



UMS Strategic Planning Data Book

Spring 2022

Data Book

March 2022



Guidelines for Use

The University of Maine System is embarking on its first strategic plan since 2004. To inform measured decisions that will shape a strong, sustainable future for UMS, the Board of Trustees engaged in a data exercise to understand the current state of the System within the context of Maine and the higher education marketplace.

The result is a Data Book that illuminates challenges which call for urgency to act and reveals the various strengths of the System. In a state rich with geographic resources and promising economic development, UMS has an incredible opportunity to leverage its many assets, including Unified Accreditation, to pave a path to a bright future for the System and the residents of Maine.

The Data Book is intended to establish a baseline of commonly understood knowledge about UMS to support strategic planning activities and is one of the many inputs that will be weighed in writing a strategic plan for the System.



Create a common understanding
of UMS' demographic, financial
and competitive situation



Engender meaningful collaboration
grounded in a market context



Align us on a shared, sustainable
vision for UMS

Data Book Contents

To develop a robust understanding of the current UMS ecosystem, some topics demand broader analysis to understand their full complexity and relationship to and within the System (e.g., student enrollment and financial health).

Enrollment and Demographics

- Maine high-school graduates pie chart, broken down by future pathway
- UMS Enrollment by university over time
- Enrollment Demographics
- UMS Aggregate Enrollment broken down by in-state/ out-of-state and residential/commuter/online
- Adult Learner Opportunity and Overview

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- US, Northeast and Maine Completion Rates over time
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- US, Northeast and Maine Current and Future Demographic Trends
- Access and Affordability trends
- Digital transformation for teaching and learning trends
- Lifelong learning and “Non-traditional” student
- Corporate Partners and Workforce Development
- R&D Priority Areas
- System case studies: UC, SUNY, UW

Data Book Framework

UMS Internal Analysis and Higher Education Trends related to:

**Enrollment &
Demographics**

**Academics &
Student
Success**

Economics

Research

**Financials &
Personnel**

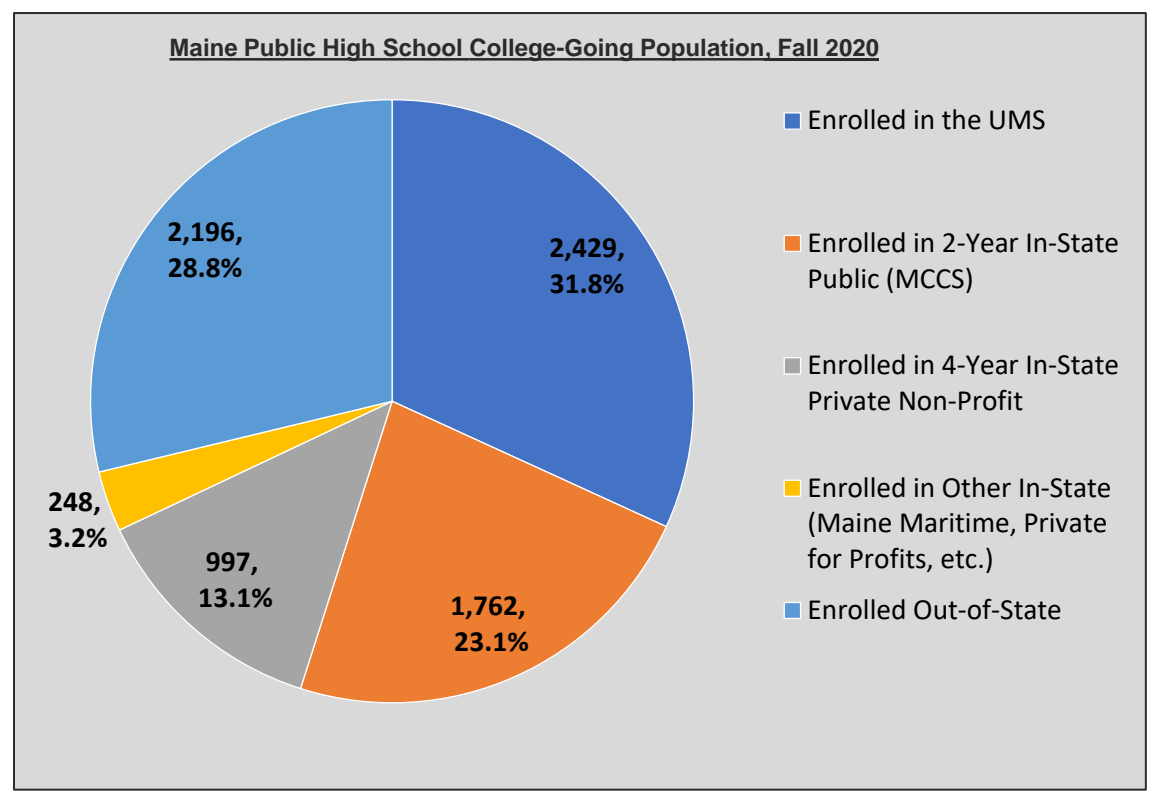
System specific trends: Increase of course and program sharing across universities, Emphasis on cost-to-educate, Expansion of offerings to non-traditional student audiences

Internal UMS Analysis



Maine High School Graduates: Future Pathways

According to the MDOE National Student Clearinghouse 2020 Statewide Report, 43% of Maine public high school graduates from 2020 did not enroll in college.



With Maine high school graduates projected to decline between 2025-2035, enrollment growth may or may not be a realistic strategic priority. Growth will require:

- Activating students who currently do not enroll (43% of students in 2020)
- Capturing market share from out-of-state competitors (28.8% of market)
- Capturing market share from Maine privates (13.1% of market)
- Improving pathways from 2-year institutions (23.1%) to a UMS university

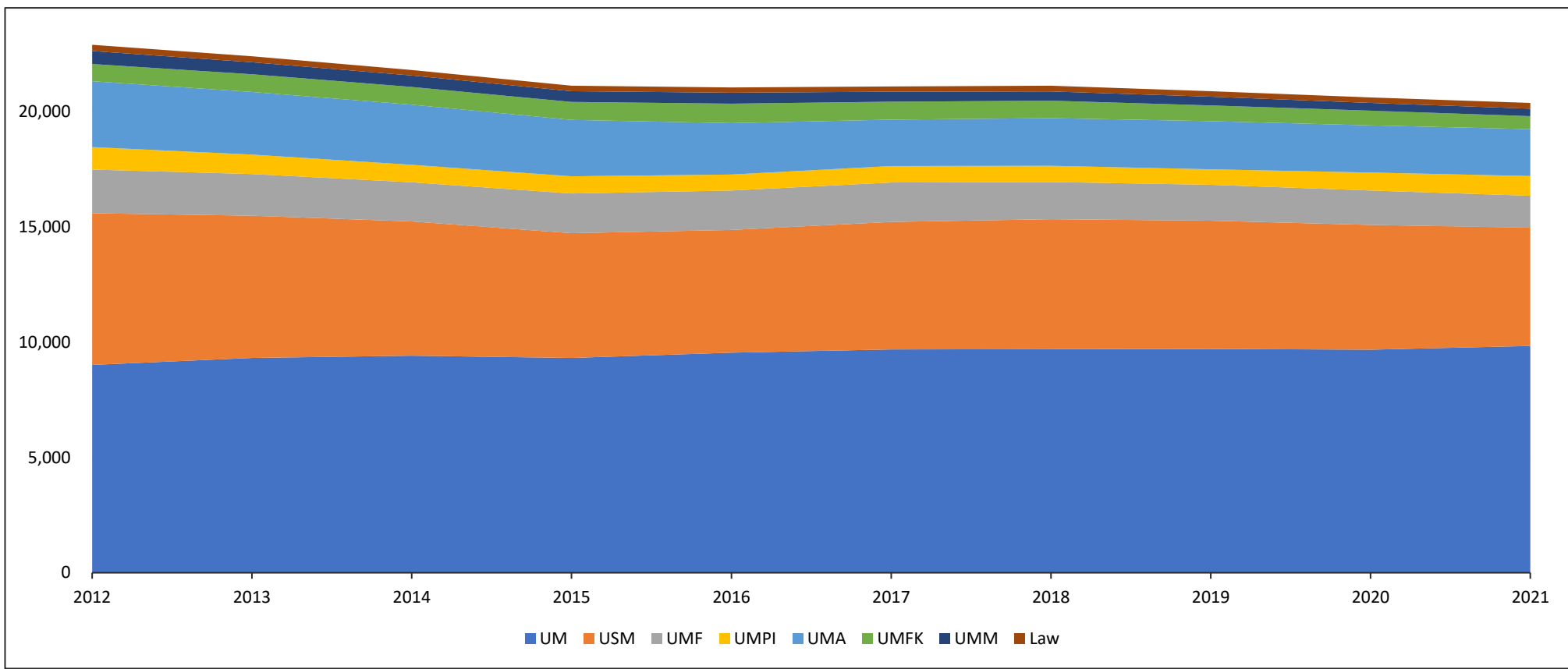
Note: Female students enroll in college at a rate of 14 percentage points higher than their male counterparts. On average, 62% of female high school graduates in Maine enroll in college whereas only 48% of male high school graduates enroll in college.

Implications for UMS: As we set the strategic plan for UMS' future, all stakeholders will be challenged to think creatively as to how the System can flex over the next decade to meet changing supply and demand.

Source: U.S. Department of Education, NESSC Common Data Project, National Center for Education Statistics, IPEDS, Fall Enrollment component 2020 provisional data. Maine DOE.¹

UMS Enrollment by University

In the last decade, all but one UMS university saw a decline in fall enrollment in FTE. From Fall 2012-Fall 2021 UMS experienced approximately 10% decline in fall enrollment.



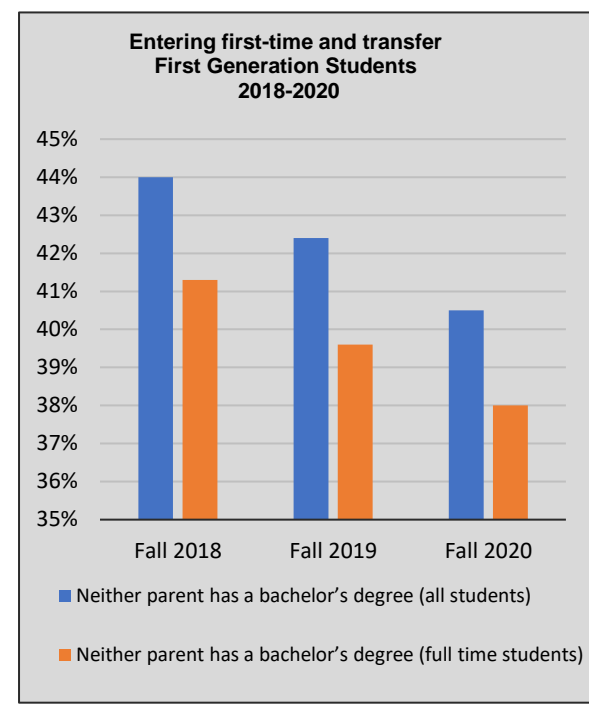
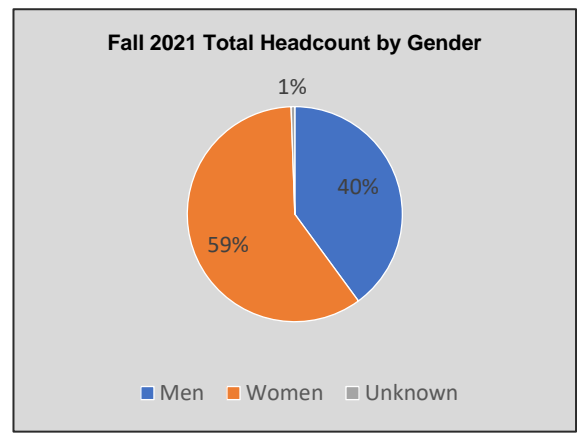
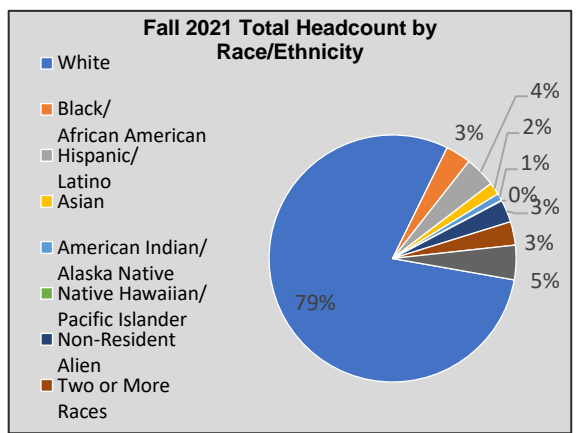
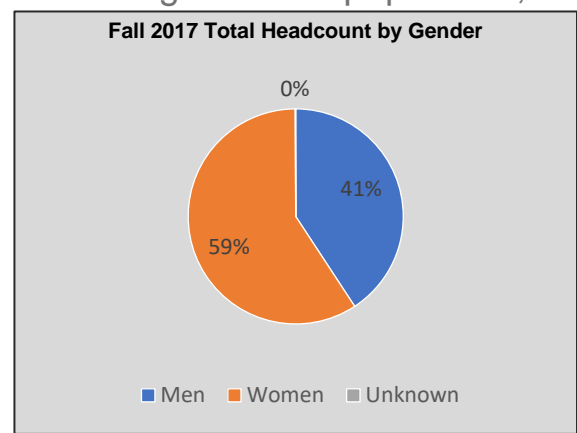
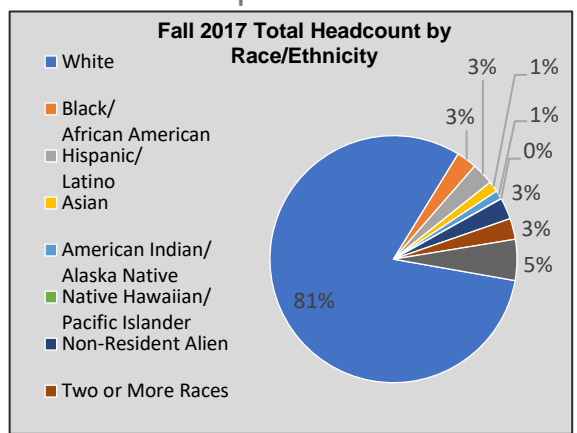
University	10 Year % Change
UMS Total	-11.0%
LAW	-9.2
UMM	-42.7
UMFK	-23.7
UMA	-29%
UMPI	-12.1%
UMF	-26.6%
USM	-22.1%
UM	9.2%

Implications for UMS: UMS continues to experience a decline in fall enrollment like many institutions in the northeast. To maintain the mission of serving residents of Maine and their local communities, collaboration in the spirit of sustainability is critical.

Source: UMS Institutional Data, Fall FTE (Excludes early college). Note: The formula for calculating FTE (for all campuses except UMF starting in Fall 2006) is as follows: Undergraduate Credit Hours/15 + Professional (Law) Credit Hours/15 + Graduate Credit Hours/9 = FTE + UMF: Undergraduate Credit Hours/16 + MA Counseling Psychology Credit Hours/15 + Other Graduate Credit Hours/9 = FTE. FTE provides a meaningful combination of full- and part-time students and is used to calculate expenses per FTE and revenues per FTE.

UMS Enrollment: Ethnicity, Gender, First-Generation

While UMS experienced decrease in its first-generation population, it has seen steady growth in its racial/ethnic makeup.



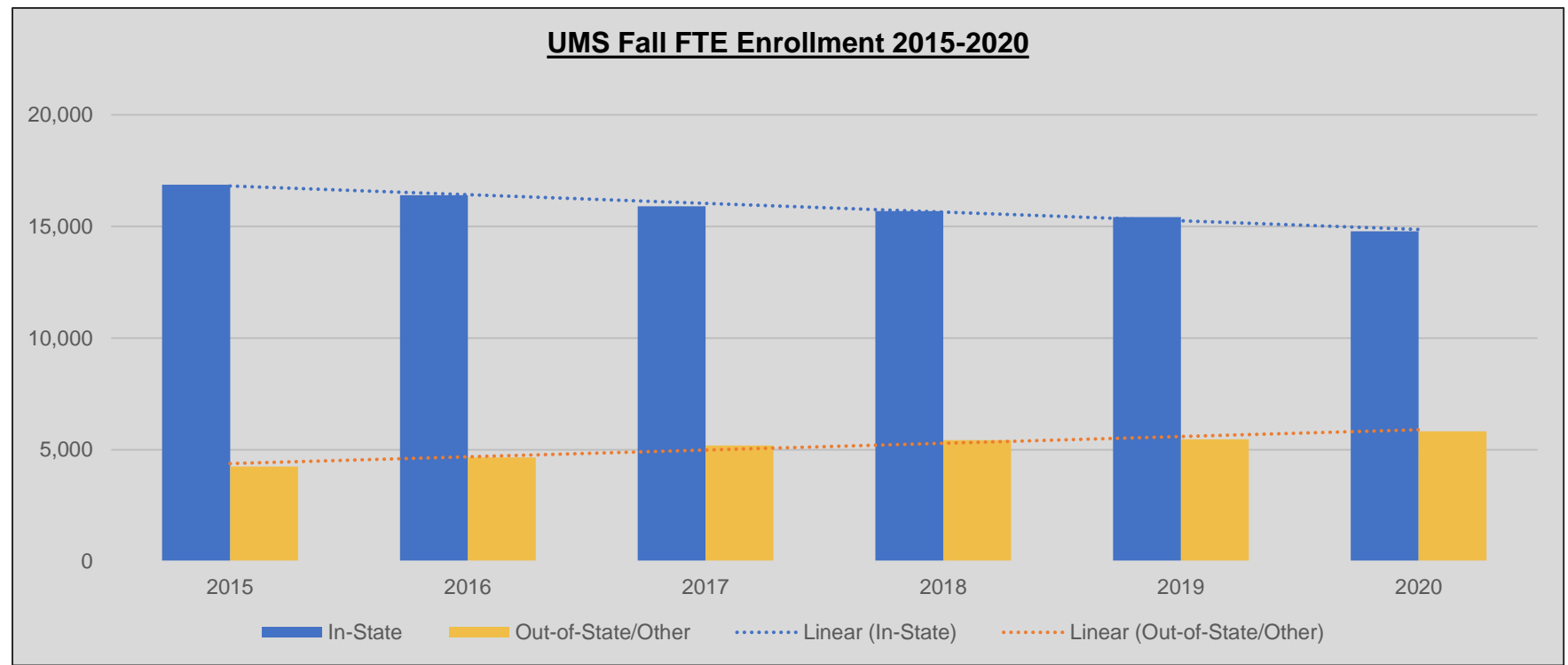
- The population of Black/African American and Hispanic/Latino has increased by 22% and 36%, respectively over the last 5 years.
- First generation student numbers have declined 8% over the same period, mirroring a national trend.¹

Implications for UMS: UMS must continue to engage and enroll its diverse populations, especially males, as females enroll at a higher rate.

Source: UMS Fall 2021 Enrollment Report, UMS First-Generation Report January 2020. 1. Numerous national studies have examined this issue and have come to the same conclusion (STRADA, NACE, NASPA, College Board, Common Application, etc.)

UMS Enrollment Trends: In-state and Out-of-state

In the last five years, UMS experienced a decline in total Fall Headcount. UMS was able to grow its proportion of out-of-state students, however, that growth did not compensate for the loss of in-state students enrolling.



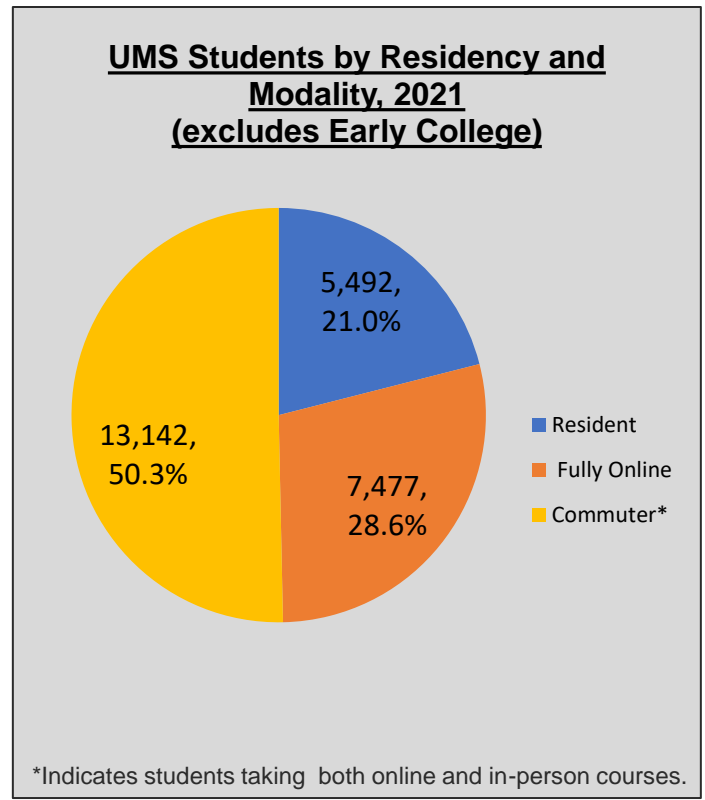
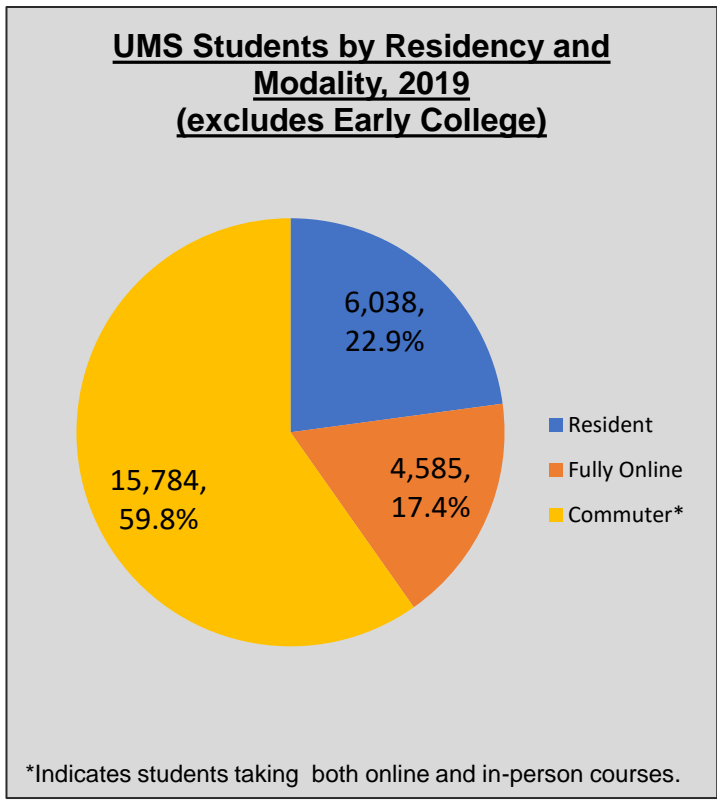
Residency	5-year % Change	5-year Net Change
UMS Out-of-State	37.0%	1,575
UMS In-State	-12.4%	-2,091
UMS Total	-2.4%	-516

Implications for UMS: UMS supplemented its enrollment population with out-of-state residents as the population of high school graduates in Maine declined. Understanding that out of state students have tuition revenue benefits, UMS will need to balance that benefit with the objective of serving the state.

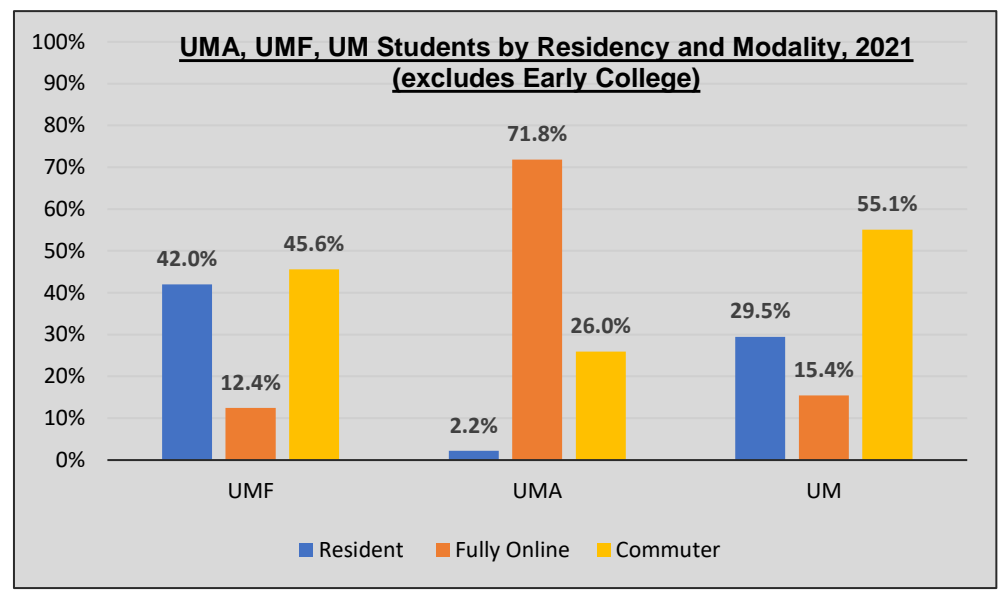
Source: UMS Institutional Data (Fall FTE Enrollment)

UMS Enrollment: Residential, Commuter, Online

A point in time comparison between 2019 and 2021 reveals a 60.8% increase in students living off campus and taking their courses fully online, an increase largely caused by the pandemic.



Further analysis of representative student profiles across three sample universities (UMA, UMF and UM) illustrates the **varied and distinct populations** served by institutions in the System.

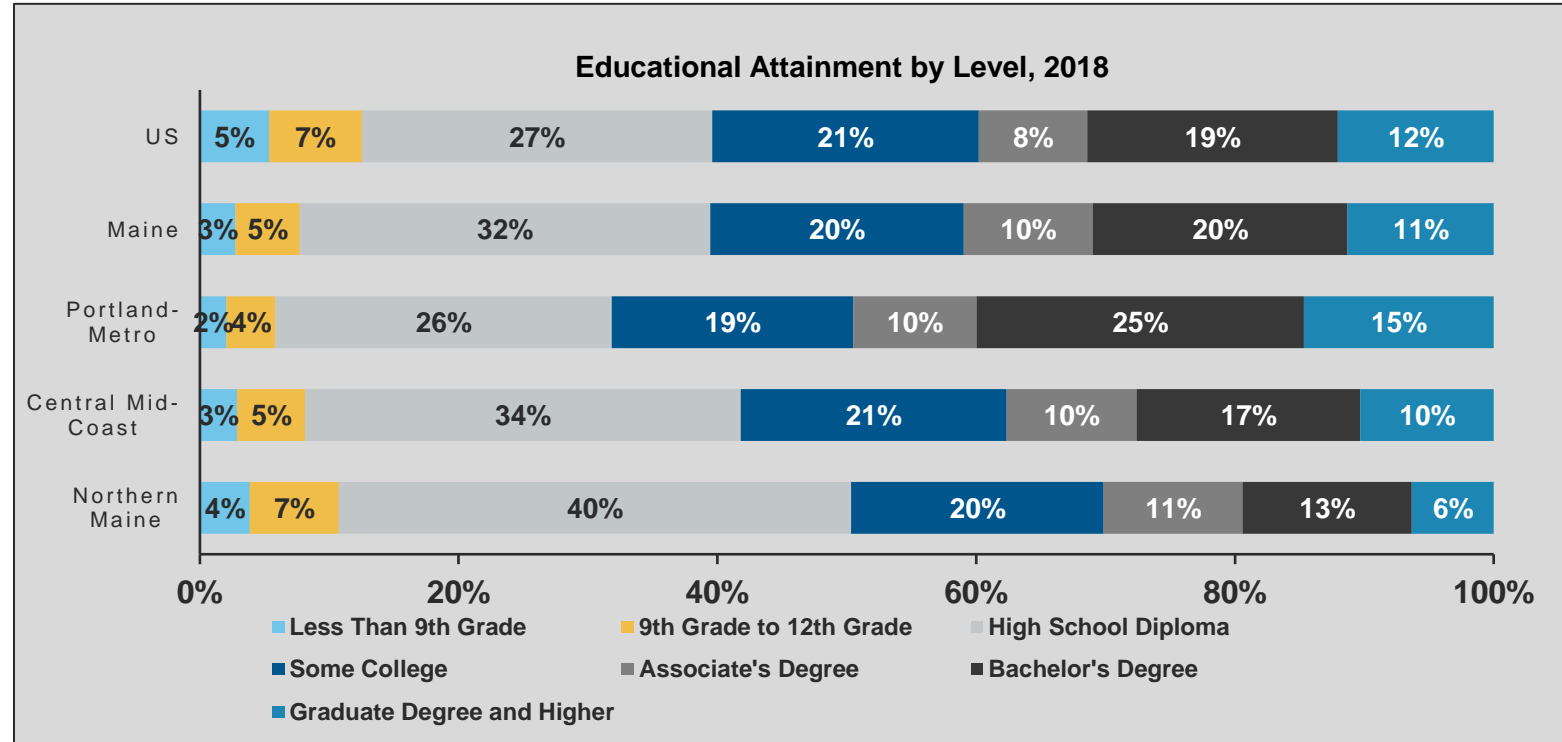


Implications for UMS: Students are utilizing the increased availability of distance modalities. UMS has an opportunity to capitalize on its distance and online learning infrastructures in order to increase its reach and prioritize how students want to earn their credential or degree.

Source: UMS Students by Institution, Level, Degree-Seeking Status, Campus-Living Status, and Online Course load Status (Fall 2019 vs. Fall 2021). Note: Data includes both full-time and part-time as well as degree-seeking and non-degree seeking students.

Adult Learner Opportunity

In Maine, an estimated 190k of adults have some college but no degree. The state set an attainment goal of 60% of adults earning a significant credential or postsecondary degree by 2025, UMS must access this market more effectively to meet this goal.



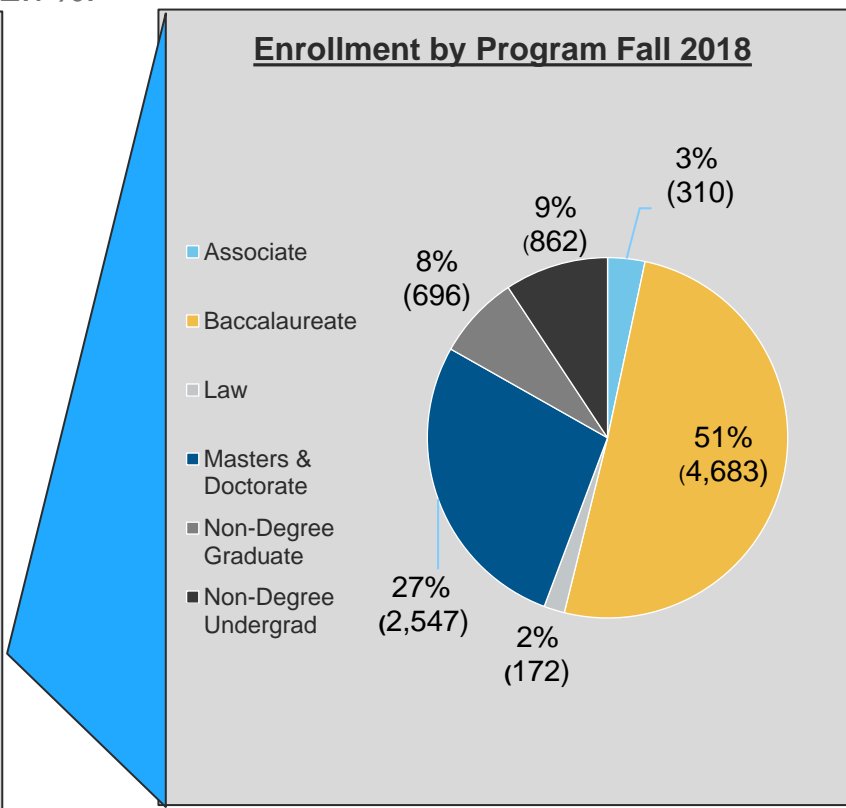
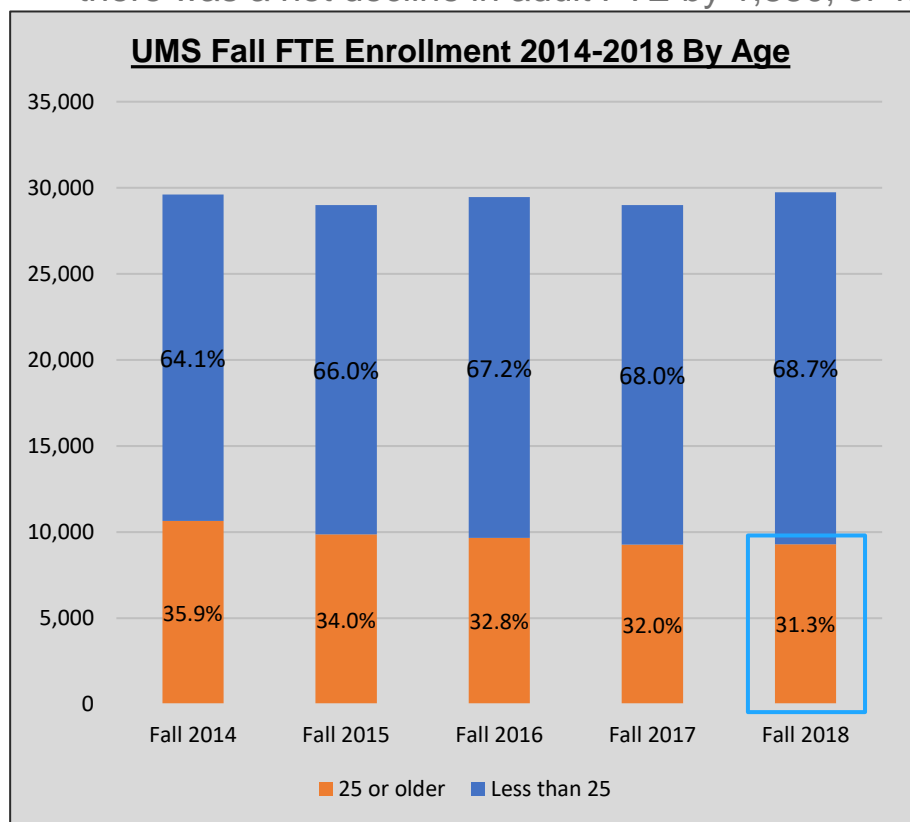
*In the most recent year that data was collected (2018), the headcount of adults who have some college or less in the state, **UMS enrolled 9,270 or 1.7%**, indicating an opportunity in the market for adult learners as well as an opportunity to advance an important State goal.*

**Note: The 2018 headcount of 9,270 students is equal to 5,214 FTE.*

Implications for UMS: There is an opportunity to increase UMS' adult learner population in support of statewide attainment goals, community goals, and workforce needs.

UMS Adult Learners: Enrollment and Degree Type

During the fall 2018 semester, a majority of adult students were enrolled in baccalaureate degree programs. When combined with those in Associate and non-degree undergraduates, 63% of the UMS 25+ population is pursuing an undergraduate education. Between 2014-2018, there was a net decline in adult FTE by 1,350, or 12.7%.



- Radford defines the **nontraditional student** as having one or more of the following characteristics:
- ✓ Over the age of 25
 - ✓ Financially independent from their parents
 - ✓ Having a child or other dependent
 - ✓ Being a single care giver
 - ✓ Delaying postsecondary enrollment
 - ✓ Attending school part time
 - ✓ Being employed full-time
 - ✓ Lacking a traditional high school diploma

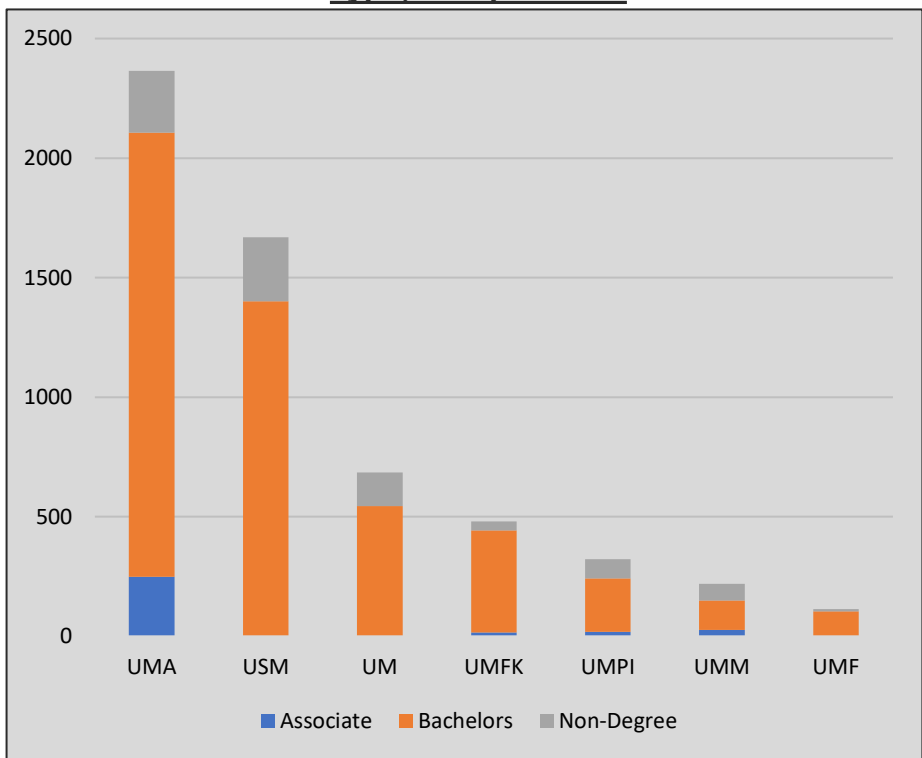
Implications for UMS: UMS should build capacity and wrap around services for the complex needs of adult learners in order to increase market share to support statewide attainment goals, community goals, and workforce needs.

Source: UMS Institutional Data (Fall FTE Enrollment), Adult Enrollment and Degree Completion Report March 2019, Radford, A. W., Cominole, M., Skomsvold, P. (2015). Demographic and enrollment characteristics of nontraditional undergraduates: 2011-12.

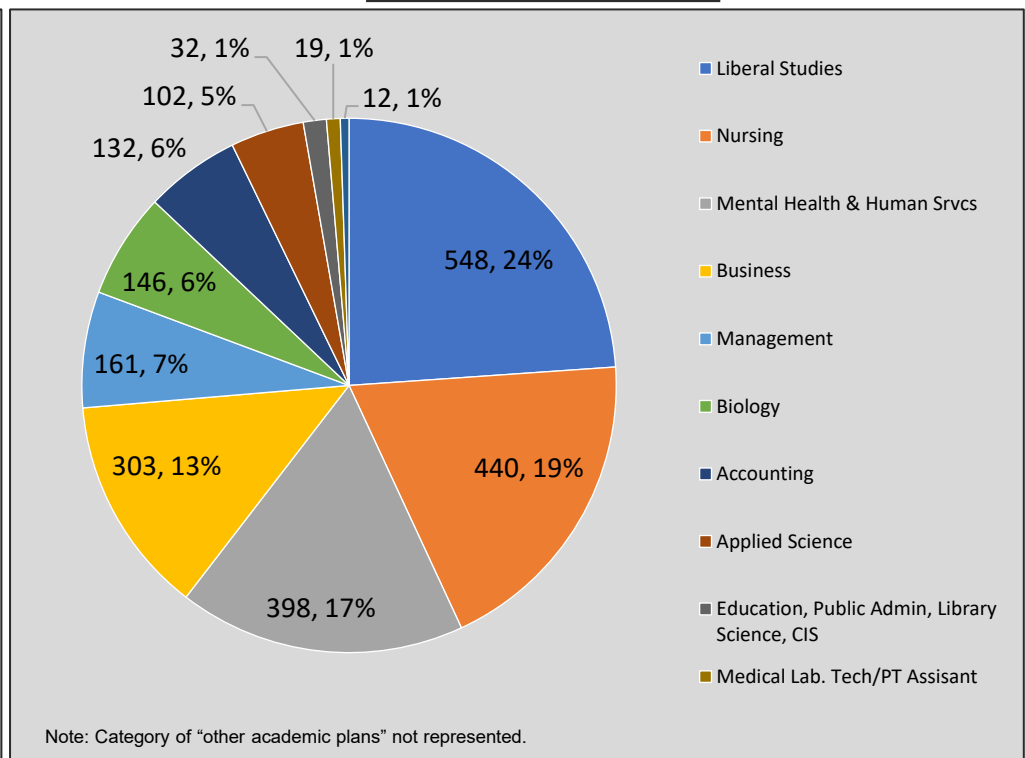
UMS Adult Learners: Undergraduate Degrees

63% of all adult learners are undergraduates (e.g. pursuing an Associate, Bachelors, or undergraduate classes under a non-degree designation).

Fall Adult Undergraduate Degree Students by Degree Type, Campus 2018



Fall 2018 Adult Undergraduate Students, Top 10 Academic Plans



Across the System, there are a variety of programs and locations that engage adult learners. UMA, including its Centers & Sites, UMPI YourPace, and the UM Division of Lifelong Learning all offer different modalities and locations enabling the adult learner to engage with their program at a pace and mode that best fits their lifestyle and academic goals.

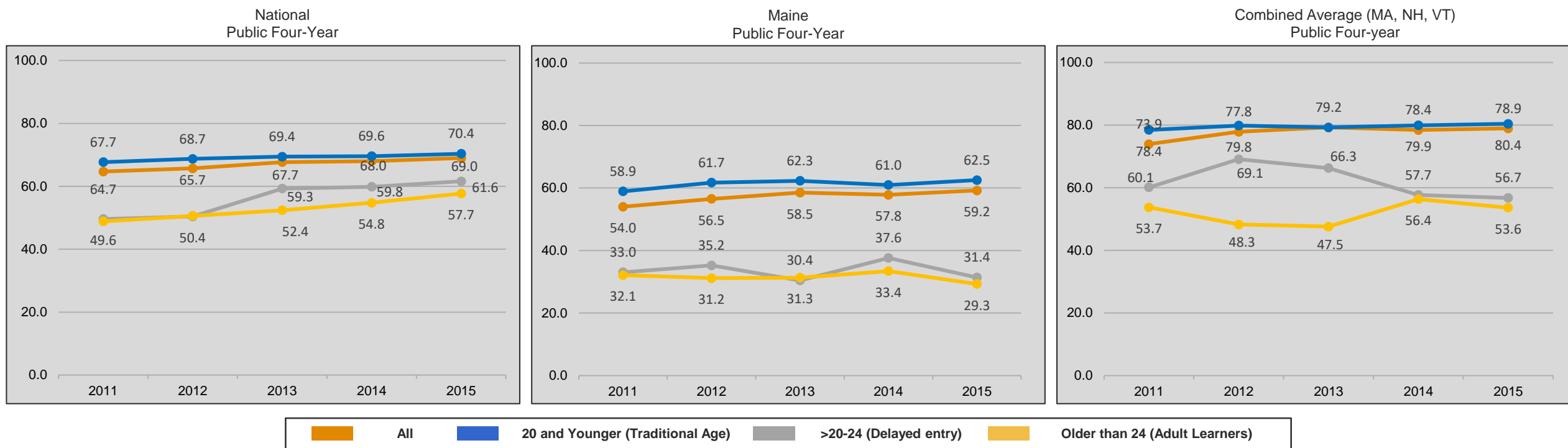
Implications for UMS: UMS should leverage its universities and centers with expertise in educating adult learners to increase market share and support statewide attainment and workforce goals.

Source: Adult Degree Completion Report, UMS 2018, UMS Institutional Data. Note: Adult learners are classified as 25 years and older.

Student Success: National, Northeast & Maine Outcomes

When compared to the national average for public four-year universities, the UMS System has an opportunity to increase student completion across all age groups. *Data includes the most recent year reported.*

State Level Six-Year Completion Rate Trends by Age, Entering Cohort Year 2015, First-Time Undergraduates (no prior degree or certificate)

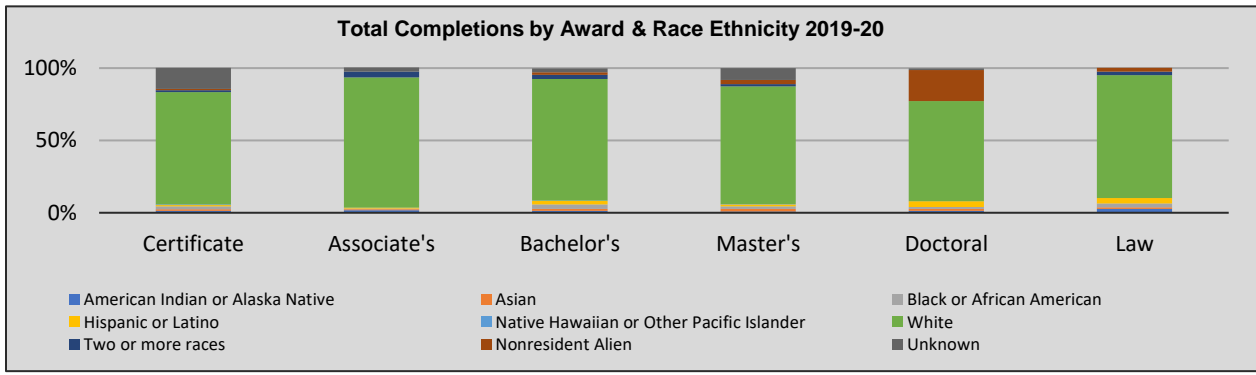
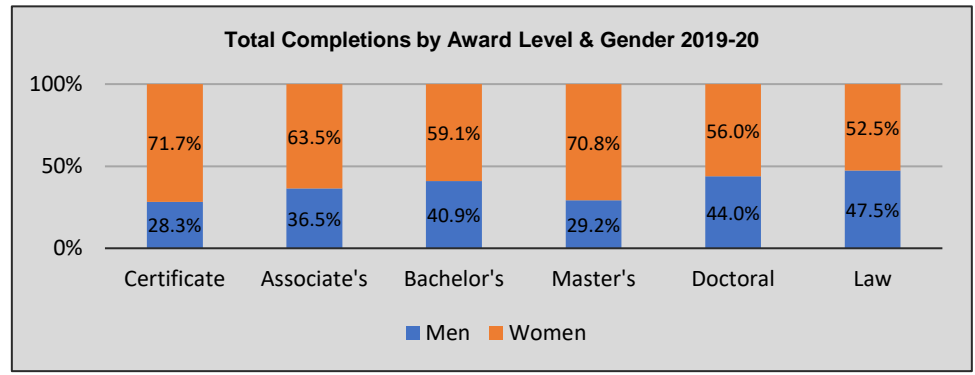
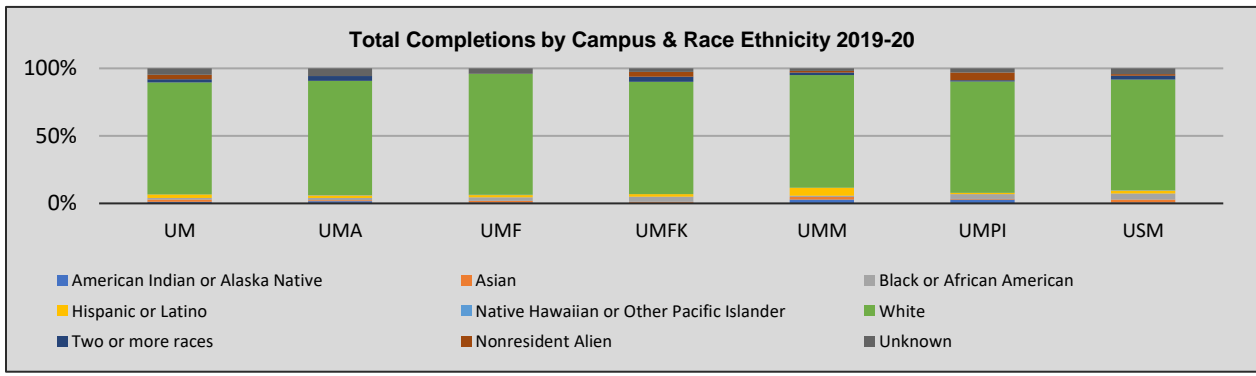
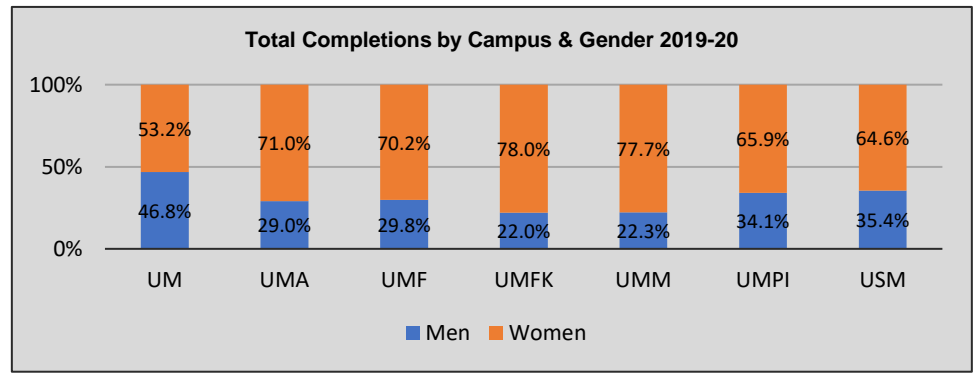


Implications for UMS: Across all age groups, the national six-year average completion rate was 69%, for the Northeast it was 61.3% and for Maine it was 59.2%. There is opportunity for UMS to improve completion rates across all age groups, both for student and financial benefit.

Source: "Completing College National and State Reports", NCES. Note: Data includes six-year college completion rates by tracking the enrollment and completion outcomes for the fall 2015 cohort of first-time undergraduates only and their age at entry.

Student Completion Demographics

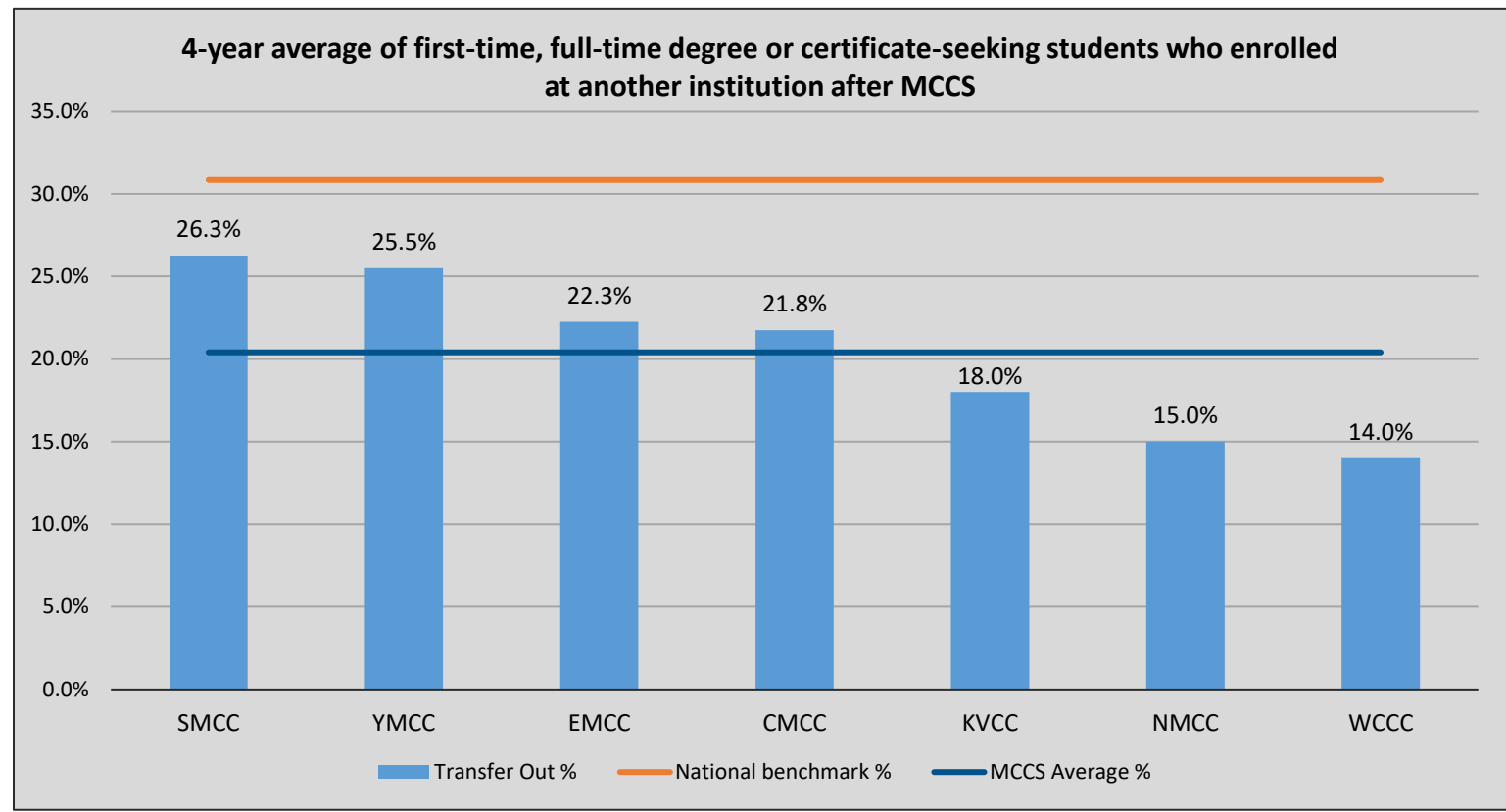
Women earned 61.8% of all degrees and certificates in 2019-20 and across all award levels and universities. Women are completing at a slightly higher rate than men when compared to their enrollment ratios. 83% of all awards were conferred to white students, slightly higher than the ratio of enrolled white students. 10.2% of all awards were conferred to racial/ethnic minorities with 2.2% and 4.3% conferred to non-resident aliens and unknown race/ethnicity, respectively. Of note, adult learners complete their degrees at a third of the rate of their under 20 peers.



Implications for UMS: UMS must focus on retention, persistence, and completion across all demographic groups. Some groups, like males or non-white students, require more tailored support to succeed at rates comparable to other peer groups.

Student Success: Community College Transfer Students

The Maine Community College System (MCCS) falls below the national average of 30.8% community college of students who transfer out of the community college to a four-year institution, averaging 20% over the last 4 years across the System.



- In Fall 2020, of the MCCS students who continued their education, **641 graduates enrolled at a UMS university.** In fall 2020, 15,890 students were enrolled in credit courses.
- Articulation agreements have been identified as one of the biggest improvements to increase the ease of transitions for students.¹ The **Block Transfer** agreement between UMS and MCCS is a high value tool established to increase the pipeline of transfer students between systems, a direct result of the Public Higher Education Systems Coordinating Committee.

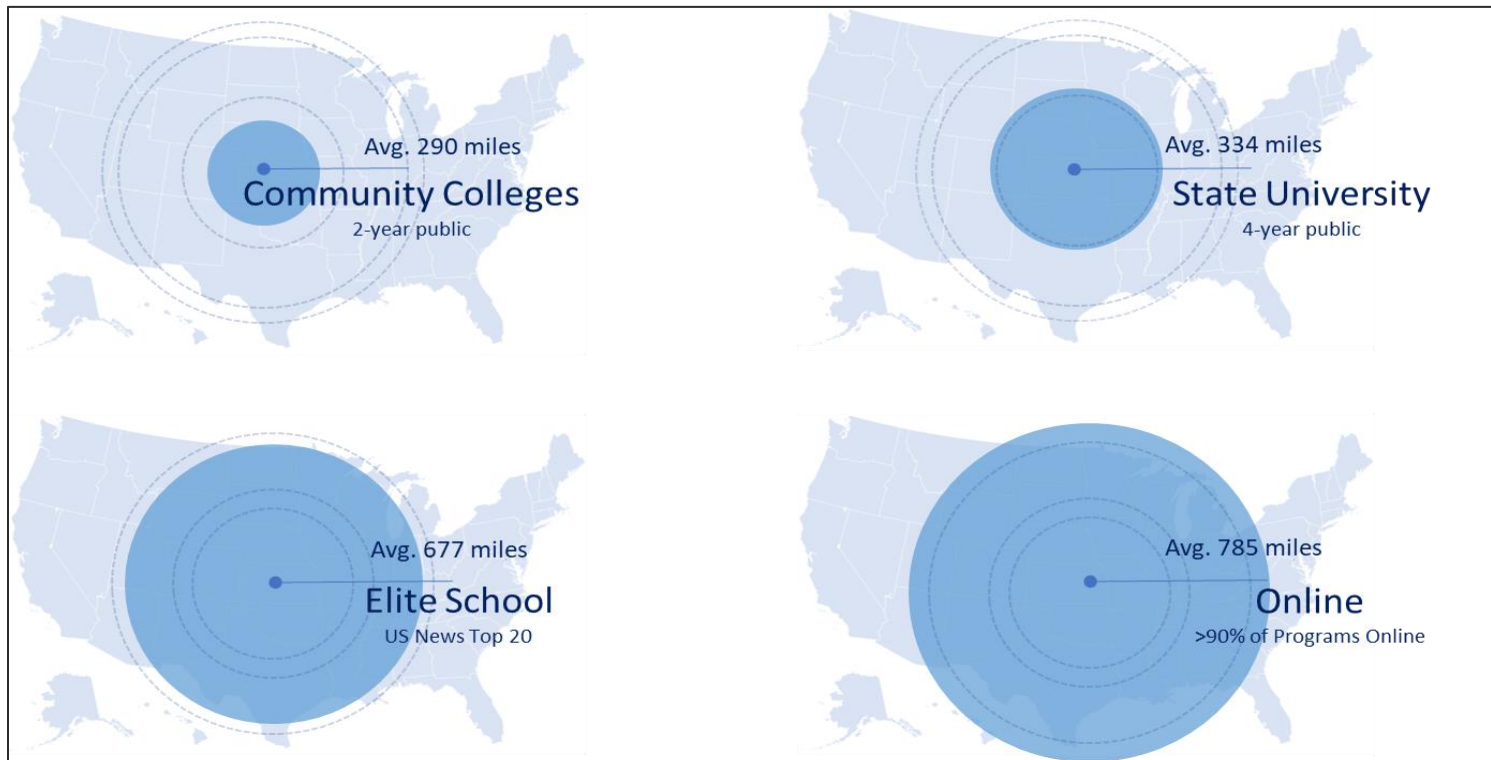
Implications for UMS: UMS and MCCS should leverage their existing partnership by refining articulation agreements in parallel with the Unified Catalog to enhance transfer pathways and increase the number of transfer students from an MCCS institution to UMS.

Source: 1. Tracking Transfer: Measures of Effectiveness in Helping Community College Students to Complete Bachelor's Degrees Report and 2021 Data Update; MCCS 2021-2022 Fact Sheet, 2021 UMS Transfers Report, IPEDS

Student Migration Post-Graduation

Nationwide, state university graduates generally stay within state lines with an average distance of 330 miles from their alma mater, and 40% are within 50 miles of the university. As a state, Maine retains between 30-40% of its postsecondary graduates (which includes in-state and out-of-state students).

Average Migration Distances by Type of School, 2008-2018

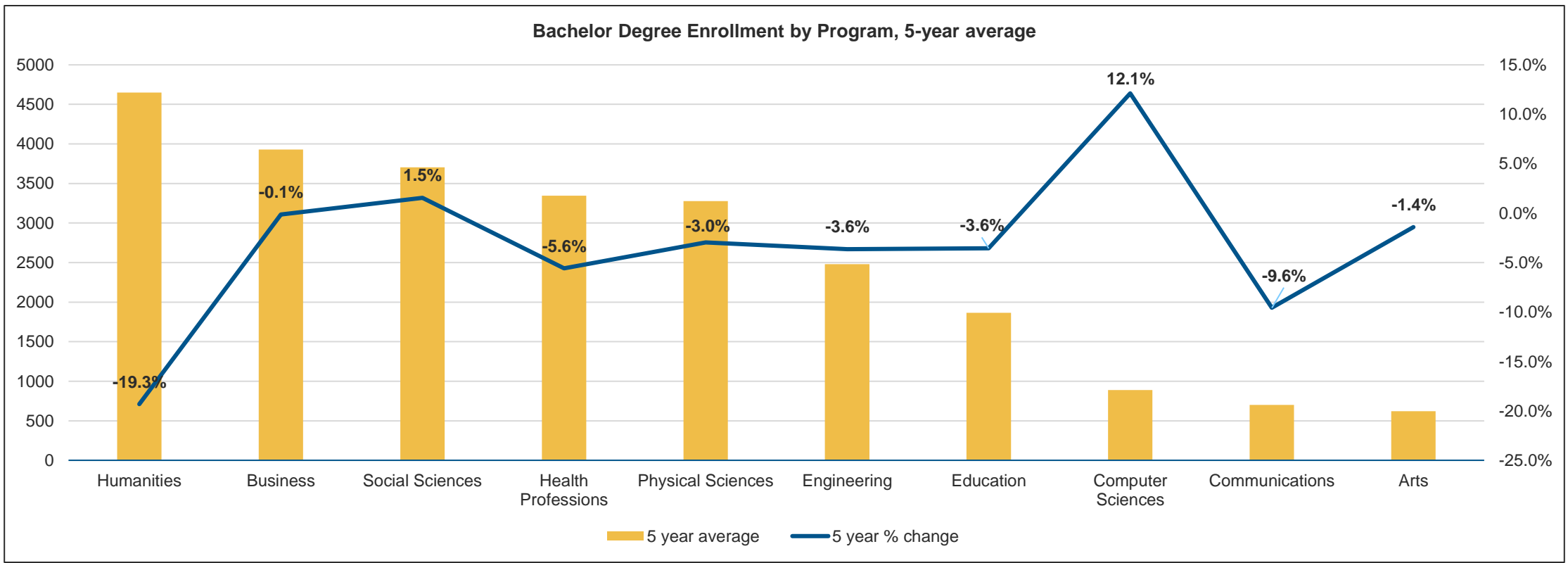


- On average, a student who attends a **community college** will stay within **300 miles** of the college and **61% live within 50 miles of the college.**
- Graduates of **elite schools** flock to big cities and tend to **move nearly 700 miles away** from their universities. Nearly **40% are over 500 miles** from the university.
- Graduates of schools with large (or fully) **online** offerings **live all over the U.S.**, and **over 60% are more than 500 miles away** from their university's central location.

Implications for UMS: UMS has the opportunity to reduce “brain drain” through continued economic and workforce development initiatives particularly through R&D initiatives.

Academic Portfolio: Bachelor Degree Programs

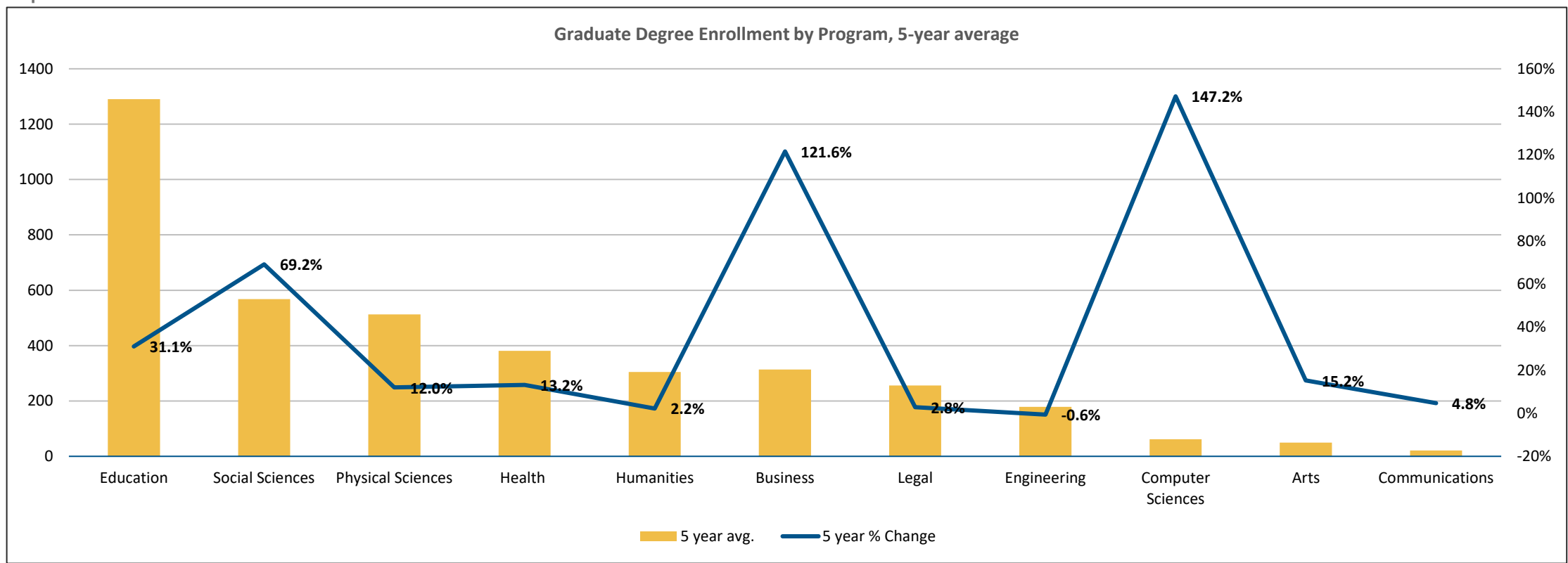
Bachelor degree enrollment in programs like Humanities, Business, Social Sciences, Health professions, and Physical Sciences hold the largest share of enrollments across UMS. The balance of liberal arts and technical degree offerings position UMS to adapt to future market demands.



Implications for UMS: UMS offers a comprehensive academic portfolio to serve its students. The System will need to both underpin foundational areas like humanities and capitalize on areas of growth like computer science to meet workforce and state economic development needs.

Academic Portfolio: Graduate Degree Programs

Graduate degree enrollment in programs like Education, Social Sciences, Physical Science, Business and Health Professions hold the largest share of enrollments across UMS. The balance of liberal arts and technical degree offerings position UMS to adapt to future market demands.

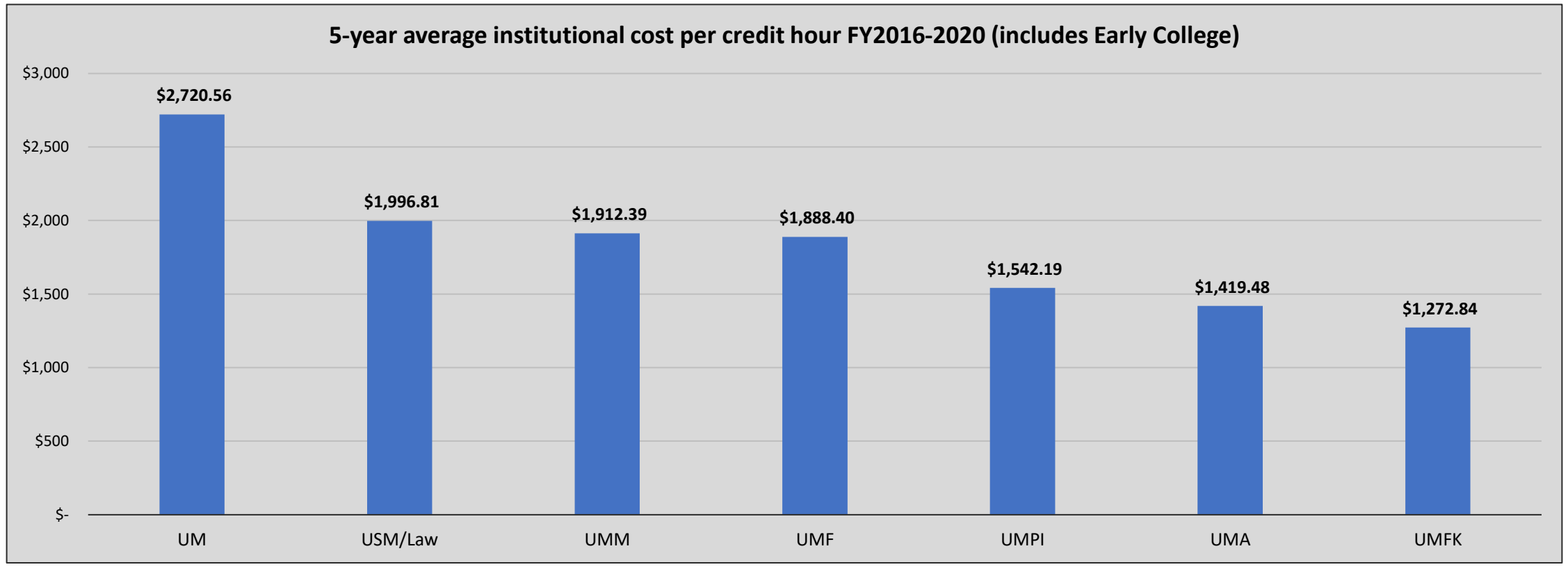


Implications for UMS: UMS has a broad portfolio of academic offerings with significant growth in business and computer science. UMS will need to leverage their academic offerings and recent R1 status at UM to prepare its students for future workforce demands.

Source: UMS Institutional Data. Note: Architecture included under engineering.

UMS Degree: Cost per Credit Hour

In FY2020, across the University of Maine System, the average cost to deliver a credit hour was \$1,821.81.



Note: These calculations show a high-level, aggregate view. Further internal analysis should be conducted to gain a more nuanced understanding as costs often vary widely by program.

Implications for UMS: To continue to deliver on its mission of affordability, UMS must leverage its system-wide resources to deliver its academic portfolio in a cost-effective way.

Source: IPEDS, UMS Fall 2020 Enrollment Report. Note: Maine Law and USM are combined due to their financial structure. Note: Methodology used total expenses divided by total credit hours per campus.

Maine Current and Future Industries

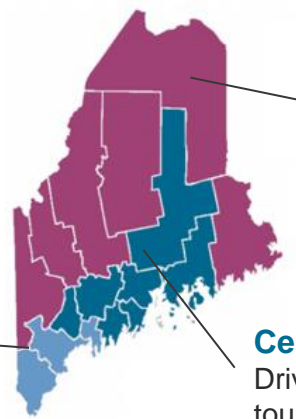
In 2020, Maine’s Real Gross Domestic Product (RGDP) was \$57.7 billion, down from \$59.4 in 2019 in part due to the COVID-19 pandemic as consumers cut back spending and businesses cut back investments. UMS contributes \$1.5 billion annually to the state economy.

Current Industries in Maine

Top 5 industries in full state in 2021:
Healthcare, Government, Retail, Tourism, Manufacturing

Regional Breakdown:

Greater Portland-Met
Leads with industries in tourism, healthcare, professional services, or boasts unique industries like shipbuilding.



Northern Maine
Holds a strong footprint in manufacturing, forestry & logging.

Central Mid-coast region
Driven by industries in tourism, healthcare, and a high concentration of fishing and agricultural industries.

Future Industries in Maine

The Maine Economic Development Strategy 2020-2029 outlines a plan to leverage intersections of established industries and emerging technologies to transform the state’s assets into quality jobs. Priorities include:

- **Bio-based alternatives** including fuels and building materials
- Climate change solutions focused on **green energy sources**
- **Responsible food sources and technologies** such as aquaculture¹
- **Artificial Intelligence (AI) growth** and **data center management**
- **ConnectMaine** will facilitate the universal availability of **broadband** to all Maine households and businesses **by 2025**.

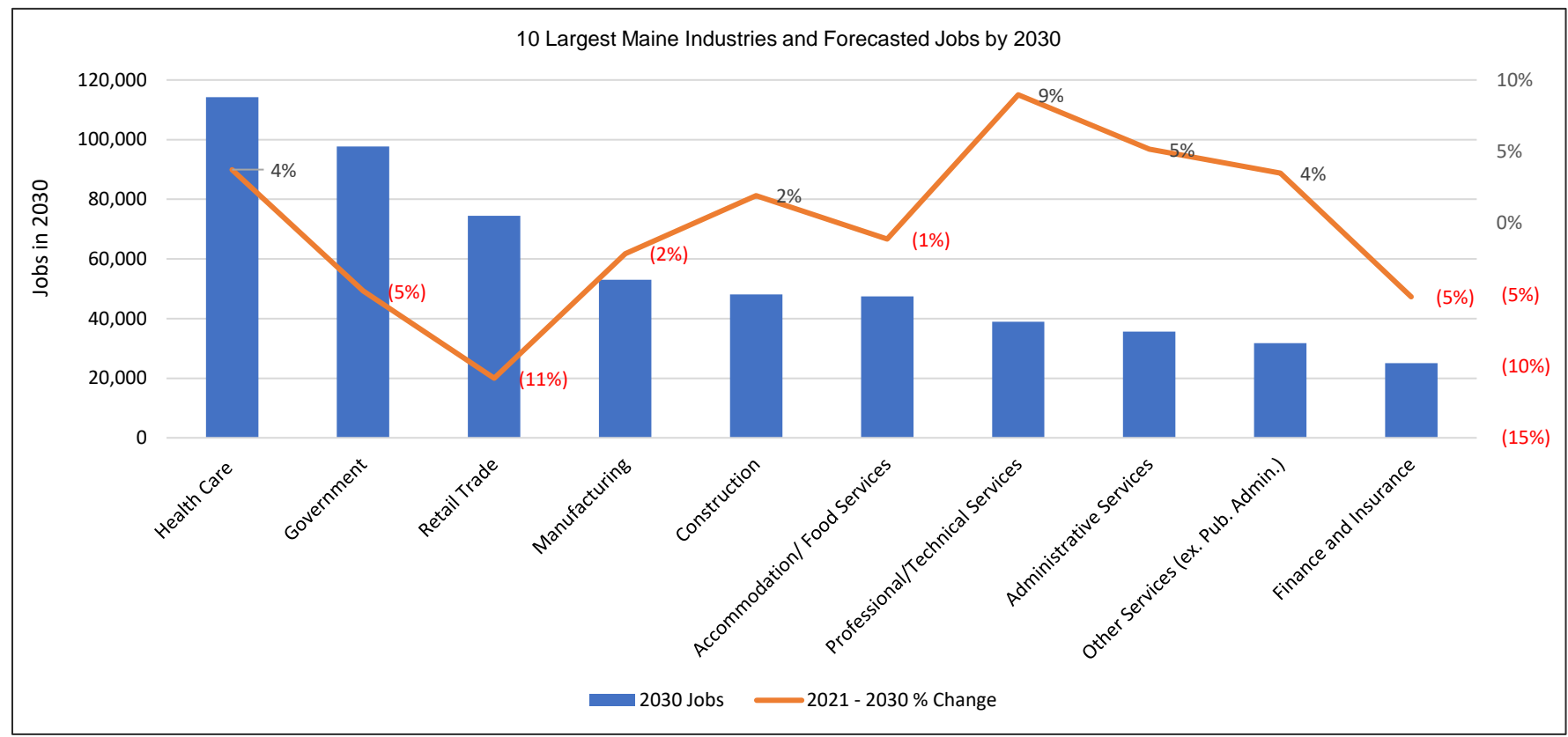
In addition, the next slide forecasts Maine’s 10 largest industries and forecasted job growth in 2030.

Implications for UMS: Maine plans to address their economic development with new talent, engaging workers not currently in the labor pool, and by investment in knowledge and skill development across varied populations. UMS should prepare to meet the demand for new workforce skills.

Source: 1. Maine Economic Development Strategy, 2020-2029; EMSI; FRED Economic Data. <https://www.maine.edu/governmental-affairs/wp-content/uploads/sites/29/2019/11/UMSEconomicImpactInfographic.pdf>

Maine's Future Industries and Economic Outlook

Between 2021-2030, job growth in Maine is forecasted to be flat at .2%, growing modestly from 692,835 to 694,020 total jobs. Compared to national job growth projected at 6.7% over the same period, Maine's projected job growth lags significantly.

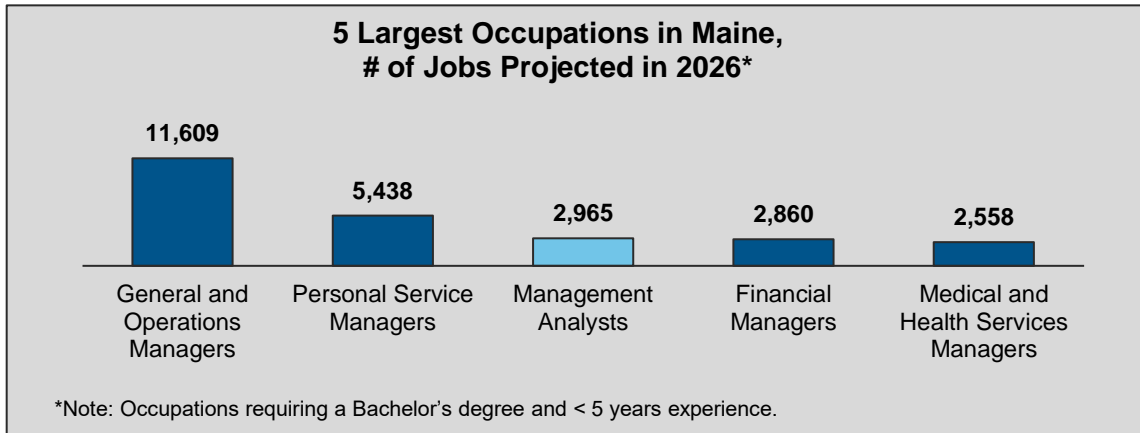


- Retirement risk is high in Maine- the national average of the population ready to retire for an area of this size is 401,837 people 55 or older. In Maine, there are 504,250
- The flow of new workers is low- Maine has 244,824 millennials (ages 25-39). The national average for an area this size is 278,228
- Flat job growth, a high volume of retirements, and a lower volume of workers to replace those jobs creates a gap that UMS is uniquely positioned to address

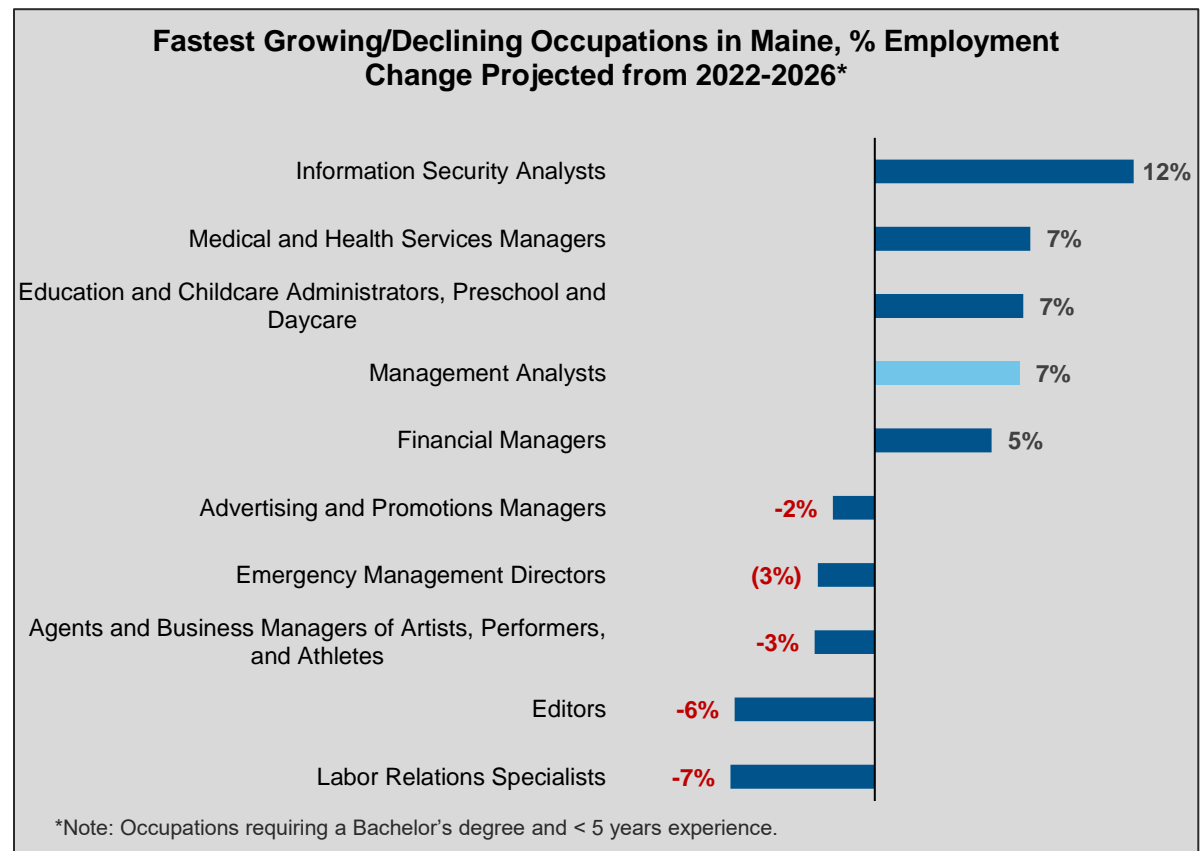
Implications for UMS: UMS can shape Maine's future economy by investing in initiatives to drive new job and industry growth while producing a credentialed workforce to meet those needs.

Occupations in Maine: Bachelor's Degrees

Overall, employment is projected to grow 3% from 2022-2026 for occupations requiring a Bachelor's degree and less than five years of experience in Maine. Management Analysts (depicted in light blue) make up one of the largest and fastest growing occupations.



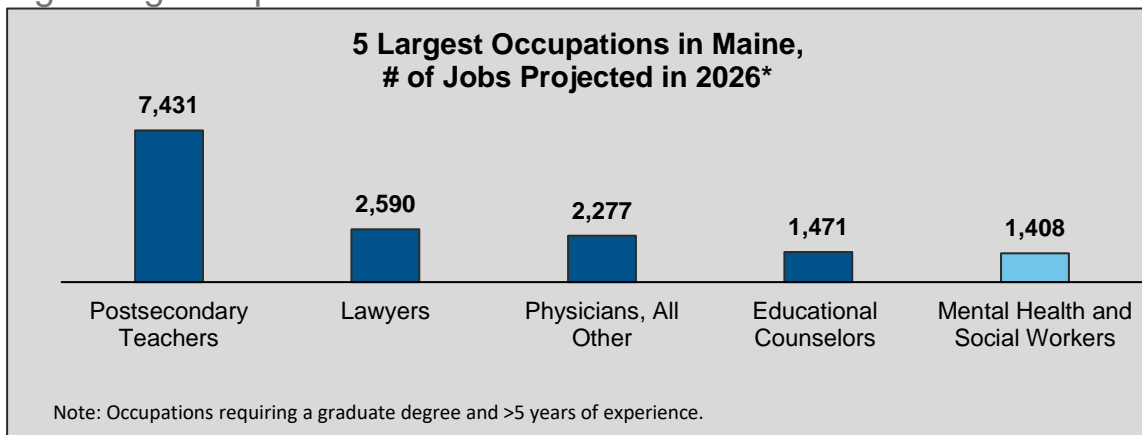
Occupation	Relevant Skills
General and Operations...	Critical Thinking, Speaking, Social Perceptiveness
Personal Service Managers	Time Management, Reading Comprehension
Management Analysts	Decision Making, Critical Thinking, Analysis
Financial Managers	Speaking, Active Listening, Social Perceptiveness
Medical and Health Serv...	Critical Thinking, Decision Making



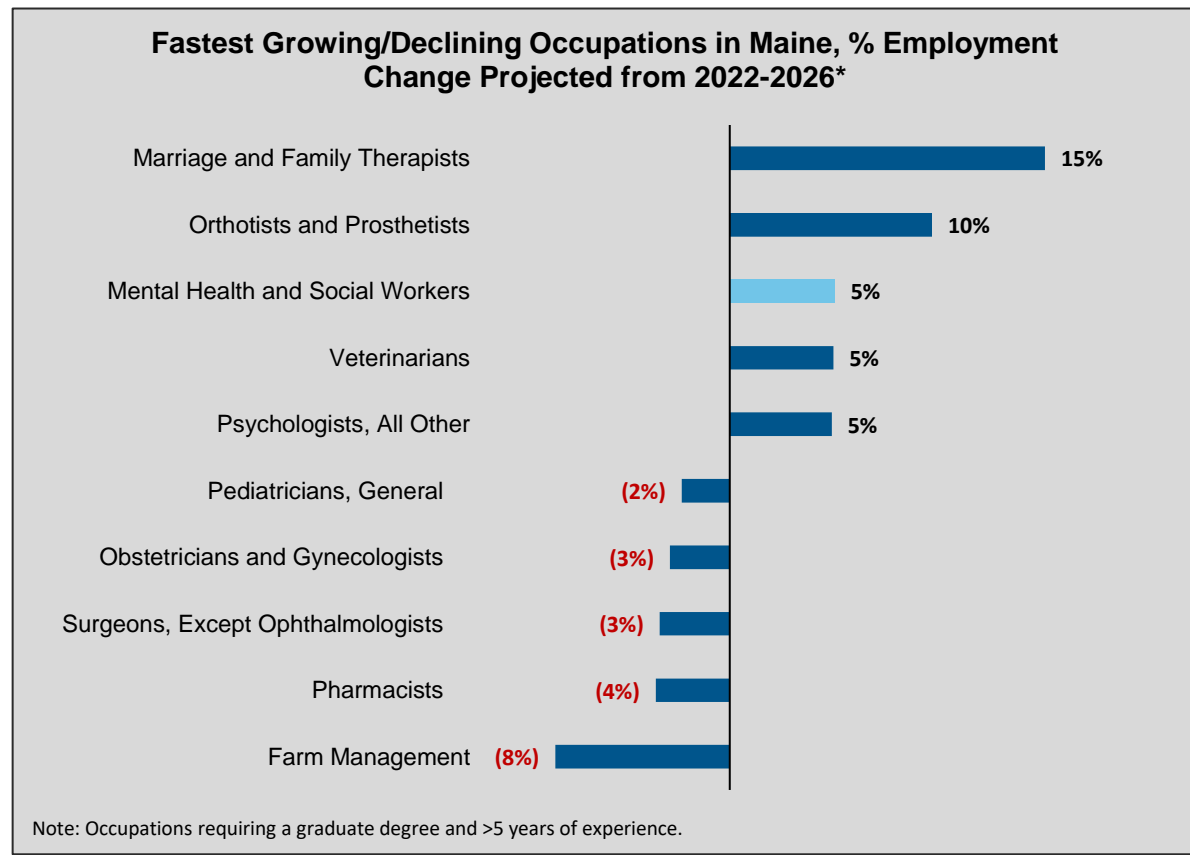
Implications for UMS: Occupations forecasted to grow in the state requiring bachelor's degree will require a mix of skills. UMS has the opportunity to leverage its academic portfolio to prepare students for successful entry into the workforce.

Occupations in Maine: Graduate Degrees

Overall, employment is projected to grow 1.63% from 2022-2026 for occupations requiring a Graduate degree (Master’s, Doctoral, or Professional) and less than five years of experience. Mental Health workers (depicted in light blue) make up one of the larger and fastest growing occupations.



Occupation	Relevant Skills
Postsecondary Teachers	Instructing, Writing, Active Learning
Lawyers	Critical Thinking, Persuasion, Speaking
Physicians, All Others	Reading Comprehension, Active Learning
Educational Counselors	Social Perceptiveness, Active Listening
Mental Health and Social	Active Listening, Monitoring, Social Perceptiveness

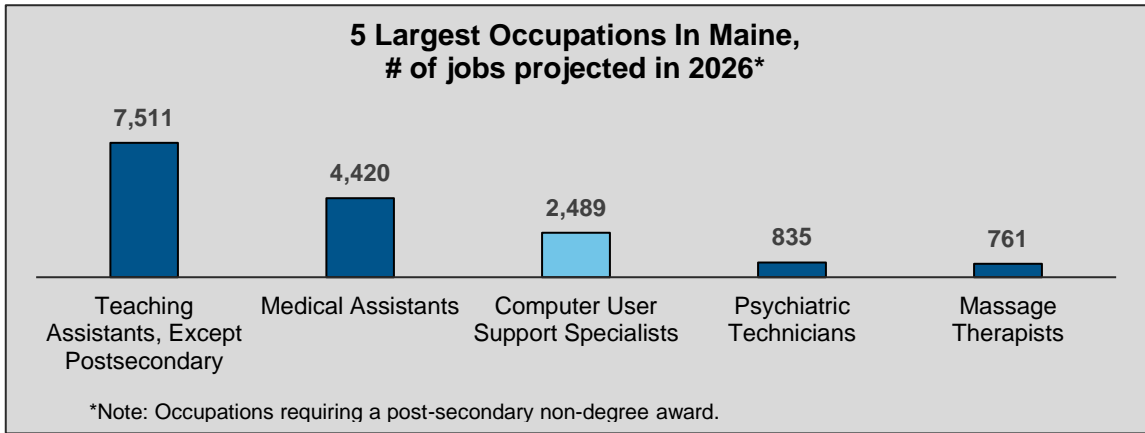


Implications for UMS: Occupations forecasted to grow in the state requiring a graduate degree will require subject matter expertise and professional skills. UMS has the opportunity to leverage its academic and research portfolio to prepare students for professional careers.

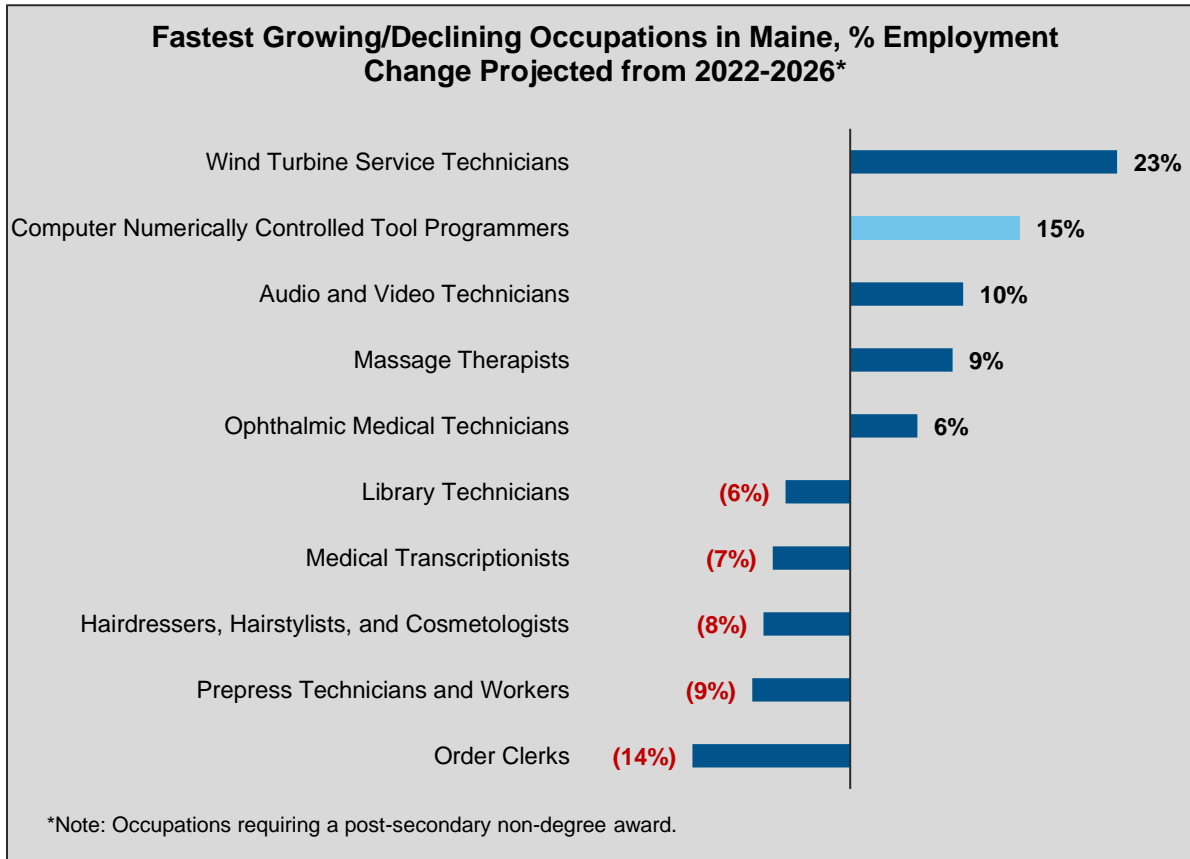
Source: EMSI; O*NET Online. Note: Data is in line with projections from Maine Center for Workforce Research and Information (CWRI).

Occupations in Maine: Postsecondary Non-Degrees

Overall, employment is projected to decline 1.03% from 2022-2026 for occupations requiring a post-secondary non-degree and less than five years of experience. Computer Support Technicians (depicted in light blue) make up one of the larger and fastest growing occupations.



Occupation	Relevant Skills
Teaching Assistants...	Learning strategies, Social Perceptiveness
Medical Assistants	Speaking, Reading Comprehension, Monitoring
Computer User Support...	Active Listening, Critical Thinking, Instructing
Psychiatric Technicians	Social Perceptiveness, Active Listening
Massage Therapists	Speaking, Active Learning, Service Orientation

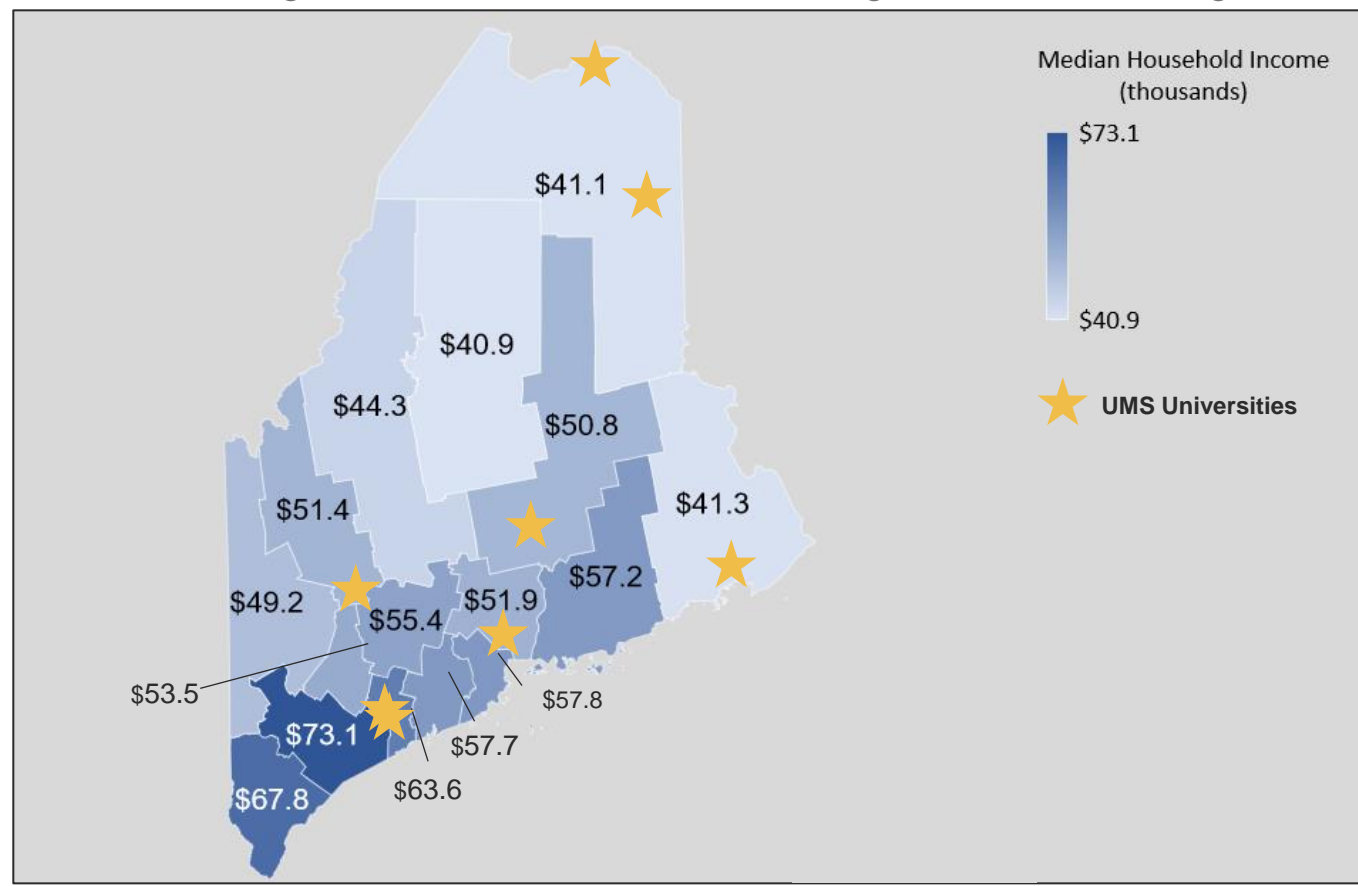


Implications for UMS: Occupations forecasted to grow in the state requiring postsecondary non-degrees will require varied skills, most of which are technical. UMS has the opportunity to develop its academic portfolio to meet the needs of these workforce sectors.

Source: EMSI; O*NET Online. Note: Data is in line with projections from Maine Center for Workforce Research and Information (CWRI).

Median Household Income by County

In 2019, the median household income in Maine was \$57.9k, \$4.9K below the national median household income of \$62.8K. On average, the Cost of Living Index is 116.7 for Maine, indicating that Maine has a higher cost of living compared to the national average of 100.



County Name	Median Household Income (2019)	Cost of Living (COL) Index	Population by County
Cumberland	\$73,072	123.4	292,307
York County	\$67,830	119.1	204,316
Sagadahoc	\$63,694	123.2	35,452
Knox County	\$57,751	120.5	39,759
Lincoln	\$57,720	119.8	34,201
Hancock	\$57,178	120.3	54,601
Kennebec	\$55,365	116.6	121,753
Androscoggin	\$53,509	114.7	107,602
Waldo County	\$51,931	115.6	39,539
Franklin	\$51,422	114.8	29,982
Penobscot County	\$50,808	113.4	151,774
Oxford	\$49,204	113.1	57,550
Somerset	\$44,256	111.7	50,520
Washington	\$41,347	114.2	31,491
Aroostook County	\$41,123	112.8	67,809
Piscataquis County	\$40,890	114.5	16,836

Implications for UMS: The varying in income levels across the state indicate that UMS will need to provide affordable options for Maine residents to access a postsecondary degree or credential.

UMS Degree: Return on Investment

UMS universities offer a fair ROI based on their 40-year Net Present Value ranging between \$582K-\$1.34M which aligns with the median NPV for public college bachelor degrees of \$765,000. The private college median NPV is \$838,000 and median NPV for New England public flagships is \$1,058,000.

Note: Maine Law included with USM. *UMFK, UMM list 2019 values as they were excluded from updated 2022 data.

Institution	40-year Net Present Value (NPV)	% Earning more than a high school graduate after 10 years	Median 10-yr earnings	Net price	Median debt	Graduation rate	7-year repayment rate
Maine Maritime Academy	\$1,571,000	85%	\$72,837	\$23,239	\$24,250	73%	91%
Colby College	\$1,520,000	86%	\$71,127	\$17,777	\$17,500	90%	94%
Bowdoin College	\$1,404,000	82%	\$66,864	\$21,910	\$14,000	95%	91%
Bates College	\$1,314,000	89%	\$64,706	\$29,321	\$12,610	90%	93%
University of Southern Maine	\$1,054,000	75%	\$49,223	\$12,339	\$13,000	40%	74%
University of Maine	\$927,000	75%	\$44,376	\$17,558	\$16,000	58%	81%
Husson University	\$904,000	73%	\$43,582	\$18,286	\$21,500	56%	65%
MCCS (Median values)	\$789,500	56%	\$32,810	\$8,782	\$7,625	28%	60%
University of Maine at Presque Isle	\$755,000	57%	\$35,807	\$10,637	\$9,099	36%	64%
University of Maine at Augusta	\$735,000	55%	\$34,202	\$10,631	\$13,215	16%	48%
University of Maine at Farmington	\$734,000	56%	\$35,051	\$14,548	\$16,756	55%	80%
University of Maine Fort Kent*	\$710,000	N/A	\$33,400	\$12,228	\$12,500	35%	74%
University of Maine Machias*	\$582,000	N/A	\$27,500	\$9,317	\$11,125	30%	68%

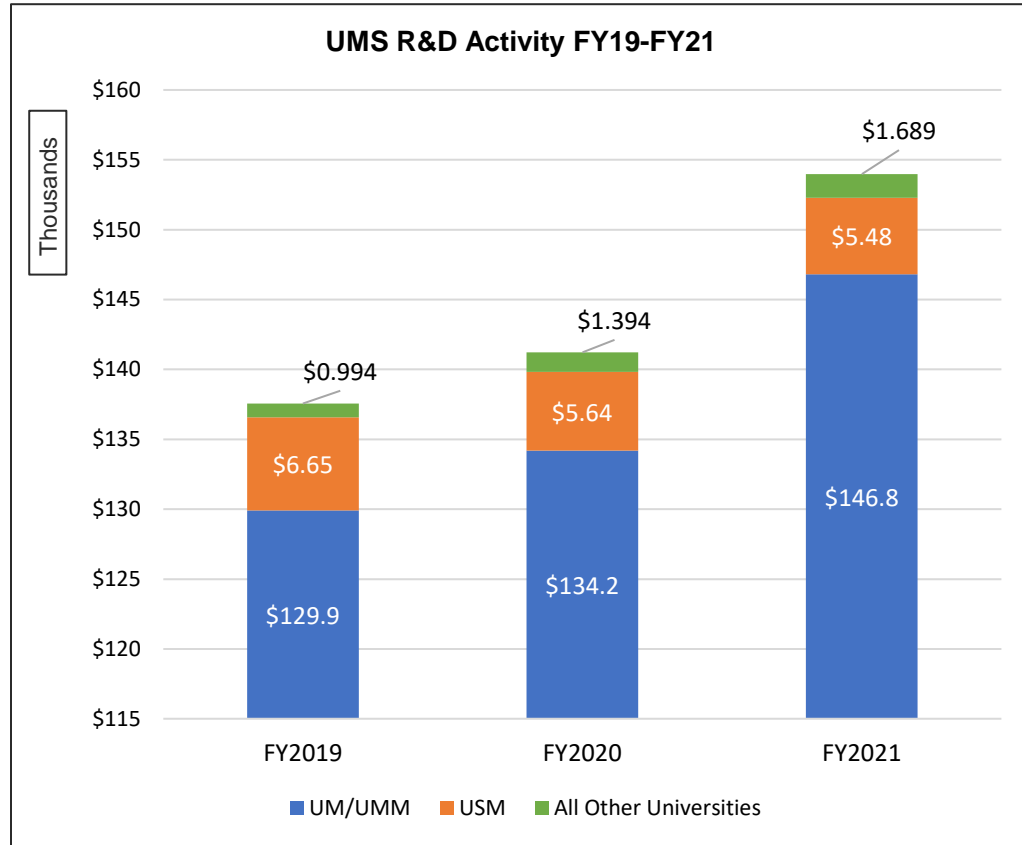
- Both the **Maine Community College System** and **Husson University** deliver a **higher ROI** for students based on 40-year NPV, than do UMPI, UMA, UMF, UMFK, and UMM.
- **Maine Maritime Academy** delivers a high ROI due to the nature of its **STEM-focused** programs.
- **UMS Universities**, after MCCS, are the **most affordable** in the state with the lowest **average net price at \$13k**; however, UMS graduation rates are well below the private institutions in the state suggesting UMS faces challenges with student retention, persistence, and completion.

Implications for UMS: To be remain competitive, UMS must maintain its affordability while increasing its ROI by focusing on student outcomes including time to graduation and career placement.

Source: 1. *Ranking 4,500 Colleges by ROI*, Georgetown Center on Education and the Workforce.

UMS Research and Development Activity

UMS has a strong research footprint and a successful record of securing funding.



Largest Sources for UMS	FY21 Expenditure Amount
Federal (including pass through)	\$67.5M
State Government-Maine	\$22.1M
Private Non-Profit	\$3.1M
Miscellaneous (E&G)	\$61.3M

Key National Trends in Research Funding

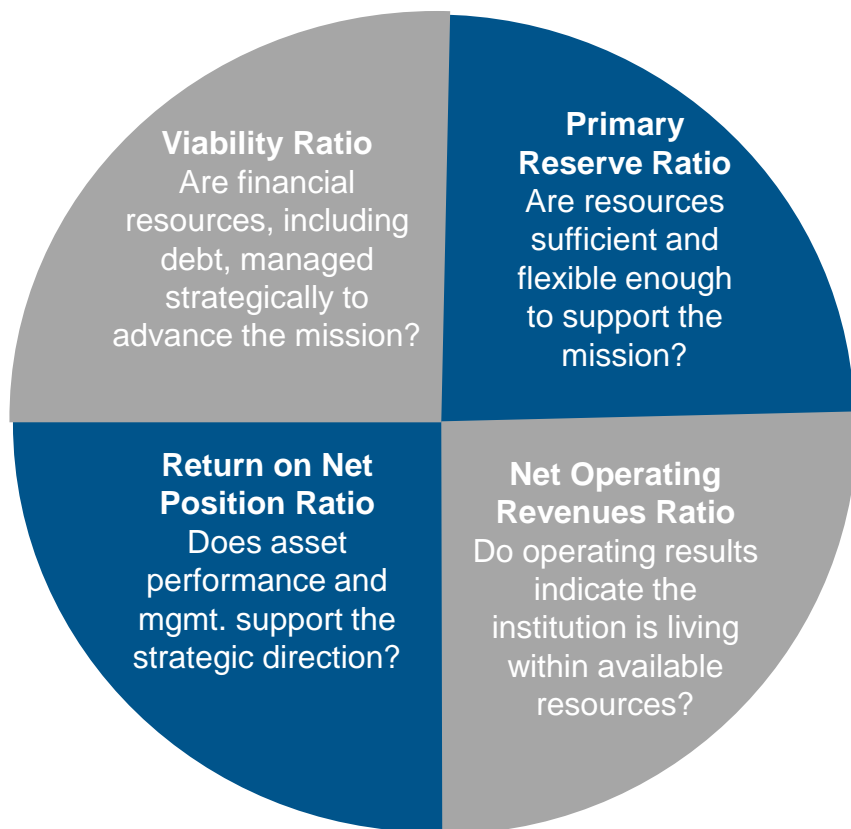
- The largest federal sponsors in FY21 were National Science Foundation, Dept. of Defense, Dept. of Agriculture, Dept. of Commerce, Dept. of Energy, and Dept. of Health and Human Services.
- Since 2000, federal funding as a percentage of university R&D has fallen from 60% to below 45%, while corporate funding has risen from 20% to 30%.¹ **In 2021, UMS federal research activity comprised 58% of the research portfolio, well above the national benchmark.** In the future, UMS may explore increased corporate funded research opportunities, to align with market trends.

Implications for UMS: UM’s recent designation as an R1 institution will advance opportunities for new strategic partnerships and continue to augment the support of R&D activity across UMS universities.

Source: UMS Research Summary, 2021 Research Report University of Maine, UMS Research & Development Plan. Note: The UMS Research data was derived using a blended approach including NSF HERD and UMS SRECNP reports. 1. www.axios.com, “The shift to private R&D investment may curtail innovation”.

UMS Financial Health: Composite Financial Index

The financial health of the University of Maine System can be evaluated using industry benchmarks and ratios. The following ratios and related benchmarks are derived from Strategic Financial Analysis for Higher Education.



When the four ratios to the left are combined, they deliver a single measure of a university's overall financial health, referred to as the **Composite Financial Index (CFI)**.

	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
University of Maine	4.1	3.3	2.7	2.4	2.3	2.6	2.1	2.5	2.2	2.4
University Southern Maine	2.4	1.7	1.2	1	1.3	1.9	0.9	0.2	0.1	0.4
UM Farmington	3.2	3.5	2.9	2.1	0.5	0.4	-0.5	-0.5	-0.4	-0.3
UM Presque Isle	4.9	4.3	3.5	2.2	0.5	1.5	-0.7	-0.3	-0.1	-0.1
UM Augusta	6	5.3	5.5	4.7	5.2	4.8	4.4	3.5	3.6	3.9
UM Fort Kent	-0.3	0.1	-0.5	2	-0.3	1.2	-0.1	1.4	0.2	2.6
UM Machias	-0.4	-0.2	-0.4	0.4	1.6	1.4	1.6	0.3	-0.3	0.3
Total System	3.9	2.9	2.7	3	1.8	2.4	2.5	2	1.7	2.3

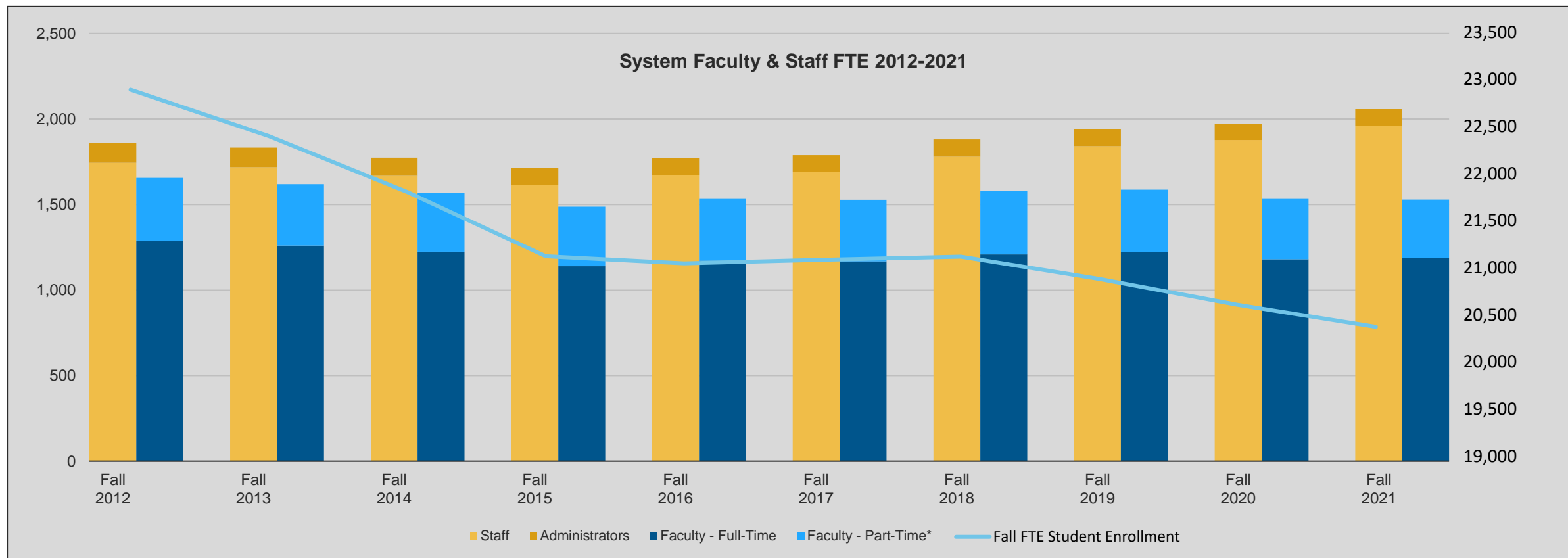
Low Benchmark across Higher Education = 3.0
High Benchmark across Higher Education = 10.0

Implications for UMS: Over the past 6 consecutive years, UMS has not achieved the “low benchmark” higher education threshold for financial sustainability.



UMS Faculty and Staff Profile

While enrollment has significantly declined across the System over the past decade, faculty and staff levels have remained largely the same. Over the past 10 years, total employee FTE has declined by 6%.

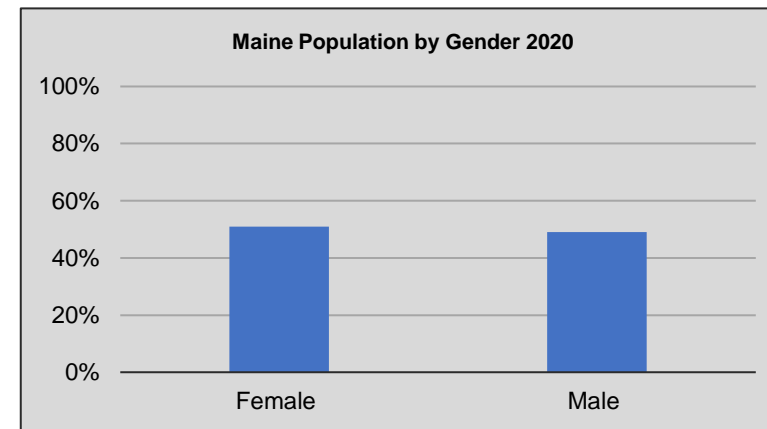
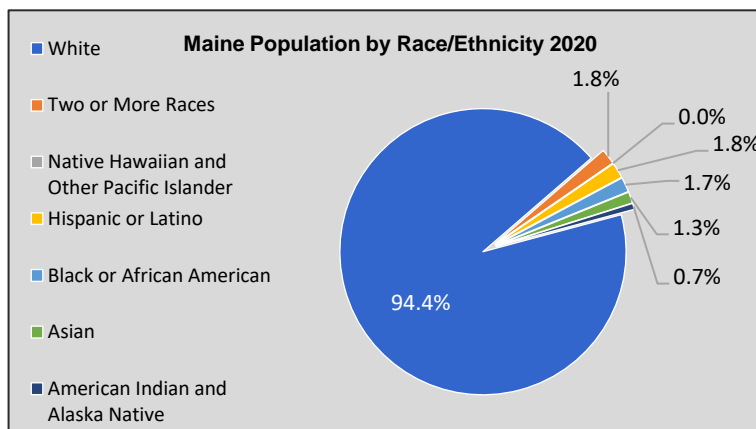
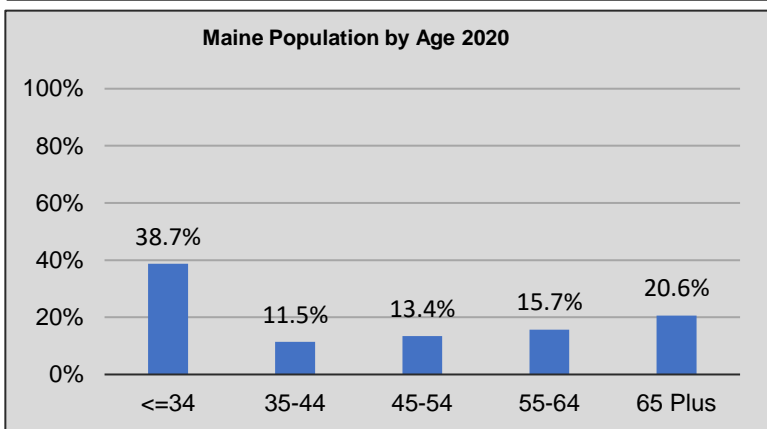
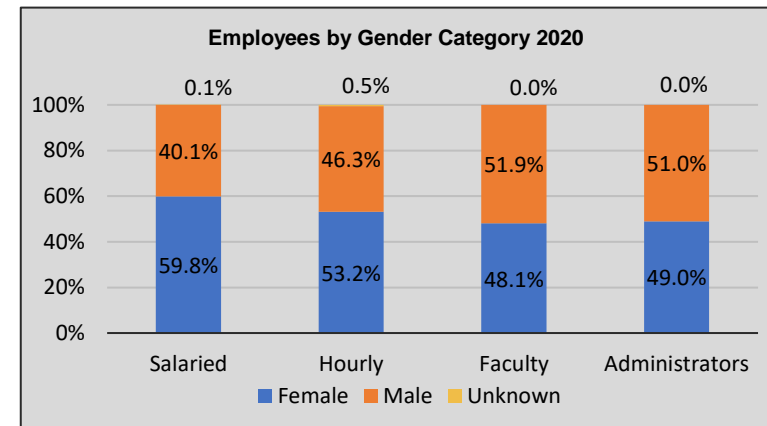
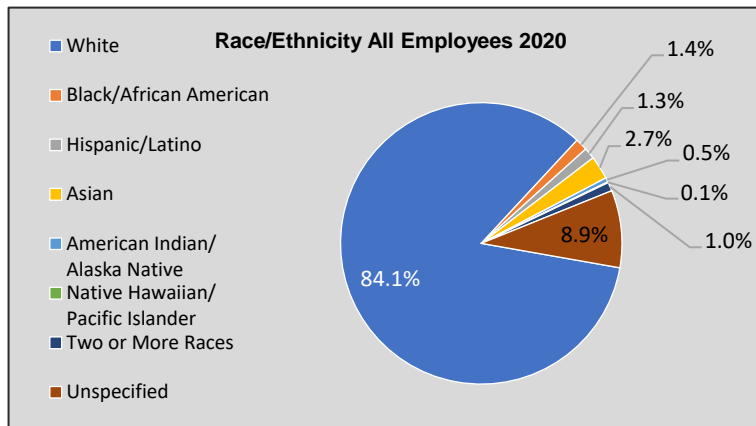
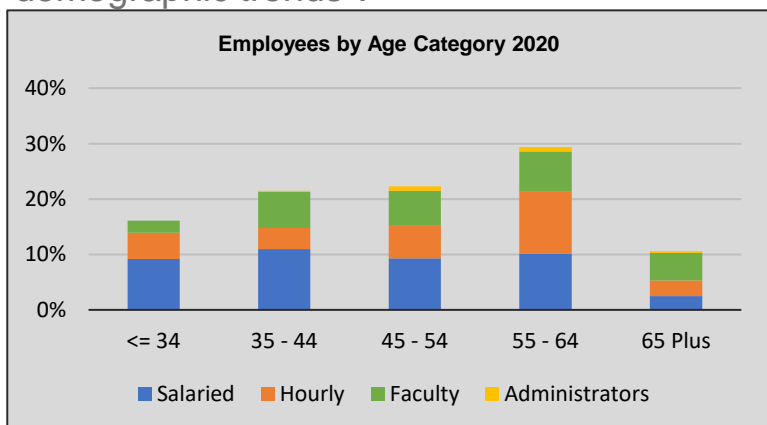


Implications for UMS: In the future, UMS will need to align its faculty and staff levels with fluctuations in enrollment while and actively work to diversify its workforce to build on system-wide diversity, equity, and inclusion initiatives.



Employee Demographics

Employee demographics mimic the demographics of the state, except in non-white race/ethnicity where the UMS employee population is 10 percentage points higher than state totals. The faculty and student populations mirror one another; however, UMS lags behind national campus demographic trends¹.

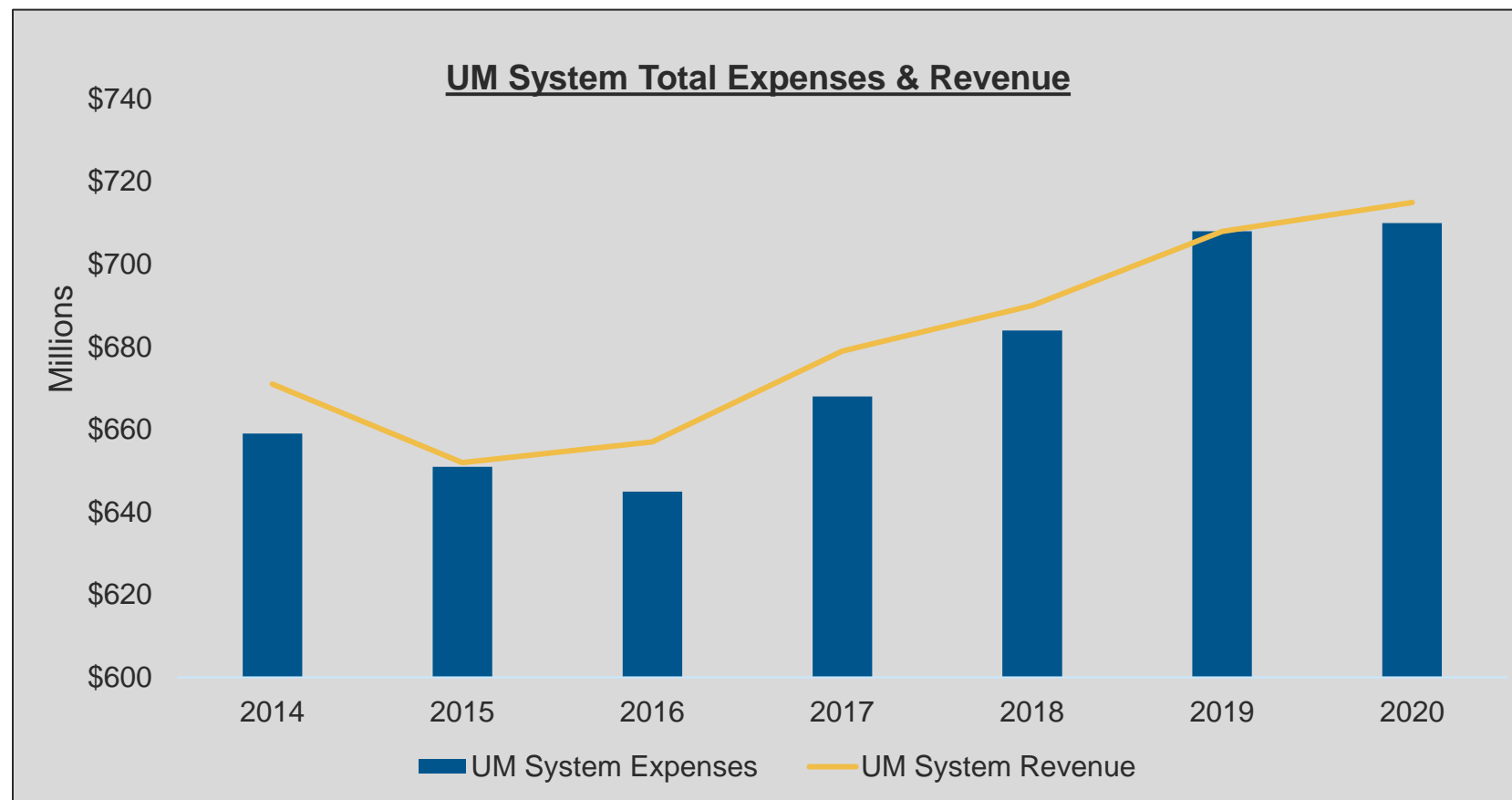


Implications for UMS: UMS will need to leverage its ability to attract diverse talent to the System and the state to support its broader DEI initiatives.



UMS Revenue and Expenses over time

Between 2014 and 2020, expenses across University of Maine System seven universities increased by 7.8% while revenue has risen 6.7%.

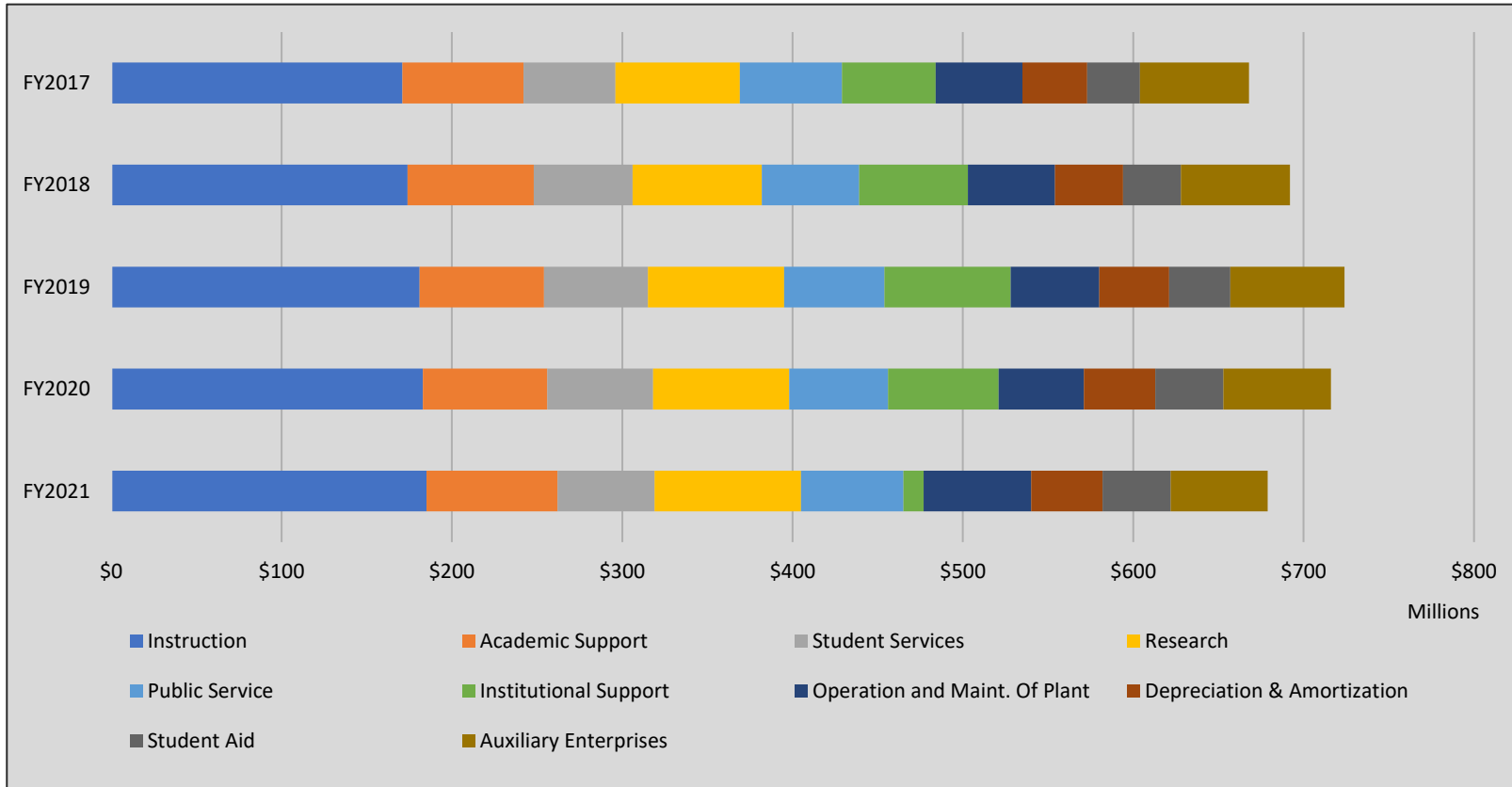


Institution Name	Number of Years with positive Net Income over past 7 years
UM	7
UMA	4
UMF	2
UMFK	7
UMM	5
UMPI	0
USM	5

Implications for UMS: Expenses have risen slightly faster than revenue overtime. In order to remain financially sustainable in the future, expenses will need to align with revenues.

UMS Financial Health: Expense by Category

UMS expenses have flexed with the COVID-19 pandemic, for example, increasing funds for operation and maintenance by 26% from FY20 to FY21.

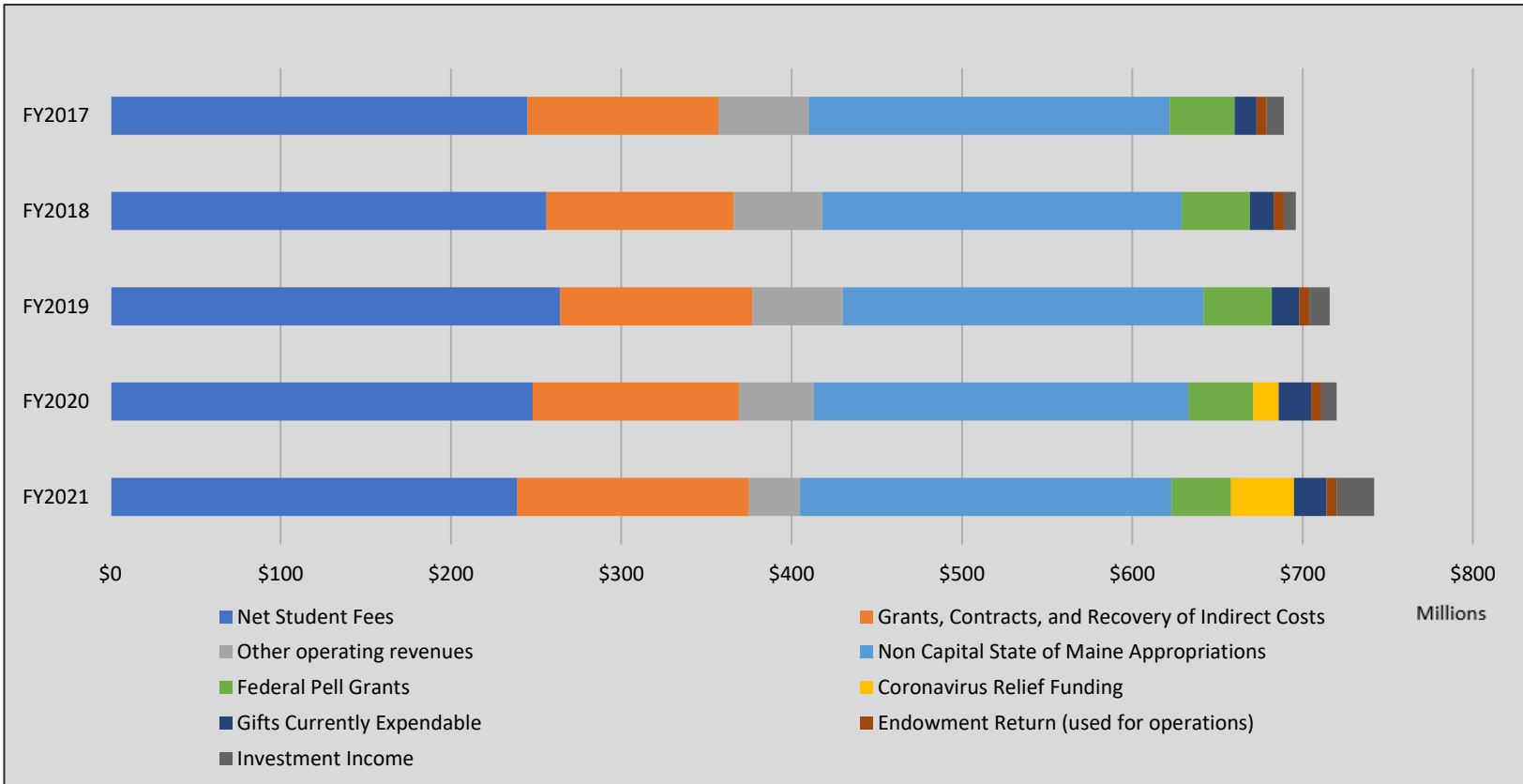


- Institutional Support, the day-to day operational support of the institution, decreased significantly by \$53M in FY21, a reduction of 81%, explaining the drop in total expenses for the year
- Research expenses have grown 17.8% since FY2017 and should be expected to increase more rapidly given the recent R1 designation for UM
- Auxiliary expenses show a 10.9% reduction since FY17 with the most significant drop in FY21 of \$6M as the pandemic limited the scale of operations for dining and residence hall facilities

Implications for UMS: UMS will need to reduce future expenses through careful resource planning aligned with its strategic vision.

UMS Financial Health: Revenues by Category

UMS relies heavily on net student fees as well as state appropriations as sources of revenue. The noncapital state appropriation was the second largest funding source for educational and general operations behind net student fees.

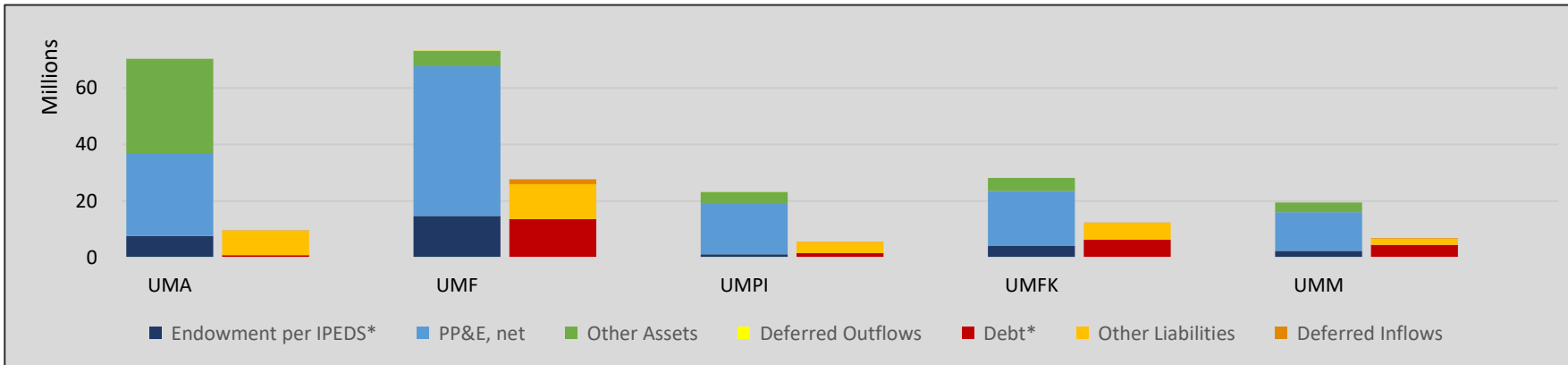
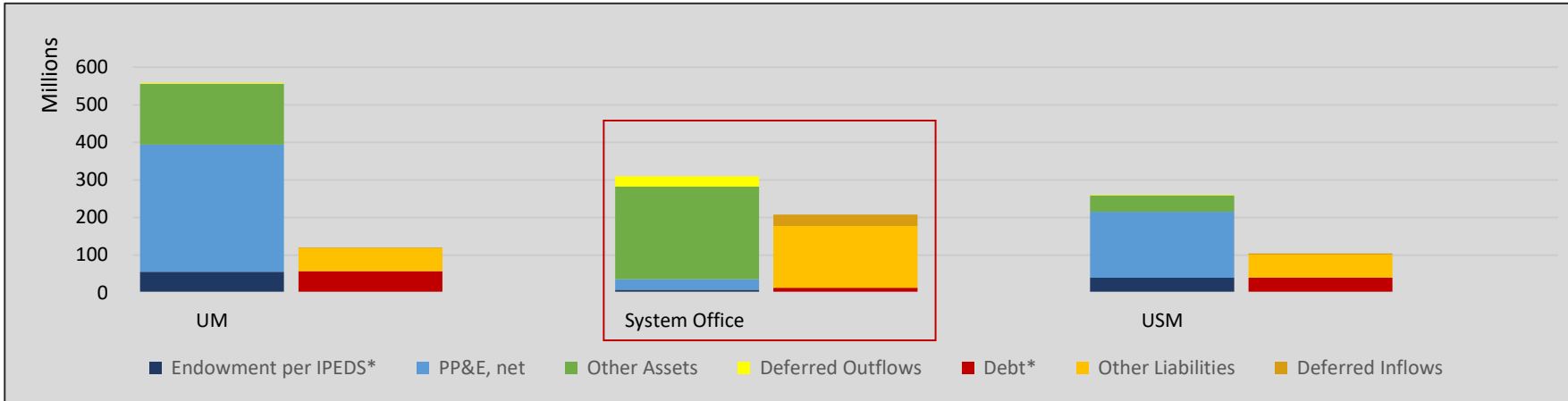


- UMS benefitted from CARES and CRRSA Act funding in FY20 and FY21, totaling \$52M
- Net student fees decreased to \$239M in FY21, a drop of 2.45% from FY17 which may be a result of declining enrollment and tuition freezes.
- Continued tuition freezes limit a natural leverage point to increase Net Tuition Revenue
- Investment returns more than doubled between FY20 and FY21, reflecting a strong market as the economy continued to rebound, however, unreliable in the future

Implications for UMS: UMS will need to align its strategic priorities with greater diversification of revenue streams to support its mission of serving both residents and the economic and workforce development of Maine.

UMS Financial Health: Balance Sheet Review

Balance sheets for FY20 illustrate that the bulk of resources in the System are held between two institutions and the System Office.

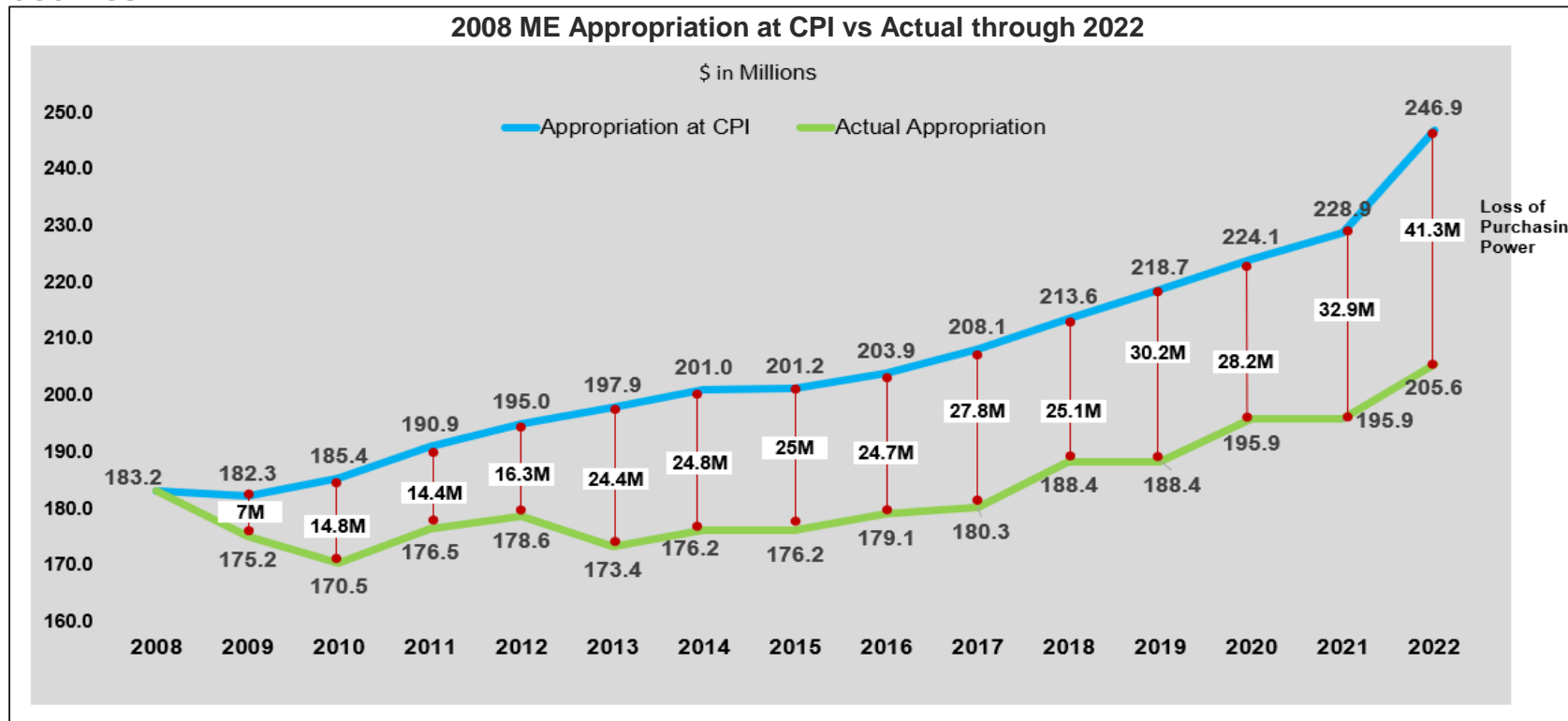


	Rate of return on net position <i>(adjusted for inflation)</i>	Higher Education Industry Benchmark
FY20	-0.4%	6.0%
FY19	-1.9%	6.0%
FY18	-0.9%	6.0%
FY17	0.9%	6.0%
FY16	-0.7%	6.0%
FY15	-3.0%	6.0%
FY14	0.6%	6.0%
FY13	1.8%	6.0%

Implications for UMS: The rate of return on total net assets over time examines whether an institution’s financial condition is improving over prior year by measuring total economic return. For the past 8 consecutive years, UMS’ ratio has been well below the industry benchmark.

UMS State Appropriations

State appropriations for UMS show a steady increase since 2008 and between FY10-21 has represented between 28-31% of the net nonoperating revenue for the System, annually. Over that same time, however, there is significant loss of purchasing power because of inflation. Nationally, education appropriations per FTE in 2020 remain at a lower level than most years prior to the Great Recession's steep declines.¹



Public Higher Education Appropriations per FTE, FY2020 (adjusted)	2015	2020	% Change Since 2015
US	\$7,840	\$8,636	10.2%
Maine	\$7,327	\$8,102	10.6%
Connecticut	\$12,074	\$11,965	-0.9%
Massachusetts	\$7,483	\$8,728	16.6%
New Hampshire	\$2,950	\$4,321	46.5%
Rhode Island	\$5,197	\$6,878	32.3%
Vermont	\$2,945	\$3,387	15.0%

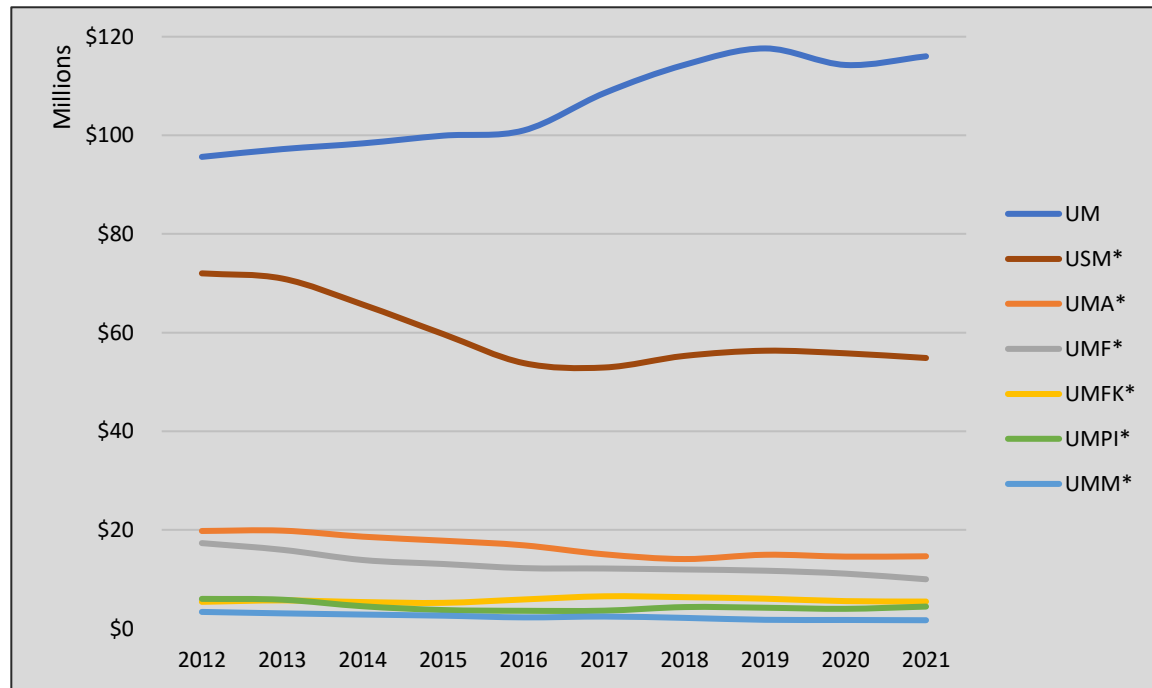
Implications for UMS: The modest increases in state funding coupled with the negative impacts of inflation add constraints to UMS achieving its mission of providing affordable education. UMS will need to make strategic choices to avoid burdening students with additional costs.

Source: 1. State Higher Education Finance Report FY2020 Report (SHEEO)

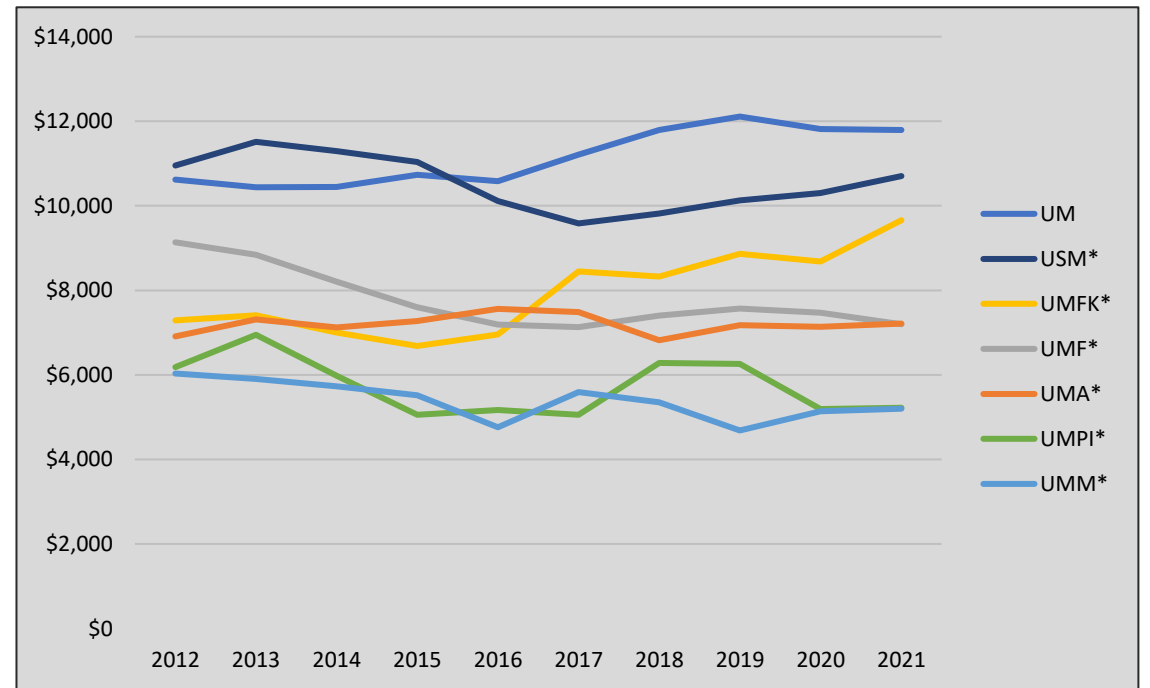
UMS Net Revenue Tuition & Fees

Institutions with an asterisk below have experienced declining enrollment over the 2012-2021 period. Although net revenue and fees per student have increased, enrollment has decreased. Tuition and fee sticker prices has remained approximately constant due to tuition freezes suggesting some universities are increasing the cost of attendance for some students.

Net Revenue Tuition & Fees by Campus, 2012-2021 (adjusted for inflation)



Net Revenue Tuition & Fees by FTE, Campus, 2012-2021 (adjusted for inflation)



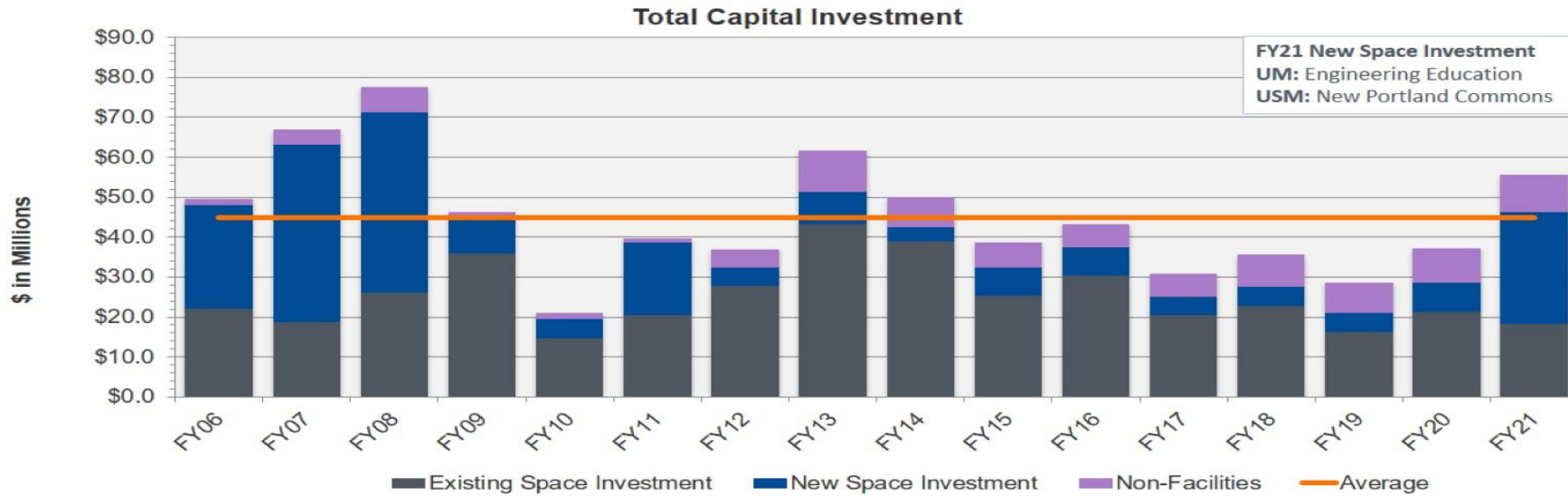
Implications for UMS: To maintain its commitment to an accessible and affordable education for students and support its financial sustainability, UMS will need to consider how to flex to meet supply and demand to avoid significant future cost increases to students.

UMS Financial Health: Capital Investments

More than 50% of UMS’s physical plant was constructed or last renovated more than 50 years ago.¹ In 2021, the Board of Trustees authorized spending on varied strategic investments across the System including an innovative public-private partnership.

Capital Investments FY06-FY21

Includes infrastructure investments



Examples of Non-Facilities work include: Study/Design fees, IT work, and demolition costs. These are necessary capital costs for Facilities Operations but do not add value/enhance existing buildings.

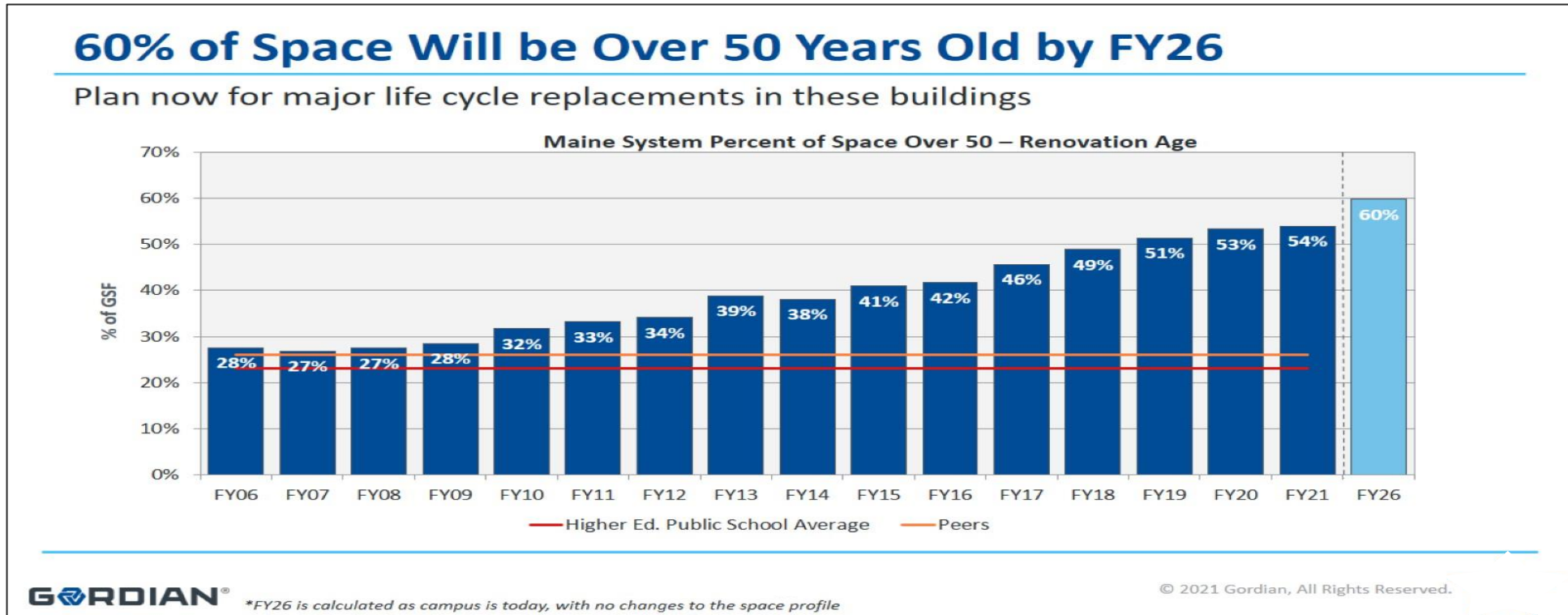
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- Over the past five years, the average capital expenditures as a percent of operating expenses was 4.7%, or \$32.7M annually.
- Huron recommends baseline capital expenditures of at least 5%-to-7% of operating expenses; however, UMS capital expenditures have been below that level.
- Median capital expenditures as a percent of operating expenses for public university systems (per Moody’s Investors Service) totaled 8.9% in FY20 – which is higher than the UMS level of capital investments.

Implications for UMS: UMS capital investments have been inconsistent year over year. UMS needs to examine where they can focus capital investments to support strategic goals.

UMS Financial Health: Aging Infrastructure

At 54%, UMS has twice the percentage of space aged 50 years or more compared to their peers at 27%, a trend that accelerated significantly over the last 5 years. Aging facilities pose significant operational risks and may also deter prospective students seeking to see the value of their tuition investment.¹



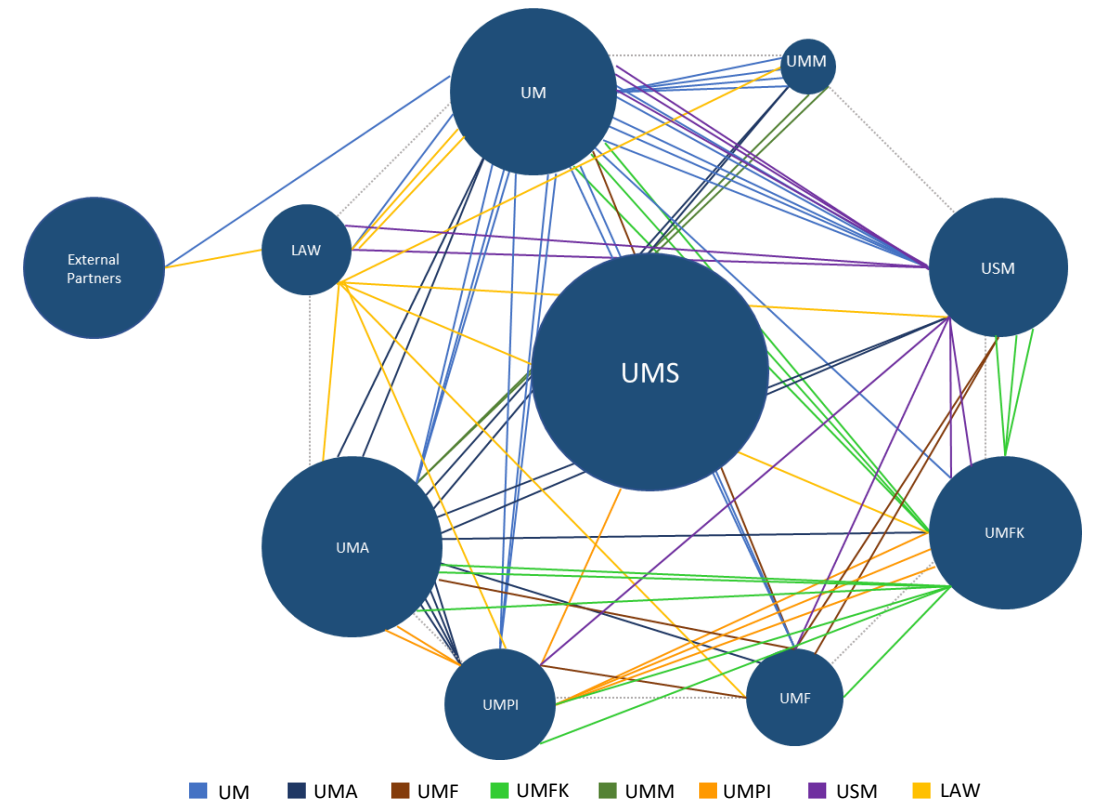
Implications for UMS: The strategic plan must address aging infrastructure across the System to align itself with peers and improve recruitment and retention.

System Collaborations & Partnerships

At UMS, collaborative initiatives at the System and university level are prevalent and range from academic programs to shared administrative services and/or facilities. Below is a representative sample of collaborations.

- System-wide collaborations include the GIS Consortium, Trauma-informed Emergency Management, Nursing, Education, MCECIS, UMS Libraries, and Faculty Governance Council.
- Articulation agreements include a 3+3 with the Law school, 4+1 in Special Education, 4+1 in Psychology/Counseling, and a 2+2 Nursing program.
- Multi-university academic partnerships include Meteorology, Aviation, Cybersecurity, Forestry, History, Political Science, Veterinary Tech, Instructional Technology, Athletic Training, and general education.
- The Research Faculty and Affiliates exchange program, medical lab space, the Maine Graduate and Professional Center, and Education Centers illustrate shared space, services, and resources.

Representation of current UMS collaborations



Note: The size of each circle represents the number of collaborations in which that university is engaged.

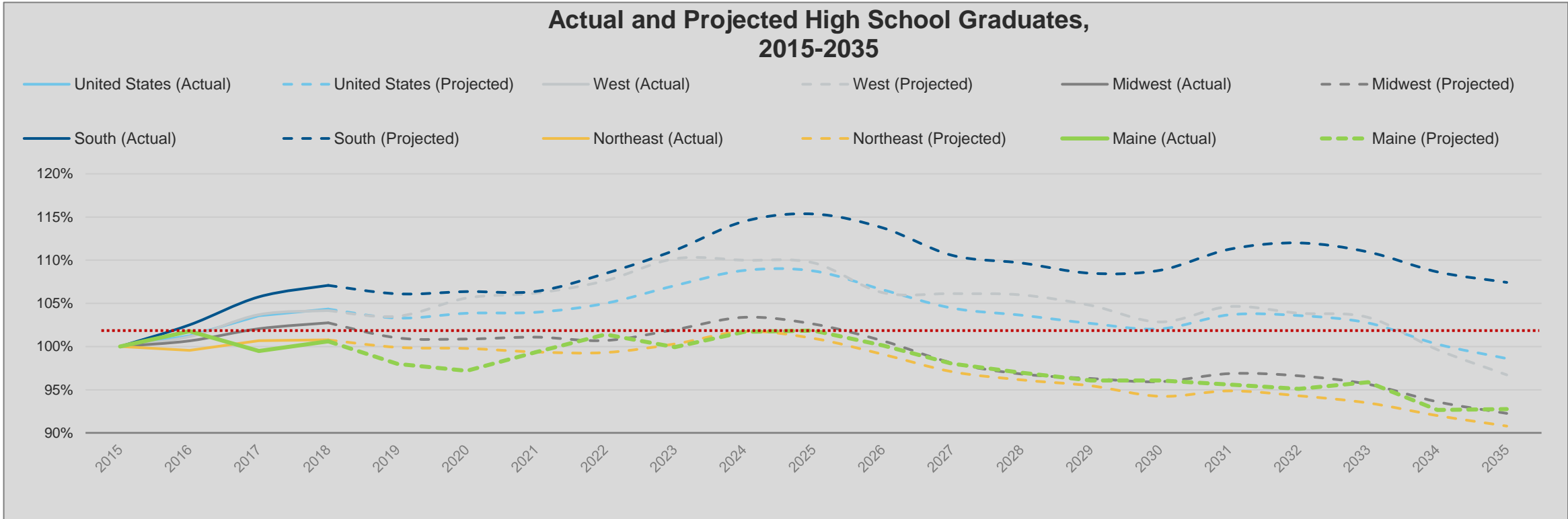
Implications for UMS: UMS has a strong foundation of collaborations and partnerships, many of which can be scaled to other institutions or system-wide.

Higher Education Market Trends and System Benchmarking



Anticipated Demographic Trends

Higher education institutions will be challenged by demographic and population trends over the next 10-15 years. The number of traditional students graduating from high school in the United States is expected to peak in 2025 and eventually fall below 2015 levels by 2035 which directly impacts the pool of traditional aged students to recruit and enroll.



Implications for UMS: Following a peak in 2025, the number of high school graduates in Maine is projected to decline from 2025-2035 and will fall below 2015 levels. The UMS should be prepared to adapt as a result.

Source: Western Interstate Commission for Higher Education, *Knocking at the College Door* (December 2020)

Access and Affordability

Exasperated by the COVID-19 pandemic, lack of access and affordability in quality higher education has perpetuated inequality for low-income and minority students.



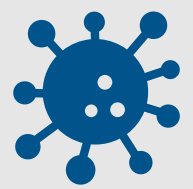
The “Degree Divide”

Minority and low-income students continue to fall behind in regard to graduation rates.



Workforce Realities

Over 70% of future jobs will require education beyond high school¹



Compounding Crises

COVID-19 has impacted low-income students disproportionately

Black & Hispanic students are

14-16%

less likely than Whites to have a college degree²

55% of all bachelor’s degree recipients at public four-year universities had an average debt level of

\$26,700

Data shows that Black and Hispanic students borrow more and have higher default rates compared to White students.⁴

Since 2006, the net Cost of Attendance at public four-year universities has increased by

10%

to \$19,230 for first time, full-time undergraduate students.³

The most vulnerable students who have the most to gain from a college education are bearing the brunt of the pandemic effects...[without] intentional ways to support low-income students of color to enroll in and stay in college, we will see these disparities in college enrollment persist. – Audrey Dow, SVP (Campaign for College Opportunity)

Sources: 1. Georgetown Center on Education & Workforce 2. Urban Institute 3. College Board Trends in College Pricing 4. NCES

Digital Transformation for Teaching and Learning

Universities quickly shifted to remote instruction in 2020. Going forward, there will be increased acceleration of the education ecosystem that support digital learning.



Digital Newcomers

- Little experience and availability of online courses and online teaching
- Limited access to digital tools
- Opportunities for significant advancement to catch up



Emerging Adopters

- Successfully experimented with digital learning in pockets
- Experienced faculty and instructors see the value
- Opportunities to increase adoption and accelerate digital transformation with leadership support and intentionality



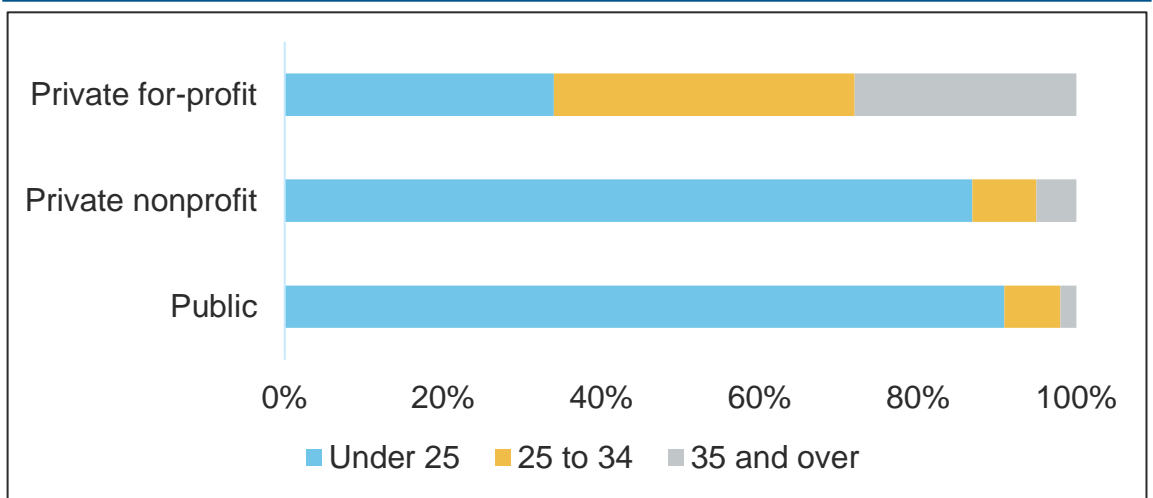
Advanced Institutions

- Possess robust technical infrastructure, vast digital context, and experienced faculty
- Opportunities to scale infrastructure to deliver across all programs in multiple modalities
- Can also accelerate pedagogical innovation and further equity and inclusivity

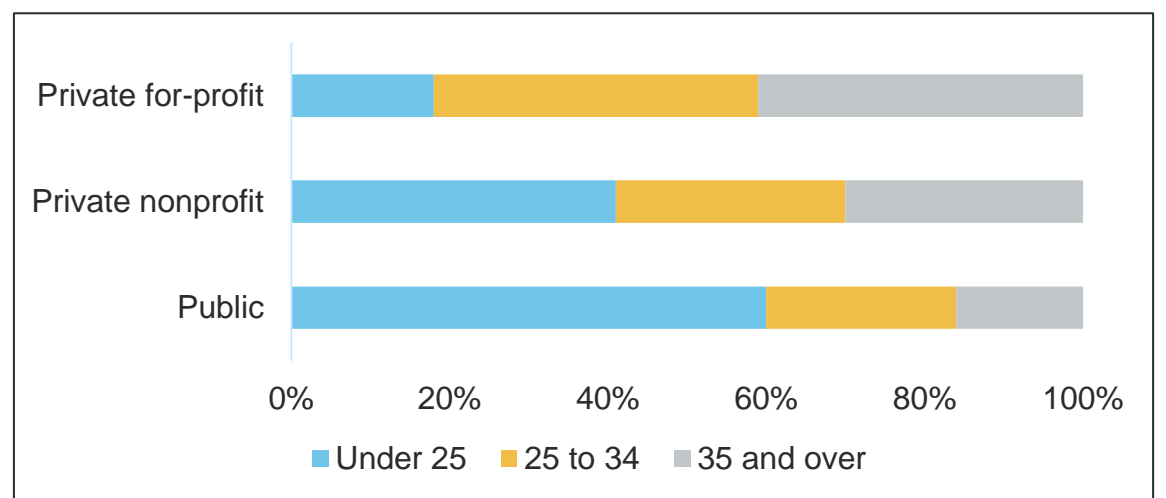
Lifelong Learning and the “Non-traditional” student

Higher education institutions have an opportunity to increase enrollment of non-traditional students in the post-pandemic environment, which will require new recruitment strategies and academic innovation to meet the needs of these learners.

Distribution of Full-time Undergrad Enrollment



Distribution of Part-time Undergrad Enrollment



Radford defines the **nontraditional student** as having one or more of the following characteristics:

- ✓ Over the age of 25
- ✓ Financially independent from their parents
- ✓ Having a child or other dependent
- ✓ Being a single care giver
- ✓ Delaying postsecondary enrollment
- ✓ Attending school part time
- ✓ Being employed full-time
- ✓ Lacking a traditional high school diploma

Source: <https://nces.ed.gov/pubs/web/97578e.asp>

Corporate Partners & Workforce Development

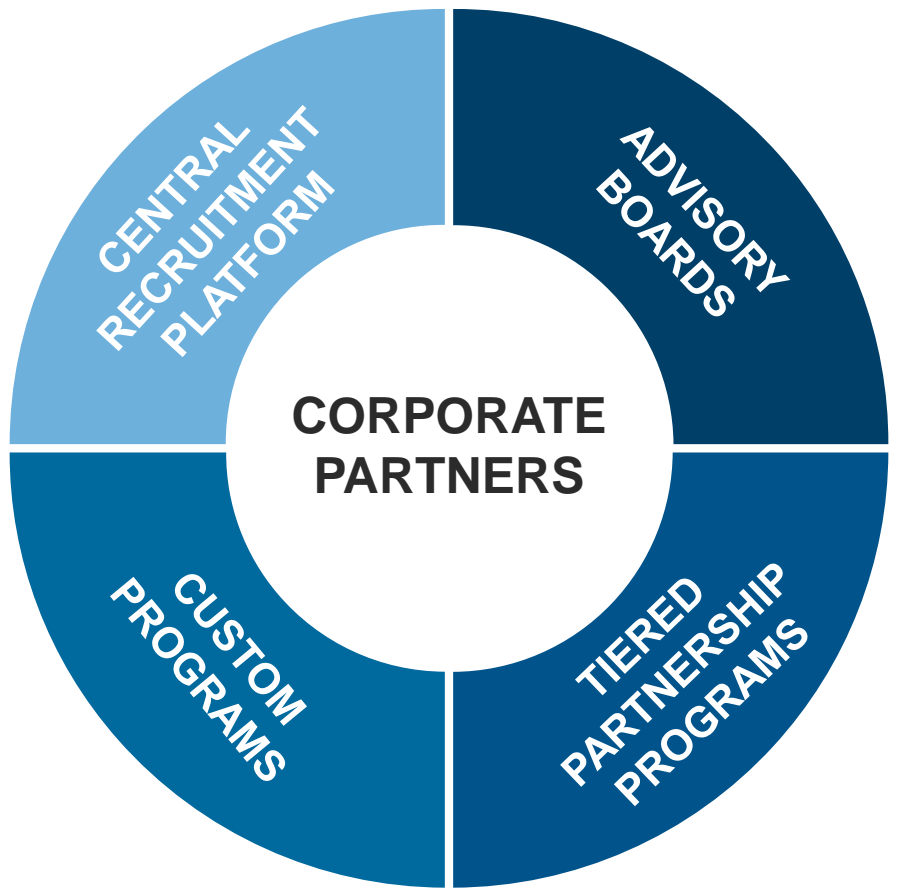
Systems of higher education are increasingly forging and maintaining corporate partnerships at the system level. These partnerships can take a variety of different forms, which are outlined below.

CENTRAL RECRUITMENT PLATFORM

Platform that allows all students in the System to connect with employers, apply for internships, and to locate experiential learning opportunities.

CUSTOM PROGRAMS FOR EMPLOYERS

Custom programs for employers that allows them to invest in their employees' professional development with customized programs.



ADVISORY BOARDS

Corporate advisory boards aid faculty and leadership in understanding workforce needs and inform decisions about curricular and pedagogical innovation.

TIERED PARTNERSHIP PROGRAMS

Partnership programs with differential pricing and benefits for various tiers of membership.

R&D Priority Areas

R&D in the life sciences and engineering have been longstanding areas of focus within higher education, and the federal government provides most of the funding for this R&D. There will likely be an increased focus on climate research in the future.

Higher Education R&D Expenditures by Field

Field	2019 Expenditures	10-year CAGR
Health sciences	\$ 27.3 billion	3.9%
Biological and biomedical sciences	\$ 15.4 billion	3.9%
Agricultural sciences	\$ 3.4 billion	1.5%
Electrical, electronic, and communications engineering	\$ 2.9 billion	4.1%
Computer and information sciences	\$ 2.6 billion	5.4%
Physics	\$ 2.3 billion	1.7%
Chemistry	\$ 2.0 billion	1.3%
Mechanical engineering	\$ 1.7 billion	1.8%
Education	\$ 1.5 billion	4.8%
Bioengineering and biomedical engineering	\$ 1.5 billion	7.7%

President Biden’s Plan for R&D in the U.S.

President Biden recently called on Congress to invest \$180 billion in researchers, laboratories, and universities across the United States in order to support economic growth, sustain global leadership in new technologies, and address the climate crisis. Among other things, President Biden’s plan would provide:

- *\$50 billion in funding to the NSF to focus on fields like semiconductors and advanced computing, advanced communications technology, advanced energy technologies, and biotechnology.*
- *\$40 billion in funding allocated across the federal R&D agencies to improve research infrastructure across the country.*
- *\$35 billion in funding to achieve technology breakthroughs that would address the climate crisis and position America as the global leader in clean energy technology and clean energy jobs.*
- *\$25 billion in funding for enhanced R&D at HBCUs across the nation.*

Source: National Center for Science and Engineering Statistics, National Science Foundation, *Higher Education Research and Development: Fiscal Year 2019*; The White House, FACT SHEET: The American Jobs Plan. Fields listed on slide are not exhaustive of all R&D expenditures.

Higher Education Systems: UC System

The UC System's Office of the President (UCOP) funds and guides system-wide programs, coordinates student support, manages the UC Systems business operations and finances, and supports the well-being of the UC System's workforce.

Overview of the UC System



Institutions: 10 campuses
2020-21 In-State Tuition: \$11,442
Undergraduate Students: 226,449
Graduate Students: 59,267
2019-20 Bachelor's Degrees: 62,747
2019-20 Master's Degrees: 13,836

The UC System's current strategic plan, *UC 2030: Advancing the California Dream*, lays out three system-wide goals:

- Produce 200,000 more undergrad and grad degrees by 2030
- Ensure the California Dream is for everyone
- Invest in the next generation of faculty and research

In December 2019, the UC System's Office of the President (UCOP) published a separate strategic framework "to guide all divisions [of the UCOP] in focusing their energy and resources on actions that will best position the University of California to achieve its academic, research and public service missions." The strategic framework also includes the mission, vision, and values of the UCOP.

Innovation within the UC System



The UC System recently announced an **open-access deal with publisher Elsevier**. Under the deal, all UC lead authors will be able to publish articles in Elsevier journals openly so that anyone can read them without paying. This deal advances the **UC System's goal to have its research be openly disseminated**.



In 2012, the UCOP launched the **UC-HBCU Initiative** to diversify and strengthen UC graduate programs. As part of the initiative, the UCOP offers a variety of grants designed to encourage UC faculty to actively engage in **collaboration and cooperation with faculty and students at HBCUs**.

Higher Education Systems: SUNY System

The SUNY System is the nation's largest public system of higher education, containing 64 campuses comprised of Doctoral Granting Institutions, University Colleges, Technology Colleges, and Community Colleges. The exact role of the SUNY System Office is unclear.

Overview of the SUNY System



The State University
of New York

Institutions: 64 campuses

2020-21 In-State Tuition: \$7,070

Undergraduate Students: 350,889

Graduate Students: 43,331

2019-20 Bachelor's Degrees: 43,172

2019-20 Master's Degrees: 11,301

The SUNY System's current strategic plan, *The Power of SUNY*, lays out six "Big Ideas":

- SUNY and the Entrepreneurial Century
- SUNY and the Seamless Education Pipeline
- SUNY and a Healthier New York
- SUNY and an Energy-Smart New York
- SUNY and the Vibrant Community
- SUNY and the World

To support these six "Big Ideas," the Office of Strategic Planning and Accountability coordinates implementation, produces report cards, and leads SUNY's branding and marketing efforts.

Innovation within the SUNY System



53 of SUNY's 64 campuses use one application – **applySUNY** – to simplify the process of applying for admission. Prospective students designate which campuses they would like to apply to, and **applications are received in a central location** before being distributed to admissions officers on each campus.



The SUNY System contains **30 community colleges** with enrollment at each community college ranging from 700 to over 10,000. These colleges provide industry credentials or certificates, **guaranteed transfer pathways to a 4-year SUNY institution**, or direct placement into a career.

Higher Education Systems: UW System

Under the direction of the UW System President, the UW System Administration helps to develop, and then implements, monitors, and evaluates policies enacted by the Board of Regents, aligning university programs with the current and future needs of the state and the nation.

Overview of the U. of Wisconsin System



Institutions: 26 campuses*
2020-21 In-State Tuition: Differential
Undergraduate Students: 139,539
Graduate Students: 25,227
2019-20 Bachelor's Degrees: 28,444
2019-20 Master's Degrees: 7,837

The U. of Wisconsin System's current strategic plan, *2020FWD: Moving Wisconsin and the World Forward*, lays out four overarching areas of focus:

- Educational pipeline
- University experience
- Business and community mobilization
- Operational excellence

Each area of focus contains system-wide priorities and specific actions to be taken at the institutional-level. The UW System Administration office supports this strategic plan by developing an operational plan and delivering regular progress updates.

Innovation within the U. of Wisconsin System



The U. of Wisconsin System has made coordinating online education a key focus of its 2021-23 budget proposal. **Project Distance Education+** includes enhanced research and marketing, expanded program/curriculum development, and improved responsiveness to trends in the marketplace. Investment will likely flow through **UW Extended Campus**.



To address teacher shortages in Wisconsin, UW-Madison's School of Education initiated the **Teacher Pledge Program**, which enables students to receive **financial assistance** equal to the cost of in-state tuition and fees, plus testing and certification costs if they **pledge to work at a Wisconsin preK-12 school** for 3-4 years after graduation.

* Note: The U. of Wisconsin System has 13 universities spread across 26 campuses.