Post-Pandemic Hawai‘i and the University of Hawai‘i
UH President David Lassner
September 11, 2020
https://www.hawaii.edu/offices/president/post-pandemic-hawaii/

Hawai‘i will never be the same after this pandemic passes. And everyone who makes Hawai‘i home is seeing opportunities for positive change in the lessons of the shutdown and aftermath. Many can now envision a more sustainable, resilient and equitable future in which we take better care of one another and our islands through an approach that is both locally and globally aware.

Hawai‘i cannot get there without its great public higher education system fully focused and engaged in creating and supporting that better future for all of us. The following four imperatives are offered to outline UH’s role in navigating the way to a better future for Hawai‘i:

- Engage more Hawai‘i residents in post-secondary education and training
- Prepare more Hawai‘i residents to fill the jobs Hawai‘i needs
- Seed new economic sectors and develop new approaches to old ones
- Strengthen the UH research enterprise as a major economic and intellectual driver

The state needs to pivot in a number of ways. And to support that pivot, UH must increase its responsiveness, agility and focus. A number of key strategies for the necessary UH pivot are also identified.

Engage more Hawai‘i residents in post-secondary education

Having a more educated citizenry is good for Hawai‘i. We know that people with a college education earn more over their lifetimes, pay more taxes, are less likely to become unemployed in a recession, return to the workforce faster after a recession, live longer, are more healthy, draw on fewer publicly-fund social services, vote more, volunteer more and are less likely to become incarcerated. Their children are less likely to be raised in poverty and more likely to receive a quality education that will prepare them to follow their own paths through higher education to better lives. Engaging in higher education is one of the best ways we know of to improve quality-of-life across generations. It not only benefits individuals but their families and the entire state.

The best estimates are that roughly 70 percent of the jobs moving forward will require some education after high school, whether a bachelor’s degree, associate degree or high-quality certificate. The latest numbers indicate that only about 48 percent of our working age adults currently hold such a credential. Our current college-going rate from public high schools of 55 percent is simply too low to support the economy and society we want. We need to focus particularly on those who have been under-represented and for whom higher education can make the greatest difference. Educational disparities are most evident for the economically disadvantaged, those who live in more rural areas,
and those under-represented in higher education including Native Hawaiians, Filipinos and Pacific Islanders.

There are a number of keys to turning this around for Hawai‘i. UH community colleges must remain open, affordable and supportive to provide opportunity on every island, particularly to those who have not considered college as part of their future. UH needs to offer more of the programs employers and students need in more flexible formats (online, hybrid, evening/weekend) across the state so that those who have become unemployed, underemployed or unfulfilled can seize the opportunity to obtain the education and training they need for career advancement and change. This flexibility must become a permanent aspect of how UH supports all the people of Hawai‘i as lifelong learners.

Regardless of the disciplines in which our students are educated and the modes of instruction, UH must continue to provide a strong educational foundation that ensures our graduates are prepared to fully contribute in their careers and communities. Graduates and citizens need to be able to communicate effectively orally and in writing; they need quantitative reasoning skills; they need to understand science and evidence; they need the critical thinking skills to be able to assess facts and reason; they need to be able to work together in teams; they need to be empathetic citizens with cultural competence; and they need knowledge and understanding of Hawai‘i’s unique land and people so they can contribute to the Hawai‘i we envision for all. To thrive in the future before us, and to help Hawai‘i thrive, UH graduates must be creative thinkers, problem solvers, innovators and lifelong learners who are prepared to advance community sustainability and resilience in the broadest senses of those terms. These are the foundations of a strong education regardless of major or discipline.

While maintaining its deep commitment to Hawai‘i, UH must also continue to position itself as a destination for students from around the U.S. and the world. Their presence increases the diversity of the educational experience for our local students and provides substantial positive economic impact for the state and UH.

**Prepare more Hawai‘i residents for the jobs Hawai‘i needs**

In addition to increasing the general education level of our state, we need to prepare more Hawai‘i residents for jobs that exist in Hawai‘i, now and moving forward. When Hawai‘i residents are qualified for Hawai‘i jobs we create wins for both employees and employers. Several specific employment sectors experience systemic shortages in which there is opportunity now. UH needs to focus on appropriate education and training programs to prepare traditional and non-traditional students for careers in these professions.

**Education**

Hawai‘i needs more teachers and early educators, and we need to develop them locally within Hawai‘i. Ideally we will develop educators on the islands where they are needed
so that teachers in schools are from and of the communities they serve. Hawai‘i has particular shortages in special education, secondary level STEM, Hawaiian language immersion teachers and school counselors. UH needs to step up with a set of innovative statewide programs to prepare diverse students, both recent high-school graduates and returning adults, to succeed in these shortage areas and others. We also know that as a state we need to do better at early childhood education. This will require a major workforce initiative that has yet to be conceived.

Collectively, we need to attract students from a variety of backgrounds into education as a career, which should be easier as we try to recover from a time of exceptionally high unemployment. We must also create more innovative ways to educate and license teachers from within the community. These may be people from other professions looking for a career change, from military families, and those who hold other kinds of degrees. We need to educate our teachers to be successful and we need to support them through their careers with professional development opportunities so that they remain and advance in education while supporting families and communities throughout the islands.

Health care and social welfare

Hawai‘i needs to address the critical shortage of health care and social service workers, particularly on the neighbor islands. These are important and wide-ranging jobs that require education and training from post-secondary certification to advanced/graduate degrees. And improving our health care infrastructure improves quality of life for all. We need to attract new students into these careers, for which there is now and will continue to be demand. We need to consider programs that can be affordably developed to create greater opportunity for local residents to obtain living-wage jobs, including those for which they currently need to leave to be educated (e.g. physical therapy). Mental health and counseling must be part of our holistic community health and wellness ecosystem. We need to leverage the full complement of UH resources and capabilities across our campuses to educate health care professionals affordably and effectively, and to the greatest extent possible, on their home islands where they are needed. Some of this will require expanded partnerships with health care providers, particularly to support more clinical training. Students must be educated to participate in and lead more integrated team approaches to health care delivery and to fully embrace telehealth, which has rapidly expanded during the pandemic.

Construction, design and the built environment

If Hawai‘i decides to lead out of the current recession with construction, as we have traditionally done in times of economic challenge, then UH needs to ensure that Hawai‘i residents are prepared to fill the jobs that will be created. This must include a fast-track to move the currently unemployed into skilled labor jobs, a clear role for the UH community colleges. Additionally, UH must educate thoughtful designers of sustainably built environments appropriate for Hawai‘i and our post-pandemic future. Hawai‘i will also need more high-performing construction engineers and managers.
Many of these jobs may be filled by “traditional” students—18–22-year-old recent high school graduates. Hawaiʻi also needs immediate, agile and welcoming programs for working-age and working adults to fill these jobs and careers that our communities need. Retraining and upskilling programs for “non-traditional” students will need to embrace non-traditional education modalities including online, distance, hybrid and evening/weekend approaches. We can leverage the many lessons from the pandemic forcing an immediate pivot to fully online education as we more thoughtfully create new online opportunities for learning. Our strategies must also include the development of educational pipelines that seamlessly integrate our K–12 system, community colleges and universities to prepare students for success at every level of education and career. These must include a stronger emphasis on work-based learning approaches including internships, apprenticeships and employer-supported programs.

**Seed new economic sectors and develop new approaches to old ones**

We all realize, now more than ever, that Hawaiʻi needs a more resilient and diversified economy with more living-wage jobs. Our complete reliance on tourism has proven time and time again to be fragile in the face of external stressors (COVID-19, 9/11), even as unfettered growth has stressed our environment, infrastructure and communities.

For decades Hawaiʻi has talked about the need to develop a stronger innovation and technology sector to supplant tourism, sugar and pineapple. We have made some progress, but nowhere near enough. One lesson is that there is no single “silver bullet” that can replace tourism and industrial agriculture. Rather, we must seize every opportunity to create sustainable economic activity that is a fit for Hawaiʻi. In doing so it is essential that we consider both our internal needs—the goods and services required within Hawaiʻi—as well as the necessity to develop additional robust “traded sectors” that generate external revenue.

UH has two vital roles in economic development and diversification. We must bring our expertise to bear on the challenges associated with the necessary shifts in our economy, while at the same time developing and providing the suite of educational offerings that prepare learners of all ages and backgrounds to lead and participate in each sector.

The following clusters frame a relatively tight set of economic and workforce sectors for priority and investment. By looking simultaneously inward and outward, these clusters can balance internal needs, environmental sensitivity and opportunities for strengthening our traded economy to lessen our dependence on a tourism sector that itself needs to be reimagined.

**Computer science and engineering**

Hawaiʻi employers struggle to hire enough qualified talent in computer science and engineering. A strong local computer science and engineering workforce will contribute to Hawaiʻi businesses and startups. Moreover, since major employers of information
technologists are embracing the lessons of the pandemic to allow their employees to telework, Hawai’i is perfectly positioned to educate our residents for such jobs. So in addition to working for local employers, our computer science graduates can now generate wages from employers anywhere in the world. Our unparalleled quality-of-life presents Hawai’i and our people with a huge opportunity.

To advance in this area we need to expand and focus our educational capacity in areas of computer science and engineering with applied emphases, e.g., software engineering, that meet the workforce needs of Hawai’i and beyond. Besides filling jobs, engineering and computer science graduates are essential participants in every successful entrepreneurial ecosystem anywhere in the world where new innovative companies are spawned to provide new solutions across every sector of society. UH must educate more graduates with both the technical skills and imagination needed to creatively solve problems here. And we need to connect them with the business acumen to understand where and how they can market and export their products, services and ideas. Hawai’i can not succeed economically without UH addressing our current limitations in computer science and engineering.

**Data science and artificial intelligence / machine learning** are becoming critical to success in multiple sectors, from health care and education to agriculture, banking, transportation and tourism. And they are also critical to the university’s own research enterprise. Hawai’i should not be dependent on importing the talent we need in these areas. All sectors of our community and the university itself must be educated to understand and apply these new approaches in our work locally, nationally and globally. UH has promising but still nascent startup activities—LAVA, the Hawai’i Data Science Institute and EPSCoR program—and has new educational initiatives including majors, minors and certificates. These need to substantially grow in size and reach, including into the community, to support innovation and success for UH and all of Hawai’i.

There is already substantial demand for cybersecurity expertise, and that need will only grow in Hawai’i and beyond. There are rewarding cybersecurity jobs in every sector touched by technology from banking and health care to critical infrastructure and national security. This presents a huge opportunity for Hawai’i given the substantial Department of Defense and National Security Agency (NSA) presence. These opportunities are at all levels ranging from those requiring an associate degree to post-graduate research. UH already has multiple NSA Centers of Academic Excellence on our campuses with an exceptionally vibrant program at UH West O’ahu. We need to develop more capacity that attracts and prepares students to help protect Hawai’i with innovative solutions, some of which can be exported.

**Creative media industries**

Hawai’i has significant opportunities to participate in the global explosion in content development as creative media industries are completely upended by digital and Internet technologies. We have seen the pandemic accelerate the change in how we entertain ourselves—increasingly with streaming services consumed on mobile devices.
and at home. The people and cultures of Hawai‘i have proven to be exceptionally adept at applying modern technologies to the oral and storytelling traditions developed over centuries, with the preservation of ‘ōlelo Hawai‘i enabling access to a millenium of stories and songs that have demonstrated their imaginative appeal and ability to model appropriate behaviors and practices for islands. Hawaiian music has also touched the world with impacts reverberating for more than a century. And Hawai‘i is already globally recognized as an attractive locale for creating raw content.

UH is well on the way to fully articulated digital technology-intensive creative media programs across the islands, with strengths in video, film and music. We need to leverage all these strengths and our new educational facility at UH West O‘ahu into a cohesive economic strategy that attracts investment and creates more high-quality jobs for residents across the full spectrum of the media industry from writing, composing, design and content creation to post-production and marketing. At the same time, this capacity will amplify the ability of our people to tell our stories.

An emerging related area is Esports, an already billion-dollar economic sector. Hawai‘i has strong programs at both the high school and collegiate level. Misunderstood by many, Esports provides opportunities not just for gamers but in game development, technology platforms, marketing, broadcasting/streaming and events management. Growth in Asia is faster than in North America, which presents Hawai‘i with an opportunity as a bridge across the Pacific.

**Food and agriculture**

Since the demise of industrial sugar and pineapple, Hawai‘i has not succeeded in articulating and embracing a shared vision for balanced agriculture across our islands. A reimagined food and agriculture sector should be a major boost to both sustainability and economic vitality on every island.

As a result of the pandemic experience, there is much more widespread interest in and concern about growing more local healthy food, which will improve our food security. We can be informed of this with lessons about crops and techniques from indigenous pre-contact practices when Hawai‘i and the Pacific Islands were self-sufficient. We must also recognize the economic importance to Hawai‘i of high-value export crops and value-added products to help diversify our traded economy. These two goals are not in conflict—we can and must do both. Aquaculture, a natural for Hawai‘i, should be a major contributor to our local food supply as well as our traded economy through both products and knowledge.

Being a "farmer" today is completely different than in the past, and Hawai‘i presents many unique challenges as well as opportunities. UH needs to lead this transformation through our education, research and service programs. UH scholars can provide a deep understanding of our resources and environment so we can identify appropriate techniques and approaches that will help Hawai‘i sustainably thrive. Collectively, we must develop and nurture the next generation of agricultural
entrepreneurs with broad-based excellence in agricultural techniques, products, and new agricultural technologies.

Hawaiʻi also needs policies that fairly and appropriately address access to land, water and the ocean and shared infrastructure and services to make small scale agriculture economically feasible. The fragilities of our current supply chains have been exposed by this pandemic, and it is clear that we need a stable comprehensive approach to distribution including farm-to-table, retail/consumer, wholesale and export. UH policy expertise and research can assist in developing these solutions.

**Climate change, resilience, energy and conservation**

While today we are fighting a pandemic, climate change and its impacts represent even graver threats to humankind. As a family of islands, Hawaiʻi stands at the forefront of the challenges the world faces. Impacts to Hawaiʻi include sea-level rise, storm surge, ocean warming and acidification, coral bleaching and reduction of our treasured trade winds. And like the rest of the world, we are facing an increasing frequency and severity of natural disasters. These threats provide Hawaiʻi an amazing opportunity to be a leader in developing a stronger “green economy” with many more green jobs.

Hawaiʻi and UH are already at the forefront in many ways of understanding these challenges, planning strategies for mitigation and resilience, and developing solutions. UH already has significant and robust federally funded programs and expertise in Hawaiʻi. And as all enterprises struggle to find paths forward in these challenging times, we are increasingly seeing jobs in the private sector with titles that include sustainability and/or resilience.

Hawaiʻi is blessed with an environment that is hospitable to more sources and approaches to alternate and renewable energy than almost anywhere on earth. Our islands are a natural laboratory for research and development of micro-grids at scale. Hawaiʻi can and should be at the forefront of the post-fossil-fuel energy environment and economy. Hawaiʻi must address our own policy challenges around utility-scale alternative energy projects. And we must knit together government, the private sector and academia to attract investment and create solutions that meet our clean energy goals. In doing so, we can create opportunities to export our ideas, solutions and expertise.

Hawaiʻi has developed a remarkable capacity to understand our native ecosystems as well as how to restore and protect them. Our conservation and environment community is actively working to integrate and apply lessons from both Indigenous Hawaiian knowledge and western science. And all significant land managers in Hawaiʻi now understand the economic value of environmental conservation. UH needs to provide a steady pipeline of thought-leaders, employees and managers—from a hands-on workforce to resource managers and decision-makers—with holistic environmental sensitivity. Hawaiʻi also needs a robust biosecurity research capacity to help us restore our damaged ecosystems and protect them from new invasive threats.
As in other areas, our expertise and lessons in climate change, resilience, energy and conservation are already of recognized value to others in the Pacific, Asia and beyond. UH needs articulated educational programs in this area and must more tightly integrate our research capacity with our educational offerings across our campuses.

**Tourism**

The pandemic has made it blindingly obvious to all that our approach to tourism has unduly stressed our infrastructure, environment, communities and the goodwill of our people. Hawai‘i must seize the opportunity of this forced pause in tourism to assess how to move to new forms of sustainable tourism. We must plan for a thoughtful mix of high-value and positive visitor experiences that meaningfully engage more of our community in positive ways with higher-wage jobs. We must also reduce the negative impacts that have soured so many Hawai‘i residents on 2019-style tourism. Our strengths can be the basis of new opportunities. Hawai‘i could develop a health tourism sector that leverages our location, cultures and unique expertise in the health and welfare of diverse populations including traditional healing. We can do better at agri-tourism (including aqua), inviting visitors to see our unique crops, approaches and products. We can leverage the global appreciation of Hawai‘i Regional Cuisine and UH’s extraordinary culinary education programs on every island to create culinary tourism opportunities. We can expand our eco-tourism sector with educated guides who share Hawai‘i with thoughtful and respectful visitors that care about native ecosystems and the world around them. This could also expand to more environmental voluntourism. And respectful cultural tourism could build bridges between visitors with both our host and our diverse immigrant cultures.

A revitalized UH School of Travel Industry Management with articulated programs should be at the forefront of research and education related to these opportunities and could reclaim Hawai‘i’s place as a global leader, this time in sustainable tourism at scale.

These are by no means the only sector opportunities and, until we try, we won’t know how large each of these sectors might grow. But they each represent a set of opportunities that can begin to build a much more diverse and resilient economy than we have today.

**Strengthen the UH research enterprise as a major economic and intellectual driver**

We need to embrace and strengthen the importance and role of UH scholarship in Hawai‘i’s recovery, both intellectual and economic. UH faculty comprise a hugely significant source of expertise and a resource to both public and private sectors. Year in and year out we see governmental officials and legislative bodies turn to UH experts to study problems and recommend/provide solutions from the economy and health care to agriculture and social services. Making the shifts we need as a state will require the
continuing engagement of UH faculty and their expertise in helping craft a new future for Hawaiʻi.

In addition to identifying and advancing specific solutions for Hawaiʻi, the extramural funding UH brings into the state comprises a $450m/year and growing economic sector. This enterprise represents a significant contribution to the economy of Hawaiʻi and is directly responsible for creating thousands of high-quality jobs with indirect economic impacts of many many millions more that support businesses on every island.

While high performing in some areas, we know there are opportunities for growth in extramural funding based on comparing federal research investments to our current performance. UH must focus on increasing our extramural funding in specific areas where there are unrealized opportunities and where Hawaiʻi enjoys globally competitive advantages and/or needs:

- Health sciences—particularly areas of health disparities
- Agri/Aquaculture—leveraging our diverse environments and our growing season
- Computer science and engineering—beginning with promising strengths in cybersecurity, data science and AI/ML and building up engineering
- Pacific engagement—leveraging our location, natural affinities and supporting national priorities in health, education and economic development

Even as we identify these new sectors for priority and investment, we must also continue to ensure leadership in the significant areas in which UH and Hawaiʻi enjoy notable successes in extramural funding. These include:

- Ocean, atmospheric and earth sciences, including water
- Astronomy and space sciences
- Environmental microbiology and sciences
- Climate change and resilience
- Energy
- Disaster management
- Study of Asia and the Pacific (all disciplines)
- Hawaiʻi and its people

UH also needs to continue to improve at creating value for UH and the community from the intellectual property developed within its research programs through both local job creation and revenue return (royalties, license fees) to UH.

To address these priorities, particularly during a period of severe financial constraint, UH must increase responsiveness, agility and focus; As the state pivots in significant ways, so must UH.

Most of these ideas are not new, although there is some additional clarity brought on by the lessons of the pandemic. What is new is the urgency of Hawaiʻi’s needs and therefore the urgency with which UH must act. Also new is the much broader
recognition within UH today that the entire institution must prioritize the needs of the state to help all of Hawai‘i succeed.

Unfortunately, these urgent needs are presented when UH and the state face the greatest economic crisis since statehood. We cannot simply look to new money to make new investments. Rather, in this time of severely constrained resources UH must now find the will to act on a reality that has been known for decades: Hawai‘i is not wealthy enough to support a public university that tries to be all things to all people. We must break down traditional disciplinary silos and accept that there are some existing programs for which Hawai‘i students will need to enroll out-of-state. Prioritization and active modernization of curricula is necessary to enable us to prepare local learners in areas such as those noted above in which Hawai‘i has significant need.

In this time of severely constrained resources, UH must also find new ways to be more cost-effective in all that we do. For example, we have proven that working from home can be effective for many; telework must become part of our standard toolset to support our employees and will lessen the load on campus and community infrastructure. More challenging will be improving the cost-effectiveness of our academic enterprise across our campuses. In that we must rely on data and be willing to step back and focus on what Hawai‘i needs most.

UH must also actively explore and adopt innovative approaches to collaborating with employers and awarding credentials. Institutionalized “town-gown” relationships will be essential to ensuring that employers share their current and projected workforce needs with UH. Emerging approaches to education and training should be considered, initially in programs with a focus on employment, to include more certificates, badges and “stackable” credentials as well as competency based education and prior learning assessment.

Even in the face of cutbacks in some programmatic areas, UH must identify and invest in long-term strategies to diversify and strengthen revenue sources beyond state general funding and tuition. Unlike during the last recession, UH does not have the option of generating more revenue by increasing tuition rates. Strategies must include leveraging our real property assets, improving philanthropic performance and more.

To move forward on this complex but urgent agenda, UH must be nimble in implementing organizational and structural changes that will enable us to more effectively and affordably focus on the needs of Hawai‘i.

Hawai‘i cannot thrive even in the best of times without a high-performing public higher education system. Now, more than ever, Hawai‘i needs every part of its university system to engage fully in support of our islands through education and training programs that serve all segments of our population, through research and scholarship, and through service. In turn, the people and institutions of Hawai‘i need to support their university system.