages to positive growth.

The Federal Reserve is watching price movements closely, and the Federal Open Market Committee is signalling that it believes prices are now more consistent with its goal of an inflation rate that averages 2% over the long run. While a hike in interest rates remains down the road, the FOMC plans to begin tapering the extraordinary asset purchases that it has used to prop up the economy during the past eighteen months. Needless to say, the actual pace of monetary stimulus removal will depend on COVID-19 developments in the months ahead.

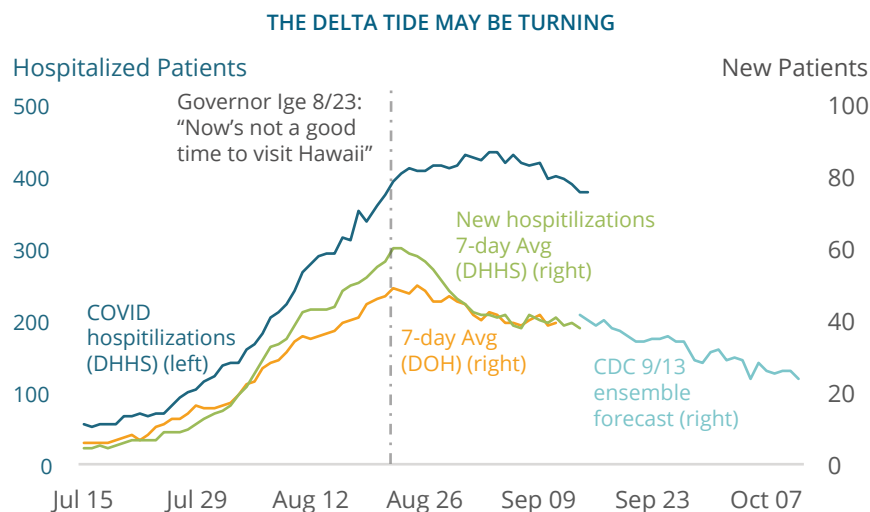
Delta wave washes over Hawaii

Although Hawaii has one of the highest vaccination rates in the nation—66% of the local population have now been fully vaccinated—there has been a record upswing in the number of new Covid-19 cases since July (see the [UHERO Data Portal](#).) The Delta variant, which now represents more than 90% of new cases in the state, is more than twice as transmissible as the original variant according to the CDC. Hospitalizations surged to their highest level since the pandemic began, and deaths have also spiked: there were 46 COVID-19 related fatalities reported during the past seven days. Suppressing the virus has also become more difficult since vaccinated individuals who become infected are frequently asymptomatic even though they can spread the virus during the first five to six days of infection.

With the recent surge to record-high case counts and hospitalizations—the lion's share of which are unvaccinated patients—the focus has turned to getting the remaining one-third of Hawaii's population vaccinated. The fear of catching Delta has increased the pace of vaccinations, and full FDA approval of the Pfizer vaccine has facilitated new employer mandates. The recent decision by the Biden administration to require vaccination of all federal employees, federal contractors, and workers at all large private-sector companies will force rapid additional vaccination progress. (The long delay in getting vaccine approval for children remains an important challenge.) Ebbing case counts in many highly-vaccinated mainland cities and states (and even some lower-vaccinated areas with the biggest recent surges) are a hopeful sign. Most encouraging, at the time of this writing Hawaii's 7-day average of daily cases has turned down in all counties, and it appears that Hawaii may have avoided turning Labor Day into a *superspreader* holiday.

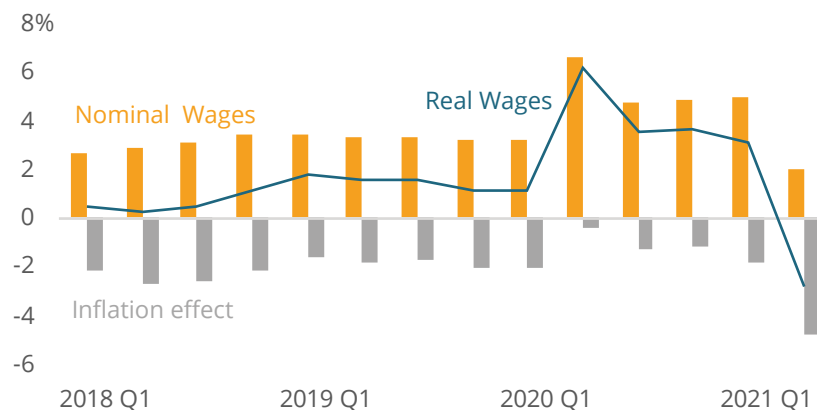
A number of new restrictions have been imposed since the surge began. These have likely played an important role in addressing the Delta surge, even as they have imposed economic costs. Governor David Ige has reimposed limits on both indoor and outdoor gatherings: no more than 10 people indoors and 25 outdoors, and at least 6 foot social distance between groups. Honolulu has implemented the *Safe Access Oahu* program, a requirement that patrons show proof of vaccination or a negative COVID-19 test within the past 48 hours when visiting restaurants, gyms, and similar establishments. Maui has now also set "Safer Outside" emergency rules restricting the size of social gatherings and proof of vaccination is required for indoor dining and several other indoor activities. UHERO researchers have recommended common-sense preventive and mitigating measures to get the economy back on the recovery path as quickly as possible. (See the UHERO blog, [COVID-19 Mandates: Recommendations for Hawaii Businesses](#).) Most notably perhaps, Governor Ige has asked visitors to delay trips to Hawaii through the end of October. The record surge in cases drove hospital use to very high levels, raising concerns that facilities might be forced to care not just for COVID-19 patients, but also others facing critical healthcare needs.

Happily, there are indications that the Delta wave may now have peaked. Both new infections and new hospitalizations have declined from their levels in late August. Higher vaccination rates, along with renewed social distancing measures, seem to have helped keep the Delta wave from becoming a tsunami. Further suppression of the virus will require cautious individual behavior for some time to come.



INFLATION AND HOURLY EARNINGS GROWTH

Wages are losing ground to inflation



The end of large-scale fiscal stimulus at home and abroad will be a drag on growth for the next several years. In the US, the \$500 billion of new funding under the federal infrastructure bill likely to pass Congress this fall pales in comparison to the nearly \$6 trillion spent since the pandemic began. We will begin to see the impact of the federal support program phase-out soon, as expanded unemployment benefits have now ended. More on that below. A wild card is how much of the remaining Biden social policy agenda may be approved by Congress later this year or in 2022.

Once the current wave of COVID-19 begins to wane, further recovery of the US and other developed country economies will resume. But full recovery of the most affected sectors, and of the aggregate labor market, will take time. Prospects are more bleak for the developing world, where it may take another couple of years to vaccinate a substantial portion of populations. The emergence of new variants in the future should pose less of a risk once high rates of vaccination are achieved, although the experience with the Delta variant suggests that it will likely be a matter of living with the virus rather than conquering it. And actions necessary to do that—such as periodic returns to social distancing measures and ongoing testing—will impose some medium-term cost on the economy.

Hawaii near-term indicators turn downward

Economic data available at a high frequency are showing clear evidence of the hit that Hawaii's economy is taking from the resurgence of COVID-19 and the preventive measures that have been taken to address it. The weekly UHERO Economic Pulse index has dropped thirteen points from its mid-July peak, ending for now a nearly year-long upward climb in local economic activity. (This and other high-frequency indicators are shown on the [UHERO Economic Pulse](#) web page.) The decline has been driven in part by reduced mobility as consumers become more cautious about public exposure. High frequency labor market and mobility indicators have turned down, and Google searches for COVID-19 cases have spiked. The current search volume is on par with previous highs observed during last year's COVID-19 waves. Moreover, restaurant reservations on the OpenTable platform are now roughly ten percentage points below their mid-July level. All this implies that the population is aware of (if not anxious about) the Delta variant and is adjusting its behavior accordingly. While this clearly imposes near-term costs, it appears to be helping to mitigate the current surge.

As we noted above, US consumer confidence and behavior have taken a hit from rising concerns about the Delta COVID-19 variant. Nationally, the University of Michigan's index of consumer sentiment plunged to its lowest

**WEEKLY UHERO
ECONOMIC PULSE**
(INDEX, FEB. 2020 = 100)
Economic indicators
turned down in mid-July.



level in more than a decade. The souring mood of the public is also reflected in lower consumer spending. US retail sales fell by 1.1% in July, although they recovered part of that in August. In Hawaii, while year-over-year retail sales were up by a considerable margin in May (the most currently available data point), figures for more recent months are expected to show a weakening pattern.

More complete data on the economic impacts of the Delta COVID-19 surge will emerge over the next few months, as employment, income, and visitor industry statistics for the current period become available. We now turn to a discussion of recent progress and challenges across the broad sectors of the Hawaii economy.

Tourism recovery faces a setback

Tourism this year has been a mix of two very different stories. Prior to July, the industry enjoyed a stronger-than-expected rebound, powered by robust demand from US residents, fueled in part by Hawaii's special appeal at a time when international travel remained difficult. As a result, the number of mainland visitors soared to an all-time high in July. But progress was then abruptly reversed. By the end of August, the weekly number of deplaning visitors had fallen by 45% from the first week of July. While some of this decline is typical seasonal behavior, in 2019 passenger counts (which include returning and intended residents) fell by only 20% over the same period. Hawaii's high case counts and hospital capacity constraints have made front page news nationally, and potential travelers must decide whether to postpone their planned vacations to avoid health risks and renewed restrictions on local activities. Governor Ige's request that visitors delay travel until after October also weighs on the industry.

The tourism recovery that began in earnest in late 2020 was driven almost entirely by US travelers, while international visitors remained all but absent. The relatively slow vaccination rollout in Japan as well as home-country restrictions on international travelers presented a significant obstacle: for instance, Japanese visitors were required to complete a COVID-19 test and a 14-day quarantine when they returned home. By July, US visitor arrivals exceeded their 2019 level by 21%. Visitor arrivals from Japan and the rest of the world lingered 98% and 84% below their pre-pandemic levels, respectively. Similarly, seat capacity on international routes barely budged from their pandemic lows, while seats on domestic routes surpassed their previous peak by more than 30%. Total airlift to the state in July was up 3% from pre-pandemic levels.

At the outset of the pandemic, Kauai and Maui took the biggest hits from the tourism slowdown due to their heavy dependence on the visitor industry. But by July the Neighbor Islands had recovered much of their losses, with Maui County seeing only an 8% shortfall in visitor arrivals relative to July 2019. Arrivals to Honolulu County, which relies more heavily on international markets, remained about 24% below their pre-pandemic level.

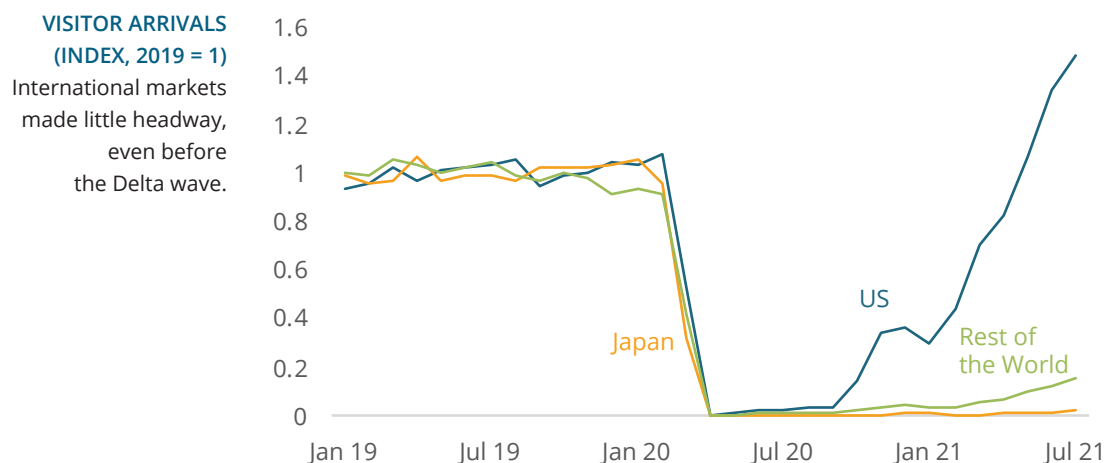
Before Delta, hotels and TVRs were on a tear

Hotels and transient vacation rentals (TVRs) fared well in the first part of the year. The easing of travel restrictions in mid-June—travelers with a negative COVID-19 test were no longer required to quarantine and inter-county travel restrictions were removed—lifted occupancy rates above 80% across all accommodation types in July. And strong demand permitted both hoteliers and TVR hosts to make substantial hikes to prices. In July, the statewide average daily rate for TVRs was \$250, 21% higher than the pre-pandemic level, while the ADR for hotels at \$356 was also up 21%. Current dollar daily spending by US visitors had fully recovered, exceeding its pre-pandemic level by 5% in July.

The rapidly-spreading Delta variant has now caused an abrupt—but hopefully temporary—about-face. Although vaccination rates have climbed substantially across most major visitor markets, the resurgent pandemic has dented visitor arrivals across the board. As we noted above, the number of deplaning visitors has now dropped by almost 45%, and airline capacity utilization has dropped sharply, despite a 22% reduction in seat capacity in August. Hoteliers report sharp increases in cancelled bookings through October, with the rate remaining somewhat higher than normal through the winter travel season. Of course, that could change on a dime if virus conditions improve. In the meantime, unused accommodations capacity will put downward pressure on room rates and on industry employment.

Where does tourism go next?

The visitor industry stands at a difficult crossroads. Aside from visitors' concerns about virus exposure, restrictive measures to address the Delta wave are likely restraining visitor numbers. Balancing safety requirements and convenience will not be easy. Visitors can now use *Clear* and *CommonPass Hawaii* to digitally upload their vaccination records to the *Safe*



Travels website, which will expedite the verification process upon arrival and also facilitate entry to local establishments. Several hotels have announced that they will require their guests and employees to be fully vaccinated, and the new federal mandate to vaccinate all workers will apply to large tourism businesses. At the end of the day, only widespread vaccination and a reduction of COVID-19 cases and hospitalizations will permit full reopening and recovery of Hawaii tourism.

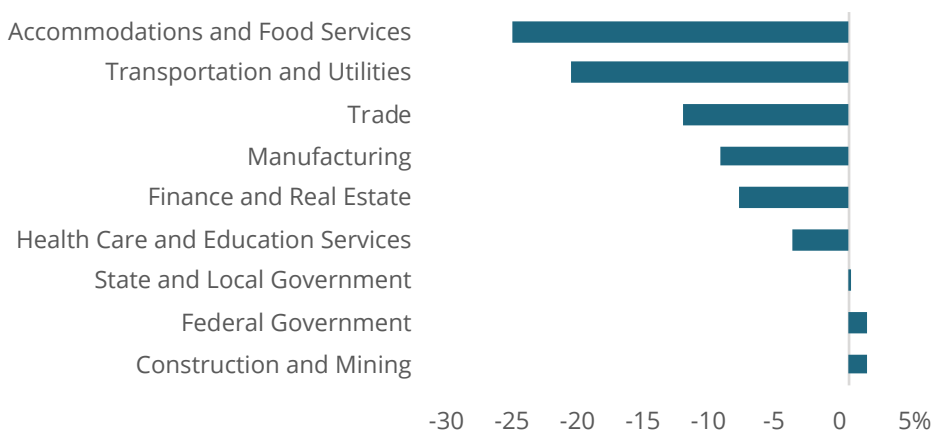
Labor markets
face unfavorable
demand and
supply

Even before the Delta wave hit, the state’s labor market had made only limited recovery progress. In July nearly all sectors remained well below their 2019 levels. (Construction was the outlier, with a net increase in employment.) The accommodation and food services industry, which suffered the greatest damage from the pandemic, was still lagging considerably, with payrolls at less than three-quarters of the 2019 job base. Overall, in July there were about 11% fewer filled nonfarm payroll jobs than there had been two years earlier.

The existing large payroll employment gap is due not only to pandemic-induced weakness, but also to persistent worker shortages. As mentioned for the US above, hiring has been slow despite a large number of job openings. In March of this year, there were approximately 25,000 job openings in Hawaii, but only 19,000 new hires, leaving a gap of 6,000 unfilled jobs. While enhanced unemployment benefits have provided a disincentive to seeking employment, it is likely that other issues have played a bigger role. Closed schools throughout much of the pandemic and limited available child care have made it difficult for some parents to re-enter the workforce. Data from the Early Childhood Action Strategy shows that child care was already in shortage prior to the pandemic, with only 25,000 seats available to serve over 100,000 children aged 5 and under. During the pandemic, the supply of child care was reduced an additional 19%. The reopening of public schools this fall stands to make a big difference, although the uptick in COVID-19 cases has forced some schools back into partial shutdowns when virus cases appear on campuses.

Schools are receiving some financial support to keep keiki in the classroom. In early August the US Department of Education approved \$137 million to be distributed to the Hawaii DOE from American Rescue Plan funds. These funds are intended for school reopening, sustaining safe operations, and supporting students most impacted by the pandemic. Some of the money has also been used to host vaccination clinics.

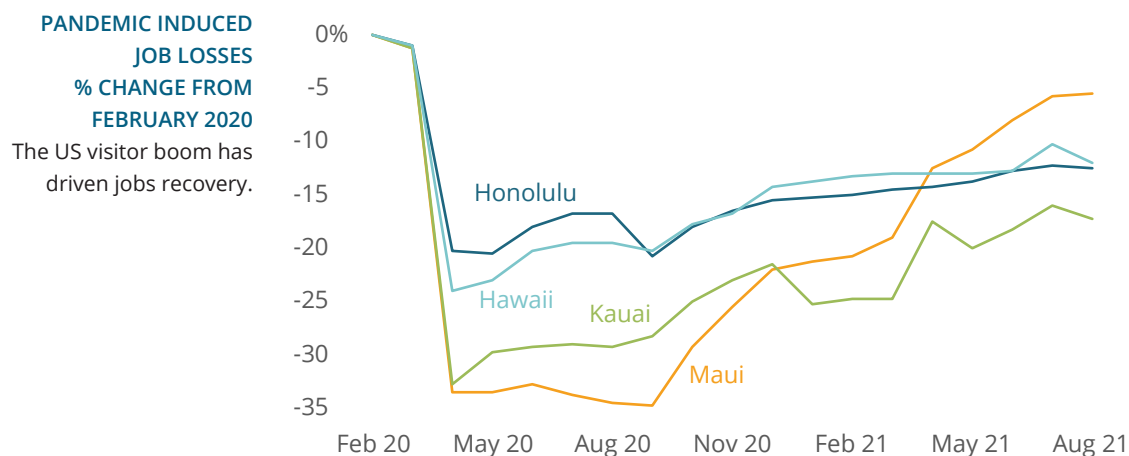
% CHANGE IN
BENCHMARKED JOBS
BETWEEN JULY 2019
AND JULY 2021
The biggest employment
shortfalls are where you
would expect them.



There are a number of other factors that may be retarding a return of workers to the labor force. Not all white collar workers engaged in work-from-home during the pandemic have returned full-time to the workplace, likely slowing the recovery of activity in Honolulu's urban core. With the surge in COVID-19 cases this summer, some may be reluctant to return to jobs that have a high degree of person-to-person contact. Many of these are service-providing jobs such as those in health care, retail trade, education, and food services. Others with personal health challenges may be holding back. The need to care for aging family members, when paid assistance is scarce, may pose a barrier to re-entry into the labor force. Finally, there has been an increase in retirements nationwide, likely due both to job losses and to greater concern among older workers about COVID-19 health risks.

Hawaii's employment recovery has lagged

Not only did Hawaii see a larger decline in payrolls than the nation during the worst of the pandemic, but the state has also lagged on the path to recovery. By July 2021, 75% of job losses had been regained nationally, but Hawaii was only at the half-way mark on its path to recovery. Hawaii's lagging recovery is due in large part to the state's high specialization in tourism, which was hardest hit by the pandemic. Statewide, the accommodation and food services industry makes up 17% of all nonfarm payroll jobs, with the sector's share on Kauai and Maui 28% and 29%, respectively. In comparison, jobs in the accommodation and food services industry make up only 9% of all nonfarm jobs for the US overall. Differing degrees of tourism dependence have also led to significant differences in the extent of job recovery across Hawaii's counties. For example, while its high tourism focus led to steep and persistent job losses on Maui through most of last year, the county benefited disproportionately from the strong rebound of its bread-and-butter US market beginning in October 2020. By July of this year, payroll employment on Maui had recovered to within 5% of its pre-pandemic level. Since the ending of quarantine restrictions last fall, Hawaii's pace of recovery toward pre-pandemic levels has accelerated, matching or exceeding the job growth pace at the national level. Needless to say, the recent Delta-related pullback in economic activity will interrupt job progress for at least the next several months.





Like employment, wages have taken a long time to recover; in many sectors they remain substantially below their 2019 level when measured in inflation-adjusted terms. Construction and mining wages have climbed back to the level seen two years ago, which can be attributed to the industry's stability relative to other sectors over the course of the pandemic. Interestingly, hourly wages in the food service industry are now 9% higher than they were in July 2019. Employers in the industry have likely needed to raise wages to attract back workers during a period of acute labor shortage.

The end of federal pandemic support will significantly lower income

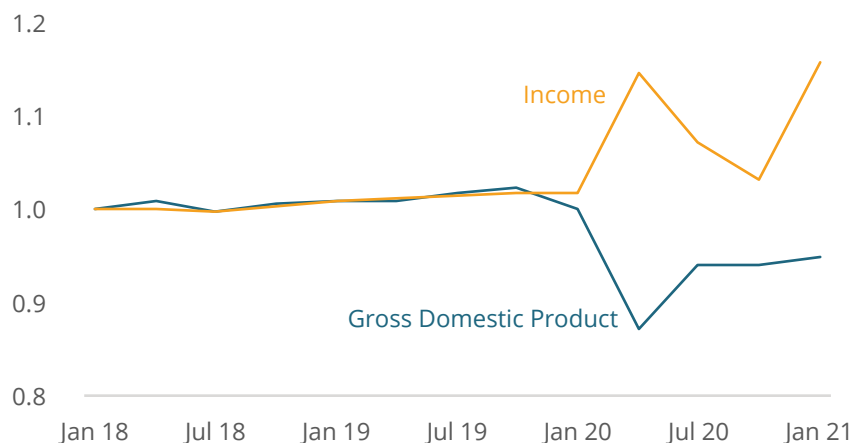
The federal government provided an expanded safety net to those who lost their jobs during the pandemic. Most of these programs have now ended. Beginning September 7, contract workers who received benefits under the Pandemic Unemployment Assistance (PUA) program were no longer eligible for support. Also ending was a program that extended the period of eligibility, the Pandemic Emergency Unemployment Compensation (PEUC) program. The Federal Pandemic Unemployment Compensation (FPUC) and the Mixed Earner Unemployment Compensation (MEUC) programs, which provided supplements to usual weekly unemployment compensation, also ended. Those who qualify for regular unemployment insurance will continue to receive their normal benefits without the added \$300 per week of federal support. In Hawaii, about 29,000 workers were receiving funding under the PUA program, while more than 21,000 received benefits from the PEUC program. Only about 14,500 individuals have been claiming regular unemployment insurance alone. Altogether, before the expiration of the special pandemic assistance programs, about 10% of Hawaii's labor force was receiving some form of unemployment compensation.

Since mid-July, many Hawaii families have begun to receive monthly federal Child Tax Credit payments to help offset financial pressures associated with the still-recovering economy. Early evidence at the national level is that this program has led to a significant reduction in families facing food insecurity. The program is scheduled to end in December.

The wide range of pandemic assistance programs demonstrates the powerful role that federal support has played in keeping the economy afloat over the course of the pandemic. Although Hawaii's real gross domestic product declined by nearly 8% in 2020, income in real terms actually increased by more than 4%. In the first quarter of this year, the rollout of the third stimulus package kept income 15% above its 2019 level, even as gross domestic product remained 6% lower than in 2019. Transfer income in the

REAL GROSS DOMESTIC PRODUCT AND INCOME (INDEX, 2018 Q1 = 1)

The pandemic drove down production, but federal aid dramatically raised income.



first quarter of 2021 from all public sources was nearly 60% higher than in the fourth quarter of 2020 and more than double the level in the first quarter of 2020. Now that extraordinary unemployment benefits have ended, a sharp decline in personal income will occur. Transfer payments are now running roughly 11% lower than in the second quarter, and they will decline further in the current quarter.

Hawaii home resale markets remain very tight

Single-family home and condominium resales have rebounded strongly after a brief drop in the early-pandemic period. A year's consistent growth has now pushed resale volume above 2019 levels in all counties. Home listings remain at record lows in the face of buoyant demand. On Oahu, time on the market has also hit record lows for both single-family homes and condominiums. While in 2019 the median unit would stay on the market for about 30 days, in recent months homes have been snapped up in about 10 days.

A one percentage point decline in interest rates and a surge in pandemic income last year raised housing affordability to its highest level in 40 years. But tight resale market conditions have caused home prices to jump by nearly 40% from the start of the pandemic. In this respect, the Hawaii market is mirroring closely national conditions. Median prices for single-family homes have shot up, this summer exceeding \$1,000,000 for the first time

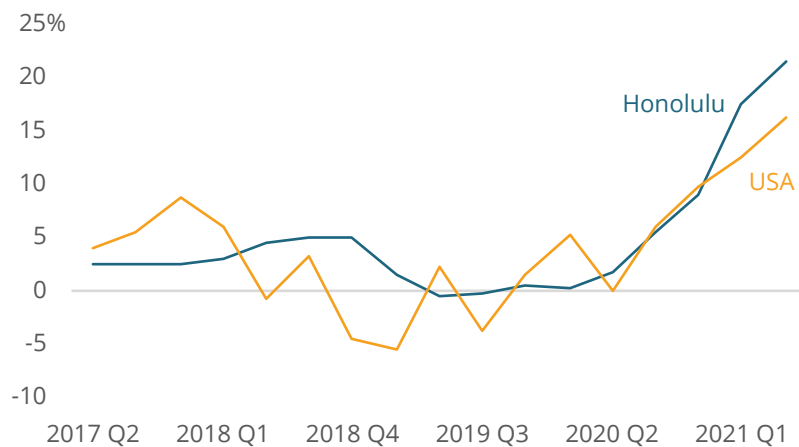
MEDIAN NUMBER OF DAYS ON THE MARKET, HONOLULU COUNTY

Homes are selling at a record pace.



PERCENT CHANGE IN THE MEDIAN PRICE OF SINGLE FAMILY HOMES

The tight resale market
has caused home
price acceleration.



on Oahu and Maui; Kauai surpassed the million dollar mark in the second quarter. Condominium prices have risen steadily to about \$450,000 for Honolulu and Hawaii counties and to the upper-\$500,000 range for Kauai and Maui. In contrast to previous years, a large fraction of properties are sold above their original asking prices, again mirroring conditions in many mainland markets.

COVID-19 proved that a home could be a viable alternative working environment, including a home in Hawaii. It is not surprising then that we have seen a surge in local home purchases by mainland buyers. In the first half of this year, home purchases by these buyers represented nearly a quarter of all Hawaii property sales, compared with a fifth in 2019. The number of homes purchased by mainland buyers is up 60% from 2019 levels and on pace to set a record for the year as a whole. In contrast, continuing travel restrictions have suppressed international home buying. In the first half of this year, only about 200 homes were purchased by international buyers, 20% fewer than during the same period in 2019, and almost 65% fewer than in 2018.

Higher prices could help to alleviate the housing supply shortage over time. They will attract more sellers to the market and increase the profitability of new development. Owners of short- and long-term rentals may also be enticed by the record prices to offer their properties for sale. Of course buyers will increasingly be deterred by higher prices and rising interest rates. The ongoing decline in Oahu's population will also ease housing demand in Honolulu County.

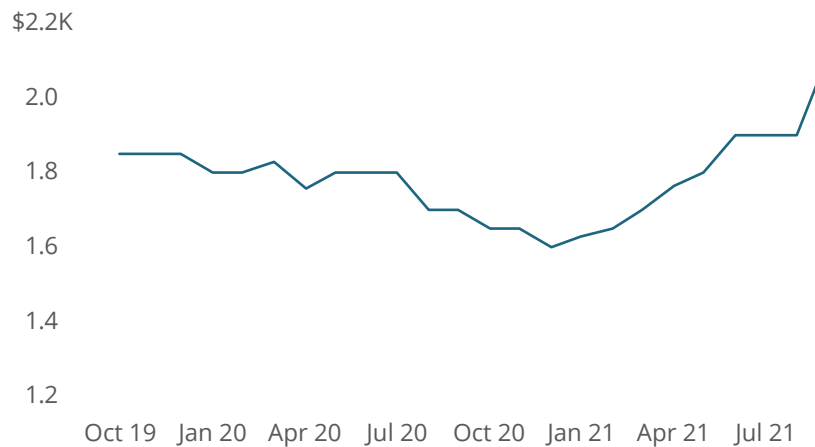
Troubles for renters remain

With super-tight resale markets, it is no surprise that rents are once again on the rise. According to data collected from apartment postings on Craigslist, the median asking rent on Oahu has climbed to \$2,100, up from \$1,700 a year ago. This comes at a time when the federal eviction moratorium is now a thing of the past, threatening some tenants with possible eviction.

In early July, an estimated 3.6 million people nationally reported that they face eviction in coming months. Although tenants can access \$47 billion in federal money, the distribution of this funding has been slow, causing fears among both landlords and tenants that evictions and lawsuits will spike. Since the start of the pandemic, Honolulu has distributed \$66 million in assistance to renters across 7,620 households. Even with these assistance

MEDIAN CRAIGSLIST ASKING RENT, OAHU

The median asking
rent has climbed
\$500 this year.



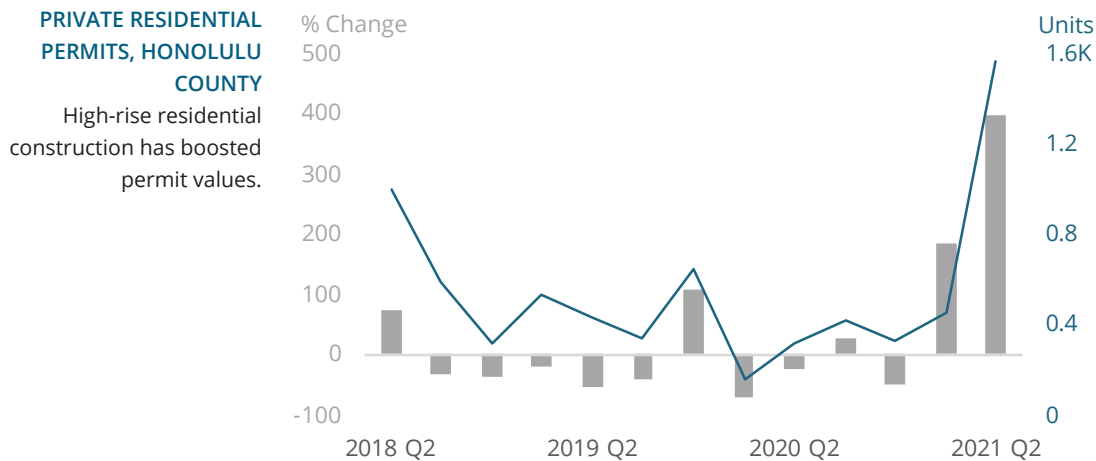
programs, Hawaii's high living costs have made it difficult for some recipients to make ends meet. Despite one of the nation's more effective rent assistance programs, the number of Hawaii renters struggling to pay rent has remained stubbornly high. While available US Census surveys are somewhat imprecise, at the beginning of each month it appears that 10-14% of households are late on rent (18-24,000 households). By the end of the month, that figure is substantially lower, roughly 6-9% (11-16,000 households), as some renters are able to make good on that month's rent. These figures have remained largely unchanged over the last year, declining by at most a couple of percentage points. Whether the State's new mandated pre-eviction mediation program will be able to connect these families with rent assistance will only be apparent in the coming months. Pre-COVID-19 numbers are scarce, but a UHERO survey of landlords suggests that the figure was lower prior to the pandemic, with 5-6% of renters late at the beginning of the month, and 1-2.5% running more than a month in arrears.

It is important not to conflate late rent with eviction. As suggested by the within-month fluctuations, a good number of renters are able to self-resolve each month. But a solid 5% of the rental market has likely accumulated significant arrears. These figures also have implications for the preservation of the state's rental housing stock. Landlords with single-family properties and substantial unpaid back rents have a clear incentive to sell their homes into the resale market. In a state where no new unsubsidized rental housing is produced, this loss of stock may exacerbate the housing affordability problem.

New home building is at a high level

In the second quarter, the statewide number of private residential permits climbed to about 2,000 units, a level not seen since before the 2008 financial crisis. More than 1,500 of these permits were authorized on Oahu, where high-rise construction has once again picked up steam. The authorization of two condo towers already under construction—Howard Hughes's Koula in Ward Village and The Central Ala Moana built by Samkoo Hawaii—temporarily spiked Honolulu's inflation-adjusted permit values in May to their highest level since the 1990s.

Unlike this year's exceptionally strong residential permits, authorization for non-residential building was up just 6% in the first half of the year. Government contracts fell back to a more typical level of activity fully 75% lower than an exceptionally strong period in early 2020.



Commercial leasing conditions have improved

Occupancy rates for industrial and commercial space have begun to turn up, as Hawaii's strengthening economy is spurring tenants and landlords, who put off leasing activity during much of the pandemic, to reach new agreements. Conditions in the restaurant industry have also improved compared with the dismal conditions in 2020. Restaurant revenues increased with Oahu's entry into Tier 5 and easing of restrictions. Earlier this summer, Hawaii restaurants were granted \$414 million in federal aid via the Restaurant Revitalization Fund to help offset revenue losses due to the pandemic. This summer's surge in COVID-19 cases will likely set back to some extent the recent progress getting restaurants back to health.

With office leases tending to last 5-7 years, the effect of COVID-19, particularly the abundance of at-home-workers and reduced need for physical office space, is not immediately observable. Most of the vacant office space is of course located in downtown Honolulu, where there has been some exploration of converting office space to other uses.

In the resort sphere, Turtle Bay Resort recently reopened in July after taking the COVID-19 pandemic as an opportunity to renovate. Near Kalaeloa, construction for Hoakalei Resort's Wai Kai Lagoon began earlier this year, with the property set to open in 2022. Work on the Ewa Beach Wavepool, slated to be the World's largest deep-water standing wave, was halted last year due to COVID-19. On Kauai, The Ohia, a \$227 million boutique hotel and spa, is being developed in an opportunity zone near Poipu Resort. Opportunity zones were created under the federal Tax Cuts and Jobs Act of 2017 and offer tax breaks to investors creating jobs in state-designated disadvantaged areas. It will be Kauai's first newly-built hotel in more than 30 years. On Hawaii Island, the \$400 million redevelopment of Kona Village Resort continues. The project began prior to the pandemic and had originally been scheduled to open in 2022.

Lots (may be) happening in the infrastructure space

In April, Governor Ige announced that the State had released more than \$278 million in Capital Improvement Project (CIP) funds. Among larger funding allocations are \$23 million in minor CIP for the community colleges and \$48 million for improving the University of Hawaii's system facilities. On Kauai, more than \$223 million in CIP funding was granted for airport, highway, school, and health system improvements. Another \$130 million was awarded

to Hawaii County for various infrastructure projects. Meanwhile, half of the \$350 million granted in 2019 for the Aloha Stadium revitalization project has been taken away by the Legislature while the project was temporarily halted during the pandemic. The State has plans to start demolition of the stadium late next year after selecting a developer. Despite the usual announcements of needed investment in Hawaii's aging infrastructure, total CIP spending fell 11% in the first half of the year compared with 2020 levels, and it is on pace to post the smallest annual total since 2017.

Honolulu Rail Transit continues to be plagued by delays and cost overruns. HART now estimates that the project will cost \$12.4 billion and will not be completed before 2031. On a positive note, the federal infrastructure bill now in the US Congress could provide Hawaii with at least \$2.8 billion in funding. The bill allocates \$1.5 billion for roads and other major projects, \$637 million for public transit, \$246 million for airports, \$160 million for broadband, \$200 million for water infrastructure, \$18 million for electric vehicle charging infrastructure and replacements, and \$3 million dedicated to clean energy and grid improvements. The \$1 trillion bill was passed in August by the US Senate, but has not yet made it through the House of Representatives.

THE HAWAII OUTLOOK

The global surge of COVID-19 cases has reduced substantially the outlook for tourism in the near term; the record spike in cases locally and the pressure on hospitals will also weigh on prospects for the broader Hawaii economy for the next several months. But prior to recent developments, the tourism recovery had been outstripping our forecasts, powered by very strong US income growth, pent-up travel demand, and restrictions on US travel to Europe and Canada. After a lull lasting through the first quarter of next year, we believe that US travel will resume its healthy performance, and next year will finally see international travel begin to contribute significantly. The overall local economy will continue to make recovery headway in 2022, supported by Hawaii's high and growing rate of vaccination. In turn, further progress in extending vaccinations here should position Hawaii well to deal with any future COVID-19 upswings. At the same time, the severity of the current outbreak raises substantial risks of a more frustrating path for the state over the next couple of years.

Because of the continuing unusual degree of uncertainty, in this report we follow our recent practice of presenting a baseline forecast as well as pessimistic and optimistic alternative scenarios. Note that we do not view these alternatives as worst-case and best-case outcomes, but rather as reasonably likely alternative paths that the Hawaii economy could follow depending on developments in and outside Hawaii.

- Our baseline path assumes that, based on the length of past COVID-19 cycles, recovery from the current Delta outbreak here and on the mainland lasts through October. Together with existing heightened restrictions and the Governor's request that travelers delay trips through October, a significant visitor pickup does not begin until Thanksgiving. As virus restrictions are lifted, recovery of the broader local economy resumes, aided by a gradual return of international visitors. At the same time, the phaseout of federal support weighs on the economy.
- The pessimistic scenario admits the possibility of a deeper visitor dropoff in the near term because of worsening COVID-19 conditions and the response of potential visitors to the possibility of even tighter restrictive measures. Renewed virus activity in the winter and spring delays US visitor recovery, and the need for persistent COVID-prevention measures weighs heavily on macroeconomic activity here and on the US mainland. And despite high levels of vaccination, particularly in Canada and Japan, waves of potentially new variants of COVID-19 lead to new travel restrictions and delay a meaningful recovery of international visitor markets.
- The optimistic scenario envisions a less pronounced adverse impact of the Delta virus wave on near-term travel numbers, followed by a particularly strong winter season, driven by pent-up travel demand in the wake of the August-October cancellations. Rapid and full reopening of the local economy drives somewhat faster aggregate job growth.

The differing assumptions about vaccination progress, COVID-19 control, and reopening imply different recovery paths for tourism, the locally-oriented economy, and overall macroeconomic conditions in Hawaii.

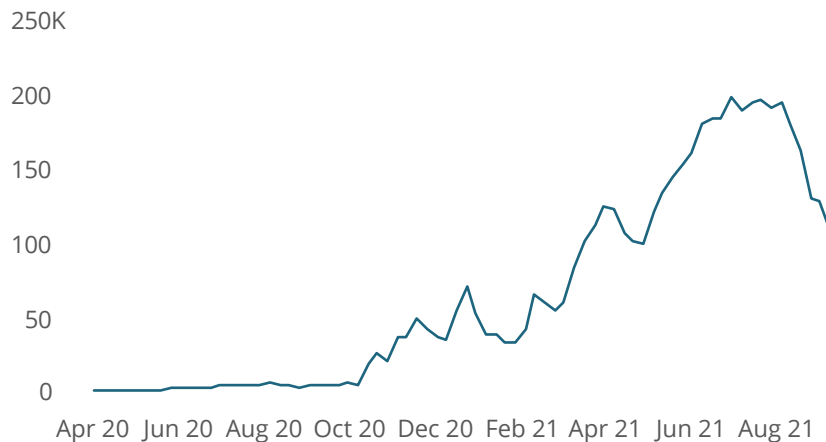
This year's buoyant US visitor market takes one on the chin

As we noted above, visitor numbers have continued to surprise to the upside this year, with domestic arrivals running well ahead of 2019 levels over the first half of the summer. Despite languishing international markets, this drove occupancy rates back to healthy levels, particularly on the Neighbor Islands. Visitor spending also surged.

The Delta variant has caused a marked pullback of deplaning visitors, and lingering recovery over the next two months will mean a delayed rebound of

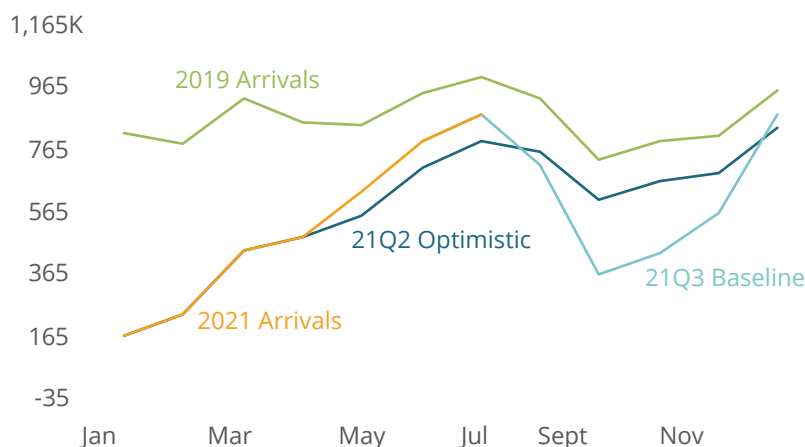
WEEKLY DEPLANING VISITORS (NOT SEASONALLY ADJUSTED)

Visitor numbers have fallen nearly by half since early August.



VISITOR ARRIVALS FORECASTS COMPARED TO 2019 LEVEL

Visitor arrivals have exceeded forecasts, but the COVID-19 surge reduces the near-term outlook.



Hawaii's leading visitor market. Still, beyond this COVID-19 wave, we think persistent pent-up demand for travel will bring a very good holiday season, with strength continuing into the New Year. For the entire year of 2022, US arrivals will average near their 2019 level, and buoyant activity will continue for the next several years.

The slow rollout of COVID-19 vaccinations abroad and restrictions on returning travelers have prevented any significant recovery of international travel this year. Even where vaccination rates are higher and restrictions are easing—notably Canada—visitors have only just begun to return. As for US visitors, the Delta wave will mean several slow months. While we expect recovery of international markets to begin late this fall and pick up speed next year, lingering COVID-19 challenges and associated weak economies mean that international visitor numbers will remain well below 2019 levels throughout the forecast period. Correspondingly, the recovery on Oahu and the Big Island, which typically host a greater number of international visitors, will proceed at a somewhat slower pace than on Maui and Kauai. The dearth of high-spending international visitors will also keep visitor spending below its previous peak level for a number of years.

Additional increments to tourism recovery will be slower as we move beyond this year and next, reflecting still-struggling overseas markets, economic hardship for some US families—particularly now that many federal support programs have been phased out—and the loss of some tourism infrastructure due to small-business failures and barriers to the reentry of transient vacation rentals. Total arrivals and real visitor spending will remain below their pre-pandemic peaks throughout the forecast period.

Delta (and Mu?) variants pose downside risks for the visitor industry

As has been true throughout the pandemic, there is an unusually large degree of uncertainty about the future path of the visitor industry. The emergence of the Delta variant means that this uncertainty is now biased toward the downside. While a recovery path above our baseline is possible, there is likely a larger risk that outcomes—particularly in the near term—could end up being worse than what we have in our baseline forecast path. (The increase in capacity use that had already occurred early this year also limits the potential for upside tourism surprises.)

The recent pullback in travel bookings and visitor arrivals demonstrates how sensitive travel behavior has been to the virus resurgence. While there are

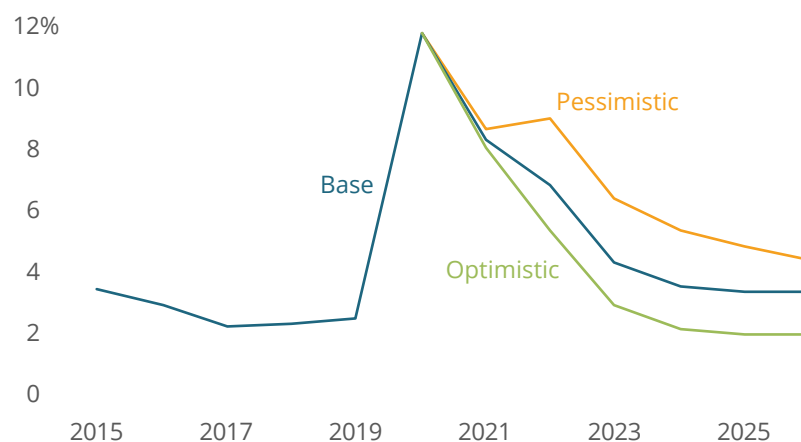
reasons to be optimistic about Hawaii's ongoing vaccination progress—more on this below—a slower recovery of visitors from the Delta wave is possible, and there remains the potential for further waves down the road, including variants that are more resistant to existing vaccines and prior exposure. Slow vaccination progress in the rest of the world represents another downside risk.

In our pessimistic scenario, the number of visitors falls to nearly 40% below pre-pandemic levels by the fourth quarter of this year and doesn't begin to reclaim lost ground until the second half of next year. Periodic COVID-19 flare-ups and more persistent COVID-related business costs—as well as a bigger hit to US consumer spending from the ending of pandemic fiscal support—means slower growth for the industry extending out several years.

Our optimistic scenario for tourism acknowledges the considerable progress that has been made in vaccinating Hawaii's population and the possibility of a rapid end to the current COVID-19 wave on the US mainland. In Hawaii, 66% of the population is now fully vaccinated, and 74% have received at least one shot. Including the number known or reasonably suspected to have contracted the virus, and assuming the current pace of vaccination continues, we estimate that more than 80% of Hawaii's population will have some degree of immunity within four weeks. So the scope for local transmission is rapidly declining, and the strain on hospitals could abate relatively soon. Of course conditions on the US mainland are more challenging, with only 63% having received at least one vaccine dose, and sub-50% rates in some states. But conditions are much better in the West Coast states that are our biggest visitor markets. Case numbers appear to be at or past their peak in many large West Coast counties, and the one-dose-or-greater vaccination rate is now 70% in California. While there are many counties where conditions remain much poorer, there is nevertheless a possibility that the number of visitors from our major US markets could rebound more rapidly than in our baseline forecast. A faster recovery of the highly-vaccinated Canadian market is also possible. In our optimistic scenario, these drive a rapid stabilization of visitor numbers in the next few weeks, with a move back onto a healthy recovery path in coming months. Total visitor arrivals reach their 2019 peak by the end of 2023. Note that even in the optimistic scenario, we do not assume that COVID-19 is over, and dealing with periodic limited surges will impose some ongoing costs.

UNEMPLOYMENT RATE

Labor market gains see substantial delay in the pessimistic scenario.



New troubles for Hawaii workers

As we noted above, progress in recovering lost jobs has been slow. Now, the ending of the pandemic enhanced unemployment benefits comes at precisely the wrong time. Six months ago we had every reason to believe that the timing would be fairly good, in the sense that job and income growth opportunities associated with a strengthening visitor industry and broad reopening of the local economy would help offset the hit to household income as the federal programs ended. Instead, a tourism pullback and decline in federal transfer income are occurring at the same time. That will mean greater hardship for many local families and will delay by at least a few months any additional labor market gains. As a result, our forecast for 2022 employment in many sectors is a bit weaker than in our second quarter forecast. The overall number of payroll jobs will expand by 5.2% in 2022, about two percentage points slower than in our last report, leaving the total job base about 8% lower than its level in 2019.

The delay in labor market gains will result in a modest uptick in unemployment for the next several quarters, before the rate of job seekers resumes its downward trend. Still, unemployment for 2022 will average 6.8%, down from a 2021 average of 8.3%. The improvement in unemployment somewhat overstates the extent of labor market improvement, since the labor force—both those employed and those looking for work—remains unusually low. Whether and when these people return to the labor force will be an important determinant of the future growth path.

The labor market will continue to improve over the next several years, but that process will be gradual, reflecting a lengthy period of international tourism recovery, the cost to new and existing businesses of coping with ongoing COVID prevention costs, and the return of workers who were sidelined during the pandemic. Growth of the non-farm payroll job base will average 4% from 2022 to 2024, and it will take until the end of 2026 to reclaim the pre-COVID-19 level. Production, as measured by real gross domestic product, will recover faster than employment, surpassing its pre-COVID-19 peak by 2023.

The overall economic picture is cloudy

Our pessimistic scenario describes a much weaker near-term path for the overall state economy, before a moderate pace of recovery resumes. In addition to the temporary pullback in tourism that we have described above, resident spending would take a larger hit from the ending of federal income support programs. Over the medium term, ongoing COVID-19 surges, and the persistent demands on firms to prepare for and deal with periodic virus flare ups would act as a more significant constraint on the full recovery of both tourism-related companies and other local service businesses. Periodic concerns about the spread of new variants would also dampen local consumer spending. The aggregate effect would be persistently weak Hawaii employment and income, with unemployment remaining above 5% through 2024. While real gross domestic product would surpass its 2019 level by that year, payroll employment would not reclaim its previous peak until beyond the current forecast period. The lengthy period of persistent weakness would impose considerable additional pain on local households and businesses.

In our optimistic scenario, the shorter and shallower near-term pullback in tourism, and a more rapid removal of Delta-related local restrictions would permit a quick resumption of the recovery path of the broad local economy.

REAL PERSONAL INCOME

Income will fall back now that federal support has largely ended.

94 Bil. of 2020\$

90
86
82
78
74
70

2015 2017 2019 2021 2023 2025

Base

Optimistic

Pessimistic

While stung by the ending of federal support programs, households would maintain a strong spending pace, buoyed by their savings amassed over the past two years. In this case, we anticipate the number of visitors would climb to about 9.6 million next year, within 8% of their pre-pandemic level. Even in this case, labor markets would recover rather slowly, reflecting persistent costs facing businesses that must anticipate potential pandemic disruptions, as well as lagging labor force participation and, even in the optimistic scenario, a loss of population compared with 2019 levels. The unemployment rate would fall below 3% by 2023, but the number of payroll jobs would not approach its pre-crisis level until the following year. The stronger tourism rebound and buoyant consumer spending would permit real gross domestic product to reclaim its 2019 level by 2022, a year earlier than in the baseline forecast.

Who saw this coming?

The Delta variant surge was in many ways an unexpected hit. Even though we had been warned by epidemiologists of likely new outbreaks, many of us had hoped that the worst of COVID-19 was behind us. The new more contagious variant had other ideas. Low vaccination progress on the mainland facilitated massive contagion in some states, but the new virus phase demonstrated that even a state like Hawaii, where vaccination programs had been viewed as successful, remained at risk. Unfortunately, Delta has adjusted our understanding of what it means to reach a high level of vaccination.

At the time we are writing, in mid-September, there is reason for optimism. Hawaii cases have been trending downward and hospital pressures look to be easing. If the overall US picture remains worrisome, many of our critical West Coast markets are seeing significant improvement, so that overall prospects look more favorable than they did just a few weeks ago, less driven by hoped-for virus progress and more by evidence of actual accomplishment. The onward march in Hawaii toward something approaching full vaccination or acquired immunity also gives hope of greater resilience to potential future variant threats.

That is not to understate the extent of damage from the current pandemic surge, which represents another setback for a Hawaii economy that was already far from fully recovered. The most painful impacts are centered in tourism, but they are spreading more broadly, as well. And there will be ongoing costs in dealing with COVID-19 going forward, even in the absence of a new large outbreak. These include the costs to households

and businesses from ongoing testing and potential periodic tightening of preventive measures. And COVID-19 control abroad has a long way to go, which means a significant delay of international visitor market recovery. More importantly, it means that much more disease and death faces the international community before COVID-19 is brought to heel.

TABLE 1: MAJOR ECONOMIC INDICATORS
STATE OF HAWAII BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|----------|-----------|
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 576.3 | 606.0 | 634.1 | 645.9 |
| % Change | 0.0 | -14.8 | 2.7 | 5.2 | 4.6 | 1.9 |
| Unemployment Rate (%) | 2.5 | 11.8 | 8.3 | 6.8 | 4.3 | 3.6 |
| Population (Thou) | 1,459.5 | 1,455.3 | 1,453.6 | 1,451.1 | 1,449.2 | 1,451.3 |
| % Change | -0.1 | -0.3 | -0.1 | -0.2 | -0.1 | 0.1 |
| Personal Income (Mil\$) | 80,725.5 | 86,277.3 | 88,117.6 | 86,293.8 | 91,275.7 | 95,351.7 |
| % Change | 2.9 | 6.9 | 2.1 | -2.1 | 5.8 | 4.5 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 85,370.3 | 81,206.2 | 83,544.3 | 85,179.2 |
| % Change | 1.3 | 5.2 | -1.1 | -4.9 | 2.9 | 2.0 |
| Real Per Capita Income (Thou 2020\$) | 56.2 | 59.3 | 58.7 | 56.0 | 57.6 | 58.7 |
| % Change | 1.4 | 5.5 | -0.9 | -4.7 | 3.0 | 1.8 |
| Real GDP (Mil 2020\$) | 97,246.8 | 89,860.5 | 93,003.0 | 95,226.3 | 98,332.4 | 100,132.2 |
| % Change | 1.2 | -7.6 | 3.5 | 2.4 | 3.3 | 1.8 |
| TOURISM SECTOR DETAIL | | | | | | |
| Total Visitor Arrivals by Air (Thou) | 10,385.8 | 2,716.2 | 6,598.4 | 8,566.7 | 9,318.0 | 9,729.4 |
| % Change - Total Visitor Arrivals by Air | 5.0 | -73.8 | 142.9 | 29.8 | 8.8 | 4.4 |
| U.S. Visitors | 6,871.3 | 1,982.4 | 6,352.9 | 6,741.1 | 6,920.7 | 7,069.6 |
| % Change - U.S. Visitors | 7.8 | -71.1 | 220.5 | 6.1 | 2.7 | 2.2 |
| Japanese Visitors | 1,576.2 | 297.2 | 32.8 | 750.3 | 986.2 | 1,116.7 |
| % Change - Japanese Visitors | 5.8 | -81.1 | -89.0 | 2,186.2 | 31.5 | 13.2 |
| Other Visitors | 1,938.3 | 394.7 | 227.4 | 1,075.4 | 1,411.1 | 1,543.1 |
| % Change - Other Visitors | -4.2 | -79.6 | -42.4 | 372.9 | 31.2 | 9.4 |
| Visitor Days (Thou) | 89,690.4 | 28,559.6 | 62,962.8 | 75,830.7 | 82,910.5 | 86,953.1 |
| % Change | 2.2 | -68.2 | 120.5 | 20.4 | 9.3 | 4.9 |
| Average Daily Room Rate (\$) | 282.6 | 208.3 | 288.4 | 284.8 | 294.4 | 314.0 |
| % Change | 1.8 | -26.3 | 38.5 | -1.3 | 3.4 | 6.6 |
| Occupancy Rate (%) | 80.8 | 31.7 | 56.1 | 66.0 | 71.7 | 75.2 |
| Real Visitor Expenditures (Mil 2020\$) | 17,994.4 | 4,784.0 | 11,235.9 | 14,119.4 | 15,666.6 | 16,888.9 |
| % Change | -0.4 | -73.4 | 134.9 | 25.7 | 11.0 | 7.8 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Occupancy rate includes UHERO's estimate of TVR occupancy. Figures for 2021-2024 are forecasts.

TABLE 2: JOBS BY INDUSTRY
STATE OF HAWAII BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 576.3 | 606.0 | 634.1 | 645.9 |
| % Change | 0.0 | -14.8 | 2.7 | 5.2 | 4.6 | 1.9 |
| Construction and Mining | 37.3 | 36.2 | 37.6 | 38.9 | 39.6 | 39.3 |
| % Change | 0.0 | -2.8 | 3.8 | 3.4 | 1.8 | -0.7 |
| Manufacturing | 14.0 | 11.8 | 12.5 | 12.8 | 13.2 | 13.4 |
| % Change | -3.2 | -15.7 | 6.0 | 2.4 | 2.8 | 1.9 |
| Trade | 89.7 | 77.8 | 78.1 | 80.8 | 84.8 | 86.8 |
| % Change | -1.2 | -13.2 | 0.4 | 3.4 | 4.9 | 2.5 |
| Transportation and Utilities | 35.6 | 27.1 | 27.6 | 28.9 | 31.3 | 32.3 |
| % Change | 5.6 | -23.9 | 1.7 | 4.7 | 8.5 | 3.2 |
| Finance, Insurance and Real Estate | 30.0 | 27.1 | 27.6 | 28.2 | 29.0 | 29.2 |
| % Change | 1.0 | -9.4 | 1.5 | 2.4 | 2.8 | 0.7 |
| Services | 325.9 | 260.4 | 270.6 | 291.2 | 310.3 | 318.5 |
| % Change | -0.3 | -20.1 | 3.9 | 7.6 | 6.6 | 2.6 |
| Health Care and Soc. Assistance | 73.1 | 70.3 | 71.0 | 71.7 | 73.6 | 74.9 |
| % Change | 0.6 | -3.8 | 0.9 | 1.0 | 2.7 | 1.7 |
| Accommodation and Food | 113.0 | 72.2 | 78.1 | 90.4 | 101.2 | 105.9 |
| % Change | -0.4 | -36.2 | 8.2 | 15.8 | 12.0 | 4.6 |
| Other | 139.7 | 117.9 | 121.6 | 129.1 | 135.5 | 137.7 |
| % Change | -0.7 | -15.6 | 3.1 | 6.2 | 4.9 | 1.6 |
| Government | 126.1 | 120.4 | 122.3 | 125.2 | 125.9 | 126.4 |
| % Change | 0.4 | -4.5 | 1.6 | 2.4 | 0.5 | 0.3 |
| Federal Government | 34.3 | 34.9 | 35.0 | 34.9 | 34.8 | 34.8 |
| % Change | 1.7 | 1.9 | 0.1 | -0.3 | -0.1 | 0.0 |
| State and Local Government | 91.8 | 85.5 | 87.3 | 90.4 | 91.1 | 91.5 |
| % Change | 0.0 | -6.9 | 2.2 | 3.5 | 0.8 | 0.5 |

Note: Source is UHERO. Industry job counts for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for 2021-2024 are forecasts.

TABLE 3: PERSONAL INCOME BY INDUSTRY
STATE OF HAWAII BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------------------------|----------|----------|----------|----------|----------|----------|
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 85,370.3 | 81,206.2 | 83,544.3 | 85,179.2 |
| % Change | 1.3 | 5.2 | -1.1 | -4.9 | 2.9 | 2.0 |
| Labor & Proprietors' Income | 58,368.6 | 54,134.7 | 54,741.5 | 56,057.0 | 58,139.9 | 59,255.2 |
| % Change | 1.5 | -7.3 | 1.1 | 2.4 | 3.7 | 1.9 |
| Construction | 4,611.0 | 4,701.9 | 4,817.1 | 4,901.1 | 4,972.4 | 4,949.8 |
| % Change | 2.1 | 2.0 | 2.5 | 1.7 | 1.5 | -0.5 |
| Manufacturing | 987.4 | 869.7 | 853.5 | 892.1 | 922.7 | 951.5 |
| % Change | -4.3 | -11.9 | -1.9 | 4.5 | 3.4 | 3.1 |
| Trade | 4,955.1 | 4,492.8 | 4,519.9 | 4,610.8 | 4,746.8 | 4,814.7 |
| % Change | 1.3 | -9.3 | 0.6 | 2.0 | 3.0 | 1.4 |
| Transportation and Utilities | 3,268.0 | 2,839.8 | 2,773.0 | 2,794.4 | 3,030.8 | 3,159.8 |
| % Change | 3.6 | -13.1 | -2.4 | 0.8 | 8.5 | 4.3 |
| Finance, Insurance & Real Estate | 3,730.5 | 3,769.7 | 3,886.4 | 3,819.5 | 3,872.9 | 3,888.6 |
| % Change | 3.6 | 1.1 | 3.1 | -1.7 | 1.4 | 0.4 |
| Services | 23,696.9 | 20,488.4 | 21,075.1 | 22,023.0 | 23,366.6 | 24,122.7 |
| % Change | 0.5 | -13.5 | 2.9 | 4.5 | 6.1 | 3.2 |
| Health Care & Soc. Assist. (% ch.) | 3.3 | 0.7 | 1.1 | 0.4 | 3.7 | 3.0 |
| Accommodation & Food (% ch.) | 3.6 | -38.7 | 7.3 | 16.0 | 13.5 | 6.2 |
| Other (% ch.) | -2.3 | -7.7 | 2.3 | 2.6 | 4.4 | 2.0 |
| Government | 16,793.8 | 16,569.0 | 16,455.8 | 16,659.2 | 16,870.9 | 17,010.4 |
| % Change | 2.2 | -1.3 | -0.7 | 1.2 | 1.3 | 0.8 |
| Federal, civilian (% ch.) | 2.5 | 0.7 | -1.1 | 0.8 | 0.7 | 0.6 |
| State & Local (% ch.) | 1.5 | -4.0 | -0.5 | 1.7 | 1.7 | 0.8 |
| Less Social Security Taxes (-) | 6,683.9 | 6,213.4 | 6,289.6 | 6,449.6 | 6,690.7 | 6,820.3 |
| % Change | 2.1 | -7.0 | 1.2 | 2.5 | 3.7 | 1.9 |
| Transfer Payments | 12,871.6 | 21,262.5 | 20,056.7 | 14,491.9 | 14,605.7 | 14,900.3 |
| % Change | 2.6 | 65.2 | -5.7 | -27.7 | 0.8 | 2.0 |
| Dividends, Interest and Rent | 17,437.6 | 17,093.6 | 16,859.0 | 17,085.5 | 17,457.8 | 17,818.9 |
| % Change | -0.1 | -2.0 | -1.4 | 1.3 | 2.2 | 2.1 |
| Population (Thou) | 1,459.5 | 1,455.3 | 1,453.6 | 1,451.1 | 1,449.2 | 1,451.3 |
| % Change | -0.1 | -0.3 | -0.1 | -0.2 | -0.1 | 0.1 |
| Real Per Capita Income (Thou 2020\$) | 56.2 | 59.3 | 58.7 | 56.0 | 57.6 | 58.7 |
| % Change | 1.4 | 5.5 | -0.9 | -4.7 | 3.0 | 1.8 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Nominal Personal Income (Mil. \$) | 80,725.5 | 86,277.3 | 88,117.6 | 86,293.8 | 91,275.7 | 95,351.7 |
| % Change | 2.9 | 6.9 | 2.1 | -2.1 | 5.8 | 4.5 |

Note: Source is UHERO. Figures for 2021-2024 are forecasts.

TABLE 4: CONSTRUCTION INDICATORS
STATE OF HAWAII BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|-------|-------|--------|--------|--------|--------|
| BUILDING PERMITS (Mil 2020\$) | | | | | | |
| Total Commitments to Build | 3,909 | 6,189 | 5,488 | 6,234 | 5,729 | 5,441 |
| % Change | -29.0 | 58.3 | -11.3 | 13.6 | -8.1 | -5.0 |
| Real Private Building Permits | 3,301 | 3,108 | 3,865 | 3,555 | 3,435 | 3,490 |
| % Change | -4.4 | -5.8 | 24.3 | -8.0 | -3.4 | 1.6 |
| Real Residential Building Permits | 1,241 | 1,145 | 1,888 | 1,621 | 1,420 | 1,458 |
| % Change | -15.8 | -7.8 | 64.9 | -14.1 | -12.4 | 2.6 |
| Real Non-Residential Building Permits | 2,059 | 1,964 | 1,977 | 1,934 | 2,014 | 2,033 |
| % Change | 4.1 | -4.6 | 0.7 | -2.1 | 4.1 | 0.9 |
| Real Government Contracts Awarded | 608 | 3,081 | 1,623 | 2,679 | 2,294 | 1,951 |
| % Change | -70.4 | 406.4 | -47.3 | 65.0 | -14.4 | -15.0 |
| CONSTRUCTION ACTIVITY | | | | | | |
| Real GE Contracting Tax Base (Mil 2020\$) | 9,845 | 9,757 | 10,133 | 10,817 | 10,851 | 10,833 |
| % Change | -1.4 | -0.9 | 3.9 | 6.8 | 0.3 | -0.2 |
| Nominal GE Contracting Tax Base (Mil \$) | 9,609 | 9,757 | 10,437 | 11,487 | 11,891 | 12,238 |
| % Change | 1.6 | 1.5 | 7.0 | 10.1 | 3.5 | 2.9 |
| Construction Job Count (Thou) | 37.3 | 36.2 | 37.6 | 38.9 | 39.6 | 39.3 |
| % Change | 0.0 | -2.8 | 3.8 | 3.4 | 1.8 | -0.7 |
| Real Construction Income (Mil 2020\$) | 4,611 | 4,702 | 4,817 | 4,901 | 4,972 | 4,950 |
| % Change | 2.1 | 2.0 | 2.5 | 1.7 | 1.5 | -0.5 |
| PRICES & COSTS (HONOLULU) | | | | | | |
| Honolulu Median Home Price (Thou \$) | 789.4 | 821.9 | 976.3 | 1028.4 | 1037.5 | 1053.4 |
| % Change | 0.2 | 4.1 | 18.8 | 5.3 | 0.9 | 1.5 |
| Honolulu Median Condominium Price (Thou \$) | 426.6 | 432.8 | 468.3 | 496.4 | 493.0 | 494.2 |
| % Change | 1.7 | 1.5 | 8.2 | 6.0 | -0.7 | 0.2 |
| Honolulu Housing Affordability Index | 85.1 | 95.3 | 85.7 | 74.6 | 71.8 | 70.6 |
| % Change | 7.7 | 11.9 | -10.1 | -12.9 | -3.8 | -1.7 |
| Honolulu Construction Cost Index (2020=100) | 97.6 | 100.0 | 103.0 | 106.2 | 109.6 | 113.0 |
| % Change | 3.1 | 2.5 | 3.0 | 3.1 | 3.2 | 3.1 |
| 30-Year Mortgage Rate (%) | 3.9 | 3.1 | 2.8 | 3.1 | 3.8 | 4.0 |

Note: Source is UHERO. Figures for 2021-2024 are forecasts. Commitments to Build are the sum of private permits and public contracts awarded. Permits and tax base are deflated by Honolulu Construction Cost Index. Income is deflated by Honolulu CPI. Housing affordability index is the ratio of median family income to qualifying income for a loan for the median-priced home (times 100).

TABLE 5: MAJOR ECONOMIC INDICATOR SUMMARY
HONOLULU COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|----------|----------|
| Non-farm Payrolls (Thou) | 473.8 | 415.5 | 418.3 | 437.8 | 458.4 | 466.2 |
| % Change | 0.1 | -12.3 | 0.7 | 4.7 | 4.7 | 1.7 |
| Unemployment Rate (%) | 2.3 | 10.3 | 7.4 | 6.4 | 3.8 | 3.2 |
| Population (Thou) | 1,003.7 | 996.9 | 993.5 | 990.3 | 987.8 | 988.0 |
| % Change | -0.4 | -0.7 | -0.3 | -0.3 | -0.3 | 0.0 |
| Personal Income (Mil \$) | 59,617.7 | 63,563.8 | 64,763.0 | 63,749.1 | 67,471.8 | 70,442.7 |
| % Change | 2.6 | 6.6 | 1.9 | -1.6 | 5.8 | 4.4 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020 \$) | 60,554.4 | 63,563.8 | 62,743.9 | 59,990.6 | 61,756.7 | 62,927.6 |
| % Change | 0.9 | 5.0 | -1.3 | -4.4 | 2.9 | 1.9 |
| Real Per Capita Income (Thou 2020 \$) | 60.3 | 63.8 | 63.2 | 60.6 | 62.5 | 63.7 |
| % Change | 1.3 | 5.7 | -1.0 | -4.1 | 3.2 | 1.9 |
| TOURISM SECTOR DETAIL | | | | | | |
| Total Visitor Arrivals by Air (Thou) | 6,153.9 | 1,515.0 | 3,223.0 | 4,788.9 | 5,349.1 | 5,644.8 |
| % Change - Total Visitor Arrivals by Air | 5.0 | -75.4 | 112.7 | 48.6 | 11.7 | 5.5 |
| U.S. Visitors | 3,326.5 | 1,011.2 | 3,031.5 | 3,266.3 | 3,350.5 | 3,423.6 |
| % Change - U.S. Visitors | 9.3 | -69.6 | 199.8 | 7.7 | 2.6 | 2.2 |
| Japanese Visitors | 1,492.8 | 277.4 | 31.4 | 720.6 | 947.6 | 1,073.4 |
| % Change - Japanese Visitors | 6.7 | -81.4 | -88.7 | 2,192.9 | 31.5 | 13.3 |
| Other Visitors | 1,334.6 | 270.2 | 160.1 | 802.1 | 1,051.1 | 1,147.8 |
| % Change - Other Visitors | -6.0 | -79.8 | -40.7 | 400.9 | 31.0 | 9.2 |
| Visitor Days (Thou) | 41,827.3 | 12,894.2 | 25,377.0 | 33,400.6 | 37,427.6 | 39,377.4 |
| % Change | 3.3 | -69.2 | 96.8 | 31.6 | 12.1 | 5.2 |
| Occupancy Rate (%) | 84.0 | 32.5 | 54.8 | 68.5 | 75.7 | 79.8 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Income figures for 2020 are UHERO estimates. Figures for 2021 - 2024 are forecasts.

TABLE 6: JOBS BY DETAILED SECTOR (THOUSANDS)
HONOLULU COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| Non-farm Payrolls (Thou) | 473.8 | 415.5 | 418.3 | 437.8 | 458.4 | 466.2 |
| % Change | 0.1 | -12.3 | 0.7 | 4.7 | 4.7 | 1.7 |
| Construction and Mining | 27.0 | 26.6 | 27.5 | 28.4 | 28.9 | 28.6 |
| % Change | -0.1 | -1.5 | 3.4 | 3.3 | 1.7 | -0.8 |
| Manufacturing | 11.0 | 9.5 | 9.9 | 10.1 | 10.4 | 10.5 |
| % Change | -4.2 | -13.2 | 4.0 | 2.0 | 2.6 | 1.7 |
| Trade | 62.0 | 53.1 | 53.0 | 55.2 | 58.1 | 59.6 |
| % Change | -1.6 | -14.4 | -0.1 | 4.2 | 5.2 | 2.6 |
| Transportation and Utilities | 25.8 | 20.5 | 20.2 | 21.2 | 22.6 | 23.2 |
| % Change | 6.9 | -20.4 | -1.4 | 4.6 | 6.8 | 2.5 |
| Finance, Insurance and Real Estate | 23.0 | 22.1 | 21.9 | 22.2 | 22.6 | 22.7 |
| % Change | 1.7 | -3.8 | -0.9 | 1.2 | 1.9 | 0.4 |
| Services | 228.0 | 191.1 | 192.8 | 205.2 | 219.8 | 225.1 |
| % Change | 0.0 | -16.2 | 0.9 | 6.5 | 7.1 | 2.4 |
| Health Care and Soc. Assistance | 54.1 | 52.5 | 52.9 | 53.4 | 54.8 | 55.8 |
| % Change | 0.0 | -3.0 | 0.7 | 0.9 | 2.7 | 1.7 |
| Accommodation and Food | 67.4 | 46.1 | 46.4 | 52.5 | 60.6 | 63.6 |
| % Change | -0.4 | -31.5 | 0.7 | 13.1 | 15.3 | 5.0 |
| Other | 106.5 | 92.4 | 93.4 | 99.3 | 104.4 | 105.8 |
| % Change | 0.2 | -13.3 | 1.1 | 6.3 | 5.1 | 1.3 |
| Government | 97.0 | 92.7 | 93.4 | 95.5 | 96.1 | 96.4 |
| % Change | 0.1 | -4.4 | 0.7 | 2.3 | 0.6 | 0.4 |
| Federal Government | 31.7 | 32.6 | 32.3 | 32.2 | 32.1 | 32.1 |
| % Change | 1.8 | 2.8 | -0.9 | -0.4 | -0.1 | 0.0 |
| State and Local Government | 65.4 | 60.2 | 61.2 | 63.4 | 63.9 | 64.4 |
| % Change | -0.7 | -7.9 | 1.7 | 3.6 | 0.9 | 0.6 |

Note: Source is UHERO. Industry job counts for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for 2021-2024 are forecasts.

TABLE 7: PERSONAL INCOME BY DETAILED SECTOR
HONOLULU COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------------|----------|----------|----------|----------|----------|----------|
| Real Personal Income (Mil 2020 \$) | 60,554.4 | 63,563.8 | 62,743.9 | 59,990.6 | 61,756.7 | 62,927.6 |
| % Change | 0.9 | 5.0 | -1.3 | -4.4 | 2.9 | 1.9 |
| Labor & Proprietors' Income | 44,457.9 | 42,333.4 | 42,247.7 | 43,059.1 | 44,580.2 | 45,338.3 |
| % Change | 1.0 | -4.8 | -0.2 | 1.9 | 3.5 | 1.7 |
| Construction | 3,379.1 | 3,467.8 | 3,540.2 | 3,591.4 | 3,635.3 | 3,611.7 |
| % Change | 2.0 | 2.6 | 2.1 | 1.4 | 1.2 | -0.7 |
| Manufacturing | 796.5 | 721.2 | 698.9 | 727.5 | 749.5 | 771.9 |
| % Change | -5.6 | -9.5 | -3.1 | 4.1 | 3.0 | 3.0 |
| Trade | 3,538.5 | 3,170.7 | 3,169.7 | 3,258.5 | 3,367.2 | 3,412.1 |
| % Change | 1.3 | -10.4 | 0.0 | 2.8 | 3.3 | 1.3 |
| Transportation and Utilities | 2,522.4 | 2,277.8 | 2,176.8 | 2,197.0 | 2,352.2 | 2,436.2 |
| % Change | 3.7 | -9.7 | -4.4 | 0.9 | 7.1 | 3.6 |
| Finance, Insurance & Real Estate | 2,978.4 | 3,099.3 | 3,117.8 | 3,067.3 | 3,107.6 | 3,125.0 |
| % Change | 4.0 | 4.1 | 0.6 | -1.6 | 1.3 | 0.6 |
| Services | 16,935.4 | 15,434.6 | 15,533.8 | 16,063.2 | 17,066.5 | 17,559.6 |
| % Change | -0.3 | -8.9 | 0.6 | 3.4 | 6.2 | 2.9 |
| Health Care & Soc. Assist. (% ch.) | 2.8 | 1.2 | 1.1 | 0.4 | 3.6 | 2.9 |
| Accommodation & Food (% ch.) | 4.1 | -34.2 | 0.4 | 12.4 | 16.7 | 6.7 |
| Other (% ch.) | -3.5 | -4.4 | 0.5 | 2.7 | 4.7 | 1.6 |
| Government | 14,199.1 | 14,027.2 | 13,886.4 | 14,034.7 | 14,181.8 | 14,301.2 |
| % Change | 1.8 | -1.2 | -1.0 | 1.1 | 1.0 | 0.8 |
| Federal, civilian (% ch.) | 2.5 | 3.2 | -3.8 | 0.7 | 0.7 | 0.6 |
| State & Local (% ch.) | 0.4 | -4.9 | -0.7 | 1.5 | 1.3 | 0.9 |
| Less Social Security Taxes (-) | 5,064.9 | 4,857.2 | 4,846.0 | 4,937.5 | 5,110.4 | 5,196.0 |
| % Change | 1.6 | -4.1 | -0.2 | 1.9 | 3.5 | 1.7 |
| Transfer Payments | 8,616.2 | 13,551.5 | 12,857.4 | 9,646.8 | 9,757.4 | 9,926.9 |
| % Change | 2.5 | 57.3 | -5.1 | -25.0 | 1.1 | 1.7 |
| Dividends, Interest and Rent | 12,594.8 | 12,311.6 | 12,200.4 | 12,360.2 | 12,629.6 | 12,875.9 |
| % Change | -0.3 | -2.2 | -0.9 | 1.3 | 2.2 | 2.0 |
| Population (Thou) | 1,003.7 | 996.9 | 993.5 | 990.3 | 987.8 | 988.0 |
| % Change | -0.4 | -0.7 | -0.3 | -0.3 | -0.3 | 0.0 |
| Real Per Capita Income (Thou 2020 \$) | 60.3 | 63.8 | 63.2 | 60.6 | 62.5 | 63.7 |
| % Change | 1.3 | 5.7 | -1.0 | -4.1 | 3.2 | 1.9 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Nominal Personal Income (Mil \$) | 59,617.7 | 63,563.8 | 64,763.0 | 63,749.1 | 67,471.8 | 70,442.7 |
| % Change | 2.6 | 6.6 | 1.9 | -1.6 | 5.8 | 4.4 |

Note: Source is UHERO. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 8: MAJOR ECONOMIC INDICATOR SUMMARY
HAWAII COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|---------|----------|----------|----------|----------|
| Non-farm Payrolls (Thou) | 70.9 | 61.8 | 64.0 | 66.0 | 68.2 | 69.4 |
| % Change | -0.1 | -12.8 | 3.5 | 3.1 | 3.4 | 1.8 |
| Unemployment Rate (%) | 3.1 | 11.5 | 7.5 | 6.8 | 5.1 | 4.4 |
| Population (Thou) | 208.4 | 210.3 | 211.2 | 211.5 | 211.9 | 212.8 |
| % Change | 0.3 | 0.9 | 0.4 | 0.2 | 0.2 | 0.4 |
| Personal Income (Mil \$) | 8,781.6 | 9,476.4 | 9,733.8 | 9,373.5 | 9,912.0 | 10,383.9 |
| % Change | 3.2 | 7.9 | 2.7 | -3.7 | 5.7 | 4.8 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020 \$) | 8,919.6 | 9,476.4 | 9,430.3 | 8,820.9 | 9,072.5 | 9,276.1 |
| % Change | 1.5 | 6.2 | -0.5 | -6.5 | 2.9 | 2.2 |
| Real Per Capita Income (Thou 2020 \$) | 42.8 | 45.1 | 44.7 | 41.7 | 42.8 | 43.6 |
| % Change | 1.2 | 5.3 | -0.9 | -6.6 | 2.7 | 1.8 |
| TOURISM SECTOR DETAIL | | | | | | |
| Total Visitor Arrivals by Air (Thou) | 1,763.9 | 477.3 | 1,176.4 | 1,526.7 | 1,667.1 | 1,749.1 |
| % Change - Total Visitor Arrivals by Air | 3.4 | -72.9 | 146.4 | 29.8 | 9.2 | 4.9 |
| U.S. Visitors | 1,250.6 | 374.8 | 1,129.8 | 1,217.4 | 1,255.6 | 1,289.1 |
| % Change - U.S. Visitors | 5.7 | -70.0 | 201.4 | 7.7 | 3.1 | 2.7 |
| Japanese Visitors | 170.7 | 39.0 | 3.2 | 88.1 | 117.8 | 135.8 |
| % Change - Japanese Visitors | -3.3 | -77.2 | -91.9 | 2,676.1 | 33.7 | 15.3 |
| Other Visitors | 342.6 | 63.5 | 43.4 | 221.3 | 293.7 | 324.3 |
| % Change - Other Visitors | -1.0 | -81.5 | -31.7 | 410.0 | 32.7 | 10.4 |
| Visitor Days (Thou) | 12,977.7 | 4,613.0 | 10,590.6 | 11,563.9 | 12,669.1 | 13,290.9 |
| % Change | 1.5 | -64.5 | 129.6 | 9.2 | 9.6 | 4.9 |
| Occupancy Rate (%) | 77.0 | 33.2 | 55.5 | 63.0 | 68.1 | 71.1 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 9: JOBS BY DETAILED SECTOR (THOUSANDS)
HAWAII COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|------|-------|------|------|------|------|
| Non-farm Payrolls (Thou) | 70.9 | 61.8 | 64.0 | 66.0 | 68.2 | 69.4 |
| % Change | -0.1 | -12.8 | 3.5 | 3.1 | 3.4 | 1.8 |
| Construction and Mining | 3.8 | 3.6 | 3.7 | 3.8 | 3.8 | 3.8 |
| % Change | -2.1 | -5.1 | 2.6 | 1.0 | 1.2 | -0.9 |
| Manufacturing | 1.4 | 1.2 | 1.3 | 1.3 | 1.3 | 1.4 |
| % Change | 5.0 | -14.9 | 7.6 | 0.2 | 2.9 | 2.2 |
| Trade | 11.5 | 11.5 | 11.3 | 11.2 | 11.6 | 11.8 |
| % Change | 0.1 | -0.3 | -1.7 | -0.8 | 3.7 | 1.9 |
| Transportation and Utilities | 3.3 | 2.6 | 2.7 | 2.8 | 3.1 | 3.2 |
| % Change | -1.5 | -20.9 | 5.7 | 1.9 | 11.6 | 4.3 |
| Finance, Insurance and Real Estate | 2.7 | 2.2 | 2.3 | 2.4 | 2.6 | 2.6 |
| % Change | 2.2 | -19.2 | 7.7 | 4.0 | 5.1 | 1.4 |
| Services | 33.2 | 26.6 | 28.6 | 30.4 | 31.7 | 32.6 |
| % Change | -1.3 | -19.8 | 7.3 | 6.4 | 4.4 | 2.7 |
| Health Care and Soc. Assistance | 7.9 | 7.3 | 7.2 | 7.0 | 7.2 | 7.3 |
| % Change | 1.3 | -8.1 | -1.4 | -1.6 | 2.3 | 1.7 |
| Accommodation and Food | 12.9 | 9.7 | 10.7 | 12.3 | 13.1 | 13.5 |
| % Change | -3.0 | -24.5 | 10.1 | 15.0 | 6.2 | 3.4 |
| Other | 12.5 | 9.6 | 10.7 | 11.0 | 11.4 | 11.7 |
| % Change | -0.8 | -22.8 | 11.1 | 3.0 | 3.8 | 2.5 |
| Government | 15.0 | 14.1 | 14.4 | 14.5 | 14.5 | 14.5 |
| % Change | 2.6 | -5.6 | 2.1 | 0.6 | -0.1 | -0.2 |
| Federal Government | 1.3 | 1.2 | 1.3 | 1.3 | 1.3 | 1.2 |
| % Change | 0.0 | -10.8 | 10.5 | -1.9 | -0.5 | -0.2 |
| State and Local Government | 13.7 | 13.0 | 13.2 | 13.3 | 13.2 | 13.2 |
| % Change | 2.9 | -5.1 | 1.4 | 0.9 | -0.1 | -0.2 |

Note: Source is UHERO. Industry job counts for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for 2021-2024 are forecasts.

TABLE 10: PERSONAL INCOME BY DETAILED SECTOR
HAWAII COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------------|---------|---------|---------|---------|---------|----------|
| Real Personal Income (Mil 2020 \$) | 8,919.6 | 9,476.4 | 9,430.3 | 8,820.9 | 9,072.5 | 9,276.1 |
| % Change | 1.5 | 6.2 | -0.5 | -6.5 | 2.9 | 2.2 |
| Labor & Proprietors' Income | 5,295.3 | 4,952.8 | 5,015.1 | 5,057.3 | 5,221.0 | 5,331.7 |
| % Change | 2.1 | -6.5 | 1.3 | 0.8 | 3.2 | 2.1 |
| Construction | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Manufacturing | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Trade | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Transportation and Utilities | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Finance, Insurance & Real Estate | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Services | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Health Care & Soc. Assist. (% ch.) | — | — | — | — | — | — |
| Accommodation & Food (% ch.) | — | — | — | — | — | — |
| Other (% ch.) | — | — | — | — | — | — |
| Government | 1,296.9 | 1,271.9 | 1,274.1 | 1,274.2 | 1,297.8 | 1,303.1 |
| % Change | 5.1 | -1.9 | 0.2 | 0.0 | 1.9 | 0.4 |
| Federal, civilian (% ch.) | 2.7 | -2.4 | 10.1 | 0.6 | 0.6 | 0.9 |
| State & Local (% ch.) | 5.4 | -2.2 | -1.1 | 0.0 | 2.1 | 0.3 |
| Less Social Security Taxes (-) | 624.8 | 591.3 | 593.5 | 625.4 | 646.7 | 661.2 |
| % Change | 3.2 | -5.4 | 0.4 | 5.4 | 3.4 | 2.3 |
| Transfer Payments | 2,136.9 | 3,755.6 | 3,550.1 | 2,417.7 | 2,419.4 | 2,482.2 |
| % Change | 2.0 | 75.8 | -5.5 | -31.9 | 0.1 | 2.6 |
| Dividends, Interest and Rent | 2,081.2 | 2,045.9 | 1,945.4 | 2,001.9 | 2,066.1 | 2,110.6 |
| % Change | 0.3 | -1.7 | -4.9 | 2.9 | 3.2 | 2.2 |
| Population (Thou) | 208.4 | 210.3 | 211.2 | 211.5 | 211.9 | 212.8 |
| % Change | 0.3 | 0.9 | 0.4 | 0.2 | 0.2 | 0.4 |
| Real Per Capita Income (Thou 2020 \$) | 42.8 | 45.1 | 44.7 | 41.7 | 42.8 | 43.6 |
| % Change | 1.2 | 5.3 | -0.9 | -6.6 | 2.7 | 1.8 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Nominal Personal Income (Mil \$) | 8,781.6 | 9,476.4 | 9,733.8 | 9,373.5 | 9,912.0 | 10,383.9 |
| % Change | 3.2 | 7.9 | 2.7 | -3.7 | 5.7 | 4.8 |

Note: Source is UHERO. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 11: MAJOR ECONOMIC INDICATOR SUMMARY
MAUI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|---------|----------|----------|----------|----------|
| Non-farm Payrolls (Thou) | 80.7 | 58.1 | 67.7 | 73.4 | 76.6 | 78.5 |
| % Change | 0.2 | -28.0 | 16.5 | 8.4 | 4.5 | 2.4 |
| Unemployment Rate (%) | 2.4 | 18.1 | 10.8 | 8.3 | 5.6 | 4.3 |
| Population (Thou) | 173.0 | 173.8 | 174.3 | 174.5 | 174.7 | 175.4 |
| % Change | 0.6 | 0.5 | 0.3 | 0.1 | 0.1 | 0.4 |
| Personal Income (Mil \$) | 8,600.9 | 9,231.9 | 9,499.8 | 9,171.8 | 9,694.4 | 10,138.8 |
| % Change | 4.7 | 7.3 | 2.9 | -3.5 | 5.7 | 4.6 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020 \$) | 8,736.0 | 9,231.9 | 9,203.6 | 8,631.1 | 8,873.2 | 9,057.2 |
| % Change | 3.1 | 5.7 | -0.3 | -6.2 | 2.8 | 2.1 |
| Real Per Capita Income (Thou 2020 \$) | 50.5 | 53.1 | 52.8 | 49.5 | 50.8 | 51.6 |
| % Change | 2.5 | 5.2 | -0.6 | -6.3 | 2.7 | 1.7 |
| TOURISM SECTOR DETAIL | | | | | | |
| Total Visitor Arrivals by Air (Thou) | 3,111.1 | 846.2 | 2,401.9 | 2,870.7 | 3,072.7 | 3,196.6 |
| % Change - Total Visitor Arrivals by Air | 5.0 | -72.8 | 183.8 | 19.5 | 7.0 | 4.0 |
| U.S. Visitors | 2,488.6 | 728.9 | 2,328.8 | 2,507.2 | 2,595.3 | 2,672.9 |
| % Change - U.S. Visitors | 7.5 | -70.7 | 219.5 | 7.7 | 3.5 | 3.0 |
| Japanese Visitors | 48.5 | 8.2 | 1.0 | 24.1 | 32.1 | 36.7 |
| % Change - Japanese Visitors | -3.0 | -83.2 | -88.0 | 2,364.6 | 32.9 | 14.4 |
| Other Visitors | 574.0 | 109.2 | 72.1 | 339.4 | 445.3 | 487.0 |
| % Change - Other Visitors | -4.1 | -81.0 | -34.0 | 370.7 | 31.2 | 9.4 |
| Visitor Days (Thou) | 24,776.6 | 7,738.1 | 20,160.6 | 21,847.4 | 23,094.1 | 24,165.6 |
| % Change | 2.9 | -68.8 | 160.5 | 8.4 | 5.7 | 4.6 |
| Occupancy Rate (%) | 77.8 | 27.6 | 58.4 | 64.8 | 68.7 | 72.1 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 12: JOBS BY DETAILED SECTOR (THOUSANDS)
MAUI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|------|-------|------|------|------|------|
| Non-farm Payrolls (Thou) | 80.7 | 58.1 | 67.7 | 73.4 | 76.6 | 78.5 |
| % Change | 0.2 | -28.0 | 16.5 | 8.4 | 4.5 | 2.4 |
| Construction and Mining | 4.4 | 4.1 | 4.4 | 4.5 | 4.6 | 4.6 |
| % Change | 0.8 | -6.5 | 6.1 | 4.1 | 1.7 | -0.4 |
| Manufacturing | 1.2 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 |
| % Change | 9.1 | -31.0 | 5.0 | 4.1 | 4.0 | 3.0 |
| Trade | 11.5 | 9.5 | 10.0 | 10.3 | 10.7 | 10.9 |
| % Change | -0.3 | -17.5 | 4.8 | 3.4 | 4.0 | 2.1 |
| Transportation and Utilities | 4.8 | 2.9 | 3.5 | 3.6 | 4.1 | 4.4 |
| % Change | 3.4 | -39.5 | 18.4 | 5.5 | 13.8 | 5.4 |
| Finance, Insurance and Real Estate | 3.1 | 2.1 | 2.3 | 2.5 | 2.7 | 2.7 |
| % Change | 0.0 | -33.7 | 13.5 | 7.6 | 6.2 | 2.1 |
| Services | 46.5 | 30.2 | 34.8 | 38.9 | 40.8 | 42.0 |
| % Change | -0.1 | -35.1 | 15.5 | 11.6 | 4.9 | 3.1 |
| Health Care and Soc. Assistance | 8.1 | 7.8 | 8.1 | 8.3 | 8.5 | 8.6 |
| % Change | 3.4 | -4.1 | 4.0 | 2.3 | 2.4 | 1.8 |
| Accommodation and Food | 23.4 | 11.9 | 14.7 | 17.8 | 19.0 | 19.7 |
| % Change | 0.7 | -49.3 | 24.2 | 20.5 | 7.0 | 4.0 |
| Other | 15.0 | 10.5 | 12.0 | 12.8 | 13.3 | 13.7 |
| % Change | -3.5 | -29.9 | 14.2 | 7.0 | 3.8 | 2.5 |
| Government | 9.2 | 8.5 | 9.0 | 9.4 | 9.4 | 9.4 |
| % Change | -0.5 | -7.0 | 5.1 | 4.6 | 0.3 | 0.1 |
| Federal Government | 0.9 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 |
| % Change | 0.0 | -19.3 | 12.1 | 1.7 | 0.2 | 0.3 |
| State and Local Government | 8.3 | 7.8 | 8.2 | 8.6 | 8.6 | 8.6 |
| % Change | -0.5 | -5.7 | 4.5 | 4.8 | 0.3 | 0.1 |

Note: Source is UHERO. Industry job counts for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for 2021-2024 are forecasts.

TABLE 13: PERSONAL INCOME BY DETAILED SECTOR
MAUI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------------|---------|---------|---------|---------|---------|----------|
| Real Personal Income (Mil 2020 \$) | 8,736.0 | 9,231.9 | 9,203.6 | 8,631.1 | 8,873.2 | 9,057.2 |
| % Change | 3.1 | 5.7 | -0.3 | -6.2 | 2.8 | 2.1 |
| Labor & Proprietors' Income | 6,107.7 | 4,777.2 | 5,396.2 | 5,706.7 | 5,958.0 | 6,116.5 |
| % Change | 3.5 | -21.8 | 13.0 | 5.8 | 4.4 | 2.7 |
| Construction | 552.6 | 557.8 | 567.4 | 573.0 | 578.8 | 578.1 |
| % Change | 5.5 | 0.9 | 1.7 | 1.0 | 1.0 | -0.1 |
| Manufacturing | 74.6 | 51.9 | 53.2 | 54.3 | 57.1 | 59.4 |
| % Change | 3.8 | -30.4 | 2.3 | 2.1 | 5.1 | 4.2 |
| Trade | 595.2 | 504.5 | 516.8 | 523.8 | 555.3 | 575.0 |
| % Change | 2.2 | -15.2 | 2.4 | 1.3 | 6.0 | 3.6 |
| Transportation and Utilities | 319.8 | 194.9 | 230.3 | 238.5 | 277.4 | 295.6 |
| % Change | 5.0 | -39.1 | 18.2 | 3.6 | 16.3 | 6.6 |
| Finance, Insurance & Real Estate | 355.2 | 289.5 | 306.5 | 315.8 | 327.7 | 332.5 |
| % Change | 1.9 | -18.5 | 5.9 | 3.0 | 3.8 | 1.5 |
| Services | 3,344.7 | 2,305.2 | 2,601.8 | 2,848.9 | 2,996.7 | 3,101.0 |
| % Change | 3.3 | -31.1 | 12.9 | 9.5 | 5.2 | 3.5 |
| Health Care & Soc. Assist. (% ch.) | 7.1 | 4.1 | 0.8 | -0.2 | 2.3 | 2.0 |
| Accommodation & Food (% ch.) | 3.0 | -52.3 | 27.4 | 22.3 | 8.4 | 5.1 |
| Other (% ch.) | 1.8 | -22.5 | 9.9 | 4.1 | 3.5 | 2.6 |
| Government | 820.3 | 788.4 | 811.9 | 843.4 | 862.8 | 869.2 |
| % Change | 4.0 | -3.9 | 3.0 | 3.9 | 2.3 | 0.7 |
| Federal, civilian (% ch.) | 3.9 | -12.1 | 12.4 | 4.4 | 1.4 | 1.5 |
| State & Local (% ch.) | 3.7 | -2.7 | 1.9 | 3.9 | 2.5 | 0.6 |
| Less Social Security Taxes (-) | 700.4 | 530.8 | 607.7 | 626.1 | 656.4 | 676.2 |
| % Change | 4.0 | -24.2 | 14.5 | 3.0 | 4.8 | 3.0 |
| Transfer Payments | 1,403.1 | 2,663.6 | 2,443.4 | 1,617.6 | 1,620.6 | 1,664.5 |
| % Change | 5.7 | 89.8 | -8.3 | -33.8 | 0.2 | 2.7 |
| Dividends, Interest and Rent | 1,895.5 | 1,887.5 | 1,873.5 | 1,887.9 | 1,923.6 | 1,965.0 |
| % Change | 0.2 | -0.4 | -0.7 | 0.8 | 1.9 | 2.2 |
| Population (Thou) | 173.0 | 173.8 | 174.3 | 174.5 | 174.7 | 175.4 |
| % Change | 0.6 | 0.5 | 0.3 | 0.1 | 0.1 | 0.4 |
| Real Per Capita Income (Thou 2020 \$) | 50.5 | 53.1 | 52.8 | 49.5 | 50.8 | 51.6 |
| % Change | 2.5 | 5.2 | -0.6 | -6.3 | 2.7 | 1.7 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Nominal Personal Income (Mil \$) | 8,600.9 | 9,231.9 | 9,499.8 | 9,171.8 | 9,694.4 | 10,138.8 |
| % Change | 4.7 | 7.3 | 2.9 | -3.5 | 5.7 | 4.6 |

Note: Source is UHERO. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 14: MAJOR ECONOMIC INDICATOR SUMMARY
KAUAI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|---------|---------|---------|---------|----------|
| Non-farm Payrolls (Thou) | 33.3 | 25.5 | 26.3 | 28.8 | 30.7 | 31.8 |
| % Change | 1.8 | -23.4 | 3.1 | 9.7 | 6.6 | 3.3 |
| Unemployment Rate (%) | 2.4 | 16.3 | 11.7 | 9.1 | 5.5 | 3.8 |
| Population (Thou) | 74.4 | 74.3 | 74.6 | 74.7 | 74.9 | 75.2 |
| % Change | 0.2 | -0.2 | 0.4 | 0.2 | 0.2 | 0.4 |
| Personal Income (Mil \$) | 3,726.3 | 4,005.1 | 4,120.9 | 3,999.4 | 4,197.5 | 4,386.2 |
| % Change | 3.9 | 7.5 | 2.9 | -3.0 | 5.0 | 4.5 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020 \$) | 3,784.9 | 4,005.1 | 3,992.5 | 3,763.6 | 3,842.0 | 3,918.2 |
| % Change | 2.3 | 5.8 | -0.3 | -5.7 | 2.1 | 2.0 |
| Real Per Capita Income (Thou 2020 \$) | 50.9 | 53.9 | 53.5 | 50.4 | 51.3 | 52.1 |
| % Change | 2.0 | 6.0 | -0.7 | -5.9 | 1.9 | 1.6 |
| TOURISM SECTOR DETAIL | | | | | | |
| Total Visitor Arrivals by Air (Thou) | 1,370.0 | 345.8 | 871.0 | 1,259.6 | 1,336.8 | 1,381.2 |
| % Change - Total Visitor Arrivals by Air | -1.3 | -74.8 | 151.9 | 44.6 | 6.1 | 3.3 |
| U.S. Visitors | 1,135.7 | 301.3 | 846.3 | 1,121.3 | 1,154.9 | 1,181.2 |
| % Change - U.S. Visitors | 0.1 | -73.5 | 180.9 | 32.5 | 3.0 | 2.3 |
| Japanese Visitors | 25.3 | 3.4 | 0.5 | 12.8 | 17.0 | 19.5 |
| % Change - Japanese Visitors | 2.1 | -86.5 | -85.6 | 2,487.3 | 33.1 | 14.6 |
| Other Visitors | 209.0 | 41.0 | 24.1 | 125.6 | 164.9 | 180.5 |
| % Change - Other Visitors | -8.9 | -80.4 | -41.2 | 420.3 | 31.3 | 9.5 |
| Visitor Days (Thou) | 10,108.8 | 2,944.5 | 6,832.6 | 9,018.8 | 9,719.7 | 10,119.2 |
| % Change | -2.7 | -70.9 | 132.1 | 32.0 | 7.8 | 4.1 |
| Occupancy Rate (%) | 73.3 | 30.1 | 54.4 | 64.6 | 69.4 | 72.2 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 15: JOBS BY DETAILED SECTOR (THOUSANDS)
KAUAI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|------|-------|------|------|------|------|
| Non-farm Payrolls (Thou) | 33.3 | 25.5 | 26.3 | 28.8 | 30.7 | 31.8 |
| % Change | 1.8 | -23.4 | 3.1 | 9.7 | 6.6 | 3.3 |
| Construction and Mining | 2.1 | 1.9 | 2.1 | 2.2 | 2.3 | 2.3 |
| % Change | 10.0 | -9.0 | 8.3 | 5.5 | 3.6 | 0.4 |
| Manufacturing | 0.5 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 |
| % Change | 0.0 | -12.5 | 4.5 | 4.6 | 4.8 | 3.1 |
| Trade | 4.6 | 3.8 | 3.7 | 3.9 | 4.1 | 4.3 |
| % Change | -0.5 | -17.3 | -2.5 | 4.7 | 6.7 | 3.4 |
| Transportation and Utilities | 1.6 | 1.0 | 1.0 | 1.1 | 1.3 | 1.3 |
| % Change | -1.6 | -33.6 | -2.1 | 6.6 | 15.0 | 6.0 |
| Finance, Insurance and Real Estate | 1.2 | 0.7 | 0.8 | 0.9 | 1.0 | 1.0 |
| % Change | 0.0 | -37.7 | 11.9 | 9.5 | 8.5 | 3.1 |
| Services | 18.2 | 12.6 | 13.3 | 15.1 | 16.2 | 16.9 |
| % Change | 1.3 | -30.9 | 5.6 | 13.6 | 7.7 | 4.2 |
| Health Care and Soc. Assistance | 3.0 | 2.8 | 2.8 | 2.9 | 3.0 | 3.1 |
| % Change | 2.9 | -7.6 | 0.0 | 3.5 | 4.7 | 2.9 |
| Accommodation and Food | 9.3 | 4.4 | 4.8 | 6.1 | 6.7 | 7.1 |
| % Change | 1.5 | -52.6 | 8.4 | 26.4 | 11.2 | 5.9 |
| Other | 5.9 | 5.4 | 5.7 | 6.2 | 6.5 | 6.7 |
| % Change | 2.0 | -9.4 | 6.4 | 7.8 | 5.6 | 3.2 |
| Government | 5.1 | 5.0 | 5.1 | 5.4 | 5.6 | 5.6 |
| % Change | 4.1 | -2.3 | 2.5 | 5.7 | 2.4 | 1.1 |
| Federal Government | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 |
| % Change | 20.0 | -16.1 | 8.7 | 2.6 | 1.8 | 1.1 |
| State and Local Government | 4.5 | 4.5 | 4.6 | 4.9 | 5.0 | 5.0 |
| % Change | 2.3 | -0.5 | 1.8 | 6.0 | 2.5 | 1.1 |

Note: Source is UHERO. Industry job counts for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for 2021-2024 are forecasts.

TABLE 16: PERSONAL INCOME BY DETAILED SECTOR
KAUAI COUNTY BASELINE FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|
| Real Personal Income (Mil 2020 \$) | 3,784.9 | 4,005.1 | 3,992.5 | 3,763.6 | 3,842.0 | 3,918.2 |
| % Change | 2.3 | 5.8 | -0.3 | -5.7 | 2.1 | 2.0 |
| Labor & Proprietors' Income | 2,508.4 | 2,071.2 | 2,082.5 | 2,234.0 | 2,380.7 | 2,468.8 |
| % Change | 3.9 | -17.4 | 0.5 | 7.3 | 6.6 | 3.7 |
| Construction | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Manufacturing | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Trade | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Transportation and Utilities | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Finance, Insurance & Real Estate | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Services | — | — | — | — | — | — |
| % Change | — | — | — | — | — | — |
| Health Care & Soc. Assist. (% ch.) | — | — | — | — | — | — |
| Accommodation & Food (% ch.) | — | — | — | — | — | — |
| Other (% ch.) | — | — | — | — | — | — |
| Government | 477.7 | 481.4 | 483.4 | 507.0 | 528.5 | 537.1 |
| % Change | 3.8 | 0.8 | 0.4 | 4.9 | 4.2 | 1.6 |
| Federal, civilian (% ch.) | 5.9 | -8.4 | 8.7 | 5.3 | 3.0 | 2.2 |
| State & Local (% ch.) | 3.3 | 2.5 | -0.7 | 5.0 | 4.6 | 1.6 |
| Less Social Security Taxes (-) | 293.9 | 234.0 | 242.4 | 260.4 | 276.6 | 285.9 |
| % Change | 4.3 | -20.4 | 3.6 | 7.4 | 6.2 | 3.4 |
| Transfer Payments | 715.7 | 1,291.7 | 1,205.8 | 809.9 | 808.7 | 827.7 |
| % Change | 0.2 | 80.5 | -6.6 | -32.8 | -0.1 | 2.3 |
| Dividends, Interest and Rent | 866.2 | 848.6 | 841.4 | 857.0 | 869.4 | 891.3 |
| % Change | 0.3 | -2.0 | -0.8 | 1.9 | 1.5 | 2.5 |
| Population (Thou) | 74.4 | 74.3 | 74.6 | 74.7 | 74.9 | 75.2 |
| % Change | 0.2 | -0.2 | 0.4 | 0.2 | 0.2 | 0.4 |
| Real Per Capita Income (Thou 2020 \$) | 50.9 | 53.9 | 53.5 | 50.4 | 51.3 | 52.1 |
| % Change | 2.0 | 6.0 | -0.7 | -5.9 | 1.9 | 1.6 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Nominal Personal Income (Mil \$) | 3,726.3 | 4,005.1 | 4,120.9 | 3,999.4 | 4,197.5 | 4,386.2 |
| % Change | 3.9 | 7.5 | 2.9 | -3.0 | 5.0 | 4.5 |

Note: Source is UHERO. Income figures for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 17: BASELINE FORECAST SCENARIO
STATE OF HAWAII FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|----------|-----------|
| STATE OF HAWAII | | | | | | |
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 576.3 | 606.0 | 634.1 | 645.9 |
| % Change | 0.0 | -14.8 | 2.7 | 5.2 | 4.6 | 1.9 |
| Unemployment Rate (%) | 2.5 | 11.8 | 8.3 | 6.8 | 4.3 | 3.6 |
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 85,370.3 | 81,206.2 | 83,544.3 | 85,179.2 |
| % Change | 1.3 | 5.2 | -1.1 | -4.9 | 2.9 | 2.0 |
| Real GDP (Mil 2020\$) | 97,246.8 | 89,860.5 | 93,003.0 | 95,226.3 | 98,332.4 | 100,132.2 |
| % Change | 1.2 | -7.6 | 3.5 | 2.4 | 3.3 | 1.8 |
| Total Visitor Arrivals by Air (Thou) | 10,385.8 | 2,716.2 | 6,598.4 | 8,566.7 | 9,318.0 | 9,729.4 |
| % Change | 5.0 | -73.8 | 142.9 | 29.8 | 8.8 | 4.4 |
| Visitor Days (Thou) | 89,690.4 | 28,559.6 | 62,962.8 | 75,830.7 | 82,910.5 | 86,953.1 |
| % Change | 2.2 | -68.2 | 120.5 | 20.4 | 9.3 | 4.9 |
| Real Visitor Expenditures (Mil 2020\$) | 17,994.4 | 4,784.0 | 11,235.9 | 14,119.4 | 15,666.6 | 16,888.9 |
| % Change | -0.4 | -73.4 | 134.9 | 25.7 | 11.0 | 7.8 |
| HONOLULU COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 473.8 | 415.5 | 418.3 | 437.8 | 458.5 | 466.2 |
| % Change | 0.1 | -12.3 | 0.7 | 4.7 | 4.7 | 1.7 |
| Unemployment Rate (%) | 2.3 | 10.3 | 7.4 | 6.4 | 3.8 | 3.2 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.0 | 2.8 | 2.5 |
| Real Personal Income (Mil 2020\$) | 60,554.4 | 63,563.8 | 62,743.9 | 59,990.6 | 61,756.7 | 62,927.6 |
| % Change | 0.9 | 5.0 | -1.3 | -4.4 | 2.9 | 1.9 |
| Total Visitor Arrivals by Air (Thou) | 6,153.9 | 1,515.0 | 3,223.0 | 4,788.9 | 5,349.1 | 5,644.8 |
| % Change | 5.0 | -75.4 | 112.7 | 48.6 | 11.7 | 5.5 |
| HAWAII COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 70.9 | 61.8 | 64.0 | 66.0 | 68.2 | 69.5 |
| % Change | -0.1 | -12.8 | 3.5 | 3.1 | 3.4 | 1.8 |
| Unemployment Rate (%) | 3.1 | 11.5 | 7.5 | 6.8 | 5.1 | 4.4 |
| Real Personal Income (Mil 2020\$) | 8,919.6 | 9,476.4 | 9,430.3 | 8,820.9 | 9,072.5 | 9,276.1 |
| % Change | 1.5 | 6.2 | -0.5 | -6.5 | 2.9 | 2.2 |
| Total Visitor Arrivals by Air (Thou) | 1,763.9 | 477.3 | 1,176.4 | 1,526.7 | 1,667.1 | 1,749.1 |
| % Change | 3.4 | -72.9 | 146.4 | 29.8 | 9.2 | 4.9 |
| MAUI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 80.7 | 58.1 | 67.7 | 73.4 | 76.6 | 78.5 |
| % Change | 0.2 | -28.0 | 16.5 | 8.4 | 4.5 | 2.4 |
| Unemployment Rate (%) | 2.4 | 18.1 | 10.8 | 8.3 | 5.6 | 4.3 |
| Real Personal Income (Mil 2020\$) | 8,736.0 | 9,231.9 | 9,203.6 | 8,631.1 | 8,873.2 | 9,057.2 |
| % Change | 3.1 | 5.7 | -0.3 | -6.2 | 2.8 | 2.1 |
| Total Visitor Arrivals by Air (Thou) | 3,111.1 | 846.2 | 2,401.9 | 2,870.7 | 3,072.7 | 3,196.6 |
| % Change | 5.0 | -72.8 | 183.8 | 19.5 | 7.0 | 4.0 |
| KAUAI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 33.3 | 25.5 | 26.3 | 28.8 | 30.7 | 31.8 |
| % Change | 1.8 | -23.4 | 3.1 | 9.7 | 6.6 | 3.3 |
| Unemployment Rate (%) | 2.4 | 16.3 | 11.7 | 9.1 | 5.5 | 3.8 |
| Real Personal Income (Mil 2020\$) | 3,784.9 | 4,005.1 | 3,992.5 | 3,763.6 | 3,842.0 | 3,918.2 |
| % Change | 2.3 | 5.8 | -0.3 | -5.7 | 2.1 | 2.0 |
| Total Visitor Arrivals by Air (Thou) | 1,370.0 | 345.8 | 871.0 | 1,259.6 | 1,336.8 | 1,381.2 |
| % Change | -1.3 | -74.8 | 151.9 | 44.6 | 6.1 | 3.3 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for county income for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 18: OPTIMISTIC FORECAST SCENARIO
STATE OF HAWAII FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|-----------|-----------|
| STATE OF HAWAII | | | | | | |
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 577.7 | 616.9 | 645.9 | 657.5 |
| % Change | 0.0 | -14.8 | 3.0 | 6.8 | 4.7 | 1.8 |
| Unemployment Rate (%) | 2.5 | 11.8 | 8.1 | 5.4 | 2.9 | 2.2 |
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 85,636.1 | 83,475.8 | 85,911.5 | 87,452.8 |
| % Change | 1.3 | 5.2 | -0.7 | -2.5 | 2.9 | 1.8 |
| Real GDP (Mil 2020\$) | 97,246.8 | 89,860.5 | 93,522.2 | 97,233.2 | 100,509.9 | 102,269.9 |
| % Change | 1.2 | -7.6 | 4.1 | 4.0 | 3.4 | 1.8 |
| Total Visitor Arrivals by Air (Thou) | 10,385.8 | 2,716.2 | 6,946.5 | 9,616.7 | 10,254.9 | 10,547.2 |
| % Change | 5.0 | -73.8 | 155.7 | 38.4 | 6.6 | 2.9 |
| Visitor Days (Thou) | 89,690.4 | 28,559.6 | 66,306.2 | 84,425.5 | 89,215.2 | 91,971.5 |
| % Change | 2.2 | -68.2 | 132.2 | 27.3 | 5.7 | 3.1 |
| Real Visitor Expenditures (Mil 2020\$) | 17,994.4 | 4,784.0 | 11,961.0 | 15,844.1 | 16,728.5 | 17,490.8 |
| % Change | -0.4 | -73.4 | 150.0 | 32.5 | 5.6 | 4.6 |
| HONOLULU COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 473.8 | 415.5 | 419.3 | 446.0 | 465.9 | 473.0 |
| % Change | 0.1 | -12.3 | 0.9 | 6.4 | 4.5 | 1.5 |
| Unemployment Rate (%) | 2.3 | 10.3 | 7.2 | 4.8 | 2.5 | 1.9 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 3.4 | 3.3 | 2.7 |
| Real Personal Income (Mil 2020\$) | 60,554.4 | 63,538.6 | 62,930.5 | 61,616.4 | 63,301.2 | 64,376.9 |
| % Change | 0.9 | 4.9 | -1.0 | -2.1 | 2.7 | 1.7 |
| Total Visitor Arrivals by Air (Thou) | 6,153.9 | 1,515.0 | 3,416.4 | 5,376.4 | 5,894.7 | 6,102.8 |
| % Change | 5.0 | -75.4 | 125.5 | 57.4 | 9.6 | 3.5 |
| HAWAII COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 70.9 | 61.8 | 64.2 | 67.1 | 69.8 | 71.0 |
| % Change | -0.1 | -12.8 | 3.8 | 4.6 | 4.1 | 1.7 |
| Unemployment Rate (%) | 3.1 | 11.5 | 7.3 | 5.7 | 3.7 | 3.1 |
| Real Personal Income (Mil 2020\$) | 8,919.6 | 9,487.1 | 9,455.7 | 9,148.2 | 9,440.0 | 9,629.8 |
| % Change | 1.5 | 6.4 | -0.3 | -3.3 | 3.2 | 2.0 |
| Total Visitor Arrivals by Air (Thou) | 1,763.9 | 477.3 | 1,239.2 | 1,716.8 | 1,835.7 | 1,899.1 |
| % Change | 3.4 | -72.9 | 159.6 | 38.5 | 6.9 | 3.5 |
| MAUI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 80.7 | 58.1 | 67.9 | 74.6 | 78.7 | 80.9 |
| % Change | 0.2 | -28.0 | 16.9 | 9.8 | 5.5 | 2.9 |
| Unemployment Rate (%) | 2.4 | 18.1 | 10.5 | 6.9 | 3.9 | 2.6 |
| Real Personal Income (Mil 2020\$) | 8,736.0 | 9,242.1 | 9,242.5 | 8,842.3 | 9,183.3 | 9,379.5 |
| % Change | 3.1 | 5.8 | 0.0 | -4.3 | 3.9 | 2.1 |
| Total Visitor Arrivals by Air (Thou) | 3,111.1 | 846.2 | 2,520.8 | 3,229.0 | 3,380.4 | 3,478.9 |
| % Change | 5.0 | -72.8 | 197.9 | 28.1 | 4.7 | 2.9 |
| KAUAI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 33.3 | 25.5 | 26.3 | 29.3 | 31.5 | 32.6 |
| % Change | 1.8 | -23.4 | 3.3 | 11.1 | 7.4 | 3.5 |
| Unemployment Rate (%) | 2.4 | 16.3 | 11.6 | 8.3 | 4.4 | 2.6 |
| Real Personal Income (Mil 2020\$) | 3,784.9 | 4,009.5 | 4,007.4 | 3,868.8 | 3,987.0 | 4,066.6 |
| % Change | 2.3 | 5.9 | -0.1 | -3.5 | 3.1 | 2.0 |
| Total Visitor Arrivals by Air (Thou) | 1,370.0 | 345.8 | 922.8 | 1,415.5 | 1,469.9 | 1,502.8 |
| % Change | -1.3 | -74.8 | 166.9 | 53.4 | 3.8 | 2.2 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for county income for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 19: PESSIMISTIC FORECAST SCENARIO
STATE OF HAWAII FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------|----------|----------|----------|----------|----------|
| STATE OF HAWAII | | | | | | |
| Nonfarm Payrolls (Thou) | 658.4 | 560.9 | 573.9 | 591.5 | 620.2 | 633.1 |
| % Change | 0.0 | -14.8 | 2.3 | 3.1 | 4.8 | 2.1 |
| Unemployment Rate (%) | 2.5 | 11.8 | 8.7 | 9.0 | 6.4 | 5.4 |
| Real Personal Income (Mil 2020\$) | 81,993.8 | 86,277.3 | 84,985.8 | 79,464.9 | 81,727.6 | 83,558.6 |
| % Change | 1.3 | 5.2 | -1.5 | -6.5 | 2.8 | 2.2 |
| Real GDP (Mil 2020\$) | 97,246.8 | 89,860.5 | 92,330.7 | 92,683.5 | 95,873.7 | 97,818.6 |
| % Change | 1.2 | -7.6 | 2.7 | 0.4 | 3.4 | 2.0 |
| Total Visitor Arrivals by Air (Thou) | 10,385.8 | 2,716.2 | 6,138.2 | 7,057.8 | 8,464.6 | 9,164.6 |
| % Change | 5.0 | -73.8 | 126.0 | 15.0 | 19.9 | 8.3 |
| Visitor Days (Thou) | 89,690.4 | 28,559.6 | 58,580.8 | 63,516.1 | 78,165.5 | 84,628.8 |
| % Change | 2.2 | -68.2 | 105.1 | 8.4 | 23.1 | 8.3 |
| Real Visitor Expenditures (Mil 2020\$) | 17,994.4 | 4,784.0 | 10,245.9 | 12,017.2 | 15,005.6 | 16,487.8 |
| % Change | -0.4 | -73.4 | 114.2 | 17.3 | 24.9 | 9.9 |
| HONOLULU COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 473.8 | 415.5 | 417.0 | 428.6 | 450.3 | 459.4 |
| % Change | 0.1 | -12.3 | 0.4 | 2.8 | 5.1 | 2.0 |
| Unemployment Rate (%) | 2.3 | 10.3 | 7.7 | 8.3 | 5.5 | 4.6 |
| Inflation Rate, Honolulu MSA (%) | 1.6 | 1.6 | 3.2 | 2.4 | 2.3 | 2.3 |
| Real Personal Income (Mil 2020\$) | 60,554.4 | 63,533.5 | 62,484.3 | 58,809.9 | 60,613.3 | 61,915.8 |
| % Change | 0.9 | 4.9 | -1.7 | -5.9 | 3.1 | 2.1 |
| Total Visitor Arrivals by Air (Thou) | 6,153.9 | 1,515.0 | 2,974.5 | 3,817.6 | 4,807.7 | 5,321.5 |
| % Change | 5.0 | -75.4 | 96.3 | 28.3 | 25.9 | 10.7 |
| HAWAII COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 70.9 | 61.8 | 63.6 | 64.4 | 66.4 | 67.6 |
| % Change | -0.1 | -12.8 | 2.9 | 1.3 | 3.0 | 1.8 |
| Unemployment Rate (%) | 3.1 | 11.5 | 8.0 | 8.9 | 7.6 | 6.8 |
| Real Personal Income (Mil 2020\$) | 8,919.6 | 9,489.2 | 9,386.1 | 8,598.7 | 8,806.5 | 9,034.4 |
| % Change | 1.5 | 6.4 | -1.1 | -8.4 | 2.4 | 2.6 |
| Total Visitor Arrivals by Air (Thou) | 1,763.9 | 477.3 | 1,093.0 | 1,264.3 | 1,519.0 | 1,651.4 |
| % Change | 3.4 | -72.9 | 129.0 | 15.7 | 20.1 | 8.7 |
| MAUI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 80.7 | 58.1 | 67.2 | 70.9 | 74.0 | 75.6 |
| % Change | 0.2 | -28.0 | 15.7 | 5.4 | 4.4 | 2.1 |
| Unemployment Rate (%) | 2.4 | 18.1 | 11.4 | 11.5 | 8.7 | 7.3 |
| Real Personal Income (Mil 2020\$) | 8,736.0 | 9,244.1 | 9,141.6 | 8,380.9 | 8,576.3 | 8,804.7 |
| % Change | 3.1 | 5.8 | -1.1 | -8.3 | 2.3 | 2.7 |
| Total Visitor Arrivals by Air (Thou) | 3,111.1 | 846.2 | 2,241.1 | 2,433.3 | 2,823.7 | 3,016.7 |
| % Change | 5.0 | -72.8 | 164.8 | 8.6 | 16.0 | 6.8 |
| KAUAI COUNTY | | | | | | |
| Nonfarm Payrolls (Thou) | 33.3 | 25.5 | 26.1 | 27.6 | 29.5 | 30.6 |
| % Change | 1.8 | -23.4 | 2.2 | 6.1 | 6.7 | 3.9 |
| Unemployment Rate (%) | 2.4 | 16.3 | 12.5 | 12.9 | 9.3 | 7.2 |
| Real Personal Income (Mil 2020\$) | 3,784.9 | 4,010.4 | 3,973.7 | 3,675.3 | 3,731.4 | 3,803.7 |
| % Change | 2.3 | 6.0 | -0.9 | -7.5 | 1.5 | 1.9 |
| Total Visitor Arrivals by Air (Thou) | 1,370.0 | 345.8 | 800.6 | 1,072.1 | 1,229.4 | 1,301.8 |
| % Change | -1.3 | -74.8 | 131.5 | 33.9 | 14.7 | 5.9 |

Note: Source is UHERO. Nonfarm Payrolls for 2020 and 2021 are UHERO estimates of the benchmark revision. Figures for county income for 2020 are UHERO estimates. Figures for 2021-2024 are forecasts.

TABLE 20: EXTERNAL INDICATORS
STATE OF HAWAII FORECAST

| | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| U.S. FACTORS | | | | | | |
| Employment (Thou) | 157,538.1 | 147,794.8 | 152,323.1 | 158,414.4 | 161,644.8 | 163,105.8 |
| % Change | 1.1 | -6.2 | 3.1 | 4.0 | 2.0 | 0.9 |
| Unemployment Rate (%) | 3.7 | 8.1 | 5.8 | 4.5 | 3.8 | 3.8 |
| Inflation Rate (%) | 1.8 | 1.2 | 4.5 | 4.1 | 2.4 | 2.0 |
| Real GDP (Bil chained 2012\$) | 19,091.7 | 18,426.1 | 19,454.0 | 20,332.3 | 20,866.2 | 21,275.9 |
| % Change | 2.2 | -3.5 | 5.6 | 4.5 | 2.6 | 2.0 |
| Population (Thou) | 328,527.0 | 330,152.0 | 331,413.2 | 332,740.3 | 334,224.1 | 335,868.6 |
| % Change | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 |
| JAPAN FACTORS | | | | | | |
| Employment (Thou) | 67,245.0 | 66,765.8 | 66,719.6 | 66,748.8 | 66,695.4 | 66,514.0 |
| % Change | 0.9 | -0.7 | -0.1 | 0.0 | -0.1 | -0.3 |
| Unemployment Rate (%) | 2.4 | 2.8 | 2.9 | 2.9 | 2.8 | 2.8 |
| Inflation Rate (%) | 0.5 | 0.0 | 0.0 | 0.5 | 0.8 | 1.0 |
| Real GDP (Bil chained 2011 yen) | 554,472.4 | 528,335.0 | 540,908.3 | 552,279.3 | 561,042.7 | 567,871.4 |
| % Change | 0.0 | -4.7 | 2.4 | 2.1 | 1.6 | 1.2 |
| Population (Thou) | 126,264.9 | 125,836.0 | 125,448.9 | 125,050.3 | 124,627.9 | 124,187.5 |
| % Change | -0.2 | -0.3 | -0.3 | -0.3 | -0.3 | -0.4 |
| Exchange Rate (Yen/\$) | 109.0 | 106.8 | 108.6 | 104.5 | 99.4 | 94.9 |

Note: Source is UHERO. Figures for 2021-2024 are forecasts.

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and Education Trust Fund

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HPM Building Supply
Kaiser Permanente Hawaii
The Natural Energy Laboratory of Hawaii Authority
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