

University of Hawai'i at Mānoa

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# FRAMEWORK FOR THE FUTURE: *Futures Assessment*

THINK<sup>MK</sup>

# Futures Assessment

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This section explores future conditions that will affect higher education in years and decades to come, and impact conditions at the UH Mānoa site. The factors considered are non-exhaustive and serve as a basis from which to explore the future of higher education.

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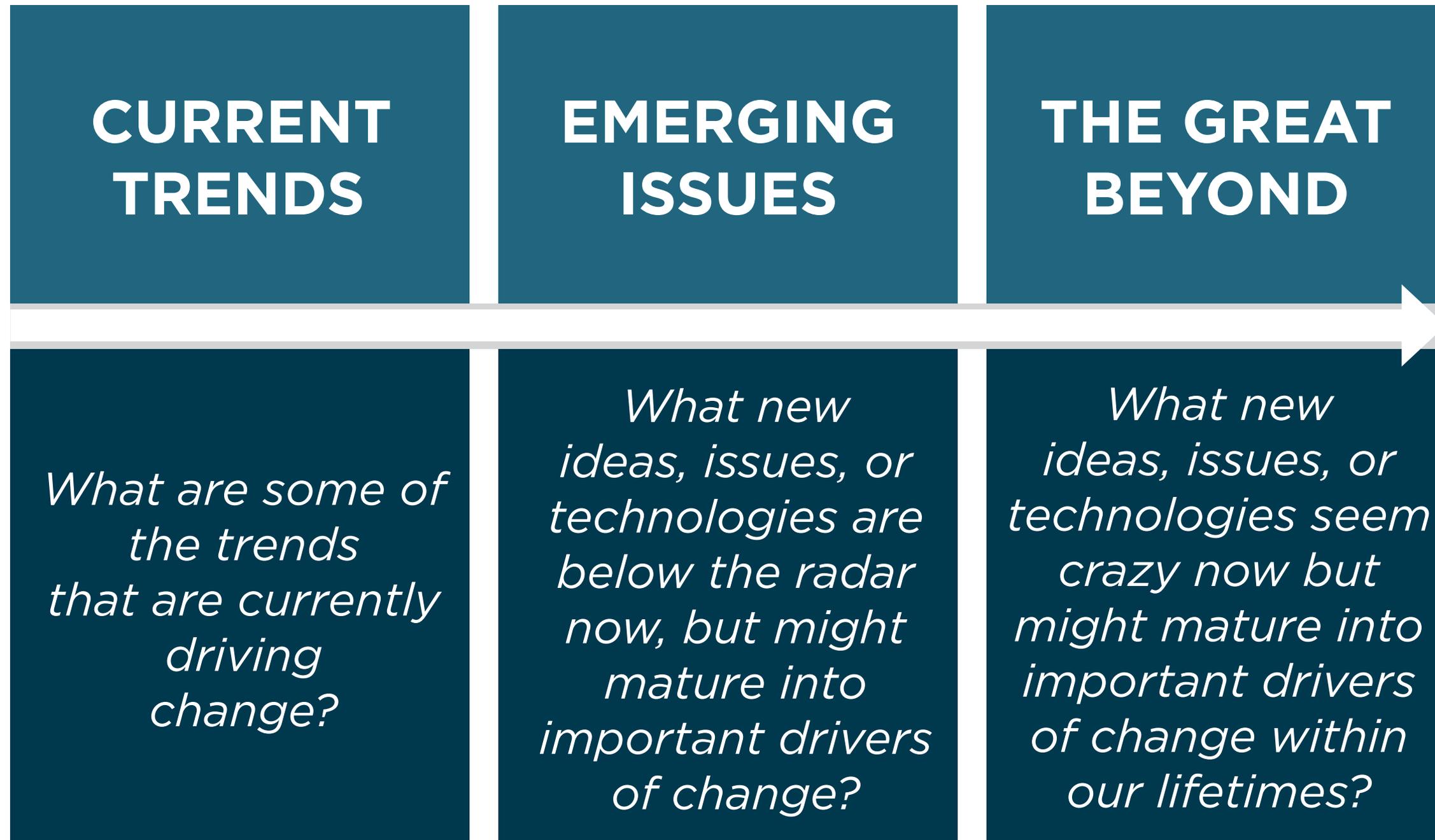
## Looking to the future.

Centers of higher learning are affected by outside influences. In order to understand how best to adapt those external factors, we look to understand how some of those factors are changing.

## DRIVERS OF CHANGE OVER TIME



## WHY USE THESE TIME HORIZONS



# FOCUS AREAS

## PEDAGOGICAL

*How do students learn?*

**What's included here?**

- Teaching methods
- Teaching technologies (i.e. white boards, smart boards)
- Teaching spaces

## GOVERNANCE

*How do the governing institutions work?*

**What's included here?**

- University organization
- Broader city, county and national governance

## ECONOMIC

*How is the university sustained?*

**What's included here?**

- Revenue streams
- Funding (i.e. research grants)
- Potential alternative sources of revenue

## MOBILITY

*How do people get around?*

**What's included here?**

- Transit types to and from campus
- Circulation across campus
- Alternative transportation modes

## ENVIRONMENTAL

*What is the climate like?*

**What's included here?**

- Typical climate conditions
- Extreme weather risks
- Climate change & sea level rise

## DEMOGRAPHIC

*Who are the students?*

**What's included here?**

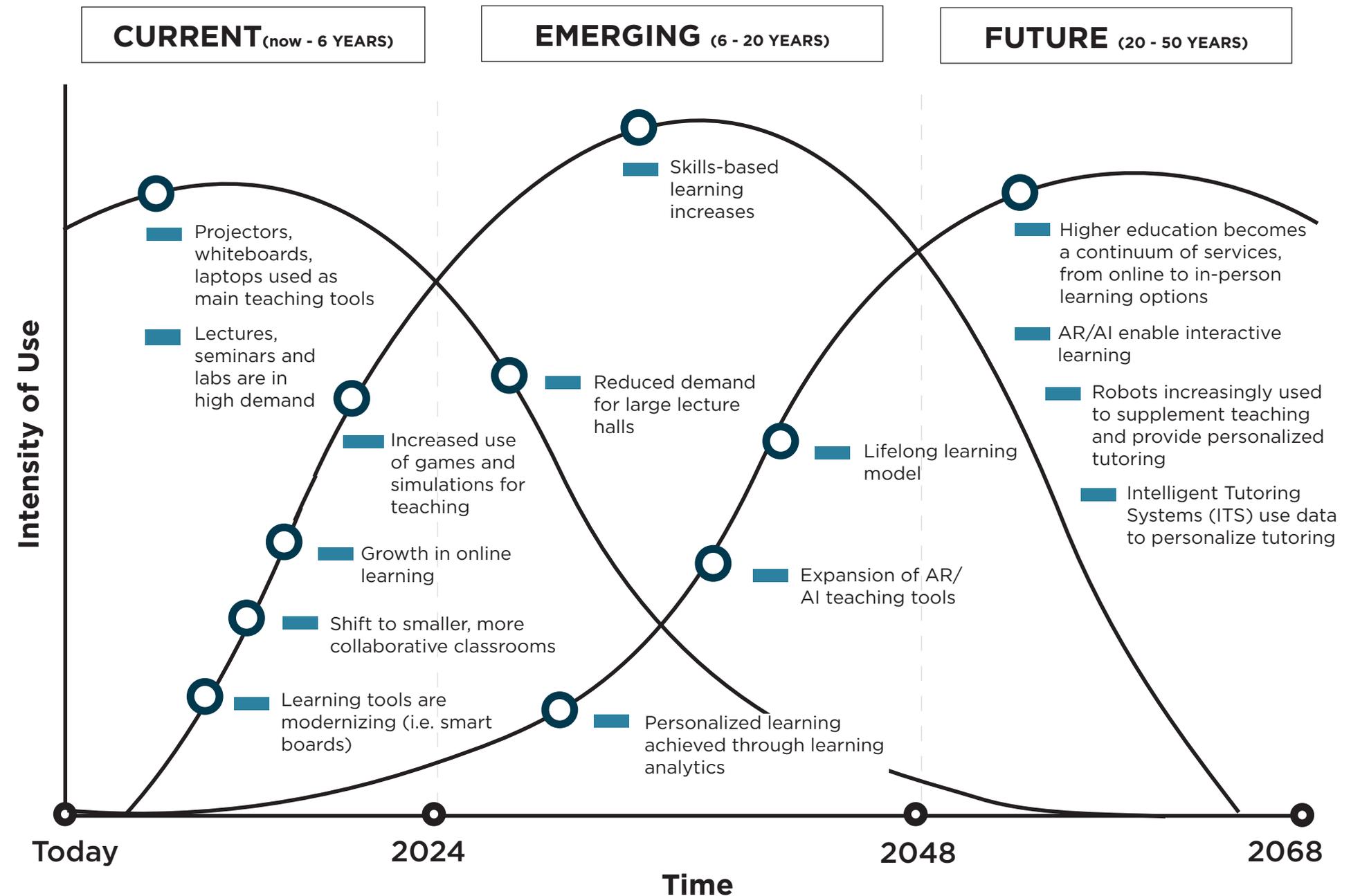
- Student population
- Residents/Commuters
- Transfer students

## PEDAGOGICAL

There is increased demand for flexible learning opportunities, driven by shifting student demographics and technological improvements

### Local Trends:

- UH Mānoa faculty anticipate that they will use tablets, video conferencing and smart boards more in the next 10 years
- Some UH Mānoa courses are moving online
- Flexible, innovative learning spaces are also deemed important
- UH Mānoa is already embracing digitized learning analytics with STAR initiative



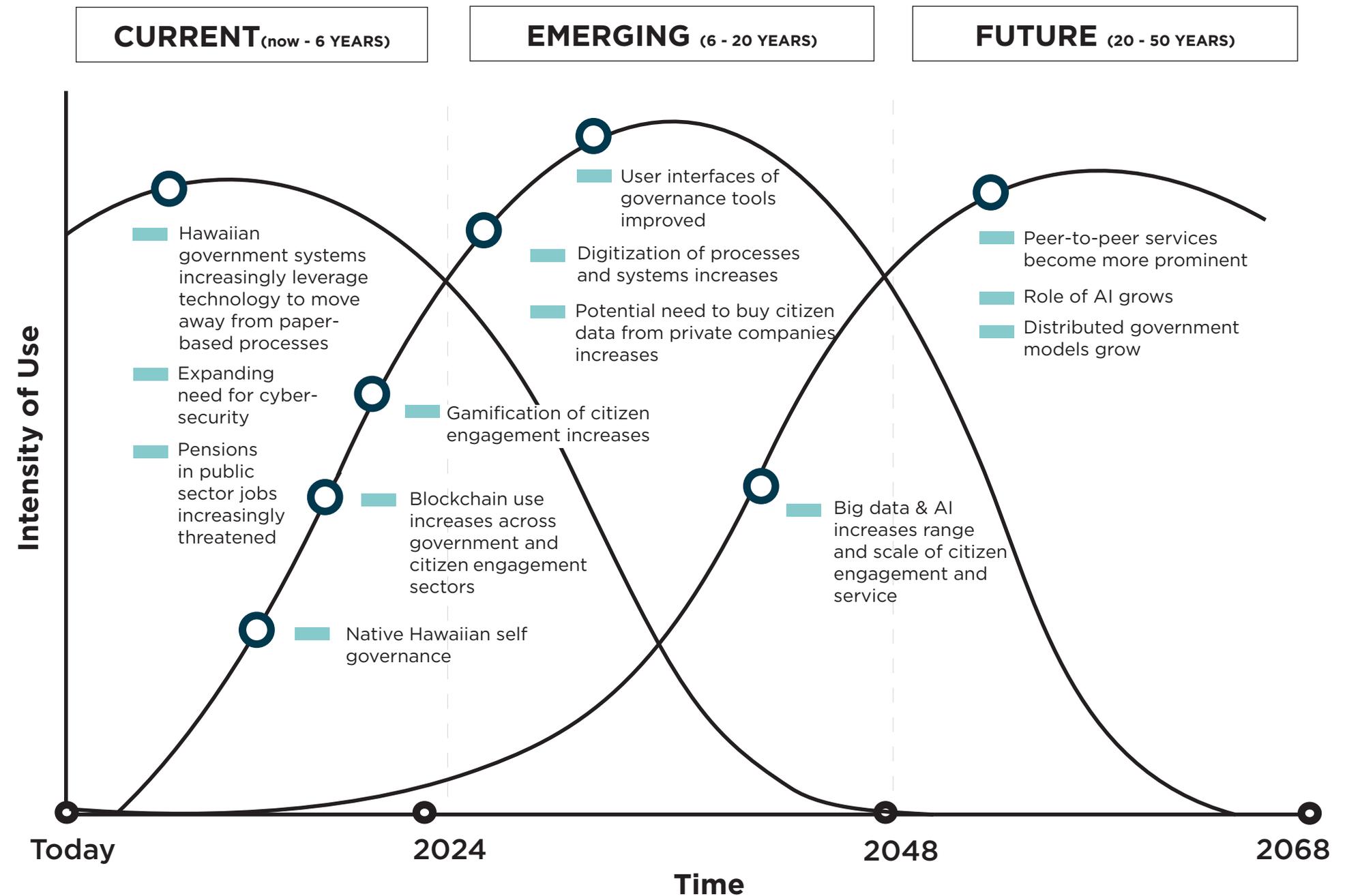
Sources: Faculty Survey on Facilities (MKThink Analysis); Stanford Report of the 2015 Study Panel, 2016; NMC Horizon Report, 2016; Higher Education Research and Development, 2000; University of Hawai'i News, 2016; National Center for Education Statistics (NCES) - Distance Learning Fast Facts; ICEF Monitor, 2016

## GOVERNANCE

Digitization of citizen communication and municipal service provision will continue to increase, creating both opportunities for engagement and threats

### Local Trends:

- Mobile citizen engagement is on the rise
- Government service and management tools increasingly streamlined with digitization, reducing paper-based processes
- There is a need for improved cyber security and this will continue to be of concern in the future
- Distributed governance models grow



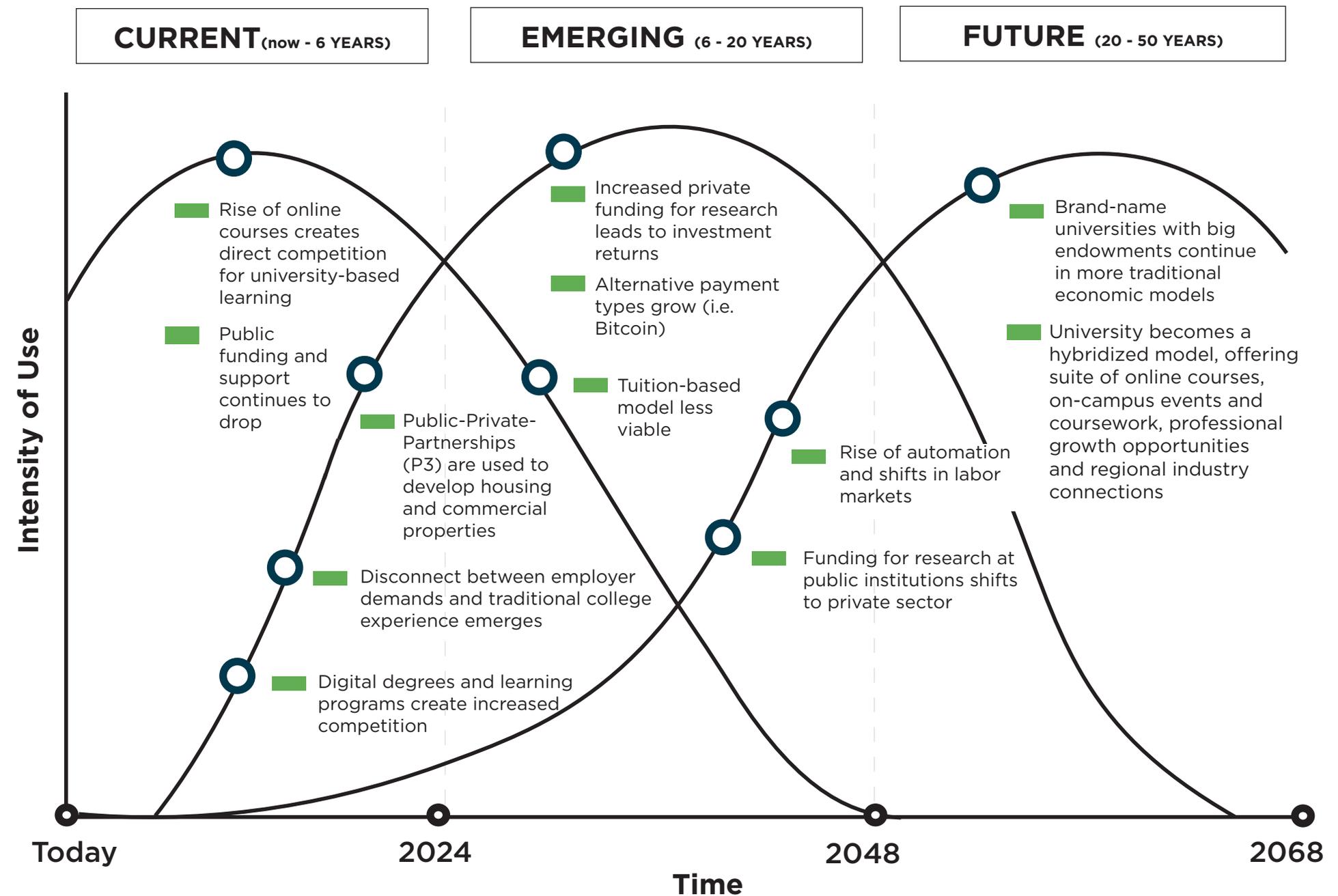
Sources: Hudson and Shank, 2018; Brookings Institute, 2015; Conway, 2009; Deloitte, Gov2020, 2015; Transform Hawai'i Government, 2018; US DOI, 2016; Andersson, Hjalmarsson, Avital, 2013

## ECONOMIC

With tuition-based funding increasingly under pressure, universities are moving towards more hybridized economic models

### Local Trends:

- Public-Private-Partnerships (P3) are increasingly used for development of land at public institutions
- There is a rise in demand for trade-learning and certificate degrees
- Digital degrees and learning programs enhance competition for campus-based universities



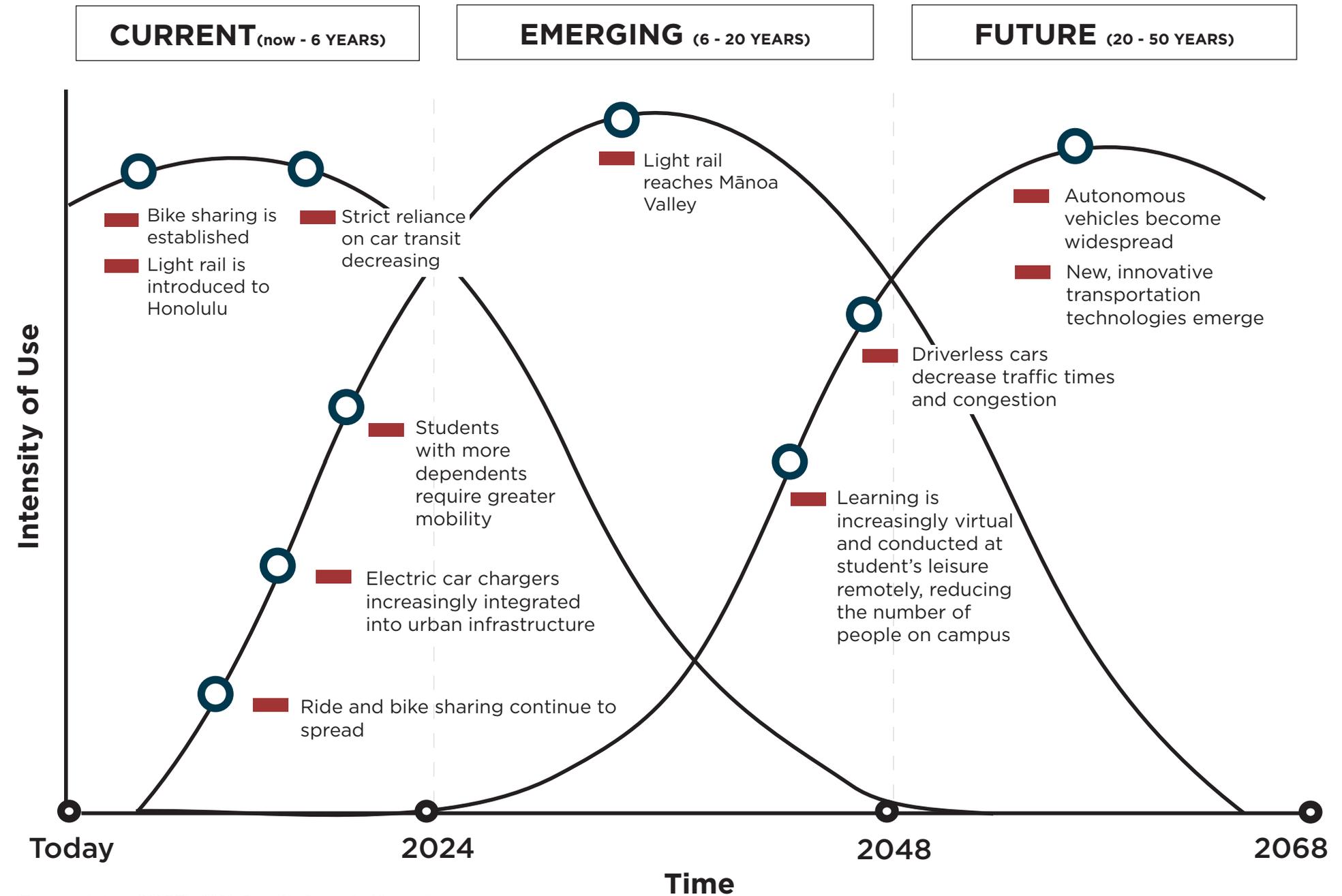
Sources: Stanford Business School, 2018; Douglas-Gabriel, 2016; Center on Budget and Policy Priorities, 2017; EducationDive, 2018

## MOBILITY

Various forms of transit are more widely adopted, from bike and ride-sharing, rail transport to mobility as a service

### Local Trends:

- Light rail is introduced to Honolulu
- Parking is currently in high demand but may decrease with the introduction of ride and bike (Biki) sharing
- Traffic problems will likely persist for some time due to Honolulu's high levels of service sector jobs, which demand in-person presence
- Rise of remote learning could decrease numbers of cars on campus



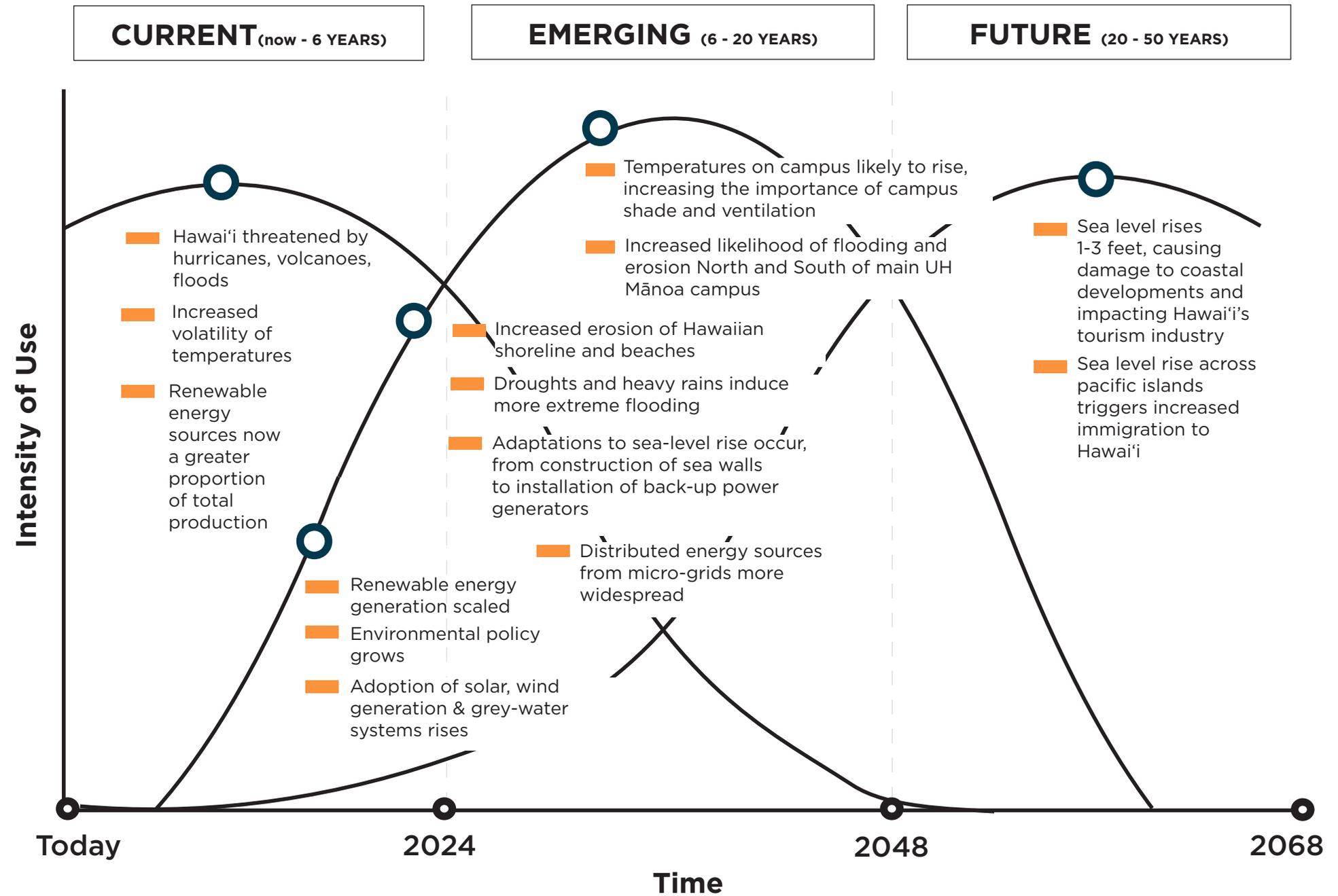
Sources: Brookings Institute, 2015; Lyte, 2017; Honolulu Authority for Rapid Transportation (HART), 2018; Deloitte Insights (Goodall, Fishman, Bornstein, Bonthron), 2017; City Lab, 2017; The Guardian, 2015; DisruptiveGeo (Future of Mobility), 2017

# ENVIRONMENTAL

Higher temperatures, increased storm volatility and sea-level rise from climate change is expected to impact existing infrastructure

## Local Trends:

- O’ahu’s daily temperature changing more rapidly than globalized mean
- **Long-term storms, drought and heavy rains increasingly volatile and frequent, causing more flash flooding, harm to infrastructure, runoff & sedimentation**
- **Sea level rise projected to increase, resulting in a 1-3 foot rise by the end of century**



Sources: USGS, State of Hawai'i Office of Planning; Daniel K. Inouye Asia-Pacific Center for Security Studies, 2017; States at Risk.org, 2018

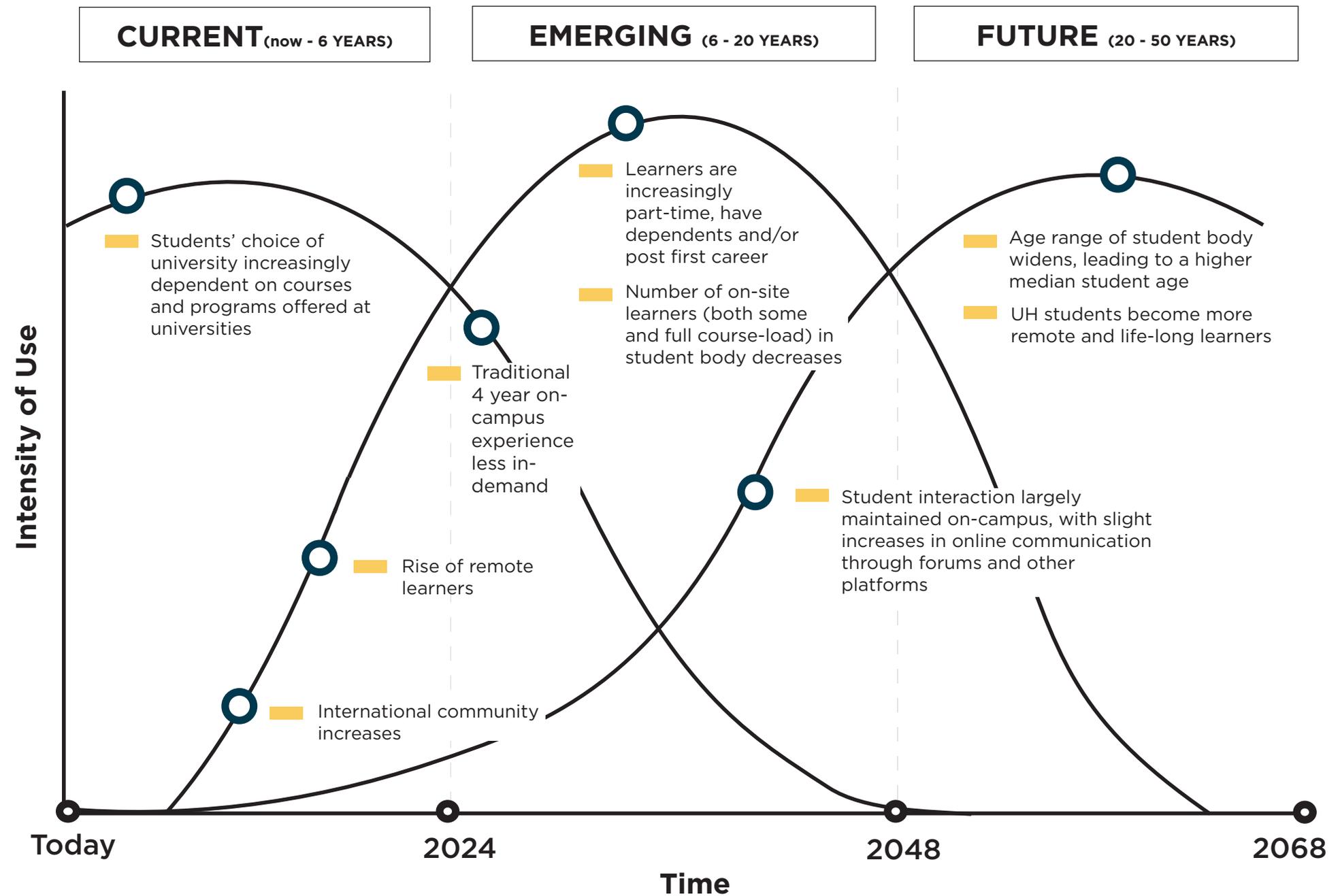


# DEMOGRAPHIC

Universities will increasingly need to cater to a wider range of students seeking part-time enrollment, a more skill-based curriculum and non-traditional university experiences

## Local Trends:

- Honolulu’s population will grow to over 1 million in coming years
- Neighborhoods such as Mo‘ili‘ili will grow with increased private development
- Number of students taking online, distance courses expected to increase



Sources: Brookings Institute, 2015; American Council on Education, 2014; UH Website, Kirk C. & Lewis R, 2013; Office of Educational Technology, National Technology Plan Update, 2017; EducationDive, 2018; The Economist, 2017



# TAKEAWAYS

## PEDAGOGICAL

### *How do students learn?*

- Online or distance learning increases
- Learning tools modernize to include AI & AR
- Project-based learning emphasizing interaction and simulation increases
- Personalized learning grows
- Demand for large lecture halls falls

## MOBILITY

### *How do people get around?*

- Growth in alternative forms of transit reduces parking demand
- Light rail is introduced to Honolulu
- Remote learning reduces need for university parking
- In the long-term, rise of autonomous vehicles reduce traffic congestion

## GOVERNANCE

### *How do the governing institutions work?*

- Increasing digitization of processes and systems
- Role of AI grows
- Mobile citizen engagement is on the rise
- In the long-term, distributed governance models become more widespread

## ENVIRONMENTAL

### *What is the climate like?*

- More humid and hot base weather
- Increasing frequency of extreme weather and sea-level rise
- Renewable energy generation scaled
- Sea-level adaptation strategies on the rise, such as sea walls and back-up power generators

## ECONOMIC

### *How is the university sustained?*

- Financial support of higher education increasingly compromised
- Digital degrees and learning programs change university economic model
- University models become hybridized through Public-Private Partnerships (P3)

## DEMOGRAPHIC

### *Who are the students?*

- More diversified, non-traditional student body
- More online learning students
- More part-time students
- Median student body age likely to increase with the rise of life-long learners
- International community on the rise