

2017-18 CAMPUS BUDGET COMMITTEE
Budgeting Primer
Final 12.1.2017

Executive Summary

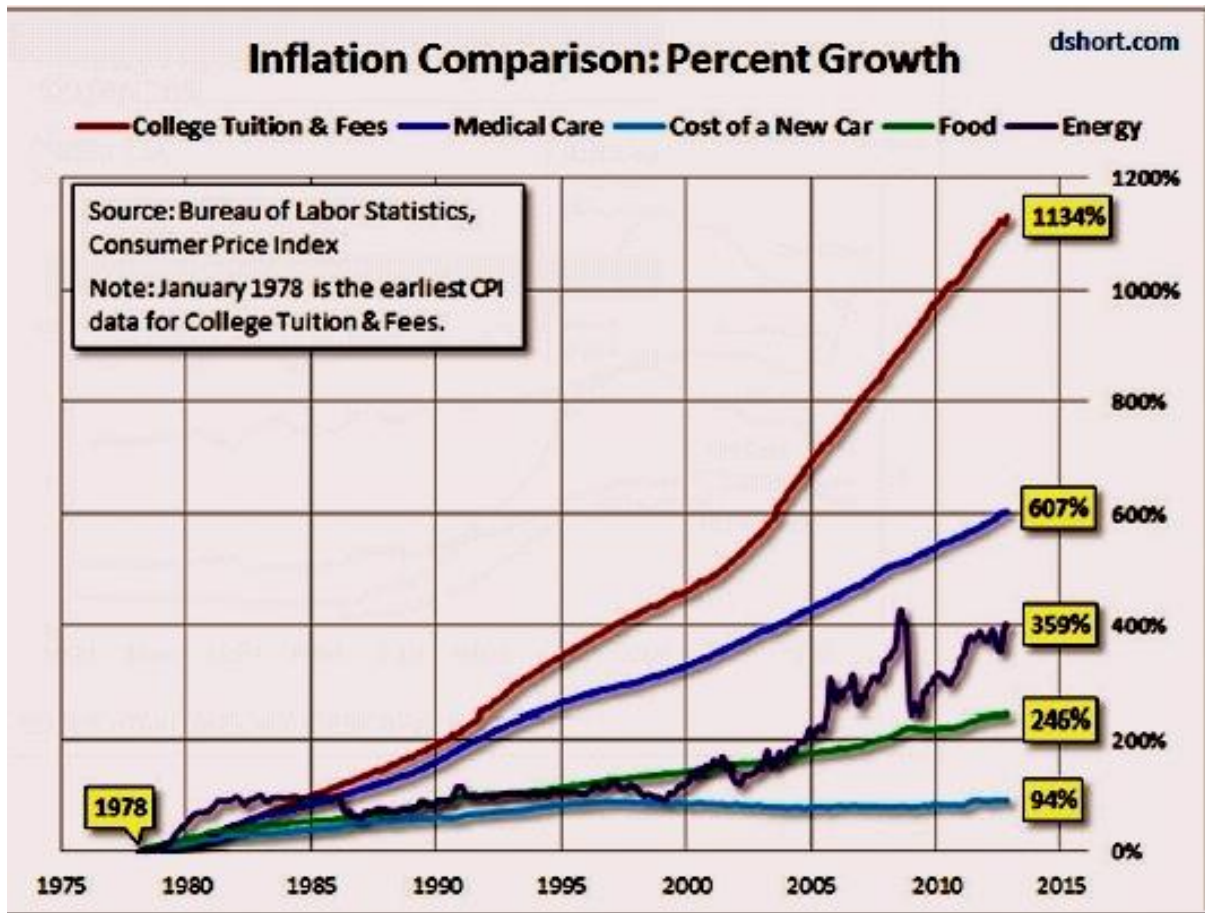
- State appropriations for higher education have declined meaningfully over the past two decades in Washington (and across the nation).
- Tuition increases have historically covered the decreases in state funding but are now being limited in Washington (and across the nation) while higher education costs continue to increase.
- The UW Tacoma budget process is outlined along with more specific budget instructions for fiscal year 2019.
- The UW Tacoma revenue and expense five-year history are presented and analyzed against public university results.
- The UW Tacoma budget guiding principles are referenced together with certain best practices and an overview of key budget terms.
- An appendix and references are provided for those interested in budget analysis and further reading.

National and state appropriation and tuition trends

Presidents of state universities lament that their annual appropriations from the state legislature are now inadequate. [However,] most accounts of the financing of higher education in 1910 indicate that state university presidents considered their governors and legislators to be both frugal and unpredictable (Thelin, 2011, loc. 326).

As Dr. Thelin points out in his history of American higher education, the challenge of securing state funding for higher education is not new. However, what may be new is the increasing concern that students, families, and legislators have regarding the rapid increase in tuition over the past decades. For example, the graph from dshort.com (see Figure 1) has been referenced by many to point out the problem with university tuition growth, which is then the basis to criticize the proliferation of climbing walls, the decrease in faculty workloads, and the bloat of administrator salaries in the popular press.

Figure 1. Inflation Comparison.

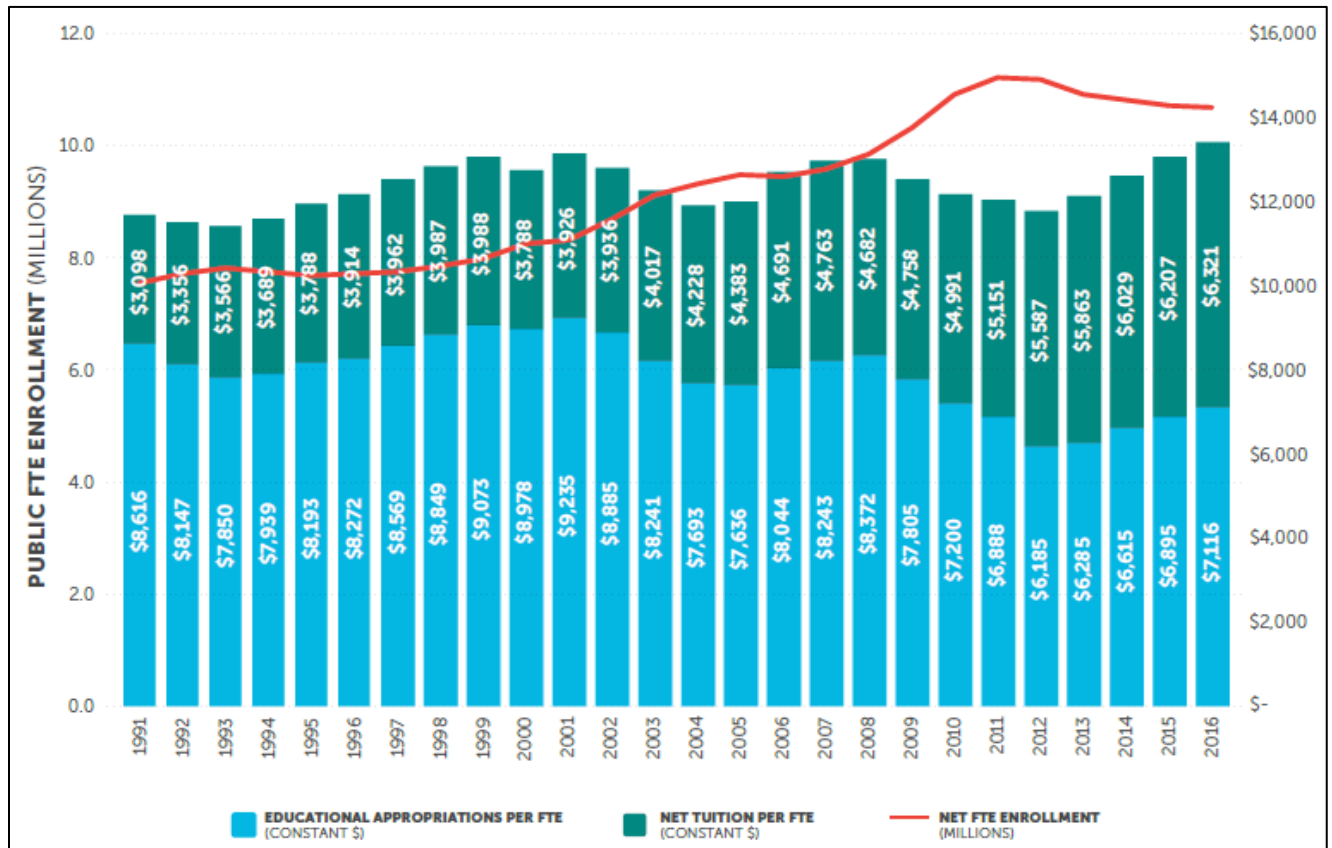


Source: Dartblog.com

While it may be easy to blame administrators, the rapid increase in tuition over the past decades has not been due to out-of-control university costs or administrative bloat. (Note, too, that the data in the dshort.com graph are exaggerated by the method used by the BLS.) Studies of higher education costs have demonstrated that faculty and administrator salary increases are not causing rapid tuition increases (Desrochers & Kirshstein, 2014). Though there are many reasons why tuition has increased faster than inflation in recent decades, a primary driver is the decrease in state appropriations. State appropriations for public higher education per full-time student equivalent (FTSE) have decreased 17% (adjusted for inflation) over the past 25 years on average across the country (SHEEO, 2016). Because states were paying for 75% of institutional costs 25 years ago, every 1% drop in support from that level required that universities increase tuition 3% just to stay even.

Nationally, public universities now receive 47% of education revenue from tuition, up from 26% in 1991 (SHEEO, 2016), as shown in Figure 2.

Figure 2. Public FTSE Enrollment, Educational Appropriations and Net Tuition per FTE.



Source: State Higher Education Executive Officers (SHEEO), 2016.

In any given year and for any given state, the change in education appropriations have varied significantly. Indeed, 2016 was a good year for Washington. The State realized an 11.8% appropriation gain per student compared to a national average gain of 3.2% (SHEEO, 2016). However, since 2008, Washington State decreased higher education appropriations by 17% while the national average decreased 15%, as shown in Table 1.

Table 1. Educational appropriations per FTSE in 2016 dollars.

	FY 2008 (pre-recession)	FY 2016	Index to US Average	% Change Since Recession
Washington	\$7,193	\$5,973	0.86	-17.0%
U.S.	\$8,372	\$7,116	1.00	-15.0%

Source: State Higher Education Executive Officers (SHEEO), 2016.

Decreases in appropriations per student over the past decades have been driven by politics that favor lower taxes and smaller government, by increasing statutory requirements (such

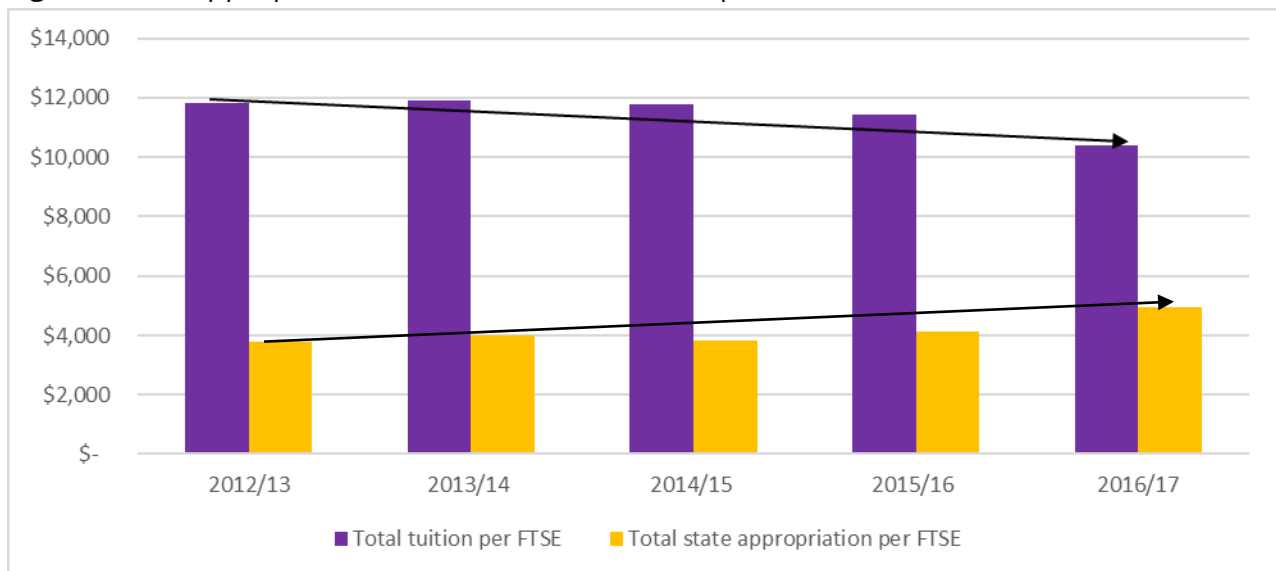
as for Medicaid and K-12), and by large increases in the numbers of students being served. Based on these drivers, the appropriation trend is not likely to change soon.

This shift in funding from state to student has resulted in very large tuition increases to cover all cost increases. These tuition increases have, in turn, increased student debt, causing alarm among legislators, students, parents, and trustees alike. The alarm has resulted in mandates to cap or limit tuition increases in many states.

University of Washington Tacoma appropriation, tuition, and cost trends

The funding situation is unique for each university depending on the specific programmatic offerings, state support, fee approvals, etc. For UW Tacoma, over the past five years, net tuition dropped about \$1,418 per full time equivalent student (in constant 2017 dollars). During the same period, state appropriations increased by approximately \$1,163 per student, as evident in Figure 3. Taken together, total educational revenue to the University (excluding student fees) decreased \$253 per student from fiscal year 2013 to 2017.

Figure 3. Net Appropriations and Net Tuition & Fees per FTSE, constant 2017 dollars.



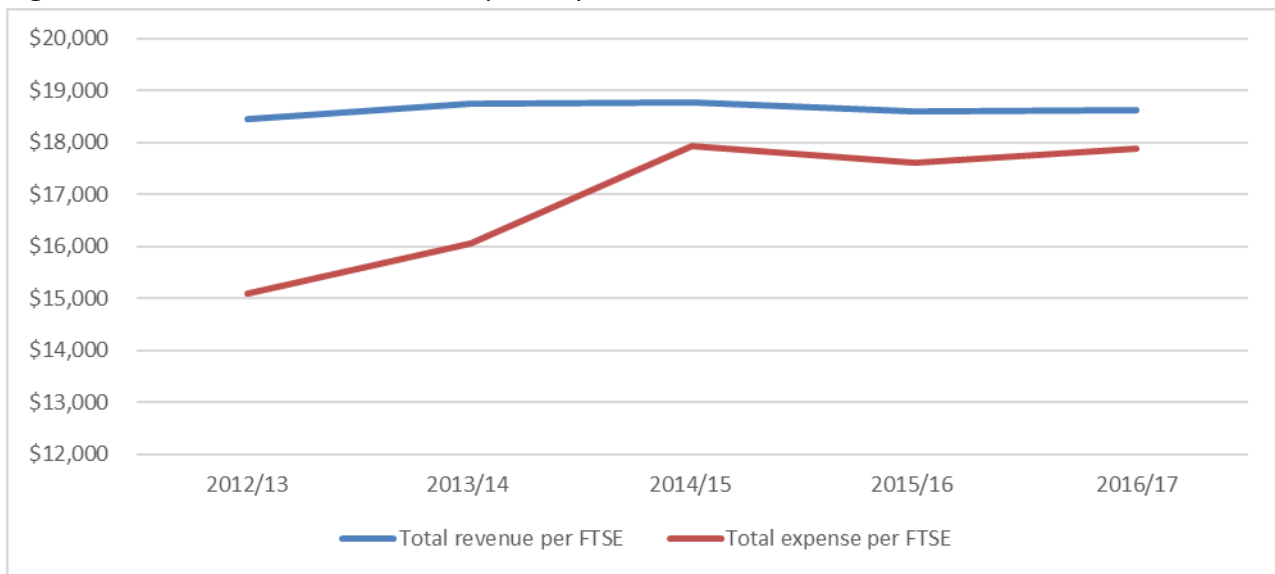
Source: UW EDW AIDB and UWT analysis.

Most of the change in tuition and state appropriation since 2013 occurred in 2017 based on the Second Engrossed Substitute Senate Bill 5954. The bill reduced tuition by 5% in FY2016 followed by a 10% reduction in FY2017 for public undergraduate resident students while simultaneously increasing appropriations. The Legislature also limited future tuition increases for Washington undergraduate students to no more than the average annual growth in median hourly wages in the state.

Based on the new Senate bill, we might expect tuition to increase by two percent per year in the next biennium. However, that increase only applies to tuition and not to appropriations. The state appropriation for higher education may be increased to cover inflation, or not. It may be increased to cover growth in the number of students served, or not. And it may be increased to cover merit (real dollar salary increases), or not. Given statutory requirements of K12 and Medicaid and the anti-tax trend, the likely scenario is that the state appropriation for higher education will not be increased to cover all the above and will continue to decrease in inflation adjusted dollars as it has over the past several decades.

The long-term decrease in state support coupled with the limitation of tuition increases creates a difficult challenge as costs per student continue to escalate, as observed in Figure 4. Costs increase for many reasons but chief among them are efforts to address student needs, improve educational results, and to compensate for the lack of productivity increases available to higher education. Costs can also increase if overhead is not managed or if more faculty are hired than are needed to address curriculum needs.

Figure 4. UWT total revenue and expense per FTSE (2017 constant dollars).



source: EDW

Certainly, tuition cannot continue to increase as it has over the past 25 years if we, as a society, want accessible public higher education for most citizens. Yet, if revenue per student cannot be increased, then cost per student cannot be allowed to increase.

The UWT budget process

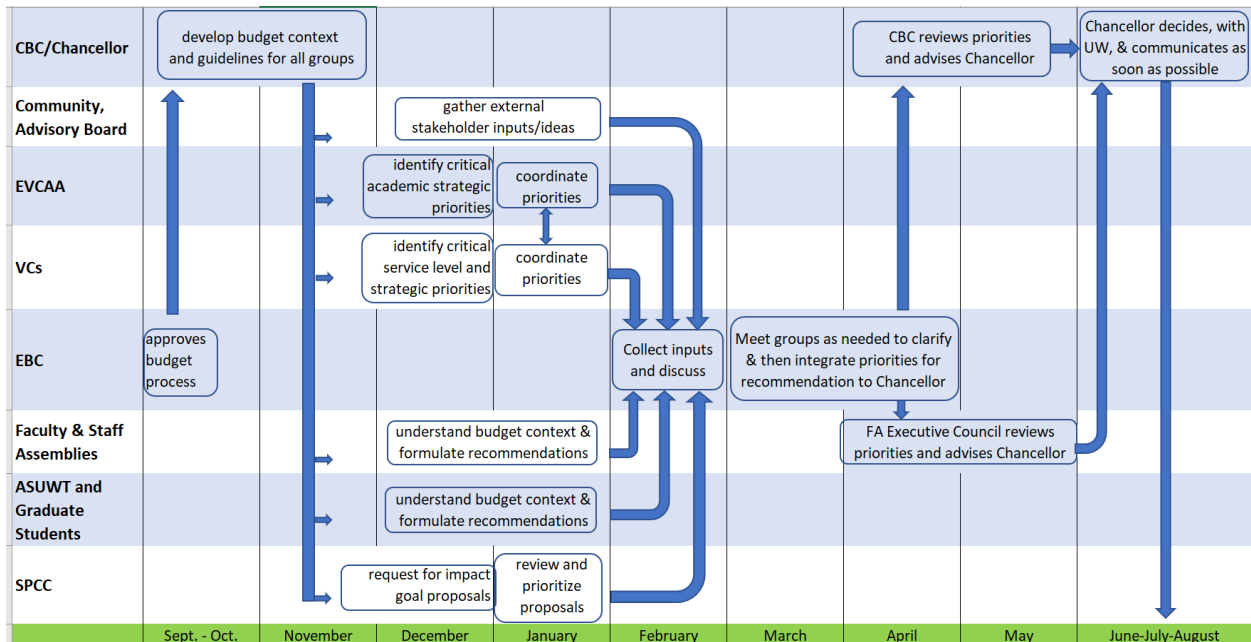
To create the best budget results, the UW Tacoma fiscal year 2019 budget instructions and process are outlined below.

The budget instruction language for fiscal year 2019 approved by CBC on 11.21.2017:

All units should assume that there is no new net campus funding as budgets are developed for fiscal year 2019. Although tuition is expected to increase 2%, this increase will be needed to cover expected inflation on contracts and a minimal cost of living adjustment since the State is not funding salary increases next year. While it is important to provide funding for salary increases and other investments, the expectation is that we will need to find ways to support such actions internally as we work through the budget process.

At a high-level, the overall budget process (see Figure 5) includes gathering input from each division, from external stakeholders, from the Staff Assembly and Faculty Assembly, and from students. Each of these groups will discuss budget issues and interests to formulate general recommendations for the Executive Budget Committee (EBC) along with annual budget requests, as appropriate. Finally, the Strategic Planning Coordinating Committee (SPCC) will also collect proposals related to the strategic impact goals for submission to the EBC.

Figure 5. Revised FY2019 UWT Budget Process (EBC approved 11/6/2017).



In general, a budget process is about discovering where there are strategic gaps and opportunities and addressing those gaps and opportunities with additional or reallocated funding. Because the various institutional units are dependent on each other, the budget process must be iterative. For example, if we are hiring 20 more faculty, we will need to ensure that we have the appropriate office space and the corresponding staff and custodial support for those faculty, among other things. Therefore, once budget requests are submitted to the EBC, division priorities will be assessed holistically and in reference to university impact goals and long-term needs. Such assessment will be the basis for feedback to the individual divisions for re-prioritization and re-submission.

After review and prioritization, the EBC will forward recommendations to the Campus Budget Committee (CBC) and the Faculty Assembly Executive Council (FA/EC) for a review that is focused on how well the strategic and academic plans are advanced.

The CBC and the FA/EC will then forward their assessments and comments on the EBC recommendations to the Chancellor for final decisions.

At a detailed level, each group (as identified in Figure 5) will have sub-processes and specific deadlines as determined by that group. The sub-processes will start with a grounding based on this primer. The institutional revenue estimate, if different from the instructions above, will be provided to everyone based on known and estimated funding.

For each auxiliary and self-reporting unit, the full budget along with the projected residual income, if any, will be reported to EBC. In no case should auxiliary and self-supporting units require additional institutional resources.

An essential component of any budget process is understanding what will not get done if a request is not funded. Clearly, if certain faculty lines are not funded, then certain classes will not get taught and student graduations may be impacted. However, faculty lines for new programs may represent investments that the University cannot yet support. In that same vein, it may be desirable to see cuts (or no increases) in Finance and Administration, Information Technology, or other service units. To make that decision, service reductions must be discussed and impacts accepted (assuming benchmarks show that services are delivered cost effectively to begin with).

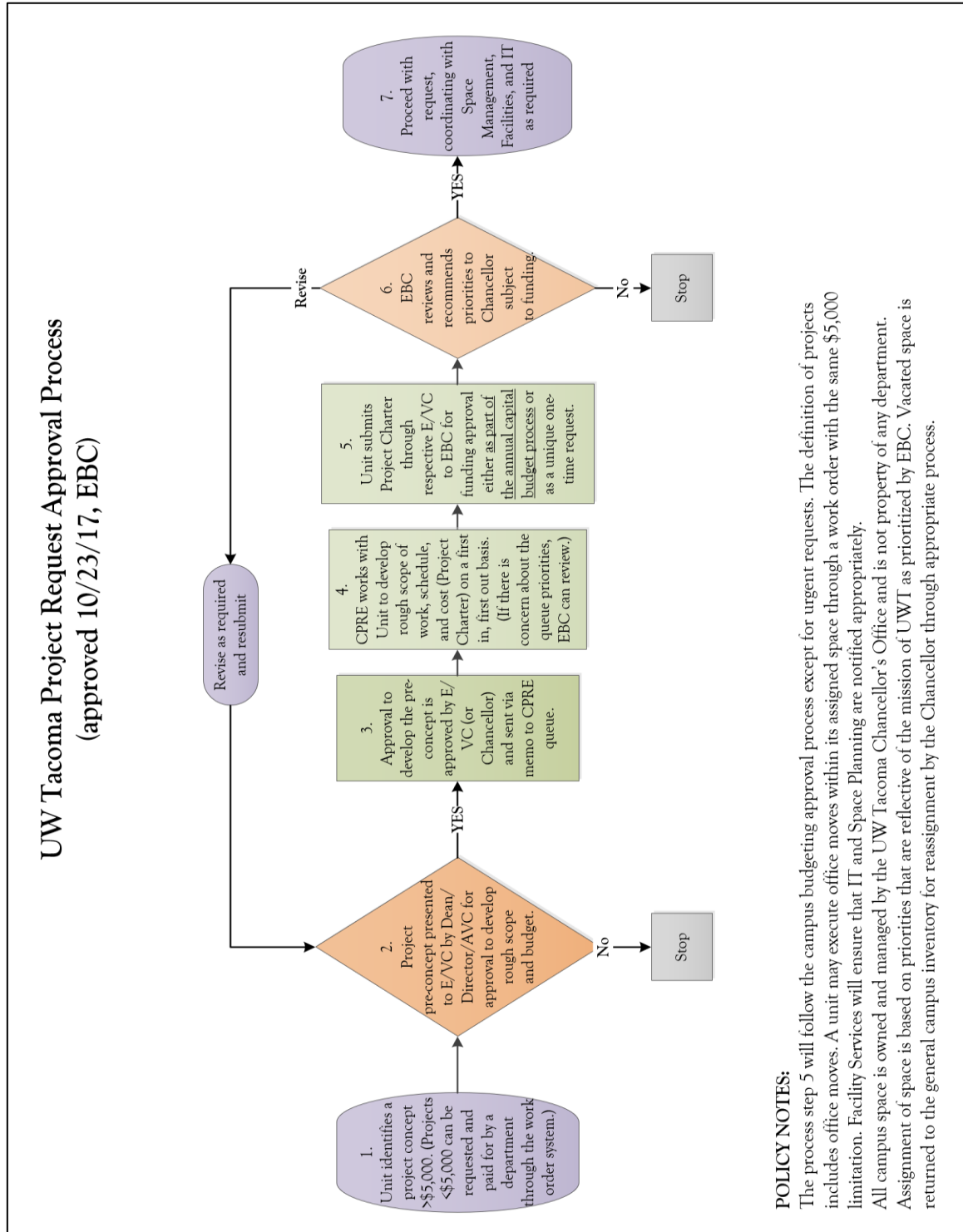
Ultimately, each division will prepare a prioritized list of budget requests based on appropriate benchmarks and analysis. An Excel spreadsheet will be provided to all divisions to provide a standard input that will enable a consolidated summary of all requests for the institution. The first consolidation will likely represent more in budget requests than available revenue can support because there are always more promising ideas than available new funding. The EBC will review each division budget request along with the other inputs. Priorities will then be revised, and budgets reevaluated, based on the collective whole.

Key process dates for the FY2019 budget are:

- EVC/VC coordinating meeting to share priorities: January 19
- **All budget requests due: January 31**
- EBC budget discussions: February 12 and 26
- EBC-unit clarification meetings: March 12 and 26
- **Final EBC budget recommendation due: April 9**
- CBC & FA review and discuss budget recommendations: April 23, May 7
- **Final CBC & FA budget assessments and comments due: May 21**

Note that the capital budget process will parallel the operational budget process, as depicted in Figure 6. Capital request decisions will be based on available reserves, state funding, and long-term projections.

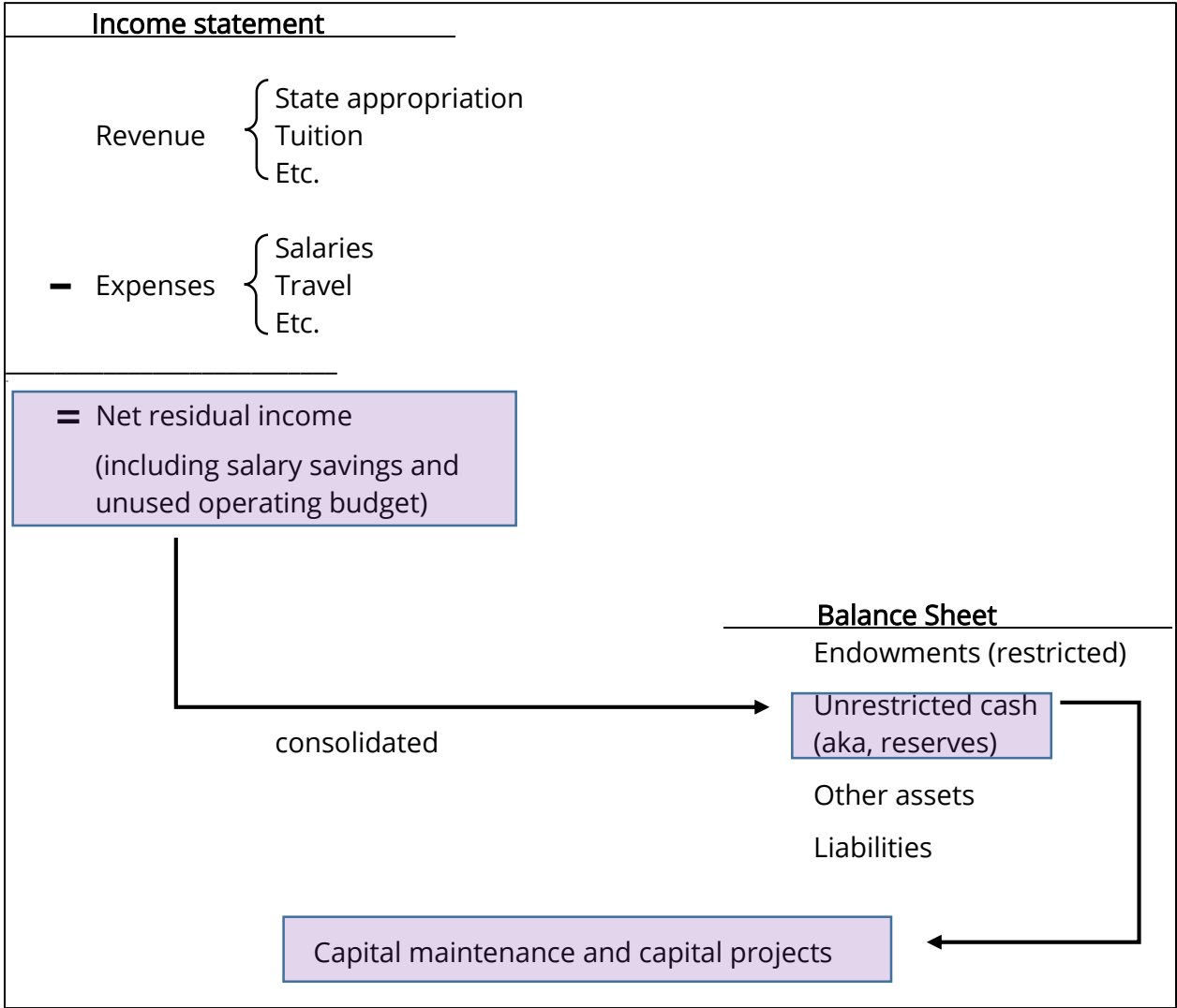
Figure 6. Capital and project request approval process.



The expectation is that the University—and not individual units—will fund capital requests. A college or program is not expected to fund a roof replacement, for example, or to refresh classrooms. However, a college or program may request funding for programmatic improvements (to expand an administrative suite to accommodate growth or to convert a classroom to a class lab, for example) for operating or teaching effectiveness.

It is important to note that UW Tacoma is not receiving enough money to maintain the current inventory of campus buildings and infrastructure from the Building Fee alone. This means that to avoid building problems (such as leaking roofs or heating and cooling difficulties), reserves must supplement the capital budget fee revenue. Reserves are generated by residual income from operations, as shown in Figure 7.

Figure 7. Cash flow from income statement to balance sheet to capital projects.



UW Tacoma budget history and analysis

Table 2 provides a five-year history (unaudited) of all revenue and expense for UW Tacoma (not inflation adjusted), net of grant revenue and costs.

Table 2. UW Tacoma five-year revenue and expense history, unaudited.

	FY2013	FY2014	FY2015	FY2016	FY2017
Tuition	\$ 41,914,825	\$ 46,429,707	\$ 48,624,991	\$ 50,378,380	\$ 48,211,116
State Funding	13,429,224	15,529,652	15,785,285	18,236,327	22,939,093
Self Sustaining & Auxiliaries	4,689,204	4,933,367	6,097,890	4,816,298	6,161,745
Gifts & Endowment Operating	1,821,622	1,859,047	1,902,052	1,970,722	2,009,760
Student Fees	2,976,116	3,399,094	4,461,117	5,336,661	5,818,692
Indirect Cost Recoveries	251,153	457,492	445,301	465,456	637,027
Other Income	290,022	441,433	235,815	590,535	465,820
	<u>\$ 65,372,166</u>	<u>\$ 73,049,792</u>	<u>\$ 77,552,451</u>	<u>\$ 81,897,926</u>	<u>\$ 86,243,253</u>
Instruction	\$ 25,074,894	\$ 28,278,828	\$ 33,464,239	\$ 36,501,117	\$ 39,834,564
Academic Support	5,412,234	6,920,379	7,014,117	6,836,587	7,691,418
Libraries	2,070,334	1,887,498	2,191,215	2,025,176	2,421,960
Student Services	4,095,649	6,359,056	8,426,314	9,221,298	9,583,237
Institutional Support	3,586,351	4,037,421	4,298,739	5,005,770	4,829,329
Operations and Maintenance	4,910,003	5,478,065	7,262,521	7,257,843	6,569,908
Self Sustaining & Auxiliaries	3,877,055	4,525,659	6,185,823	5,147,590	6,002,984
Gifts & Endowment Operating	1,595,770	1,747,898	1,523,117	1,683,296	1,981,284
UWS Overhead	2,858,439	3,317,218	3,727,315	3,803,575	3,956,589
	<u>\$ 53,480,730</u>	<u>\$ 62,552,022</u>	<u>\$ 74,093,400</u>	<u>\$ 77,482,251</u>	<u>\$ 82,871,273</u>
residual income	<u>\$ 11,891,436</u>	<u>\$ 10,497,770</u>	<u>\$ 3,459,051</u>	<u>\$ 4,415,675</u>	<u>\$ 3,371,980</u>
residual income % of revenue	18%	14%	4%	5%	4%

Source: EDW. Adjustments made for one-time capital expenses.

An analysis of UW Tacoma expenses as a percent of total expense shows that Institutional Support and Operations and Maintenance decreased and that Student Services increased over the past four years (see Table 3). Although tracking trends is important, by itself trends are not enough information since we need to also understand the absolute value relative to appropriate benchmarks (either best practice or peer average).

Table 3. Trend of UW Tacoma expenses as a percent of total expense.

	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>	<u>FY2017</u>
Instruction	46.9%	45.2%	45.2%	47.1%	48.1%
Academic Support/Libraries	14.0%	14.1%	12.4%	11.4%	12.2%
Student Services	7.7%	10.2%	11.4%	11.9%	11.6%
Institutional Support/UWS OH	12.1%	11.8%	10.8%	11.4%	10.6%
Operations and Maintenance	9.2%	8.8%	9.8%	9.4%	7.9%
Other	10.2%	10.0%	10.4%	8.8%	9.6%

Source: EDW. UWT analysis.

Comparing the UW Tacoma overhead expenses to public university peers suggests that the fifty percent increase in Student Services over the past four years was not excessive since, as of FY2015, the expense is only nine percent above the median, as shown in Table 4. It is important to point out that the overall institutional support per full time student equivalent, including the expense for support from UW Seattle, is well below the peer median.

Table 4. UW Tacoma overhead expenses per FTSE compared to public peers, FY2015.

	<u>UWT</u>	<u>median (N=95)</u>
Academic Support/Libraries	\$ 2,168	\$ 2,181
Student Services	\$ 1,984	\$ 1,826
Institutional Support/UWS OH	\$ 1,890	\$ 2,427

Source: NCES. N=95 (public universities less than 10,000 students).

The percent of total revenue by source of funds and the percent of expense by category for fiscal year 2017 are depicted using pie charts in Figure 8 and 9, respectively. A pie chart helps to indicate the relative differences among the revenue and expense components for a given year.

Figure 8. UW Tacoma Sources of Funds, Fiscal Year 2017

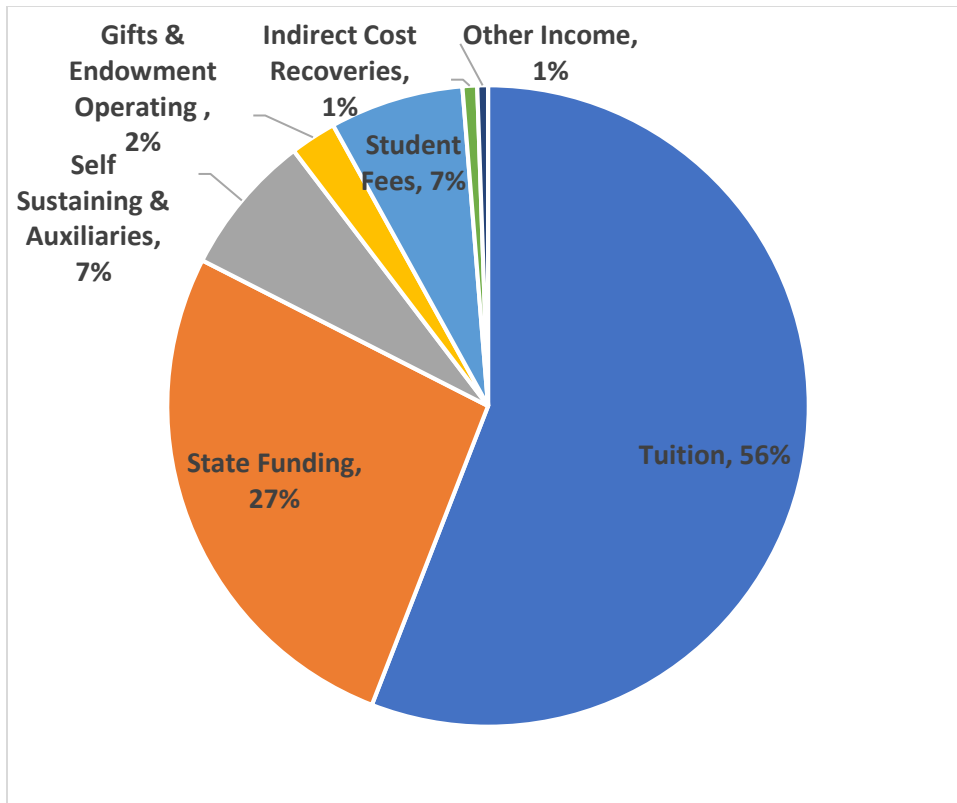
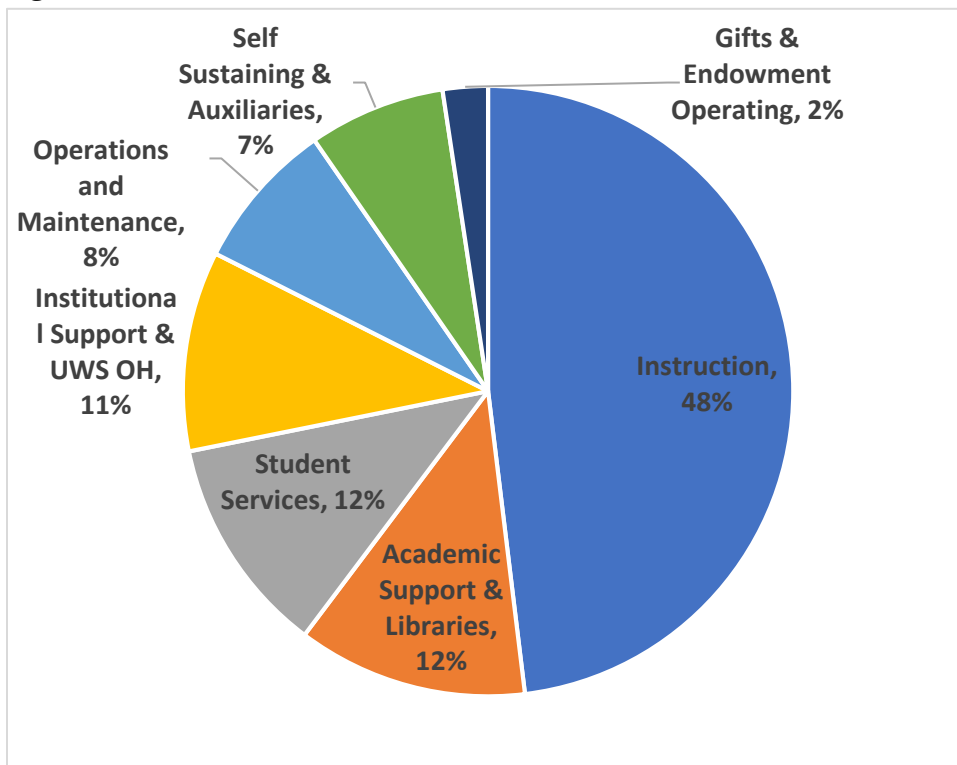


Figure 9. UW Tacoma Use of Funds, Fiscal Year 2017



Explanation of terms in pie charts:

- Self-Sustaining Programs include Commencement, Internship Program, MAcc, MCL, Professional Certification in Education, Conferences Services, Key Bank Professional Development Center.
- Auxiliaries include Convenience Store, Copy Center, Real Estate, Residence Halls, Transportation Program, and Vending.
- Student Fees include Application Fees, Course Fees, Enrollment Confirmation Fee, Entrance Exam Fees, International Program Fees, Student Activities Fee, Student Technology Fee, Transcript Fees, and University Y Fees.
- Other Income includes Investment Income, Career Fair, Education PEAB Program, Key Deposits, Overhead, Misc. Fines and Forfeitures, Misc. Revenue, Rental Income
- Academic Support includes Academic Advising, Academic Affairs, Academic Technologies, Applied Research Center, Faculty Assembly, Faculty Scholarship Program, Faculty Start-up Funds, Information Technology, International Programs, Institutional Research, Placement Testing, Research Centers, Research Support, Summer Quarter Administration, and Teaching and Learning Center
- Student Services includes Admissions Advising and Outreach, Advertising, Career Fair, Commencement, Disability Support Services, Financial Aid, Health and Wellness, International Student Programs, Orientation, Publications, Registration, Student and Enrollment Services, Student Involvement, Student Orientation, Student Planning & Administration, Student Transitions, Services and Activities Fee Allocations, Student Technology Fee Allocations, and Student Services.
- Institutional Support includes Advancement, Campus Program Planning, Chancellor's Office, Childcare Program (MUSE), Diversity Resource Center, Equity & Diversity, Finance and Administration, Human Resources, Institutional Memberships, Mailing Services, and Public Information.
- Operations & Maintenance of Plant includes Campus Planning, Campus Relocations and Refreshes, Custodial, Environmental Health & Safety, Facilities, Leased Facilities, Safety & Security, Technology Refresh Program, and Utilities.

UW Tacoma budget guiding principles, best practices, and key terms

Almost everyone agrees that transparency about budgets is a best practice and that more transparency is needed. But transparency is not just about sharing budget numbers. Transparency must include the larger context for the numbers (e.g. historical trends and benchmarks), a clear understanding of the process to develop the budget, and documentation of the values, practices, and terms supporting the process that together create clarity about our financial realities and decisions.

To document UW Tacoma values related to budgeting, the Campus Budget Committee approved the following budget guiding principles on November 21, 2017.

UWT Budget Guiding Principles

The following guiding principles highlight important values used in the budget decision process by all constituencies at UW Tacoma. We acknowledge that there are many uncertainties that affect the decision process. We understand that all decisions represent risk and tradeoffs and will never be perfect. Therefore, for our students and our institution, we adopt the following values framework for budget development and management.

1. We value the academic mission as the institution's highest priority.
2. We value the campus strategic plan (which incorporates the academic mission and highlights the importance of access) and align budget priorities accordingly.
3. We value the long-term and sustainable perspective. To ensure sustainable budgets, the revenues of an operating cycle should be the only source of funds for that operating cycle. In addition, the institution will budget an appropriate net residual income each year to manage contingencies and capital needs. Individual units should not budget for contingency or capital.
4. We value enrollment growth as it responds to the needs of the community and students, and to the requirements for institutional vitality (leveraging overhead as well as growing sustainably). Such needs and requirements will be driven by the academic plan and balanced by the availability of resources.
5. We value efficiency and effectiveness. All campus units—academic and non-academic—should show evidence of such in their use of resources using appropriate measures.
6. We value a collaborative and transparent process that prioritizes the common good. Therefore, all sources of revenue and costs are considered in the budget development process. If funds are not used for the original purpose, the funds require re-authorization considering other institutional priorities.
7. We value an understanding of how each unit is part of the larger institution. Budget stakeholders should learn about the institutional challenges and opportunities to better understand the whole.

8. We value transparency and evidence-based decisions. The Chancellor, who holds responsibility for final budget decisions, will provide the rationale for all major budget decisions to the campus.
-

In addition to guiding principles, there are a number of budget ‘best practices’ that provide a solid foundation for building a comprehensive and flexible plan to optimize institutional results and student success. One example is the use of financial projections. It is important to look ahead for more than one or two years at a time to assess the probable long-term impact of budget decisions and capital needs. (The UW is working on a projection system to support decision making.)

Additional budget “best practices” include the following:

- All new unit requests should be considered in the context of the total unit budget so that appropriate benchmarks can be reviewed. (Note that reviewing total budgets is not zero-based budgeting, which involves reallocating the total budget without reference to what has been previously allocated.)
- There are two kinds of expenses in any institution or business: operating and capital. The former refers to the ongoing expenses that support the day-to-day institutional processes such as staff and faculty salaries. The latter refers to the one-time investments that are necessary to support discreet projects or needs such as new roofs, building systems, major software systems, lab equipment, and buildings themselves, among other things. Note that capital expenses are typically “capitalized” but this is an accounting treatment and not a defining element. Best practice budgeting manages these two types of expenses using different sources of funds.
- Best practice budgeting recognizes that shortfalls happen. Budgets are only estimates of future outcomes and as estimates, the actual will differ from the budget. If managers are chastised for going over budget, then they will estimate conservatively. If everyone in an institution is estimating conservatively, then the overall budget can be expected to represent an inflated cost for the actual results delivered. The way to counter this overestimating tendency is to use contingency funds at the university level. Budget managers should estimate budgets at the expected mean outcome with the understanding that the Vice Chancellors, through the Chancellor, hold some contingency for deviations from the mean. In this way, budgets are managed as a portfolio of outcomes across the institution and individual managers are not worried about being short a few dollars at the end of the year due to unforeseen circumstances.

- It is important to recognize that salary dollars are different than operating dollars in a university setting because salaries are the single largest expense. Vacant positions should not be used as a source of funding for operations to avoid the establishment of perverse incentives and unsustainable expectations. Best practice budgeting will sweep salary funds not used because of a vacancy to a central account (which can then be used as a source of contingency for the division or the institution).
- Operating dollars represent an estimate of desired and required activities for the year. Although the intent is to spend all operating dollars in a year, sometimes this is not feasible. To incentivize the use of operating funds to achieve goals in the period for which they were provided and to avoid individual units generating large savings accounts, a) unspent operating budgets should be collected in a central account at year end to support capital needs and b) units should be allowed to keep a small percentage of the unspent budget for future one-time expenses. This encourages appropriate budgeting and avoids the 'use it or lose it' practice.

Using best practice budgeting techniques and readily available data, we can expect to improve the allocation process so that high priorities are fully addressed. Such practices will result in more certainty regarding travel budgets, salary increases, and program investments while providing more transparency about the budget decision process.

In addition to understanding the best practice budget philosophies, it is helpful to have the many terms unique to higher education defined. Public universities have multiple fund sources, including state appropriations, research grants, philanthropic gifts, and tuition and fees. Each funding source is subject to specific rules on how it may be used, depending on the state, which in turn requires universities to utilize "fund accounting" to maintain separate accounts for each source according to federal and state law.

Important budget-related terms used at UW Tacoma include:

- Permanent funds = state appropriation and tuition revenue (based on prior year actual)
- Carryforward funds = reserves (which come from prior year unspent budget and over-realized revenue), sometimes referred to (inappropriately) as temporary funds.
- Temporary expenses = operating expenditures that are identified as a one-time in the budget year
- Self-sustaining = educational programs that charge "market" rates and are required to cover all related direct and indirect costs (and may or may not be for academic credit)

- Auxiliaries = service programs such as student housing, retail leases, parking and transportation, and food services that support non-educational needs of students, faculty, and staff and that charge as necessary to cover all related service costs.
- “Summer money” = the net residual income generated from summer quarter after covering all summer related costs and the Urban Waters lease, the faculty research quarter, and the Summer Bridge program.

Additional clarification about UW Tacoma funding sources follows.

- Washington State refers to academic year tuition (also known as operating fee revenue) and state appropriations as General Operating Funds (GOF). GOF funds are restricted in several ways. For example, food may not be purchased using GOF funds except for specific reasons.
- Washington State refers to the Summer quarter tuition revenue and all interest income as Designated Operating Funds (DOF). These are considered less restrictive funds. (In other states, all tuition and appropriations are referred to as Educational & General (E&G) and there is no differentiation by time of year.)
- Tuition is composed of two parts, Operating Fee and Building Fee. The Building Fee is not collected during the Summer quarter.
- Student Fees include Services and Activities Fee (SAF), Student Technology Fee (STF) and the University Y Fee, all of which are allocated for specific purposes.
- UW Tacoma also recognizes revenue from the following sources:
 - Auxiliary activities, including the residence hall, retail leases, parking, convenience stores, Copy Center and UPASS, among others. These activities generate income to cover expenses related to the services they provide and may also provide additional funds for university operations (e.g. in the form of residual income from residence halls or ground rents from retail operations).
 - Restricted funds, including Grants & Contracts, Gifts, Scholarships, and Restricted Endowments. These funds are set up for specific purposes as defined by donors or agencies outside of the university. Expenditures must comply with the intent of the donor or agency as defined in the original agreement.
 - Unrestricted funds (gifts that are designated for general University use, often referred to as Discretionary Funds).

In addition, the University receives federal funds on behalf of students who obtain financial aid to pay tuition (e.g. Pell grants).

See <http://finance.uw.edu/fmat/oversight/framework> for additional references on fund types.

Appendix 1: Higher education management accounting (Budgeting 101)

Higher education finance can seem complex given the variety of funding sources and the various restrictions on those sources. But to really understand university budgeting, there are just a few simple concepts every manager should understand: revenue and cost per student and fixed and variable costs.

Revenue per student is based on the state appropriations, tuition and fees, and other income that is available for educational purposes (the net contribution from auxiliary operations, for example, and excluding grants and indirect cost recovery). The important number to focus on is the total revenue per student related to educational activity.

While it is helpful to receive more state appropriations, if the percentage enrollment growth (in terms of the full-time student equivalent) exceeds the percentage total revenue growth, then the revenue per student has decreased. In that case, it is critical to make sure that the second essential concept, the cost per student, is well under control.

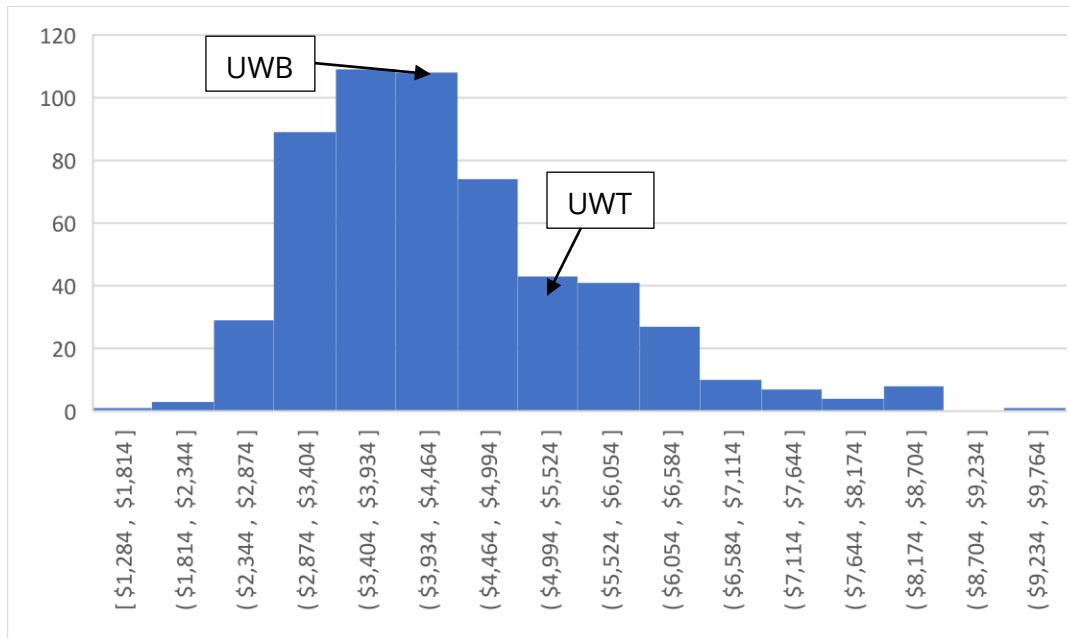
The cost per student is not a constant. The cost per student varies depending on the cost of the various programs and the mix of programs offered. That cost will change depending on how many new faculty and staff are hired and how many new programs are initiated.

Even if enrollment growth is healthy, the cost per student can increase faster than the revenue per student if the institution hires more faculty and staff to serve those additional students. Indeed, new faculty and staff hires can cause the institution to lose money serving those additional students (at the margin). The marginal cost increase can exceed the marginal revenue increase through the addition of software or program costs as well.

The cost per student is composed of two major types of costs: direct (or variable) costs and indirect (or fixed) costs. The direct costs vary directly with revenue as you would expect of faculty salaries. If the enrollment of a university were to double, then faculty salary expense would double, all else being equal. The key drivers of direct cost are the student to faculty ratio and faculty salaries.

Using faculty salaries as a proxy for direct costs, the UW Tacoma variable cost per student in 2015 was about \$5,142, as shown in Figure A1-1. This is higher than the national mean among 554 public higher education institutions. In comparison, UW Bothell averaged \$4,093 per student, just below the mean. The difference is largely based on the student-faculty ratio, which is 22:1 for Bothell and 16:1 for Tacoma (IPEDS, 2015).

Figure A1-1. Faculty cost per student among U.S. public universities (2015).



Source: National Center for Educational Statistics (IPEDS).

Note that the cost per student difference between UW Bothell and UW Tacoma may not be entirely comparable if the faculty in Tacoma are getting more release time in order to handle administrative duties performed by non-faculty personnel in Bothell.

Overhead, or the indirect cost, per student is another important metric to monitor to ensure resources are allocated in the most effective manner. Many administrative duties are considered overhead costs. Indirect costs do not vary directly on the number of students enrolled and are often considered fixed. Indirect costs are not actually ever permanently fixed but rather vary much more slowly. For example, the salary expense of senior administrators is not expected to double if a 5,000-student university expands to 10,000 students. However, the number of deans might increase as colleges are added to support 10,000 students and the number of advisors and fiscal specialists would need to increase slightly as well.

Although there are complexities in any analysis of revenue and costs, the revenue and cost per student and the fixed and variable component of costs are two essential concepts to understand when managing enrollment, course offerings, and all support functions at any university.

References and further reading

- Baumol, W., & Bowen, W. (1966). *Performing arts, the economic dilemma: A study of problems common to theater, opera, music, and dance*. New York: Twentieth Century Fund.
- Baylor, E. (2014). *State divestment in higher education has led to an explosion of student-loan debt*. Washington, DC: Center for American Progress.
- Blumenstyk, G. (2014). *American Higher Education in Crisis? What Everyone Needs to Know*. Oxford University Press.
- Bowen, W. G. (2012). The 'cost disease' in higher education: is technology the answer? The Tanner Lectures, Stanford University.
- Desrochers, D. & Kirshstein, R. (2014). *Labor Intensive or Labor Expensive?* Washington, DC: American Institutes for Research Delta Cost Project.
- Dickeson, R.C. (2010). *Prioritizing Academic Programs and Services*. San Francisco, CA: John Wiley & Sons.
- Inflation Comparison: Percent Growth (dshort.com). Retrieved April 20, 2017 from <http://www.dartblog.com/data/2013/01/010555.php>.
- Krugman, P. (1994). *The Age of Diminishing Expectations*. MIT Press.
- SHEEO. (2016). *State Higher Education Finance: FY 2016*. Boulder, CO: State Higher Education Executive Officers.
- Massy, W. F. (2003). *Honoring the Trust: Quality and Cost Containment in Higher Education*. Bolton: Anker Publishing.
- Mortenson, T. (2014). State investment and disinvestment in higher education FY1961 to FY2014. (No. 260). *Postsecondary Education OPPORTUNITY*, 1-24.
- National Center for Education Statistics (NCES). Integrated Postsecondary Education Data System (IPEDS). U.S. Department of Education. <https://nces.ed.gov/ipeds/Home/UseTheData>
- Thelin, J. R. (2011). *A history of American higher education*. Baltimore, MD: JHU Press.
- Zumeta, W., Breneman, D. W., Callan, P. M., & Finney, J. E. (2012). *Financing American higher education in the era of globalization*. Cambridge: Harvard Education Press.