PERFORMANCE AUDIT

UNIVERSITIES

ADMINISTRATION AND SUPPORT

Report to the Arizona Legislature
By the Auditor General
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December 8, 1995

Members of the Arizona Legislature

The Honorable Fife Symington, Governor

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Arizona State University

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Dr. Manuel Pacheco, President
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Transmitted herewith is a report of the Auditor General, A Performance Audit of the Universities: Administration and Support. This audit was conducted pursuant to the provisions of Session Laws 1993, Second Special Session, Chapter 1, Section 79. This is the second performance audit of the universities conducted by our Office.

We found that most university employees are involved in either administrative or support activities. Twenty-five percent are performing administrative duties while 37 percent staff serve in a variety of support functions. The remaining 38 percent are directly involved in teaching, research, or public service. While all three universities have taken a number of steps to reduce administrative and support overhead, we believe further opportunities exist to streamline both instructional and noninstructional units.

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The universities should consider such approaches as flattening organizational structures, increasing spans of supervision, making process improvements, and consolidating duplicative or overlapping functions. The Board of Regents and the Legislature can support these efforts by establishing goals and performance measures, and by creating budgetary incentives that promote efficiency.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on December 11, 1995.

Sincerely,

Douglas R. Norton
Auditor General

SUMMARY

The Office of the Auditor General has conducted a performance audit of the administration of Arizona universities. This audit was conducted pursuant to the provisions of Session Laws 1993, Second Special Session, Chapter 1, Section 79. This audit is the second of two performance audits conducted under these provisions.

The universities operate under the governance of the Arizona Board of Regents. In addition to employing thousands of student workers and grant-funded employees, the universities had 13,540 state-authorized full-time equivalent employees in fiscal year 1994-95. State general fund appropriations for the universities in fiscal year 1994-95 were over $573 million, while the universities' total projected revenues from all sources exceeded $1.75 billion.

Administrative and Support Staffing Consumes More than Half of All Personnel Resources at the Universities (See pages 7 through 14)

Although relatively few employees work in top executive positions, we found that many university positions are administrative or support in nature. High-level administrators comprise 7 percent of employees, 18 percent are lower-level administrators, and 37 percent are in support positions. Only 38 percent work in direct service positions such as faculty, researchers, librarians, athletic coaches, and museum curators.

Even small reductions in the number of administrative and support positions would generate substantial savings. A reduction of just 1 percent, if achieved through restructuring or improvements in efficiency, would generate almost $5 million in salary savings alone. Such a reduction should be feasible: Stanford University, for example, expects to achieve savings totaling 13 percent of administrative costs. Savings can also be achieved, without reducing staffing, through technological innovations and process improvements. Several universities around the country have made significant progress in planning and implementing changes in how they are structured and administered. Projected savings from these efforts range from over $5 million to $29 million per year.

Non-Instructional Units May Offer the Best Opportunities to Improve Efficiency (See pages 16 through 25)

Some of the best opportunities to reduce administrative and support overhead and improve efficiency may be found in the universities' non-instructional units. Almost 44 percent of all university employees work in units that are not part of the academic colleges and do not offer courses. While these units include some non-instructional academic and public service functions such as the libraries and museums, most, for example, the business and budget offices, perform strictly administrative and support roles. These units often have structures and functions similar to those in other agencies or businesses, and lend themselves to a businesslike approach to streamlining and improving efficiency. Effective approaches would include streamlining and flattening out organizational structures, increasing spans of supervision, centralizing multi-university functions, making process improvements, and consolidating duplicate functions. In addition, the universities could do more to develop and use performance measures and benchmarks in these areas.

Administrative and Support Overhead Can Be Streamlined in Academic Units (See pages 26 through 37)

While non-instructional units may offer the best opportunities to streamline and improve administration and support, opportunities also exist in the academic units. We found a significant portion of administrative and support overhead within the colleges. Although most college staff directly serve one of the three university missions (teaching, research, and public service), and the colleges generally have a leaner, more collegiate organizational structure than the more hierarchical model found in the non-instructional units, there is still room for administrative streamlining. Eliminating duplicative functions, consolidating compatible units, and eliminating non-essential programs could reduce academic unit overhead. As in the non-instructional units, the universities should use performance indicators to make more effective use of their resources by identifying academic areas where efficiencies can be achieved.

Board of Regents and Legislative Involvement Are Needed (See pages 39 through 44)

To achieve the greatest possible improvements in administrative efficiency, action by the Board of Regents and the Legislature will be needed. All three universities have initiated noteworthy efforts aimed at cutting costs. However, university culture presents barriers to change that have limited the success of these efforts. For example, research has shown that

universities make many decisions by consensus and set priorities based on institutional prestige. In other states, external events, such as a major budget crisis, have forced universities to overcome these barriers, and generated significant savings in administrative costs. Therefore, the Regents and the Legislature should consider a number of ways, such as the use of performance measures like those called for under Arizona's Budget Reform Act, to encourage and reward improvements in administrative efficiency.

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INTRODUCTION AND BACKGROUND

The Office of the Auditor General has conducted a performance audit of the administration of Arizona universities. This audit was conducted pursuant to the provisions of Session Laws 1993, Second Special Session, Chapter 1, Section 79. This is the second of two performance audits conducted in the universities. The first, released in October 1994, covered the undergraduate student experience.

Arizona's three universities operate under the governance of the Arizona Board of Regents. Arizona State University (ASU) in Tempe, with a main campus enrollment of 42,189 students, is one of the largest universities in the nation. The University of Arizona's (U of A) 35,306 students and Northern Arizona University's (NAU) 19,242 students place those universities, too, into the top 10 percent of universities in the nation in size.[1] In addition to employing thousands of student workers and grant-funded employees, the universities had 13,540 state-authorized full-time equivalent employees (FTEs) in fiscal year 1994-95. All three universities offer a variety of baccalaureate, master's, and doctoral degrees. State general fund appropriations for the universities in fiscal year 1994-95 were over $573 million, while the universities' total projected revenues from all sources exceeded $1.75 billion.

The universities are complex organizations both in terms of the number of individual organizational units and the range and diversity of functions and activities that take place on university campuses. Almost 17,000 FTE positions (excluding students) are supported by state, federal, and local funds to carry out these functions and activities. At each university, a top academic officer, called the provost, reports to the president and oversees the academic colleges. In addition, from one to three other vice presidents or senior vice presidents report directly to the president, and each president also has direct oversight of a number of functions including the legal counsel and affirmative action.

In addition to instructing students, the universities provide housing, meals, medical services, counseling, and assistance in finding jobs upon graduation. Each university also has extensive functions related to the day-to-day operations of a community of 20,000 to 50,000 people: police, facilities and grounds maintenance, recreation and entertainment, and other functions, from parking to postal services to procurement. Other functions include those pertaining to research and public service. Finally, each university engages in fund-raising activities, referred to as "development," and other activities directed toward promoting the university and protecting its interests.

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[1] Student numbers cited in this paragraph are total student head counts for fall 1994, and include NAU Yuma and U of A College of Medicine.

Differences in the universities' histories and roles contribute to variations in their organizational structures. While all three share a mission to teach, conduct research, and provide public service, each has unique characteristics. ASU's location in the State's major urban center provides it with a high proportion of part-time students, while its recent successful efforts to achieve Carnegie Research I status have created other demands.[1] NAU's residential campus and more remote location contribute to a greater need for support services for the university community. U of A's cooperative extension responsibilities and mature research program influence the type and level of administrative efforts required there.

Universities Can Improve Administrative Efficiency

We studied the universities' administrative structure and their administrative and support staff, and concluded that despite barriers to change, the universities could take action to streamline administration in both instructional and support units. The administrative structure at each university is large and complex, and overall, over half of university employees are engaged in administrative, clerical support, and other overhead functions. The magnitude of university overhead means that any incremental improvement in efficiency could save substantial dollars, which could be redirected to funding the universities' teaching, research, and public service missions.

The greatest opportunities for improvement probably lie in the universities' non-instructional units (including business offices, facilities management, and student support services), and indeed, the universities have focused most of their own efforts on these units. However, there are also opportunities for improving efficiencies within the academic colleges. While the support units lend themselves to traditional business efficiency improvement methods, the academic colleges require a different approach, and present barriers that must be surmounted in order to accomplish any change.

Audit Scope

To provide the broadest and most comprehensive view of university administration, we defined administration in three ways:

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[1] The Carnegie Foundation classifies postsecondary institutions according to the kinds and numbers of degrees awarded and the amount of federal support awarded to the institution. Research I universities, including ASU and U of A, offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually $40 million or more in federal support. Doctoral I universities, which include NAU, offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 40 doctoral degrees annually in 5 or more disciplines.

- Most narrowly, as top-level administrators identified through university personnel codes as executives and administrators, and

- As *both* high-level (e.g., vice president, dean, legal counsel) and lower-level (e.g., business manager, senior engineer, program coordinator) administrators, and

- As *all* staff whose functions could be considered "overhead": high- and lower-level administrators, plus support staff (e.g., secretary, administrative assistant, accountant). This definition corresponds to the statutory definition in the Budget Reform Act:

> *". . . any supportive activity relating to management, supervision, budget or execution of the affairs of the budget unit as distinguished from activities relating to its primary direct service functions . . ."*

In addition, we present information on all staff who work in university operating units that are outside the academic colleges and do not offer instruction.

Finding I (see pages 7 through 14) provides an overview of the universities' administration and support staffing as a whole. Finding II (see pages 16 through 25) focuses on units outside the academic colleges, while Finding III (see pages 26 through 37) covers the administration and staffing of the academic colleges and other instructional units. Finding IV (see pages 39 through 44) describes the universities' own efforts to streamline administration, and the barriers that have limited their success, and suggests some ways the Legislature and the Board of Regents can influence the universities' administrative overhead.

Although much of our work covered the entire main campus employee population at all three universities, we also conducted a detailed review of the colleges at each university that encompass the liberal arts and sciences (including the social sciences), and the units under the vice presidents responsible for student support services. These areas represent a variety of fields of study and administrative tasks. For our purposes, we excluded student workers and U of A College of Medicine personnel from the main campus employee population. In addition, some of our analyses exclude NAU's hourly employees because NAU could not provide complete information for those workers. Due to time constraints and the relatively small number of employees at ASU West and NAU Yuma, we did not include those sites in our review.

We expanded our scope to gain a perspective on how Arizona's universities compare to similar institutions regarding faculty and administrative salaries, and tuition growth. Our review of recent salary studies found that faculty are not compensated equally across the three universities. On average, U of A faculty have higher salaries (ranging from $41,100 average salary for assistant professors to $64,800 average for full professors) than faculty at ASU ($39,900 to $60,300) and NAU ($35,900 to $51,100). At least 40 percent of public doctoral institutions nationally compensate faculty at a higher average rate than ASU and

U of A. NAU ranks in the lower 20 percent of these institutions in faculty compensation. Salaries of administrators at each of the 3 universities range between 1 and 8 percent below the median administrative salary at other doctoral institutions of similar budget size, according to information reported by the College and University Personnel Association. Additionally, tuition at each university between fiscal years 1990 and 1994 has not increased as rapidly as tuition at other universities across the country. Compared to an average national increase of 43.9 percent during this time period, resident tuition at Arizona's universities increased only 30.5 percent. Similarly, non-resident tuition increased only 32.8 percent at ASU and U of A and 31.8 percent at NAU.

Audit Methodology

To provide a comprehensive overview of the universities' administrative and support overhead, we obtained and reviewed information from a variety of perspectives. First, we obtained detailed information on university main-campus personnel for the pay period closest to October 1, 1989 (ASU and U of A), 1990 (NAU), and 1993 (all three universities), and used the universities' own classifications by the Equal Employment Opportunity Commission (EEOC) coding scheme to identify top-level executives and administrators. Using the same data sets, we also analyzed staffing levels by organizational unit, and determined the number of employees and total salaries inside and outside the academic colleges. Second, we conducted a telephone survey of a statistically valid sample of employees, and identified those who were high-level or lower-level administrators, those who served as support staff, and those who directly accomplish the missions of the universities (public service, research, and instruction). Third, we obtained or developed organization charts for specific areas of the universities, evaluated the administrative and support structure, and identified potential areas for improving efficiency.

In addition to those major methodologies, we used a combination of several methods to study the universities' administration. For example, we:

- Conducted an extensive review of literature, including journal articles, books, and studies and reports from other states and universities,
- Reviewed the Joint Legislative Budget Committee Higher Education Research Advisory Board's study of administrative positions and costs,
- Interviewed administrators at universities engaged in efforts to improve their own efficiency,
- Interviewed experts in the field of higher education administration, including some who are faculty at Arizona's universities,

- Reviewed results of the National Association of College and University Business Officers' (NACUBO) Business Process Improvement benchmarking study, and replicated a portion of their study at the two Arizona universities that did not participate in NACUBO's own study,

- Compared administrative salaries at Arizona universities with those of their peers as reported by the College and University Personnel Association,

- Compared university budget and tuition growth against national trends, and

- Collected and reviewed descriptive information about each academic department within the liberal arts and sciences.

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the administration, staff, and faculty at all three universities for their cooperation and assistance throughout the audit.

FINDING I

ADMINISTRATIVE AND SUPPORT STAFFING CONSUMES MORE THAN HALF OF ALL PERSONNEL RESOURCES AT THE UNIVERSITIES

Most staff employed by the universities do not teach or conduct research; rather, they are involved in a variety of institutional support activities that, from a comprehensive perspective, can be viewed as administrative in nature. A study of university administration that looked only at top-level administrative positions would be incomplete. Our analysis shows there are relatively few top executive and administrative positions, and the number of these posts has declined in recent years. When administration is defined more broadly to include all nondirect service overhead and support, however, the number of administrative and support employees that emerge is substantial, comprising about 62 percent of all positions. While only 7 percent of employees are top administrators, 18 percent are lower-level administrators and another 37 percent are in support functions. Because of the magnitude of this overhead, the universities should more aggressively explore opportunities to streamline administrative structure and support functions. Even modest, incremental improvements could generate millions of dollars in savings.

Universities Lack System to Monitor Administrative and Support Staffing

The universities do not maintain the information they would need to monitor their administrative and support staffing patterns and trends. Personnel classification schemes maintained by the universities do not adequately identify all administrative and support staff. Further, the universities do not maintain complete organization charts. According to the experts, this lack of information is not uncharacteristic of universities.

Administrative and Support Overhead Is Significant When All Positions Are Examined

When conducting a study of university administration, the initial tendency may be to focus on the high-level administrators, such as vice presidents and deans. In reality, these positions are only a small portion of all administrative and support positions. A far more significant administrative and support overhead emerges when all categories of positions are reviewed. Analyzing all university positions using two different analyses, we found that

up to 62 percent of all positions are either primarily administrative in nature, or are clerical and support positions.

Analysis of EEO codes — Although it understates the total number of administrative positions, analyzing personnel data prepared by the universities using EEO codes still provides a useful indicator of the relative proportions of top-level administrators, faculty, and certain other types of employees. This analysis shows that high-level administrators constitute a small percentage of total positions, but a significant number of university positions in other classifications are administrative or support in nature. Only 19 to 27 percent of all positions are faculty positions. Even when professional non-faculty positions (employees who generally have at least a four-year degree, including instructors, researchers, and administrators) are combined with faculty positions, only 55 to 59 percent of total positions fall within these two categories.

To analyze university administration and support, we requested personnel and funding source data for employees at all three universities.[1] The data was collected for two different times: October 1989 and October 1993.[2] The universities provided information at the job level, including the title, department, college, and total salary (not including employee-related expenses) for each position. Additionally, the universities identified the amount of each salary contributed by state, grant, and local funding.[3] We analyzed and reviewed the personnel data by EEO code. The universities assign their employees to one of seven EEO code categories for federal reporting. EEO staffing data is collected biennially by the National Center for Education Statistics of the U.S. Department of Education, which maintains staffing information on post-secondary institutions. The EEO categories classify positions according to their primary occupational duties.

As shown in Table 1 (see page 9), although relatively few personnel — a total of 902 in October 1993 — were classified as top executives and administrators, the proportion of **faculty** positions at the universities is relatively low. Top executive positions, which comprised 4.6 to 4.8 percent of all employees at the two larger campuses and 10 percent of the salaried employees at NAU, include the presidents, vice presidents, deans, and legal counsel. More numerous are personnel who fall into four other categories, particularly the professional non-faculty classification. This category, with almost 6,000 FTEs, includes not only academic positions such as graduate assistants, instructional specialists, and researchers, but also many administrative and service staff, such as accountants, business managers,

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(1) Employees at the U of A College of Medicine, ASU West, and NAU Yuma were excluded from the analysis, as were all student employees. NAU's hourly employees were also eliminated from our data analysis (although they were included in the statistical sample surveyed, see page 9) because salary and FTE fractional information was unavailable for these employees. Therefore, **comparisons should not be made across universities.**

(2) NAU provided data for October 1990 because its 1989 personnel data had been inadvertently destroyed.

(3) Grant funds include private, state, and federal grants. The local fund category consists of revenue generated by non-academic units, and includes residence hall fees, student union revenues, and athletic event income.

buyers, and computer specialists. A total of 3,751 FTEs — 19.1 percent of all FTEs at U of A, 24.7 percent at ASU, and 27.2 percent of salaried FTEs at NAU — fall into the faculty classification. Even if the professional non-faculty category (because it includes instructional and research staff as well as administrators) is added to the faculty group, these positions together account for only 55 to 59 percent of all positions employed at the universities.

We could not rely solely on EEO codes to estimate the number of administrative and support positions. The executive/administrative category captures only the highest level administrators. Supervisors and middle management positions below the top executive level are often placed in other categories, and therefore cannot be distinguished under the EEO coding scheme from line employees. Therefore, the EEO categories understate the total number of administrators.

Table 1

October 1993 Employees by EEO Code[a]

EEO Category	ASU FTE	ASU %	U of A FTE	U of A %	NAU FTE	NAU %	Total FTE	Total %
Professional Non-faculty	2,070	32%	3,293	39%	593	28%	5,956	35%
Faculty	1,580	25%	1,595	19%	576	27%	3,751	22%
All Other[b]	1,187	19%	1,659	20%	374	18%	3,220	19%
Secretarial/ Clerical	1,245	19%	1,438	17%	358	17%	3,041	18%
Executive/ Administrative	307	5%	383	5%	212	10%	902	6%
TOTAL	6,389	100%	8,368	100%	2,113	100%	16,870	100%

[a] **Comparisons between universities are not meaningful.** Because NAU could not provide FTE information for hourly employees, proportions of categories that consist of salaried employees (executive/administrative, faculty, and professional non-faculty) appear greater than they otherwise would. Other differences between the universities, such as U of A's use of employees instead of contractors to provide food service, also make such comparisons inappropriate.

[b] The "other" category consists mainly of technical/paraprofessional, skilled craft, and service and maintenance employees. In addition, ASU's and U of A's other category includes 316 and 266 temporary workers, respectively.

Source: Auditor General analysis of personnel data provided by universities for all main campus employees in October 1993. Data for student workers, U of A College of Medicine employees, and NAU hourly workers are excluded from this analysis.

Significant administrative and support overhead — We conducted a second type of analysis to develop a better overall estimate of the number of administrative and support positions at the universities. This analysis of a statistically significant sample of positions (including NAU's hourly employees) found that most positions are not involved directly in serving the missions of the universities, but instead perform administrative, clerical, or support functions. We determined that approximately 25 percent of positions across the universities can be classified as administrative. Moreover, another 37 percent perform support functions, leaving less than 40 percent of employees directly conducting the missions of the universities.

To validate university data and get a more accurate estimate of the true number of administrative and support positions, we randomly sampled university positions for further analysis. We interviewed 738 employees, representing 758 positions, and asked detailed questions about the nature of their positions and their work activities.[1] Based on their responses and position job descriptions, we then assigned each position in the sample to one of the following four categories:

- **High-level administrators** — included positions such as managers, executives, or directors. Generally, people in these positions direct the work of others, as opposed to doing the work themselves.

- **Low-level administrators** — comprised positions that supervise as well as complete tasks directly. Positions such as business manager, senior engineers, and program coordinators would fall into this category.

- **Support personnel** — included positions that provide support services for other employees and work units. Secretaries, file clerks, and custodians are examples of employees in this category.

- **Direct service employees** — represented all positions that contribute directly to one of the universities' three primary missions: teaching, research, and public service. Included in this category are faculty, research staff, librarians, and certain employees in the athletic departments, television and radio stations, theaters, and museums.

As shown in Figure 1 (see page 11), the results of our analysis reveal that over 60 percent of employees across the universities are principally involved in performing either administrative functions or support activities. Only 38 percent of positions are principally involved in direct service.

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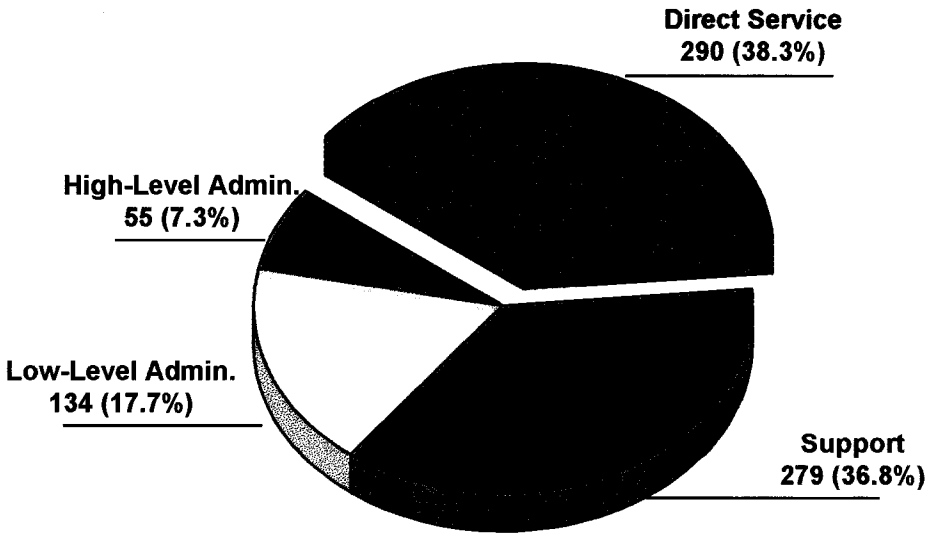
[1] The sample included 255 positions at ASU, 277 at U of A, and 226 at NAU. The sample size provided a 95 percent confidence level and a precision margin of 5 percent. The number of jobs is greater than the number of employees because some employees have two or more part-time positions, or have a part-time position in addition to their regular full-time job.

Figure 1

Number of Positions Surveyed by Job Type

Statistical Sample Results (All Universities)



Source: Auditor General survey of randomly selected statistical sample of 738 main-campus employees as of October 1993 (excluding U of A College of Medicine).

Our finding that one out of every four positions is an administrator initially appears higher than the estimates of a recent study by the Higher Education Research Advisory Board (HERAB). HERAB, working under the staff direction of the Joint Legislative Budget Committee, examined administrative positions and costs in fiscal years 1987, 1991, and 1993. Their study, which included only state-funded administrators, found that the percentage of administrative positions ranged from 14.6 percent at U of A to 21.1 percent at NAU.

However, our inclusion of positions supported by grant and local funds, and HERAB's narrower definition of "administrator," explains our higher estimate of administrative positions. For example, we considered department chairs as administrators since many spend more than 50 percent of their time on administrative tasks, while HERAB counted them as faculty.

Reducing Administrative and Support Positions Could Generate Significant Savings

The universities should aggressively explore ways to reduce the overall size of their administrative and support staff. Even incremental improvements in efficiency would generate significant savings.

Potential savings – Successful efforts to streamline administrative structure and reduce administrative and support staffing would produce significant savings. A reduction of just 1 percent in total FTE administration and support, if achieved through restructuring or improvements in efficiency, would generate almost $5 million in salary savings alone. Reductions in the 2 to 5 percent range would generate from $10 million to $25 million in savings. Savings can also be achieved, without reducing staffing, through technological innovations and process improvements.

Significant cost savings are possible given what other universities have been able to accomplish. Other universities around the country have also made substantial progress in planning and implementing changes in how they are structured and administered. These efforts may result in savings ranging from $5 million to $28.5 million in operational costs. For example, Stanford, which has 14,000 students, plans to reduce operating expenses by $22 million (13 percent of its administrative and support staff) by simplifying its organizational structures and processes. The following universities are also implementing structural and administrative changes for increased efficiency and reduced costs:

- **Oregon State University (OSU)**, a campus with 14,300 students, launched a model TQM effort and used business reengineering principles to make its administrative structure and administrative processes more efficient. For example, a major management consulting firm recommended OSU reengineer selected business processes and activities and undertake efforts to streamline and simplify processes and procedures such as accounting, computing, and functions related to its physical plant. This reengineering

effort is expected to generate cost savings ranging from $5.1 million to $8.6 million. In addition, the University has consolidated and eliminated academic programs and streamlined both academic and non-academic administration. For example, OSU merged the geography and geology departments, closed the poultry science department, and restructured its extension services program. In addition, ten departments in the business and finance area have been consolidated into a total of five departments. Through this effort, OSU has eliminated or reassigned approximately 200 support positions, and may save an additional $2.2 million to $2.6 million. Altogether, savings from these efforts could represent approximately 2.3 to 3.3 percent of total annual expenditures. OSU administrators expect these reductions to have minimal impact on the quality of academic programs.

- **Virginia Tech University**, with 23,873 students, has made numerous changes in its organizational structure over the past four years. These changes include the elimination or consolidation of academic and administrative departments, reduction in the number of middle- and senior-level administrative positions, and realignment of redundant functions. For example, the University reduced its structure from three separate divisions (teaching, research, and extension services) into two. Research and extension services were combined, eliminating the need for duplicate administrative structures. Four departments — admissions, financial aid, the registrar's office, and student computer services — were integrated into an enrollment services unit. Further, seven academic programs have been closed. Since 1990, the University's efforts have reduced expenses by $28.5 million and allowed the University to reallocate an additional $15 million to high priorities University-wide. And, according to a University report to the State Council for Higher Education, Virginia Tech spends a smaller percentage of its budget on administration than any of its peers in the southeastern United States.

- **Northwestern University**, a private university with approximately 8,000 main campus students, applied business process reengineering principles and methods to redesign processes and organizational structures in both academic and non-academic units throughout the University. For example, the University recently reengineered its procurement and payment function and discovered that investments in new technology could generate annual cost savings of about $7.9 million.

To achieve similar improvements in efficiency, Arizona's universities could set goals for administrative and support reductions based on a percentage of total budget. The concept of using percentage of budget as a basis for goal setting is not new to higher education. For example, several states such as Ohio, Tennessee, and Texas have considered or enacted performance-based funding systems that link university performance to a percentage of total budget. Likewise, legislative cuts that have been mandated in some states are frequently based on an initial percentage of total budgets. Given results that have been achieved at other universities, goals in the range of 2 to 5 percent would be reasonable for the universities to consider.

Findings II and III describe some specific ways the Arizona universities can improve administrative efficiency.

RECOMMENDATIONS

1. The Board of Regents should revise its personnel classification system for all three universities to enable more accurate identification and tracking of all administrative and support positions.

2. The universities should monitor changes in administrative and support staffing patterns on an annual basis. The information contained in this report could serve as a baseline for identifying staffing trends over time.

3. The Board of Regents and the universities should work with their peer institutions to develop comparative data on administrative and support staffing patterns.

4. The universities should establish goals, based on a percentage of total budget, and a timetable for achieving these goals, aimed at reducing overall administrative and support overhead.

FINDING II

NON-INSTRUCTIONAL UNITS MAY OFFER THE BEST OPPORTUNITIES TO IMPROVE EFFICIENCY

Some of the best opportunities to reduce administrative and support overhead and improve efficiency may be found in the universities' non-instructional units. At all three universities, these units are large, employ many administrative and support personnel, and in many cases are hierarchical and bureaucratic in their organizational structure. Effective approaches to improving their efficiency would focus on eliminating duplicate functions, streamlining and flattening organizational structure, and consolidating or eliminating activities that are inefficient or unnecessary. The universities could develop benchmarks or performance measures to help identify areas that need the most improvement.

Non-Instructional Units Have Significant Administrative and Support Overhead

Compared to academic units, non-instructional units have a proportionately greater number of administrative, support, and clerical personnel. Although organized somewhat differently at each of the universities, the non-instructional unit workforces are typically comprised of non-faculty professionals, secretaries and clerical positions, technical and paraprofessional employees, and administrators. The organizational structures of these units tend to show more reporting layers and more differentiation of functions between units than the structures we found in the academic units.

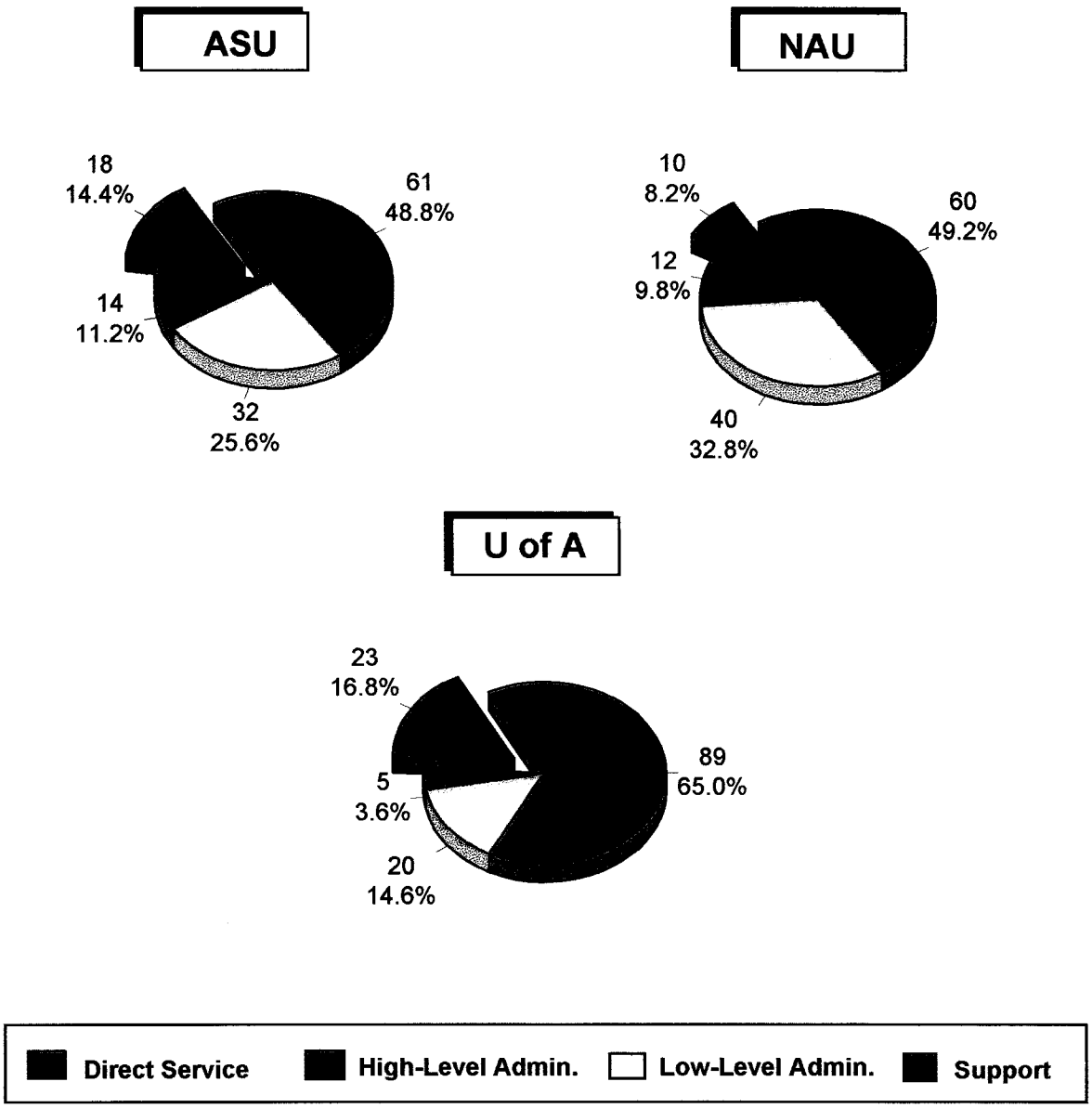
As part of our analysis, we grouped all departments and units into one of two categories: (1) academic, or (2) non-instructional. The academic classification includes all units in the colleges and other units providing classes. Units classified as non-instructional include a variety of important functions that support the diverse mission and responsibilities of the university. Generally, the classification includes the president's and provost's offices, and several student-related support services such as admissions, enrollment, and student affairs. Business and maintenance functions, such as budgeting and accounting, fiscal control, and facilities, also fall within this category.

Staff composition and structure — Almost half of all university employees work in non-instructional units. Non-instructional units employ from 42 percent of all employees at U of A to 53 percent of salaried employees at NAU. ASU's non-instructional staffing accounts for almost 45 percent of its workforce. As shown in Figure 2 (see page 18), the mix of administrative and support personnel in non-instructional units varies somewhat

Figure 2

Surveyed Positions in Non-Instructional Units by Job Type

Statistical Sample Results



Source: Auditor General survey of randomly selected statistical sample of 738 main-campus employees as of October 1993 (excluding U of A College of Medicine).

among the universities. The University of Arizona employs proportionately fewer high-level and low-level administrators (18 percent) in its non-instructional units than either ASU (37 percent) or NAU (43 percent). However, U of A employs the most support personnel (65 percent) compared to ASU and NAU (49 percent each.)

We found that non-instructional units at the universities often look more hierarchical in their organizational structure than academic units. They exhibit what appear to be some of the same inefficient characteristics that have been found in many business and governmental organizations.

To determine how one major non-instructional function, student affairs, is structured, we constructed detailed organization charts identifying each employee's position and reporting and supervisory relationships, from the lowest level employees to the vice president in charge of the function. This was necessary because comprehensive and accurate organization charts did not previously exist for about 25 percent of the units examined.

While each university organizes its student affairs function differently, some common patterns are evident. For example, many of the structures examined were complex, exhibiting considerable duplication and overlap of similar functions across several units (such as business and accounting functions, information services, and support staff). Structures were often multi-layered, with several middle management levels of control and supervision. By contrast, academic units tended to have fewer middle management levels.

Opportunities Exist to Streamline Non-Instructional Units

Non-instructional units could benefit from some of the same analytic strategies and approaches that have been successfully used to streamline and improve efficiency in business and government. These approaches include business process reengineering (BPR), total quality management (TQM), and other techniques borrowed from the fields of organizational development and industrial engineering. In other settings, these methods have allowed organizations to "downsize" staffing levels and improve quality and productivity. While all three universities have initiated efforts of this type (see Finding IV, pages 39 through 44), more can be done.

In our examination of the student services area, we looked for fragmentation, redundant activities, and organizational characteristics that may indicate inefficiency. The following are examples of just a few areas where it may be possible to reduce administrative and support overhead by eliminating duplicate functions, streamlining structure, improving processes, or consolidating activities. While some of the specific potential savings may appear small in the context of the total university budgets, the units highlighted here represent only a few out of hundreds of units at the universities. The combined effect of even small savings from so many units would be great.

Due to the complexity of the universities' organizational structures and the lack of comprehensive information, it would be impossible to accurately predict the number of units that could improve efficiency using the methods recommended in this report. Personnel data prepared for the audit showed that employees reported to a total of 288 different non-instructional units (80 at NAU, 137 at U of A, and 71 as ASU). However, some of these units are further subdivided into additional units, while others are subdivisions so precise that they include only a few employees and may not really be operating units at all. For example, U of A's Student Affairs is divided below the vice president into three major areas, each of which in turn is divided into four, six, or ten sections that range in size from the Asian/Pacific Islanders Student Services Unit, with only one non-student employee, to the Health Services Unit, which is itself further divided into five additional units of varying complexity.

- **Reducing management layers** — The student affairs function at U of A, as currently organized, illustrates the hierarchical and multi-layered nature of some non-instructional units. For example, at the time of our review, the student records office, a unit in Student Affairs which maintains student transcripts and grades, was staffed by two senior office specialists, five office specialists, and a senior office assistant. There were nine supervisory levels above the office workers. As shown in Figure 3 (see page 21), above the first line supervisors were an office supervisor, the assistant registrar, the associate registrar, the registrar, the assistant vice president for enrollment services and academic support, the vice president for student affairs, the provost, and the university president. While this may be a particularly hierarchical and inefficient structure, it is not atypical of other units in student affairs at U of A. Significant efficiencies may be possible by eliminating one or more supervisory levels and flattening the reporting structure. When Project SLIM found similar management layering in the Department of Public Safety, it recommended eliminating at least one management layer. A recent article in *IM*, a business journal, stated that "In most instances, three or four management layers will serve most companies and four or five layers will be adequate for all but the largest and most complex organizations. This was illustrated by Eastman Kodak Company a few years ago when 13 levels of management were reduced to four levels with no loss in production."[1]

- **Increasing spans of supervision** — Our review of detailed organization charts and position job descriptions suggests that the universities may have many areas with excessive supervisory positions. For example, about one-third of the positions in ASU Student Affairs (Student Health was excluded from this analysis) are directors, assistant directors, associate directors, managers, deans, or supervisors, although half of the managers and one-fourth of the assistant and associate directors supervise one or no other employees. A detailed review of these kinds of positions might yield significant savings.

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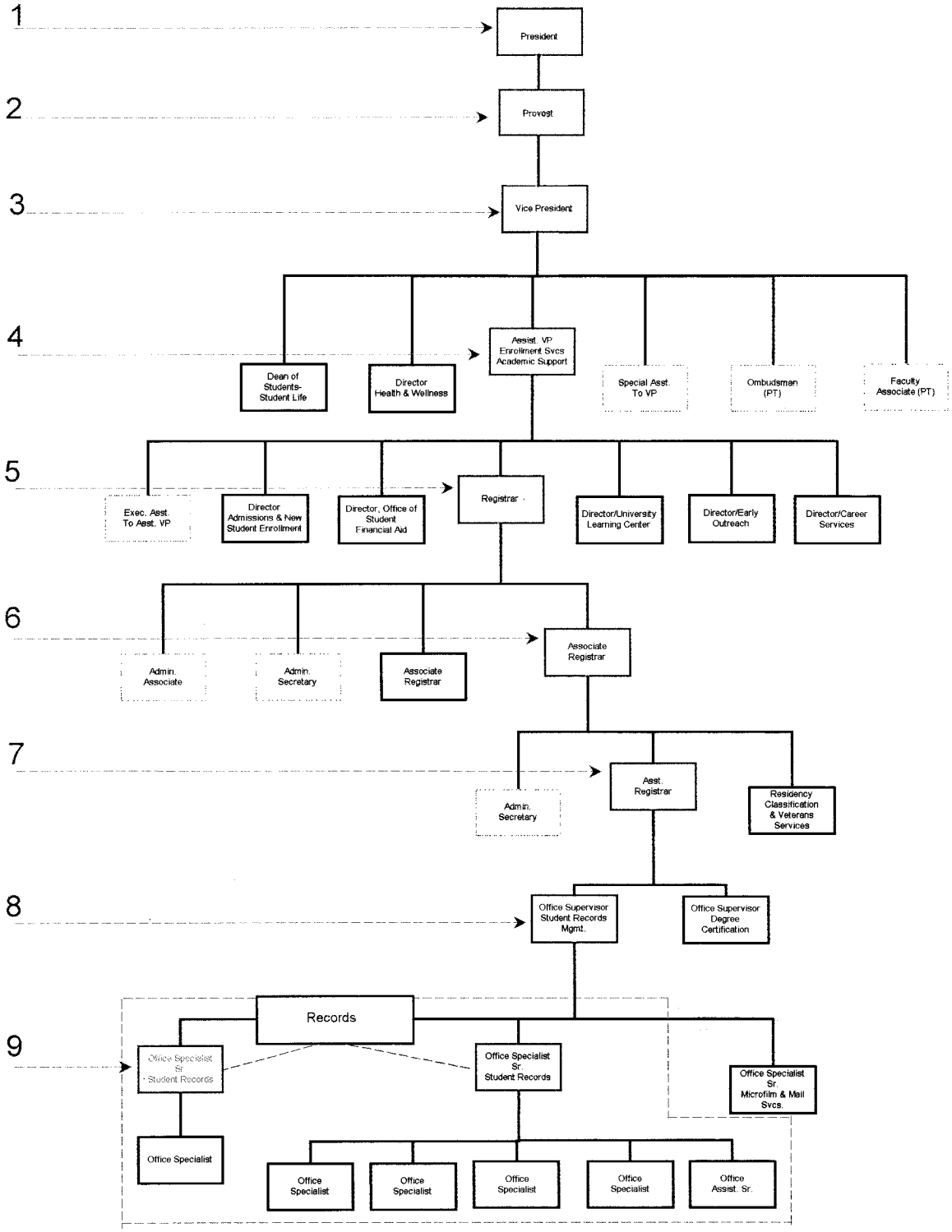
[1] Hattrup, George P., and Brian H. Kleiner, "How to Establish the Proper Span of Control for Managers," *IM*, November/December 1993, pp. 28-29.

Figure 3

Supervisory Levels Above the U of A Student Records Office



Source: U of A Office of the Registrar

- **Making processes more efficient** — Implementing more efficient operational and decision-making processes would reduce the number of administrative staff needed. At U of A, one Continuous Organizational Renewal (CORe) team identified an area where some financial transactions were reviewed up to ten times each. One university official told us he has reduced the number of items that come to him for approval, such as travel requests. Eliminating unnecessary layers of review and making other process improvements can enhance timeliness and quality of service in administrative units, as well as reducing costs, according to reports from the CORe teams. Portland State University, forced to find ways to reduce costs when a property tax initiative in Oregon reduced all state university budgets, focused some of its efforts on eliminating layers of decision making and on making its work processes more efficient.

- **Consolidating duplicate functions** — At ASU and U of A, custodial services are provided by two separate departments. Both the residence life departments, which are responsible for student dormitories, and the centrally organized facility management departments maintain custodial employees. Residence life custodial functions have their own administrative and supervisory structure, at a cost of $102,480 to $113,460 (including salaries plus employee-related expenses). By contrast, NAU's custodial workers are all housed in a single facilities management department, and service both residence halls and other campus buildings. The unified structure at NAU operates under one administrative and supervisory structure and appears to be a more efficient way to organize custodial services. Consultants who studied administrative systems at Oregon State University and the University of Iowa recommended the consolidation of functions that are highly standardized, routine, required at regular intervals, and do not require high levels of expertise.

In addition to these areas, which each university could review independently, the Board of Regents should consider the potential for improving efficiency statewide by:

- **Centralizing multi-university functions** — The processing of student applications for admission, for example, is a major activity at all three universities. Process improvements, achieved through technological innovations and consolidation, hold the potential to generate significant savings. The universities may be able to consolidate centrally some processing done redundantly by all three universities. Each university currently performs its own assessment of student applications, although the same admissions criteria are applied by all three. If undergraduate applicants were screened centrally based on the statewide requirements, each university would have to separately review only the discretionary admissions. Currently, the universities employ a total of 124 regular employees and many student workers in

their admissions offices; centralization could reduce the number of staff required. In Minnesota, a task force of the Board of State Colleges and Universities identified a number of areas, including human resources, telecommunications, and student services, that could be consolidated statewide, eliminating the need for redundant processing.

Benchmarking Performance Important to Identify Best Practices and Cost Savings Opportunities

To help identify areas where administrative savings can be achieved, the universities should develop and monitor performance measures or benchmarks for functions and activities in the non-instructional units. While two of the universities have taken part in a national initiative in this area, more local efforts are needed to benchmark administrative performance.

Performance benchmarking can be useful in efforts to improve administrative efficiency. First, benchmarking helps identify functions and activities that may be inefficient when compared to like functions and activities in other organizations. Best or model practices may be identified that, if implemented, could generate significant savings. In addition, benchmarking can be useful in tracking performance over time, measuring changes in efficiency, and evaluating efforts to reduce costs. The Board of Regents recognized the importance of benchmarking in the academic arena by establishing, in 1994, requirements that the universities report progress against measures of academic performance and student success.

Both ASU and NAU have participated in a national benchmarking initiative sponsored by the National Association of College and University Business Officers (NACUBO). Between 1992 and 1994, NACUBO collected performance data on a number of non-instructional functions from universities participating in this effort. The data developed by NACUBO allows universities to compare performance against other institutions from around the country.

We found the available NACUBO data useful in our study of administrative efficiency. Because only ASU participated in the 1993 NACUBO study (NAU participated in 1992), we supplemented the NACUBO data by obtaining equivalent data from NAU and U of A for three functions: admissions, sponsored project offices, and development. The following examples demonstrate how benchmarking data can be potentially useful in raising questions about the efficiency of revenue-raising functions that are often overlooked when examining administrative efficiency at the universities:

- **Sponsored projects** — These offices administer activities related to externally funded research grants and other projects. Universities comparable to both U of A and ASU have an average of 28 sponsored project employees. ASU has 67 sponsored project

employees, and U of A has 39 positions. However, a review of performance measures shows that U of A's per-FTE productivity levels exceed those of ASU and the peer institutions: for instance, U of A workers process 422 proposals each, while ASU's process only 54. Their peers at other universities process, on average, 117.

NAU has a different peer group than U of A and ASU. NAU's sponsored projects staff, at 10 FTE, is similar in size to its peers', which also averages 10 FTE, and its staff are more productive than their peers on all measures, including processing 74 proposals per FTE compared to the peer average of 52.

The data raise important questions that the universities need to address in order to determine whether sponsored projects offices are properly staffed. The universities need to investigate the reasons for the higher productivity levels at U of A, and determine if productivity can be raised, and staffing reduced, at the other two universities.

- **Development** — Development officers raise funds for the university by soliciting gifts from alumni and other donors. Again, both ASU and U of A have more employees than their peers, which average 35 FTE. In fact, U of A has more than twice as many, at 72 FTE, while ASU is closer to the norm at 46. ASU's officers, however, were less productive per FTE than their peers in total dollars raised ($349,000 each, compared to peer average of $482,000), while U of A's officers averaged 23 percent more than the peer average, or $594,000.

  In this case, unlike in sponsored projects, NAU's record is below its peers: NAU has 18 FTE compared to the peer average of 15, and raised 50 percent less donations overall ($3 million compared to $6 million) and 57 percent less per FTE ($168,000 each, compared to peer average $395,000 each).

  Differences in numbers of development officers and their productivity suggest that the universities should determine the levels of productivity needed to justify the number of development officers employed. Further, the universities should study whether it is more efficient to organize development activities centrally, or to allow the colleges and departments to operate independent development efforts. As with sponsored projects, the central question is how to maximize revenue while at the same time limiting the costs to administer the program.

Whether or not the universities elect to participate in the national project, they should begin to measure their own performance in these and other non-academic areas and monitor their improvements over time.

RECOMMENDATIONS

1. The universities should develop, and present to the Legislature and the Board of Regents, comprehensive plans to improve administrative efficiency in non-instructional units. University plans should specify:

   - the scope of administrative and support activities to be examined;
   - a schedule for examining each activity or unit;
   - deadlines for reporting study results; and
   - a schedule for implementing recommended actions.

2. In reviewing administrative and support activities, the universities should address, at a minimum:

   - the number of management levels or layers;
   - spans of supervision;
   - processing steps, procedures, and requirements; and
   - the extent to which activities are duplicated.

3. To help assess the efficiency of non-instructional functions on an ongoing basis, the universities should develop and annually monitor performance benchmarks.

4. The Board of Regents should consider developing a plan and timetable for reviewing multi-university functions, such as admissions, for possible centralization.

FINDING III

ADMINISTRATIVE AND SUPPORT OVERHEAD CAN BE STREAMLINED IN ACADEMIC UNITS

While non-instructional units may offer the best opportunities to streamline and improve administration, opportunities also exist in the academic units. Despite the collegial structure of academic units, there is a significant portion of administrative and support overhead within the colleges. In recent years, increased reliance on external funding has contributed to expanding administrative and support staff to seek and account for funds. The colleges could reduce administrative and support overhead by eliminating duplicative functions, consolidating compatible units, and eliminating non-essential programs. As in the non-instructional units, the universities should use performance indicators to make more effective use of their resources by identifying academic areas where efficiencies can be achieved.

Administrative and Support Overhead Exists Throughout Academic Colleges

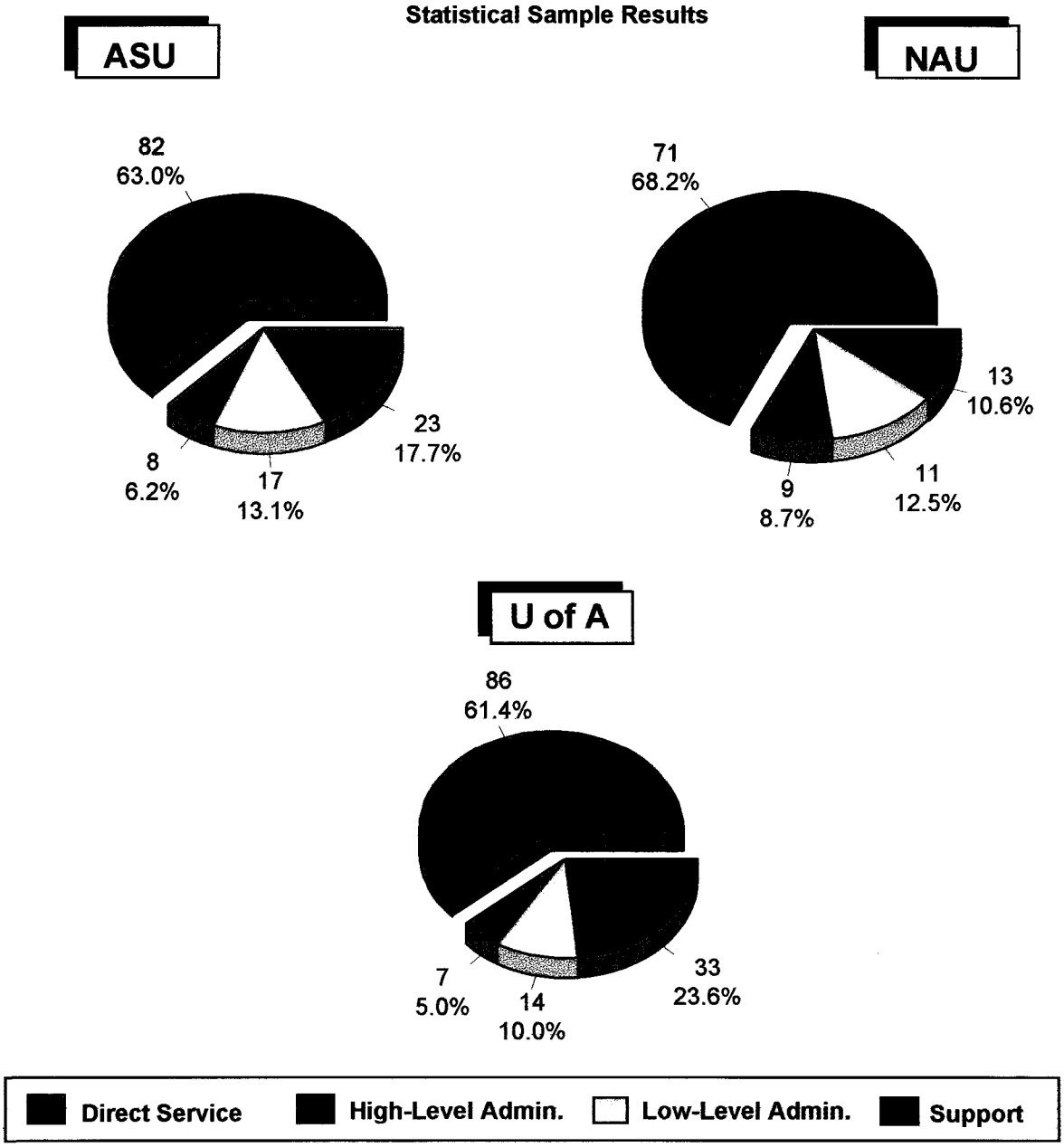
Fundamental differences between academic units and non-instructional units are reflected in the manner in which academic units are organized and in the composition of staff. Nonetheless, there is a significant amount of administrative and support overhead present within the academic units.

Composition and organization of staff — In contrast to staff in the universities' non-instructional units, most staff in the colleges are directly involved in one of the universities' three missions, i.e., teaching, research, or public service. Even so, many of the employees in the colleges perform administrative and support functions. Figure 4 (see page 28) illustrates the results of our employee survey, where we categorized employees based upon their job duties. In this chart, those employees in the blue areas are directly involved in one of the three missions. Thus, 68 percent of NAU's academic unit staff, 63 percent of ASU's, and 61 percent of U of A's directly serve the university missions. The rest — ranging from 32 percent at NAU to 38 percent at U of A — could be considered administrative and support overhead. Analysis of data for the entire academic unit employee population using EEO categories confirms the presence of many non-faculty positions. Although the largest single group of employees in most colleges falls into the faculty category, all colleges also have a significant proportion of executive, professional, and clerical staff.

Figure 4

Surveyed Positions in Academic Units by Job Type

Statistical Sample Results



Source: Auditor General survey of randomly selected statistical sample of 738 main-campus employees as of October 1993 (excluding U of A College of Medicine).

Administrative and support overhead exists throughout the collegial structure of the academic units. Colleges are typically led by a dean, who usually has two or more assistant or associate deans. Reporting to the dean are several departments, each overseen by a chairperson. Department chairs also frequently have one or more assistant or associate chairpersons. Organization charts for academic units may be characterized by larger spans of control and fewer layers of management than those of non-instructional units. For example, 38 positions report directly to ASU's Dean of the College of Liberal Arts and Sciences, and in most departments under this college, there are only 1 or 2 layers of management between the lowest level worker and the dean. However, even in this comparatively lean college, there are many administrative and support overhead positions. The Dean's Office includes development officers, a systems analyst, and an office specialist. Additional clerical and administrative support staff such as administrative associates, secretaries, business managers, and accounting specialists are present in academic departments.

Shifts in Funding of Staff May Shift Priorities in Academic Units

Changes in funding patterns on the academic side raise important policy questions that do not arise when looking at non-instructional units. Between fiscal years 1990 and 1994, the Arizona universities have increased reliance on self-funding and grant monies. The shift in funding brings with it a different set of priorities, which have implications for the universities' teaching mission and administrative overhead.

In the past several years, all three universities have turned to an increased share of self-funding and other sources of revenue to supplement state support, which has not always kept pace with inflation.[1] This change is more apparent in the academic units than in the universities as a whole.

The proportion of state-funded FTEs in academic units has declined, as shown in Figure 5 (see page 31). Our analysis of each university's personnel data showed that ASU and U of A increased the number of FTEs in academic units over a four-year period, while NAU maintained approximately the same level of FTEs over the three-year period studied. At the same time, as shown in Table 2 (see page 32), the number of state-funded FTEs decreased at all three universities. The universities were able to maintain or increase total academic unit FTEs by using grant funds and local revenues.

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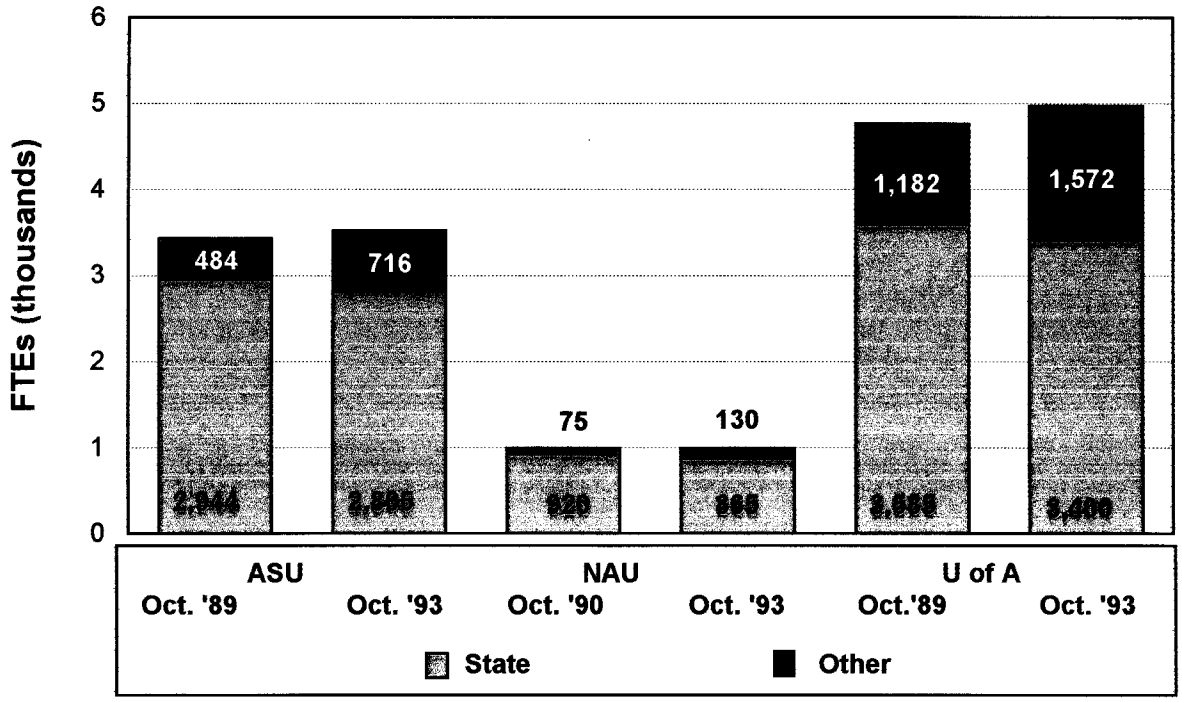
(1) Over the four years from 1989-90 through 1993-94, unrestricted state appropriations increased by 13.25 percent at ASU and 5.65 percent at U of A, while the overall Consumer Price Index (CPI-U) increased by 15.2 percent and the portion of the CPI-U for college tuition rose by 43.9 percent. Over the three-year period 1990-91 through 1993-94, NAU's unrestricted state appropriations increased by 11.1 percent, while the CPI-U rose 9.2 percent and the CPI-U for college tuition increased 32.3 percent.

Figure 5

Total Academic Unit FTEs
by Source of FTE Funding



Source: Auditor General analysis of personnel data submitted by the universities for main campus employees as of October 1989 (ASU and U of A) or October 1990 (NAU) and October 1993 (all three universities). Data for undergraduate student workers, U of A College of Medicine employees, and NAU hourly workers are excluded from this analysis

Table 2

Changes in Funding of FTEs in Academic Units by University

	ASU FTEs 10/89 10/93	ASU Change in FTEs	U of A FTEs 10/89 10/93	U of A Change in FTEs		NAU FTEs 10/90 10/93	NAU Change in FTEs
State-Funded FTEs	2,944 2,805	-139	3,585 3,400	-185		920 865	-55
Other Funded FTEs	484 716	+232	1,182 1,572	+390		75 130	+55
Total Funded FTEs	3,428 3,521	+93	4,767 4,972	+205		995 995	No Change

Source: Auditor General analysis of payroll/personnel data submitted by the universities for employees as of October 1989 (ASU and U of A) or October 1990 (NAU) and October 1993 (of all three universities). Includes all main campus employees with the exception of undergraduate students and U of A College of Medicine employees.

Reduced reliance on state funds may redirect university attention away from the teaching mission and toward revenue-generating activities, according to the authors of a recent publication in the ***Journal of Higher Education.***[1] In the article, which sought to explain the rising costs of higher education, one proposed explanation was that a shift to alternative funding sources contributed to a shift in expenditures, away from instruction and toward research and administrative growth. The emphasis on fund-raising leads to more administrative overhead to obtain and account for these funds. Furthermore, as some faculty members at U of A explained, students may suffer because faculty spend their time raising money instead of teaching their students.

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[1] Leslie, Larry L., and Gary Rhoads, "Rising Administrative Costs: Seeking Explanations," *Journal of Higher Education*, March 1, 1995, Volume 66, Number 2, page 187.

There Are Opportunities to Reduce Administration and Support in the Academic Units

Opportunities to streamline administrative and support overhead in the academic units do exist. The universities could reduce administration in the academic units by pursuing strategies that focus on the elimination of duplicative functions, consolidation of academic departments, and elimination of non-essential programs. Examples of areas where these strategies might apply include the following:

- **Eliminating duplicative functions** — As in the non-instructional units discussed in Finding II (see pages 16 through 25), we found indications of duplication of effort in the academic areas as well. Academic units are performing business and development functions, while the central university administrations have large units performing the same functions. For example, ASU's business and accounting functions are centralized under the comptroller's office, which employed 96 FTEs in October 1993. At the same time, the College of Liberal Arts and Sciences (CLAS) had an additional 14 business and accounting positions. Although a CLAS official described the staff in these positions as essential, and it appears to make sense to house them near the research and instructional activities that generate their workload, there remains a potential overlap between CLAS and the comptroller's office. A close examination of business and accounting positions throughout the university's academic colleges, including CLAS, could identify opportunities for interdepartmental sharing and other efficiencies. Similarly, both ASU and U of A have centralized development offices and also have development functions in the colleges. As discussed in Finding II, the presence of development officers in both central administration and within the colleges may be duplicative.

- **Combining departments** — A recent study of institutions conducted by the American Council on Education found that almost half of the research/doctoral public institutions surveyed had consolidated some academic programs. Our research into efforts at other universities found that the University of California at Los Angeles (UCLA), a large public doctoral university, recently restructured colleges and academic programs within its professional schools. The restructuring plan may save the University up to $3.2 million annually by sharing a reduced number of administrative support positions in consolidated academic units.

  An example of academic areas that could be consolidated was proposed by U of A's Strategic Planning Budget and Advisory Committee (SPBAC), but has since been withdrawn. SPBAC reported that it made "intellectual sense" to explore the possibility of combining the biochemistry department and the molecular and cellular biology departments. While SPBAC's proposal was based on streamlining the delivery of undergraduate instruction in biology, we believe that consolidating these units could also result in some administrative efficiencies. Organization charts for these departments show that 11 of biochemistry's 93 positions (12 percent), and 11 of

molecular and cellular biology's 65 positions (17 percent) are administrative, clerical, or computer support positions. These numbers do not include academic advisors, research and lab staff, or support positions held by students. Under the current structure, the 2 departments have a total of 54 faculty positions and 22 administrative and clerical support staff, yielding a combined ratio of only 2.45 faculty per administrative or support position. If these departments were combined, there might be opportunities to reduce the total number of these positions through sharing administrative staff. At ASU, where biochemistry and chemistry share a single department, the ratio of faculty to administrative and clerical support positions in that department is 3.17. If U of A were to combine biochemistry and microbiology and achieve that ratio, they could reduce their support staff by about five positions.

- **Eliminating peripheral programs** — Ultimately, eliminating non-essential academic units may be necessary to preserve the quality of academic units that are more central to the university's mission. The American Council on Education found that most of the 406 institutions they surveyed had reviewed their current programs to evaluate each program's contributions to the institution's overall mission. The study also found that 55 percent of the 124 public research/doctoral institutions surveyed have eliminated academic programs in response to budget constraints. For example, Virginia has closed 44 academic programs at its 11 institutions as of June 1995.

  Both NAU and U of A have made some effort toward this end. U of A's provost articulated the need for such efforts when he announced the formation of the Strategic Planning Budget and Advisory Committee, stating that:

  > *"to preserve quality, [U of A] cannot continue to provide the full range of services that it currently offers...It is inevitable that, as a result of this effort, we will eliminate some of our 133 undergraduate degree programs, a number far in excess of the number offered at the U of A's peer institutions. I am convinced that we have no poor programs at the U of A. Consequently, proposals for program elimination will be met with the question, 'Why cut a good program?' Why, indeed. The answer is that we are committed to excellence. If we are afraid to make tough decisions, thereby saving all the 'good' programs, we ensure a level of mediocrity for all."*

  NAU's former president presented a similar explanation when he announced his plan to "right size" the university by eliminating certain programs. Finding IV (see pages 39 through 44) provides further information regarding the recommendations and current status of SPBAC, and some of the reasons the right sizing plan was never implemented.

Universities Should Use Performance Indicators to Identify Areas for Improvement

Universities should use performance indicators in making decisions about where efficiencies can be achieved. Research in higher education and our data analysis suggest that performance indicators are useful tools for evaluating academic units and allocating resources. In *The Redesign of Governance in Higher Education,* a publication from the Rand Institute on Education and Training, the authors assert that for universities to strategically deploy resources, they need evaluation criteria and information that permits comparison between academic units competing for resources. In *Developing Statewide Performance Indicators For Higher Education: Policy Themes and Variations,* author Peter T. Ewell found 18 states that have higher education performance indicators in place. Performance indicators used in other states include total credits taught, graduation rates, total degrees awarded, ratios of students to faculty, and program costs. Arizona's universities routinely report graduation rates to the Board of Regents, and, at the Board's request, recently established university-wide performance measures in several key areas related to success of the university missions. Similar performance measures related to administration could enhance efforts by the Legislature, the Board, and the universities to improve efficiency.

As part of our data analysis effort, we collected performance indicator data at the department level. These indicators included student credit hours taught, enrollments, number of graduates, number of degrees granted, and the number and expenditures of sponsored research projects. When these data are combined with information about the number of employees, salaries, and other costs, they provide a measure of department efficiency. Some of these measures are shown in Table 3 (see page 36) where the numbers shown in red indicate a decline in efficiency university-wide over the period studied.

Ratios and other efficiency measures like those shown in Table 3, when computed for individual departments, can suggest a starting point for qualitative assessment of specific areas within the universities. In making resource allocation decisions regarding academic units, the universities typically rely on qualitative indicators such as an evaluation of the quality of programs offered, their centrality to the universities' mission, and whether continued support of an inefficient unit is appropriate because the unit is unique to the State or offers some comparative advantage for the university. Adding performance indicators and cost efficiency information to these qualitative factors would strengthen the decision-making process and could serve to give the results more impact.

Table 3

Change in Academic Efficiency Ratios

Ratio[a]	ASU 10/89 10/93	ASU % Change	U of A 10/89 10/93	U of A % Change		NAU 10/90 10/93	NAU[b] % Change
Student Credit Hours per FTE	70.630 69.761	-1.23%	50.790 48.719	-4.08%		94.971 100.722	+6.11%
Salary per Student Credit Hour	$349.40 $398.98	+14.19%	$484.93 $605.30	+24.82%		$292.35 $292.99	+.002%
Enrollment per FTE	6.559 6.405	-2.35%	4.378 4.156	-5.08%		8.162 8.906	+9.12%
Salary per Enrolled Student	$3,762.43 $4,345.45	+15.50%	$5,625.51 $7,096.20	+26.14%		$3,401.75 $3,315.12	-2.55%
Degrees per FTE	1.182 1.263	+6.83%	0.698 0.802	+14.96%		1.405 1.844	+31.23%
Salary per Degree	$20,877.24 $22,041.85	+5.58%	$35,292.69 $36,759.01	+4.15%		$19,759.43 $16,011.43	-18.97%

Table Key: Figures in *Black* represent an *increase* in efficiency.
Figures in *Red* represent a *decrease* in efficiency.

(a) FTE and salary figures used in these ratios include employees in both academic and non-instructional units.

(b) NAU data cannot be compared to ASU or U of A data. NAU provided data for October 1990 instead of 1989 because 1989 personnel data were unavailable.

Source: Personnel data included all main campus employees as of October 1989 (ASU and U of A) or October 1990 (NAU), and October 1993 (all 3 universities). Data for undergraduate student workers, U of A College of Medicine employees, and NAU hourly workers are excluded from this analysis. Student credit hours information provided by Arizona Board of Regents.

RECOMMENDATIONS

1. The universities should track or monitor on an annual basis any shifts in staffing between faculty and non-faculty positions in instructional units to determine potential impacts on the teaching mission.

2. The universities should develop and present to the Legislature and the Board of Regents comprehensive plans to review the efficiency of administrative and support functions within instructional units. These reviews should address, at a minimum:

   - The extent to which administrative or support activities are duplicated,
   - The potential for combining units, and
   - The feasibility of eliminating peripheral programs.

3. The universities should develop and monitor performance benchmarks such as:

   - Student credit hours per FTE
   - Salary per student credit hour
   - Enrollment per FTE
   - Salary per enrolled student
   - Degrees per FTE, and
   - Salaries per degree.

FINDING IV

BOARD OF REGENTS AND LEGISLATIVE INVOLVEMENT ARE NEEDED

Action by the Board of Regents and the Legislature will be needed to fully realize the potential for improving administrative efficiency. In recent years, all three universities have initiated a number of noteworthy efforts aimed at cutting costs. Results of these efforts, however, have been modest because university culture imposes significant barriers to change. Experiences of colleges and universities in other states suggest that external forces and events are often required to overcome these barriers. Therefore, the Regents should consider the use of benchmarking strategies to encourage and reward improvements in administrative efficiency. The Legislature, in enacting the Budget Reform Act, has already established a framework for promoting increased efficiency in all state agencies, and could use this framework to effect changes at the universities.

Significant Barriers Frustrate University Efforts

Barriers unique to university culture often stall efforts to improve administrative efficiency. All three universities have initiated a number of noteworthy and promising efforts to reduce administrative costs. However, these efforts, at least over the past three years, do not appear to have stemmed the overall growth in university staffing levels. University governance practices, preoccupation with institutional status and prestige, and other factors make it difficult to implement significant changes.

University efforts — During the past few years, all three universities have undertaken important initiatives aimed at improving efficiency and reducing costs. These initiatives have included evaluations of selected administrative areas, total quality management programs addressing a variety of administrative processes, examination of academic programs, and budget reviews. The universities have engaged internal administrative resources, faculty, and outside consultants to assist in these efforts. Some of the more notable initiatives include the following:

- ASU established a Total Quality Service (TQS) program in 1993 to apply total quality management analytic principles to administrative processes. As of May 1995, 30 teams had been formed, and 21 had recommended or implemented improvements to their processes. These improvements, in Human Resources, the Lock Shop, Public Safety (parking registration), Travel, and Computer Services, among other departments, have included improving employee training, redesigning forms, clarifying signs posted

in offices that serve walk-in customers, and eliminating duplicative processes. Improving customer satisfaction is the most common goal of the TQS teams.

- NAU began a team-based process improvement project in October 1992. The project Quality in Learning and Leadership (QUILL), is designed as a grassroots approach where departments volunteered to participate. Although implementation was deliberately slow, 11 teams had been trained by the end of October 1995, and were pursuing improvements in Postal Services, Facilities Management, Library Cataloging, the Registrar's Office, and Telecommunications, among others. One of the most recently trained teams, Statewide Programs, has as its goal improving communication between NAU and sites around the State. One Postal Services team is composed of student workers, who earn course credits while they learn skills they will carry into their professional lives.

- U of A began its total quality management program, called Continuous Organizational Renewal (CORe), in 1992. By June 1995, over 100 projects had been initiated in both academic and non-academic units through CORe, which received an exemplary leadership award from the American Association of University Administrators. One goal of the CORe program is to coordinate across the institution, and one aspect of the university-wide work has been an effort to improve human resources areas including performance evaluations, training, and a suggestion program, with the intent of more effectively motivating and developing all university employees. Other specific projects have worked to improve effectiveness and efficiency of student-related administrative processes such as outreach, recruiting, admitting, providing financial aid, and career planning and placement.

While these efforts have all been important and noteworthy, their scope has, in some cases, been very limited, and their overall impact on staffing levels is questionable. For example, the total quality management programs on all three campuses have often focused on smaller, more minor administrative functions, such as mail sorting and travel claim processing. Projects with limited scope, by their nature, do not have a broad impact until many such projects have been completed. By contrast, initiatives focusing on academic programs have resulted in significant recommendations calling for major restructuring, program reductions, and program elimination. However, few of these recommendations have been implemented. For example, a "right sizing" program at NAU called for the elimination of 20 academic programs deemed peripheral to the University's mission, saving $3.5 million in administrative and other costs. The plan met considerable faculty resistance and was never implemented. Likewise, a Strategic Planning Budget and Advisory Committee (SPBAC) at U of A has resulted in few program reductions, although SPBAC initially recommended eliminating or consolidating 12 programs and departments out of 29 they reviewed. Currently, only the physical education program and statistics department have been eliminated, and the nuclear and energy engineering department has been combined with aerospace and mechanical engineering.

Cultural barriers — Perhaps largely due to the cultural barriers that are unique to higher education, universities do not make changes quickly or easily. A recent study by 3 Vanderbilt University professors found that it took almost 26 years for half of the 200 institutions they studied to adopt 30 different innovations after the innovations were adopted by the first institution. By contrast, it took an average of 8 years for companies in the coal, steel, brewing, and railroad businesses to adopt 12 important innovations in their industries. According to the researchers, none of these industries had been well noted for embracing innovation. Speculating on the reasons why universities are so slow to change, the researchers argue that colleges and universities are "insulated from competitive pressures that would force them to stay on the cutting edge." They have no stockholders, and university governing boards lack measures to assess performance. And trustees (regents), who balance sometimes vague and conflicting goals, seldom establish incentives for universities to pursue innovation aggressively.[1]

Other factors within the university environment acting as barriers and slowing the pace of change include consensus management, and prestige building (or tradition).

Consensus management — Because many university decisions require the approval of numerous constituencies, i.e. the acquiescence of faculty, staff, students, and others, higher education experts argue that it is difficult to achieve agreement to make significant changes. A report prepared by ASU as part of a 1992-93 accreditation study notes that structural changes in academic programs require: (1) obtaining review and approval by the appropriate dean, (2) informing faculty senate members at large, (3) obtaining a recommendation from a faculty senate committee and the Board of Regents chief academic officer, (4) gaining the approval of the university president, and (5) getting the approval of the Board of Regents. According to a University of Arizona vice president, the traditional consensus management style of decision making "breeds mediocrity" and makes tough decisions hard to make. A former NAU official told us the right sizing reorganization plan at NAU failed because it was not possible to gain a consensus among faculty, administrators, and the Board of Regents.

Prestige building — Likewise, according to higher education experts, the tendency of universities to set institutional objectives and priorities based on factors such as university prestige or tradition, rather than need, also inhibits efforts to streamline administration and implement significant change. For example, some academic programs may receive substantial funding while graduating very few students. While some of these programs may provide an important public service, others are apparently continued because they contribute to the institution's prestige and status. Similarly, competition between and among institutions over status and funding makes it difficult to direct limited resources toward programs and activities of greatest need.

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[1] John J. Siegried, Malcolm Getz, and Kathryn H. Anderson, "The Snail's Pace of Innovation in Higher Education," The Chronicle of Higher Education, May 19, 1995, page A56.

Board of Regents and Legislative Involvement Are Needed

The Board of Regents and the Legislature can play an effective role in helping the universities overcome barriers to change. Experiences at other universities indicate that external events and pressures were instrumental in stimulating successful implementation of major administrative restructuring. Several strategies for encouraging and rewarding effective university efforts to restructure and reduce administrative costs need to be explored.

- *Other universities* — In examining the experiences at other universities where significant steps have been taken to reduce administrative costs and streamline operations (see Finding I, pages 7 through 14), we noted that, in several cases, changes were stimulated by external events that created strong fiscal pressures on the universities. For example, Oregon State University had to take steps to organizationally restructure when a property tax initiative passed and revenues declined. Similarly, Virginia Tech University was forced to make organizational changes when it faced a $40 million loss in general fund revenues beginning in 1989.

- *Regent and legislative actions* — For significant change to occur at Arizona's universities, the Board of Regents and the Legislature will need to play a strong role in stimulating action. Experts in higher education whom we consulted, literature in the field, and experiences in other states suggest that a variety of promising strategies could be considered.

The Board of Regents could initiate steps to benchmark administrative efficiency modeled after similar efforts to benchmark student outcomes and student achievement. In 1994, the universities were requested by the Regents to establish performance measures in several areas. These areas included time to graduation, credit hours accumulated to graduation, graduation rates, faculty mentoring, and faculty involvement in undergraduate teaching. Each university has developed measures appropriate to these areas and will track changes in performance over time.

Goals and performance measures could also be developed focusing on university administration. As discussed in Finding III, (see pages 26 through 37) our work suggests that relevant descriptive data and various ratios could be developed and monitored over time. Using the EEO codes and payroll data, for example, ratios that compare position types to student credit hours, enrollment levels, numbers of graduates, and other factors could be generated for academic units and colleges. Other measures, such as numbers of administrative and support personnel compared to workload, could be generated for non-academic functions and activities. Consistent tracking and reporting of these types of measures would help in discerning trends, assessing the impact of university efforts, and allocating any rewards. Without measures of this type it will be difficult, if not impossible, to determine if the universities are making sufficient progress in realizing their individual potential for improved administrative efficiency.

The Legislature can also take steps to encourage responsible and effective university efforts to examine administrative efficiency. Some states have developed legislative initiatives that offer incentives to reduce administrative costs and improve efficiency in their state colleges and universities. For example:

- Virginia's General Assembly enacted legislation in 1994 requiring all 15 colleges and universities to develop a restructuring plan that will increase efficiency while maintaining quality of services to students. Initially, the General Assembly intended to retain 1.5 percent of each institution's budget until a satisfactory restructuring plan was submitted. However, the General Assembly has since decided to exempt the colleges and universities from across-the-board budget cuts if they submit a satisfactory restructuring plan. In addition, institutions will be allowed to retain savings realized through restructuring and reallocate these monies to high priority areas. According to an official of the State Council of Higher Education for Virginia, all but six institutions submitted plans on schedule and many institutions are exceeding the cuts detailed in their restructuring plans. Once plans are fully implemented, $93.3 million in savings is expected, representing 6 percent of all university funding.

- Colorado's General Assembly, facing budget limitations and public demand, made some university appropriations contingent upon progress achieved in several areas, including administrative productivity. In fiscal year 1994-95, universities will be rewarded for reducing administration or demonstrating low administrative overhead costs, personnel efficiency, and reduced administrative paperwork. Early indications suggest that this budgeting strategy has been effective in improving awareness among elected representatives and university administrators about the importance of reducing administrative costs and improving efficiency.

Other budget strategies could also be considered by the Legislature, the Joint Legislative Budget Committee (JLBC), and the Office of Strategic Planning and Budgeting (OSPB) as part of Arizona's budget reform effort. The Budget Reform Act of 1993 and related amendments enacted in 1995 place a new emphasis in budget development on strategic planning and performance measurement. Under budget reform, all budget units, which include the universities, are required to develop three-year strategic plans that specify missions, goals, objectives, and performance measures for each program and subprogram. Strategic plans will be used to conduct a limited number of program authorization reviews (PARs). PARs will entail a self-assessment of individual programs for possible modification or elimination and an independent review by JLBC and OSPB. Further, beginning in fiscal year 1998, agency budget requests must separate administrative costs from direct costs of providing services.

Several steps could be taken within the framework of budget reform to promote efficiency and reduce university administrative costs. First, the universities could be encouraged or required to develop within their strategic plans efficiency measures related to administrative overhead. As an example, academic colleges might include the cost of all administrative and support positions per number of students enrolled (an input measure) or number of degrees

awarded (an outcome measure). While strategic plans submitted in 1995 include similar performance measures, they do not currently tie these measures to administrative costs.

In addition, the Legislature may want to ensure that university programs with potential for significant cost savings are scheduled for program authorization reviews. The legislative amendments enacted in 1995 specify 10 programs subject to PAR in 1996 and 15 programs in 1997, selected from all state-funded programs, including those at the universities. However, only two university programs (the law schools at ASU and U of A) are among the 25 programs selected for review. The 50 additional programs that will be subsequently reviewed in 1998 and 1999 have not been specified. Therefore, the Legislature could decide to select more university programs for PAR during those years.

Finally, beginning in 1998 under budget reform, the Legislature may want to require the universities to report administrative cost data in a format compatible with the data we present in this report. This would appear to be feasible since our broader definition of administration conforms closely to the statutory definition. The Budget Reform Act defines administrative as:

> *"... any supportive activity relating to management, supervision, budget or execution of the affairs of the budget unit as distinguished from activities relating to its primary direct service functions..."*

If compatible data is collected beginning in 1998, it could be compared to our baseline data to determine what progress the universities have made in achieving greater administrative efficiency.

RECOMMENDATIONS

1. The Legislature should consider focusing budget reform efforts on university programs, by requesting Program Authorization Review (PAR), and JLCB staff analysis of administrative cost data.

2. The Board of Regents should consider establishing a program to benchmark administrative efficiency and performance at the universities.

Agency Response

ARIZONA BOARD OF REGENTS
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December 5, 1995

Douglas R. Norton, Auditor General
Office of the Auditor General
2910 North 44th Street, Suite 410
Phoenix, Arizona 85018

Dear Mr. Norton:

On behalf of the Arizona Board of Regents, Arizona State University, Northern Arizona University, and the University of Arizona I am forwarding responses to your report on ***The Universities: Administration and Support***. We appreciate the opportunities you and your staff have provided for us to discuss preliminary drafts of this report. We accept your offer to include these responses in the text of the published report.

Sincerely,

Frank H. Besnette
Executive Director
Arizona Board of Regents

Lattie F. Coor
President
Arizona State University

Manuel Pacheco
President
The University of Arizona

Clara M. Lovett
President
Northern Arizona University

Universities' General Response to Auditor General's Performance Audit of the Universities: Administration and Support

Responding to legislative mandate, the Arizona Auditor General has completed a review of the administrative and support staffing levels of the three state universities in Arizona. The study was the second in-depth look at administrative costs of the universities during the last two years. Another comparative analysis of university administrative costs was conducted by the Higher Education Research Advisory Board (HERAB) of the Joint Legislative Budget Committee and published in 1994.

A key finding of the Auditor General's report is that administrative and support staffing consumes more than half of all personnel resources at the universities. The report used non-standard classifications and unorthodox research methods to place employees into one of four categories: high-level administrators, low-level administrators, support personnel (including secretaries, file clerks, custodians, etc.) and direct service employees.

The Auditor General's findings are in conflict with those of the legislatively sanctioned HERAB report, which found that administrative positions constitute from 15 to 21 percent of the universities' human resources, that the universities were focusing more of their scarce resources on non-administrative functions, and that actual expenditures on administration have declined. The HERAB report used research methods and classifications that are standardized, and employed national statistical sources that compare colleges and universities on the basis of peer institutions.

In weighing the two conflicting studies, the Arizona Board of Regents and the Arizona Universities are concerned about the value of the Auditor General's findings. Because of the non-standard classifications and proprietary methods employed, the findings lack value as benchmarks for the Board and the universities to use in comparing administrative costs to other institutions of higher education. **The Auditor General's findings will be of limited utility in measuring growth or shrinkage of administrative costs in the future.**

The HERAB findings, in contrast, provide the Legislature and the leadership of Arizona's public university system the means to measure and track administrative costs in a standardized, comparable manner. The study relied on data generated by the National Center for Education Studies and the Integrated Post-secondary Education Data System; these data currently are used by Arizona's Universities to compare cost structure, efficiency and administrative effectiveness against colleges and universities of similar size and mission. It is this type of data, generated by organizations that are knowledgeable about the inner workings of modern institutions of higher learning, that will continue to be valuable in analyzing administrative costs and developing budget recommendations.

The Auditor General's report observes that **direct service employees** -- those whose activities the Auditor General deems to contribute directly to the primary institutional missions of

instruction, research and public service -- **constitute the largest single category at more than 38 percent.**

The Auditor General's report also observed that high-level administrators across the three universities represent the smallest category -- about 7 percent -- and that the number of those high-level administrative positions is declining. Low-level administrators (17 percent) and support personnel (36 percent) represent the remaining employee body.

When the last three categories are combined -- high-level administrative, low-level administrative and support personnel -- the total equals about 62 percent, and is the basis for the Auditor General's conclusion that "more than half of all personnel resources" are engaged in either administrative or support activities.

Perhaps the more troubling observation of the Auditor General's performance audit is that by inference, "less than 40 percent of the personnel at Arizona's universities are principally involved in direct service," that is, carrying out the primary missions of instruction, research or community service. This observation is assumed to be based on employee responses to a telephone questionnaire, responses which the Auditor General's office has declined to provide to the universities.

The resulting conclusions tend to distort and understate the contribution and value provided by a large segment of University employees, located in academic and non-academic units as well as in administrative positions. Examples of positions which, contrary to the Auditor General's report, contribute directly to the success of instruction, research and community service include financial aid officers, computing assistants and faculty department heads.

While the Auditor General's review is intended to focus on ways to improve the efficiency and effectiveness of Arizona's public universities, it unreasonably reaches conclusions about the value and contributions made by large segments of the university employee body. It reaches those conclusions using methods or job function classifications that no other audit team or administrative review group ever have used, and is based on data that are unavailable to the universities.

Specifically, the Board of Regents and the Universities share the following concerns about the report:

1. The report understates the number of employees who directly contribute to the primary missions of the universities because it arbitrarily classifies all employees who maintain and support large residential campus resources as "administrative overhead." In fact, providing a clean, safe and healthy campus setting contributes directly to the university goals of persistence and providing an academic-friendly environment.

2. The audit utilizes methodology and classifications that are non-standard, proprietary to the Auditor General's office and cannot be replicated or adopted for future tracking and measurement. Recent studies of university overhead using standard classifications/ methods show administrative and support levels to be comparable to those of other institutions of similar size, scope and mission.

3. Maintenance of the large physical plants at university campuses is comparable to operating small communities. Campus operations functions are most effectively performed by personnel other than professional faculty and researchers, who are higher-cost employees and who should not be occupied with buildings, grounds, campus security tasks, etc. The Auditor General's report fails to recognize the logic and value of having support staff operate these large, complex physical facilities, and the importance of maintaining prime state physical assets.

4. The universities have a solid record of, and on-going commitment to, improving the efficiency and effectiveness of their institutions. The Auditor General's report underestimates or ignores the progress of the Universities toward benchmarked, performance-based management, including the Total Quality Systems initiative at Arizona State University, the Continuous Organizational Renewal program at the University of Arizona, and the QuILL Total Quality Initiative at Northern Arizona University. **A more thorough review indicates that the Universities already have accomplished many of the recommendations contained in the audit.** Each university provides more detailed information about these initiatives in their responses.

The Board of Regents and the Universities appreciate the positive findings of the Auditor General's Review:

1. **The single, largest category of University employees is involved directly in teaching, conducting research and providing service to the community.** The Auditor General's findings reinforce the commitment of resources made to accomplish the primary purpose and goals of NAU, ASU and U of A.

2. **Top-level administration is lean, and becoming leaner.** The report finds that size of top-level administration and low-level administration are adequate and in-line with findings from other studies and other institutions.

3. **When all personnel classified as traditional administrative staff are combined, the Universities dedicate about 25 percent of their human resources to administration.** That percentage is in line with findings by the Legislature in the HERAB study and compare favorably to other universities of similar size and mission.

Specific Recommendations for the Board of Regents

The Auditor General's report contained specific recommendations for the Board of Regents, in addition to recommendations for the universities. The Board has not yet reviewed the specific recommendations. The following are preliminary observations on those recommendations by Board staff. The recommendations are:

1. *The board should revise its personnel classification system to enable more accurate tracking of administrative and support personnel, and work with peer institutions to develop comparative data on administrative and support staffing patterns.*

Response:

Personnel classification is an important way to measure and track administrative costs and efficiencies. However, creating additional methods or systems at this time may not be necessary, and would be duplicative of the budget and payroll classification systems that now exist at the universities and which utilize Equal Employment Opportunity codes. Any job classification system must produce data that is comparable across the industry; those data generally are available from existing resources.

2. *The board should develop a plan and timetable for reviewing multi-university functions for possible centralization.*

Response:

The issue of centralizing multi-university functions merits continuous review. Currently, the three universities share furniture purchasing efficiencies and a computerized library circulation system. Additional opportunities will be reviewed as part of the Board's strategic planning process and review of goals and objectives.

3. *The board should benchmark administrative efficiency and performance at the universities.*

Response:

The benchmarking and measurement of administrative efficiency is a large part of the Board's current focus. The Board agrees that benchmarking is important to effective management, but submits that benchmarking should include every aspect of university operations, not just administration and support staffing patterns. To that end, progress toward administrative and operational benchmarks are scrutinized as part of the annual review of university goals and objectives. Specific measurements have been included in the university strategic plans during the last five years, and will continue to be discussed at the Board level at least twice a year.

Conclusions

The Auditor General's findings that more than half of the Universities' human resources are not focused directly on carrying out the primary missions is based on non-standard data and unorthodox research methods that provide little opportunity for replication or application to the on-going operation of the institutions. The study cannot be used to develop benchmarks or to measure changes in administrative costs.

The study's findings are in conflict with those of another recent, legislatively sanctioned study, which found that the universities have focused more resources on non-administrative functions, and that administrative costs have declined. Data generated by organizations that understand the inner workings of today's universities can help in analyzing administrative costs and budgets.

The classification of positions as "support staff" by the Auditor General is largely subjective. As the classification was applied to the universities, it defines jobs as not having direct linkage to the primary missions of the universities. On the contrary, many of the jobs that the Auditor General placed in this large classification contribute directly to the success of classroom instruction, research projects and community service.

Many of the employees in this "catch-all" category should be recognized for their contributions to the primary mission of the universities. Of that group, many are integral to the success of instructional, research or community service activities, including financial aid officers, computing assistants and all department heads. Many academic department heads have direct, daily interaction with instructional and research activities.

The Auditor General's recommendations for streamlining administrative processes, reducing overhead and finding ways to shift more resources toward serving students, research and community service fail to acknowledge recent progress made by all three Universities.

Capturing a view of administrative overhead and establishing measurements and targets for shrinking overhead is valuable. The intent of the Auditor General's review, along with that of the JLBC, will continue to be pursued by all three Universities and the Board of Regents.

Detailed responses by each University follow. They echo and amplify what is contained in the general response above. They provide specific examples of findings that are both problematic and cannot be replicated or applied.

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Response to Auditor General's Report

The Arizona State University is pleased to present our response to the Auditor General's report on university administration and support. Recognizing the challenging task of conducting a performance audit of institutions as complex as Arizona's universities, we appreciate the opportunity to respond to the study's findings.

In general, we concur with the spirit of the recommendations included in the report. We believe it is essential that we demonstrate through planning and performance measurement that the state of Arizona is well served by sound, efficient management of its investment in higher education. ASU is committed to enhancing the efficiency of university operations using performance measures and benchmarking processes which enable the Board of Regents, legislature and the general citizenry to compare our productivity with other universities across the country.

Regrettably, however, the report has several serious shortcomings which undermine its usefulness in this regard. First, the methodology cannot be replicated or used in subsequent comparative studies, and the data sets from Arizona's universities are not comparable. Second, the overly broad definition of administration and support does not accurately portray the role of a large number of direct service employees at the universities. Third, the report presents descriptions of planned actions at other universities without discussing their comparability. More importantly, the report does not recognize the significant economy and efficiency achievements of Arizona's universities. The result is that the report produces findings which conflict with earlier studies of university administration and preclude its use for comparative purposes. The following issues illustrate these points.

FINDING I

•*Utilizing a non-standard definition of administration and support staffing, the report concludes that this group of employees comprises more than one-half of all university personnel.*

While the study found that the largest single category of employees were direct service employees, it failed to include large numbers of employees in this category who are directly involved in the teaching, research, and public service functions of the university. For example, department chairs, adjunct faculty, graduate associates/assistants, academic advisors, financial aid officers, admissions and registration staff, and computing staff are clearly direct service providers that the report did not include in the direct service category of employees. Had the report done so, a significantly different and more accurate representation of university staffing would have resulted.

In contrast, the Higher Education Research Advisory Board study directed by Joint Legislative Budget Committee staff, "Administrative Costs Study of Arizona's Public Universities and Community College Districts," used 1989, 1991, and 1993 data to compare the Arizona universities to their peers. That study found the following:

- ***ASU's administrative costs per student were 13 percent less than our institutional peers' average in FY 1993.***
- ***Total administrative FTE personnel at ASU were 17.3 percent of total university FTE employees.***
- ***Total administrative costs at ASU were 18.2 percent of the FY 1993 state operating budget and 20.6 percent of the All Funds budget.***

The methodology utilized in the Auditor General's report is not replicable, and the use of a non-standard definition precludes any opportunity to utilize the findings from the study in comparing Arizona universities with other universities across the country.

•The report states that Arizona universities do not maintain the information they need to monitor their administrative staffing patterns and trends and that using EEO codes for employee classifications results in "misleading" data and understates the "true" number of administrators.

The federal Equal Employment Opportunity Commission mandates the maintenance and reporting of employees by EEO category. In addition, the use of EEO codes is a widely accepted method of employee classification for both public and private organizations.

In accordance with Arizona Board of Regents' policy, the ASU payroll and budget systems maintain information on five employee categories--faculty, classified, academic professional, service professional, and administrative staff--with which we monitor employee staffing patterns and trends. The university's job code set is structured to allow easy summary statistics for various employee groups such as graduate assistants or administrative staff.

The report's grouping of administration and support employees ignores their varying degrees of direct involvement and diminishes the essential role they play in carrying out the university's mission. For example, academic advisors have a more direct involvement than do groundskeepers; however, they would be similarly classified under the report's schema. Moreover, the elimination of groundskeeper and custodial positions would result in the deterioration of state capital

resources. Additionally, such a broad grouping results in no opportunity for benchmarking with other universities or making best practice comparisons.

•*The report presents analyses and recommendations based on admittedly inconsistent and non-comparable data for the three Arizona universities.*

The information presented in the tables in the report are dramatically skewed by the non-comparability of the data sets used. For example, as shown below, when ASU's data in Table 3 are adjusted to reflect 1990 data excluding hourly employees, the <u>productivity ratios</u> for SCH per FTE and Enrollment per FTE <u>change from negative to positive, reflecting an increase in productivity</u> rather than the reported decline, and the <u>cost ratios change from positive to negative, reflecting an increase in efficiency</u> rather than the reported decrease. All three universities' data should have been adjusted to be comparable.

Table 3 Change in Academic Efficiency Ratios
(With adjustments for Corrections to Errors in 1993 data, use of 1990 data, and Excluding Hourly Employees)

Ratio	ASU 10/90 to 10/93	ASU Percentage Change
SCH per FTE	*69.172* *73.690*	*+6.53%*
Salary per SCH	*$415.57* *$398.91*	*-4.01%*
Enrollment per FTE	*6.410* *6.820*	*+6.40%*
Salary per Enrolled Student	*$4,484.83* *$4,310.05*	*-3.90%*
Degrees per FTE	*1.258* *1.334*	*+6.04%*
Salary per Degree	*$22,852.92* *$22,041.85*	*-3.56%*

•*Without conducting any comparisons between the institutions, the report says that Arizona's universities can dramatically improve efficiencies based on the planned improvements of other universities.*

ASU welcomes comparisons with Stanford and Northwestern--two of the richest and most selective private universities in the nation. ***The all funds budget at Stanford for 14,000 students in 1992-93 totaled $1.574 billion--nearly 3.6 times greater than***

ASU's budget of $441.4 million which supported 42,000 students. Thus, a comparison of ASU to Stanford along the dimensions suggested by the report reveals that ASU is far more ***efficient*** *and* ***productive*** in terms of the number of students we serve and in minimizing the percentage of and absolute dollars expended on administrative support activities.

The following *U.S. News & World Report* data for 1994-95 compare Arizona universities with those institutions mentioned by the auditors as examples of the savings which may be realized by reducing administrative costs. *U.S. News* calculates a standard measure of "Educational Expenditures per FTE Student," which includes amounts spent on instruction, administration, student services, and academic support (including libraries and computers), using standard IPEDS categories.

University	Educational Expenditures per FTES	Classification
Stanford	$36,450	Research I
Northwestern	28,052	Research I
Oregon State	9,951	Research I
Virginia Tech	9,409	Research I
UA	***9,970***	***Research I***
ASU	***7,571***	***Research I***

The report cites Oregon State and Virginia Tech as already having significantly reduced their costs, and ***yet they still spend 31 percent and 24 percent more respectively, than does ASU.*** Clearly, using the auditors' own examples, ASU is already very efficient in terms of the amount of money spent per FTE student.

FINDING II

•*The report says that no systematic examination of support areas such as student affairs currently exist at the universities.*

At ASU, student affairs annually conducts two comprehensive program reviews of its departments, scrutinizing professional and accreditation standards, budgets, staffing patterns, and performance outcomes--all measured against national norms. In addition, the budgets and staffing of all three universities student affairs operations were reviewed in August 1995 by the Arizona Board of Regents. ASU's funding for student affairs as a percentage of the total university budget has remained flat over the past decade.

•*The report recommends consolidation of various activities in order to enhance efficiency.*

There is no evidence to support the contention that a central admissions office would operate more efficiently than three distributed offices. Each university currently processes sufficiently large numbers of applications that economies of scale are already achieved. In addition, we believe that a campus based admissions office is much better able to respond directly to questions and is more customer oriented.

When contacted with regard to the Minnesota task force recommendations mentioned in the auditors' report, the Minnesota Chancellor's Office responded that they had no plans to consolidate university student affairs offices. Consolidation efforts in Minnesota focused almost exclusively on the community college and technical college systems. Students apply directly to the campus at which they seek admission. Moreover, the Minnesota official was surprised that ASU was calling him regarding efficiency practices. ***The previous year he had visited a few universities--one of which was ASU--that were viewed nationwide as models of "best practice" in student affairs.***

FINDING III

•*The report suggests that receipt of external funding from research and development distracts the university from its primary mission.*

Teaching, research, and public service are the activities which make up the university's mission. External funds enable the university to dramatically enhance the scope and quality of each of these activities. Without such support, the opportunities for students to receive a truly first rate education would be seriously impaired due to the lack of resources and concomitant loss of knowledge. Recently, the university has received a number of grants, totaling several million dollars, specifically to enhance undergraduate instructional programs. In addition, ***the infusion of millions of dollars into the state and local economy directly results from the external funding the university receives.***

•*The report says that the universities should improve efficiency in academic units through consolidation and elimination of programs.*

The ASU has eliminated several programs including among others, Textiles and Clothing, TV Production, Microelectronics MFG Engineering, Systems Engineering, and Nuclear Engineering. For the last three years, ASU imposed a moratorium on the creation of new programs despite the fact that the university has a rather lean inventory of programs vis-à-vis peer universities. In addition, we notified the Board of Regents in September 1995, that we plan to request deletion of six additional programs and

that ASUMC will transfer eight degree programs to ASU East, effective in the Fall 1996 semester.

The report discusses the number of deans, department chairs and others involved in academic administration, suggesting that teaching and administration are mutually exclusive activities; they are not. ***Of the 123 FTEs in Executive positions in fall 1993, 91.6 FTEs (or 74 percent) also taught one or more classes.***

FINDING IV

•*The report says that the universities have had limited success in reducing costs and improving efficiencies.*

From 1990-91 through 1992-93, ASUMC ***implemented budget cuts and forced reallocations totaling over $18 million*** in its state operating budget alone.

Fiscal Year	Amount
1990-91	$3,496,000
1991-92	6,403,000
1992-93	8,416,000
Total Expenditure Authority Reduction	$18,315,000

In 1994-95, ***eleven different ASU TQS teams were selected as winners of the Governor's Spirit of Excellence and Governor's Recognition Awards which encourage state employees to find new and creative ways to provide service to the state of Arizona.***

Winners of the Governor's Award for Excellence included the

School of Accountancy New Undergraduate Curriculum Team (College of Business); and,

First Interstate Center for Services Market Symposium Solid Gold Team (College of Business).

Winners of the Governor's Recognition Award included:

Demand Side Management Team (Facilities Management);
Workers' Compensation Monitoring Program (Facilities Management);
Fleet Services (Facilities Management);
Data Warehouse (Institutional Analysis, Information Technology and Comptroller's Office);
Multidisciplinary Initiative (College of Extended Education, Architecture and Public Programs);
Decal Sales TQS Team (Parking Services);
Laboratory Products Group (Purchasing Department);
Office Machine Rental and Repair (Purchasing Department); and,
Office of Research and Creative Activities (Research).

•*The report says that the Board of Regents should initiate steps*

to benchmark administrative efficiency using descriptive data and various ratios.

The University wholeheartedly embraces the concept of performance measurement as an essential accountability mechanism and effective management tool. That is why the University has developed and utilizes ***twenty-four performance measures*** related to our strategic plan. The critical point is that choice of performance measures should be based on both assessment of strategic directions and the utility of the measure as a benchmark for comparisons with other universities nationwide. The auditors' measures do not meet either test.

The "academic efficiency ratios" identified in Table 3 are at best loosely associated with our teaching mission and completely ignore our public service and research missions. Moreover, the ratios could not be used to conduct benchmark comparisons with other universities. We concur with the auditors admonition that readers not use the data to make comparisons between the three Arizona universities.

NORTHERN ARIZONA UNIVERSITY

Report -- Universities: Administration and Support

We have reviewed carefully the above-mentioned draft report dated November 24, 1995. NAU has expressed to the Auditor General and his staff some specific concerns about both the data and the related conclusions. However, NAU always welcomes constructive analysis and review of how we spend public funds. We also appreciate the willingness of the Auditor General's staff to work with us in fine-tuning the final version of the report. We share a common goal of getting the maximum use out of the resources we have and recognize that for every dollar of savings we identify, a dollar can be add to advancing the mission of the university. With the wise and appropriate expenditure of all university funds, we affirm our fiscal responsibility to the taxpayers of Arizona.

Single, largest category of university employees directly involved in teaching, conducting research, or providing service to the community

There are several positive findings in the report. For example, the report points out that the single, largest category of university employees is directly involved in teaching, conducting research and providing service to the community. This finding reinforces our commitment of resources to accomplish our primary purpose and goals. In fact, we believe that the figure sited in this report actually *underestimates* the number of employees involved in direct service to the mission by assuming, in part, that instruction takes place only in the classroom. For example, as a residential campus, we have a significant number of professional staff who "instruct" students outside of the traditional classroom setting. These include professional staff and graduate assistants in our learning assistance centers and laboratories, and professional staff in our counseling center, student health center, and residence halls. All of these activities are a critical part of the educational/instructional mission of a residential campus.

Top-level administration is lean, and becoming leaner

Another positive finding of the report is that top-level administration is lean and becoming leaner. NAU's new administration has made a top priority of flattening management layers while increasing both efficiency and quality in the services offered. Compared to other institutions of similar size and type, NAU's administrative structure is very lean -- only three vice presidental positions. Since spring of 1994, one vice presidential position and an assistant vice president position in student affairs have been eliminated, leaving only two "management" layers in Student Affairs. Substantial progress has been made in reducing administrative overhead at all levels, despite significant enrollment growth. For

example, NAU's FTE student population grew from 10,158 students in 1984 to 16,875 in 1994 -- an increase of 66.1%. During the same time period, FTE faculty grew by 57.8%, from 489.5 to 772.6. Conversely, *administrator* FTE (as we define the term) *decreased* by 24.8% from 172.8 to 130 (see Appendix A).

Universities dedicate about 25 percent of their human resources to administration

When combining all personnel classified as traditional administrative staff, the audit report shows that the universities dedicate about 25 percent of their human resources to administration. That percentage is in line with findings by the JLBC in the HERAB study of administrative cost and it compares favorably with other universities of comparable size and mission. The audit report acknowledges that each university has a different mission and that mission will impact the mix of instructional personnel, support staff, and administrators. In addition, the report accurately describes each university as a small community unto itself. Because of the residential nature of our campus, it is natural that certain services are provided. Services include the provision and maintenance of housing, dining halls, health services, counseling, safety, security, etc. All these services support the residential educational experience and are an essential part of NAU's mission.

Finding I: Recommendations

1. *The Board of Regents should revise its personnel classification system for all three universities to enable more accurate identification and tracking of all administrative and support positions.*

   NAU is in the process of reviewing all positions classified as "administrative" for appropriateness of classification. NAU would be willing to participate in a Board-directed review of this recommendation by the human resource directors of the three universities.

2. *The universities should monitor changes in administrative and support staffing patterns on an annual basis. The information contained in this report could serve as a baseline for identifying staffing trends over time.*

   NAU reviews all requests to fill vacant positions as they occur, and there are regular reports available on the number of faculty, staff, and administrative positions. This information could be consolidated into reports that would assist in analyzing trends over time.

3. *The Board of Regents and the universities should work with their peer*

institutions to develop comparative data on administrative and support staffing patterns.

NAU would be willing to participate in a Board-directed review of this recommendation by the human resource directors of the three universities.

4. *The universities should establish goals, based on a percentage of total budget, and a timetable for achieving these goals, aimed at reducing overall administrative and support overhead.*

NAU will continue to analyze staffing levels, setting goals aimed at reducing overall administrative and support overhead when appropriate, and where cost/benefit analysis demonstrates that the overhead is out of balance with direct services expenditures. While we share the Auditor General's, the Legislature's, and the Governor's concern for cost savings and efficiency, we have a responsibility to ensure that our efforts at cost savings and efficiency do not have a negative impact on our effectiveness to carry out our mission.

Finding II: Recommendations

1. *The universities should develop and present to the Legislature and the Board of Regents, comprehensive plans to improve administrative efficiency in non-instructional units. University plans should specify:*
   - *the scope of administrative and support activities to be examined;*
   - *a schedule for examining each activity or unit;*
   - *deadlines for reporting study results; and*
   - *a schedule for implementing recommended actions*

NAU believes that compliance efforts for the Budget Reform Act of 1993 will result in a comprehensive, ongoing planning effort which will examine all activities on campus. Already incorporated in this planning process are specifically-defined goals which will demonstrate and measure progress toward administrative efficiency. There also are specific dates for reviewing and reporting performance measures internally and to the Board of Regents, as well as to the Governor's Office of Strategic Planning and Budgeting, and to the Joint Legislative Budget Committee.

Additionally, NAU's strategic plan includes a goal "to improve efficiency and demonstrate accountability." Objectives to reach that goal include:

> To review current programs, functions, and effort to identify waste and/or redundancy and/or frequency of rework in the system,

To redesign major support systems with the goal of improving service and at the same time reducing costs of operation, and

To review all academic programs, support services, and administrative functions with the goal of establishing long-term priorities for the institution.

2. *In reviewing administrative and support activities, the universities should address, at a minimum:*
   - *the number of management levels or layers;*
   - *spans of supervision;*
   - *processing steps, procedures, and requirements; and*
   - *the extent to which activities are duplicated.*

NAU's top administration is committed to flattening the levels of management within the organization. Since the spring of 1994, major reorganizations within Academic Affairs and Student Affairs have taken place resulting in significant reductions. One vice presidential position and an assistant vice president position in Student Affairs have been eliminated leaving only two "management layers." In addition, three colleges have replaced administrative positions of associate deans, held by faculty, with lower level support positions. This permits the faculty to return to their teaching duties full-time. Also, as stated above, each time a vacancy occurs, the position is reviewed for continuing at the previous job description, salary, etc.

The audit report notes that the colleges have fewer management layers when compared to non-instructional units. It is not surprising that academic units are characterized by larger spans of supervision and fewer management layers because most employees (faculty) are doing much the same thing (teaching). This is contrasted with non-instructional areas where there are large numbers of people doing many different types of things. However, this does not mean that we should not strive to reduce the management layers and broaden spans of supervision in non-instructional units.

With regard to processing steps and procedures, in the summer of 1995 a team of staff examined the processes used to distribute financial aid and how those processes affect students and the registration process. As a result of this examination, many changes were made in the distribution of financial aid including establishing the ability to deposit financial aid checks directly into a student's bank account and mailing checks directly to students. As a result, the number of students who had to stand in line during registration

to pick up their financial aid was significantly reduced, resulting in a more efficient process for students and staff.

At present we are in the process of implementing a new computerized human resource information system. As part of the implementation, we are taking a close look at how we perform all aspects of hiring and other activities related to maintaining information on our employees. We anticipate that our human resource processes will be streamlined and simplified greatly when the new system is in place. We will be undertaking a similar review and evaluation as we work with a vendor and a small consortium of colleges and universities to design and implement a new student information system. Again, we anticipate seeing a streamlined process for students as they move through the university.

3. *To help assess the efficiency of non-instructional functions on an ongoing basis, the universities should develop and annually monitor performance benchmarks.*

We will be implementing this recommendation in our compliance with the Budget Reform Act of 1993 which will produce extensive information on various performance measurements. NAU's TQM (or QuILL) efforts are providing additional assessments of efficiency.

4. *The Board of Regents should consider developing a plan and timetable for reviewing multi-university functions, such as admissions, for possible centralization.*

NAU is willing to participate in a Board-directed review of this recommendation. The universities have worked together to identify opportunities for efficiencies and cost savings through resource sharing. For example, the three universities worked together to develop a joint purchasing contract for furniture and NAU shares a computerized library circulation system with ASU.

Finding III: Recommendations

1. *The universities should track or monitor on an annual basis any shifts in staffing between faculty and non-faculty positions in instructional units to determine potential impacts on the teaching mission.*

As part of the review of each vacant position (Finding I, Rec. 2), NAU monitors shifts in staffing between faculty and non-faculty positions. When new faculty or staff lines are added to the budget, these positions are

reviewed carefully within the colleges and the provost's office for maximum impact on the teaching mission and to ensure that areas of greatest student growth are addressed. NAU will continue to strengthen tracking in order to determine potential impacts on our teaching mission.

2. *The universities should develop and present to the Legislature and the Board of Regents comprehensive plans to review the efficiency of administrative and support functions within instructional units.*

NAU will accomplish this recommendation as a natural product of the program budgeting process (Budget Reform Act of 1993) and the program authorization review (PAR) process.

NAU's efforts to achieve efficiency will not be limited to administrative and support functions within instructional units. In response to direction from the Board of Regents, NAU has reduced the number of credits required for a bachelor's degree to 120 in approximately 90 percent of its degree programs. In the fall of 1996, a three-year bachelor's degree program will be implemented, resulting in savings of time and money for students. The School of Hotel and Restaurant Management will be offering its curriculum on a twelve-month basis, enabling students to complete their course work year round. Other colleges are considering instituting similar changes. Two task forces are beginning work in the areas of undergraduate education and graduate education and research. The charges to those task forces include the following:

Identify ways of reducing the number of courses used to satisfy liberal studies/general education requirements,

Identify ways of reducing content duplication across departments,

Identify ways of restructuring graduate curricula to minimize duplication of content and maximize sharing of faculty and other resources, and

Identify effective ways of shifting resources in support of graduate education from overhead/administration to graduate fellowships.

When implemented, these actions will result in increased efficiencies for our students and more effective use of our faculty resources for instruction, research

and public service.

3. *The universities should develop and monitor performance benchmarks such as:*
   - *Student credit hours per FTE*
   - *Salary per student credit hour*
   - *Enrollment per FTE*
   - *Salary per enrolled student*
   - *Degrees per FTE, and*
   - *Salaries per degree*

   NAU will review the Board of Regents-approved measures of quality of undergraduate education and other performance measurements required for program budgeting to be certain that appropriate benchmarks are now in place and are being monitored.

   As Table 3, "Change in Academic Efficiency Ratios," of the audit report reflects, NAU has made progress in increasing its efficiency. The increases in efficiency can be attributed to the large growth in NAU's student population (over 66% from 1984-1994). In addition, NAU has worked to accommodate this growth by expanding opportunities for higher education that are both high in quality and efficiency. During the 1990-93 time period, NAU initiated innovative technological solutions that not only helped accommodate the growth, but were also cost efficient strategies which helped produce the increases in efficiency seen in the table. NAU is continuing its pioneering efforts and implementing a series of systemic changes (including a three-year bachelor's degree) which should not only result in increases in efficiency but also a more valuable product for NAU's consumers.

   Efficiency alone, however, is not the sole criteria by which an organization should be measured. In fact, the report notes that these efficiency measures should not be used in isolation, but instead paired with more qualitative measures which indicate the effectiveness and quality of the university. This perspective makes NAU's increases in efficiency all the more impressive because, over the same period of time, NAU's reputation in the state, region, and country grew tremendously. NAU became a recognized leader in the use of distance education technology, and in the academic fields of forestry and hotel and restaurant management, while maintaining excellence in teacher preparation, rural health education and other areas.

Finding IV: Recommendations

1. *The Legislature should consider focusing budget reform efforts on university*

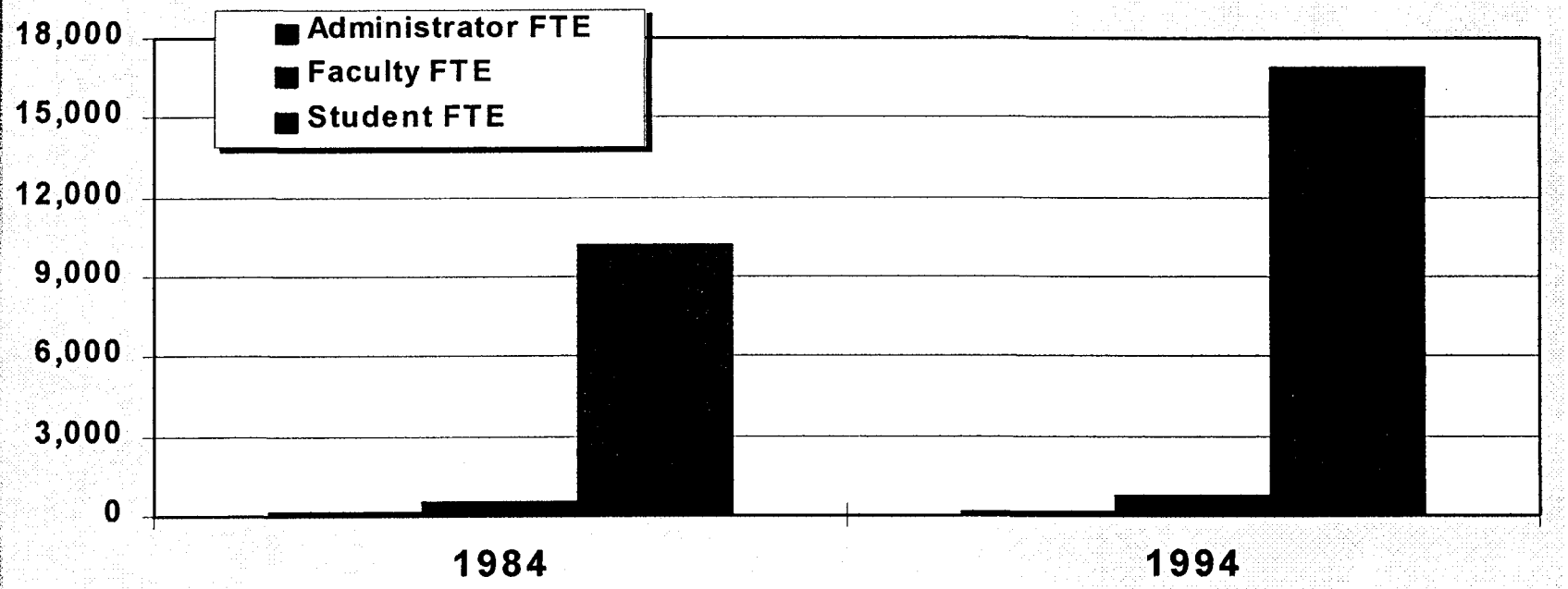
programs, by requesting Program Authorization Review (PAR), and JLBC staff analysis of administrative cost data.

NAU will participate in the PAR process when requested. The Board of Regents, in its capacity as steward of the universities, continues to monitor aspects of the universities' fiscal and budgetary health through annual financial reports, the annual debt capacity study, the cost of education study, and other regular reports and studies.

2. *The Board of Regents should consider establishing a program to benchmark administrative efficiency and performance at the universities.*

NAU will be responsible to all Board of Regents' efforts to benchmark administrative efficiency and performance.

Northern Arizona University
Comparison of Employee and Student Growth
Fall Semester - 1984 and 1994



	1984	1994	% Change
Administrator FTE	172.8	130.0	-24.8%
Faculty FTE	489.5	772.6	57.8%
Student FTE	10,158	16,875	66.1%

UNIVERSITY OF ARIZONA: RESPONSE TO THE REPORT ON UNIVERSITY ADMINISTRATION

The University of Arizona is pleased to respond to the Auditor General's Report on University Administration. The University concurs with most, but not all, of the specific recommendations. (See Appendix 1.) Most of the recommendations have been implemented over the last three years with substantial savings to the state and markedly increased efficiency and customer satisfaction.

The actions the University has taken or is taking are the result of a three-year effort to improve effectiveness and efficiency, an effort undertaken on its own initiative without pressure or directives from either the Arizona Board of Regents or the Arizona Legislature. The University is extremely disturbed that this Report fails to recognize or analyze this massive and largely successful effort. Indeed, the Report leaves the false impression that little if any initiative has been demonstrated and little progress made since 1989. These have been the very years in which the University developed its CORe activities (Continuous Organizational Renewal), conducted PAIP (the Program for the Assessment of Institutional Priorities), and created SPBAC (Strategic Planning and Budget Advisory Committee). Failure to address and analyze this progress is unfair and threatens to damage the morale of the many individuals who have committed so much time and effort to improvement.

A second and equally basic concern involves the inaccurate and inconsistent manner in which the terms "administration" and "support" are defined and employed in the Report, leading to the misleading impression about the nature of the activities which allows the University to address its three main missions: teaching, research and outreach.

The following issues represent serious, if not fatal, flaws in the Report on University Administration.

AUDITOR GENERAL'S STUDY CONFUSES "ADMINISTRATION" WITH "SUPPORT", AND CONTRADICTS ITS OWN PREVIOUS STUDY ON THE IMPORTANCE OF STUDENT SERVICES (pages 7 through 14)

- Although titled "University-Administration," the report focuses in large part on both administration and *support activities.* To intertwine these two distinct activities leaves an impression of administrative activities which exceed reality.

- The Auditor General's Report uses a non-standard definition of administration which precludes benchmarking against peer universities. Thus, as the report is presented, the University cannot determine whether there is too much, too little, or an appropriate level of both administration and support.

- Although initially promised, the Auditor General has now declined to make available the data base used to determine the administrative and support levels. We can only conclude here that the approach is not defensible. The University cannot access or study the data because it cannot replicate the study and thus negates any

educational value which could be derived if the approach were defensible.

- The survey approach used by staff of the Auditor General's office to reach the conclusion that only 38% or the University's employees work in direct service positions is flawed, is inconsistent with practice, and ignores the extensive data provided by the University. By using EEO codes and correcting the nonacademic employees category for those providing direct service to the University's mission, a more reasonable estimate of administration plus support is 43%, not 62%.

- The Auditor General's Report overestimates support by treating many non-instructional units (for example, the Honors Center, Student Financial Aid, University Teaching Center, University Animal Care, Career Services, Residence Life and many other units) as support rather than acknowledging that these units provide direct service to the mission.

- In 1994 the Auditor General released a report dealing with *The Student Experience*. This report recommended (on page 43) expanding the number of student advisors, making orientation mandatory, and encouraging Residence Life to expand its services. The report made it clear that these and related activities must be seen as essential, mission-related student services. In simple terms: the student experience is both in and out of the classroom. The current Report ignores the findings of the earlier report and recommends reductions in areas that were previously recommended for increases in expenditures.

- Sponsored research brings important resources to Arizona, directly impacts the instructional mission, and improves the quality of life for Arizona residents. To treat externally sponsored research in the same context as state-funded activities is inappropriate and results in an inflated estimate of support in academic and non-instructional units.

    1. All research budgets are extensively reviewed by the sponsor (generally the federal government) and subject to audit and oversight.

    2. Any savings accrued in sponsored research (if any were possible) revert to the sponsor, not to the state.

    3. Costs associated with the administration of sponsored research are paid by the sponsor though indirect cost recovery.

NON-INSTRUCTIONAL UNITS HAVE BEEN DOWNSIZED AND RESTRUCTURED USING TOTAL QUALITY MANAGEMENT PRINCIPLES (PAGES 15 THROUGH 23)

- Beginning July 1, 1992, the University of Arizona instituted, through Continuous Organizational Renewal (CORe), a comprehensive program to minimize administrative overhead and to improve efficiency and customer satisfaction. The success of this effort allowed substantial resources to be reallocated, led to recognition by the Governor for excellence and greatly improved numerous University activities. The current audit failed to fully analyze these activities and to quantify their impact.

- The Auditor General's Report points out that reductions in the number of administrative and support positions would generate substantial savings. This statement is true and has already taken place at the University of Arizona as a consequence of budget reductions and CORe activities. The Report notes that other universities have made such changes but then fails to provide a parallel and appropriate analysis of the Arizona universities. (See Appendix 2 for some examples.)

- The Auditor General should have reviewed and analyzed the extent and success of the CORe activities occurring over the last three years prior to drawing his conclusion. Unfortunately for the accuracy of the report, he did not.

ADMINISTRATIVE AND SUPPORT OVERHEAD IN ACADEMIC UNITS HAS BEEN AND CONTINUES TO BE STREAMLINED (PAGES 25 THROUGH 34)

- The report suggests that the increase in research funding resulting from a decrease in state funds <u>may</u> redirect University attention away from its teaching mission. Nothing could be further from the truth. During the last five years there has been a major increase in attention to and the delivery of instruction, as documented in the "Hurwitz Report." This increase has been driven in part by grants and contracts.

- The Auditor General's Report fails to acknowledge or analyze the numerous academic program closures and unit downsizing which have occurred in the last three years.

- The use of salary per student credit hour, per enrolled student, and per degree (Table 3) is outrageous. The increases occurred because the University of Arizona is competing successfully for external resources. That external support provides increased educational opportunities for students is an incredible success story, not a decline in efficiency. Similarly, the increase in FTE was driven and funded by external support, again a positive.

- The report strongly encourages benchmarking against peers yet provides little specific data. For example, Northwestern University is highlighted (p. 13). The per student expenditure for instruction at Northwestern is $17,434 as compared to $5,345 at the University of Arizona. Possibly Northwestern could learn from the University of Arizona's efficiencies!

THE AUDITOR GENERAL'S REPORT DOES NOT PROVIDE USEFUL INFORMATION FOR REGENTS OR LEGISLATORS, BECAUSE ITS DEFINITIONS ARE NON-STANDARD. THE UNIVERSITIES CANNOT REPRODUCE THE DATA; THEY CANNOT COMPARE THEMSELVES WITH OTHER UNIVERSITIES; NOR CAN THEY MEASURE IMPROVEMENT (pages 35 to 40)

- Involvement of the Arizona Board of Regents and the Legislature should be based on accurate and reliable data and should address issues that the University is unable to manage. The Auditor General's Report does not provide useful information for this purpose.

In summary, by ignoring or denigrating the research, extension, and outreach missions as well as excluding some instructional activities and the previous report on the Student Experience, the Auditor General's Report confuses the critical issue of reducing the administrative and support costs of universities. The analysis presented grossly overstates the administrative/support activities due to inappropriate and inaccurate definitions; implies support activities have little mission related value; treats research, a specific component of the mission, inappropriately; and fails to recognize the massive reorganization and restructuring that has already occurred. The University of Arizona will continue to improve effectiveness and efficiency but will do so while continuing to focus on the highest quality of teaching, research, and outreach. The application of across the board cuts as suggested in the Auditor General's Report fails to address excellence or to analyze the appropriateness, effectiveness, and efficiency of individual activities. A successful and effective university optimizes resources to integrate administration, faculty and other direct services and support activities to address each of the mission elements (teaching, research, and outreach). The Auditor General's Report fails to examine and analyze this integration and optimization in an accurate, thoughtful, or productive manner. Moreover, by using non-standard definitions and by not supplying the rules for applying the definitions, the report fails to provide a basis for measuring progress in the future or for benchmarking against other universities.

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RESPONSE TO REPORT OF THE OFFICE OF THE AUDITOR GENERAL

FINDING I. ADMINISTRATIVE OVERHEAD/NON-ACADEMIC UNITS

Recommendations

1. The Board of Regents should establish a personnel classification system for the universities to enable more accurate identification and tracking of all administrative positions.

   Concur. The University of Arizona is developing a method to accurately track administrative positions. Definitions have been created and the development of the tracking system is underway.

2. The universities should monitor changes in administrative staffing patterns on an annual basis. The information contained in this report could serve as a baseline for identifying staffing trends over time.

   Concur. Implementation of number 1 above will permit tracking on an annual basis. However, because of the many definitions used over the years, all tracking will have to be forward from the point of implementation.

3. The Board of Regents and the universities should work with their peer institutions to develop comparative data on administrative staffing patterns.

   Concur. the University of Arizona as part of PAIP and CORe is or has developed benchmarking data on a reporting unit basis (University Animal Care, Radiation Control, Department of Chemistry, etc.).

4. The universities should establish goals based on a percentage of total budget, and a timetable for achieving these goals, aimed at reducing overall administrative overhead.

   Disagree. The University of Arizona has, using the CORe process, reallocated resources, flattened administrative functions, reduced or closed programs, and improved processes in many areas. It is critical that the University of Arizona retain standards of excellence but at optimum efficiency and minimum costs. Each operating unit and/or program should be dealt with individually, with the understanding that savings can be achieved, but pegged to performance and need, not a quota. The goal should be minimizing administrative overhead.

FINDING II. NON-INSTRUCTIONAL UNITS

Recommendations

1. The universities should develop, and present to the Legislature and the Board of Regents, comprehensive plans to improve administrative efficiency in non-instructional units. University plans should specify: the scope of administrative and support activities to be examined; a schedule for examining each activity or unit; deadlines for reporting study results; and a schedule for implementing recommended actions.

   Concur. As a consequence of the CORe process, over 100 projects to improve administrative efficiency have been completed or are underway. A comprehensive list and time lines can be made available.

2. In reviewing administrative and support activities, the universities should address at a minimum: the number of management levels or layers, spans of supervision, processing steps, procedures and requirements, and the extent to which activities are duplicated.

   Concur. The issues identified are an integral part of the CORe process and are underway or are complete.

3. To help assess the efficiency of non-instructional functions on an ongoing basis, the universities should develop and annually monitor performance benchmarks.

   Concur. Benchmarking is an inherent component of the CORe process.

4. The Board of Regents should consider developing a plan and timetable for reviewing multi-university functions, such as admissions, for possible centralization.

   Disagree. Each of the three Universities is unique in the programs and educational options available to students and in its role in the state. Centralizing admissions would not be productive since it would be of no value in regards to out-of-state and conditional admits for undergraduate and graduate admissions which are uniquely relevant to each university. In-state students who meet the minimum qualifications are automatically admitted to all three universities.

FINDING III. ADMINISTRATIVE OVERHEAD/ACADEMIC UNITS

Recommendations

1. The universities should track or monitor on an annual basis any shifts in staffing between faculty and non-faculty positions in instructional units to determine potential impacts on the teaching mission.

   Concur. The process to do this has been in place for some time. There is rarely, if ever, conversion of faculty positions into non-faculty positions excluding the conversion of vacant faculty lines into teaching assistantships or instructors during times when searches are underway.

2. The universities should develop and present to the Legislature and the Board of Regents comprehensive plans to review the efficiency of administrative and support functions within instructional units. These reviews should address, at a minimum: the extent to which administrative or support activities are duplicated, the potential for combining units, and the feasibility of eliminating peripheral programs.

   Concur. At the University of Arizona, the SPBAC Committee is charged with this responsibility and has brought forward a number of proposals; this process is ongoing for the foreseeable future.

3. The universities should develop and monitor performance benchmarks such as: student credit hours per FTE, salary per student credit hour, enrollment per FTE, salary per enrolled student, degrees per FTE, and salaries per degree.

   Concur. Performance benchmarks are being measured and tracked over time. This approach has been in place for a number of years and serves as a basis for the activities of SPBAC. A wider range of performance benchmarks including those addressing research and public service are also required to obtain a clear picture of the performance of an academic unit. The relative weighting of benchmarks for teaching, research, and service should and do vary depending on the discipline.

FINDING IV. BOARD OF REGENTS AND LEGISLATIVE INVOLVEMENT

Recommendations

1. The Legislature should consider focusing budget reform efforts on university

programs, by requesting Program Authorization Review (PAR), and JLCB staff analysis of administrative cost data.

Concur. PAR is in place and is supplemented by academic program review (APR) and support services administration (SSA) review at the University. JLCB staff analysis of administrative cost data is appropriate if accurate and appropriate definitions of "administration" are applied.

2. The Board of Regents should consider establishing a program to benchmark administrative efficiency and performance at the universities.

Concur in part. Administrative efficiency and performance at the University of Arizona is benchmarked through CORe, APR and SSA. The output of these activities is reported (or will be reported) on a regular basis. It is not clear how an ABOR process would improve the ongoing processes.

Examples of CORe Team Results/Savings
October 1995
(5 year extrapolations of estimated dollar savings)

Graduate Admissions Team
Charge:
Reduce the throughput time in processing applications and improve service to the students and the departments. (Over 14,327 applications per year).
Results:
Streamlined the complete admissions system, improved employee morale, reduced errors, improved student satisfactions, and reduced the average time for applications to be processed by 30%. Eliminated 1 FTE and related temporary help required during peak periods for a personnel savings estimated at $30,000 per year. The Graduate Admissions Team met its charge and contributed an estimated 5-year savings to the University of **$150,000.**

Graduate College Financial Aid Team
Charge:
Improve the process of awarding and distributing financial assistance to graduate students.
Results:
Eliminated paperwork from processing. Reduced throughput time from 79 days to 2 days. Reduced student traffic while increasing departmental ability to serve students. Estimate decreased need for temporary staff by $10,000 per year for an estimated net savings over 5 years of **$50,000.**

Matrix Management Team
Charge:
Link management among units to improve relations and remove bureaucratic barriers.
Results:
14 FTE positions (15%) were eliminated in the pilot units with a net personnel savings of $238,000. The Matrix Management Team met its charge and contributed an estimated 5-year savings to the university of **$1,190,000.**

Animal Care - Cycles Team
Charge:
Reduce throughput time and personnel costs for care-cycles for animals.
Results:
Improved throughput time, reduced waste between operations and reduced staffing by 4 FTE. A net savings over 5 years is estimated at **$80,000.**

Opening of School Team
Charge:
Redesign the student information system using business process redesign criteria and enable the use of advanced technology.
Results:
System redesign results in 50% reduction in class cancellations for students for non-payment of fees, and a yearly reduction of $40,000 in temporary staffing expenditures. A net savings over 5 years is estimated at **$200,000.**

Credit Card/Vocom Replacement Team
Charge:
Provide automatic payment of student fees by designing and implementing a telephone registration process.
Results:
Reduction in average waiting time for students from 15 minutes to 1 minute, 46% increase in phone line capacity, reduction in complaint calls per semester from 25 to none. Minimum savings of $20,000 per year per temporary teller gives a net savings over 5 years of **$100,000.**

Arizona Health Science Center Autoclave Quality Team
Charge:
Reduce waste of domestic water during "off" cycles and provide specifications for future autoclave installations.
Results:
Reduced water use by 34 million gallons a year, a cost of $6,000 per year and reduced sewer fees by $99,000 per year. This $105,000 per year savings will contribute over **$525,000** in savings over 5 years.

Center for Computing and Information Technology (CCIT)
Charge:
Reengineer CCIT to become a world-class provider of information technology to the University campus.
Results to date:
This team is working to reengineer the entire organization as a customer-focused enterprise. It has already moved to a team-based, capability driven organization, designed a flatter organizational structure that has eliminated 4 director level FTE and 3 staff FTE while servicing exponential growth in information technology-based requirements across the campus. The productivity of faculty, students and staff has been improved immeasurably. Current personnel reductions in CCIT are valued at $300,000 for an estimated contribution of over **$1,500,000** over 5 years.

University Library Team
Charge:
Reengineer the University Library around a more effective organizational structure and take advantage of new and emerging technologies to accomplish the mission.
Results to date:
Moved to a team-based management system, creating a flatter organization that has replaced 16 divisional administrators with 8 team leaders. The new organization has already dramatically increased on-site and electronic library access, developed external partnerships and improved operating processes across the library. Estimated savings so far of over $100,000 per year should yield **$500,000** over 5 years.

Student Health Team
Charge: Maintain a world-class Student Health Organization at the lowest possible costs to the student fee payer.
Results:
Through innovative work with partner health providers and internal cost containment, the UA Student Health Team provides services at an average of $50 per student per year less than the average university. $50 per year per 35,000 students yields a cost savings to students of **$1,700,000** over 5 years.

Graduate Admissions Team	$150,000
Graduate College Financial Aid	$50,000
Matrix Management Team	$1,190,000
Animal Care - Cycles Team	$80,000
Opening of School Team	$200,000
Credit Card/Vocom Replacement Team	$100,000
AHSC Autoclave Quality Team	$525,000
Center for Computer Information Technology	$1,500,000
University Library Team	$500,000
Student Health Team	$1,700,000
Five-year Savings Estimate	$5,995,000

UNIVERSITY ADMINISTRATION
DATA VALIDATION SURVEY

UNIVERSITY:

EMPLOYEE NAME:

(Confirm that you are talking to the right person.)

Hello,

I'm calling on behalf of the Arizona Office of the Auditor General. The office is conducting an audit of the university's administration. As part of the requirements of the audit, the university has provided the auditors with employee data from their personnel system. Your name was randomly selected from the database for an interview. I'd like to ask you some questions about jobs that you held in October of 1993. The purpose of this interview is to verify that the information provided by the university is correct.

(Ask if it's a good time to talk. The survey will take about 10 minutes to complete. You may arrange a time to call them back, or ask them to call you at a more convenient time.)

1. In October 1993, did you hold the job title CUSTODIAN LEAD?
   (See attached job description for full title)

   _____ YES *(Go to question 2)*

   _____ NO *(Go to question 9)*

2. Was this position under the department ?

   _____ YES *(Go to question 4)*

   _____ NO *(Go to question 3)*

3. Which department was this position under?

   _____

4. Was this department directly under ?

   _____ YES *(Go to question 6)*

   _____ NO *(Go to question 5)*

   _____ DON'T KNOW *(Go to question 5)*

5. **To which area of the university did the department directly report?**

_____

6. *(If there is no job description attached to the survey after this page, go to question 12.)*

I'm going to read you the official job description for this position. I will pause after each duty listed and ask you to verify whether the duties described accurately reflect your responsibilities for this position.

(Read the attached job description for this job line by line, pausing between sentences to ask the respondent to verify that each duty was part of their job responsibilities. Mark the answers on the job description itself:
- If respondent says YES, make a CHECK MARK next to the duty.
- If respondent says NO, draw a LINE through the duty to cross it out.)

Employee:

Survey Page 3

7. **Are there any duties which you performed under this job title which were not listed in the description?**

   _____ YES *(Go to question 8)*

   _____ NO *(Go to question 13)*

8. **Describe these other duties:**

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

(*Turn to Survey Page 4 and go to question 13*)

9. **What was your title?** _____

10. **Which department was this position under?** _____
    _____

11. **To which area of the university does this department directly report?**
    _____

12. **Describe your job duties for that position.** *(Continue on back of page if you need more space.)*

    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____(Over:____)

13. I'm going to read a list of job categories. Think about the position we've been talking about, that you held in October 1993. When I'm done reading the list, please tell me which one of the categories applied to that position. *(Check only one.)*

_____ Classified staff
_____ Student
_____ Faculty without an administrative appointment
_____ Faculty with an administrative appointment
_____ Academic professional
_____ Other non-faculty professional requiring at least a bachelor's degree
_____ None of the above
(If "none of the above") How would you categorize the position?
_____

14. I'm going to read you a list of administrative activities and responsibilities. Thinking about your responsibility towards the unit as a whole, tell me which items were part of your duties when you were in this position. *(Check all that apply)*

YES	NO	
_____	_____	Did you supervise or direct the work of others? *(If yes,)* What were the titles of the people you supervised? _____ _____
_____	_____	Did you have authority to hire and fire staff?
_____	_____	Were you in charge of overseeing the unit's general business operations?
_____	_____	Did you have responsibility for evaluating the unit's progress towards its goals?
_____	_____	Were you primarily accountable for the productivity and success of the unit as a whole?
_____	_____	Were you responsible for representing your unit to people outside the unit?
_____	_____	Did you approve the unit's expenditures and allocate its resources?
_____	_____	Were you responsible for strategic planning for the unit?
_____	_____	Did you set your unit's goals or plan its operations?
_____	_____	Did you have authority to set policy for the unit?

15. About what percent of your time did you spend on all administrative activities combined? _____ *(Read checked items from #14 if needed.)*

16. **In your opinion, were you an administrator when you were in the position we've been talking about?**

    _____ YES

    _____ NO

17. **When you were in that position, what was the title of the person to whom you directly reported?** _____

(If this person had more than one job, you will be asking the same questions again about his or her other jobs. To continue, turn the page.)

DO NOT MARK IN THIS SPACE

JOB CODE:	ABOR CODE:
EEO CODE:	LETTER CODE:
EEO JOB GROUP:	OAG CODE:
FTE: 1.000	SALARY:
EMPLOYEE ID:	

18. **In addition to the job(s) we've already discussed, did you hold any other jobs at the university in October 1993?**

_____ YES *(Go to question 19)*

_____ NO *(END SURVEY. Say, **"That's all the questions I have for you. Thank you for your participation. We appreciate your help."**)*

19. **How many other jobs did you hold that we have not discussed?**

_____ ONE *(Go to question 20)*

_____ *(Enter the number. Go to question 21)*

20. **What was the title of that position?**_____
_____ *(Go to question 22)*

21. **Of the jobs we haven't discussed, what was the title of the highest ranking position?**_____
_____ *(Go to question 22)*

22. **Regarding only your position as a**_____,
(job title from question 20 or 21)

which department was this position under?_____
_____.

23. **To which area of the university does this department directly report?**
_____

24. **Describe your job duties for that position.** *(Continue on back of page if you need more space.)*

_____
_____
_____
_____
_____
_____
_____(Over:_____)

25. **Just as I did before, I'm going to read a list of job categories and ask you to pick the one that applies best to the position we're talking about now. Remember, the categories were:**
(Read all the choices, check only one)

_____ **Classified staff**
_____ **Student**
_____ **Faculty without an administrative appointment**
_____ **Faculty with an administrative appointment**
_____ **Academic professional**
_____ **Other non-faculty professional requiring at least a bachelor's degree**
_____ **None of the above**
(If "none of the above,") **How would you categorize the position?**
_____

26. **I'm going to read you a list of administrative activities and responsibilities. Thinking about your responsibility towards the unit as a whole, tell me which items were part of your duties when you were in this position.** *(Check all that apply)*

YES	NO	
_____	_____	**Did you supervise or direct the work of others?** *(If yes,)* **What were the titles of the people you supervised?** _____ _____
_____	_____	**Did you have authority to hire and fire staff?**
_____	_____	**Were you in charge of overseeing the unit's general business operations?**
_____	_____	**Did you have responsibility for evaluating the unit's progress towards its goals?**
_____	_____	**Were you primarily accountable for the productivity and success of the unit as a whole?**
_____	_____	**Were you responsible for representing your unit to people outside your unit?**
_____	_____	**Did you approve the unit's expenditures and allocate its resources?**
_____	_____	**Were you responsible for strategic planning for the unit?**
_____	_____	**Did you set your unit's goals or plan its operations?**
_____	_____	**Did you have authority to set policy for the unit?**

27. **About what percent of your time did you spend on all administrative activities combined?** _____ *(Read checked items from #26 if needed.)*

28. In your opinion, were you an administrator when you were in the position we're talking about now?

_____ YES

_____ NO

29. When you were in that position, what was the title of the person to whom you directly reported? _____

_____

To end survey:

That's all the questions I have for you. Thank you for your participation. We appreciate your help.

****

SURVEYOR'S NAME: _____

NOTES

ARIZONA UNIVERSITIES PERSONNEL SYSTEM
CLASSIFICATION DESCRIPTION

CLASS CODE	FLSA CODE	EEO CODE	PAY GRADE	CLASS TITLE:
50230	NE		13	Custodian, Lead

SUMMARY OF CLASSIFICATION PURPOSE & DISTINGUISHING CHARACTERISTICS

Leads custodians in performing custodial cleaning assignments. This is second in a series of five classifications. This classification typically reports to the Custodial Area Supervisor.

TYPICAL DUTIES

NO. DESCRIPTION

This description is intended to indicate the kinds of duties and responsibilities that may be required of employees given this title. It shall not be construed as determining what the specific duties and responsibilities of any particular position shall be. It is not intended to limit in any way the right of supervisors to assign, direct and control the work of employees under their supervision.

1. Coordinates the activities of subordinates.

2. Coordinates, assigns, and inspects the work activities of a group of custodial employees.

3. Schedules and inspects the work of floor cleaning, window cleaning, and other special crews.

4. Coordinates the physical preparation for concerts, dances, registration, and other special events held at the university.

5. Recommends purchase of cleaning equipment and materials and maintains a supply storeroom.

6 Recommends new methods to promote efficiency and reduce costs; and initiates training programs for custodial employees.

7. Participates in cleaning activities.

KNOWLEDGE AND SKILLS REQUIRED:

- Knowledge of cleaning equipment, products, techniques, and standards.
- Skill in oral and written communications.
- Skill in coordinating the work activities of assigned staff.
- Skill in using cleaning products and equipment.

MINIMUM QUALIFICATIONS:

- Two years of custodial experience; OR,
- Any equivalent combination of experience, training and/or education approved by the Personnel Department.

Prepared: 6-5-89
Revised: May 11, 1990