



THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

UHERO FORECAST PROJECT

KAUAI ECONOMIC OUTLOOK SUMMARY

PREPARED FOR THE COUNTY OF KAUAI

ECONOMY KEEPS RISING, AND SO DO GROWTH CONCERNS

JUNE 6, 2018





UHERO

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**KAUAI ECONOMIC OUTLOOK SUMMARY
PREPARED FOR THE COUNTY OF KAUAI**

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Executive Summary

There is no end in sight for Kauai's long economic expansion. Buoyed by a surge in direct flights and home vacation rentals, the visitor industry is set for another record year, despite the disruption caused by the April floods. Construction and other sectors will also contribute to job gains. Very tight labor markets will spur increases in income, even as they act to constrain further growth. The eight-plus year expansion has worsened long-standing concerns on Kauai about congestion, housing affordability, and the local quality of life.

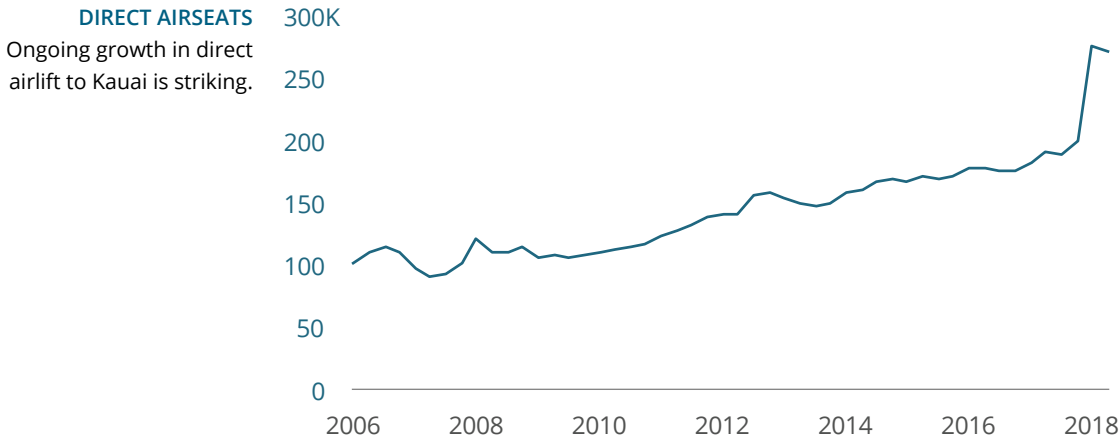
- Garden Isle tourism is poised for another year of robust growth. Airlines continue to add capacity, boosting scheduled seats by nearly 40% this quarter. Rapid growth in the home vacation rental (HVR) market is also facilitating rapid visitor growth. Despite flood-related disruptions, we expect total arrivals to expand by nearly 11% this year. But with accommodations use now very high, visitor growth will ease to roughly one-and-a-half percent annual growth by 2020.
- The labor market tightened considerably over the past year, with the seasonally-adjusted unemployment rate falling to 1.9% in the first quarter of this year according to UHERO estimates. Worker shortages will necessarily limit further employment gains, with the lion's share centered in the accommodation and food service sector. Over the next three years, growth in the nonfarm payroll job base will slow from about 2% this year to just over a half-percent in 2020.
- Kauai continued to see moderate income gains last year. We estimate that real personal income expanded by 2% and real per-capita income increased by 1.5%, the strongest growth among the counties. Rising wages in Kauai's super-tight labor market will support additional gains going forward. This year, real per-capita income will increase by 2.4%, before slowing to 1% by the end of the decade.
- Persistent growth has worsened some long-running challenges on Kauai, including shortages of qualified workers, high housing costs, and traffic and other congestion. The rapid expansion of the HVR industry has exacerbated these concerns by facilitating more rapid visitor expansion and the exit of homes from the long-term rental pool. With the rest of the state, Kauai has also seen a visible increase in homelessness. Recovery from the historic April flooding on the Island's north shore represents a further challenge.

Kauai Outlook

Kauai's long expansion continues unabated. Supported by a surge in direct flights and home vacation rentals, visitor numbers have set new records. While the April floods have caused hardship and disruption along the island's north shore, overall visitor industry prospects remain good. Construction and many other sectors are also contributing to economic gains. Eight-plus years of growth have delivered appreciable benefits to the people of Kauai, with jobs now plentiful and prospects good for further rise in income over the next few years. At the same time, extremely tight labor markets, increasing congestion, and housing affordability are growing concerns of residents and businesses alike.

Tourism Garden Isle tourism is poised for another year of robust growth. Optimistic about demand, airlines continue to add capacity, boosting scheduled seats by nearly 40% this quarter. The visitor census has surged sharply upward. Occupancy rates have already surpassed 2007 levels and will hit 80% this year, suggesting that the Island's traditional accommodations are essentially full. The home vacation rental (HVR) market is clearly playing an increasingly important role on Kauai, facilitating much more rapid visitor growth than would otherwise be the case. But even here, occupancy use is high; a snapshot of Kauai Island rentals listed on Airbnb suggests that active listings are experiencing occupancy rates in the mid-80% range.

The ongoing growth in direct airlift to Kauai is striking. Among recent actions, in December Delta Airlines added a daily nonstop flight from Seattle to Lihue that will bring more than 60,000 new air seats to the Island over the course of this year. United Airlines is increasing to daily frequency its service from Denver and expanding routes from Los Angeles and San Francisco. Alaska Airlines is expanding flights from Portland and San Jose. Hawaiian Airlines is adding flights on its current routes from Los Angeles, and beginning in July it will add a route from Oakland that will be serviced by its new Airbus A321neo fleet. Additionally, there will be new international routes, as Air Canada begins winter service from Vancouver in December. The recent announcement by Southwest that it will enter both the long-haul



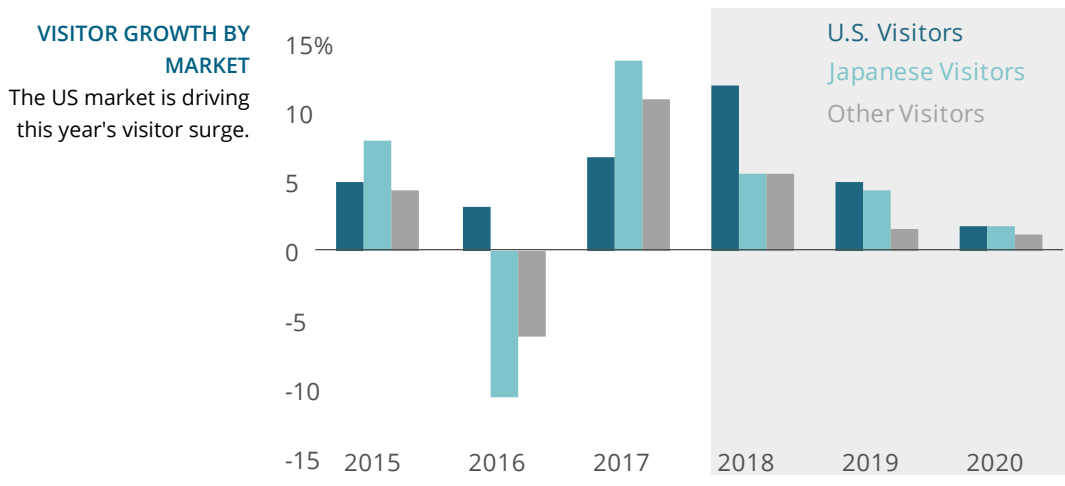
and interisland Hawaii markets, including to Kauai, raises the potential for further growth in airlift to the Island over the next several years. The airline has already secured a revocable lease permit at Lihue Airport.

The recent historic flooding has introduced considerable near-term uncertainty. Apart from direct damage, news about the flooding is keeping people away from Hanalei, even though the popular north shore town is open for business, and there are reports of some travelers canceling vacation bookings across the island. Even news of the dramatic new Big Island eruptions could have an impact on Kauai, where the industry is fielding phone calls from mainland travelers who are obviously unfamiliar with Hawaii's geography. Having said that, recent data on the number of passengers on flights to Kauai continues to show very large increases over 2017 levels. Clearly, this will be an important issue to track as the year progresses.

New resort development and renovations to the existing stock will expand accommodations offerings over the next several years. An extensive renovation project at the Hotel Coral Reef Resort will add another story to its oceanfront building. The Kauai Courtyard Coconut Beach will undergo remodeling of its guestrooms this fall and become a Sheraton property next year. With renovations completed this April, the Mokihana Resort has reopened as The ISO, and Pono Kai Resort's six-year renovation project is scheduled for completion this summer. Kauai Coast Resort at the Beachboy was set to finish renovations in May. Timbers Kauai Ocean Club and Residences at Hokuala is scheduled for a June grand opening. The Sheraton Kauai Resort will finish renovations on its two wings in the coming months.

The Coco Palms continues to face challenges and delays in construction. Earlier this year, a Kauai State District Court ruled that the developer, Coco Palms Hui, has a right to possess the land, and authorities cleared occupiers in February. The ruling is currently on appeal. The EPA is now investigating claims that endangered Koloa ducks may be living on the property. Once construction is completed, the property will open under Hyatt's Unbound Collection label.

There is no other county where the pressures from mounting visitor numbers are more acutely felt than on Kauai. The inexorable surge in



visitors exacerbates longstanding concerns about the demands that tourism growth imposes on roadways, parks, housing, and communities. The County has made several attempts at addressing these problems, including two pilot programs of shuttle service to the congested north shore. The Master Plan for Haena State Park, undergoing final revision, would impose a 900-persons-per-day limit and construct additional facilities and parking space. Both Kokee and Haena State Parks will begin charging entry fees by the middle of next year. Ongoing visitor growth and the expansion of the HVR market are also driving up housing costs, which we will return to below.

As we noted above, the recent flooding on Kauai's north shore has introduced uncertainty into the visitor outlook. Still, the sustained high passenger counts on Kauai flights continue to suggest substantial net growth in visitor numbers this year and next. Led by US market strength, total arrivals will expand by nearly 11% this year, the most rapid growth since 2006. While it is difficult to assess prospects for further growth in HVRs, occupancy use is now high across the board and infrastructure stresses are building. As a result, we expect visitor growth to slow markedly in coming years, easing to 1.6% annual growth by 2020.

Employment, sectoral activity, and income

The Garden Isle labor market tightened considerably over the past year. According to our in-house estimates, the seasonally-adjusted unemployment rate stood at 1.9% in the first quarter of 2018, the lowest rate since at least 1990, and down from 2.8% a year earlier. Increasingly, businesses are having difficulty recruiting and retaining qualified workers. While the abundance of job opportunities may elicit some growth in the labor force, worker shortages will necessarily limit further employment gains. Over the next three years, growth in the nonfarm payroll job base will slow from about 2% this year to just over a half-percent in 2020.

The ongoing expansion in tourism means that the majority of new jobs created in the next several years will be in the accommodation and food service industry. Industry job counts will expand by more than 4% this year and roughly 3% in 2019. Job growth will fall off by the end of the decade in step with flattening visitor numbers. The concentration of employment growth in the tourism sector reinforces concerns about the outsized dependence of Kauai on the visitor industry. A vivid reminder of the vulnerability this presents has been the adverse impact of the April flooding on businesses in the Wainiha-Haena area, which in recent years have become dependent on home vacation rentals but were abruptly cut off from outside access. There are ongoing efforts to diversify Kauai's economy through the Kauai Economic Development Plan – Comprehensive Economic Development Strategy (CEDS), updated in 2016.

Among other sectors, transportation and utilities will see moderately strong job growth averaging 1.6% over the next three years. The trade sector will see only marginal growth. High costs and Kauai's small market discourage the entry of mainland retailers, and the big box companies that do come present severe competitive challenges for local stores. Brick and mortar stores in general face competition from online retailers.

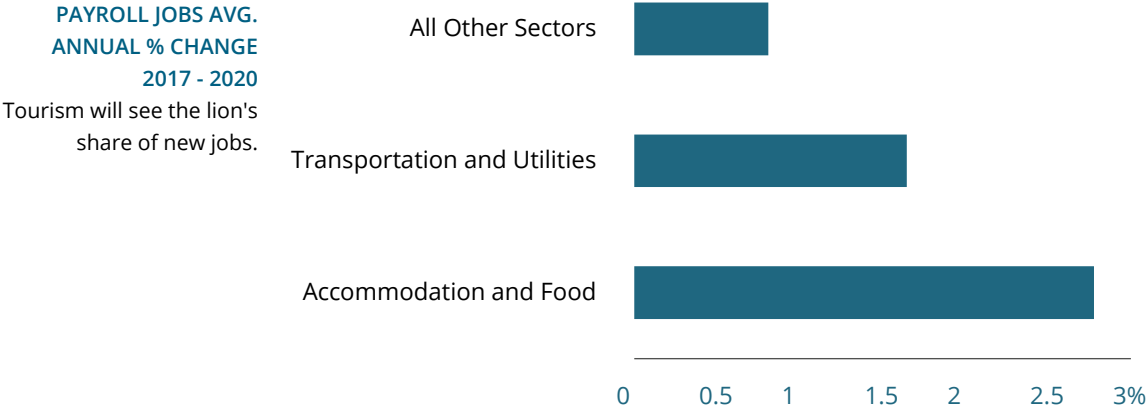
Following several years of rapid recovery, growth in the construction industry downshifted last year. At this point, building activity has stabilized and will remain near current levels through the end of the decade.

Construction activity will continue in the resort segment, as described above. Homebuilding has picked up gradually, but still remains limited. In Hanamaulu, vertical construction is underway on the first homes in DR Horton's Kohea Loa master planned community. The first phase, dubbed Hooluana, will deliver 151 homes over the next several years, and at full build-out the project is slated to include 440 homes. Kauai Habitat for Humanity's Eleele Iluna subdivision continues to deliver homes; vertical construction recently began on the project's second phase. The non-profit recently purchased a 6.5-acre plot of land in Waimea to develop a second affordable housing project.

The County has been focused on facilitating the development of new affordable housing, reflecting the lack of housing available for moderate-income residents. Lima Ola, the county's largest workforce housing project in Eleele, is expected to break ground this year, with vertical construction to follow. The project is slated to build 550 residential units in coming years. The County is working together with local developer Mark Development Inc. to build the 134-unit Koae affordable rental project in Poipu, and groundbreaking is expected soon. The developers have announced an aggressive timeline, planning to complete construction by the end of 2019. The DR Horton Hooluana project mentioned above will have an affordable housing component, as will the Coco Palms resort development. Further down the road, the County General Plan designates the "provisional agriculture" land between Eleele and Numila for possible urban development, and Alexander and Baldwin envisions a second city on Kauai in this area, if additional development is needed.

Private healthcare payrolls will continue to grow at a moderate pace, reflecting trend growth in the demand for medical services. Meeting the need for doctors is a challenge: the Hawaii Physician Workforce Assessment Project estimated that Kauai needs nearly 30% more physicians to meet the needs of its current population. Our broad "other services" sector, which encompasses an array of activities from entertainment to education and legal services, will see only marginal gains as labor shortages limit hiring.

Arts are a limited, but vibrant, component of the Kauai economy. A feature-length Disney film is currently in production on the island, but the total number of large feature films shooting on Kauai has fallen off, partly because of the difficulty finding accommodations and competition from relatively



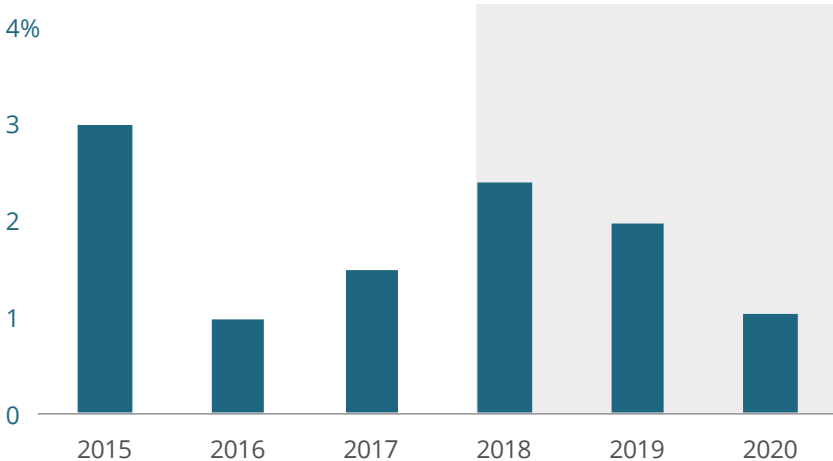
cheaper locations such as Kualoa Ranch on Oahu. This year, there are some promotional activities around the 25th anniversary of the release of Jurassic Park. In December, the Kauai Film Academy opened its training and production facility at the Kukui Grove Center. Other elements of arts on Kauai include locally produced art and jewelry and Kauai Fashion Weekend, now in its sixth year. In its second year on Kauai, Creative Lab Hawaii, a music, fashion, and design incubator, will be hosting workshops this summer focused on screenwriting and media production.

The federal government’s largest contribution to the Kauai economy comes from the Pacific Missile Range Facility (PMRF) at Barking Sands. The facility accounts for roughly one-third of all federal employees on the Island, and together with defense contractors accounts for about 900 jobs. The 6-7 testing and training events each year bring even more personnel, with each exercise adding about \$2 million dollars of impact to the visitor industry alone. Overall, the facility’s operations are estimated to contribute more than \$146 million to the Kauai economy each year. The principal ongoing construction projects at the facility involve upgrades to the power plant and electrical distribution network.

The increased tensions with North Korea have prompted calls for the Facility to host active missile defense, in addition to its ongoing testing mission. Military officials at the PMRF have pushed back hard, arguing that this added responsibility—which would necessarily become the top priority in times of crisis—would make it impossible to maintain the primary mission of weapons testing and military training. The U.S. Missile Defense Agency is requesting \$96 million in fiscal 2019 that would go toward the installation of two powerful radars in the Pacific to counter North Korean threats and “provide a persistent, long-range acquisition and discrimination capability” for incoming ballistic missiles. The Hawaii radar will be based on Oahu at Kaena point, rather than on Kauai. PMRF officials remain concerned that in the future the facility could be chosen to host Aegis Ashore interceptor batteries, if and when they become effective against ICBMs.

The Island’s ultra-low unemployment rate is being felt across virtually all industries. The high cost of living, especially for housing, makes it difficult to attract workers to Kauai. In some cases, companies have resorted to importing workers from other locales, sometimes on a temporary basis to

GROWTH OF REAL INCOME PER CAPITA
 Kauai’s super tight labor market will support income gains going forward.



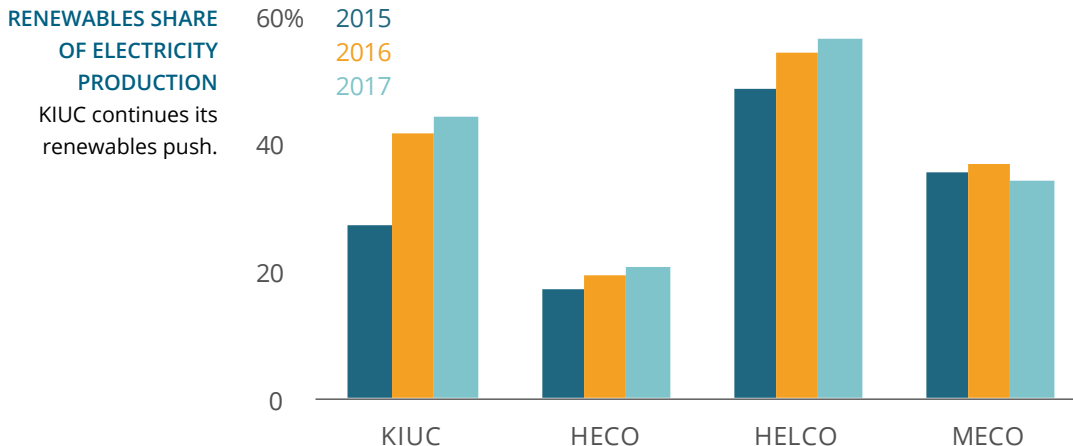
meet particular short-term needs. Other firms have actually purchased homes to house workers. High labor and other costs sometimes mean that planned projects fail to move forward, and there are concerns that some companies may choose to shutter Kauai operations altogether.

While most of the state saw a slowdown in income growth last year, Kauai continued to see moderate gains. We estimate that real personal income expanded by 2% and real per-capita income increased by 1.5% last year, the strongest growth among the four counties. Rising wages in Kauai's super-tight labor market will support additional gains going forward. This year, real per-capita income will increase by 2.4%, the fastest rate since 2015, before slowing to 1% by the end of the decade.

Energy, Agriculture, and the Public Sector

The Kauai Island Utility Cooperative continues its rapid progress in renewable energy adoption. KIUC will receive more than \$60 million in financing from the U.S. Department of Agriculture to build and upgrade power lines and to support smart grid projects. Together with AES, the utility has broken ground on the largest Kauai solar energy and storage project to date. The project will include a 28-megawatt solar PV array paired with a 100-megawatt/hour battery system. Once the new system is online later this year, KIUC will be able to meet more than 50% of the Island's electricity demand from renewable sources. KIUC has also invested \$350,000 for preliminary work on a PV and hydro pump storage technology project. In April 2017, the State Commission of Water Resource Management decided to restore stream flow to Waimea River to double its water flow in part to facilitate the hydroelectric project. Kauai plans to reach 70% renewable energy generation by 2030.

Kauai's agricultural industry looks set for some additional expansion. DowDuPont has announced plans to expand its research operation on Kauai as it consolidates its activities statewide. The company expects to increase its current payroll of 120-130 employees by up to 50%, and to add \$12 million in infrastructure and facilities. Hartung Brothers, Inc., which acquired Syngenta last year, has plans to expand beyond seed corn to become a production-scale grower of food products for the state. Initially, the company plans to supply alfalfa for local livestock feed, expanding later to fruits and vegetables.



The agriculture industry on Kauai faces a range of challenges. High land and operating costs are an ongoing concern, as is the maintenance of basic infrastructure, such as irrigation systems, which typically require a lead role from a large agricultural interest and also funding support from the State and perhaps County. Availability of labor and the cost of providing housing are also problems. Invasive species are a concern. Recently, the rose-ringed parakeet has become a growing nuisance. The birds—current estimates are that there are 5,000 on Kauai—have voracious appetites and will eat virtually anything from tropical fruit to seed crops. Flocks can wipe out an entire field of crops in a short period of time and require large companies to invest hundreds of thousands of dollars annually on deterrence. The parakeets are also thought to be causing damage to native plants and animals and are a nuisance to both residents and tourists. Last year, the State allocated \$75,000 to come up with a solution to deal with the parakeets on Kauai, but no consensus has been reached on an effective strategy. With few exceptions, cost factors limit successful agriculture on Kauai to high-margin niche markets, such as shrimp, coffee, seeds, and chocolate.

The County budgeting process is still ongoing, but Mayor Bernard Carvalho's initial request calls for a \$214 million operating budget together with a \$41 million capital improvements budget. The Mayor's proposal represents a \$13 million increase in the operating budget and \$27 million increase in the capital budget over the current fiscal year. A substantial portion of the increased funding will come from the half-percent general excise tax surcharge that goes into effect next January. Funds from the surcharge will be used to improve roads and bridges as well as the bus system.

Kauai's roads and highways are congested, but so is its landfill. The Kekaha landfill will reach full capacity sometime in the next decade, and already limits to the rate at which the facility can accept inflows have slowed demolition work on new construction projects, according to one builder. The County has decided on a 270-acre site near Hanamaulu for development of a new landfill. A draft Environmental Impact Statement has been released to the public for comments before the project can proceed through the permitting process. Community members have voiced concerns about the proposed site, including issues with traffic congestion. The new landfill will be the largest infrastructure project in the history of Kauai County, with the first phase alone expected to cost nearly \$60 million.

Housing and Homelessness

As we have noted above, housing affordability remains a challenge for many families on the Garden Isle. The County continues to grapple with balancing the preservation of agricultural space and the Island's rural character with the need for new additions to the housing stock. These problems are compounded by high land and construction costs, together with a lengthy entitlement and permitting process. The exactions model of funding affordable housing poses additional disincentives for developers. Opposition from local residents—and in some cases non-residents thousands of miles away—can also be a hurdle. Buoyant tourism conditions are worsening the housing shortage as units are moved from serving local renters to visitors. This drives up costs for long-term rentals and can lead to conflict within neighborhoods.

Affordability problems are unlikely to go away. In the near term, rising wages may provide some relief, but this will be partially offset by higher mortgage



rates. Looking further out, the recently-adopted Kauai General Plan Update looks to shift the focus to in-fill construction, with increased density in and around existing towns, especially Lihue and Koloa. That may not be enough to meet growing housing needs. By one estimate, the Island is short 3,000 housing units at present and will need another 9,000 by 2035.

Despite a slight decrease in last year’s point-in-time homeless estimate, there remain more than 400 homeless individuals on Kauai. The County is considering establishing an *ohana zone* with access to water and electricity. In 2016, Kauai Economic Opportunity received a grant from the Hawaii Lodging and Tourism Association to identify and fly willing homeless individuals back to their mainland families. Similar programs have been in place elsewhere in the state, although their potential impact will be limited, since the vast majority of Hawaii homeless are local residents. Homelessness will continue to be a multifaceted issue requiring not only housing, but mental-health and substance abuse services as well.

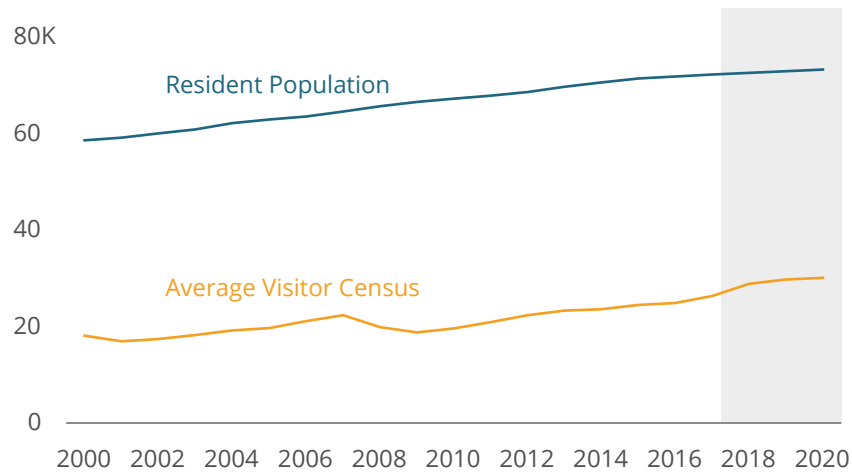
Conclusion

Growing pains are familiar territory on Kauai, but they have become bigger challenges over time. The number of visitors has marched ever upward, and this year’s first-quarter surge brought the average daily census to more than 29,000, compared with a local resident population of 72,000. At the same time, the resident population itself has grown, rising by about 7,000 over the past ten years. The numbers challenge is a broad-based issue affecting many aspects of the Kauai economy.

What should be the appropriate policy response is a matter of intense discussion and debate. Generally, residents want limits, as well as measures to ameliorate growth pressures. Many in the visitor industry would like to see more targeting of visitors from high-spending markets, rather than value-conscious guests who leave a big footprint but make only a limited financial contribution. The industry and County government are pressing for more public funds to address visitor impacts, through a so-far unsuccessful effort to increase the county share of the transient accommodations tax (TAT), and perhaps also through a redirection of some Hawaii Tourism Authority

NUMBER OF RESIDENTS AND DAILY VISITORS

Rising visitor and resident populations are posing challenges.



resources away from visitor marketing. Some industry leaders talk about the need for resorts themselves to shape the kind of clientele they attract, to ensure that the visitor mix is appreciative and respectful of the Island's cultural heritage and natural environment.

The growth of the local population is an equally difficult challenge to address. To some extent higher and higher local shelter prices will serve to slow in-migration, but at a heavy cost to local residents. And then where should new housing occur, so that it addresses existing and future needs, while preserving what makes Kauai a special place? How do you maintain vibrant industries outside of tourism, like the arts, local service industries, and agriculture? The County's recently completed General Plan Update reflects the array of challenges facing Kauai in the years to come, as well as a vision for a way forward on many of them. These will be hard problems to solve.

The calamitous April flooding has dealt a blow to Kauai's north shore. Record rainfall totaling as much as four feet in a twenty-four-hour period caused flooding, mudslides, and landslides. Many homes were destroyed or severely damaged. Road access to the Haena and Wainiha areas was completely cut off, requiring boat and military airlift support to evacuate both residents and tourists and to bring in essential supplies. The lack of road access has shut down vacation rentals in the area for an extended period of time, and no date has been announced for a resumption of visitor access to the area. The total damage of the storm has yet to be assessed. But the years have shown that Kauai is a resilient place, and there is no doubt that residents will meet this most recent challenge as they have past disasters.

MAJOR ECONOMIC INDICATOR SUMMARY
KAUAI COUNTY FORECAST

	2015	2016	2017	2018	2019	2020
Non-farm Payrolls (Thou)	30.0	30.6	31.3	31.9	32.4	32.6
% Change	1.6	2.0	2.1	1.9	1.7	0.7
Population (Thou)	71.4	71.8	72.2	72.5	72.8	73.2
% Change	1.2	0.5	0.5	0.5	0.5	0.5
Personal Income (Mil\$)	3,032.9	3,139.4	3,284.0	3,467.9	3,656.3	3,815.3
% Change	5.3	3.5	4.6	5.6	5.4	4.3
Inflation Rate, Honolulu MSA (%)	1.0	2.0	2.5	2.6	2.9	2.8
Real Personal Income (Mil 2017 \$)	3,171.0	3,219.0	3,284.0	3,378.6	3,461.3	3,513.5
% Change	4.2	1.5	2.0	2.9	2.4	1.5
Real Per Capita Income (Thou 2017 \$)	44.4	44.9	45.5	46.6	47.5	48.0
% Change	3.0	1.0	1.5	2.4	2.0	1.0
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	1,173.8	1,187.3	1,276.8	1,413.3	1,473.9	1,497.0
% Change - Total Visitor Arrivals by Air	4.8	1.2	7.5	10.7	4.3	1.6
U.S. Visitors	947.7	976.5	1,042.3	1,166.2	1,222.4	1,242.6
% Change - U.S. Visitors	4.8	3.0	6.7	11.9	4.8	1.7
Japanese Visitors	25.7	23.0	26.1	27.6	28.8	29.2
% Change - Japanese Visitors	7.8	-10.6	13.7	5.4	4.4	1.6
Other Visitors	200.3	187.8	208.4	219.6	222.8	225.2
% Change - Other Visitors	4.2	-6.3	11.0	5.4	1.4	1.1
Avg. Length of Stay (Days)	7.6	7.6	7.5	7.4	7.4	7.3
Visitor Days (Thou)	8,907.6	9,080.2	9,590.5	10,515.9	10,838.9	10,963.8
% Change	3.7	1.9	5.6	9.6	3.1	1.2
Occupancy Rate (%)	71.2	72.8	76.4	81.4	81.1	81.0

Note: Source is UHERO. Figures for 2017 Income are UHERO estimates. Figures for 2018 - 2020 are forecasts.