

University Revenue and Expenditure

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Summary

- Comparing University of Alaska (UA) institutions with each other is not an apples-to-apples comparison. They are fundamentally different due to their different missions.
- Comparing UA institutions with their peers is complicated by the combination of community colleges with universities in Alaska, unlike almost all universities outside Alaska.
- University of Alaska Fairbanks (UAF) research activity and productivity in research is disproportionately large compared with other public universities of its size, which skews any comparisons based on expenditure per student ratios.
- UAF research brings a major revenue stream to the university and to Alaska. Research revenues, which are primarily Federal, support a large fraction faculty and staff salaries and infrastructure costs. That said, UAF research cannot survive on its own without some state support.
- Per student revenue or expenditure information is meaningless when it includes funds used for research and public service and the associated facilities and administration.
- UAF has been burdened with significantly more debt than other Alaska institutions, primarily through decisions made by governors and the Legislature. Sixty percent of the current outstanding debt is due to the vital combined heat and power plant.
- After adjusting for facilities-related, research and public service costs paid with unrestricted revenues, the remaining unrestricted revenue is proportional to enrollment of the three UA universities.

Unrestricted Revenues and the Costs of Facilities, Research, and Public Service

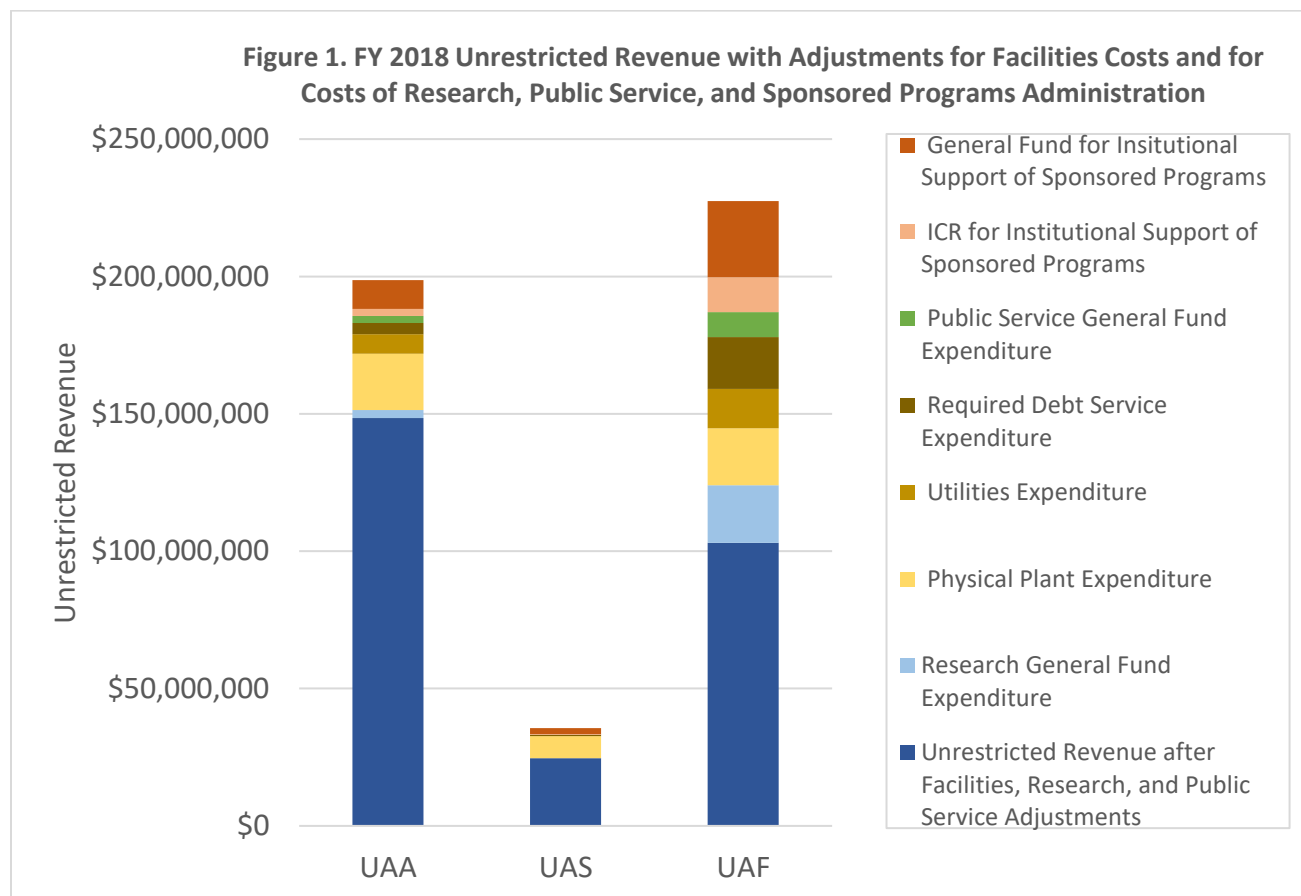
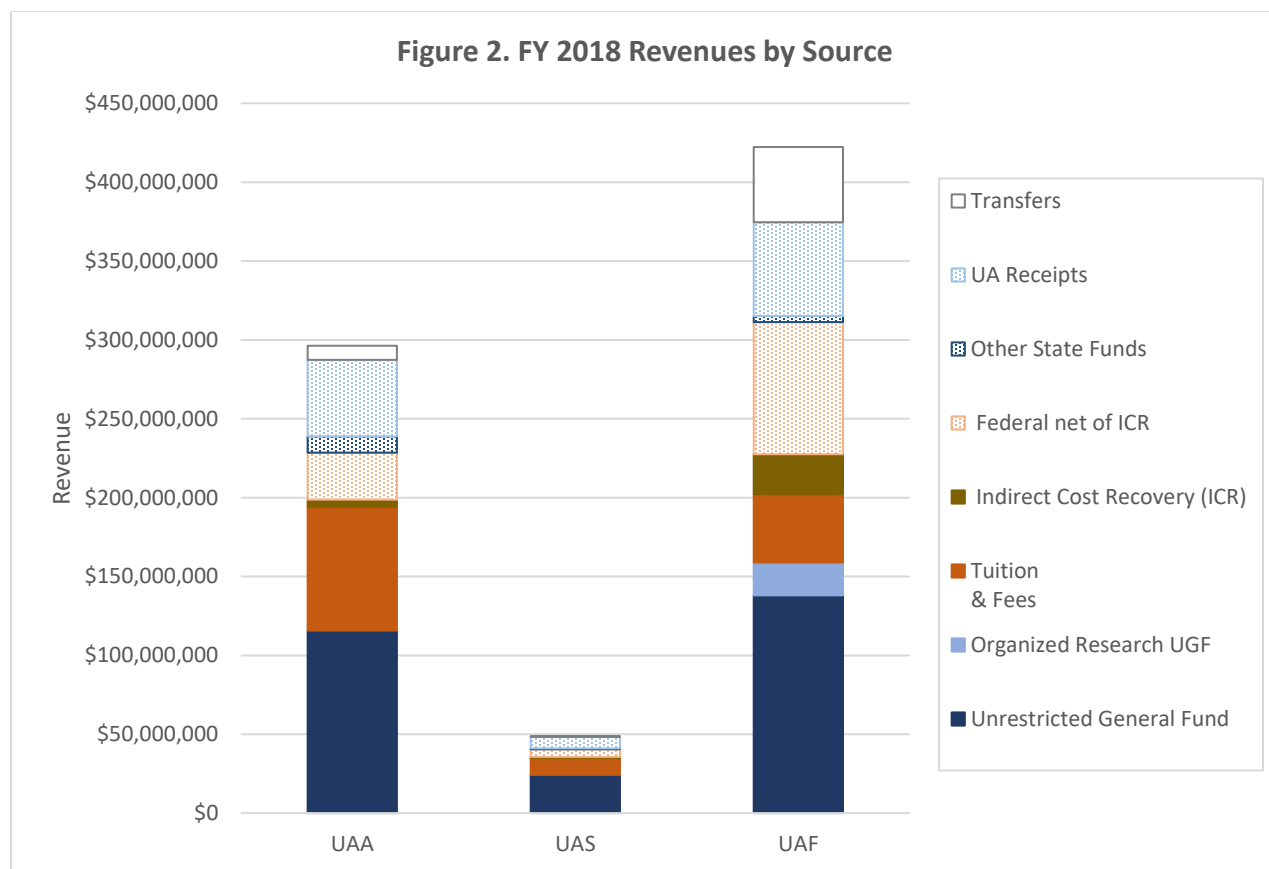


Figure 1 Explanation

- UAF and UAA have very similar total unrestricted revenue, as illustrated in Figure 1 above, but UAF has a much greater amount of restricted revenue, mainly from Federal sources (see page 3). UAF restricted revenue mainly sponsors research, but also partly supports UAF's statewide public service mission, including Cooperative Extension and the Marine Advisory Program, as well as a variety of regional public service activities.
- Because of the large amount of restricted grant & contract revenue that it receives, UAF has greater facilities and administrative costs than UAA. A substantial part of the facilities and administration costs of Federally sponsored programs are reimbursed through indirect cost recovery, but some are covered by General Fund.
- After adjustments for facilities, research, and public service costs paid with unrestricted revenues, the remaining amount of unrestricted revenue is proportional to the enrollment of the three universities. The chart above (Figure 1) combines university revenue and expenditure data to illustrate this point. The height of each bar is the total unrestricted revenue of each university; the colors show major expenditures of that revenue. The data for this chart are presented and explained on pages 9-10.

University Revenues and Expenditures in More Detail

The chart below (Figure 2) shows all university revenues by source, including both unrestricted and restricted or designated revenues. It differs from Figure 1 in that it includes restricted and designated revenues and Intra-agency Transfers.

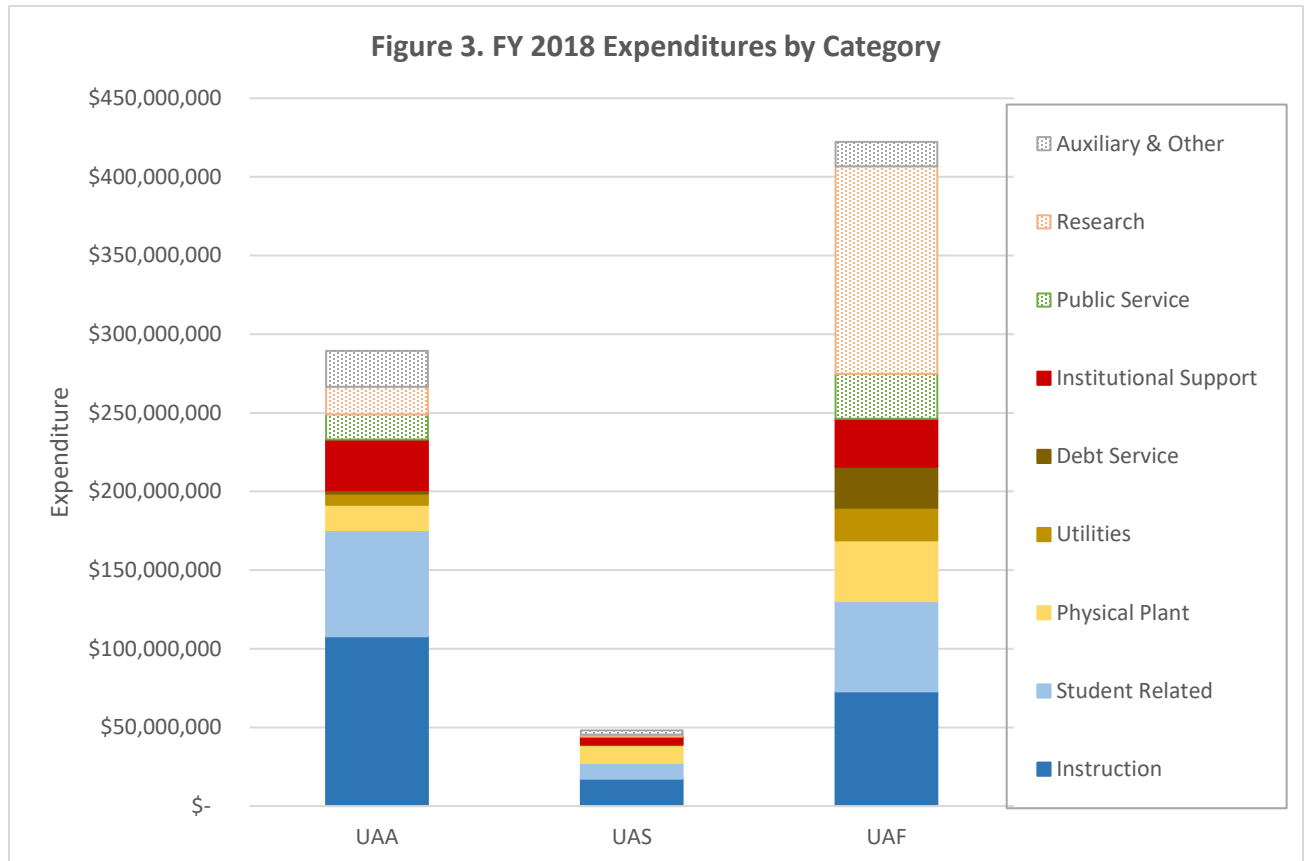


- Unrestricted revenues are shown in solid fill,¹ restricted or designated revenues in dotted fill.
- UA Intra-agency Transfers are from other UA units and do not represent new external revenues. Because the expenditures in Figure 3 include expenditures of transfer revenues (as is often the case in University reporting), total expenditures are somewhat inflated, especially for UAF. Transfers are explained further on pages 11-12.
- \$20.1 million of UAF's FY 2018 Unrestricted General Fund (UGF) Appropriation was for Organized Research.

¹ 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>. The Federal revenue is shown with indirect cost recovery (ICR) subtracted. Since the UA Receipts revenue category includes some grant & contract revenue from non-Federal sources, the approximation of subtracting all of the indirect cost recovery from Federal revenue, rather than partly from UA Receipts, isn't precisely correct. However, most non-Federal grants and contracts pay reduced or no ICR, so the excess reduction to Federal revenue and inflation of UA Receipts is small. Federal revenue includes not only grants & contracts, but also Federal student financial aid (mainly Pell Grants).

- UAF receives more State Unrestricted General Fund per student than UAA but also generates more total revenue, particularly Federal revenue, which provides most indirect cost recovery.
- About 40% of UAF's revenues (exclusive of transfers) are restricted funds or UA Receipts received for services and commodities, while about 30% of UAA's revenues are in those categories. Restricted funds must be expended for a purpose specified by the sponsor, usually research in the case of UAF.

The next chart (Figure 3) shows university expenditures by category.



- Expenses that are primarily paid with unrestricted funds are shown with solid fill, expenses that are primarily paid with restricted or designated funds are shown with dotted fill.² Some of the UAF Public Service expenditure (about \$3.8 million) is required State match to Federal funds. Note that in nearly all of the expenditure categories, there is a smaller component of the other fund type.

² The expenditure categories are the NCHEMS categories assigned to each expenditure in the UA Banner database, except that certain NCHEMS categories were combined in the data available to the author. "Student Related" included the NCHEMS categories of Academic Support and Student Services. Also, in the available data, Physical Plant and Institutional Support were combined, and Utilities and Debt Service were included in that category. I separated those expenditures based on information in the "Department Title" field. Utility costs were accounted separately from Physical Plant costs only for UAA Anchorage and UAF Fairbanks campuses (including research facilities outside Fairbanks). For community campuses and UAS, they are presumed to be included in Physical Plant expenditures.

- The substantial amount of UAF Intra-agency Transfer revenue inflates its total expenditures as shown in Figure 3 by about \$48 million. One-third of this is mainly within the Research category. The rest has the largest effect on the Physical Plant and Institutional Support categories, although others are affected as well. A significant part of the Institutional Support expenditure is transfer from central accounts to cover facilities and utilities costs. UAA's expenditures are inflated to a lesser extent, since its Intra-agency Transfers were just \$9 million.
- Comparing the revenue and expenditure charts, facilities-related costs are a major reason for UAF's greater need for Unrestricted General Fund. Facilities-related costs are also a relatively high proportion of UAS' costs.
 - A large part of UAF's Unrestricted General Fund is needed to cover Physical Plant, Debt Service, and Utilities costs.³ Corrected for internal UAF Physical Plant fund transfers (Table 1), annual facilities-related costs at UAF are twice those at UAA, mainly due to the research and public service facilities of UAF, but also due to higher operating and maintenance costs.⁴ When the costs are expressed on a per-student basis (Table 2), UAF has more than four times greater costs.
 - The costs of research and public service facilities are unrelated to enrollment. Analyses where all revenues and costs are expressed on a per student basis can unfairly target UAF, because of its mission responsibilities for research and public service.

Table 1. FY 2018 costs for facilities and debt service (millions of \$)⁵

	Physical Plant	Utilities	Debt Service (required) ⁶	TOTAL
UAA	\$23.1	\$7.1	\$3.9	\$34.1
UAS	\$11.4	In Physical Plant	\$0.65	\$12.1
UAF	\$27.9	\$20.7	\$20.3	\$68.9

Table 2. FY 2018 costs for facilities and debt service per student full-time equivalent (SFTE)

	Physical Plant	Utilities	Debt Service (required)	TOTAL
UAA	\$ 2,129	\$ 655	\$ 360	\$ 3,140
UAS	\$ 8,016	\$ -	\$ 457	\$ 8,470
UAF	\$ 5,297	\$ 3,939	\$ 3,856	\$ 13,092

- Physical Plant, Debt Service, and Utilities Costs are difficult to reduce, and consume a greater proportion of total revenues as those decrease. UAF's facilities and administration costs are partly covered by indirect cost recovery from (mainly Federal) grants & contracts, but much of that revenue could be lost if UAF's General Fund support of research is further reduced.

³ Utility costs were accounted separately from Physical Plant costs only for UAA Anchorage and UAF Fairbanks campuses. For community campuses and UAS, they are presumed to be included in Physical Plant expenditures.

⁴ Higher operating and maintenance costs stem mainly from higher energy costs in Fairbanks and rural communities, plus the relatively older UAF facilities.

⁵ Intra-agency Transfers internal to the UAF Physical Plant have been subtracted to eliminate double-counting, so the expenditure does not match that shown in Figure 3.

⁶ This amount is the required minimum payment. The actual amount paid each year varies somewhat, due to the extent of pre-payment in FY 2018 and earlier years.

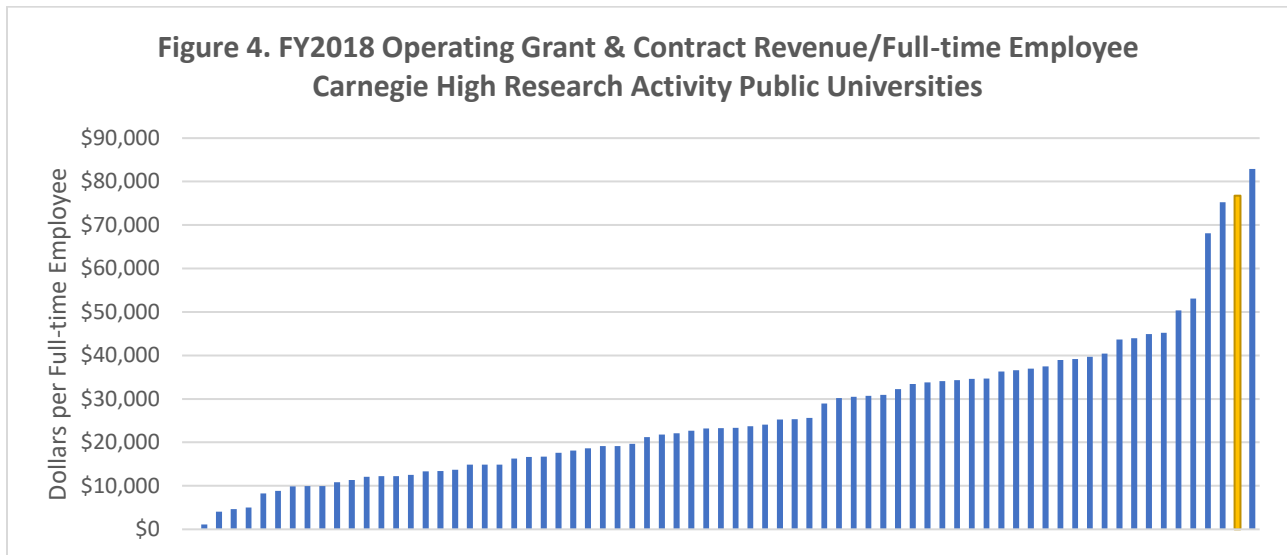
- UAF's annual debt service obligation will increase to more than \$22 million for the FY 2020 to FY 2023 period before declining gradually. It will still be more than \$16 million annually in FY 2030, while UAS will have no remaining debt and UAA will owe less than \$3 million annually.
- Part of UAA's and UAS' debt service obligations are paid by separate (non-UA) appropriations, \$0.88 and \$0.34 million per year, respectively. Those amounts have been subtracted from the values shown in Tables 1, 2, & 4.
- Disproportionate UGF reductions to UAF would also force additional academic program closures that are likely to impact enrollment. Tuition & fee revenue partly funds academic programs, student services, and facilities through the designated facilities fee, which was implemented partly to offset the Combined Heat & Power Plant (CHPP) debt service.
- Most facilities-related costs would not vanish even with closure of the largest campuses. Utilities costs could be reduced somewhat, by building closures. However, many Fairbanks campus buildings cannot be isolated from the water, steam heat, or electrical systems without a substantial capital investment.
- Some could argue that UAF should not have taken on debt for new buildings. However, 54% of the debt is for the new CHPP, which is essential for the survival of the campus, and about 10% of the debt is for deferred maintenance. With the exception of the P3 dining facility (9%), the rest of the debt (27%) is for facilities focused on research, essential to remain competitive for Federal dollars and a prudent investment if UAF can maintain or grow external research funding.⁷ That, of course, depends on having sufficient and stable funding from the State.
- UAF's greater need for Unrestricted General Fund is not primarily due to instructional and student-related costs.
 - UAF's Instructional Salary and Wage expenditures per student are about 40% greater than UAA's. Nationally, research universities have similarly greater average instructional costs per student than comprehensive universities. This point is addressed further on pages 10-11.
 - UAF's Student-related expenditures per student are also greater, but UAF accounts most of its IT costs in this category, while UAA accounts the majority in instruction and institutional support; part of UAF Library expenditures in this category actually support research and are partly covered by ICR; and the UAF Museum (a research and public service unit that generates considerable revenue through fees) is inappropriately included in this category.⁸ Other differences in this category are due to UAF's greater Federal funding for student services;⁹ UAF's high-cost, remote rural campuses; support services offered to eCampus students; and the intensive advising initiative that has helped UAF to improve graduation rates.

⁷ In addition, less than 24% of the debt was accrued due to UAF's internal capital planning process. The deferred maintenance, Engineering Building, and CHPP debts were the result of the Legislature declining to fully fund capital funding requests. CHPP debt service was initially funded by the Legislature, but the large reduction in UGF appropriation means that funding (and much more) has been withdrawn. The deferred maintenance and Engineering debts (about 20% of the total) were initiated by the UA President and approved—as for all facilities debt issuances—by the Board of Regents.

⁸ The Museum inclusion in the Student-related (Academic Support) category is correct according to IPEDS instructions but does not reflect its actual purpose.

⁹ Mainly Title III and other grants assisting disadvantaged students.

- UAF has much greater research and public service expenditures than UAA, reflecting UAF’s Land Grant and Sea Grant mission. Most of these expenditures are supported by external grants and contracts.
 - In FY 2018 UAF had 5.3 times greater Federal operating grant & contract revenue than UAA and 3.2 times the total operating grant & contract revenue.¹⁰
 - Of the 73 institutions in UAF’s Carnegie Classification peer group, UAF had the 2nd highest operating grant & contract revenue per employee (Figure 4).¹⁰ (First place was taken by a specialized engineering institution, the New Jersey Institute of Technology).



- UAF is shown in gold in Figure 4, at more than \$76,000 per full-time employee in FY 2018.¹¹ The average for this group of institutions was just \$26,575. The average for Carnegie Highest Research activity public institutions—the nation’s largest public research universities—was only \$42,678, much less than UAF’s ratio. In fact, only three of those public universities have a higher ratio: University of Washington, University of Florida, and Georgia Institute of Technology.
- UAF has similar Institutional Support costs to UAA, but Institutional Support in areas like financial services, safety & compliance, and university relations has a greater component of services supporting research at UAF. UAF Institutional Support is 7.2% of total expenditures, similar to the 10.8% for UAA.¹²
- UAF’s Institutional Support and Physical Plant costs are partly covered by indirect cost recovery from (mainly Federal) grants & contracts. UAF’s FY 2018 ICR was \$25.4 million.

¹⁰ Data from IPEDS, the Integrated Postsecondary Education Data System, <https://nces.ed.gov/ipeds/datacenter/Data.aspx>.

¹¹ The ratio to total full-time employees was used because the grants and contracts are not all awarded to faculty, and because the effort to secure a grant or contract engages many support staff as well as the individual(s) who write the proposal. UAF’s high ratio reflects the high level of effort and success of its employees in securing grants & contracts. It also means that an unusually high proportion of its employees are paid from restricted funds or indirect cost recovery revenue.

¹² The difference is not very significant, because UAA accounted more of its IT expenditures in Institutional Support and less in Student Related than UAF.

In summary, the difference in State Appropriation for UAA and UAF is mainly due to the differing missions of UAA and UAF and to the differences in facilities-related costs. UAA is a comprehensive university that serves the most densely populated areas of Alaska. UAF is a doctoral research university and Land Grant, Sea Grant, and Space Grant institution that provides public service statewide. UAF secures an unusually large amount of Federal funding for an institution of its size.

Appendix: Data, Calculations, and Other Information on University Revenues and Expenditures.

Data and Calculations for Figure 1

Tables 3 and 4 compare UAA, UAF, and UAS unrestricted revenues. In Table 4 the revenues are adjusted for costs of facilities, research, public service, and sponsored programs administration. When these adjustments are made, the UAA, UAS, and UAF residual unrestricted revenue per student ratios are similar.

Table 3. FY 2018 Unrestricted Revenues

University (all campuses)	Unrestricted General Fund + Organized Research UGF	Tuition & Fees	Indirect Cost Recovery (ICR)	Total Unrestricted Revenue
UAA	\$ 115,708,581	\$ 78,575,051	\$ 4,383,200	\$ 198,666,832
UAS	\$ 24,232,116	\$ 10,852,368	\$ 514,400	\$ 35,598,884
UAF	\$ 158,933,400	\$ 43,192,526	\$ 25,357,200	\$ 227,483,126

Table 4. University FY 2018 Unrestricted Revenues and Costs

REVENUE or COST	UAA	UAS	UAF
Unrestricted Revenue (from Table 3) ¹³	\$198,666,832	\$ 35,598,884	\$227,483,126
Minus Unrestricted Funds Physical Plant Expenditure ¹⁴	\$178,180,763	\$ 27,510,580	\$206,809,880
Minus Unrestricted Funds Utilities Expenditure ¹⁵	\$171,088,560	\$ 27,510,580	\$192,415,541
Minus Required Debt Service Expenditure (excluding separate appropriations and any University Receipts applied to Debt Service) ¹⁶	\$166,999,951	\$ 27,120,530	\$173,530,309
Minus Organized Research Appropriation (UAF only) or Research General Fund Expenditure (UAA and UAS)	\$164,063,221	\$ 27,120,530	\$152,597,309
Minus Public Service General Fund Expenditure	\$161,521,340	\$ 27,120,530	\$143,539,107

¹³ Includes State general fund appropriation, tuition & fees, and indirect cost recovery. University Receipts are excluded. Although some UA Receipts are unrestricted, they are normally designated to a specific purpose, such as self-supporting auxiliaries. Restricted Federal revenue and State grant & contract revenue are likewise excluded. Transfers are excluded to avoid double counting of revenues that are spent internally.

¹⁴ Unrestricted expenditures include those based on revenues from General Fund, ICR, Tuition & Fees, and UA Intra-agency Transfers when the original source of those funds was in the first three categories.

¹⁵ University Receipts and Intra-agency Transfers derived from them were excluded. In the case of UAA and UAS, I did not have enough information to exclude any utilities costs paid by Auxiliaries.

¹⁶ In the case of UAF, some Receipts were included in Intra-agency Transfer and were subtracted.

Table 4. University Unrestricted Revenues and Costs (continued)

REVENUE or COST	UAA	UAS	UAF
Minus Indirect Cost Recovery for Administration ¹⁷	\$158,847,588	\$ 26,917,342	\$130,809,793
Minus General Fund used for Sponsored Projects Institutional Support ¹⁸	\$148,422,058	\$ 24,651,282	\$103,081,764
Student Full-time Equivalent (SFTE)	10,834	1,423	5,261
Estimated Remaining Unrestricted Revenue per SFTE	\$ 13,700	\$ 17,300	\$ 19,600

The remaining unrestricted revenue is available for expenditure in the categories of Instruction, Student-related, and Institutional Support of academic programs and student services. The amount remaining per student is similar for the three institutions, considering that research universities typically spend more per student on instruction than comprehensive universities.¹⁹

Instructional Costs

As a research university, UAF has different peer institutions than UAA, a comprehensive university. On average, research universities expend more per student than comprehensive universities, as summarized in Table 5. All three of Alaska's Universities expend more on instruction per student than the average for their peers. However, the UAF/UAA cost ratio of 1.39 is not different from the peer cost ratio, which ranges from 1.27 to 1.65 depending on the specific peer groups used. A major factor elevating UAF and UAS instructional costs relative to their respective peers is their relatively small enrollments. For all three UA Universities, the inclusion of associate-level programs (the community college mission) affects the comparison. Although community college costs/student are typically lower than those of universities, *adding* the community college mission to that of universities results in added costs for faculty to teach the career and technical programs and to staff multiple campuses.

¹⁷ Facility-related indirect cost recovery partly offsets the facility costs already subtracted, and so are omitted here to avoid double-counting.

¹⁸ The amount was estimated using the FY17 Facilities and Administrative Cost Rate Standard Report and FY19-FY22 Facilities and Administrative Cost Rate Forward Pricing Proposal (<https://www.alaska.edu/files/cost-analysis/UA-FY19-FY22-FA-Proposal.pdf>), net of the actual ICR for FY2018. Facilities costs and facilities ICR were excluded here because they were embedded in the facilities costs already subtracted. Note that sponsored programs include public service, student services, and instructional programs as well as research, and that ICR for these types of programs is often reduced or zero. So, a substantial part of this expenditure is due to sponsored programs other than research. Some of this expenditure is Intra-agency Transfer to UA Statewide.

¹⁹ The estimates of costs have some potential errors, and so the residue/SFTE ratios should be taken as best estimates rather than precise values. One source of uncertainty is the estimate of Institutional Support costs for sponsored programs, which involved using cost accounting data for base year FY 2017 (the most recent year available) and ICR data from FY2018. Another is the fact that expenditures of recharge centers are not necessarily balanced by revenues in a given year, and most of UAF's Physical Plant expenditure is in recharge centers. Finally, I was able to account for auxiliary funds supporting physical plant and utilities costs in the case of UAF, but not in the case of UAA. This likely reduced the calculated UAA per student residual funds by a small amount.

Table 5. Instructional Salaries and Wages Expenditures per Student Full-time Equivalent for FY 2018²⁰

	Instructional salary & wage expenditures/SFTE	12-month enrollment, SFTE
UAA	\$ 6,298	10,834
Average, NCHEMS Selected UAA Peers ²¹	\$ 4,068	10,498
Average, UAA Selected Peers ²²	\$ 4,578	11,959
Carnegie Large Master's Peers ²³	\$ 4,895	10,703
UAS	\$ 8,183	1,423
Average, NCHEMS Selected UAS Peers	\$ 4,080	3,038
UAS Selected Peers	\$ 4,811	2,878
Carnegie Smaller Master's Peers	\$ 4,737	3,997
UAF	\$ 8,766	5,261
Average, NCHEMS Selected UAF Peers	\$ 6,727	12,553
UAF Selected Peers	\$ 6,350	14,414
Carnegie High Research Activity Peers	\$ 6,232	18,734

UA Intra-agency Transfers

UA Intra-Agency transfers include all internal charges for services provided by central or service departments to other university departments. This includes services such as physical plant work orders, research analytical services, and certain UA Statewide administrative functions such as risk management. This revenue category is a small fraction of total revenue for UAA and UAS, but relatively large for UAF. Most of the transfers are to UAF recharge centers, and nearly all of them are from other UAF units.

Hence, the “Transfer” category of revenue is double-counting other UA revenue from a variety of sources. Table 6 summarizes the largest revenues from Intra-agency transfers by expenditure category. Physical Plant accounts for a large proportion of the total. I examined transaction level data on UAF Physical Plant Intra-agency Transfers²⁴, and nearly all noncapital revenues of the Physical Plant Facilities Services recharge centers are unrestricted funds. The Utilities Transfer, however, is mainly from non-UA tenants and from auxiliaries, and so it was excluded from Unrestricted Fund utilities expenditures.

²⁰ Data from IPEDS, the Integrated Postsecondary Education Data System, <https://nces.ed.gov/ipeds/datacenter/Data.aspx>.

²¹ NCHEMS selected peer institutions for a UA Statewide commissioned study of faculty/student ratios.

²² UAA, UAS, and UAF have selected peer institutions, listed at https://www.alaska.edu/files/ir/data/University_of_Alaska_Peer_Groups_June2017.pdf. Group 2 peers were used for this table. UAF Academic Peers (rather than Research Peers) were used.

²³ Basic Carnegie Classification, <https://carnegieclassifications.iu.edu/>. Only public institutions were included in the averages.

²⁴ Provided by UAF in response to my request.

The transaction level data also showed that that most of Physical Plant Intra-agency Transfers were internal. This arises because most UAF Physical Plant departments are set up as recharge centers. Figure 1 and Tables 2 and 3 have been adjusted for those internal transfers to avoid double-counting of expenditures.

Table 6. UA Intra-agency Transfers by UAF Expenditure Category

Category	Sum of Transfers to Category
Auxiliary & Other	\$6,803
Debt Service	\$0
Institutional Support	\$2,080,820
Instruction	\$217,454
Physical Plant	\$23,510,150
Public Service	\$1,800,465
Research	\$15,371,191
Student Related	\$1,322,931
Utilities	\$3,255,739