



UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

UHERO FORECAST FOR THE STATE OF HAWAII

WILDFIRES DELIVER HEAVY BLOW TO MAUI ECONOMY

SEPTEMBER 22, 2023





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UHERO FORECAST FOR THE STATE OF HAWAII

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EXECUTIVE SUMMARY

The tragic Maui wildfires have inflicted deep pain and loss on the affected communities, and sorrow among all of Hawaii's residents. There are also economic costs for the county and the state as a whole, many of which will last well into the future. In our first forecast since the fires, we assess the implications of the fires' aftermath for the path of the Maui economy over the next several years, and what that will mean for the state economy.

- Maui experienced a severe economic disruption in the wake of the wildfires. Visitor arrivals plunged by nearly three-quarters, as travelers responded to the fires' horror and early appeals to stay away. Maui lost more than \$13M of visitor spending each day in the weeks following the fire.
- We already see the beginnings of Maui tourism recovery. Central and South Maui resorts will be the first areas to see substantial recovery. The planned October 8 reopening of unaffected West Maui resort areas will restart tourism in the region, although we expect recovery there to be gradual.
- By the end of this year, we expect Maui visitor arrivals to reach more than 50% of their 2022 level, rising to 80% by the end of 2024. Gains will be gradual thereafter, because of continued temporary housing needs and lingering reluctance of some travelers. Tourism businesses will remain under considerable economic pressure. A complete recovery will not be reached within this forecast period.
- The employment effects of the fires have been rapid and severe. The fires destroyed the vast majority of businesses and jobs in Lahaina. Across Maui, local businesses are struggling from the lower visitor numbers. The initial shock has sent the jobless rate surging, and Maui unemployment will soar above 11% in the fourth quarter. Unemployment will only gradually recede and will not dip below 4% until late-2026.
- The fire in Lahaina displaced thousands of families, and rebuilding homes will take many years. Homes made up 86% of the roughly 2,200 lost structures, about 3% of Maui's housing stock. The State and County are working to find longer-term housing for about 7,000 displaced persons that are now being accommodated in hotels, timeshares, and TVRs. Recovery workers and an eventual army of construction laborers must also be housed. Until substantial rebuilding can be accomplished, these needs will press hard on the already tight and expensive Maui housing market.
- While the Maui wildfires will lead to sharp and persistent economic losses on the Valley Isle, spillovers to the rest of Hawaii will be limited. Because Maui represents a significant share of Hawaii tourism, aggregate visitor industry measures will of course fall. And the external conditions that underpin Hawaii tourism remain unsettled. The US economy now looks likely to avoid recession, but further Fed rate increases could upset that. Global conditions have weakened, both in Europe and China, and the renewed fall of the yen will hinder the slow Japanese visitor market recovery.
- Construction projects in other counties will have to compete with Maui recovery needs, but in most sectors we do not expect significant changes from the forecast we were developing before the fires. Statewide job growth will dip below 2% this year and to 1% in 2024. A likely federal government shutdown threatens further disruption. The number of jobs thereafter will be a bit above our previous forecast as rebuilding ramps up.
- Real personal income will be adversely affected by employment losses on Maui, even with federal support for Maui families. Statewide income growth will slow to below 2% in 2024. Gross domestic product will be raised somewhat by rebuilding, but this does not capture the value of lost homes and businesses and the non-pecuniary costs of displacement, trauma, and so forth.

- Tax revenues will be hit hard by the disaster. The reopening of West Maui will help to reduce Maui revenue losses, as will Maui's 0.5% GET surcharge that begins January 1. The State Council on Revenues has reduced its forecast for State General Fund revenues for Fiscal 2024 to just 1.3% growth, down from an earlier estimate of 4.0%. Depending on the level of federal funding, the State will incur substantial recovery costs for at least the next half-decade.
- In developing these forecasts, we have had to deal with a range of uncertainties about Maui's recovery: how long it will take, what resources will be needed, and the response of potential Maui visitors. As more information becomes available, we will be able to refine these forecasts in the months and years to come.

Forecast Summary

MAJOR ECONOMIC INDICATORS STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
STATE OF HAWAII						
Nonfarm Payrolls (Thou)	588.6	619.9	631.6	638.1	646.8	653.0
% Change	5.1	5.3	1.9	1.0	1.4	1.0
Unemployment Rate (%)	6.0	3.5	3.7	3.9	3.4	3.0
Real Personal Income (Mil 2022\$)	93,623.1	88,334.8	90,867.5	92,616.9	94,366.5	95,898.8
% Change	1.9	-5.6	2.9	1.9	1.9	1.6
Real GDP (Mil 2022\$)	96,966.6	98,210.5	101,556.0	103,043.0	105,655.5	107,847.5
% Change	6.3	1.3	3.4	1.5	2.5	2.1
Total Visitor Arrivals by Air (Thou)	6,777.8	9,234.0	9,407.0	9,326.5	9,782.6	10,052.6
% Change	150.3	36.2	1.9	-0.9	4.9	2.8
Average Daily Census (Thou)	178.9	232.2	231.6	225.2	237.8	244.6
% Change	129.7	29.7	-0.3	-2.8	5.6	2.9
Real Visitor Expenditures (Mil 2022\$)	13,978.7	19,251.8	19,574.5	18,608.9	19,176.0	19,424.3
% Change	151.2	37.7	1.7	-4.9	3.0	1.3
HONOLULU COUNTY						
Nonfarm Payrolls (Thou)	425.8	446.4	456.6	461.4	466.4	470.7
% Change	3.4	4.8	2.3	1.0	1.1	0.9
Unemployment Rate (%)	5.5	3.3	3.4	3.4	3.1	2.8
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022\$)	68,119.1	64,108.9	66,013.1	67,449.9	68,647.9	69,774.4
% Change	1.2	-5.9	3.0	2.2	1.8	1.6
Total Visitor Arrivals by Air (Thou)	3,326.6	4,858.2	5,659.5	5,806.0	5,919.9	6,045.7
% Change	120.8	46.0	16.5	2.6	2.0	2.1
HAWAII COUNTY						
Nonfarm Payrolls (Thou)	64.9	68.2	70.1	71.1	72.1	72.9
% Change	6.7	5.1	2.8	1.4	1.4	1.1
Unemployment Rate (%)	5.9	3.9	3.5	3.6	3.4	3.1
Real Personal Income (Mil 2022\$)	10,811.7	10,099.4	10,524.0	10,717.8	10,915.7	11,096.8
% Change	3.5	-6.6	4.2	1.8	1.8	1.7
Total Visitor Arrivals by Air (Thou)	1,183.5	1,667.6	1,760.1	1,840.7	1,883.8	1,915.6
% Change	139.7	40.9	5.5	4.6	2.3	1.7
MAUI COUNTY						
Nonfarm Payrolls (Thou)	69.7	74.7	73.4	73.8	76.1	77.0
% Change	13.7	7.3	-1.7	0.5	3.1	1.2
Unemployment Rate (%)	7.8	3.8	6.2	6.5	4.5	4.0
Real Personal Income (Mil 2022\$)	10,238.9	9,921.5	9,989.0	10,050.8	10,321.6	10,469.7
% Change	5.0	-3.1	0.7	0.6	2.7	1.4
Total Visitor Arrivals by Air (Thou)	2,340.9	2,969.4	2,396.4	2,150.5	2,638.1	2,873.3
% Change	190.0	26.8	-19.3	-10.3	22.7	8.9
KAUAI COUNTY						
Nonfarm Payrolls (Thou)	28.2	30.5	31.4	31.8	32.1	32.4
% Change	7.1	8.3	2.8	1.1	1.2	1.0
Unemployment Rate (%)	8.3	3.9	3.3	3.7	3.6	3.4
Real Personal Income (Mil 2022\$)	4,388.4	4,204.9	4,341.3	4,398.5	4,481.2	4,557.9
% Change	1.2	-4.2	3.2	1.3	1.9	1.7
Total Visitor Arrivals by Air (Thou)	813.6	1,345.6	1,391.8	1,394.9	1,411.3	1,422.5
% Change	146.4	65.4	3.4	0.2	1.2	0.8

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Figures for county income for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts.

THIRD QUARTER HAWAII FORECAST

The tragic Maui wildfires that began in August have inflicted deep pain in lives lost, families torn from their homes, and a way of life damaged or destroyed. Addressing these losses will be an ongoing process for individual families and the Lahaina and broader Maui communities. At the same time, there are economic costs for the county and the state as a whole, many of which will last well into the future. In our first forecast since the fires, we assess the implications of the fires' aftermath for the path of the Maui economy over the next several years, and what that will mean for the state economy.

In developing these forecasts, we have had to deal with a wide range of uncertainties about the Maui recovery process and the response of potential Maui visitors. As more information becomes available, we will be able to refine these forecasts in the months and years to come. Because of the importance of the Maui wildfire impacts, we will first provide our assessment and forecast for Maui County, before turning to the State outlook later in the report.

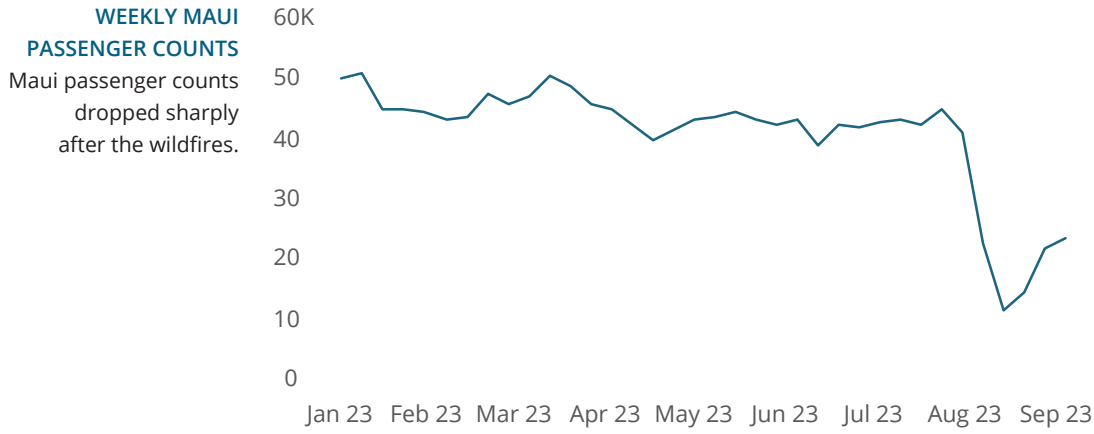
THE MAUI OUTLOOK

Maui experienced a sharp, abrupt economic disruption in the wake of the August wildfires. The number of visitor arrivals plunged by nearly three-quarters in the immediate aftermath, as visitors responded to the fires' horror and to early appeals to stay away from the island. This tourism falloff, the direct loss of Lahaina as a tourist attraction, and the displacement of families caused a rapid increase in the number of unemployed people, and likely also sharp reductions in worker hours for many people who remained officially employed.

Partly in response to direct pleas from State and Maui officials, tourism and industry leaders, and reassurances of welcome from Maui residents, we are already seeing an uptick in visitors to the island. And further partial recovery will occur over the rest of this year, restoring many jobs and providing needed incomes. But the overall path of recovery for tourism and other industries will be a long-term process, dependent on the pace and manner of rebuilding. Full recovery will be a matter of years, not months.

Maui's tourism economy faces long recovery path

The wildfires that began on August 8 all but obliterated the historic town of Lahaina on Maui's west side. They also destroyed structures and farmland in Kula in Upcountry Maui and North Kihei. The Lahaina conflagration killed nearly a hundred people and damaged more than 2,200 structures, completely destroying most of them. This has upended the lives of surviving residents, who not only lost their homes, but also their livelihoods.



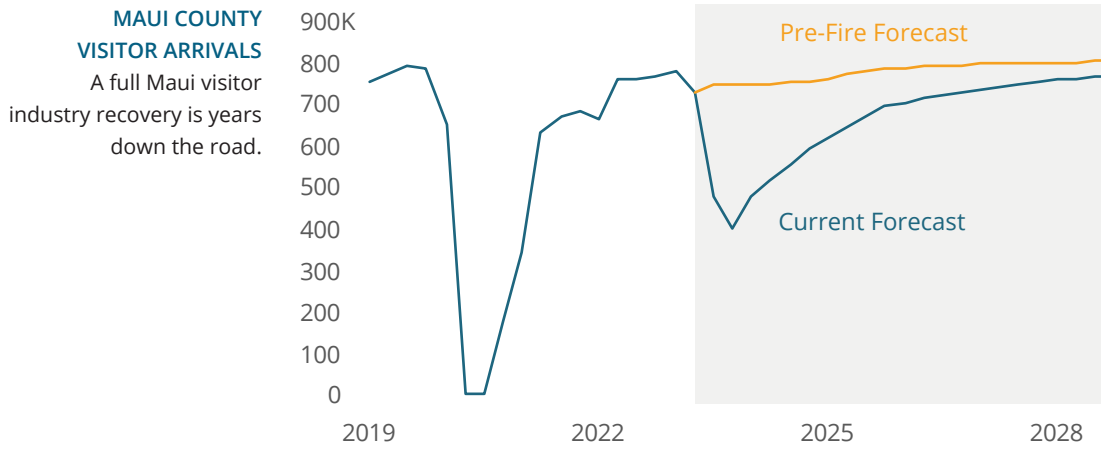
Before the fires, Lahaina was one of the most popular tourist destinations on Maui, with dozens of historical sites and a welcoming Front Street lined by storefronts that attracted millions of visitors each year. Among the destroyed buildings were roughly 1,000 visitor accommodations that housed as many as 4,000 tourists. Businesses in Lahaina generated more than \$70M in monthly revenue in accommodation, food services, retail sales, and other categories. By the end of August, the US Small Business Administration had already processed over 250 applications for emergency loans.

The economic impact extends beyond Lahaina itself. West Maui, which includes Kaanapali and other resort destinations, is closed to visitors until early October. The area supplies more than 10,000 rooms in hotels, timeshares and vacation rentals, or about half of the island’s capacity. In the aftermath of the inferno, the number of visitors on the island dropped by about three quarters, severely reducing business for many enterprises in other parts of Maui. With an average daily expenditure of \$270 per visitor, Maui lost more than \$13M of visitor spending each day in the weeks following the fire.

An average room on Maui has an occupancy of about four people, generating roughly \$1,200 of visitor spending per day. With 45,000 fewer visitors on the island, many establishments opened up their properties to displaced residents and emergency personnel. However, the spending pattern of this group differs from that of visitors, and establishments relying on visitor spending will continue to experience very slow business until visitors return in larger numbers.

When may that happen? County and State officials are now actively appealing for visitors to travel to parts of Maui that are unaffected by the wildfires, reminding them that their presence will help keep businesses alive, reduce the shortfall in revenue, and avoid a more widespread Maui economic slowdown. Airlines have already launched discounted fares in the wake of the fires, and hoteliers are offering discounts. And a partial return of visitors is already underway, beginning to refill hotels, condos, and timeshares in Kihei, Wailea and other open areas. Governor Josh Green has announced an October 8 date for reopening of the areas of West Maui that were unaffected by the fires. Over the next few months, this will support a substantial partial tourism recovery.

More than 3,000 rooms in hotels and vacation rentals are currently being used to accommodate those in need and emergency personnel. These rooms represent about 15% of the total stock of visitor accommodations. As



progress is made on moving displaced residents from temporary housing to more permanent arrangements, the need to use hotel rooms and TVRs will diminish but not completely end. Below, we discuss the pressing constraints on Maui housing and what may be needed to begin to relieve the shortfall.

Central and South Maui resorts will be the first areas to see substantial recovery this year. Getting tourists back to West Maui will take time. There are practical concerns about moving would-be visitors through areas directly adjacent to those leveled by the wildfire, as well as potentially adverse effects on visitors’ willingness to travel through devastated areas. The loss of Lahaina as a prime destination for visitors will also weigh on West Maui recovery.

By the end of this year, we expect Maui visitor arrivals to reach more than 50% of their 2022 level. By the end of 2024, we expect a recovery to more than 80% of pre-fire levels, roughly where they were in Spring 2021, a year into recovery from the COVID-19 pandemic. Tourism-related businesses on Maui will still be under considerable economic pressure. Gains will be more gradual thereafter, because of continued temporary housing needs and lingering reluctance on the part of some tourists. A complete recovery of the Maui visitor industry will not be accomplished within this forecast period.

Maui labor market takes a huge hit

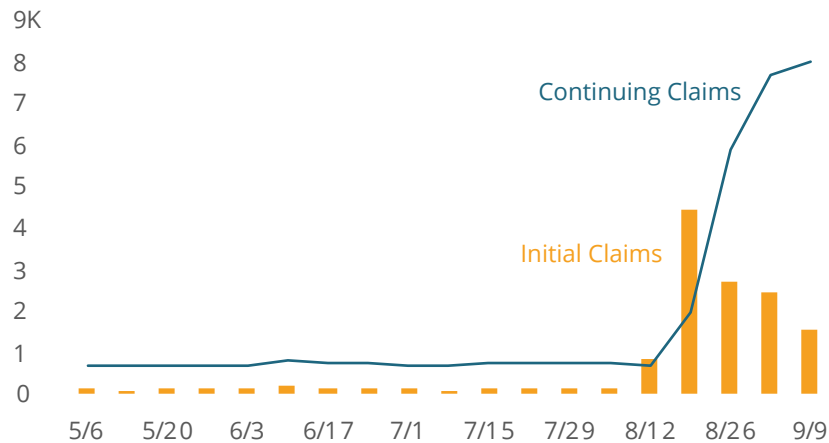
Prior to the wildfires, activity in Maui county’s labor market was essentially flat. The labor force was relatively stable at about 87,000 workers for the first half of the year, roughly 2% lower than at the end of last year. Nonfarm jobs held steady at about 6% below the pre-pandemic level. The unemployment rate edged below 3% by April and receded to 2.6% by July, just a bit above the exceptionally low sub-2% rates seen before the pandemic.

Weekly initial unemployment insurance claims were running in the 100 to 150 range in the first half of the year, similar to levels we saw prior to the pandemic. And then the fires hit. Just one week after the fire, initial unemployment insurance claims jumped to more than 800 claims. A week later, initial claims skyrocketed to nearly 4,500. So far, there have been a total of 11,995 new claims since the disaster. This is about 11,300 more claims than before the fire.

The adverse economic effects on Maui have been rapid and severe. Lahaina itself is small in geographic size, but the town had contributed significantly to Maui county’s economy. Because Lahaina was a highly trafficked area, the town employed thousands of workers. Before the fire, there were more than

MAUI COUNTY INITIAL AND CONTINUING UNEMPLOYMENT INSURANCE CLAIMS

Maui jobless claims skyrocketed after the wildfires.



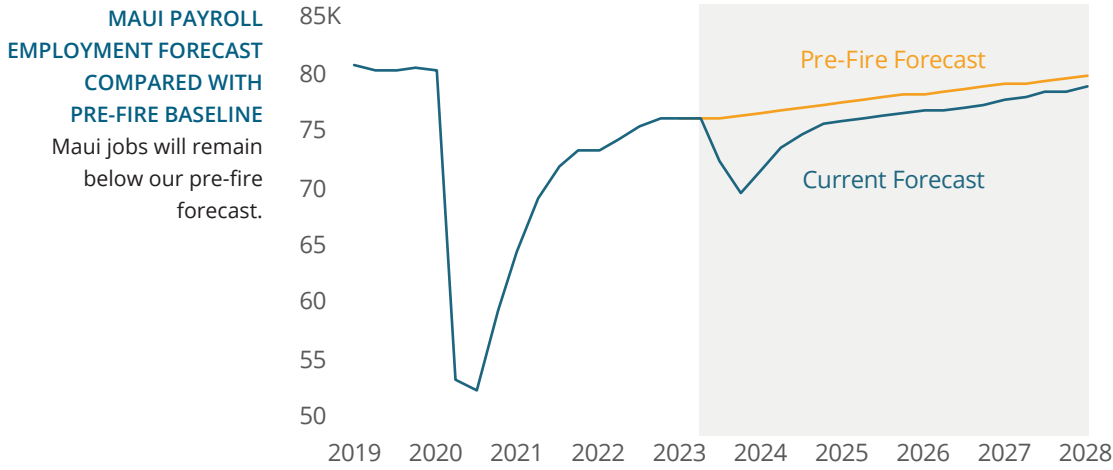
700 businesses in Lahaina, making up 16% of all establishments on the island. The fires destroyed the vast majority of these businesses and the jobs they provided.

But the pain has extended well beyond Lahaina. Throughout Maui, local businesses are struggling to remain afloat as tourist numbers have fallen roughly by half. The drop in visitors and visitor spending has caused many businesses on the Valley Isle to cut staff or reduce worker hours. As we have noted, a substantial partial recovery of Maui visitor numbers will occur over the next year, but full recovery will take much longer. The initial shock has already sent the jobless rate surging, and unemployment will soar above 11% in the fourth quarter. The jobless rate will only gradually recede to an average 6.5% in 2024 and 4.5% in 2025. The unemployment rate will not dip below 4% until late-2026. By comparison, the Maui unemployment rate was 2.7% in the second quarter of this year, although that was an exceptionally low rate by historical standards.

The industries that will be most affected by the fire are not surprising. The accommodations and food service sector will of course take the biggest hit; by 2025, payrolls will have dropped by 11% from their 2022 average and will only slowly recover thereafter. Trade is also taking a large early hit, but will get some lift as sales associated with rebuilding begin in earnest. Transportation and utilities job losses will also be significant, although utility rebuilding has the potential to create additional jobs on the Valley Isle. Losses of employment in other sectors will generally be smaller, but the general economic foundering will lower all boats. Health care needs will be larger-than normal in the fire's aftermath, and so we see modest job growth for that sector, although hiring the needed medical professionals will be a challenge. The construction sector will of course see significant growth, adding roughly 2,000 jobs on Maui (and they will also rise on the other islands, as workers based there travel to Maui to assist with rebuilding; more on this below).

Overall, the nonfarm job count on Maui will drop by nearly 9% by the fourth quarter of this year. As clean up and rebuilding activity ramps up, total Maui jobs will essentially recover to their pre-fire level by the end of 2024, although this remains nearly 2,000 jobs below our second-quarter forecast. Excluding construction, there will be 3,000 fewer filled jobs. A full recovery of jobs on Maui back to our previous forecast path will not occur within the current forecast horizon.

The labor market fallout from the wildfires and their aftermath will impose a tremendous burden on some Maui households, since there are a large



number who struggle to get by even in normal times. Fully 16% of Maui residents lived below the poverty line before the fires, and 36% couldn't afford the basic necessities according to the Asset Limited, Income Constrained, Employed (ALICE) threshold. Ongoing support for these families will be critical during the recovery period.

Although the aftermath of the wildfires is having adverse impacts on the labor market across the island, clearly the biggest disruptions are occurring in West Maui. There are roughly 17,000 payroll jobs in the 96761 Zip Code area, which encompasses the West Maui coast from Olowalu to Honokohau Bay, representing more than one-fifth of all payrolls in Maui county. Despite planned reopening, West Maui will have a slower overall job recovery path than the rest of the island. We are not able to estimate numerical recovery paths for sub-regions of the county.

Rebuilding timeline will extend housing woes

The fire in Lahaina left thousands of families displaced and homeless. Of the approximately 2,200 structures damaged or destroyed, Hawaii's Pacific Disaster Center estimates that 86% were homes. After the fire, there was a rapid effort to secure temporary housing for displaced families. Temporary housing was coordinated by the Hawaii Fire Relief Housing Program, the American Red Cross, the Federal Emergency Management Agency (FEMA), and others. As of September 8, about 7,000 displaced persons had been accommodated in hotels, timeshare properties, and Airbnbs across the island. The state is working with FEMA and the Red Cross to find long-term housing of at least 36 weeks and perhaps up to 18 months.

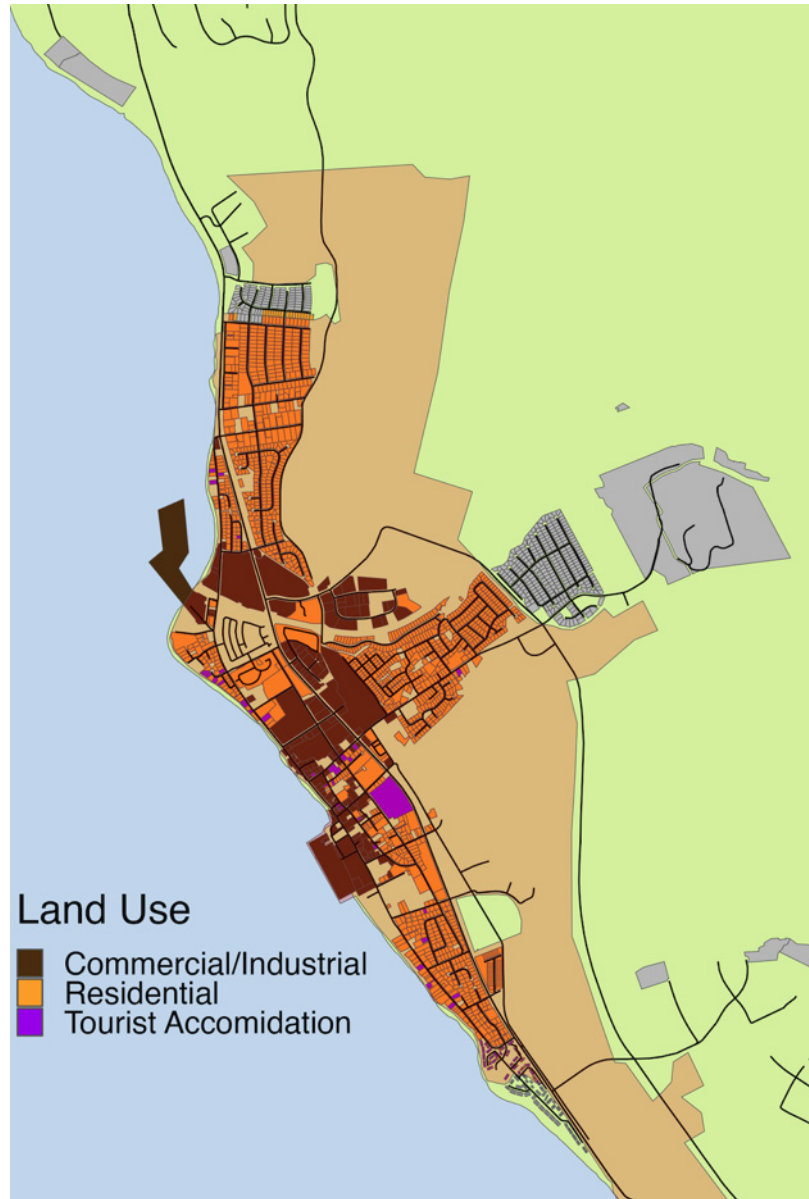
The Maui fires destroyed roughly 3% of the county's housing stock. While not an overwhelming number in and of itself, the county's housing market was already exceptionally tight—and exceptionally pricey. And while 15-20% of the destroyed residences were operating as temporary vacation rentals, a significant share were housing large multigenerational families, creating significant displacement.

The median single-family home price on Maui has declined slightly this year from a peak of \$1.17 million to \$1.05 million, but with mortgage rates currently above 7%, available housing is extremely unaffordable for a typical family. Even if a household could afford a 20% downpayment, in order to keep mortgage payments on the median home below 30% of income, a Maui household would need an annual income of \$220,000. Fewer than 10% of Lahaina's households earn this much. Half of the residential population

**LAND USE OF
PROPERTIES WITHIN
THE BURN AREA**

The burn area encompassed extensive business and residential areas.

Source: Hawaii Statewide GIS program, Maui County Parcels.



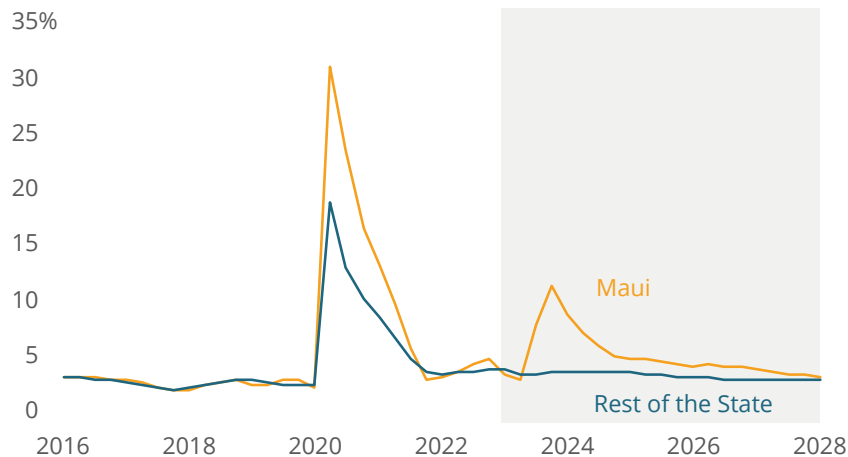
of Lahaina were renters. While insured homeowners may recoup losses through insurance claims, renters are left with few options for long term housing. The median priced Craigslist rental listing on Maui is currently \$2,500, significantly above the state median of \$2,050. The US Census Bureau estimates that the typical renter household in Lahaina was paying only \$1,700 in monthly rent.

On top of this, the recovery efforts will require a significant population of construction workers, who will also require housing. Without a drastic and rapid deployment of new housing on Maui, the consequence of the Lahaina fire will be to make housing on Maui even more scarce and unaffordable.

The rebuilding of homes and businesses in Lahaina will be a multi-year project. Before rebuilding can begin, site cleanup and remediation of toxic materials must be completed. The first stage, now underway, involves the EPA and trained workers to remove hazardous waste from home and business sites. This task is expected to take 3-4 months. After that, the Army Corp of Engineers will oversee large debris removal, a process that may take more than a year to complete. Only then can rebuilding begin. At this point, the extent of damage to utility infrastructure has not been fully assessed,

**UNEMPLOYMENT RATE
FORECASTS FOR MAUI
AND THE REST
OF HAWAII**

Maui's unemployment rate will surge, with little effect on the other counties.



but those repairs and road replacement must also be accomplished. And of course decisions will need to be made on the extent of the rebuilding footprint and permits must be evaluated and issued. Full rebuilding of Lahaina will continue beyond our current forecast horizon.

When reconstruction is eventually complete, the housing stock will be new-build housing in a coveted location. Market prices for this new housing are likely to far exceed the already high prices that existed in Lahaina before the fire. For renters, the old housing stock that was destroyed provided opportunities for reasonable rents. New multifamily housing may be developed, which would help meet the affordability needs of the renter population. Modified regulation of short term vacation rentals in Lahaina may also be forthcoming, which could mitigate some of the upward pressure on demand and prices.

While there is considerable uncertainty, we estimate that the rebuilding cycle at its peak will require about 2,000 Maui-based construction workers over-and-above the anticipated pre-fire forecast path. Perhaps an additional 500 workers based on the other islands will commute to Maui to join in the work effort. Meeting the demand for qualified construction workers will be an enormous challenge. Some may be recruited from the mainland, but ramping up local training programs will also be essential, and will provide an opportunity for some workers displaced from existing jobs to obtain paid work.

We expect Maui construction payrolls to rise from about 4,700 workers before the fires to nearly 7,000 by 2025. The number of Maui construction jobs will remain above 5,000 until the end of the decade. Note that these numbers represent the number of workers needed for all aspects of rebuilding on top of existing work, and to the extent that workers cannot be hired and trained locally, there will be upward pressure on construction labor costs and a tendency for mainland workers to fill much-needed jobs

Overall, the outlook for Maui is for relatively rapid partial relief from the fires' aftermath, but a much longer path to full recovery. The uptick we have already seen in tourism is encouraging, and it can be hoped that a healthy appetite for Maui vacations will help to avoid more punishing job losses. The county will get a boost from construction, even as it struggles to house residents and temporary workers. Aggregate job and income growth will soon resume, and unemployment will edge downward over the next several years. A return to a "normal" Maui economy will still remain a number of years down the road.

Funds Flow in to Support Maui Families and Recovery

The Maui recovery effort is generating an impressive inflow of funds, including philanthropy, FEMA disaster relief, other State and Federal government assistance, and usual and supplemental support for the unemployed. These funds provide a safety net for household incomes and support spending, although they only partially offset the losses in property and economic activity.

The extent of philanthropic funding has been breathtaking. The Maui Community Foundation's Maui Strong Fund has received more than \$100 million in donations. Amazon founder Jeff Bezos pledged \$100 million to create a Maui recovery fund. Dwayne Johnson, Oprah Winfrey and Jason Momoa launched the People's Fund of Maui with an initial \$10 million contribution, which will provide monthly direct transfers to displaced residents. These examples are not an exhaustive list. While initial fundraising has been substantial, philanthropic organizations will spread outlays over months and years in order to support recovery and rebuilding long after this initial response.

Extensive government assistance is flowing into Maui to support displaced residents and distressed businesses. More than fifteen hundred federal personnel on Maui and Oahu have been assisting residents. The EPA is actively addressing environmental hazards in the burn area and the Army Corp of Engineers will then handle debris removal. FEMA has approved more than \$21 million in assistance, including funds for housing assistance and for household essentials like clothing, furniture, appliances, and cars. About 7,000 displaced persons are now being accommodated in hotels, timeshares, and TVRs. A \$25m grant program funded by the State, County and the Hawaii Community Foundation's Maui Strong Fund supports businesses. The US Department of Energy allocated \$95 million from the Infrastructure Investment and Jobs Act to improve Hawaii's electric grid, and the Small Business Administration has so far approved more than \$45 million in federal disaster loans to businesses and residents.

The federal Major Disaster Declaration provides funding for debris removal, protective measures, and hazard mitigation with the federal cost share of 75% (increased to 100% for 30 days out of the first 120). FEMA can reimburse eligible personal costs up to a limit of \$41,000 for housing assistance and \$41,000 for other needs assistance. The federal government covers 90% of these costs initially, with the State taking on a larger share over time. In some past disasters, the caps on federal monies have been partially waived and additional funds have been appropriated over time.

Rebuilding homes in Lahaina will be a lengthy process. However, insured homeowners will receive funding to build new homes, potentially exceeding the capital value of the building lost because a new home will be built to modern construction standards. Insurance payouts will also be spread out over a long period. Timing depends on a number of factors such as how long it will take to make the land safe, the ease of approving replacement buildings, and the effectiveness of governance to manage decision-making.

The federal budget standoff presents a potential risk to FEMA's capacity to support the recovery. Even before the wildfires, FEMA's Disaster Relief Fund was depleted due to fifteen weather-related disasters exceeding \$1 billion this year. The FEMA Administrator projected a \$4 billion shortfall for its disaster relief fund. And on top of the Maui disaster, there are now looming funding needs for Florida's recovery from Hurricane Idalia. While FEMA can redirect some long-term funding towards more short term needs, it is not clear how long FEMA support will be needed on Maui. The FEMA Administrator has indicated that recovery projects could be delayed if the agency does not get additional funding; in response, President Biden has asked for \$16 billion to restock the FEMA's disaster relief fund, but Congress is yet to approve the request.

The speed and extent of charitable support, the rapid response of government agencies, and the extent of promised recovery funding demonstrate robust support for the victims of the Maui wildfires. At the same time, we note that overall support will not cover all personal and economic losses suffered by the people of Maui.

THE HAWAII OUTLOOK

While the devastating Maui wildfires will lead to sharp and persistent economic losses on the Valley Isle, there will be limited spillovers to the broader Hawaii economy. Because Maui represents a significant share of Hawaii tourism, aggregate visitor industry measures will of course fall, but we also expect that some would-be Maui visitors will substitute a vacation on another island, predominantly Kauai and the Big Island. Construction in the other counties will have to compete with fierce Maui recovery demand. This may delay some planned public and private sector projects, and will certainly put upward pressure on costs. In most other sectors, we do not expect significant changes from the forecast path we were developing before the fires hit. For the state overall, job growth will dip below 2% this year, because of the current direct loss of Maui economic activity. Measured job growth thereafter will be a bit above our previous forecast as rebuilding kicks into gear. But at the state level these are not large effects.

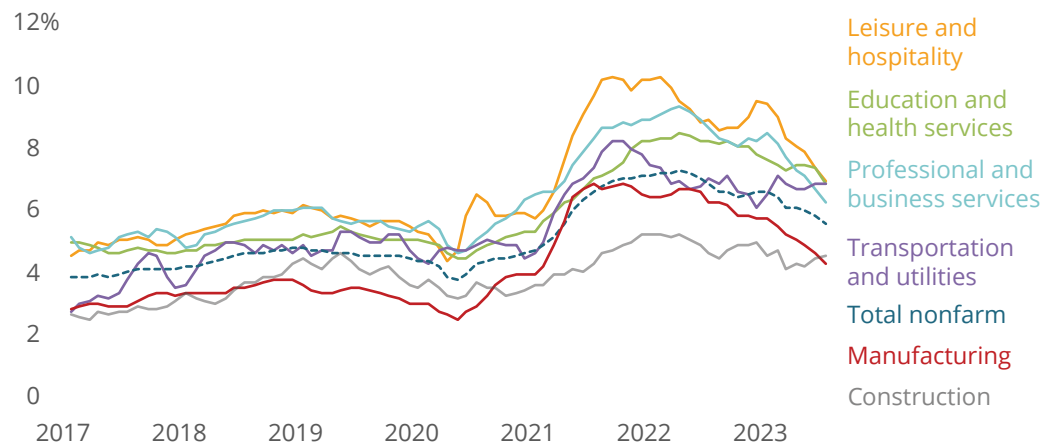
Improved prospects for the US economy, but global drag

The US economy has shown surprising resilience in the face of the sharpest interest rate hikes in decades. The labor market remains healthy, and growth prospects for the current quarter are (for now) very positive. The Fed’s oft-repeated wish for a “soft landing” looks more likely than it did back in May, even if there are very clear risks to the downside. We are seeing some evidence of easing labor market pressures. The July Job Openings and Labor Turnover Summary (JOLTS) showed continued decline in the number of job openings, extending to most major sectors. Wage inflation in new job offers as measured by the Indeed.com Wage Tracker has eased considerably, although growth in total earnings of all workers has been much slower to recede. Whether this will be enough to satisfy the Fed remains to be seen. Inflation is coming down, but core inflation—particularly in key non-housing services—remains stubbornly high. Recently, Fed Chair Jerome Powell reiterated the central bank’s commitment to achieving 2% inflation over time. This makes it likely that interest rates will remain high well into next year, and there is at least some risk of additional hikes before all is said and done.

High rates have hit home resales particularly hard. After a tantalizing pullback in late 2022 and early 2023, in late August weekly rates on 30-year

US JOB OPENING RATES (3-MONTH TRAILING AVERAGE)

High job openings have been falling back in most industries.



The job openings rate is calculated as the number of job openings divided by the sum of the number of nonfarm employees and the number of job openings.

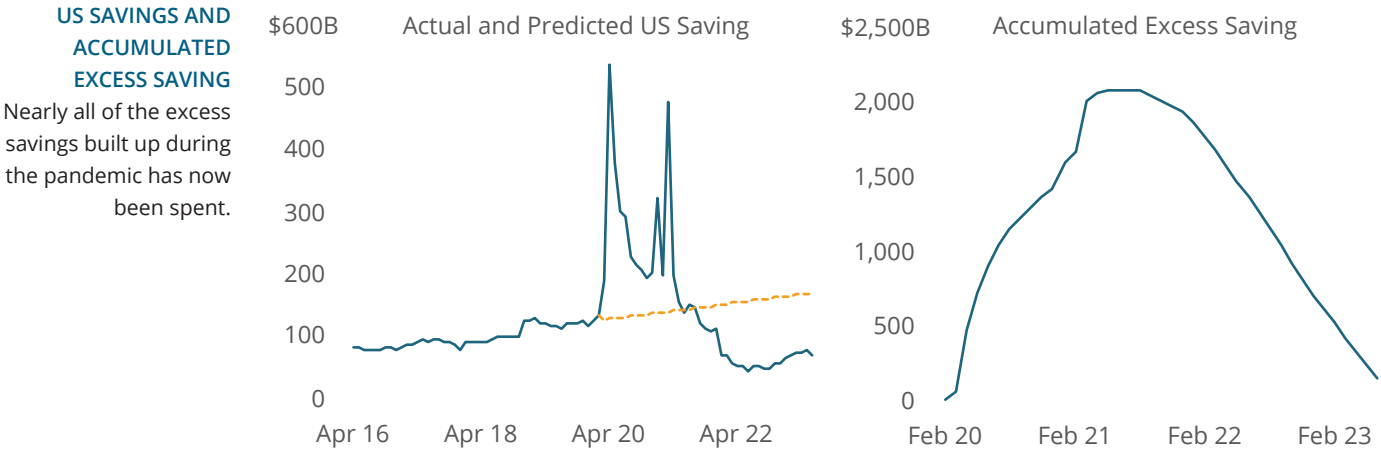
fixed rate mortgages surged to about 7.25%, their highest level since 2001. The home resale market has dried up, both because of the cost of first-time purchases and the “lock-in effect” of the low rates that many homeowners have on their current home mortgage. It is not completely clear why long-term rates have had a resurgence, but the Fed's sales of government bonds and the large scale of new issuance by the Treasury likely play a role. A return to the low rates that prevailed during the pandemic is not likely.

The consumer has been the bulwark of the US economy, even as manufacturing has declined and investment spending remained relatively weak. It is not clear how long this can last. A significant fraction of recent household spending has been supported by excess savings built up during the pandemic period, when limited spending opportunities existed and federal income supports added to family resources. Those excess savings are now fully or nearly depleted. This will mean slower consumer spending by the end of the year and the risk of a sharper pullback.

Canada weathered the early stages of global monetary tightening, but has seen job growth slow to a near-standstill recently. Because Canada does not share the US practice of widespread thirty-year fixed rate mortgages, higher market interest rates are gradually feeding through to higher home finance costs, contributing to inflation and weighing on household budgets. A shallow recession is likely to begin in the current or fourth quarter.

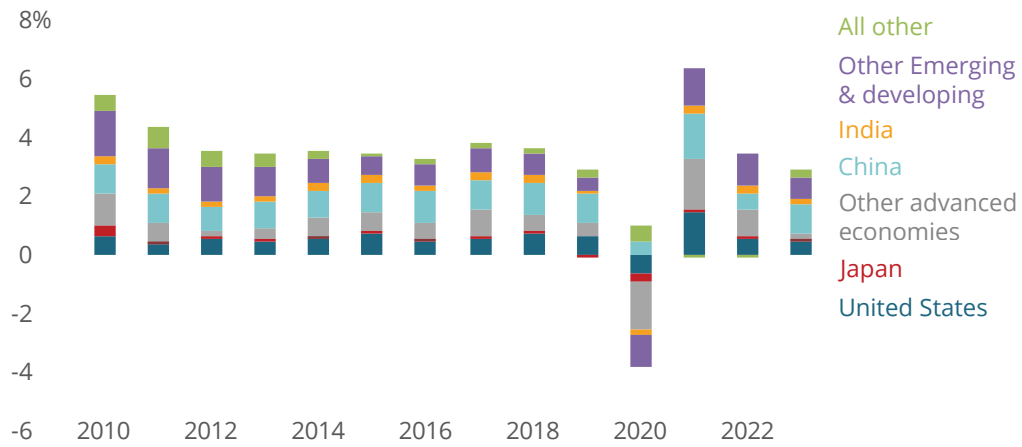
Outside North America, all major European countries are seeing markedly slower growth this year than last. Manufacturing export dependent Germany has taken the biggest hit and is expected to post negative GDP growth for the year overall. The UK is only slightly stronger, growing by less than a half percent. As in the US, higher interest rates and declining purchasing power are weighing on housing markets. The median home price in Germany is down 6% this year, although home prices are continuing to rise in many other countries. Inflation is proving even more intractable in Europe than the US, and the question now is whether the UK and EU central banks are willing to take the additional interest rate hikes that might be necessary to eliminate it, even if that means a recession. The recent resurgence of oil prices increases the risk of stagflation in Europe.

China is a significant risk to global growth. The biggest vulnerability is in the property market, where a long building boom has led to overcapacity at the same time that surging home prices have become a burden for households. Home prices are now falling in many markets, with private estimates of 15% or larger drops in some areas. High levels of mortgage debt are now



**CONTRIBUTIONS TO
WORLD GDP GROWTH
AT MARKET
EXCHANGE RATES**

Even with all its challenges, China will contribute up to 30% of global growth this year.



threatening a number of shadow banking institutions. And the drop in home prices has contributed to a sharp fall in consumer confidence. This further undercuts what has been a disappointing reopening after the long period of pandemic closures. Overall economic conditions have been so poor that the youth unemployment rate surged to 21% in June before the government decided to stop reporting the statistic. While the central government has enacted programs recently to shore up the housing market and property sector, it is unclear how effective this will be. Since the property market represents 30% of the entire economy (by comparison it is about 17% in the US), this raises big risks for future financial stability and economic growth. Note that even with these challenges, China will account for up to 30% of global growth this year.

China's underperformance poses risks for countries who export a significant share of goods to China. China is Australia's biggest export market. Combined with the ongoing effects of monetary tightening and inflation on household finances, this will mean muted growth for Australia. Japan's exports fell into negative territory in July, in part because of a 13% year-on-year drop in exports to China. Strong growth in trade with North American and Western European markets offset some of the weakness in Asian markets. For Japan, weak exports are only one element weighing on the economy. Domestic demand is suffering from unfamiliar high inflation, running at more than 3%. The yen has given up nearly all the gains it made in the second half of 2022, which will contribute to further inflationary pressures and weigh on outbound Japanese travel.

So the external environment that influences Hawaii growth prospects remains mixed. The good news is that the US economy is performing better than anticipated, so we think it will likely avoid a recession, even as growth slows later this year into early 2024. The retreat of the yen is disappointing, since the earlier rally would have supported a better outlook for Japanese overseas travel. Risks for most countries remain to the downside.

**Beyond Maui,
tourism prospects
remain generally
positive**

Hawaii visitor industry strength in the spring had fizzled by summer. In July, total visitor arrivals were less than 2% above the previous year and still 8% below their 2019 level. Factoring in length of stay, the average daily visitor census in July was only 1% higher than in the previous year and 6% lower than before the COVID-19 pandemic.

Since March, visitor arrivals have either plateaued or declined in all counties, with the US market leading the decline. The Canadian market has been volatile, but it saw a nearly 7% year-over-year increase in July. The long, slow recovery of the Japanese market has continued, but the number of visitors remains at only a third of the 2019 level. The protracted delay in the return of Japanese tourists has left the Honolulu visitor industry trailing the Neighbor Islands. Other markets peaked at near-pre-pandemic levels in the spring. The most recent data from August shows ongoing gradual recovery of the Japanese visitor market, but flat numbers for other major markets.

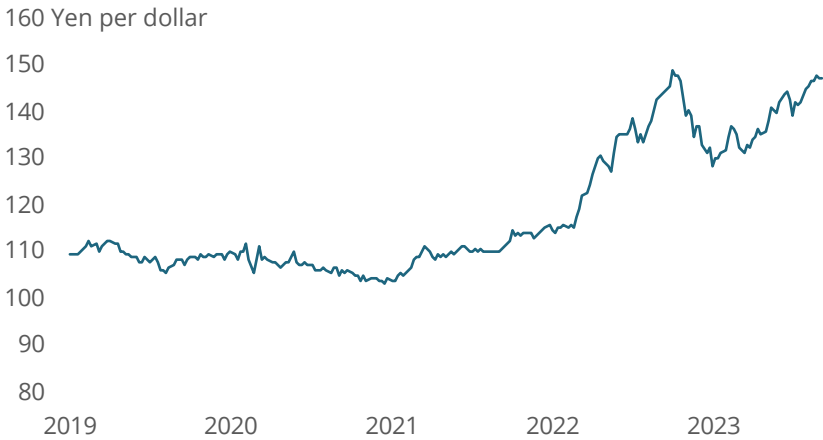
Statewide inflation-adjusted visitor spending has followed the same pattern as visitor arrivals, with early-year progress followed by some weakening as the year progressed. There have been differences across markets. Real per capita spending remained strong for visitors from North America, but has not recovered to pre-pandemic levels for Japanese travelers and those from other countries. One factor holding down spending by international guests is the persistently strong dollar, which weighs on their travel budgets. Total real visitor spending in June was 3% above last year and 2% above its 2019 level. Although relatively high in Maui and Kauai Counties, real visitor spending slowed across all counties heading into the summer, typically the peak travel season. With occupancy rates largely flat in Honolulu and sagging on the Neighbor Islands, room rates have stabilized over the past year. In a nutshell, the tourism industry had reached a plateau by the middle of the year.

Because Maui represents 30% of the state's visitor industry, the post-fire loss of Maui visitors will result in a significant decline in statewide visitor arrivals in the current quarter. Daily passenger counts, our most timely indicator of visitor numbers, show a sharp decline in mid August: compared with July, domestic passenger counts in Maui fell by two-thirds, and the state total dropped by a tenth. There is evidence of some travelers switching to other Neighbor Island destinations instead of visiting Maui. Kauai and the Big Island experienced slight increases in incoming passengers, while Honolulu's passenger count remained stable.

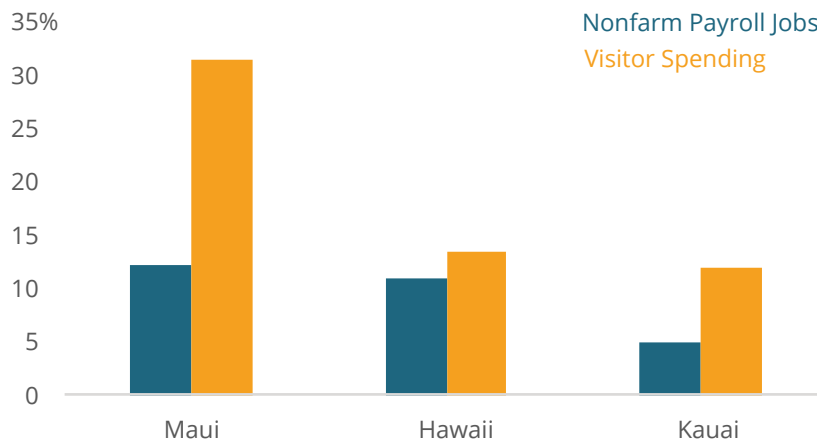
Not surprisingly, our forecast for overall statewide tourism activity is now considerably more pessimistic than our previous projections. In recent months, US arrivals have been strong, as consumers made up for lost vacations and tapped into pandemic-era savings. In the first quarter, US arrivals had surged to a record of nearly two million visitors, more than a

THE YEN/DOLLAR EXCHANGE RATE

The yen has given up nearly all of its 2022 gains.



COUNTY SHARES OF HAWAII NONFARM PAYROLLS AND VISITOR SPENDING (2022)
 Maui represents 30% of the state's visitor industry.



third of them visiting Maui. But now, in addition to the direct effects of the Maui fires, there is also uncertainty about the macroeconomic conditions that underpin both domestic and international markets, as we discussed above. In the fourth quarter, US arrivals to Hawaii are projected to be 16% lower than their 2022 level. Recovery of US arrivals will begin next year, but they will not reclaim recent peaks for many years.

The Maui fires may not significantly affect international markets, since international visitors favor Oahu as their primary attraction, followed by the Big Island. Nonetheless, some groups of visitors may be more risk averse than others. And the yen's plunge over the course of this year will further impede what has been an agonizingly slow post-pandemic Japanese market recovery.

Statewide visitor spending will decline substantially in the fourth quarter, before stabilizing by the middle of next year. Overall real visitor spending for 2024 will be 5% lower than 2023 and 6% below its 2019 peak. Spending will tick back up in 2025 as more Maui accommodation comes on line, rising above the pre-pandemic peak by the end of the forecast period.

It is important to emphasize that even if the counties other than Maui retain considerable visitor industry health, statewide visitor industry fortunes are important for the health of Hawaii-based and global hoteliers and providers of tourism-related goods and activities. They also matter importantly for the State's tax base. We will have more to say about this below.

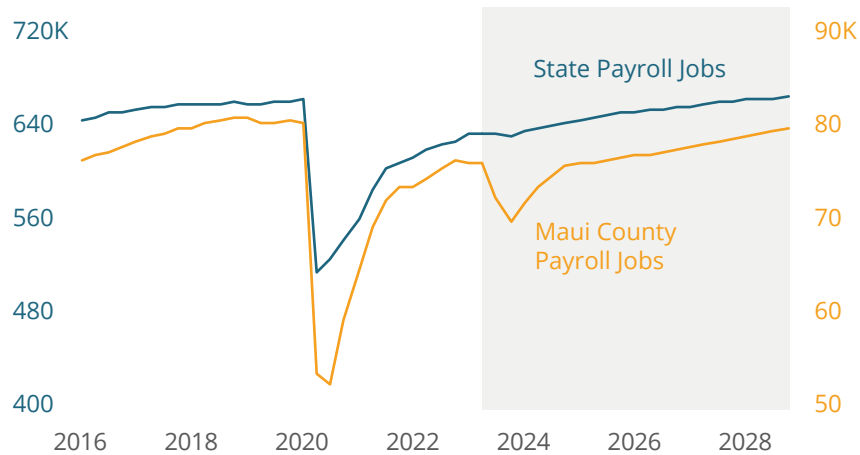
Hawaii's employment growth had slowed even before the Wildfires hit

The state's labor market had been in an ongoing recovery from the severe hit inflicted by the pandemic. Job gains since the middle of 2023 have returned us to 631,000 filled positions by the second quarter, still more than 4% lower than before the pandemic began. As we saw with tourism, job growth had decelerated this year, slowing to just half a percent between February and July. Weakness was widespread, visible across all private industries.

Despite the huge employment hit of the wildfire disruptions on Maui, the impact on statewide employment will be much more modest, since Maui represents just 12% of the overall state job base. Hawaii job growth will dip below 2% this year, about a half-percent lower than in our second quarter forecast. Job growth will pick up in 2025 as the worst employment effects of the fires start to recede. Thereafter, the statewide growth path is similar to our second quarter forecast, as rebuilding construction and healthy visitor activity on other islands offset ongoing Maui labor challenges.

FORECASTS FOR STATE AND MAUI COUNTY PAYROLL EMPLOYMENT

The deep loss of Maui jobs will have a limited effect on statewide employment.

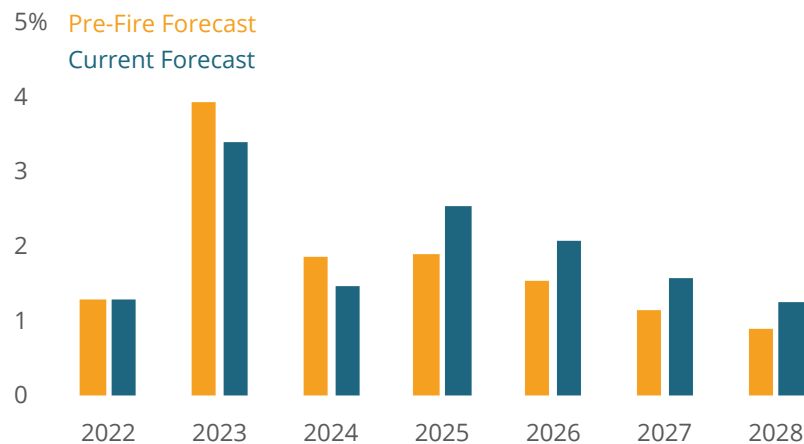


As reflected in previous forecasts, slow population and labor force growth will act as a curb on growth across the islands. The Maui fires will contribute modest additional population losses, as about 1,000 displaced Maui residents choose to move off the island. Because some of these will choose to relocate to other counties, the number moving outside the state will be in the range of 500-600 people. The labor force will remain essentially flat and payrolls will expand by an average annual rate of less than one percent over the next half-decade. The unemployment rate will climb a bit higher next year, but will then decline to less than 3% by 2027.

Real personal income will take a hit in coming quarters from the loss of employment and hours on Maui. After rising 2.9% in 2023, inflation-adjusted income growth will slow to about 2% in 2024. Net income effects will be cushioned by the support that Maui families receive from the federal government. Looking further out, the same demographic factors that will limit trend employment growth will also weigh on overall income growth in the islands over the medium term, which will average 1.8% over the forecast horizon. Real gross domestic product (GDP) will also soften over the next year, before strengthening somewhat as rebuilding kicks in. It is important to note that GDP does not incorporate the value of lost homes and businesses or non-pecuniary costs of displacement, trauma, and so forth, so it is not a measure of the welfare impact of natural disasters.

HAWAII GDP FORECAST COMPARED WITH THE PRE-FIRE BASELINE

Reconstruction will boost GDP, but it doesn't reflect all economic costs.



A Federal government shutdown is likely this fall

A looming federal government shutdown poses a risk to Hawaii's economic fortunes later this year. The Federal budget runs out at the end of September. Approving a new budget requires passing 12 appropriations bills, but the House had only passed one prior to the summer recess, leaving only a few weeks now to pass the rest. If, as expected, they fail to pass them in time, there will be a federal government shutdown that ceases all non-essential functions. A shutdown is not as catastrophic as default, which was recently avoided by lifting the debt ceiling, but a number of government services will stop. Many federal employees will be furloughed. Essential services continue, such as air traffic control and law enforcement—and likely all federal disaster recovery efforts on Maui— but workers won't get paid until Congress acts to end the shutdown. These strictures apply to the roughly 25% of federal spending that is subject to annual appropriation. Benefits such as Social Security and Medicare will continue to be paid, because they are authorized in laws that do not need annual approval, and the Treasury will continue to pay interest on the federal debt. But with a larger share of employment in the government sector in Hawaii than many other states, the impact of a shutdown would be higher here.

One oft-used option for Congress is to pass temporary spending bills, known as continuing resolutions. However, the Fiscal Responsibility Act of 2023—which lifted the debt ceiling and agreed on limits to appropriations—has a feature intended to discourage continuing resolutions. If a continuing resolution is in effect on January 1, 2024, then spending limits will automatically implement a significant cut in defense spending. Given the large military presence on Oahu, such cuts would also impact Hawaii's economy. So even if a continuing resolution quickly ends a government shutdown or avoids one altogether, the economic impacts of deadlock in Washington would be felt in Hawaii if the government fails to pass a budget by January 1. Under current hyper-partisan conditions it is hard to see how a budget deal could be accomplished.

The experience of past federal government shutdowns suggests that a closure lasting a few weeks would have only very limited macroeconomic effects on the Hawaii economy. Its primary impact would be on households of affected federal workers and those who require federal services. The question this time around is whether a shutdown might last longer because of the political standoff in Washington. Of course 2024 is also an election year, which may put some additional pressure on legislators to reach an agreement.

The Maui fires will hit both state and local finances

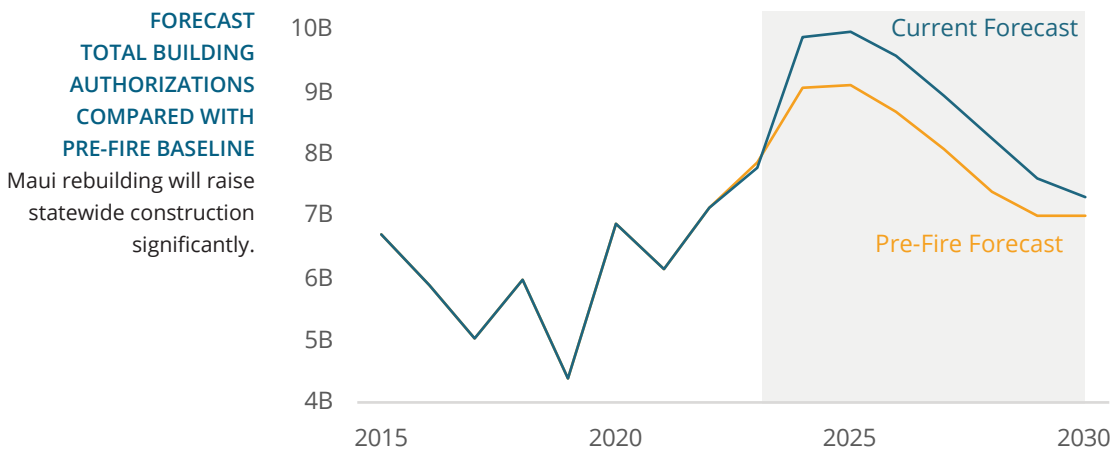
Tax revenues for both the State and Maui County will be hit hard by the disaster. For each month that visitors are absent from Maui, the state will be missing out on about \$30m in revenue from the Transient Accommodations Tax (TAT) and General Excise and Use Tax (GET). Maui County's TAT revenue will be down about \$5m per month, and property tax revenue will fall at least \$10.5m for the fiscal year. Some emergency relief spending is subject to the TAT and GET, and that partially offsets these losses. But of course some of this spending comes from the State government itself. The reopening of West Maui to tourists on October 8 will also help to reduce the size of revenue losses, as will Maui's new 0.5% GET surcharge for housing infrastructure that begins January 1.

The hit to State Government receipts led the State Council on Revenues to lower its forecast of revenue growth for the State General Fund at its September 7 meeting. Revenue growth for Fiscal Year 2024 is now forecast to grow by just 1.3%, down from 4.0%. Depending on the eventual degree of federal funding, the State will incur substantial costs for the Maui recovery effort over the next half-decade at least. Clarity on that will not be available for some time.

Hawaii housing shortfall will get some government relief

Maui is not alone in its long-term housing problems. In all counties, a lack of affordable housing and homelessness remain a pressing concern. The revised Emergency Proclamation on Housing just issued by Governor Josh Green could significantly change the landscape of housing development. The initial proclamation in July suspended many rules and regulations that housing projects typically must fulfill to gain approval. The revised proclamation reinstates environmental review and historic preservation laws and returns some powers to the state land use authority. It also specifically exempts housing construction in Lahaina from the proclamation. The proclamation creates an appointed board of local stakeholders, the Build Beyond Barriers Working Group, primarily drawn from existing government agencies and the nonprofit sector. The working group will have the authority to approve projects outright in many scenarios, though the revision allows public testimony before the working group. Cumbersome regulations and long permit wait times [have been significant barriers](#) to the creation of new housing in the state. The ability to override at least some regulatory barriers could significantly speed the production of much-needed housing supply. Projects that are already in the development pipeline could benefit from the Emergency Proclamation by opting to transfer the review of their project to the appointed board. In the future, developers could design new housing projects with the hope of securing rapid approval.

The Proclamation is scheduled to last for two years but could be extended. The success of the initiative may hinge on the Working Group’s willingness to expeditiously approve housing projects that may encounter local opposition—and while there has been considerable pushback from groups who fear the process will ignore legitimate cultural and environmental concerns, it is hoped that the revised proclamation will quell those concerns. Remaining legal challenges to the process could still hinder the impact of the proclamation.



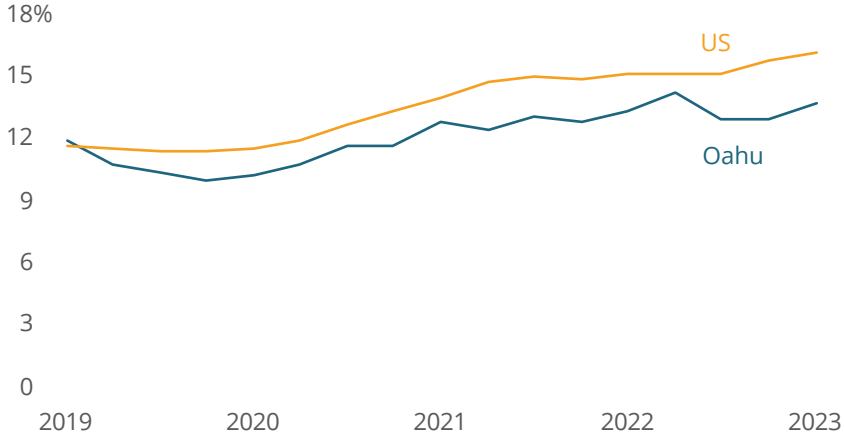
Low rates of home permitting and production have been an ongoing problem in Hawaii. Still, there are some notable large projects underway on Oahu. The Park on Keeaumoku is a 972-unit condominium in Ala Moana comprising two towers. Construction is expected to be completed in 2025. Redevelopment work has begun on the state-run Mayor Wright Homes in Kalihi. The plan would replace 360 aging units with a mix of highrise towers and low-rise development, with a total of 2,450 units. The redevelopment is expected to take roughly three years. Earlier this year, Honolulu City Council approved Kuilei Place in Moilili, which will include more than 1,000 new residential units in a 43-story tower.

The rate of office vacancies remains high, both nationally and in the Honolulu market. 14% of office space in Honolulu is currently vacant. The intense demand for new housing has prompted developers to look into conversions of existing office buildings into housing. For example, the Avalon Group purchased the Davies Pacific building in Downtown Honolulu for \$96 million with plans for a conversion to condominiums. Office building conversions have historically met with difficulties in permitting. Converting a structure designed for offices into condos often requires non-conventional floor layouts, and developers struggle to fit plans into existing residential building codes. The Emergency Proclamation on Housing provided some specific guidance for counties to adopt alternative regulations for office conversions to make projects more viable.

Infrastructure investment across the state continues to be strong. Investments in road improvements have dominated the flow of new funds from state and federal government contracts. In June, a \$530 million contract was awarded to Grace Pacific LLC for road maintenance projects across Oahu. Over the next half decade at least, there will be a number of large federal projects in the islands, including \$2.8 billion to replace a Pearl Harbor dry dock to accommodate the Navy's Virginia-class nuclear submarines and larger service ships. That project will take up to five years. Other projects will be funded by earmarks in the Late-2022 Fiscal Year 2023 Omnibus Appropriations Bill that has funded the government through most of this year. Among the allocated items are funds to shut down the Navy's Red Hill Bulk Fuel Storage Facility, fund construction on military bases, and support transportation and housing initiatives, as well as many non-construction-related programs.

OFFICE VACANCY RATES

Office vacancies remain high nationally and in the Honolulu market. Source: Colliers Oahu Office Market Report.



How will we manage necessary construction?

As we noted above, Maui reconstruction comes on top of this large volume of government-financed construction. This raises the prospect of severe construction worker shortages and likely rising costs for some materials, such as concrete, which is manufactured locally. It is possible that some proposed government projects will be delayed or that others will need to be slowed down to accommodate the more pressing needs on Maui. We mentioned above the need for training of new construction workers, and some workers will likely arrive from the mainland. But shortages of workers and perhaps materials will be a huge challenge for the next five years.

Forecasting the unknowable

This is our first Hawaii forecast since August's catastrophic Maui wildfires. As such, it is our first take on how we think the fires, their aftermath, and rebuilding will affect the economy. The emphasis has been on Maui itself as it begins to plan for the recovery process, but of course we have also assessed the implications for other counties and the state as a whole. These are early days. While we have worked to assemble the best information currently available, and thought hard about what that will mean, this is very much an initial take, which will no doubt evolve often as progress is achieved, plans become firmer, and the extent of future challenges comes into better focus.

Needless to say, the range of uncertainties is enormous. How long will each stage of recovery take? What obstacles will need to be overcome along the way? What will be the required manpower for rebuilding, and could resource shortfalls delay recovery more than expected? How fast will visitors return in large numbers, and how much will the loss of Lahaina affect their return and their spending? How will all of this affect state revenues and outlays? What kinds of persistent adverse effects on the environment and families might there be?

Lots of questions, and not a lot of answers. But we do know the main areas that will need to be addressed, as we laid out in our UHERO report, [After the Maui Wildfires: The Road Ahead](#). These include rebuilding of homes and businesses, of course, but also addressing environmental damage, the already-pressing Maui housing shortfall, health and welfare needs, support for education, and effective management of the entire recovery process. Some lessons may be learned from the experiences of mainland areas devastated by past fires, but these are so varying that it may be hard to find directly useful information about what to expect. Except that progress will be long and challenging and will require extensive involvement of all relevant stakeholders. We have no doubt that Maui and Hawaii are up to the challenge.

In the meantime, the aftermath of the fires raises macroeconomic concerns. The hit to Maui and Hawaii economies leaves us more vulnerable to shocks that might originate beyond our shores. While the US economy is on firmer footing than we expected even a few months ago, it is far from clear that the battle against inflation will be won without a recession. And global conditions are more precarious than before. So more than is usually the case, a sharp drop in vacation demand could pull our local economy into a downturn. Let's hope that can be avoided.

TABLE 1: MAJOR ECONOMIC INDICATORS
STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
Nonfarm Payrolls (Thou)	588.6	619.9	631.6	638.1	646.8	653.0
% Change	5.1	5.3	1.9	1.0	1.4	1.0
Unemployment Rate (%)	6.0	3.5	3.7	3.9	3.4	3.0
Population (Thou)	1,447.2	1,440.2	1,438.8	1,437.5	1,438.0	1,440.7
% Change	-0.3	-0.5	-0.1	-0.1	0.0	0.2
Personal Income (Mil\$)	87,918.6	88,334.8	93,232.1	96,940.3	100,812.3	104,767.7
% Change	5.8	0.5	5.5	4.0	4.0	3.9
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022\$)	93,623.1	88,334.8	90,867.5	92,616.9	94,366.5	95,898.8
% Change	1.9	-5.6	2.9	1.9	1.9	1.6
Real Per Capita Income (Thou 2022\$)	64.7	61.3	63.2	64.4	65.6	66.6
% Change	2.2	-5.2	3.0	2.0	1.9	1.4
Real GDP (Mil 2022\$)	96,966.6	98,210.5	101,556.0	103,043.0	105,655.5	107,847.5
% Change	6.3	1.3	3.4	1.5	2.5	2.1
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	6,777.8	9,234.0	9,407.0	9,326.5	9,782.6	10,052.6
% Change - Total Visitor Arrivals by Air	150.3	36.2	1.9	-0.9	4.9	2.8
U.S. Visitors	6,468.9	7,746.5	7,244.1	6,758.2	6,914.6	6,992.7
% Change - U.S. Visitors	225.5	19.8	-6.5	-6.7	2.3	1.1
Japanese Visitors	18.9	192.6	602.5	905.0	1,083.8	1,199.0
% Change - Japanese Visitors	-93.5	916.9	212.9	50.2	19.8	10.6
Other Visitors	289.9	1,294.9	1,611.8	1,663.3	1,784.2	1,860.9
% Change - Other Visitors	-32.9	346.6	24.5	3.2	7.3	4.3
Average Daily Census (Thou)	178.9	232.2	231.6	225.2	237.8	244.6
% Change	129.7	29.7	-0.3	-2.8	5.6	2.9
Average Daily Room Rate (\$)	315.8	370.2	375.1	359.8	365.8	382.1
% Change	51.6	17.2	1.3	-4.1	1.7	4.5
Occupancy Rate (%)	57.1	73.4	70.2	70.5	73.3	74.3
Real Visitor Expenditures (Mil 2022\$)	13,978.7	19,251.8	19,574.5	18,608.9	19,176.0	19,424.3
% Change	151.2	37.7	1.7	-4.9	3.0	1.3

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Occupancy rate includes UHERO's estimate of TVR occupancy. Figures for 2023-2026 are forecasts.

TABLE 2: JOBS BY INDUSTRY
STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
Nonfarm Payrolls (Thou)	588.6	619.9	631.6	638.1	646.8	653.0
% Change	5.1	5.3	1.9	1.0	1.4	1.0
Construction and Mining	37.1	37.2	38.0	40.8	42.8	42.9
% Change	0.9	0.1	2.2	7.4	4.8	0.3
Manufacturing	12.2	12.6	12.8	13.1	13.3	13.6
% Change	0.9	3.4	2.2	1.6	2.2	1.9
Trade	80.1	82.5	82.0	82.5	83.6	84.9
% Change	2.8	3.0	-0.6	0.6	1.4	1.6
Transportation and Utilities	29.7	32.8	34.0	34.6	35.1	35.5
% Change	8.0	10.4	3.9	1.5	1.5	1.2
Finance, Insurance and Real Estate	27.3	27.7	27.4	27.3	27.6	28.0
% Change	-0.2	1.4	-1.0	-0.6	1.1	1.5
Services	281.7	306.9	316.1	316.3	319.6	322.6
% Change	9.4	8.9	3.0	0.0	1.1	0.9
Health Care and Soc. Assistance	72.1	72.8	73.0	73.9	74.4	75.1
% Change	1.3	0.9	0.2	1.2	0.7	0.9
Accommodation and Food	85.8	101.1	106.1	105.5	107.7	109.4
% Change	23.1	17.9	4.9	-0.5	2.1	1.5
Other	123.8	132.9	137.0	136.8	137.4	138.1
% Change	6.1	7.4	3.1	-0.1	0.5	0.5
Government	120.6	120.4	122.1	123.6	124.8	125.6
% Change	-0.5	-0.2	1.4	1.3	0.9	0.6
Federal Government	34.8	34.7	34.9	35.0	35.2	35.3
% Change	-0.9	-0.1	0.6	0.3	0.5	0.4
State and Local Government	85.8	85.7	87.1	88.6	89.6	90.2
% Change	-0.3	-0.2	1.7	1.7	1.1	0.7

Note: Source is UHERO. Industry job counts for 2022 are UHERO estimates of the benchmark revision. Figures for 2023-2026 are forecasts.

TABLE 3: PERSONAL INCOME BY INDUSTRY
STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
Real Personal Income (Mil 2022\$)	93,623.1	88,334.8	90,867.5	92,616.9	94,366.5	95,898.8
% Change	1.9	-5.6	2.9	1.9	1.9	1.6
Labor & Proprietors' Income	61,657.7	61,861.6	63,866.1	65,156.6	66,825.6	68,061.5
% Change	3.4	0.3	3.2	2.0	2.6	1.8
Construction	5,011.4	4,829.1	5,015.2	5,478.7	5,831.7	5,901.3
% Change	-1.9	-3.6	3.9	9.2	6.4	1.2
Manufacturing	1,016.6	1,039.1	1,077.9	1,105.4	1,141.3	1,174.7
% Change	-2.9	2.2	3.7	2.6	3.2	2.9
Trade	5,131.1	5,240.7	5,416.2	5,510.7	5,669.0	5,807.0
% Change	3.7	2.1	3.3	1.7	2.9	2.4
Transportation and Utilities	3,207.4	3,511.1	3,555.5	3,672.6	3,800.3	3,900.7
% Change	1.5	9.5	1.3	3.3	3.5	2.6
Finance, Insurance & Real Estate	4,315.2	4,015.0	3,816.5	3,902.9	4,094.2	4,283.8
% Change	2.8	-7.0	-4.9	2.3	4.9	4.6
Services	24,472.2	25,490.8	26,766.1	26,937.3	27,493.0	28,031.2
% Change	8.7	4.2	5.0	0.6	2.1	2.0
Health Care & Soc. Assist. (% ch.)	0.1	-2.6	3.1	2.0	1.8	1.6
Accommodation & Food (% ch.)	39.0	18.1	7.8	-0.5	4.1	3.8
Other (% ch.)	3.9	2.0	4.6	0.5	1.2	1.2
Government	18,191.8	17,162.9	17,784.0	18,162.9	18,406.4	18,570.6
% Change	-0.7	-5.7	3.6	2.1	1.3	0.9
Federal, civilian (% ch.)	-0.1	-4.2	0.2	1.0	1.0	0.9
State & Local (% ch.)	-3.6	-6.1	5.3	2.6	1.6	1.0
Less Social Security Taxes (-)	7,051.2	7,177.9	7,455.4	7,601.9	7,791.0	7,930.1
% Change	2.3	1.8	3.9	2.0	2.5	1.8
Transfer Payments	21,585.9	16,515.9	16,846.6	17,183.4	17,505.6	17,866.2
% Change	1.1	-23.5	2.0	2.0	1.9	2.1
Dividends, Interest and Rent	17,430.8	17,135.2	17,611.0	17,879.9	17,827.1	17,902.1
% Change	-1.9	-1.7	2.8	1.5	-0.3	0.4
Population (Thou)	1,447.2	1,440.2	1,438.8	1,437.5	1,438.0	1,440.7
% Change	-0.3	-0.5	-0.1	-0.1	0.0	0.2
Real Per Capita Income (Thou 2022\$)	64.7	61.3	63.2	64.4	65.6	66.6
% Change	2.2	-5.2	3.0	2.0	1.9	1.4
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Nominal Personal Income (Mil. \$)	87,918.6	88,334.8	93,232.1	96,940.3	100,812.3	104,767.7
% Change	5.8	0.5	5.5	4.0	4.0	3.9

Note: Source is UHERO. Figures for 2023-2026 are forecasts.

TABLE 4: CONSTRUCTION INDICATORS
STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
BUILDING PERMITS (Mil 2022\$)						
Total Commitments to Build	6,132	7,101	7,807	9,758	9,712	9,262
% Change	-10.4	15.8	9.9	25.0	-0.5	-4.6
Real Private Building Permits	3,979	3,579	3,539	4,580	5,046	5,205
% Change	14.7	-10.0	-1.1	29.4	10.2	3.1
Real Residential Building Permits	2,118	1,760	1,529	2,056	2,379	2,488
% Change	65.8	-16.9	-13.1	34.5	15.7	4.6
Real Non-Residential Building Permits	1,861	1,819	2,010	2,524	2,667	2,717
% Change	-15.1	-2.2	10.5	25.5	5.7	1.9
Real Government Contracts Awarded	2,153	3,521	4,268	5,178	4,666	4,057
% Change	-36.8	63.6	20.7	21.3	-9.9	-13.1
CONSTRUCTION ACTIVITY						
Real GE Contracting Tax Base (Mil 2022\$)	10,748	10,797	11,823	13,864	15,095	14,953
% Change	-0.8	0.5	9.5	17.3	8.9	-0.9
Nominal GE Contracting Tax Base (Mil \$)	10,122	10,797	12,077	14,660	16,515	16,875
% Change	4.2	6.7	11.9	21.4	12.7	2.2
Construction Job Count (Thou)	37.1	37.2	38.0	40.8	42.8	42.9
% Change	0.9	0.1	2.2	7.4	4.8	0.3
Real Construction Income (Mil 2022\$)	5,011	4,829	5,015	5,479	5,832	5,901
% Change	-1.9	-3.6	3.9	9.2	6.4	1.2
PRICES & COSTS (HONOLULU)						
Honolulu Median Home Price (Thou \$)	987.3	1102.0	1001.1	995.2	1035.6	1097.1
% Change	20.0	11.6	-9.2	-0.6	4.1	5.9
Honolulu Median Condominium Price (Thou \$)	470.6	506.6	501.1	494.9	506.3	531.2
% Change	8.8	7.7	-1.1	-1.2	2.3	4.9
Honolulu Housing Affordability Index	81.7	57.0	55.9	59.3	62.1	62.8
% Change	-11.5	-30.2	-2.0	6.1	4.7	1.2
Honolulu Construction Cost Index (2022=100)	94.2	100.0	102.1	105.7	109.4	112.8
% Change	5.1	6.2	2.1	3.5	3.5	3.1
30-Year Mortgage Rate (%)	3.0	5.3	6.7	6.6	6.1	5.7

Note: Source is UHERO. Figures for 2023-2026 are forecasts. Commitments to Build are the sum of private permits and public contracts awarded. Figures for Total Commitments to Build and Real Government Contracts Awarded for 2021 and 2022 are UHERO estimates. 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 FORECAST

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	425.8	446.4	456.6	461.4	466.4	470.7
% Change	3.4	4.8	2.3	1.0	1.1	0.9
Unemployment Rate (%)	5.5	3.3	3.4	3.4	3.1	2.8
Population (Thou)	1,004.7	995.6	993.8	992.6	992.0	993.3
% Change	-0.8	-0.9	-0.2	-0.1	-0.1	0.1
Personal Income (Mil \$)	63,968.6	64,108.9	67,731.0	70,598.5	73,337.0	76,227.3
% Change	5.0	0.2	5.7	4.2	3.9	3.9
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022 \$)	68,119.1	64,108.9	66,013.1	67,449.9	68,647.9	69,774.4
% Change	1.2	-5.9	3.0	2.2	1.8	1.6
Real Per Capita Income (Thou 2022 \$)	67.8	64.4	66.4	68.0	69.2	70.2
% Change	2.0	-5.0	3.2	2.3	1.8	1.5
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	3,326.6	4,858.2	5,659.5	5,806.0	5,919.9	6,045.7
% Change - Total Visitor Arrivals by Air	120.8	46.0	16.5	2.6	2.0	2.1
U.S. Visitors	3,142.0	3,833.6	3,891.5	3,673.5	3,546.7	3,499.5
% Change - U.S. Visitors	224.8	22.0	1.5	-5.6	-3.5	-1.3
Japanese Visitors	18.0	186.6	589.9	882.2	1,049.2	1,154.3
% Change - Japanese Visitors	-93.3	936.7	216.1	49.5	18.9	10.0
Other Visitors	166.6	837.9	1,160.0	1,250.3	1,324.0	1,391.9
% Change - Other Visitors	-38.2	403.0	38.4	7.8	5.9	5.1
Average Daily Census (Thou)	73.7	99.1	112.3	110.8	111.8	113.3
% Change	110.2	34.5	13.3	-1.3	0.9	1.3
Occupancy Rate (%)	54.9	75.2	78.2	77.2	77.9	78.9

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2026 are forecasts.

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

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	425.8	446.4	456.6	461.4	466.4	470.7
% Change	3.4	4.8	2.3	1.0	1.1	0.9
Construction and Mining	27.0	26.8	27.4	28.5	29.6	30.1
% Change	0.8	-0.9	2.3	3.8	4.0	1.7
Manufacturing	9.2	9.2	9.4	9.6	9.9	10.1
% Change	-2.6	0.8	1.8	1.8	2.8	2.4
Trade	54.6	56.4	55.8	56.1	57.1	58.3
% Change	1.9	3.2	-1.1	0.6	1.8	2.1
Transportation and Utilities	21.6	23.9	25.2	25.7	26.0	26.3
% Change	3.4	10.4	5.3	2.2	1.1	1.1
Finance, Insurance and Real Estate	21.3	21.2	21.0	20.9	21.1	21.4
% Change	-1.7	-0.4	-0.7	-0.5	0.8	1.3
Services	199.1	216.1	224.5	225.4	226.8	228.1
% Change	7.0	8.5	3.9	0.4	0.6	0.6
Health Care and Soc. Assistance	54.0	54.9	55.3	55.8	56.2	56.6
% Change	2.0	1.7	0.7	0.9	0.7	0.8
Accommodation and Food	50.5	60.3	64.9	65.3	66.0	66.4
% Change	17.2	19.2	7.8	0.5	1.1	0.6
Other	94.7	101.0	104.3	104.4	104.7	105.1
% Change	5.0	6.7	3.3	0.0	0.3	0.4
Government	92.9	92.8	94.0	95.1	95.9	96.5
% Change	-0.3	-0.2	1.3	1.2	0.8	0.6
Federal Government	32.0	31.9	32.1	32.1	32.3	32.4
% Change	-0.7	-0.3	0.5	0.2	0.4	0.4
State and Local Government	60.9	60.8	61.9	63.0	63.6	64.1
% Change	-0.1	-0.1	1.8	1.7	1.1	0.7

Note: Source is UHERO. Industry job counts for 2022 are UHERO estimates of the benchmark revision. Figures for 2023-2026 are forecasts.

TABLE 7: PERSONAL INCOME BY DETAILED SECTOR
HONOLULU COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Real Personal Income (Mil 2022 \$)	68,119.1	64,108.9	66,013.1	67,449.9	68,647.9	69,774.4
% Change	1.2	-5.9	3.0	2.2	1.8	1.6
Labor & Proprietors' Income	46,792.4	46,368.0	48,127.6	49,202.6	50,267.9	51,137.1
% Change	1.9	-0.9	3.8	2.2	2.2	1.7
Construction	3,701.8	3,534.4	3,676.6	3,886.4	4,107.0	4,216.0
% Change	-2.5	-4.5	4.0	5.7	5.7	2.7
Manufacturing	783.0	781.2	808.0	830.8	862.0	891.2
% Change	-7.0	-0.2	3.4	2.8	3.8	3.4
Trade	3,497.0	3,578.0	3,696.1	3,790.6	3,888.7	3,980.4
% Change	2.2	2.3	3.3	2.6	2.6	2.4
Transportation and Utilities	2,494.0	2,727.6	2,802.5	2,916.3	2,998.0	3,073.5
% Change	-0.4	9.4	2.7	4.1	2.8	2.5
Finance, Insurance & Real Estate	3,291.4	3,003.1	2,863.8	2,934.7	3,069.5	3,209.0
% Change	2.4	-8.8	-4.6	2.5	4.6	4.5
Services	17,620.1	18,182.6	19,222.5	19,488.7	19,793.3	20,076.7
% Change	5.6	3.2	5.7	1.4	1.6	1.4
Health Care & Soc. Assist. (% ch.)	0.7	-2.0	3.5	1.6	1.7	1.6
Accommodation & Food (% ch.)	29.8	19.0	12.0	2.8	3.0	2.4
Other (% ch.)	2.7	1.4	4.7	0.7	0.9	1.0
Government	15,303.6	14,445.9	14,938.8	15,234.2	15,428.0	15,568.4
% Change	-0.2	-5.6	3.4	2.0	1.3	0.9
Federal, civilian (% ch.)	-0.1	-4.3	0.0	0.9	0.9	0.9
State & Local (% ch.)	-3.5	-6.0	5.4	2.4	1.6	1.1
Less Social Security Taxes (-)	5,365.9	5,396.2	5,632.2	5,753.9	5,875.6	5,972.9
% Change	1.5	0.6	4.4	2.2	2.1	1.7
Transfer Payments	14,243.1	10,973.2	11,184.5	11,415.4	11,637.4	11,881.7
% Change	1.9	-23.0	1.9	2.1	1.9	2.1
Dividends, Interest and Rent	12,502.0	12,293.9	12,627.4	12,836.6	12,809.2	12,859.4
% Change	-2.1	-1.7	2.7	1.7	-0.2	0.4
Population (Thou)	1,004.7	995.6	993.8	992.6	992.0	993.3
% Change	-0.8	-0.9	-0.2	-0.1	-0.1	0.1
Real Per Capita Income (Thou 2022 \$)	67.8	64.4	66.4	68.0	69.2	70.2
% Change	2.0	-5.0	3.2	2.3	1.8	1.5
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Nominal Personal Income (Mil \$)	63,968.6	64,108.9	67,731.0	70,598.5	73,337.0	76,227.3
% Change	5.0	0.2	5.7	4.2	3.9	3.9

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts.

TABLE 8: MAJOR ECONOMIC INDICATOR SUMMARY
HAWAII COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	64.9	68.2	70.1	71.1	72.1	72.9
% Change	6.7	5.1	2.8	1.4	1.4	1.1
Unemployment Rate (%)	5.9	3.9	3.5	3.6	3.4	3.1
Population (Thou)	203.8	206.3	207.4	208.3	209.1	209.9
% Change	1.5	1.2	0.5	0.4	0.4	0.4
Personal Income (Mil \$)	10,153.0	10,099.4	10,797.9	11,218.1	11,661.4	12,123.1
% Change	7.5	-0.5	6.9	3.9	4.0	4.0
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022 \$)	10,811.7	10,099.4	10,524.0	10,717.8	10,915.7	11,096.8
% Change	3.5	-6.6	4.2	1.8	1.8	1.7
Real Per Capita Income (Thou 2022 \$)	53.1	49.0	50.7	51.5	52.2	52.9
% Change	2.0	-7.7	3.7	1.4	1.5	1.2
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	1,183.5	1,667.6	1,760.1	1,840.7	1,883.8	1,915.6
% Change - Total Visitor Arrivals by Air	139.7	40.9	5.5	4.6	2.3	1.7
U.S. Visitors	1,137.2	1,437.8	1,435.1	1,416.6	1,404.7	1,403.7
% Change - U.S. Visitors	199.9	26.4	-0.2	-1.3	-0.8	-0.1
Japanese Visitors	1.0	15.5	53.6	105.5	136.7	153.1
% Change - Japanese Visitors	-97.2	1,451.5	245.8	96.7	29.6	12.0
Other Visitors	45.3	214.4	268.9	318.6	342.3	358.9
% Change - Other Visitors	-42.8	373.2	25.5	18.5	7.5	4.8
Average Daily Census (Thou)	30.0	37.9	37.5	38.0	38.5	38.9
% Change	138.2	26.3	-1.2	1.4	1.4	0.9
Occupancy Rate (%)	60.8	74.1	68.5	69.3	70.1	70.8

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts.

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

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	64.9	68.2	70.1	71.1	72.1	72.9
% Change	6.7	5.1	2.8	1.4	1.4	1.1
Construction and Mining	3.7	3.7	3.8	3.8	4.0	4.0
% Change	2.1	0.7	1.3	2.2	3.1	0.4
Manufacturing	1.4	1.6	1.6	1.6	1.6	1.6
% Change	14.0	8.8	3.6	1.3	0.4	0.6
Trade	11.1	11.3	11.5	11.6	11.7	11.8
% Change	4.7	1.8	1.8	0.7	0.9	0.8
Transportation and Utilities	2.9	3.1	3.2	3.3	3.3	3.4
% Change	15.5	8.2	3.3	1.8	1.0	0.9
Finance, Insurance and Real Estate	2.4	2.5	2.5	2.5	2.5	2.6
% Change	2.2	5.7	-2.3	1.1	1.6	1.6
Services	29.4	31.8	33.1	33.6	34.1	34.6
% Change	12.0	8.0	4.2	1.4	1.5	1.4
Health Care and Soc. Assistance	7.5	7.4	7.3	7.5	7.6	7.7
% Change	0.1	-1.5	-0.7	1.9	1.5	1.3
Accommodation and Food	10.8	12.5	13.3	13.6	13.9	14.2
% Change	30.6	15.7	6.5	2.0	2.3	2.1
Other	11.2	11.9	12.5	12.6	12.6	12.7
% Change	5.8	7.0	4.7	0.4	0.7	0.6
Government	14.0	14.2	14.4	14.7	14.9	15.0
% Change	-1.5	2.0	1.4	1.7	1.3	0.9
Federal Government	1.3	1.3	1.3	1.3	1.4	1.4
% Change	-6.1	1.7	2.2	1.8	1.1	1.1
State and Local Government	12.7	12.9	13.1	13.3	13.5	13.6
% Change	-1.0	2.0	1.3	1.7	1.3	0.9

Note: Source is UHERO. Industry job counts for 2022 are UHERO estimates of the benchmark revision. Figures for 2023-2026 are forecasts.

TABLE 10: PERSONAL INCOME BY DETAILED SECTOR
HAWAII COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Real Personal Income (Mil 2022 \$)	10,811.7	10,099.4	10,524.0	10,717.8	10,915.7	11,096.8
% Change	3.5	-6.6	4.2	1.8	1.8	1.7
Labor & Proprietors' Income	5,820.0	5,972.2	6,187.2	6,305.3	6,511.2	6,666.3
% Change	6.2	2.6	3.6	1.9	3.3	2.4
Construction	431.9	—	—	—	—	—
% Change	—	—	—	—	—	—
Manufacturing	100.7	—	—	—	—	—
% Change	—	—	—	—	—	—
Trade	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Transportation and Utilities	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Finance, Insurance & Real Estate	315.4	—	—	—	—	—
% Change	-1.4	—	—	—	—	—
Services	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Health Care & Soc. Assist. (% ch.)	—	—	—	—	—	—
Accommodation & Food (% ch.)	—	—	—	—	—	—
Other (% ch.)	—	—	—	—	—	—
Government	1,440.9	1,376.2	1,448.2	1,489.3	1,516.2	1,534.2
% Change	-3.0	-4.5	5.2	2.8	1.8	1.2
Federal, civilian (% ch.)	-0.7	-2.3	1.5	2.0	1.5	1.5
State & Local (% ch.)	-3.6	-4.6	5.8	3.0	1.9	1.2
Less Social Security Taxes (-)	709.6	741.1	775.3	791.1	816.9	837.2
% Change	8.2	4.4	4.6	2.0	3.3	2.5
Transfer Payments	3,507.5	2,726.1	2,793.0	2,857.0	2,909.7	2,968.9
% Change	3.6	-22.3	2.5	2.3	1.8	2.0
Dividends, Interest and Rent	2,162.8	2,112.3	2,194.0	2,252.7	2,233.4	2,236.1
% Change	-1.5	-2.3	3.9	2.7	-0.9	0.1
Population (Thou)	203.8	206.3	207.4	208.3	209.1	209.9
% Change	1.5	1.2	0.5	0.4	0.4	0.4
Real Per Capita Income (Thou 2022 \$)	53.1	49.0	50.7	51.5	52.2	52.9
% Change	2.0	-7.7	3.7	1.4	1.5	1.2
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Nominal Personal Income (Mil \$)	10,153.0	10,099.4	10,797.9	11,218.1	11,661.4	12,123.1
% Change	7.5	-0.5	6.9	3.9	4.0	4.0

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 11: MAJOR ECONOMIC INDICATOR SUMMARY
MAUI COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	69.7	74.7	73.4	73.8	76.1	77.0
% Change	13.7	7.3	-1.7	0.5	3.1	1.2
Unemployment Rate (%)	7.8	3.8	6.2	6.5	4.5	4.0
Population (Thou)	164.9	164.4	163.8	162.7	162.8	163.2
% Change	0.0	-0.3	-0.4	-0.7	0.1	0.3
Personal Income (Mil \$)	9,615.1	9,921.5	10,249.0	10,519.9	11,026.6	11,438.0
% Change	8.9	3.2	3.3	2.6	4.8	3.7
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022 \$)	10,238.9	9,921.5	9,989.0	10,050.8	10,321.6	10,469.7
% Change	5.0	-3.1	0.7	0.6	2.7	1.4
Real Per Capita Income (Thou 2022 \$)	62.1	60.3	61.0	61.8	63.4	64.1
% Change	4.9	-2.8	1.1	1.3	2.6	1.2
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	2,340.9	2,969.4	2,396.4	2,150.5	2,638.1	2,873.3
% Change - Total Visitor Arrivals by Air	190.0	26.8	-19.3	-10.3	22.7	8.9
U.S. Visitors	2,239.4	2,559.2	2,026.3	1,787.2	2,178.8	2,355.6
% Change - U.S. Visitors	233.2	14.3	-20.8	-11.8	21.9	8.1
Japanese Visitors	0.8	5.7	9.6	13.0	19.1	23.6
% Change - Japanese Visitors	-90.6	636.4	68.9	35.1	46.9	23.4
Other Visitors	100.7	404.5	364.8	350.3	440.2	494.0
% Change - Other Visitors	-20.7	301.5	-9.8	-4.0	25.7	12.2
Average Daily Census (Thou)	56.0	66.8	53.3	48.0	58.8	63.8
% Change	164.4	19.2	-20.2	-10.0	22.7	8.5
Occupancy Rate (%)	59.9	67.4	57.7	57.4	65.5	68.0

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts.

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

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	69.7	74.7	73.4	73.8	76.1	77.0
% Change	13.7	7.3	-1.7	0.5	3.1	1.2
Construction and Mining	4.3	4.5	4.7	6.3	6.9	6.5
% Change	-2.4	6.1	2.6	35.4	9.9	-6.0
Manufacturing	1.1	1.2	1.3	1.3	1.3	1.3
% Change	13.1	12.5	5.0	1.5	0.8	0.0
Trade	10.3	10.5	10.3	10.4	10.4	10.4
% Change	6.2	1.9	-1.5	0.3	0.1	0.4
Transportation and Utilities	3.7	4.1	4.0	3.9	4.1	4.2
% Change	26.6	11.7	-4.0	-2.8	5.4	2.6
Finance, Insurance and Real Estate	2.7	2.9	2.8	2.7	2.8	2.9
% Change	11.9	8.2	-2.5	-2.8	3.3	3.0
Services	38.9	42.9	41.7	40.4	41.6	42.6
% Change	21.4	10.1	-2.7	-3.2	3.1	2.5
Health Care and Soc. Assistance	7.9	8.0	7.8	8.1	8.1	8.1
% Change	-0.9	0.7	-1.6	3.0	0.0	0.7
Accommodation and Food	18.1	20.4	19.4	18.1	19.1	19.9
% Change	39.1	12.6	-5.0	-6.7	5.7	4.3
Other	12.9	14.5	14.5	14.2	14.4	14.6
% Change	16.6	12.3	-0.1	-1.9	1.4	1.2
Government	8.7	8.6	8.7	8.9	9.0	9.0
% Change	-0.7	-1.3	0.9	2.3	1.1	0.3
Federal Government	0.9	0.9	0.9	0.9	0.9	0.9
% Change	0.0	3.7	-0.3	1.6	1.0	0.8
State and Local Government	7.8	7.7	7.7	7.9	8.0	8.0
% Change	-0.8	-1.9	1.1	2.3	1.1	0.2

Note: Source is UHERO. Industry job counts for 2022 are UHERO estimates of the benchmark revision. Figures for 2023-2026 are forecasts.

TABLE 13: PERSONAL INCOME BY DETAILED SECTOR
MAUI COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Real Personal Income (Mil 2022 \$)	10,238.9	9,921.5	9,989.0	10,050.8	10,321.6	10,469.7
% Change	5.0	-3.1	0.7	0.6	2.7	1.4
Labor & Proprietors' Income	6,457.8	6,764.9	6,698.4	6,750.6	7,063.0	7,209.9
% Change	12.5	4.8	-1.0	0.8	4.6	2.1
Construction	592.3	609.9	619.7	777.0	842.9	809.4
% Change	-2.5	3.0	1.6	25.4	8.5	-4.0
Manufacturing	87.4	93.8	102.2	105.2	107.7	108.8
% Change	3.9	7.4	9.0	2.9	2.4	1.0
Trade	656.6	651.5	646.0	659.5	672.0	684.6
% Change	8.6	-0.8	-0.9	2.1	1.9	1.9
Transportation and Utilities	315.9	343.7	335.9	329.7	353.5	367.2
% Change	12.0	8.8	-2.3	-1.9	7.2	3.9
Finance, Insurance & Real Estate	518.1	530.1	525.5	521.1	532.7	543.3
% Change	8.2	2.3	-0.9	-0.8	2.2	2.0
Services	3,360.0	3,599.1	3,561.9	3,479.0	3,640.0	3,775.0
% Change	23.3	7.1	-1.0	-2.3	4.6	3.7
Health Care & Soc. Assist. (% ch.)	-0.6	-1.2	-1.1	4.3	1.3	1.7
Accommodation & Food (% ch.)	58.6	11.4	-4.2	-6.8	8.5	6.2
Other (% ch.)	15.2	7.1	2.6	-0.8	2.5	2.0
Government	899.8	839.8	875.0	904.4	918.7	924.0
% Change	-3.8	-6.7	4.2	3.4	1.6	0.6
Federal, civilian (% ch.)	0.3	-2.2	1.3	1.9	1.5	1.3
State & Local (% ch.)	-4.6	-7.4	4.7	3.7	1.7	0.5
Less Social Security Taxes (-)	672.1	720.4	717.0	720.8	752.8	766.7
% Change	1.4	7.2	-0.5	0.5	4.4	1.9
Transfer Payments	2,506.1	1,868.1	1,901.5	1,922.8	1,952.8	1,989.5
% Change	-7.6	-25.5	1.8	1.1	1.6	1.9
Dividends, Interest and Rent	1,916.6	1,902.0	1,943.3	1,925.0	1,929.3	1,952.1
% Change	-1.0	-0.8	2.2	-0.9	0.2	1.2
Population (Thou)	164.9	164.4	163.8	162.7	162.8	163.2
% Change	0.0	-0.3	-0.4	-0.7	0.1	0.3
Real Per Capita Income (Thou 2022 \$)	62.1	60.3	61.0	61.8	63.4	64.1
% Change	4.9	-2.8	1.1	1.3	2.6	1.2
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Nominal Personal Income (Mil \$)	9,615.1	9,921.5	10,249.0	10,519.9	11,026.6	11,438.0
% Change	8.9	3.2	3.3	2.6	4.8	3.7

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 14: MAJOR ECONOMIC INDICATOR SUMMARY
KAUAI COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	28.2	30.5	31.4	31.8	32.1	32.4
% Change	7.1	8.3	2.8	1.1	1.2	1.0
Unemployment Rate (%)	8.3	3.9	3.3	3.7	3.6	3.4
Population (Thou)	73.8	73.8	73.8	73.9	74.1	74.3
% Change	0.8	0.0	0.0	0.1	0.2	0.3
Personal Income (Mil \$)	4,121.0	4,204.9	4,454.2	4,603.8	4,787.3	4,979.4
% Change	5.0	2.0	5.9	3.4	4.0	4.0
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Real Personal Income (Mil 2022 \$)	4,388.4	4,204.9	4,341.3	4,398.5	4,481.2	4,557.9
% Change	1.2	-4.2	3.2	1.3	1.9	1.7
Real Per Capita Income (Thou 2022 \$)	59.5	57.0	58.8	59.5	60.5	61.3
% Change	0.4	-4.2	3.2	1.2	1.7	1.4
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	813.6	1,345.6	1,391.8	1,394.9	1,411.3	1,422.5
% Change - Total Visitor Arrivals by Air	146.4	65.4	3.4	0.2	1.2	0.8
U.S. Visitors	785.1	1,207.3	1,224.5	1,203.3	1,206.2	1,208.6
% Change - U.S. Visitors	179.9	53.8	1.4	-1.7	0.2	0.2
Japanese Visitors	0.4	3.0	7.2	12.0	15.5	17.7
% Change - Japanese Visitors	-90.0	719.3	141.9	67.5	29.4	13.9
Other Visitors	28.2	135.3	159.4	179.6	189.7	196.3
% Change - Other Visitors	-38.9	379.6	17.8	12.7	5.6	3.5
Average Daily Census (Thou)	19.2	28.7	28.5	28.4	28.6	28.6
% Change	145.2	49.3	-0.6	-0.4	0.6	0.2
Occupancy Rate (%)	57.0	77.3	74.4	74.5	75.1	74.8

Note: Source is UHERO. Nonfarm Payrolls for 2022 are UHERO estimates of the benchmark revision. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts.

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

	2021	2022	2023	2024	2025	2026
Non-farm Payrolls (Thou)	28.2	30.5	31.4	31.8	32.1	32.4
% Change	7.1	8.3	2.8	1.1	1.2	1.0
Construction and Mining	2.1	2.1	2.1	2.2	2.2	2.2
% Change	7.2	-0.6	1.9	2.0	2.9	0.3
Manufacturing	0.5	0.6	0.5	0.5	0.5	0.5
% Change	12.0	17.8	-2.5	0.9	0.3	0.6
Trade	4.1	4.3	4.3	4.4	4.4	4.4
% Change	5.1	4.9	1.0	0.4	0.5	0.6
Transportation and Utilities	1.4	1.6	1.7	1.7	1.7	1.7
% Change	27.1	12.1	2.5	1.6	0.8	0.8
Finance, Insurance and Real Estate	1.0	1.1	1.1	1.1	1.1	1.1
% Change	-0.8	11.8	-0.9	0.9	1.5	1.5
Services	14.2	16.1	16.7	16.9	17.1	17.3
% Change	9.9	13.2	4.2	1.1	1.2	1.2
Health Care and Soc. Assistance	2.8	2.6	2.6	2.6	2.6	2.7
% Change	-1.2	-7.0	-1.7	1.6	1.3	1.2
Accommodation and Food	6.3	8.0	8.4	8.6	8.7	8.9
% Change	20.3	26.7	5.9	1.6	1.8	1.8
Other	5.1	5.5	5.7	5.7	5.7	5.8
% Change	5.0	7.6	4.5	0.0	0.3	0.4
Government	5.0	4.8	4.9	5.0	5.1	5.1
% Change	-0.5	-3.6	2.9	1.4	1.0	0.7
Federal Government	0.6	0.6	0.6	0.6	0.6	0.6
% Change	-1.4	-1.2	2.9	1.5	1.0	1.0
State and Local Government	4.4	4.2	4.3	4.4	4.4	4.5
% Change	-0.4	-4.0	2.9	1.3	1.0	0.7

Note: Source is UHERO. Industry job counts for 2022 are UHERO estimates of the benchmark revision. Figures for 2023-2026 are forecasts.

TABLE 16: PERSONAL INCOME BY DETAILED SECTOR
KAUAI COUNTY FORECAST

	2021	2022	2023	2024	2025	2026
Real Personal Income (Mil 2022 \$)	4,388.4	4,204.9	4,341.3	4,398.5	4,481.2	4,557.9
% Change	1.2	-4.2	3.2	1.3	1.9	1.7
Labor & Proprietors' Income	2,609.0	2,756.5	2,852.8	2,898.0	2,983.4	3,048.2
% Change	4.9	5.7	3.5	1.6	2.9	2.2
Construction	285.0	—	—	—	—	—
% Change	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Trade	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Transportation and Utilities	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Finance, Insurance & Real Estate	189.7	—	—	—	—	—
% Change	2.2	—	—	—	—	—
Services	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Health Care & Soc. Assist. (% ch.)	—	—	—	—	—	—
Accommodation & Food (% ch.)	—	—	—	—	—	—
Other (% ch.)	—	—	—	—	—	—
Government	540.0	501.3	522.3	534.7	542.4	547.7
% Change	-2.7	-7.2	4.2	2.4	1.4	1.0
Federal, civilian (% ch.)	3.6	-2.4	1.3	1.6	1.4	1.4
State & Local (% ch.)	-4.3	-8.1	4.8	2.6	1.5	0.9
Less Social Security Taxes (-)	306.1	320.2	330.8	336.2	345.7	353.3
% Change	5.7	4.6	3.3	1.6	2.8	2.2
Transfer Payments	1,246.7	948.5	967.6	988.1	1,005.7	1,026.1
% Change	-3.1	-23.9	2.0	2.1	1.8	2.0
Dividends, Interest and Rent	847.9	827.0	846.3	865.5	855.2	854.5
% Change	-1.4	-2.5	2.3	2.3	-1.2	-0.1
Population (Thou)	73.8	73.8	73.8	73.9	74.1	74.3
% Change	0.8	0.0	0.0	0.1	0.2	0.3
Real Per Capita Income (Thou 2022 \$)	59.5	57.0	58.8	59.5	60.5	61.3
% Change	0.4	-4.2	3.2	1.2	1.7	1.4
Inflation Rate, Honolulu MSA (%)	3.8	6.5	2.6	2.0	2.1	2.3
Nominal Personal Income (Mil \$)	4,121.0	4,204.9	4,454.2	4,603.8	4,787.3	4,979.4
% Change	5.0	2.0	5.9	3.4	4.0	4.0

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023-2026 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 17: EXTERNAL INDICATORS
STATE OF HAWAII FORECAST

	2021	2022	2023	2024	2025	2026
U.S. FACTORS						
Employment (Thou)	152,580.7	158,291.1	160,899.9	160,948.8	161,685.9	163,014.6
% Change	3.2	3.7	1.6	0.0	0.5	0.8
Unemployment Rate (%)	5.4	3.7	3.6	4.3	4.5	4.1
Inflation Rate (%)	4.7	8.0	4.0	2.3	2.3	2.4
Real GDP (Bil chained 2012\$)	19,609.8	20,014.1	20,417.2	20,599.8	20,919.4	21,347.9
% Change	5.9	2.1	2.0	0.9	1.6	2.0
Population (Thou)	332,351.0	333,595.0	335,204.1	336,641.3	337,988.1	339,302.4
% Change	0.2	0.4	0.5	0.4	0.4	0.4
JAPAN FACTORS						
Employment (Thou)	66,665.8	67,225.8	67,351.5	67,204.8	66,882.8	66,471.8
% Change	-0.2	0.8	0.2	-0.2	-0.5	-0.6
Unemployment Rate (%)	2.8	2.6	2.6	2.5	2.4	2.3
Inflation Rate (%)	-0.2	2.5	3.0	1.5	1.0	1.0
Real GDP (Bil chained 2011 yen)	535,922.5	546,022.3	553,163.5	556,855.5	559,999.4	562,308.0
% Change	1.7	1.9	1.3	0.7	0.6	0.4
Population (Thou)	125,681.6	125,125.0	124,505.6	123,842.4	123,171.8	122,494.9
% Change	-0.5	-0.4	-0.5	-0.5	-0.5	-0.6
Exchange Rate (Yen/\$)	109.8	131.5	137.9	136.4	128.8	123.4

Note: Source is UHERO. Figures for 2023-2026 are forecasts.

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