

September 12, 2018

MEMORANDUM

TO: State Board of Regents

FROM: David L. Buhler

SUBJECT: USHE – Strategic Metrics Discussion

Issue

As part of the Board's ongoing strategic planning efforts, the Board directed the Commissioner to develop a list of system metrics that help to measure and assess the Board's progress in achieving its overarching goal to "[i]ncrease the educational attainment of Utahns to enhance their overall quality of life, and to meet Utah's current and future workforce needs" to discuss at the September Board meeting.

Background

In January 2016, the Board adopted its 2025 Strategic Plan. At the time the Board focused on identifying the key performance areas for the Utah System of Higher Education. These key performance areas have evolved over the last 2 years to the following four areas: (1) Affordable Access, (2) Timely Completion, (3) Workforce and Research, and (4) Capacity and Growth.

In 2017, the Board received its first progress report and noted the need to create meaningful metrics for both the system and the institutions designed to measure the impact and efficiency of the Utah System of Higher Education (USHE). Also in 2017, the Utah State Legislature passed Senate Bill 238, which explicitly empowered the Board to "establish measurable goals and metrics and delineate the expected contributions of individual institutions of higher education towards these goals."

In addition to the enactment of SB 238, the legislature's education standing committee created the P20 Education Dashboard which is designed focused on statewide education metrics that included K-12, UTEC, USHE, and DWS. At the same time, Executive Appropriations Committee (EAC) directed the Legislative Fiscal Analyst to include performance metrics for each budget line item (including institutions of higher education) in the base budget bills of each fiscal year.

As a result, over the last several months, the Commissioner and his staff have worked with USHE institutions to develop metrics for the P20 Dashboard, the EAC base budget bill performance metrics, and USHE system metrics for the Board, with an eye to align these metrics as best as possible.

At the July 2018 Board meeting, the Board received an initial draft of possible system metrics for their discussion and consideration. At that time, the Board, directed the Commissioner to continue to work with the institutions to refine and clarify the metrics and report back to the Board in September.

As a result of the work over the last two months the Commissioner's Office is advancing six system metrics forward for the Board's discussion and consideration. Several of these metrics have been tracked over the last few years by the Board, while others such as Classroom Space Utilization are new. These metrics are designed as a starting point for the Board and may evolve over time to different metrics that may better capture what the Board is trying to accomplish and measure. These six metrics include the following:

- Five-year college participation rate for high school graduates
- Utah's tuition and fee rates as compared to other states
- Total number of certificates and degrees awarded between 2011 and 2020
- The annual change in total cost per award compare to the annual change in the higher education price index
- Classroom space utilization
- 30-year estimated return on state tax funds invested in higher education

Included in the attachments is a document that provides the following information for each metric for the Board's review and consideration.

- Name & description
- Definition of the metric
- Benchmark
- Current baseline and relevant data points
- Goal
- Where the data are currently reported
- Challenges with the metric
- Alternative metrics (if available)

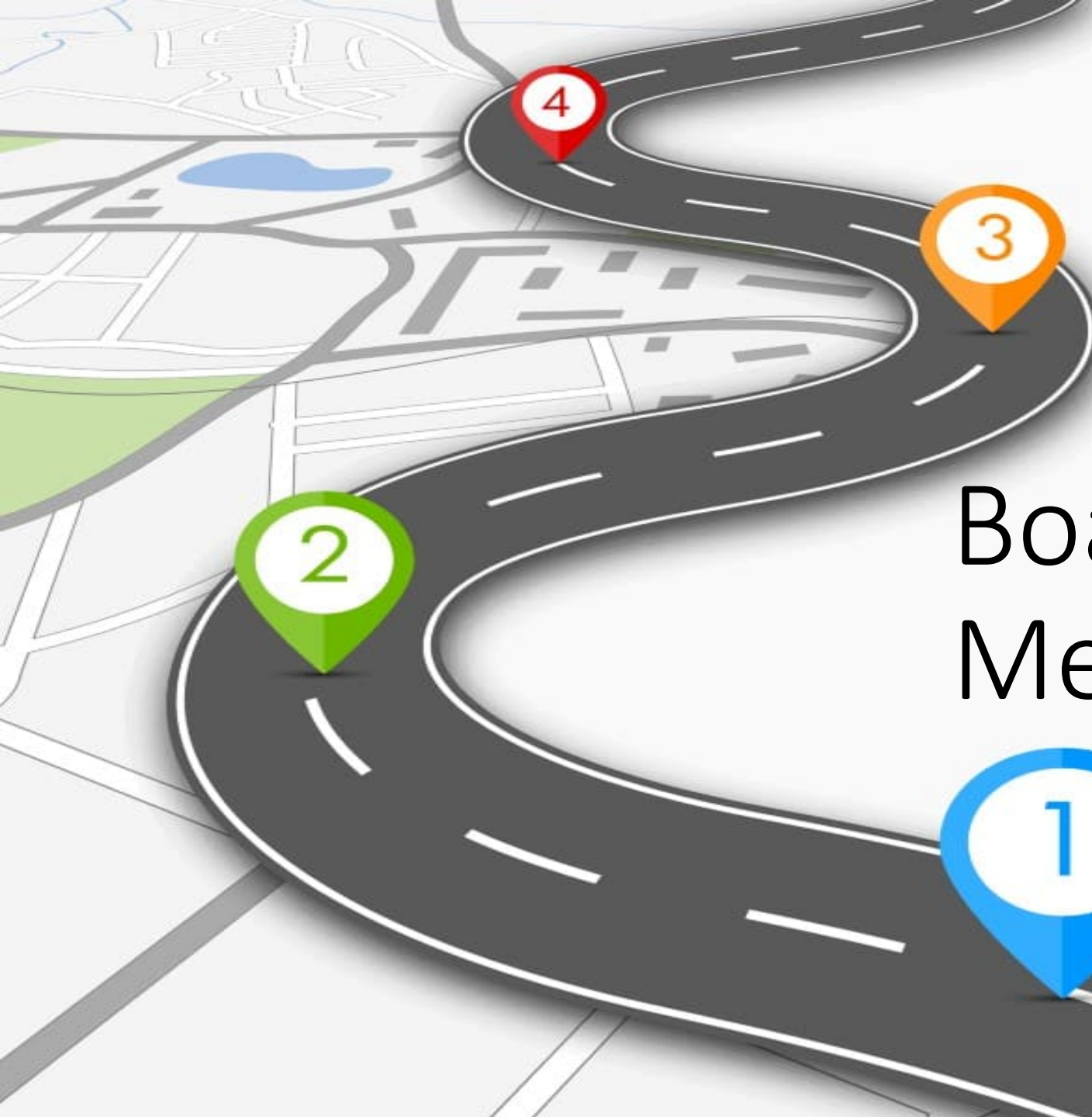
The Board is asked to discuss these various metrics and determine if they would like to adopt as the initial starting point. Once system metrics have been identified, the Board can then begin to set institution performance metrics and goals which can best leverage the strengths of the individual institutions, improve areas of concern, and ensure accountability and efficient use of system resources.

Commissioner's Recommendation

This is an information item only; no action is required.

DLB/KLH
Attachments

David L. Buhler
Commissioner of Higher Education



Board of Regents' Metrics Roadmap





Understanding the role of the Board in setting metrics

- Measure and assess whether the Board is achieving its overarching goal to:

“Increase the educational attainment of Utahns to enhance their overall quality of life, and to meet Utah’s current and future workforce needs.”

- Provide “Advocacy” and “Accountability”

- Enhance the impact and efficiency of the system
- Establish measurable goals and metrics and delineate the expected contributions of individual institutions of higher education toward these goals
- Provide system leadership on issues that have a system-wide impact



Source: <https://le.utah.gov/xcode/Title53B/Chapter1/53B-1-S103.html>

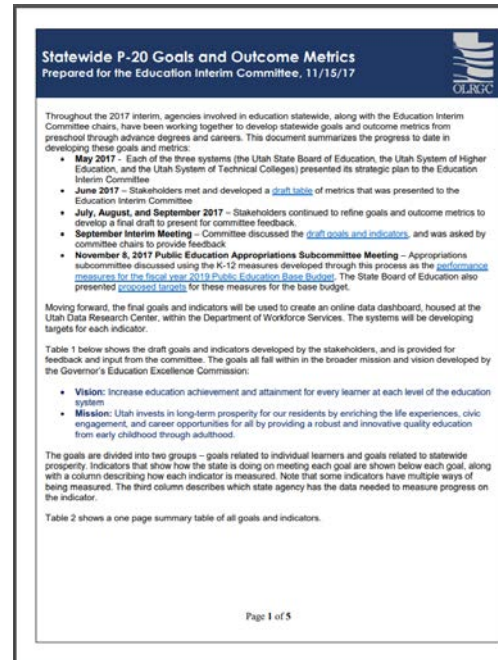


Understanding our *primary* audience

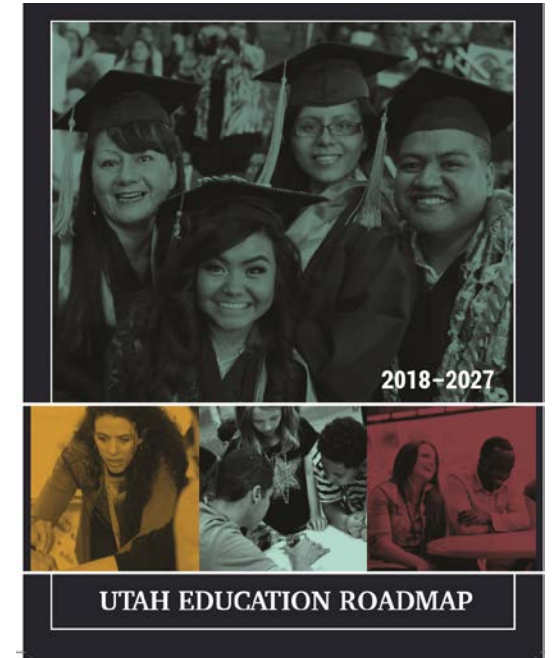
The Board of Regents



The Legislature



The Governor





Establish System Metrics and Goals

July 2018, the Board

- Reaffirmed the need to **establish both system and institution metrics.**
- Directed the Commissioner to work with institutions to review proposed metrics, institution data where applicable, and possible alternatives and **report back in September.**

	Affordable Access	Timely Completion	
<i>Metric</i>	College Participation of High School Graduates	Affordable Tuition & Fees	Time to Graduation
<i>Definition</i>	Percentage of Utah high school graduates who enroll in college within 5 years of high school graduation	Percentage of full-time, resident students who do not require loans, grants, or scholarships to pay for college	Number of semesters needed to complete a college degree
<i>Benchmark</i>	Current average enrollment within 5 years for 2007-2012 high school graduates Value: 69%	Percentage of USHE full-time, resident students who pay full-price Value: 19%	Standard: Bachelor's degree: 12 semesters Associate degree: 6 semesters Average Value: 2017 Benchmark Bachelor's Average 11.8 Median 11.5 (50%) 55.48% 12 Semesters or less Associate Average 9.7 Median 9.0 (50%) 49.54% have 6 Semesters or less
<i>Goal</i>	75% of the Utah high school graduating class of 2020 will enroll in college within 5 years of high school graduation	Minimum of 20% of full-time, resident students will not need loans, grants, or scholarships to pay for college	Goal: 70% of students completing their first bachelor's degree will do so in 12 semesters or less by 2025 30% of students completing their first degree as an associate degree will do so in 6 semesters or less by 2025
<i>Sources</i>	https://higheredutah.org/wp-content/uploads/2013/03/2017-5-Five-Year-Participation-and-Completion-David-Ma.pdf	https://higheredutah.org/wp-content/uploads/2013/03/2017-3-Urner-Financial-Need-Joe-Curtin.pdf	https://higheredutah.org/reports/CompletionParticipation2017.pdf



System vs. Institution Metrics

System Metrics

Reflect the direct responsibility of the Board

- **Access** to Utah higher education institutions
- Creating **affordable** higher education options for Utah Students
- Establishing higher education **attainment expectations** to meet state economic needs
- **Defining and monitoring effective use of resources** across higher education institutions

Institution Metrics

Reflect Board guidance and expectations regarding institution performance

- **Institution specific** metrics and goals based on mission and role within the system
- **Accountability** framework for efficient uses of resources



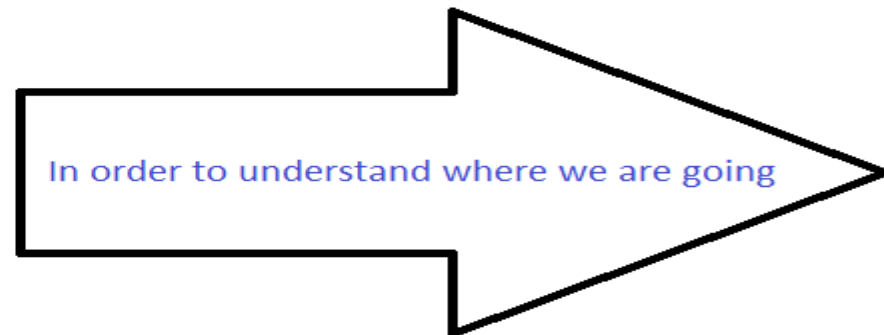
System Metrics and Goals

- Identify key performance areas
- Identify appropriate metrics
- Establish a goals
- Track performance
- Evaluate progress and adjust



USHE Key Performance Areas

- Access & Affordability
- Completion
- Workforce Connection
- Effective Use of Institutional Resources and Capacity





System Metrics for Considered

Access

- **5-Year college participation for high school graduates**
- Enrollment levels statistics disaggregated by demographic details

Affordability

- **Utah's tuition and fee rates as compared to other states**
- Student debt levels at graduation compared to other states
- Unmet student financial need

Completion

- **Total number of certificates & degrees awarded**
- Overall USHE graduation rates
- Average USHE first-year to second-year retention rates
- Performance funding metrics

Workforce & Research

- Research funding received by Utah and USU
- Where are Utah College Graduates employed
- Utah Wage Information by Field of Study
- Job Placement Rates of USHE Graduates by Degree Type and Discipline

Effective Use of Capacity & Resources

- **Change in annual cost per award compared to annual change in HEPI**
- **Classroom space utilization rates**
- Change in annual cost per FTE compared to annual change in HEPI
- Employee count and turnover reports
- Faculty workload vs. USHE standards

Return on Investment

- **Return on state tax fund investment**
- Student's expected lifetime earnings increase after graduation by degree type
- Investment by private industry in higher education institutions



System Metrics Proposal

Access

- 5-Year college participation for high school graduates

Affordability

- Utah's tuition and fee rates as compared to other states

Completion

- Total number of certificates & degrees awarded

Effective Use of Capacity & Resources

- Change in annual cost per award compared to annual change in HEPI
- Classroom space utilization rate

Return on Investment

- Return on state tax fund investment

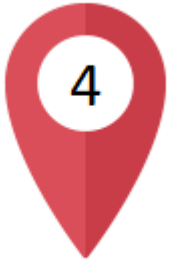
These metrics represent an initial starting point for the system and are expected to evolve over time. It is anticipated that the Board may want to add additional metrics for both the system and institutions



Next Steps: Institution Metrics & Goals

Considerations

1. Capitalize on individual institution missions and roles within the system
2. A one metric fits all institutions approach may not be appropriate in all cases.
3. Strengths and areas of improvement are not the same for each institution.
4. Standard institution metrics already exist



Identifying Possible Institution Metrics

1. Standard institution metrics already exist nationally



Common Data Set Initiative

*A collaborative effort between publishers
and the educational community*

2. Institutions have identified metrics for the Legislature
3. The Board has established metrics included in the Fiscal Health Dashboard

DISCUSSION

Are these the system metrics you would like to support?

Are the goals reflective of the Board's broader strategic objectives?

Identify how the Board would like to move forward with Institution specific metrics.

Board of Regents Strategic Plan 2025
System Metrics Update

Affordable Access Metric #1: The Five-year College Participation Rate of High School Graduates

Reported at system level: This is an access metric that looks specifically at the college-going rates of Utah students aged 18-24. This population represents approximately 54% of the total student headcount for Fall 2018.

Definition: The percentage of Utah high school graduates who enroll in college within five years of high school graduation.

Benchmark: The metric will be measured against the average college enrollment within five years of graduation for Utah high school graduates for the 2007 – 2013 student cohorts.

Current Baseline: On average, 69.4% of Utah high school graduates enroll within five years of high school graduation

Cohort	Size	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
2007	29,110	50.1%	55.5%	61.1%	66.1%	68.2%	69.5%	70.3%	70.9%	71.3%	71.7%
2008	30,151	50.8%	56.7%	61.9%	66.4%	68.2%	69.4%	70.2%	70.7%	71.1%	71.4%
2009	30,560	52.5%	58.0%	63.1%	67.2%	69.0%	70.0%	70.8%	71.3%	71.7%	
2010	32,114	53.6%	59.5%	64.4%	68.4%	70.3%	71.5%	72.2%	72.7%		
2011	31,640	54.6%	59.7%	64.6%	69.0%	70.8%	71.7%	72.3%			
2012	33,283	52.9%	58.4%	63.4%	67.7%	69.3%	70.3%				
2013	34,753	45.7%	51.2%	64.2%	68.0%	69.5%					
2014	35,661	45.6%	51.0%	63.8%	67.6%						
2015	36,933	45.7%	51.5%	63.7%							
2016	38,326	46.0%	51.6%								
2017	40,099	45.4%									
Total	372,630	49.1%	55.1%	63.4%	67.6%	69.4%	70.4%	71.2%	71.4%	71.4%	71.6%

Goal: 75% of the Utah high school graduating class of 2020 will enroll in college within five years of graduation.

Data report: Annual report prepared by USHE Institutional Research (IR) found on the [higheredutah.org](https://higheredutah.org/pdf/reports/CompletionParticipation2017.pdf) website <https://higheredutah.org/pdf/reports/CompletionParticipation2017.pdf>

Challenges: This metric only addresses college access for high school graduates. It does not capture adult student participate rates.

Affordable Access Metric #2: Utah's Tuition and Fee Rates as Compared to Other States

Reported at the system level. Published by the College Board annually as part of its *Trends in College Pricing Report*. This metric compares average published tuition and fee rates for similar institutions nationally.

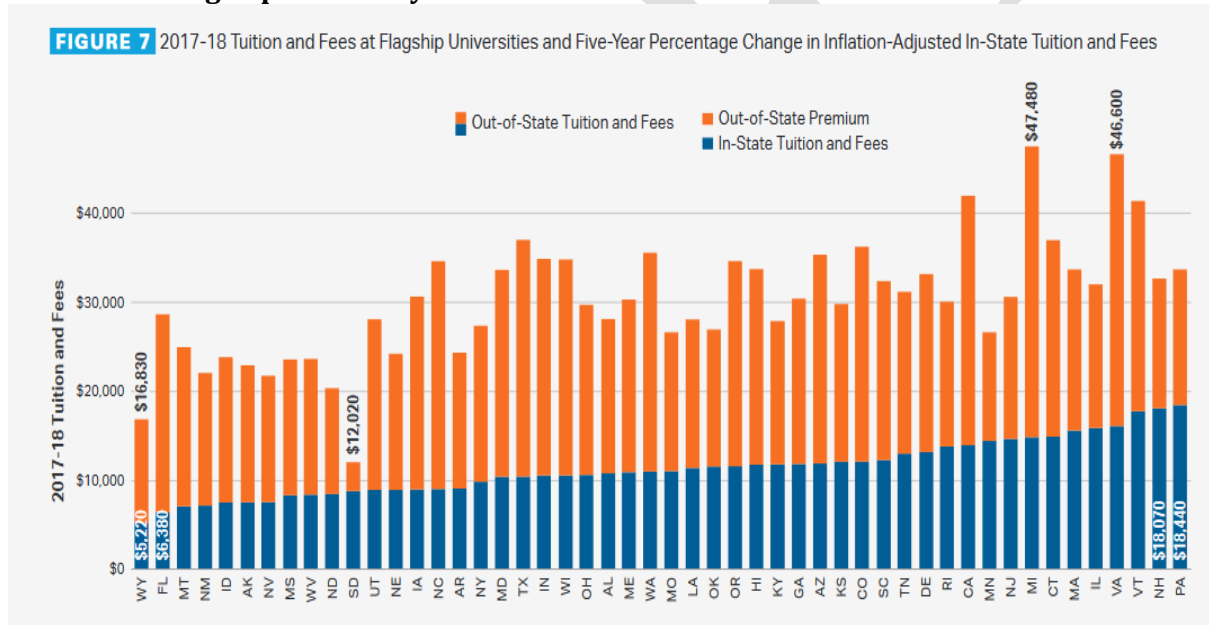
Definition: Rank of USHE's average published tuition and fee rates compared to other states by institution type.

Benchmark: The College Board *Trends in College Pricing Report*, will be used to track and monitor this metric.

Current Baseline:

- Flagship (University of Utah) Ranked 12th lowest in published tuition and fees in 2017-18 (24th Percentile)
- Four-year Institutions: Ranked 3rd lowest in published tuition and fees in 2017-18 (6th Percentile)
- Two-year Institutions: Ranked 16th lowest in published tuition and fees in 2017-18 (32nd Percentile)

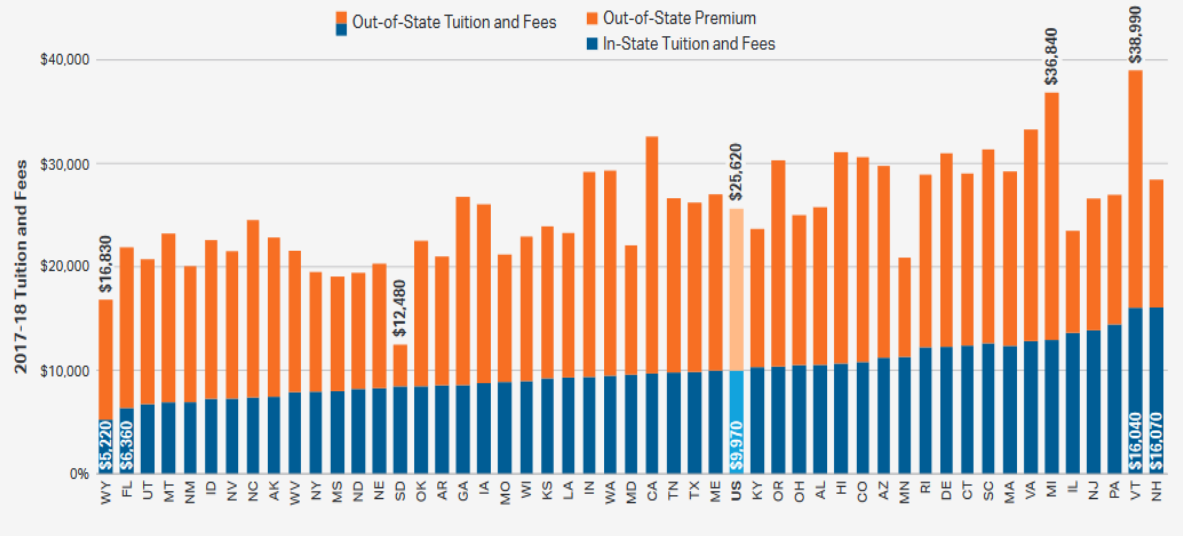
Data Point: Flagship University



Year	Ranked
2017-18	12 th Lowest (24 th Percentile)
2016-17	13 th Lowest (26 th Percentile)
2015-16	12 th Lowest (24 th Percentile)
2014-15	11 th Lowest (22 nd Percentile)
2013-14	10 th Lowest (20 th Percentile)

Data Point: 4-year Universities

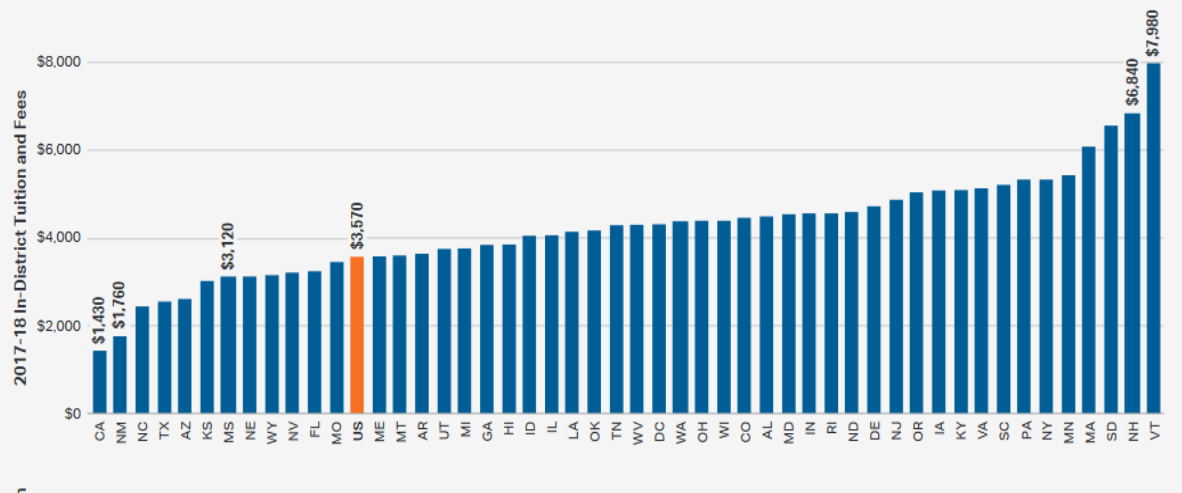
FIGURE 6 Average 2017-18 Tuition and Fees at Public Four-Year Institutions and Five-Year Percentage Change in Inflation-Adjusted In-State Tuition and Fees, by State



Year	Ranked
2017-18	3 rd Lowest (6 th Percentile)
2016-17	4 th Lowest (8 th Percentile)
2015-16	5 th Lowest (10 th Percentile)
2014-15	3 rd Lowest (6 th Percentile)
2013-14	3 rd Lowest (6 th Percentile)

Data Point: 2-Year Community Colleges

FIGURE 5 Average 2017-18 In-District Tuition and Fees at Public Two-Year Institutions and Five-Year Percentage Change in Inflation-Adjusted In-District Tuition and Fees, by State



Academic Year	Ranked
2017-18	16 th Lowest (32 nd Percentile)
2016-17	18 th Lowest (36 th Percentile)
2015-16	18 th Lowest (36 th Percentile)
2014-15	16 th Lowest (32 nd Percentile)
2013-14	21 st Lowest (42 nd Percentile)

Goal:

- Flagship (University of Utah): Manage increases in tuition and fee rates to ensure that the University of Utah continues to be priced in the lower 25th percentile for flagship universities
- Four-year Institutions: Manage increases in tuition and fee rates to ensure that the USHE four-year institutions continue to be priced in the lower 10th percentile for four-year universities
- Two-year Institutions (Community Colleges): Manage increases in tuition and fee rates to ensure that the USHE community colleges published tuition and fee rates are ranked below the 25th percentile for Community Colleges by 2025.

Data report: Annual report prepared by The College Board

https://trends.collegeboard.org/sites/default/files/2017-trends-in-college-pricing_1.pdf

Challenges: This metric reflects how Utah’s published prices compare within the Higher Ed market. It shows that Utah is priced lower than others. It has been used in the past as a proxy for affordability. The Board should consider that this is an extremely hard concept to measure due to lack of a common definition of what is meant by affordability and how it is measured. Affordability is unique to each person and his/her individual circumstances. A challenge with measuring affordability is how the pricing structure works for the higher education product. The more credit hours one takes, the more it costs – so where does one set the affordability measure? If the objective is to get students to attend full-time to graduate in a timely fashion should the focus be on ensuring that price is not out of range, or should it focus on cost per class? What is an effective way to measure affordability from a student

perspective vs. institution perspective? If a student has to go into debt to attend an institution, is it affordable? Is there an acceptable level for % of students incurring debt? Students who attend part-time have already identified a way to make college more affordable based on their individual circumstances. How do you uncouple the concept of aid and cost to a student? Not all students are eligible to receive aid.

Possible Alternative Metrics for consideration

1. Track tuition & fees (or net tuition & fees) as a percentage of income (e.g., median, 25th percentile) with the goal of seeing the percentage decrease. While this may not address individual perspectives about the definition of affordable, it would result in a data series that clearly captures the *trend* in tuition & fees vis-à-vis income, which suggests a direction of affordability.
2. Track the percentage of full-time tuition & fees that the maximum Pell grant covers. This might suggest a direction of affordability for the population of students that is may generally be most sensitive to cost.

DRAFT

Timely Completion Metric: The total number of certificates and degrees awarded by USHE

Reported at the system level. Adopted by the Board in 2012, this metric measures the cumulative number of USHE awards from 2011 through 2020 compared to the 2020 goal.

Definition: The cumulative number of certificates and degrees awarded by USHE institutions within the system as compared to the 2020 goal.

Benchmark: The benchmark for this measure is the cumulative total increase beginning in the FY2011 academic year.

Current Baseline Data:

Academic Year	USHE 2020 Goal				USHE Actual			
	Increase Over 2011	% Increase Since 2011	Annual Awards	Cumulative Awards Since 2011	Annual Awards	Cumulative Awards Since 2011	Increase Over 2011	% of Goal Achieved
2010-11†		0%	30,000	30,000	29,981	29,981		
2011-12	800	3%	30,800	60,800	31,339	61,320	1,358	170%
2012-13	1,600	5%	31,600	92,400	31,741	93,061	1,760	110%
2013-14	2,400	8%	32,400	124,800	32,549	125,610	2,568	107%
2014-15	3,200	11%	33,200	158,000	32,797	158,407	2,816	88%
2015-16	4,010	13%	34,010	192,010	33,822	192,229	3,841	96%
2016-17	4,900	16%	34,900	226,910	36,071	228,300	6,090	124%
2017-18	5,790	19%	35,790	262,700				
2018-19	6,680	22%	36,680	299,380				
2019-20	7,570	25%	37,570	336,950				

Goal: A cumulative total amount of 336,950 USHE certificates and degrees awarded from 2011 to 2020.

Data report: Higher Education 2020 Report, Annual reports from USHE IR

Challenges: This metric is primarily an output measure and does not specifically measure what we may deem as timely completion. The Board may want to consider also adopting a metric that focuses on defining and measuring timely completion for both full-time and part-time students.

Capacity and Growth Metric #1: Change in Total Cost per Award

System metric. This is a capacity and growth metric that measures the annual change in the amount spent on producing an award (certificate to graduate degree) within the system as compared to the change in the Higher Education Price Index (HEPI). It is meant to track how the annual change in institution spending compares to the HEPI.

Definition: Change in the total cost per award as calculated by the total awards granted by an institution divided by the corresponding year’s operating budget compared to the previous year.

Benchmark: This metric will be measured against the annual percentage change in the HEPI for the corresponding year.

Current Baseline:

- USHE average annual change in total cost per award granted from FY16 to FY17: -2.0%
- HEPI annual change from FY16 to FY17: 3.7%

Year	USHE Change in Cost per Award	95% Annual Change in HEPI
2016-17	-2.0%	3.5%
2015-16	2.2%	1.7%
2014-15	6.1%	2.0%
2013-14	1.2%	2.8%
2012-13	1.4%	1.5%

Goal: Annual percentage change in total cost per award granted is no more than 95% of the average annual change in HEPI for the corresponding year.

Data reports:

<https://www.commonfund.org/commonfund-institute/higher-education-price-index-hepi/> <https://le.utah.gov/interim/2018/pdf/00001219.pdf>

Challenges and Questions: This metric works better at the system level given the volatility that may happen annually at each institution. More awards may be granted due to an enrollment surge, driving the cost down in a given year. However, increases in funding, may initially drive costs up as students complete the cycle and should be noted in dramatic swings. It has been suggested that the cost per award should be compared against itself year over year rather than the Higher Education Price Index and that the goal should be “see an annual decrease in the cost per award than an annual increase.”

Capacity and Growth Metric #2: Instruction-related Classroom Space Utilization

Institution Metric. This is a capacity and growth metric that measures the utilization rates for classrooms at the USHE institutions. The utilization is based on two measures: (1) room utilization, and (2) station occupancy rates. This metric is intended to show the Board how well an institution is meeting the standard utilization expectation and, in the case where the institution is not meeting or exceeding the standard, give the Board an opportunity to identify and discuss the reasons why.

Definition: Average instruction-related classroom use calculated by multiplying an institution’s fall classroom utilization and station occupancy rate as defined [in Regent Policy R751, Institutional Facilities Space Utilization](#).

Benchmark: This metric will be measured against the Board-approved utilization standards for classroom use and station occupancy.

Current Baseline:

- USHE Classroom Utilization Rate Standard: 33.75 hours per week
- USHE Classroom Station Occupancy Rate Standard: 66.7% full

Fall 2016 Institution Space Utilization Scores

Institution	Score
<i>University of Utah</i>	15.7
<i>Utah State University (Logan)</i>	16.8
<i>Weber State University (Ogden)</i>	13.3
<i>Southern Utah University</i>	18.6
<i>Snow College (Ephraim)</i>	24.0
<i>Dixie State University</i>	20.5
<i>Utah Valley University</i>	28.0
<i>Salt Lake Community College (Redwood)</i>	21.3
<i>USHE System Average Score</i>	19.8

Goal: A minimum score of 22.5 for instruction-related classroom utilization. The goal is calculated by the expected standard average hours per week (33.75) multiplied by the average expected station occupancy rate (66.7%).

Data report:

<https://higheredutah.org/wp-content/uploads/2018/05/2018-4-Space-Utilization-Richard-Amon.pdf>

https://higheredutah.org/pdf/agendas/20180330/TABL_2018-03-30.pdf

Challenges and Questions: This is a new metric and we have limited data. This metric may need to evolve as the data collection for this metric evolves. There are some outstanding questions as to whether the standard is adequate and whether it should be adjusted to more directly encourage the use of classrooms during evenings and weekends and to hire adjunct faculty members to teach during these additional hours.

Capacity and Growth Metric #3: Return on State Tax Fund Investment in Higher Education

System level metric only. This is a capacity and growth metric that measures the 30-year

return on investment for every tax dollar invested in higher education based on the estimated increase in income tax collection over a 30-year window.

Definition: Ratio of increased tax contributions over 30 years as a result of earning a higher education credential compared to the state tax fund appropriations to higher education.

Benchmark: This metric will be measured against the FY16 estimated 30-year return in tax contributions compared to the annual higher education state tax fund appropriation.

Current Baseline:

- Value added in tax contribution (\$1,630,955,468) divided by FY 2016 State tax fund Appropriation (760,999,100) = \$2.21 Return on Investment
- The FY16 State’s 30-year return on investment of approximately 2.21:1

The estimated 30-year return on investment calculation assumes the lowest estimated tax contribution rate of 9.63% and no additional wage growth. The actual ROI is likely higher due to higher contribution rates and increasing wage growth over time.

Graduation Year	Estimated State Return
2015-16	\$2.21 in new tax funds to \$1 invested
2014-15	\$2.23 in new tax funds to \$1 invested
2013-14	\$2.57 in new tax funds to \$1 invested
2012-13	\$2.85 in new tax funds to \$1 invested
2011-12	\$2.58 in new tax funds to \$1 invested

Data Point: Impact of 2015-16 Graduates

	New Degrees	Work Force Participation Rates ++	New Degrees in Workforce	Amount Earned over High School	Total Added Annual Income to Utah's Economy	Estimated Additional Tax Contribution 8.99%	Estimated Additional Tax & Fees Contribution 13.21%	Estimated Additional Tax & Fees Exc. Tuition Contribution 11.89%
Certificate	1,741	77.6%	1,351	\$3,092	\$4,177,292	\$375,539	\$551,820	\$496,680
Associate	11,483	77.6%	8,906	\$3,092	\$27,537,352	\$2,475,608	\$3,637,684	\$3,274,191
Bachelors	16,298	83.6%	13,620	\$16,241	\$221,202,420	\$19,886,098	\$29,220,840	\$26,300,968
Masters	3,483	83.6%	2,912	\$39,103	\$113,867,936	\$10,236,727	\$15,041,954	\$13,538,898
Doctorate	817	83.6%	683	\$39,103	\$26,707,349	\$2,400,991	\$3,528,041	\$3,175,504
Annual Impact -Post Graduation	33,822		27,472		\$393,492,349	\$35,374,962	\$51,980,339	\$46,786,240
Assumed 30 years of Employment					\$11,804,770,470	\$1,061,248,865	\$1,559,410,179	\$1,403,587,209
Economic Multiplier (1.2) Additional*					\$2,360,954,094	\$212,249,773	\$311,882,036	\$280,717,442
Value Added to Utah's Economy and Tax Base (30 Year Estimate)					\$14,165,724,564	\$1,273,498,638	\$1,871,292,215	\$1,684,304,651

++ ACS Table S2301 Employment Status 1 year estimates (in labor force)

*ACS Table B20004 Median Earnings in Past 12 Month (25 over) 1 yr Estimates

Goal: Maintain a minimum 30-year return on investment of 2:1.

Data report: <https://higheredutah.org/the-roi-of-utahs-college-graduates/>

Challenges and Questions: USHE does not control the wages and taxes for university graduates or the level of state investment in higher education; as a result, USHE cannot directly influence this measure. The goal of maintaining the current return may not be considered an ambitious goal unless there is a significant threat to the return.

Alternative Metrics: Track placement/employment rates of USHE graduates and ask that USHE institution engage more deliberately with Utah employers to work out unprecedented agreements that directly impact placement/employment rates.

DRAFT