Alaska Higher Education Costs
Compared with those of Other Low Population Density States

Summary

The University of Alaska's need for higher State general fund appropriation per student than is typical of other colleges and universities is driven by Alaska's small and widely distributed population coupled with high costs for utilities, commodities, and services. It is not primarily the result of either high faculty/student ratios or unusually high numbers of administrators and administrative support staff. Disproportionate reductions in faculty and administrative staff risk causing steep declines in revenue, exacerbating the negative impacts of State appropriation reductions.

- The UA ratio of full-time instructional employee numbers/FTE student is just 14% above the average for LPDS states overall and only 4% above that for the four states with less than 1 million population and fewer than 12 persons per square mile.
- The University of Alaska (UA) system secures 1.7 times more grant & contract revenue per employee than the average for other LPDS. The amount was more than $180 million in FY 2018.
- The University of Alaska system has fewer full-time employees than the public institutions of higher education (IHE) of any other state. Although the FY 2018 full-time employee/full-time equivalent student ratio was 26% above that of other LPDS, that is due to the much higher grant & contract revenue per UA employee. The external funding pays for the additional employees, who are predominantly engaged in research, public service, and related administrative support.
- Although UA employs more part-time employees relative to full-time employees than other LPDS, their pay makes up the same percentage of total salaries & wages. Hence, UA part-time employees are each paid less on average and do not contribute an unusual amount to personnel costs.
- The number of full-time UA management-level employees relative to the total number of full-time employees is only 6% higher than the LPDS average. The number of UA full-time administrative staff is similar to the LPDS average.
- UA student services costs per full-time equivalent (FTE) student are 58% above those for other LPDS. However, that is probably an artifact of the fact that many IHE in LPDS, particularly larger institutions that compete in NCAA Division I, account intercollegiate athletics costs in an auxiliary or in another manner, rather than including them in student services as UA does.
- Part of UA's added costs relative to other LPDS is due to a modest cost-of-living driven elevation of staff salaries & wages, 23% above the average. When adjusted for relatively low UA benefits, staff compensation rates are only 12% above the LPDS average and faculty compensation rates are only 1% above the LPDS average.
- UA costs for operations and maintenance of the physical plant per full-time employee are 1.31 times those for other LPDS states. This is attributable to high Alaska costs. Grant & contract indirect cost recovery (ICR) funds provide about $15 million toward annual facilities costs.
- UA spends much more on goods and services per FTE student than the average for other LPDS states, even when the amount is adjusted for grant & contract expenditures.
- UA's unrestricted revenue streams, primarily tuition & student fees and indirect cost recovery from grants & contracts, are well above the LPDS average on a per-student basis but are insufficient to cover all of UA's added costs.

Alaska Higher Education Costs Compared with those of Other Low Population Density States[1]

Introduction

Alaska is unusual in that almost all[2] of its public higher education institutions are within a single system, the University of Alaska (UA) System. The UA System consists of three separately accredited universities, the University of Alaska Anchorage (UAA), the University of Alaska Fairbanks (UAF), and the University of Alaska Southeast (UAS), and a central administrative unit, the University of Alaska System Office (UA SW). Most states do not have a large central administrative unit for public institutions of higher education. Each of the UA universities incorporate several community campuses, which focus on delivery of certificate and associate-level degree programs. In most other states, community colleges are independent of the baccalaureate degree-granting institutions. These UA characteristics make it difficult to find appropriate peer institutions for making cost comparisons. Hence, this paper takes a different approach, comparing total costs of all public higher education institutions in states, including central administrative offices if they exist, to those of the University of Alaska. Tribal Colleges are not included in the comparison, because they are a mixture of public and private non-profit institutions and often have different sources of funding than other public colleges. The paper focuses on comparing Alaska to ten other states that have the lowest population density among the 50 states: Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah, and Wyoming.

Low population density states (LPDS) were chosen for comparison because they have similar challenges to Alaska. Many of the peer institutions that UA SW Institutional Research & Analysis has used for past comparisons[3] are located in these states. Because their populations are widely distributed geographically, they tend to operate more institutions per capita—and so, operate institutions with lower than average enrollments—than states with more concentrated populations. Also, as illustrated in this paper, they play a larger than average role in public service within their states. However, Alaska remains unique in that its average population density, about 1 person per square mile, is much less than those of the other states, which range from six for Wyoming to 36 for Utah and Kansas. In addition, the Universities of Alaska secure much more grant & contract funding per capita student and per capita employee than public higher education institutions in other LPDS.

Table 1 summarizes some of the characteristics of Alaska and other LPDS. Financial and employee data are from FY 2018, and so do not reflect the $70 million in addition General Fund reductions being implemented under the Compact.[4] By far, Alaska has the smallest population per square mile; Kansas and Utah have more than thirty times Alaska's population density. Of the LPDS states, only Alaska, Wyoming, Montana, North Dakota, and South Dakota have populations of one million or less. Nonetheless, all of the states listed in Table 1 are well below the national average of 96 persons per square mile and 6.4 million total population. Only the Nevada and New Mexico legislatures have democratic majorities,[5] so it seems likely that most of the LPDS legislatures are fiscally conservative.

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[1] By Dr. Susan Henrichs, Professor Emerita, University of Alaska Fairbanks. The document was not funded or approved by the University.

[2] Iḷisaġvik Tribal College is the only public degree-granting institution in Alaska that is not part of the UA system.

[3] https://www.alaska.edu/ir/files/data/University_of_Alaska_Peer_Groups_June2017.pdf

[4] Budget and Related Matters Agreement, Governor of the State of Alaska and University of Alaska Board of Regents, https://www.alaska.edu/files/bor/2019/2019-08-13-SOA_UA-Compact-Agreement-FY20-22.pdf

[5] https://www.270towin.com/2020-state-legislature-elections/state-senate, https://www.270towin.com/2020-state-legislature-elections/state-house; party control in April, 2020.

Table 1. Public Higher Education Institutions and Enrollment for Low Population Density States (LPDS)[6]

	State	State Population Density	State Population[7]	Number of 4-year or More Public IHE[8]	Number of 2-year or Less Public IHE	Number of Central Administra-tive Units[9]	Full-time Public IHE Employees	FTE Student Enrollment in Public IHE[10]	% of first-time students attending in-state[11]	% of 18-24 year olds enrolled in IHE[12]
	Alaska	1	738,432	3	0	1	3,693	17,518	60%	29%
	Wyoming	6	586,107	1	7	0	4,396	22,924	76%	34%
	Montana	7	1,032,949	6	6	-	6,141	37,479	79%	33%
	North Dakota	10	756,927	7	4	0	6,628	37,795	74%	42%
	South Dakota	11	858,469	6	4	-	5,059	33,927	77%	40%
	New Mexico	17	2,085,109	7	18	-	15,410	84,736	84%	33%
	Idaho	20	1,654,930	4	4	-	8,511	54,157	73%	34%
	Nebraska	24	1,896,190	6	8	1	16,173	78,021	82%	44%
	Nevada	26	2,890,845	6	1	1	9,245	81,273	77%	31%
	Kansas	36	2,911,641	7	25	-	22,549	136,702	85%	41%
	Utah	36	2,995,919	7	1	-	21,828	133,677	91%	41%
	Average of LPDS[13]	18	1,673,411	5.5	7.1	0.27	11,594	70,069	78%	37%
	Average of All States	95	6,414,951				32,673	226,469	81%	43%

[6] Data are from the Integrated Postsecondary Data System (IPEDS), FY 2018, unless otherwise specified. https://nces.ed.gov/ipeds/

[7] U.S. Census Bureau, https://www.census.gov/data.html

[8] IHE=Institution(s) of Higher Education

[9] When reported separately to IPEDS. In some states, such units are embedded in a university or a central office oversees both K-12 and higher education.

[10] 12-month full-time equivalent enrollment.

[11] National Center for Education Statistics, Digest of Education Statistics 2018, Table 309.10. % of state residents attending in-state as first-time degree/certificate-seeking undergraduates in degree-granting postsecondary institutions. Includes public and private institutions. Fall 2016 https://nces.ed.gov/programs/digest/d18/

[12] National Center for Education Statistics, Digest of Education Statistics 2018, Table 302.65 (Fall 2016 data). % of state residents aged 18-24 enrolled in degree-granting institutions of higher education within the state. Includes public and private institutions. https://nces.ed.gov/programs/digest/d18/

[13] Alaska is not included in this average.

Most of the LPDS have community colleges that are separate from baccalaureate-granting colleges and universities, but Nevada and Utah each have only one that is separate and handle much of the community college mission within baccalaureate-granting institutions. Only Alaska, Nebraska, and Nevada have central administrative units that report data separately to IPEDS.

On average, 78% of LPDS first-time degree-seeking college students attend in-state, a little less than the national average of 81%. Alaska is well below average, at 60%. Alaska is also very low on the proportion of 18 to 24-year-olds enrolled in its higher education institutions, only 29% vs. 37% for the LPDS average and 43% for the national average. The high proportion of Alaska residents who leave the state to attend college explains nearly all of the difference in this figure compared with other LPDS, however. Alaska's slightly lower high school graduation rate (78% vs. 83% for other LPDS states) is also a factor.

The University of Alaska system has fewer full-time employees than the public IHE of any other state, despite the fact that Alaska's universities bring in much more grant & contract revenue per capita than the employees of the other LPDS. The full-time employee/FTE student ratio for Alaska is about 26% above the average for LPDS states, but this is entirely explained and paid for by external grant & contract funds[14], as addressed further under "Research and Public Service Revenues and Costs".

Instructional and Student Services Costs

Table 2 compares instructional and student services costs of Alaska and other LPDS. Because Alaska facilities costs are well above average (as will be addressed later) this section focuses on salary & wage expenditures in these categories, rather than the total expenditures[15] which include the facilities-related costs.

Alaska's instructional salary & wage expenditures per FTE student are 28% above the average for the LPDS. However, part of this difference is due to the fact that the UA average pay/full-time instructional employee is 5% greater than the LPDS average—not unreasonable given that the cost-of-living is much higher in Alaska relative to the other LPDS states. Considering the ratio of full-time instructional employee numbers/FTE student, the Alaska ratio is just 14% above the average for LPDS states overall, and only 4% above that for the four states with less than 1 million population and fewer than 12 persons per square mile. Therefore, Alaska's universities do *not* have many more full-time instructional faculty/student than the norm for fairly similar states. Reducing the number of instructional faculty substantially will mean that many students will have much less opportunity to take face-to-face classes. However, if UA did lower the faculty/student ratio to the LPDS average, that would mean a decrease of 104 positions and a savings of $14 million, far less than the $70 million General Fund reduction being implemented. Alternatively, reducing the instructional salary & wage expenditure to the LPDS average

[14] The total UA expenditures for salaries, wages, and benefits in FY 2018 were $410 million, and 26% of that is $107 million. While some of the $182 million in grant & contract revenue is spent on travel, goods, and services, the amount appears sufficient to cover the additional employee compensation. Some part-time employees are included in the IPEDS salary, wage, and benefit expenditures, so any who are engaged in research and public service are included in this estimate, provided that the numbers are in proportion to the full-time employees.
[15] IPEDS only reports total expenditures, including facilities, depreciation, and interest expenses, or salary & wage expenditures by category.

Table 2. Expenditures for Instruction and Student Services[16]

State	Instructional Salary & Wage Expenditure/FTE Student	Full-time Instructional Employees/FTE Student	Student Services Salary & Wage Expenditure/FTE Student
Alaska	7,192	0.0543	1,472
Wyoming	6,477	0.0576	1,102
Montana	5,096	0.0464	1,012
North Dakota	6,067	0.0515	1,129
South Dakota	5,166	0.0526	1,118
New Mexico	4,927	0.0488	729
Idaho	5,283	0.0483	796
Nebraska	6,711	0.0511	644
Nevada	5,741	0.0353	1,117
Kansas	5,760	0.0495	945
Utah	4,912	0.0368	699
Average of LPDS	5,614	0.0478	929
Average of All States	5,591	0.0420	872

could save $21.6 million. The net savings would probably be less, however. In aggregate UA tuition revenue is about 107% of instructional salary & wage expenditures;[17] any losses of tuition revenue could substantially reduce the net savings.

As has often been a topic of discussion, UA student services salary & wage expenditures/FTE student are 58% above the average for LPDS. IPEDS data do not provide a complete explanation, but several factors contribute:

- The expenditures include grant & contract expenditures. UA has several Title III and similar grants for minority-serving institutions. No data are available to compare UA grants of this type to those of other LPDS. Every $1 million in greater UA grant-funded expenditures would amount to $57/UA FTE student.
- This category includes library and museum expenditures. Because UA's research grant & contract dollars per student are much greater than the LPDS norm, more of the library expenditures likely support research. However, much of the differential is in the area of database subscriptions, and salary & wage expenditures are probably not greatly affected. The UA Museum of the North is an unusually large research museum for the size of the UA system. Its total FY 2018 expenditures (General Fund, grants & contracts, visitor revenue, philanthropic support) were $3.4 million, which would be about $190/FTE student. Salaries & wages—excluding benefits—comprise about 80% of this total, so the impact would be $150/FTE student in the salary & wage expenditure category.

[16]Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/

[17] The percentage varies among the three universities and among campuses, depending on enrollment.

- Intercollegiate athletics is probably a substantial part of the higher level of UA spending on student services. Exclusive of student athlete financial aid and scholarship support (which are reported in another category) FY 2019 UA intercollegiate athletics expenditures totaled $739 per FTE student (total UA enrollment, not just student athletes). The salary & wage expenditures were $369/FTE student.[18] Of course, many of the colleges and universities in other LPDS participate in intercollegiate athletics as well. However, only 55% of the institutions reported intercollegiate athletics expenditures as part of student services. The others report athletics in an auxiliary or other budget category, or they do not offer intercollegiate athletics.[19] Further, most of the largest NCAA Division I and Division II LPDS athletics program expenditures[20] are not reported under student services. Another factor that could lead UA to spend more per student on intercollegiate athletics is the fact that NCAA (and NAIA)[21] have requirements for minimum numbers of teams, which mean that smaller enrollment schools must support more teams per student.

It is not possible with available information to be certain that the Museum and intercollegiate athletics expenditures are responsible for the relatively high UA expenditures in the student services category, but those expenditures are of sufficient magnitude that they could be responsible. If UA reduced student services expenditures to the LPDS average (which is 7% above the average for all states), the savings would be just $9.5 million. It is likely that such a large reduction could not be achieved without eliminating intercollegiate athletics.

Research and Public Service Revenues and Costs

Table 3 summarizes grant & contract revenue and expenditures for research and public service. On average two-thirds of the grant & contract dollars are Federal. LPDS in general secure very close to the national average amount of grants & contracts, both per student and per employee. However, UA secures much more, 2.4 times the LPDS average per FTE student and 1.7 times the average per full-time employee. For both ratios, Alaska is highest by a substantial margin. In FY 2018 the UA operating grant & contract revenue was more than $182 million, most of which was spent within Alaska as salaries, wages, and benefits for UA employees. For all of the LPDS (and the U.S. public IHE average as well) grants & contracts support the majority of research and public service expenditures, but not all. Note that the IPEDS figures for research and public service expenditures *include* facilities costs. If it is assumed that grants & contracts support only research and public service and associated facilities & administrative costs,[22] on average 80% of those LPDS expenditures are covered by grants & contracts. For Alaska 84% are covered, slightly better than the average for the other LPDS, even though Alaska's

[18] UAA and UAF Chancellors November 2019 reports on intercollegiate athletics presented to the UA Board of Regents.
[19] Institutions without intercollegiate athletics are usually community colleges or small regional universities.
[20] Specifically, the largest universities in Idaho, Kansas, Nebraska, New Mexico, Utah, and Wyoming.
[21] NCAA=National Collegiate Athletics Association, which mainly attracts its membership from the largest universities, and NAIA=National Association of Intercollegiate Athletics, which mainly attracts its membership from smaller regional colleges and universities and which advertises itself as a lower cost option than NCAA.
[22] IPEDS does not break down the grants & contracts revenue by the type of activity supported. Grants & contracts mainly support research and public service activities of universities, but a small fraction support student services or, rarely, instruction. In the case of UAF, >95% of operating grants & contracts are for research or public service.

Table 3. Grant & Contract Revenues and Research and Public Service Expenditures[23]

State	Total Grant & Contract Revenue (Operating)/FTE Student	Research EXP/FTE Student	Public Service EXP/Student	Total Grant & Contract Revenue (Operating)/Full-time employee	% Federal of Total Grant & Contract Revenue
Alaska	10,415	9,289	3,182	49,404	66%
Wyoming	6,047	3,781	2,820	31,533	55%
Montana	5,083	5,212	1,918	31,024	78%
North Dakota	4,722	4,948	1,908	26,927	69%
South Dakota	4,076	2,768	1,515	27,334	55%
New Mexico	6,084	4,854	7,522	33,454	73%
Idaho	3,363	2,543	1,563	21,402	73%
Nebraska	6,215	4,922	1,575	29,981	55%
Nevada	2,971	1,598	830	26,119	70%
Kansas	3,886	4,371	1,381	23,559	60%
Utah	5,140	4,041	6,207	31,478	74%
Average of LPDS	4,759	3,904	2,724	28,281	66%
Average of All States	4,447	3,238	1,379	30,821	56%

facilities costs are unusually high. (See discussion later in this paper). If the $39 million unrestricted fund UA research and public service expenditures (including a 20.9 million organized research State appropriation to UAF) that are not covered by grants & contracts were eliminated, that would be about half of the planned $70 million reduction to UA. However, the other LPDS spend comparable amounts relative to the total amount of grant & contract revenue, and the reason is that some university supported expenditure is necessary to be successful in securing ongoing grant & contract funding. Not spending the $39 million would very likely greatly reduce the amount of grant & contract funding brought to Alaska and the included indirect cost recovery (ICR) that offsets much of the associated facilities & administration costs. Further, since part of this $39 million expenditure is for facilities—which might need continued operations and maintenance funding even if unused—eliminating the entire $39 million in expenditure would probably be impossible, even if UA curtailed research and public service activities. Grant & contract indirect cost recovery (ICR) funds provide about $15 million[24] toward annual facilities costs. Eliminating unrestricted funding of UA research and public service would also mean a radical change in the mission of UAF, currently a Land, Sea, and Space Grant research university that embraces the responsibilities of research and outreach serving the entire State of Alaska.

[23]Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/ The grants & contracts included in the table are those termed "operating" by IPEDS. Essentially all grants for research and public service are in that category. Non-operating grants (mainly Pell grants and other student aid in the case of UA and many other colleges and universities) are not included. The amount of those is related to the number of students and their (or their families') income levels.

[24] Estimated from information in the FY19 & FY20-FY22 Negotiation Agreement for Predetermined F&A Rates, https://www.alaska.edu/cost-analysis/files/FY19-FY22_Pred_F_and_A_Rate_Agrmt.pdf. Indirect cost recovery funds are unrestricted, and so contribute to the pool of such funds from which facilities support is drawn.

One clear difference between LPDS and the average U.S. state is that the public service expenditure/FTE student is twice the U.S. average. Alaska is very close to the LPDS average on this ratio. One reason for higher public service expenditures could be greater per capita expenditures for Cooperative Extension and similar services, given that all of the LPDS except Alaska have substantial agriculture. Alaska is the only one of these states that borders an ocean and UAF is a Sea Grant as well as a Land Grant mission institution, providing outreach through the Marine Advisory Program as well as Cooperative Extension. However, another reason for the high public service activity of the LPDS IHE could be that in rural areas, they might be one of few organizations with the resources (or the ability to obtain resources through grants & contracts) to deliver needed public services.

Administrative Costs

In IPEDS, central administrative costs are included in "Institutional Support" and administrative costs associated with instructional, research, or public service units are included in "Academic Support".[25] As UA reports data to IPEDS, UA Statewide administrative expenditures are "Institutional Support", while the three universities have both "Institutional Support" and "Academic Support" expenditures. Note that not all of the expenditures in these categories are strictly administrative in nature. For example, development and public relations are included.

Table 4 presents data on these expenditures, as well as on numbers of employees in several administrative and administrative support categories.[26] Alaska spends an unusually high amount per student on both institutional support and academic support; combined, the amount is 1.9 times as much as for other LPDS. However, much of the difference is because UA has unusually high amounts of grants & contracts per student; these additional funds require additional employees to manage them and to assure compliance with Federal requirements for accounting of restricted funds and ethical conduct of research. When institutional and academic support expenditures are divided by total full-time employees, which includes employees paid by grants & contracts, UA expenditures are 1.5 times the LPDS average. UA's unusually high grant & contract revenue could still be affecting the ratio, since grant & contract administration is more labor intensive than that for unrestricted funds. This interpretation is supported by the fact that UAF academic and institutional support expenditures are comparable to those of peer institutions with similar levels of grant & contract funding.[27] This interpretation is also supported by the fact, discussed in the Introduction of this paper, that total full-time UA employees/FTE student are only 26% above the LPDS average and that the costs of these additional employees are covered by the external grant & contract funding.

[25] The IPEDS definitions are: Institutional support - salaries and wages are amounts paid as compensation for services to all employees - faculty, staff, part time, full time, regular employees, and student employees of the day-to-day operational support of the institution. Includes expenses for general administrative services, central executive-level activities concerned with management and long range planning, legal and fiscal operations, space management, employee personnel and records, logistical services such as purchasing and printing, and public relations and development. Academic support - salaries and wages are amounts paid as compensation for services to all employees - faculty, staff, part time, full time, regular employees, and student employees of activities and services that support the institution's primary missions of instruction, research, and public service.

[26] Note that the "Management" and "Office and Administrative Support" employee categories do not include exactly the same employees as the Institutional Support expenditure category, although there is substantial overlap.

[27] "Administrative costs of UAA, UAF, and UAS Compared with Peers", a white paper prepared for the UA Board of Regents by Susan Henrichs, September 2019.

Table 4. Administrative Costs[28]

State	Institutional Support Salary & Wage Expenditure/ Total Full-time Employees	Institutional Support Salary & Wage Expenditure/ FTE Student	Academic Support Salary & Wage Expenditure/ Full-time Employee	Academic Support Salary & Wage Expenditure/ FTE Student	Management Full-time Employees/ Total Full-time Employees	Office and Administrative Support Full-time Employees/ Total Full-time Employees	Student and Academic Affairs Full-time Employees/ Total Full-time Employees	Business and Financial Operations Full-time Employees/ Total Full-time Employees	Computer, Engineering, and Science Full-time Employees/ Total Full-time Employees
Alaska	13,226	2,788	8,873	1,871	0.097	0.203	0.023	0.033	0.059
Wyoming	11,558	2,216	5,152	988	0.069	0.114	0.054	0.068	0.054
Montana	5,631	923	6,118	1,002	0.157	0.082	0.036	0.064	0.106
North Dakota	5,769	1,012	6,257	1,097	0.065	0.127	0.040	0.050	0.092
South Dakota	7,232	1,078	7,533	1,123	0.123	0.116	0.025	0.061	0.065
New Mexico	6,420	1,168	4,607	838	0.096	0.145	0.066	0.092	0.088
Idaho	7,796	1,225	6,645	1,044	0.085	0.126	0.070	0.083	0.093
Nebraska	7,533	1,562	7,719	1,600	0.099	0.124	0.040	0.048	0.102
Nevada	9,853	1,121	10,154	1,155	0.054	0.154	0.033	0.107	0.084
Kansas	6,516	1,075	6,032	995	0.089	0.130	0.043	0.055	0.088
Utah	10,238	1,672	6,986	1,141	0.070	0.125	0.030	0.129	0.080
Average of LPDS	7,855	1,305	6,720	1,098	0.091	0.124	0.044	0.076	0.085
Average of All States	9,519	1,373	8,862	1,279	0.089	0.134	0.046	0.082	0.091

[28]Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/

The other two states with separate central administrative offices have average institutional support expenditures per student. Hence, the presence of a system office is not the determining factor by itself. Note that the relatively high UA expenditures are not mainly due to the number of full-time management-level employees/total employees[29], since those are only 6% above the average for LPDS. UA reports 64% more office and administrative support full-time employees/total full-time employees than the average for IHE in other LPDS. However, this is probably largely due to differences in college and university employee categorization for IPEDS reporting. Although UA office and administrative support employees are relatively high in number, three other support categories are relatively low: business & financial services, academic support & student affairs, and computer, engineering, & science. The sum of these categories, added to office & administrative support employees, is within 3% of the LPDS average. Other contributing factors could be the labor-intensive management of grants & contracts, as already mentioned, and the large number of locations, including remote rural locations, served by UA. Although UA has only three universities, there are 16 campuses and a variety of other research and public and student services sites.

Higher UA expenditures for academic and institutional support are partly due to higher salaries & wages overall[30] (see Table 5). When salaries of full-time employees only are considered, Alaska expenditures per staff employee are about 23% above the average for LPDS. (See the following section for further discussion of salaries & benefits).

If UA institutional support and academic support expenditures per full-time employee were reduced to the LPDS average, that would be a savings of about $26 million. However, a reduction of this magnitude might not be prudent in terms of maintaining compliance with Federal requirements for grant & contract administration.

Facilities Costs and Other Costs by "Natural Classification"

Tables 5 and 6 summarize information on costs by the "natural classification" categories used by IPEDS. Note that these expenditures include all funding sources, restricted grants & contracts, auxiliaries, and others, as well as unrestricted sources including general fund, tuition & fees, and ICR.

Salaries & wages/full-time employee are a little above the LPDS average,[31] 5% for instructional employees and 23% for non-instructional; however, UA benefits are below average, so total compensation is only 1% greater for instructional staff and 12% for non-instructional staff. This is below the expected differential, given the higher Alaska cost-of-living.[32] UA has substantially more part-time employees, in terms of headcount, relative to full-time employees than the average LPDS; instructional part-time employee numbers are 30% greater and non-instructional part-time numbers are

[29] These include both executives and some upper level exempt staff.
[30] Nebraska, New Mexico, and Utah IHE incorporate hospitals, and those in New Mexico and Utah have revenues in excess of $1 billion annually. That probably accounts for their relatively high salary & wage expenditures per employee. These two states were excluded from the LPDS average for salaries.
[31] NM and UT were excluded because of high salaries associated with their teaching hospitals.
[32] Neal Fried, "The Cost of Living in Alaska". *Alaska Economic Trends,* July 2019.

Table 5. Expenditures for Salaries & Wages and Benefits[33]

State	Salaries & Wages Expenditures/ Full-time Employee[34]	Employee Fringe Benefits Expenditures/ Full-time Employee[35]	Salaries & Wages Expenditures/ Full-time Non-medical Instructional Employee[36]	Salaries & Wages Expenditures/ Full-time Non-medical Non-instructional Employee[36]
Alaska	88,120	22,886	79,494	66,189
Wyoming	75,514	36,182	74,480	53,077
Montana	76,043	27,497	72,080	47,522
North Dakota	74,394	30,952	73,097	54,783
South Dakota	71,510	17,592	71,711	50,495
New Mexico	107,744	58,164	70,684	48,642
Idaho	71,319	26,722	69,502	51,688
Nebraska	75,988	22,323	82,675	55,524
Nevada	93,896	25,373	88,352	64,153
Kansas	74,818	19,167	73,542	52,874
Utah	123,492	42,447	80,889	55,048
Average of LPDS (without NM and UT)	76,685	25,726	75,680	53,765
Ratio of Alaska to the LPDS Average (without NM and UT)[37]	1.149	0.890	1.050	1.231

90% greater. However, the percentage of total salaries & wages paid to UA part time employees, 21%, is the same as the LPDS average.[38] That means that although the UA part-time employees are more numerous, they are on average paid less. (Adjunct faculty are teaching fewer credits). This also means that part-time employees are not, as a category, the source of higher UA salary & wage expenditures. The reason that UA employs more part-time employees for fewer hours is not certain, but there are two possible explanations. One is that part-time employees have been a UA cost-cutting strategy for some years, even before the implementation of the Compact. The other is that, if a part-time employee is hired to cover a particular area of expertise (as is often the case with adjunct faculty), the annual need for that expertise might be less at smaller campuses.

[33] Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/

[34] This ratio includes salaries & wages for all employees, not just full-time employees.

[35] This ratio includes benefits for all employees, not just full-time employees. However, part-time employees receive little in terms of benefits.

[36] This ratio includes salaries & wages for full-time employees, only.

[37] Excluding NM and UT makes no difference for the averages and ratios for non-medical employees in the rightmost two columns.

[38] This was determined by subtracting the total full-time employee salary & wage expenditures, available in IPEDS, from the total salary & wage expenditures. NM and UT were excluded from the LPDS averages because their teaching hospitals employ a large number of highly paid FT and PT employees. Since the *number* of UA part-time employees is unusually high relative to the number of FT employees, the fact that their cost is average means that they work fewer hours (or teach fewer credits) per individual.

Table 6. Expenditures for Facilities and Other Categories[39]

State	Operations and Maintenance of Plant Expenditures/ Full-time Employee	Depreciation/ Full-time Employee	Interest Expenditures/ Full-time Employee	Other Expenditures and Deductions/ Full-time Employee[40]	Operations and Maintenance of Plant Expenditures/ FTE Student	Other Expenditures and Deductions/ FTE Student[41]
Alaska	18,184	24,445	1,783	42,559	3,833	8,972
Wyoming	14,473	14,846	2,008	18,005	2,775	3,453
Montana	16,493	9,899	2,082	32,163	2,702	5,270
North Dakota	12,966	10,605	1,720	36,998	2,274	6,488
South Dakota	16,595	11,514	2,772	26,178	2,475	3,904
New Mexico	14,038	13,019	2,421	63,508	2,553	11,549
Idaho	15,207	8,903	1,991	30,529	2,390	4,798
Nebraska	11,812	10,902	1,658	31,415	2,449	6,512
Nevada	13,212	11,057	2,558	33,840	1,503	3,849
Kansas	11,147	10,864	2,692	38,249	1,839	6,309
Utah	12,604	15,415	2,301	87,121	2,058	14,226
Average of LPDS	13,855	11,702	2,200	39,801	2,302	6,636
Average of LPDS without NM and UT	13,988	11,074	2,185	30,922	2,301	5,073
Average of All States	13,456	13,237	4,480	56,336	1,941	8,128

Operations & maintenance of plant expenditures per full-time employee for Alaska are 1.31 times the LPDS average (Table 6). Physical plant expenditures per student are 1.67 times the LPDS average. The difference in the per employee and per student ratios is due to the high amount of UA grants & contracts, since facilities are required to carry out the research and public service funded. Most grants & contracts cover the costs of the needed facilities, but some do not. In FY 2018 UA reported interest expenditures of $6 million are similar to the LPDS average per FTE student, but the majority of UA debt service expenditure ($23 million required in FY2018) was not reported in that category, but rather in "Other Natural Expenses and Deductions". Depreciation is not an annual expenditure as UA normally reports them but could be interpreted as the expenditure required to avoid a net decrease in value of the physical plant and equipment. However, this cost is added to some IPEDS reported expenditures (e.g., total instructional, research and public service and academic and institutional support expenditures) and so when those figures are used to make comparisons between universities, the very

[39] Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/

[40] As shown in Table 6, these expenditures include Capital funds and Grant & Contract funds.

[41] "Other" includes commodities, services, travel, and miscellaneous expenditures, which are a small fraction of the total for UA and probably for other IHE as well. In the case of UA debt service is mostly included in the miscellaneous category. In the original IPEDS data, "Other" includes capital funds. Those have been subtracted in Table 6.

high amount for UA[42]—nearly twice the LPDS average—inflates those expenditures. It is not prudent for UA to dramatically reduce its physical plant operating and maintenance costs; such actions could damage facilities and lead to higher costs in the future. However, some reductions (e.g., divesting off-campus properties, outsourcing some maintenance) are underway and should be continued to the extent possible.

Capital revenues have been subtracted from the "Other" expenditures shown in Table 6, since capital appropriations tend to vary substantially from year to year. "Other" expenditures are very high for the two states with large teaching hospitals. If they are omitted from the LPDS average, then UA expenditures per full-time employee are 38% above the average for the other LPDS states. Per FTE student, UA is 77% above the average. UA "Other" expenditures are mainly for services, and commodities are the second largest category (Table 7). Many grants & contracts include funds for commodities, services, and travel, and since UA secures more grants & contracts per student and per employee than the other LPDS, that explains part of UA's high expenditures in this area. If an adjustment is made for likely grant & contract expenditures in the "other" category,[43] UA's expenditures are still 28% and 66% above the LPDS average per full-time employee and per FTE student, respectively. High Alaska costs likely explain the remaining elevated expenditures, since Fairbanks, Anchorage, & Juneau cost-of-living is about 1.3X the national average.[44] If "Other" expenditures were reduced to the LPDS average on a per student basis, after adjustment for grant & contract expenditures, that would be a savings of about $48 million per year. However, such a large reduction is likely to be infeasible, because UA does not control the costs of goods and services and most cannot be done without. Before any decision to sharply reduce "Other" expenditures, the nature of those expenditures needs to be examined in more detail.

UA State Appropriation

UA has been severely criticized and financially penalized for having high expenditures per student and for receiving more State General Fund appropriation per student than universities in other states. Table 8 shows the comparison to other LPDS states. UA receives 2.5 times the LPDS average in State General Fund appropriation and 2.1 times the LPDS average in all government appropriations, with the difference in the two being mainly due to larger local government appropriations for community colleges in other LPDS states.

The amount of the additional per-student cost is summarized in Table 9. The second column of Table 9, which is the focus of this discussion, presents the cost or revenue in excess of the LPDS per-student cost. In the case of salary & wage costs for instruction, student services, academic support, and institutional support, only the portion attributable to a higher number of employees is shown in those categories,

[42] UA uses a componentization method to calculate depreciation, which yields a higher value than another acceptable method used by other universities (Myron Dosch, personal communication). UA also has a relatively high facility value per student and per employee.

[43] The amount of "other" categories of expenditure was estimated at 0.2 times the total grant & contract revenue. Most grants & contracts support mainly salary, wage, and benefit costs (including the portion allocated to ICR). Checking the sensitivity of the results to the 0.2 factor, substituting 0.3 changes the percentages to 22% per full-time employee and 58% per FTE student above the LPDS average.

[44] Neal Fried, "The Cost of Living in Alaska". *Alaska Economic Trends,* July 2019.

Table 7. FY 2018 UA Expenditures in the "Other" Category[45]. Note that all funds—restricted, designated, and unrestricted—are included.[46]

Expenditure Category	Amount (thousands of $)	% of Total Annual Operating Expenditure
Travel	$15,803	2.0%
Services	$187,253	23.8%
Commodities	$56,350	7.2%
Grants & Benefits[47]	$29,021	3.7%
Miscellaneous[48]	$31,934	4.1%

Table 8. Appropriation Revenue per FTE Student[49]

State	State Appropriation/ FTE Student		Federal+State+Local Appropriation/FTE Student
Alaska	18,570		18,620
Wyoming	13,225		15,489
Montana	6,186		6,482
North Dakota	8,237		8,559
South Dakota	5,932		6,125
New Mexico	8,780		11,984
Idaho	7,977		8,647
Nebraska	9,055		11,352
Nevada	7,514		7,514
Kansas	5,384		7,638
Utah	7,049		7,049
Average of LPDS	7,448		8,700
Average of All States	6,360		7,722

which accounts for the fact that some of the amounts differ from those given earlier in this paper. The portion attributable to higher compensation is shown separately. The fourth column shows total UA expenditures or revenues in each category, for comparison. Two areas account for 47% of UA's higher cost per student relative to other LPDS; higher employee compensation and higher costs of purchased commodities, services and other non-salary expenditures. Facilities are another source of elevated costs, contributing 16% to the total. If UA could reduce its expenditures in instruction, student services, and administration to the LPDS average, that could be a savings of up to $46 million, provided that

[45] From historical data in the University of Alaska Approved Operating and Capital Budgets, Fiscal Year 2020, https://www.alaska.edu/swbudget/files/yellowbook/FY20%20Yellowbook%20revised%20web.pdf.

[46] The total amount in the "other" category reported by UA is $319,614,000 in the Yellow Book is well above IPEDS reported expenditures in "Other Natural Expenses and Deductions" of $212,116,664. Most of the difference appears to be due to the inclusion of UA Intra-agency Transfers in the Yellow Book but not in the IPEDS data report.

[47] This category is expenditures for grants or benefits *provided* by UA, predominantly to students.

[48] The miscellaneous category is mainly debt service payments, according to the Yellow Book.

[49] Data are from the Integrated Postsecondary Data System (IPEDS) FY2018. https://nces.ed.gov/ipeds/

reductions in instruction did not reduce tuition revenue and that losses of faculty and staff did not impair the UA ability to secure and manage grants & contracts. Unfortunately, however, it appears likely that revenue would be affected. Cutting faculty numbers will require eliminating programs or offering fewer courses face-to-face or both. It is not clear whether UA's traditional-age students would continue to attend or would choose a more conventional college experience Outside. Additional non-traditional and place-committed students might enroll, but they already have many options for online programs offered in Alaska by Outside institutions. UA would need to implement effective strategies to be competitive in that arena.

UA research and public service unrestricted fund expenditures are already in line with those of other LPDS states, given UA's much better performance in garnering grants & contracts. UA unrestricted fund expenditures for research and public service (about $39 million in addition to the grant & contract revenue) could be cut, but that would risk losing up to $34 million in annual ICR funding for facilities and administration cost reimbursement, as well as the approximately $150 million in restricted fund support for UA research and public service.[50]

Overall, the planned $70 million reduction to UA General Fund support cannot be compensated for through improved efficiency or increased revenue generation. It will almost certainly mean than UA offers fewer programs to fewer students and brings much less Federal funding to the State. While it will be difficult to avoid negative effects entirely, priority should be given to protecting UA revenue-generating capacity despite the reductions in State appropriation support. The results of this analysis argue against targeting solely instruction and administration in order to adapt to the dramatic reductions in State General Fund appropriation. It will probably be less harmful to total revenue generation to take a broader approach.

[50] UA FY 2018 total indirect cost recovery (facilities & administration funding provided by grants & contracts) was $34.275 million. Revenues by source and expenditures by NCHEMS category are from data provided by UA Statewide. The indirect cost recovery data are from the University of Alaska Approved Operating and Capital Budgets, Fiscal Year 2020,
https://www.alaska.edu/swbudget/files/yellowbook/FY20%20Yellowbook%20revised%20web.pdf.

Table 9. Above LPDS Average UA Expenditures by Category, Compared with Unrestricted Revenues[51]

Expenditure Category	Added Cost Relative to Other LPDS if UA Cost/ FTE Student were Average (millions of $)	Reason for the Added Cost	Total FY 2018 Expenditure (millions of $)
Instructional Salaries & Wages[52]	21.6	Alaska's small and geographically distributed population; 14% greater full-time faculty/FTE student than LPDS average.	126.0
Student Services Salaries & Wages[52]	4.7	Intercollegiate athletics, at least in substantial part, but note that this is largely because other LPDS IHE do not report those expenses in the student services category.	25.7
Facilities Operation and Maintenance	26.8	High Alaska costs, research and public service facilities that are partly supported by ICR.	67.2
Depreciation	*58.0*	***Not included in the total below**, but depreciation does affect IPEDS-reported total expenditures in categories such as instruction and institutional support.*	*90.3*
Other Natural Expenses and Deductions (mainly services and commodities), capital excluded, estimated grant & contract expenditures excluded.*	47.7	High Alaska costs.	212.1
Institutional Support[52]	16.8	Research and public service administration, elevated because of UA's high grant & contract revenue. Partly supported by ICR.	48.8
Academic Support[52]	7.4	Research and public service administration, elevated because of UA's high grant & contract revenue. Partly supported by ICR.	32.8
Unrestricted Portion of Employee Salaries, Wages & Benefits above LPDS average*	19.6	Higher UA employee compensation (1% above LPDS average for faculty, 12% above LPDS average for staff).	410.0
TOTAL	**144.6**		

[51] Data are from the Integrated Postsecondary Data System (IPEDS) FY2018, or calculated from data obtained there. https://nces.ed.gov/ipeds/.

[52] This amount does not include the slightly higher faculty salaries (5%), which are reflected the Unrestricted Portion of Salaries, Wages, and Benefits row of the table.

Table 9, continued.

Revenue Category	Added UA Revenue Relative to LPDS Average (millions of $)	Explanation	Total Revenue in Category (millions of $)
Tuition and Fees*	15.0	UA tuition & fees per FTE student are 13% above the LPDS average.	134.7
Indirect Cost Recovery	18.6	UA grant and contract revenue (operating) per FTE student is 2.2 times the LPDS average.	34.3
State General Fund Appropriation (excluding $20.9 million for organized research)	165.4		325.3
Local Appropriation*[53]	-15.8	Alaska Communities contribute less per FTE student to the cost of community campuses.	0.9
TOTAL[54]	**183.2**	$18 million of this supports unrestricted expenditures for research and public service not shown in the expenditure table, because they are less than the LPDS average per grant & contract dollar not greater.	
TOTAL minus $18 million research and public service unrestricted expenditure	**165.2**		

*For these quantities, New Mexico and Utah were excluded from the LPDS average because their teaching hospitals resulted in unusually high revenues or expenditures in the category.

[53] The local appropriation per UA FTE student is less than the LPDS average, so a negative value is shown.

[54] The difference between the total added revenue/student and the higher costs of instruction, student services, administration, facilities, and commodities & services is largely due to the $18 million UA unrestricted fund support of research and public service, in addition to the $20.9 million organized research appropriation to UAF, discussed in the "Research and Public Service Revenues and Costs" section of this paper. Note that this investment is less than the LPDS average per grant & contract dollar. The rest of the difference could be due to uncertainty in a few of the cost estimates, particularly the proportion of the salaries & wages and "other" natural expenditure categories that are due to restricted funds. However, there seems to be a moderately sized expenditure (of the order $10 to $20 million) that is not accounted for. The author would need access to the UA IPEDS data submission to identify this expense.