A Report
to the
Montana
Legislature

Performance Audit

Montana University System Workforce Data Reporting

Montana University System

January 2016

Legislative Audit
Division

14P-05

Performance Audits

Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Members of the performance audit staff hold degrees in disciplines appropriate to the audit process.

Performance audits are performed at the request of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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LEGISLATIVE AUDIT DIVISION

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January 2016

The Legislative Audit Committee
of the Montana State Legislature:

This is our performance audit of Montana University System (MUS) Workforce Data Reporting.

This report provides the Legislature information about how the MUS reports workforce data and includes recommendations for improvements that will increase policy makers ability to monitor and understand workforce trends across Montana's university system. A written response from the Office of the Commissioner of Higher Education is included at the end of the report.

We wish to express our appreciation to all university staff that were involved in the audit for their cooperation and assistance.

Respectfully submitted,

/s/ Tori Hunthausen

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Appointed and Administrative Officials

		Term Expires
Board of Regents of Higher Education	Paul Tuss, Chair	February 1, 2020
	Fran M. Albrecht, Vice Chair	February 1, 2019
	Asa Hohman, Student Regent	June 30, 2016
	William Johnstone	February 1, 2017
	Casey Lozar	February 1, 2018
	Robert A. Nystuen	February 1, 2022
	Martha Sheehy	February 1, 2021
	Clayton Christian, Commissioner of Higher Education*	
	Steve Bullock, Governor*	
	Denise Juneau, Superintendent of Public Instruction*	
	*Ex officio members	

Office of the Commissioner of Higher Education	Clayton Christian	Commissioner of Higher Education
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	John Cech	Deputy Commissioner for Academic and Student Affairs
	Tyler Trevor	Deputy Commissioner for Planning and Analysis
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	Vivian Hammill	Deputy Commissioner/Chief Legal Counsel
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	Daniel Adams	Director of Audit Services
Montana State University -Bozeman	Terry Leist	Vice President for Administration and Finance
	Dennis Defa	Chief Human Resources Officer
	Chris Fastnow	Director of Planning and Analysis
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Montana Legislative Audit Division

Performance Audit
Montana University System Workforce Data Reporting
Montana University System

January 2016 14P-05 Report Summary

The Montana University System employs over 8,500 full-time equivalent and for fiscal year 2015 spent over $350 million of unrestricted funds on personal services. The Montana Board of Regents, the Office of the Commissioner of Higher Education, and MUS units should develop a system-wide consistent approach for categorizing staff positions, review current human resource data for accuracy, and implement a statewide level interpretation of national reporting metrics. These improvements across the MUS will improve the ability of policy makers to monitor and understand trends in university workforce data.

Context

Numerous studies, analyses, and audits have reviewed university tuition and fee increases. There is speculation surrounding the cause. Some studies point to administrative positions and costs while others point to the cost of benefits as well as declines in state and federal support.

When reviewing higher education as a whole, it is clear that higher education systems across the nation are struggling with various market shifts, including:

- Tuition revenue decreases driven by various factors, including decreased enrollment.
- Non-tuition revenue decreases (e.g. state/federal funding, research funding).
- Increased public scrutiny resulting in more regulation/accreditation reviews at universities.
- Heightened interest and enrollment in online courses versus the traditional higher education structure.

Over the past two decades, the Montana University System (MUS) is seeing similar challenges as institutions across the nation. State support, as a percentage of total unrestricted funds, has decreased, while tuition has increased as a percentage. This decrease leads to the argument that students pay more of the cost of attending public universities, making college less affordable, which in turn puts additional public scrutiny on universities. As such, various policy makers and news articles have questioned the MUS's efficiency and effectiveness, specifically regarding administrative costs tied to the MUS workforce.

Results

During fiscal year 2015 the MUS employed over 8,500 full-time equivalent (FTE), with 72 percent of these FTE being employed at Montana State University–Bozeman (MSU) and the University of Montana–Missoula (UM). Additionally, during fiscal year 2015, 54 percent of unrestricted expenses were

(continued on back)

salaries and wages; when benefits are included this percentage increased to 74 percent. Our audit focused on the workforce data available at the MUS units

Audit work reviewed national reporting data (IPEDS) and examined MSU and UM human resource data (Banner) for accuracy and consistency. When reviewing data recorded in IPEDS, both campuses had a relatively consistent workforce from fiscal years 2010-2014 and, when compared to peer institutions across the nation, spent less on both instructional and administrative costs per student FTE. While the audit identified MUS universities being comparable to peer institutions when looking at the number and cost of FTE, assuming there is broad agreement about the validity of comparing MUS institutions with public universities in other states, this does not answer the more fundamental question: "Could the MUS improve its ability to report and analyze total positions devoted to its core mission and positions that operate in administrative or support roles?" This question is especially important when viewed over a longer time frame. The country's higher education landscape has changed dramatically over the past half century, and 50 years ago it would have been very difficult to justify the differences between teaching, core staff roles, and all other positions at a university.

When analyzing and working toward improving the effectiveness and efficiency of an organization, it is vital its workforce is fully understood. Currently the Board of Regents (BOR) and the Office of the Commissioner of Higher Education (OCHE) have a limited capability to gather workforce data across the MUS, impacting BOR and OCHE's ability to influence costs tied to its workforce. Additionally, we identified IPEDS guidelines are vague in some areas, making it difficult to ensure institutions across the nation are recording the same types of positions in the same categories. Therefore, while IPEDS data are useful when benchmarking MUS campuses against comparable institutions, they become less useful when trying to understand the landscape of the MUS workforce. Universities are more complex organizations now than in the past; therefore, policy makers need more complex analytical tools to fully understand the MUS workforce.

Recommendation Concurrence	
Concur	3
Partially Concur	0
Do Not Concur	0

Source: Agency audit response included in final report.

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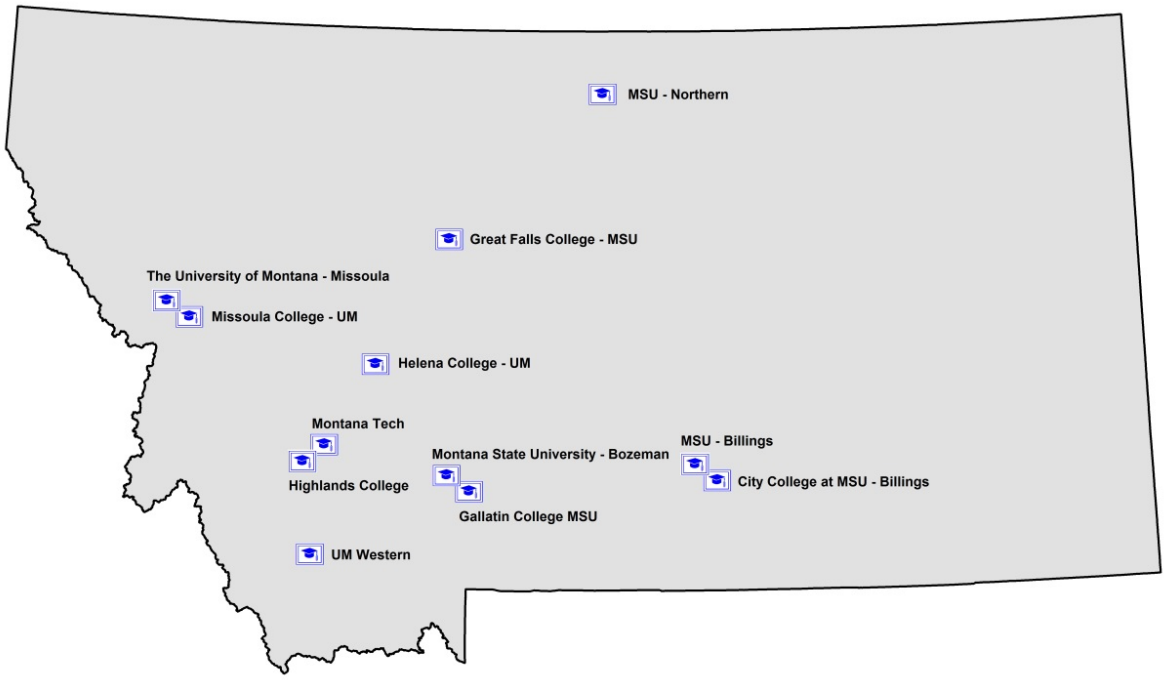
Chapter I – Introduction

Introduction

The Montana University System (MUS) is comprised of 12 units and serves over 47,000 students. Over 8,500 full-time equivalent (FTE) are employed across the MUS with over $350 million of state funds and tuition being spent on personal services in fiscal year 2015.

Figure 1
MUS Education Units and Affiliated Campuses



Source: Compiled by the Legislative Audit Division from MUS records.

For the 2015 biennium, the House Bill (HB) 2 portion of the governor's proposed Tuition Cap Agreement increased state funding to the MUS by $28.3 million. With this increase and the legislature's focus on performance funding at the university level, the legislature has a particular interest in ensuring administrative costs are reviewed at the MUS universities. Additionally, at both the national and state levels increasing attention is being paid to the cost of higher education, focusing on analysis of administrative costs relative to instructional costs. As a result, the Legislative Audit Committee prioritized a potential audit of the University Administrative Costs as its top priority for fiscal year 2014.

Organizational Structure of the Montana University System

The Montana Constitution provides the Board of Regents (BOR) with full power, responsibility, and authority to supervise, manage, and coordinate the MUS. The BOR is a seven-member governing board with three ex officio, nonvoting members including, the commissioner of higher education, the governor, and the superintendent of public instruction. Each regent is appointed for seven-year terms by the governor, except the student regent, who serves for one year.

While the Constitution grants governance authority to the BOR, the legislature's public policy influence related to the MUS has been primarily through HB 2 appropriations, which were $172 million in fiscal year 2015. The legislature may also pass laws relating to the organization and operation of higher education institutions.

The Office of the Commissioner of Higher Education

State law provides the BOR with general control and supervision of the MUS units. BOR policy further provides the Office of the Commissioner of Higher Education (OCHE) with the responsibility to supervise and direct university presidents and provosts regarding policy. The duties of the commissioner are outlined in the BOR policy, including:

- Execute, administer, and assure the implementation of policies, decisions, and rules of BOR.
- Supervise and direct unit presidents with regard to BOR policy.
- Suggest a budget for the MUS as well as an allocation of state appropriations to the universities.
- Act as the official representative of the BOR and the university system to the legislature.

The BOR has implemented policies related to personnel classification, MUS employment contracts, and appointments across the MUS.

Audit Objectives

This performance audit included the following objectives when reviewing the accuracy, consistency, and use of workforce data by the MUS to monitor administrative staffing patterns and trends:

1. Determine whether MUS workforce data are accurately reported at the federal level and how these data compare across similar institutions around the country.
2. Determine whether reporting of workforce data are consistent across the MUS and whether OCHE effectively maintains, monitors, and uses management information to oversee staffing patterns and trends.

3. Evaluate the accuracy and consistency of procedures used for collecting and reporting workforce data at the individual MUS units.

Audit Scope

During fiscal year 2014, 55 percent of unrestricted expenditures were tied to salaries and wages, and when benefits were included, this percentage increased to 74 percent. Therefore our audit focused on workforce data. When reviewing total FTE positions across the MUS, 72 percent of total FTE in fiscal year 2014 were employed at the University of Montana–Missoula (UM) and Montana State University–Bozeman (MSU). Since MSU and UM employ the large majority of FTE, we reviewed workforce data at these two specific universities, as well as the oversight function of OCHE in maintaining and monitoring workforce data across the MUS. Since the most current federal data available at the start of the audit was from fall 2013, when reviewing data for accuracy and consistency, the audit focused on fall 2013 data at each of the universities. Throughout the audit we also reviewed workforce data trends and compared MSU and UM to comparable institutions across the nation. For these trend analyses, we reviewed a five-year period of fiscal years 2009-2013.

Audit Methodologies

To accomplish the audit objectives, we completed the following methodologies:

- Conducted random samples of 264 positions at UM and MSU for a total of 528 positions.
- Analyzed workforce data for the sampled positions to determine if they were recorded accurately and consistently at both MSU and UM.
- Categorized sampled employees using a model developed by another university to determine if workforce data at the MUS could efficiently and effectively be assigned.
- Reviewed workforce data with various departmental representatives at MSU and UM to ensure they aligned with employees' duties.
- Interviewed university staff within the Human Resources Office regarding workforce data, available management information, and categorization of employees.
- Interviewed OCHE staff regarding how data are obtained from the MUS units and reported to BOR.
- Reviewed BOR policy and management information reported to BOR from OCHE and the MUS units.
- Examined workforce data reported nationally by MSU and UM.
- Reconciled nationally reported workforce data with human resource data recorded by MSU and UM.

- Interviewed university staff within the planning, budget and analysis offices regarding processes and procedures for analyzing and reporting workforce data.
- Developed a list of 10 comparable institutions for MSU and UM using statistical techniques and compared various national reporting standard metrics.

Report Organization

The audit report includes chapters detailing our observations, findings, and recommendations.

- Chapter II provides background relating to administrative costs and compares workforce metrics for MSU and UM to institutions across the nation.
- Chapter III focuses on data currently available in Banner and the need for a consistent workforce categorization model across the MUS to better identify and monitor workforce trends.
- Chapter IV addresses inaccuracies and inconsistencies related to data used to track and report workforce trends at the university and federal level.

Chapter II – Comparing Administrative Costs at Montana's Universities With Other Institutions

Introduction

Since the 1995 Legislative Session, the legislature has combined the funding for the state's university system into a single, lump-sum appropriation. The Board of Regents (BOR) ultimately allocates the funds to individual institutions through the Office of the Commissioner of Higher Education (OCHE). Once funds have been allocated to the universities, administrative cost decisions occur at the university level. In addition to state funds, the MUS is funded from other sources, including tuition and fees, federal and private grants, service fees, service operations, and other sources. State funds and tuition are the university-equivalent of general fund and are referred to as "current unrestricted" funds.

The last two decades have also seen a major shift in how many states fund higher education, with direct state support declining and tuition and fee revenue increasing. As the cost of college has risen for the average American family, more attention has been focused on the question of how much universities spend on "administrative" costs, versus instruction. Reducing administrative costs is therefore often seen as a solution to the problem of college affordability. This chapter addresses issues relating to how administrative costs should be defined and understood for Montana's university system, and also explains a comparative analysis of our costs versus institutions in other states.

Challenges Facing Higher Education Institutions Across the Nation

Numerous studies, analyses, and audits have reviewed university tuition and fee increases. There is speculation surrounding the cause with some studies pointing to administrative costs, and others pointing to the cost of benefits and declines in state and federal support.

When reviewing higher education as a whole, it is clear that higher education systems across the nation are struggling with various market shifts, including:

- Tuition revenue decreases driven by various factors, including decreased enrollment.
- Non-tuition revenue decreases (e.g. state/federal funding, research funding).

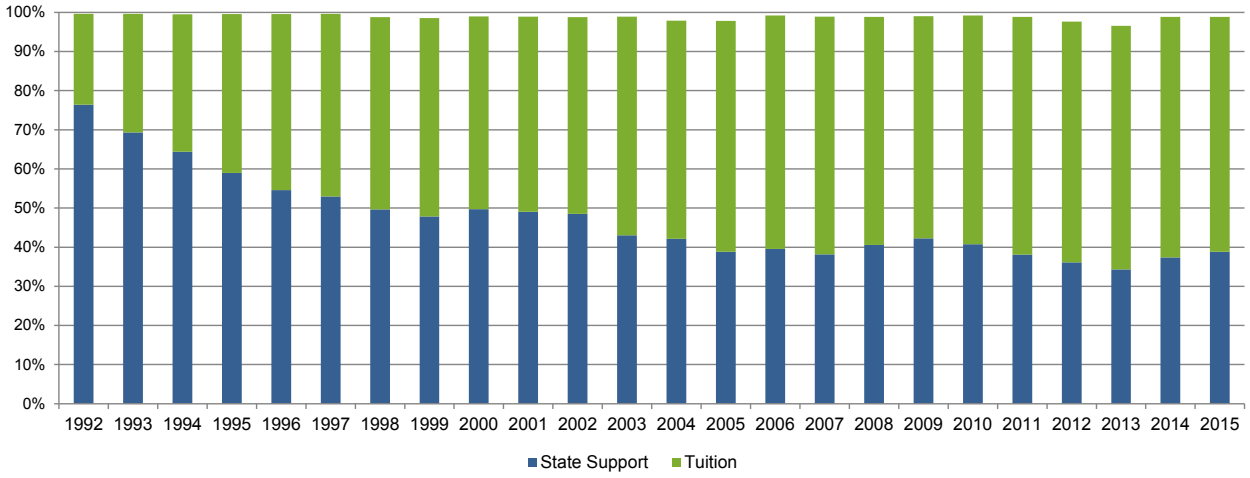
- Increased public scrutiny resulting in more regulation/accreditation reviews at universities.
- Heightened interest and enrollment in online courses versus the traditional higher education structure.

These conditions, along with others, are challenging higher education institutions to cut spending on staff and existing programs and/or to create cost efficiencies in their processes. Additionally, these conditions call attention to additional scrutiny over costs, specifically those costs outside of the core mission of instruction, research, and public service. Several statewide initiatives have been proposed to address both the cost and the value of higher education. This attention has moved states to look at tying performance funding to measurement, rather than just enrollment.

The Montana University System Faces Similar Challenges as Institutions in Other States

Over the past two decades, the MUS is seeing similar challenges as other institutions across the nation. State support, as a percentage of total unrestricted funds, has decreased while tuition has increased. Figure 2 (see page 7) details state support (general fund and six-mill levy) and tuition variances. The proportion of state funds for higher education began dropping in 1992 and tuition increased. For example, the state support share dropped from 76 percent of total unrestricted funds in 1992 to 39 percent in 2015. This decrease leads to the argument that students pay more of the cost of attending public universities, making college less affordable, which in turn puts additional public scrutiny on universities. While a decline of state support as a percentage of total unrestricted funds has occurred, it is important to note the amount appropriated has increased from $113.7 million in fiscal year 2005 to $182.6 million in fiscal year 2015. Figure 2 (see page 7) shows the trend regarding the proportion of state funds.

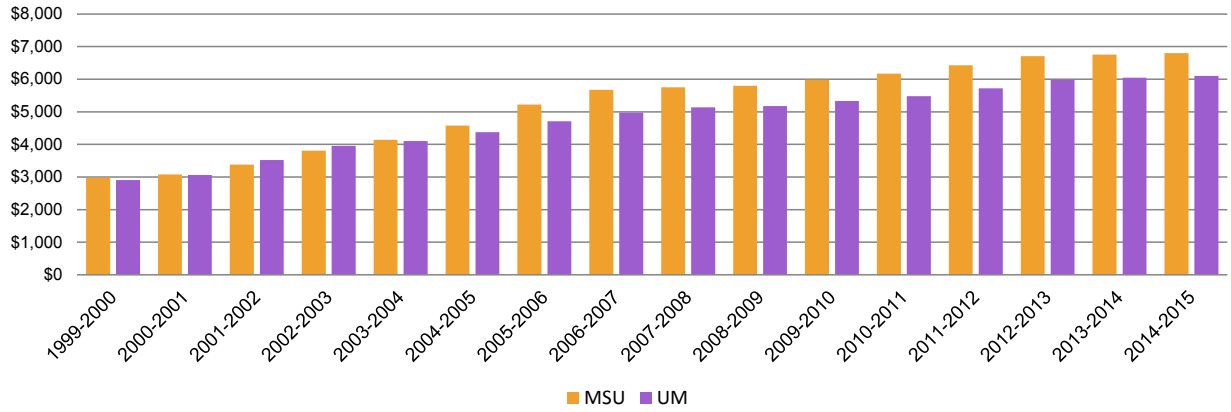
Figure 2
Percentage of Tuition and State Support (Educational Units Only) Unrestricted Funds
Fiscal Years 1992-2015



Source: Compiled by the Legislative Audit Division using data obtained from the Legislative Fiscal Division.

With the decrease in state support, universities raised tuition to fill the funding shortfall. A tuition freeze has occurred at MSU–Bozeman (MSU) and the University of Montana–Missoula (UM) for at least four years with the most recent being made possible by the state legislature increasing state funding by $26 million. Consequently, while MSU's and UM's tuition and fee increases have not been as drastic as other universities across the nation, tuition and fee rates over the last 15 years have doubled. One point to note is while tuition freezes occurred, fees at the universities can increase. The following figure depicts tuition and fee increases from 1999 to 2015.

Figure 3
MSU and UM Published In-State Tuition and Fees
Academic Years 1999-2015



Source: Compiled by the Legislative Audit Division from IPEDS data.

With the most recent economic downturn from 2008-2009 and the tightening of MUS budgets, public policy makers are expecting further efficiency across the universities. As such, various policy makers and news articles have questioned the MUS's efficiency and effectiveness, specifically regarding administrative costs tied to the MUS workforce.

Complexity Surrounding Administrative Costs Definition

Our audit set out to review administrative costs; however, there is no simple definition of administrative costs and little agreement about which aspects of university operations to focus on. Questions regarding this topic often address workforce data and typically include:

- Have universities expanded their use of part-time instructors and/or adjuncts at the expense of higher-paid full-time faculty?
- Have universities cut faculty or other teaching positions while adding noninstructional staff?
- Have the universities expanded wages and salaries in student services or other noninstructional areas?
- How many full-time equivalent (FTE) have been added to student services and what areas are included (e.g. athletics, admissions, career counseling, etc.)?

While it is important to evaluate administrative costs, it is also important to consider the changes in higher education over the past 50 years. For example, while the university system had health services 50 years ago, it would look different from the current health services that includes substance abuse counselors, disability services, mental health services, nutritionists, etc. Additionally, federal and state regulations place administrative responsibilities on the university system that may create the need for more administrative staff. Federal compliance regulations that require additional responsibilities include the Americans with Disabilities Act, the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, and the Drug Free Schools and Communities Act. If these responsibilities are not carried out, the universities are exposed to potential compliance and funding ramifications.

While this audit sought to review administrative costs specific to positions, we did not try to answer the question regarding the appropriate number of administrative staff at the university system. Therefore, the audit does address BOR, OCHE, and university management's ability to obtain consistent and accurate workforce data and makes recommendations to better position the MUS and policymakers when answering workforce questions. The starting point for our analysis of administrative costs and workforce data within the MUS was a comparison between our universities and peers in other states.

Workforce Data Available for Institutions Across the Nation

The National Center for Education Statistics (NCES), located within the U.S. Department of Education, collects data related to postsecondary institutions on an annual basis through the Integrated Postsecondary Education Data System (IPEDS). Any college, university, and technical and vocational institution in the United States that participates in federal student financial aid programs (Title IV funding) is required to report and submit data through IPEDS under the Higher Education Act of 1965, as amended. If institutions are noncompliant with IPEDS reporting requirements, they may be subject to fines or loss of federal financial aid. In the following sections, we looked at how MSU and UM compared to similar institutions in other states.

The data in IPEDS are collected via a series of interrelated surveys conducted annually which require reporting on the following seven areas:

- Institutional characteristics
- Institutional prices
- Enrollment
- Student financial aid
- Degrees and certificates conferred
- Student persistence and success
- Institutional human and fiscal resources

Our work relied primarily on workforce data and therefore focused on the institutional human and fiscal resources survey component within IPEDS. The data are used to measure the number and type of staff supporting each institution. Because institutions have different staffing patterns, IPEDS measures human resources in the following ways:

- **Employee by assigned position**: Employees are classified by full- or part-time status, faculty status, and occupational category.
- **Salaries**: These data include salary outlays for full-time staff, along with the number of full-time instructional faculty by rank, gender, and length of contract.
- **Staff**: These data include demographic and occupational characteristics for staff.

The IPEDS human resources survey is collected every year in the spring. In 2012, NCES changed its human resources survey to comply with the requirement to align IPEDS HR reporting with the 2010 Standard Occupational Classification (SOC) system released by the Bureau of Labor Statistics (BLS). The SOC system is used by federal statistical agencies to classify workers for the purpose of collecting, calculating,

or disseminating data and is designed to reflect the current occupational structure of the United States.

Methodology for Selection of Comparable Institutions

In order to understand how MSU and UM compare to other institutions across the United States, we identified a set of comparable institutions for each of the two flagship universities. We selected peer universities using a statistical method called factor analysis. This factor analysis method has been used by institutions in other states and by researchers for the purpose of benchmarking. Based on the variables identified by the factor analysis, we developed a metric for determining similarity to MSU or UM for potential comparable institutions. Both UM and MSU already use benchmarking against peer institutions to analyze different trends, but our analysis was designed to independently validate these peers. Our methodology was also designed to apply a more quantitative and less subjective means of selecting peer institutions.

Base List of Comparable Institutions

IPEDS collects data from a variety of different types of institutions, including public, private, and proprietary institutions. We limited the list of potential comparable institutions to postsecondary institutions classified as public, four or more years, and either high or very high research, according to the Carnegie Classification System. There were 140 institutions, not including MSU and UM, that fit this criteria and had complete data available in IPEDS.

The next step was to determine which variables to use in the factor analysis. We selected many variables related to institutions. Some examples of these variables are enrollment, finance, graduation rates, and research expenditures. The factor analysis procedure then grouped these variables into the following underlying groups (called factors):

- Research and development expenditures, graduate enrollment, and number of doctorate degrees awarded
- Applications, admissions, and enrollment for undergraduates
- Tuition, average financial aid awarded, and graduation rates
- Out-of-state fees
- Distribution of in-state versus out-of-state students
- In-state fees
- Operating revenues and total revenue

Each institution was then scored on each factor and compared to the factor scores for MSU and UM. For comparison purposes we also requested each university submit a

set of ten peer institutions. The results from the factor analysis and each university's submission is listed in the following table.

Table 1
MSU and UM Peer Institutions
Legislative Audit Division's Factor Analysis and Individual Units' Selections

MSU-Bozeman (LAD Factor Analysis)	MSU-Bozeman (MSU Peer Selection)
University of Idaho	University of Idaho
University of Wyoming	University of Wyoming
Auburn University	Colorado State University-Fort Collins
Bowling Green State University-Main Campus	New Mexico State University-Main Campus
Clemson University	North Dakota State University-Main Campus
Mississippi State University	Oregon State University
University of Maine	University of Alaska-Fairbanks
University of Nebraska-Lincoln	South Dakota State University
University of Nevada-Reno	Washington State University
University of Rhode Island	Utah State University
UM-Missoula (LAD Factor Analysis)	**UM-Missoula (UM Peer Selection)**
New Mexico State University-Main Campus	New Mexico State University-Main Campus
University of Idaho	University of Idaho
Louisiana Tech University	Montana State University
Missouri University of Science and Technology	Northern Arizona University
Oregon State University	University of Alaska-Fairbanks
University of Louisiana at Lafayette	University of North Dakota
University of Maine	University of South Dakota
University of Missouri-Kansas City	University of Wyoming
University of Nebraska-Lincoln	Utah State University
University of Nevada-Reno	Western Washington University

Source: Compiled by Legislative Audit Division using IPEDS data and information obtained from MSU and UM staff.

As shown in the table, although our method identified peers that are the same as those selected by either UM or MSU, quite a few differences also occur. When discussing peer selection with both universities, it was indicated geographical proximity was included as a factor that would influence its list. However, we did not place importance on geographic vicinity and it was excluded from our factor analysis.

Comparison of MSU and UM to Peer Institutions

We then compared MSU and UM to their respective comparable institution sets to identify any relevant trends. In order to do so, we first identified a set of metrics which would be important for looking into workforce-related costs at higher education institutions. We identified these metrics by:

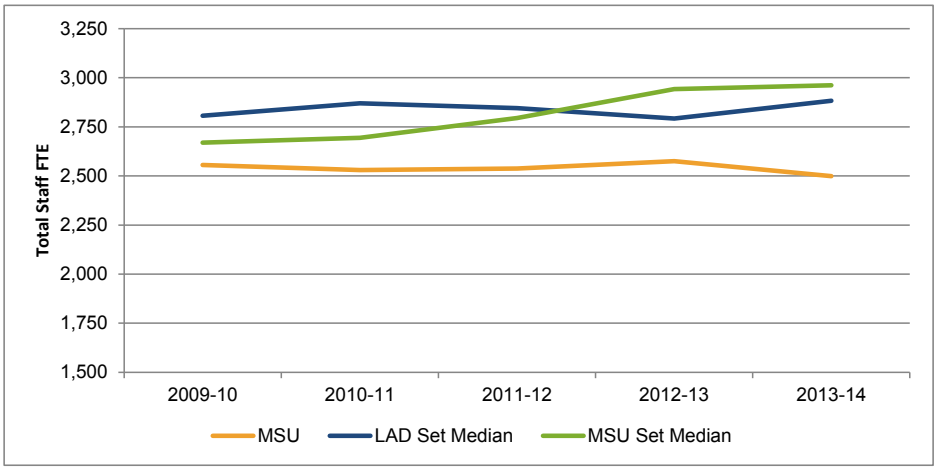
- Reviewing existing studies involving higher education statistics, especially those related to administrative costs.
- Interviewing both MSU and UM staff.
- Interviewing NCES staff.
- Interviewing staff at institutions in other states.

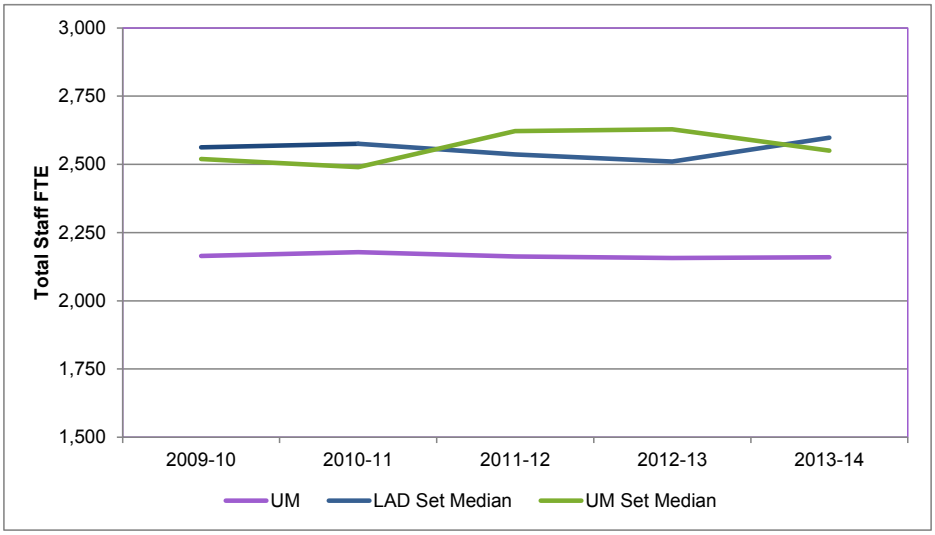
Based on these sources, we identified several statistics/metrics on which to compare MSU and UM to their peer sets. Some of these statistics were readily available in IPEDS, like FTE counts, while others were calculated or derived as part of our analysis using existing IPEDS data, like Instruction Support per FTE. After determining the metrics on which to compare MSU and UM, we extracted the appropriate data from the IPEDS Data Center for analysis (including charts to provide visual aids for the comparisons). For each relevant metric or statistic, we compared each Montana university to both the comparable set identified by the factor analysis (referred to as the LAD Set) and the peer set provided by MSU or UM staff (MSU and UM Set). The following sections detail the metrics we identified and show some of the resulting charts.

Total FTE Count Stayed Consistent From 2009-2013

When reviewing the workforce across the MUS, we first analyzed total FTE over the past five years. We used this analysis to determine whether significant variances have occurred at MSU or UM. We also compared MSU's and UM's total FTE to the median of the established peer sets.

Figure 4
Total FTE Peer Comparison
Academic Years 2010-2014





Source: Compiled by Legislative Audit Division from IPEDS data.

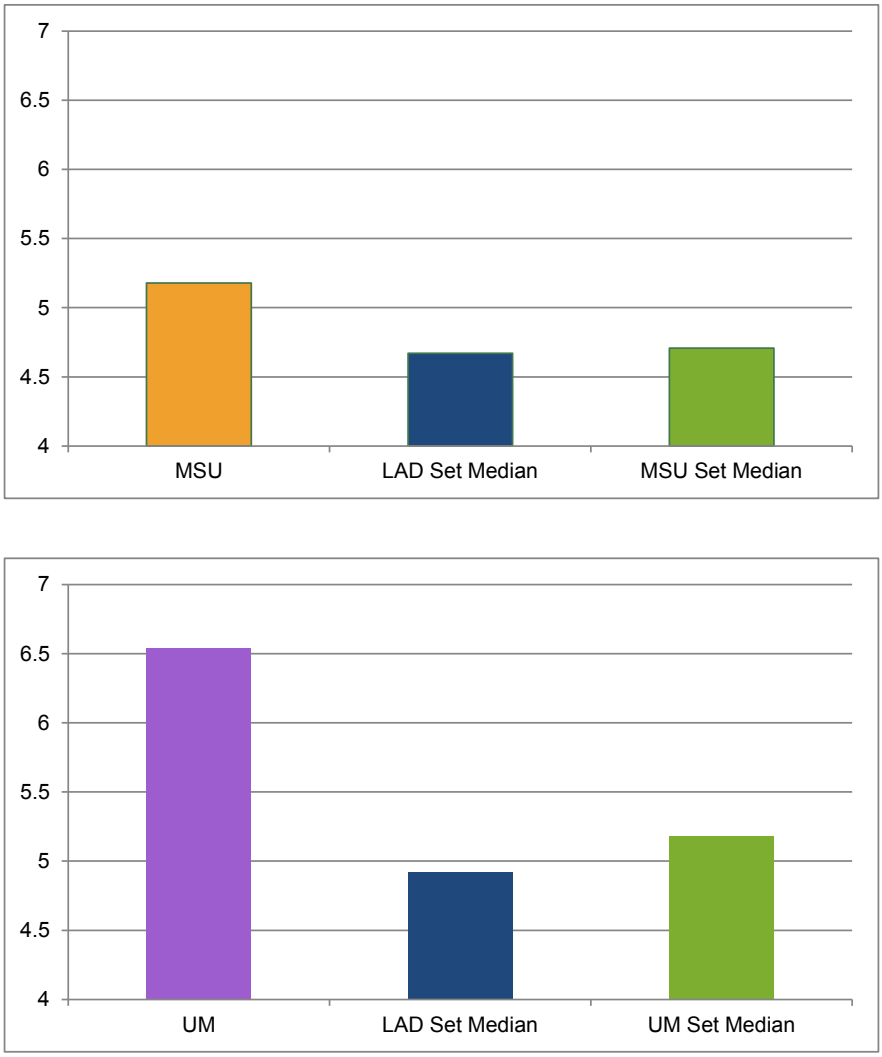
As can be seen in the figure, total FTE counts at both MSU and UM have stayed relatively consistent over the past five years. MSU's total FTE for 2014 was 2,499 and UM's was slightly lower at 2,160. Currently, both MSU and UM have lower total FTE counts than their sets of peer institutions.

Student-to-Staff Ratio Similar to Comparable Institutions

While total FTE counts were lower at both universities, another factor to consider is the number of students at the university. We analyzed the student-to-staff ratio for

each of the universities. This ratio takes student FTE into consideration and is one aspect of understanding the overall workforce at the flagship universities. To develop this statistic we divided 12-month enrollment student FTE by total staff FTE using IPEDS data.

Figure 5
Student to Staff FTE Ratio
Academic Year 2013-14



Source: Compiled by Legislative Audit Division from IPEDS data.

As can be seen in the figure, MSU had a ratio of 5 students per staff FTE, while UM had a higher ratio of approximately 6.5 students per staff FTE. Each university had more students for each staff position when compared to its peers.

Conclusion

MSU and UM have fewer FTE overall and a higher student to staff ratio when measured against peer institutions around the country.

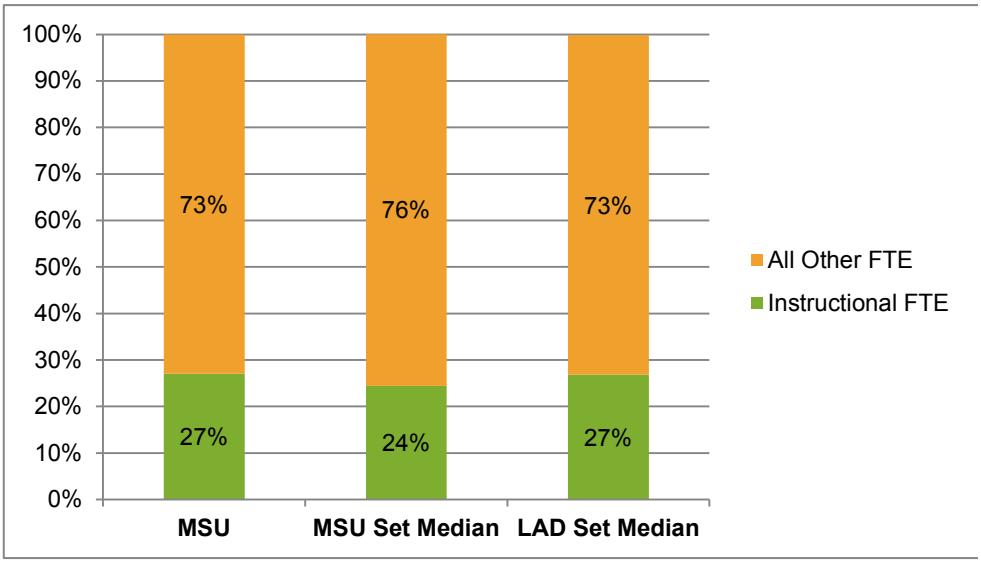
Instructional FTE Count Is Comparable to Other Institutions

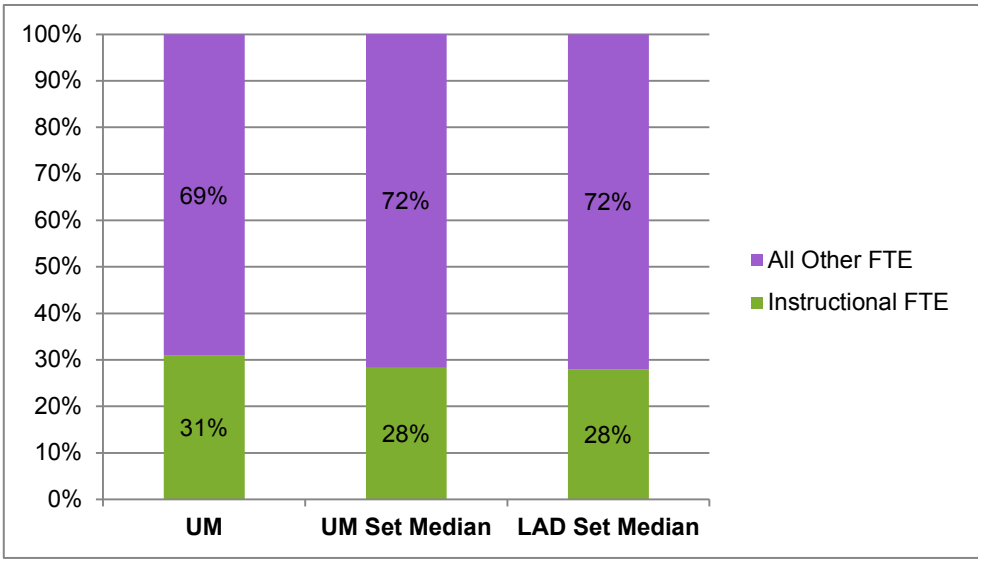
The student-to-staff ratio is one method of understanding a university's workforce, but it is relatively simplistic. A supplementary analysis breaking down university staff by function and specifically identifying instructional versus noninstructional staff is necessary for a fuller understanding. Each year IPEDS asks each institution to categorize individual staff members into occupational categories. IPEDS changed the occupational categories within the HR survey component to align with SOC codes in 2012. Many institutions reportedly had difficulty making this transition. Because of the switch to SOC codes, we were unable to look at a seamless view of employee distribution from 2005 through 2013. Thus, we looked at the distribution of staff among the ten occupational categories after 2012. These ten categories include:

- Instructional
- Research
- Public Service
- Service Sales and Admin Support
- Management
- Librarians and Academic Affairs
- Healthcare
- Computer Engineering and Science
- Community Service Legal Arts and Media
- Business and Financial

One of the most basic measurements of workforce data using the above categories would be the comparison of instructional FTE as a percentage of total FTE. The comparison of FTE reported in the Instructional category to the FTE reported in the other nine categories and can be seen in Figure 6 (see page 16).

Figure 6
Instructional FTE Ratio
Academic Year 2013-2014



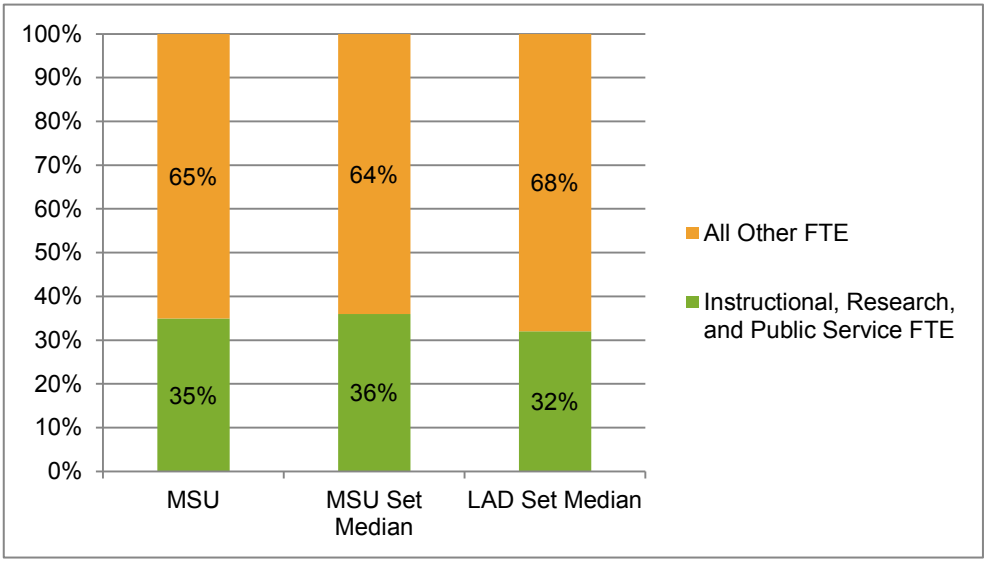


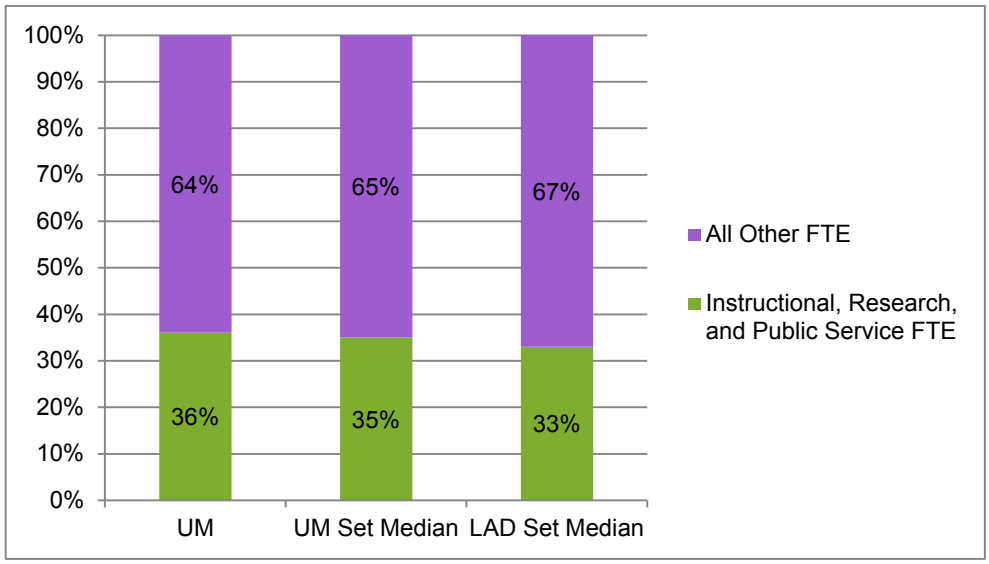
Source: Compiled by Legislative Audit Division from IPEDS data.

As the figure shows, MSU and UM both have a slightly higher percentage of FTE recorded in the Instructional IPEDS category when compared to peer institutions. This means both UM and MSU have a similar proportion of total staff dedicated directly to teaching when compared with an industry or institutional norm. This provides assurance that our institutions are not substantially different from their peers.

Instructional employment or teaching is only one aspect of what many universities consider their core mission. While teaching students in classrooms is typically the most recognizable part of an institution's mission, the resources universities devote to research and public service activities are now considered integral to the success of higher education systems. In the workforce context, research activities include all the positions associated with basic or applied research. The public service mission component is typically harder to define, but generally consists of university staff involved in programs or activities that benefit the larger community. In order to properly analyze how our universities compare to their peers, we need to expand the basic measure of workforce to include the number of FTE tied to the core mission of instruction, research, and public service. Using the IPEDS categorizations, we combined these occupational categories and the remaining seven categories are grouped into one category, with results shown in Figure 7 (see page 18).

Figure 7
Instruction, Research, and Public Service FTE Ratio
Academic Year 2013-2014





Source: Compiled by Legislative Audit Division from IPEDS Data.

As seen in the figure, when research and public service FTE are added, both MSU and UM have a similar percentage of FTE tied to their core mission than comparable institutions. Again, in the context of the broader question about "administrative" costs within the university system, these results are favorable for the MUS. Both UM and MSU devote more of their resources to positions associated with aspects of their core missions of instruction, research, and public service when compared to valid peer groups.

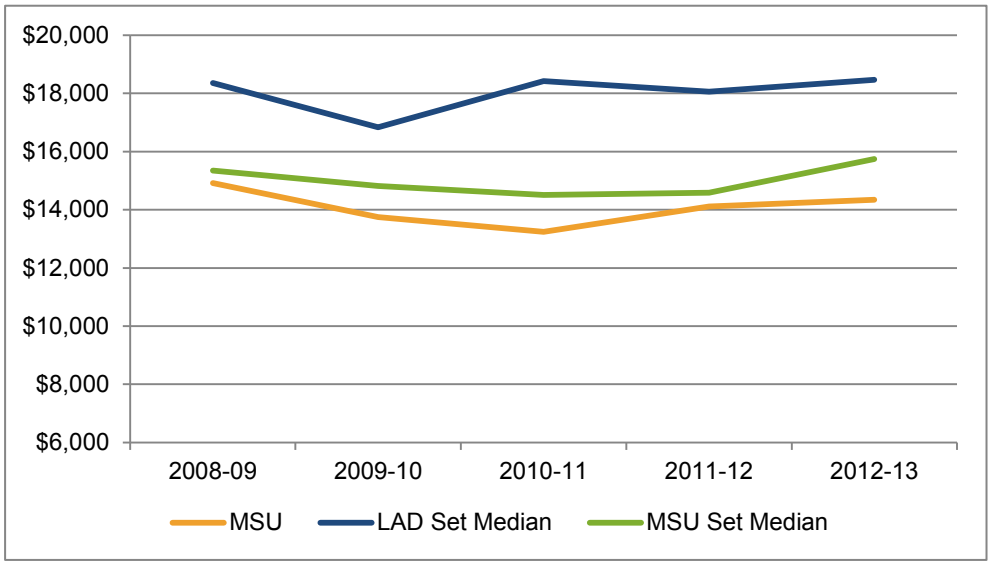
Conclusion

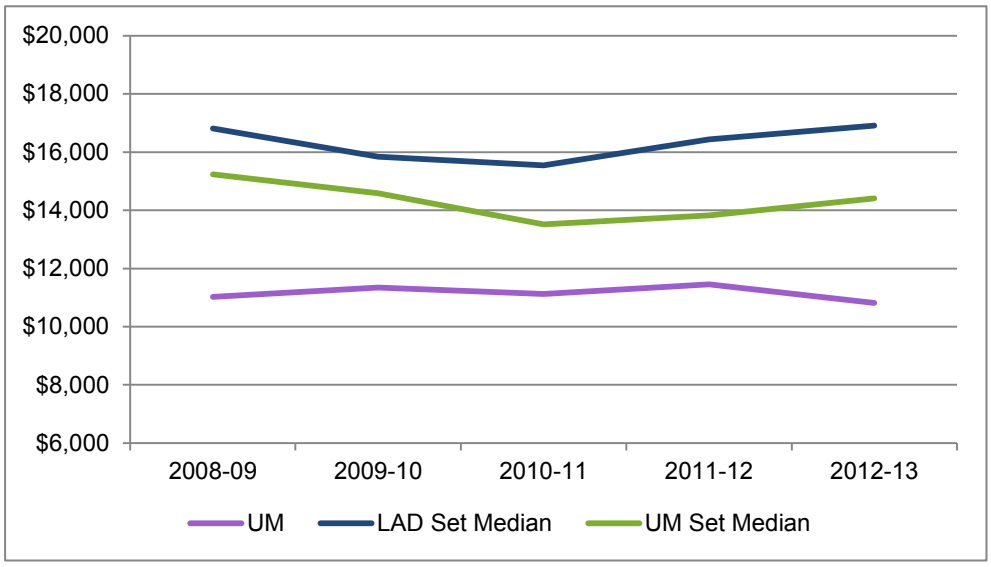
MSU and UM have similar percentages of staff FTE tied to their core mission of instruction, research, and public service when compared to peer institutions.

MUS Universities' Costs Tied to Positions

While the above analyses speak solely to the number of FTE and enrollment numbers, the following analyses examine the costs tied to these positions. The State Higher Education Executive Officers (SHEEO) Association annually produces a report on State Higher Education Finance (SHEF report) that enables the analysis of state- and national-level funding and enrollment trends. The SHEF report notes that "The combination of state government support, local tax appropriations, and tuition revenue constitutes the principal source of support for instructional programs at public institutions." Therefore, we calculated instructional support per FTE by defining instructional support as the sum of state appropriations, local appropriations, tuition, and fees. We then divided instructional support by student FTE to obtain the ratio of instructional support per FTE. Figure 8 (see page 20) shows the results of this analysis.

Figure 8
Instructional Support per FTE
Fiscal Years 2009-2013





Source: Compiled by Legislative Audit Division from IPEDS data.

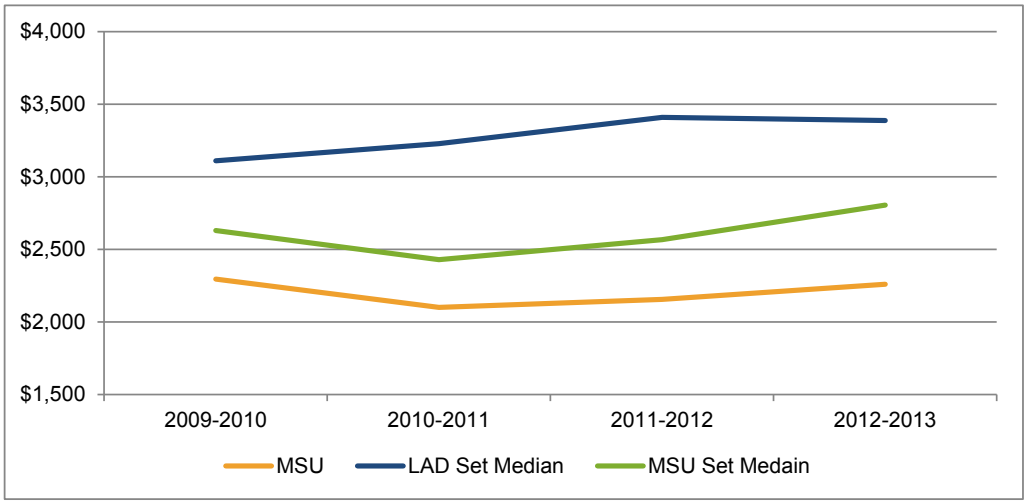
Through our review we identified both MSU and UM spend less on instructional support per student than comparable institutions. However, UM fell on the lower end for instructional support per FTE at $11,000, while MSU was closer to one of its peer medians at $14,300. To complete our analysis regarding costs, we also examined the administrative side of costs.

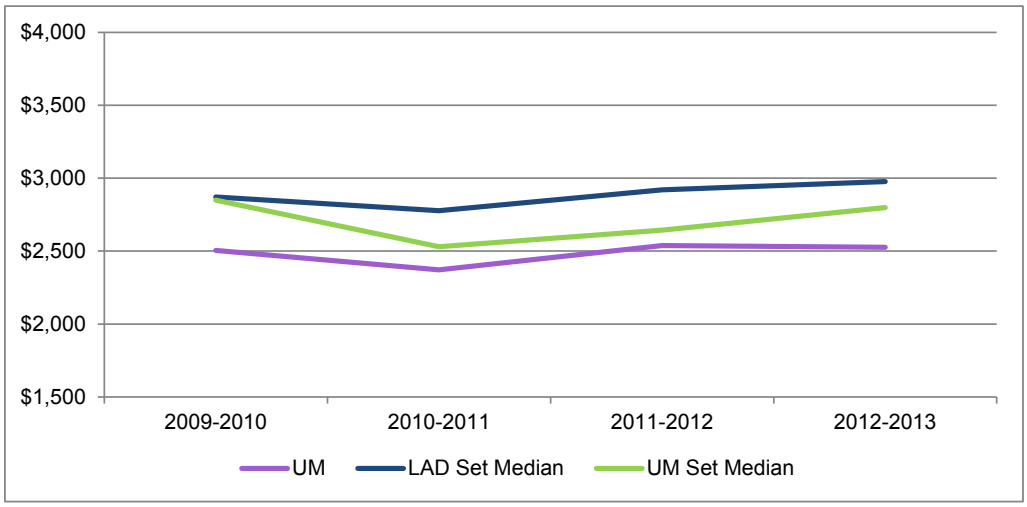
Expenditures at all public universities around the nation are broken out among specific program areas, including:

- **Instruction** instruction costs and department chair expenditures, but does not include expenditures for academic deans.
- **Research** includes activities specific to organized research.
- **Public Service** includes community service, cooperative extension services, and public broadcasting services.
- **Academic Support** includes expenditures for support of higher education's primary missions of instruction, research, and public service. Typical expenditures include educational media services, academic administration, sabbaticals, and course and curriculum development.
- **Student Services** expenditures for student services administration, counseling, career guidance and placement, financial aid administration, student admissions/recruitment, student records, and athletics.
- **Institutional Support** Expenditures for executive-level activities concerned with management and planning for the institution, legal services, fiscal operations, administrative data processing, and support services.
- **Operation and Maintenance** includes expenditures for physical plant administration, building maintenance, repairs, and minor renovations.
- **Scholarships/Fellowships/Waivers** includes scholarships and fee waivers.

Since financial expenditure data are available, we analyzed comparable institutions' IPEDS data related to these programs to identify if the MUS universities expenditures varied widely from their comparable institution sets. The calculation we used for this analysis has been used in multiple studies related to the costs of higher education and is defined as the sum of institutional support, academic support, and student services. Therefore, we derived administrative expenses for salary and wages per FTE by summing the salary and wage expenses from institutional support, academic support, and student services, and dividing this total by 12-month student FTE.

Figure 9
Administrative Costs per Student FTE
Fiscal Years 2010-2013





Source: Compiled by Legislative Audit Division from IPEDS data.

Through this analysis we determined both MSU and UM are lower on administrative costs per student than comparable institutions. Meaning the universities spend less per student on salary and wages tied to administrative costs than peer institutions.

CONCLUSION

MSU and UM spend less on instructional and administrative costs per student FTE when measured against peer institutions.

Additional Questions Addressing University Administrative Costs or Burdens

The analyses throughout this chapter show MSU and UM being comparable to other institutions when looking at the number and cost of FTE. However, even assuming there is broad agreement about the validity of comparing MUS institutions with public universities in other states, this analysis does not answer more fundamental questions: Could the MUS improve its ability to report and analyze total positions devoted to its core mission and positions that operate in administrative or support roles? What type of costs should be included when determining administrative costs? These questions can be especially important when viewed over a longer time frame. The country's higher education landscape has changed dramatically over the past half century, and 50 years ago it would have been very difficult to justify this seeming imbalance between teaching and other core staff roles, and all other positions or types of employment at a university.

Our work included multiple interviews with staff throughout the MUS who are involved in the collection and analysis of workforce data. Through interviews with MUS staff, discussions with external parties involved in these issues, and review of relevant studies, there are a few additional issues public policy makers should consider regarding administrative costs in the MUS, including:

- Shifts in institutional missions over the years and the growing importance of research-oriented activities on campuses.
- Changing student demographics and a more diverse student body with needs for different kinds of services (for example, the number of students with disabilities has increased, as has the number of nontraditional students).
- The need for services to support student preparation for college has increased (e.g. student counseling, tutoring, financial aid services, etc.).
- Increases in state and federal mandates (for example, various federal statutory reporting requirements, or the new state performance funding formula, etc.).

In summary, higher education has changed, so we need to ask and answer different questions if we are to understand whether it is being delivered as efficiently and effectively as possible. Using national reporting systems such as IPEDS can be instructive, and comparing MUS universities with peers in other states is an important starting point, but more detailed and accurate data are also needed. Universities are more complex organizations now than in the past and, therefore, policy makers need more complex analytical tools.

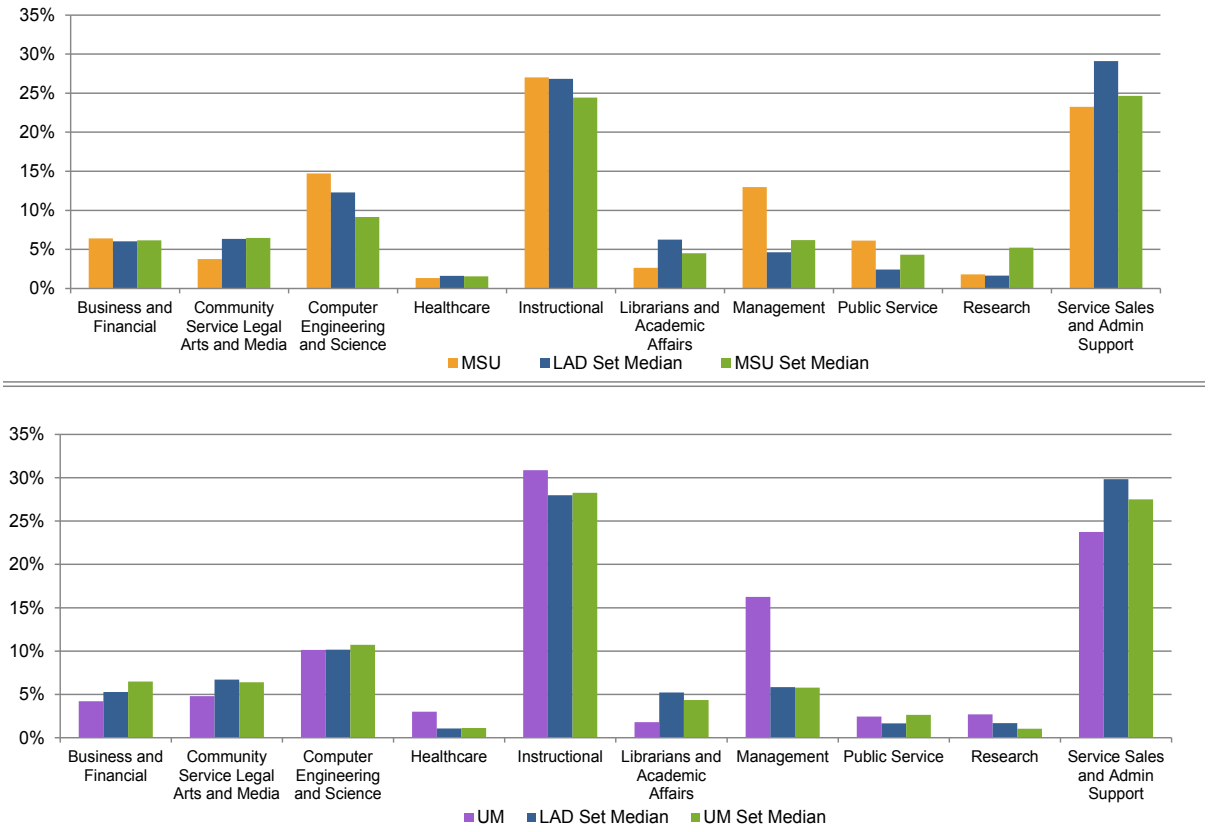
Conclusion

Although Montana's universities compare favorably to their peers in basic measures of administrative efficiency, changing priorities and increasing complexity in the higher education sector mean better workforce data and analysis need to be priorities for the Montana University System in the future.

IPEDS Reporting Should Be Used Cautiously

IPEDS data are useful when making broad comparisons of universities across the nation as it is the most widely-accepted and complete database for national higher education statistics. However, it is important for users to be aware of the nuances in the reporting. IPEDS data are self-reported by individual campuses and inconsistencies can occur. These inconsistencies as they relate to specific MUS universities are discussed further in the last chapter of the report. However, one specific area related to reporting inconsistencies occurred during our audit work as we were comparing occupational categories to comparable institutions. This analysis can be seen in Figure 10 (see page 25).

Figure 10
Occupational Category Comparison
Academic Year 2013-2014



Source: Compiled by Legislative Audit Division from IPEDS data.

As shown, MSU and UM showed a high proportion of management staff, nearly doubling their respective peers' medians in fall 2013. While this may lead to the conclusion there are too many management/administrative staff across the MUS, this may not be the case. As our review showed, MSU and UM were comparable to peer universities when reviewing FTE engaged in instructional or administrative activities. When discussing this specific occupational category with other universities around the country, they reported having noticed similar comparisons related to their universities and have revised whom they classify as management. Since IPEDS categories are broad in nature one of two things may be occurring, either MSU and UM have higher proportions of management staff or they are categorizing too many staff as management.

With potential for different interpretations by institutions, one should use caution when using and/or interpreting IPEDS data, especially when making policy or funding decisions related to individual universities.

Our work identified areas for improvement across the MUS that will improve the ability of policy makers to monitor and understand trends in university workforce data. Subsequent chapters in this report will further discuss the data currently available across the MUS to answer questions surrounding these areas and improvements that could be made to provide a clearer context surrounding the MUS workforce.

Chapter III –Developing a System-Wide Model for Workforce Data

Introduction

The Montana University System (MUS) has a strategic plan that is updated on an on-going basis and serves as the primary planning document for the Board of Regents (BOR). The plan includes strategic directions, goals, and objectives, as well as success measures in reaching those goals and objectives. It appears the MUS units and the Office of the Commissioner of Higher Education (OCHE) have developed and continue to update their strategic planning process. However, when reviewing these documents, we identified limited criteria and/or measurements the university system uses to evaluate whether the ratio of administrative staff has significantly increased over the years and if so, what value it has added. This chapter discusses workforce data currently available across the MUS universities and provides recommendations related to improving consistency and availability of data to provide the MUS, BOR, university management, and the Montana Legislature a clearer context when making policy and funding decisions regarding the MUS workforce.

The Office of the Commissioner of Higher Education Reports High Level Workforce Data

To determine how OCHE currently reports the university workforce data to BOR, we reviewed reports for fiscal year 2014. Based on this review, OCHE reports employee full-time equivalent (FTE) data as well as expenses tied to personal services to the BOR. The following sections further discuss these reports and while these data provide a high level assessment of the MUS workforce, they are not detailed enough to provide policy makers with enough understanding of the workforce to effectively make policy or funding decisions.

OCHE Collects High Level Employee FTE Data

The MUS currently reports employee data across five categories. These categories are recorded in each university's information system (referred to as Banner). The five categories are:

- **Contract Faculty**: employees who hold an academic contract with the BOR and provide services only in the primary programs of instruction, research, and public service.
- **Contract Professional and Administrative**: employees other than faculty employees who hold a contract with the BOR.
- **Classified Employees**: employees who participate in Board-approved classified pay plan and include electricians, plumbers, and support positions paid an hourly wage.

- **Graduate Teaching and Research Assistants**: students who have been awarded part-time employment with the institution to provide services in the areas of instruction and research.
- **Part-Time/Other**: part-time include all nonfaculty personnel who do not work on a full-time, regular basis, and are not classified employees. This does not include part-time employees that are assigned to the other categories.

As seen through the definitions, these categories are broad and do not include enough detail to be able to identify the type of work individual FTE are conducting. Therefore, while these categories allow one to break out faculty and all other staff using the contract faculty category, the broader categories of "contract professional and administrative" and "classified" do not categorize staff in sufficient detail to have a clear understanding or provide interested parties with useful data regarding the makeup of MUS workforce. The following table provides FTE tied to these categories for Montana State University (MSU) and the University of Montana (UM).

Table 2
Total FTE Count and Percentage Distribution
Fiscal Year 2014 All Funds and Current Unrestricted

	MSU-Bozeman			UM-Missoula		
Category	**FTE Count - All Funds**	**FTE Percentage - All Funds**	**FTE Percentage - Unrestricted Funds**	**FTE Count - All Funds**	**FTE Percentage - All Funds**	**FTE Percentage - Unrestricted Funds**
Contract Faculty	738	23%	42%	778	27%	41%
Contract Professional and Administrative	716	22%	18%	427	15%	11%
Classified	911	28%	28%	968	33%	36%
Graduate Teaching Assistants & Graduate Research Assistants	463	14%	7%	292	10%	8%
Part-Time/Other	419	13%	4%	466	16%	4%
Total	**3,247**			**2,931**		

Source: Compiled by the Legislative Audit Division from OCHE data.

For fiscal year 2014, MSU and UM vary in the "contract professional and administrative" category, with MSU employing nearly 300 additional staff. While we cannot say that MSU and UM must align their FTE, understanding why these variances exist would help policy makers, including BOR, better understand the workforce across the university system. When discussing this metric with OCHE staff, staff expressed that questions have been asked regarding this variance in the past. However, since OCHE does not have access to data concerning the specifics of these FTE counts, it must contact the university when more detailed information regarding FTE is needed. For this specific case, university staff indicated the differences occurred because each university records similar staff positions differently in the "contract professional and

administrative" category. OCHE does not have data to independently verify the data reported by either campus.

High Level Financial Data Also Available

As discussed in the previous chapter, all public universities use specific accounting program codes when recording expenditures. These programs are instruction, research, public service, academic support, student services, institutional support, operational and maintenance, and scholarships. While these expenditure breakdowns can be helpful when analyzing all expenditures related to administrative costs, the expenditures do not directly tie to workforce data or FTE counts, making it is less helpful when trying to understand the landscape of the workforce at the universities. For example, when looking at operating budget reports submitted to the BOR for fiscal year 2014, personal services tied to the "instruction" expenditure program include expenditures across all five employee categories including "contract faculty," "classified," and "contract professional." Since these expenditures are under the instruction expenditure program, this could lead an individual to believe classified staff are instructing courses at the university. Since the MUS expenditure data does not tie directly to the workforce data, we were unable to identify whether this is the case.

Since OCHE is limited in its ability to efficiently access detailed workforce data, it faces challenges when providing information to BOR or the legislature and must rely on the data provided from the universities across the system. Additionally, while the university may be able to answer portions of these questions, since the data are not readily available, the university is limited in its ability to compile workforce data in an efficient manner and must analyze the data each time a question is raised. By incorporating descriptive workforce data, the university system would be better able to answer these types of questions and efficiently discuss any variances in FTE.

Conclusion

Workforce data across the Montana university system is not maintained in a manner that allows OCHE the ability to validate and ensure accurate information is provided to interested parties.

Other State Universities Have Worked Towards Detailed Workforce Data

Other universities across the nation have implemented specific models to better address consistency, as well as answer questions surrounding its workforce data. The College and University Professional Association for Human Resources (CUPA-HR)

is the national association for human resource professionals in higher education. On its website, CUPA-HR directly references the University of North Carolina's (UNC) Job Categories (JCATS) model. The basic model, implemented at UNC in 2009, was prepared to assist with IPEDS reporting. The model was also used to assist universities in completing the CUPA-HR staff salary surveys and to consistently categorize the broad range of positions that exist across its multiple universities. While UNC's JCATS model is referenced on CUPA-HR's website, the University System of Georgia initially implemented a similar model in 2003. MSU and UM report data to IPEDS, as well as CUPA-HR staff salary surveys. However, they do not currently have a system-wide categorization model similar to JCATS that could allow more efficient and consistent reporting of workforce data at a national level. We used the JCATS model to determine whether this type of system-wide categorization model could be used across the MUS.

Benefits of a System-Wide Model for Workforce Data

According to UNC it implemented the model (JCATS) to consistently categorize the broad range of positions that exist across its universities. The model categorizes jobs based on the actual work performed rather than the job title; therefore, neither job titles nor salary ranges are affected directly by categorization assignments. JCATS simply provides a streamlined way to help answer the questions like "How many IT positions are there on your university?" The JCATS model uses reasoning that categorizes similar types of positions by function. The main job categories include:

- Executive Administrators
- Faculty/Academics
- Academics and Professionals with Administrative Assignments
- Functional Professionals
- Office/Clerical Staff and Supervisors
- Service/Maintenance Staff and Supervisors
- Technical/Paraprofessional Staff
- Skilled Craft Staff and Supervisors

The JCATS model further defines specific categories into functional areas, for example, the "functional professional" category is further broken down into the functions including, but not limited to:

- Academic Affairs
- Institutional Affairs
- Student Affairs
- Fiscal Affairs
- External Affairs and Communications

- Information Technology
- Research, Extension, and Other Education
- Athletic Affairs

If the MUS were to implement a model similar to the JCATS model, it would be able to breakdown the "contract professional and administrative" FTE category further into specific functional areas allowing policy makers to better examine "administrative" FTE. For example, a contract professional employee's job duties may include academic support functions such as academic advising, academic success, curriculum development, etc. By having the contract professional employee conduct these activities, a faculty member is better able to focus attention on teaching courses. This type of position, depending on how one defines "administrative," would generally not be grouped with instruction, research, and public service. However, with the JCATS model, one would be able to make this distinction with the academic affairs function.

Academic positions are another area in which additional detail is available through the JCATS model. For example, with the current "contract faculty" category, all faculty with academic rank are included under one category. If a system-wide model was implemented, the university system could more efficiently be able to break out adjunct professors, visiting professors, research professors, etc. The model would also allow policy makers the ability to consistently review trends at the university and/or system level.

Reported benefits these universities have seen due to the change to a consistent system-wide model include:

- Elimination of university level variances.
- Improved efficiency and compliance with external reporting requirements.
- Consistent and streamlined workforce data tracking that allows better review of trends and strategic planning.
- Flexibility for the universities to meet their needs while maintaining category/function consistency across the system that does not affect job titles and/or pay.

Audit Work Determined Banner Data Could Be Used to Assist With Categorization

In an effort to determine if the MUS could implement such a system-wide model using current Banner data, we worked with MSU and UM staff to obtain specific Banner fields that would allow us to categorize staff. We then selected a representative

random sample of 264 positions at each university totaling 528 total positions reviewed across the system. Since the universities have different implementations of Banner and use different fields in Banner to record data, we used different Banner fields at each university. Overall, when using three Banner fields for each university, we were able to categorize nearly 84 percent of the 528 positions we reviewed using the Banner data. We then extended the number of Banner fields to four and were able to categorize 92 percent of the positions we reviewed.

For the remaining 8 percent of the positions we reviewed we could not categorize the position using Banner data. Reasons for this included:

- Job and Position Titles were not descriptive (e.g. program manager, project lead, and administrative and contract professional pool).
- Position title did not match job description title in Banner (e.g. position title was "program coordinator" and job description was "administrative associate").

In these cases, university staff would need to conduct additional work through review of position descriptions or follow up with departmental staff to categorize the position. While this would be the case for a small percentage of positions, this review allowed us to establish that current Banner data could be used to implement a model similar to JCATS.

Banner Presents Management Information Limitations

OCHE maintains data warehouses on financial and student data; however, it lacks a similar model on MUS workforce data. OCHE identified the need for the addition of certain workforce data elements to current warehouse data gathering activities. In spring 2015, OCHE began what it refers to as its Human Resource Data Collection Project. According to OCHE, the data collection project was implemented to answer basic questions regarding FTE, salary, and classification of employees at the various campuses and for the system as a whole. The project requested specific MUS universities provide specific Banner data fields tied to OCHE through its current finance data warehouse. Examples of these data fields include employee name, position, position title, SOC codes, and salary.

While this reporting mechanism allows OCHE to obtain Banner data tied to workforce information, the data are not consistently reported and do not include descriptive categories by function. This is because the MUS campuses use different job titles and Banner fields when recording this data. While the data collection is a step in the right direction, the current project will not allow BOR or OCHE to meaningfully compare or report MUS workforce data or campus FTE levels at a more detailed level. This means that OCHE would still be limited in its ability to answer questions regarding

university system staffing trends in specific areas, such as academic support FTE, or provide information regarding FTE levels within specific departments at any state university. The lack of more descriptive data could also impact the legislature's ability to appropriately fund Montana's university system.

A Consistent Workforce Reporting Model Would Provide Better Context When Making Policy Decisions

While OCHE has high level data related to workforce, it faces challenges when answering questions related to FTE requests, staffing levels, and detailed classification of employees. OCHE currently relies entirely on data provided by the universities. Since most detailed reports are requested of the universities on an ad-hoc basis, depending on which specific Banner data fields are queried, the data obtained from two different individuals could be inconsistent. Because of this, BOR and its staff may be unable to make meaningful comparisons/analysis across the MUS universities. This ultimately impacts the BOR's ability to make meaningful policy decisions related to its workforce and funding of Montana's universities.

A system-wide model that ensures consistent categorization of staff across the MUS universities is needed. Such a model would assist management across the universities and the MUS when making policy decisions, including what is the appropriate ratio of administrative versus instructional staff for the MUS. Banner data is a feasible starting point; however, there would be additional staff time needed to develop the model.

RECOMMENDATION #1

We recommend the Montana Board of Regents, through the Office of the Commissioner of Higher Education, work with the Montana University System units to establish a system-wide categorization model that allows:

A. *The Montana University System units to report workforce data in a consistent manner, and*

B. *The Office of the Commissioner of Higher Education to obtain and validate workforce data for reporting purposes.*

Chapter IV – Improving the Accuracy and Consistency of Workforce Data Reporting

Introduction

Montana State University (MSU) and the University of Montana (UM) each have multiple departments and offices with a variety of employees. Employee information is maintained by human resources staff at each university on the Banner system. Data within Banner are used for both internal and external reporting at each university. One of the objectives of this audit was to evaluate the accuracy and consistency of procedures used for collecting and reporting workforce data at the university level. As discussed in the previous chapter, if the university system were to implement a system-wide workforce categorization model, it would be better able to provide consistent and accurate management information to policy makers. However, management information would only be accurate if the source data in Banner is accurate. The following chapter provides recommendations for improving consistency and accuracy of Banner data and national level reporting across the system.

Importance of Accurate Workforce Data

Since the Office of the Commissioner of Higher Education (OCHE), Board of Regents (BOR), legislators, and university management rely on Banner information to make decisions regarding the Montana University System (MUS), it is important to have accurate and reliable information collected and maintained in the system. This information allows for accountability in the management of resources and provides a basis for policy decisions. However, before workforce data can be collected and relied upon to make decisions, the information being relied upon needs to be reviewed and updated to ensure accuracy. Internal controls address the following three principles related to the quality and communication of information:

- Management should use quality information to achieve the entity's objectives.
- Management should internally communicate the necessary quality of information to achieve the entity's objectives.
- Management should externally communicate the necessary quality information to achieve the entity's objectives.

Each university maintains workforce data in the Banner system. The first of the three principles needs to be implemented before the remaining two principles can be achieved. Audit work detected errors in the Banner data that need to be resolved in order to provide quality information to allow for the universities, BOR, OCHE, and legislators to make informed decisions to meet their objectives. The following sections discuss this issue further.

Review of Banner Data Identified Inaccuracies and Inconsistencies

As part of the work related to this objective, we evaluated whether Banner data are accurate and consistent across departments at the university. A randomly selected sample of 264 employees at each university (or roughly 8 percent of employees) for fiscal year 2014 was used for this evaluation. This sample was the same sample used for the categorization methodology discussed in the previous chapter. Again, to ensure the random sample of employees would include a wide range of departments, we randomly selected employees from strata based on the number of employees in the departments.

During our review of Banner data at MSU and UM, we reviewed whether the Banner fields tied to the employee aligned with the departmental human resources representative's description of the positions job duties. However, we did not review payroll tied to these positions. Our review found Banner workforce data aligned with job duties and was reported consistently between departments at individual campuses for 87 percent of positions reviewed. However, we found 13 percent of positions we reviewed were either recorded inconsistently in Banner or had inaccurate Banner data associated with the employee. Examples of these inconsistencies or inaccuracies identified include:

- Job titles and position titles.
- Position numbers.
- The same position at the university level had different Banner data assigned.
- Fields containing part-time and full-time data did not align.
- Titles related to job, job descriptions, or position descriptions did not align.
- Banner data was not updated when the employee changed positions.

While university staff stated they are aware of Banner workforce data fields being inconsistent or inaccurate, they indicated the main priority of the human resource office is ensuring the university's workforce is accurately paid. Therefore, only Banner data fields that affect pay and/or other compliance requirements are updated. Other data fields that would not affect pay are not prioritized or updated.

An example of how these data inconsistencies or inaccuracies could affect data provided to management involves part-time and full-time employees. For the 264 positions we reviewed at one of the universities, the part-time/full-time data varied depending on which Banner field we used. With one set of data, the count of full-time employees would have been 160 FTE; however, using the other Banner field, the result of full-time employees would be 174 FTE. While the university indicated human resource staff are knowledgeable about which Banner field is accurate, other staff across the university

may not understand the difference between the fields, resulting in two different reports that could potentially be used.

Increased Scrutiny Impacts Human Resource Function's Role at Universities

With the increased scrutiny universities have received and pressures to become more efficient, the human resources function will need to become more involved across the system, especially when it comes to making workforce management decisions. With this understanding, MSU began working on an employee management report in 2015. As part of this process, staff is reviewing and updating Banner workforce data to ensure accuracy.

Since inaccuracies have been found in Banner workforce data, information could be inaccurately reported to those tasked with making management decisions, including university management, BOR, OCHE, and legislators. MUS should establish procedures to update Banner data to ensure it is accurate prior to management information being collected and reported to policy makers.

RECOMMENDATION #2

We recommend the Montana University System units establish procedures to:

A. *Review current workforce Banner data to ensure it is accurate, and*

B. *Update workforce Banner data as individuals change positions.*

MUS Universities Report Human Resource Data to IPEDS Annually

The National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) is the data arm of the federal National Center for Education Statistics (NCES) - Institute of Education Sciences. Each public university reports institutional data related to human resources to IPEDS every year. The reporting of employee data in IPEDS can be complicated and time-consuming. First, university staff in the Planning and Analysis Office at each campus extracts employee data from Banner in the fall. This is referred to as the "fall snapshot." After the fall snapshot is extracted, university staff performs work to review the data. Staff works with the human resource staff at their university if problems or concerns with the data arise. The issues at this stage happen most frequently when employees change positions or

when turnover in a position occurs. Once the data are reviewed for accuracy, university staff compiles and report the data to IPEDS.

Most postsecondary institutions designate an individual within the institution's reporting function as the IPEDS key holder for the institution. The IPEDS key holder is responsible for the submission of all IPEDS data and must ensure the surveys are completed accurately and in a timely manner. The deputy commissioner for planning and analysis at OCHE is the statewide IPEDS coordinator for Montana. However, the role is currently limited as OCHE does not have access to descriptive workforce data to independently verify the data before submission.

IPEDS Reporting Inconsistencies and Inaccuracies Identified

While MSU and UM largely report IPEDS employee data consistently, there are areas where they are reporting this data inconsistently. These areas include:

- **Full-time versus part-time**: The two universities have different FTE cutoffs for separating full-time from part-time staff. One university uses a cutoff of 0.9 FTE, while another uses 1.0 FTE.
- **Level of categorization of instructional staff**: One university splits instructional staff into a) primarily instructional; and b) instructional combined with research or public service. However, the other university ignores the instructional combined with research or public service category and categorizes all instructional staff as primarily instructional.

Additionally, one of the universities did not record 178 employees, which would have totaled approximately 45 FTE for IPEDS reporting in 2013. These employees may not have been recorded due to a primary position indicator not being assigned. Since the fall 2013 snapshot, the Planning and Analysis Office at the university has implemented queries to ensure employees without a primary position indicator are identified and reported.

IPEDS Guidelines Are Vague

When discussing IPEDS reporting policy and procedures with NCES staff, they indicated places within the IPEDS human resources survey allow universities to interpret guidelines differently. Here are three examples:

- **Full-time versus part-time staff**: While IPEDS provides structured guidelines for separating full- and part-time students, the guidelines for separating full-time and part-time staff are purposefully left vague. This increases the risk for possible differences in methodology across institutions.
- **Employees with split duties**: The IPEDS guidelines say, "When workers in a single job could be coded in more than one occupation, they should

be coded in the occupation that requires the highest level of skill. If there is no measurable difference in skill requirements, workers should be coded in the occupation in which they spend the most time." However, there are no further guidelines on how to interpret "highest level of skill." NCES staff explained this is done on purpose so that institutions are free to represent staff in the manner in which they think is most appropriate.

- **Breakdown of instructional staff**: In IPEDS, instructional staff can be broken down into a) primarily instruction, and b) instruction combined with research or public service. Some institutions do not make this distinction and will put all instructional staff into one of these two sub-categories. NCES staff indicates that some institutions do not feel they can or need to make this distinction.

Additionally, institutions maintain varying levels of documentation of the IPEDS reporting processes, which contributes to varying interpretations of guidelines from year to year at individual institutions. As discussed with the Banner data earlier in the chapter, it is important to have accurate and consistent information collected and maintained in the system. This information allows for accountability in the management of resources and provides a basis for policy decisions. However, it is important for information being used to make decisions to be accurate and consistently reported.

Formalized Procedures Would Ensure Data Is Reported Accurately and Consistently Across the MUS

While MSU and UM had limited documentation surrounding IPEDS reporting, it is incomplete and would not allow other individuals to reproduce the same reporting results. While both NCES and university staff note areas within the IPEDS human resources survey that leave room for interpretation, universities do not always maintain written guidelines for interpreting vague IPEDS instructions. While MSU and UM have some documentation for the IPEDS human resources survey, such as query code and instructions for obtaining certain staff groups, neither university maintains a complete written description of how to perform the IPEDS reporting or how to interpret vague IPEDS guidelines. The Office of the Commissioner of Higher Education also does not have policy or procedures that guide the universities' interpretation of vague guidelines to ensure consistent reporting system-wide.

To ensure future employees can interpret IPEDS consistently and achieve reliable, quality data that can be compared year-to-year across the MUS, it is vital universities formalize procedures for IPEDS reporting. While additional staff time will be necessary to develop consistent reporting processes, current reporting inconsistences and inaccuracies could potentially cause policy makers or legislators to draw inaccurate conclusions at the university or system level. It is also important OCHE document and

provide an interpretation of IPEDS guidelines. This would ensure consistent IPEDS reporting system-wide; however, it would not affect or ensure consistency with other states' institutions.

RECOMMENDATION #3

We recommend the Office of the Commissioner of Higher Education work with Montana University System units to:

A. *Review and document current IPEDS reporting processes at each of the MUS units.*

B. *Identify IPEDS reporting inconsistencies across Montana University System units.*

C. *Establish and document a statewide level interpretation of IPEDS reporting guidelines.*

Montana University System

Response

MONTANA UNIVERSITY SYSTEM
OFFICE OF THE COMMISSIONER OF HIGHER EDUCATION

2500 Broadway ~ PO Box 203201 ~ Helena, Montana 59620-3201
(406) 444-6570 ~ FAX (406) 444-1469

January 8, 2016

Tori Hunthausen
Legislative Auditor
State Capitol Building, Room 160
PO Box 201705
Helena, MT 59620

Dear Ms. Hunthausen:

Please find attached the response from the Montana University System regarding the Workforce Data Reporting Performance Audit conducted this past year. This is a joint system-wide response representing not only the Office of the Commissioner of Higher Education (OCHE) and the Board of Regents, but also the campuses of Montana State University and the University of Montana.

The Montana University System concurs with all recommendations. OCHE will be coordinating the implementation of the audit recommendations.

We would like to express our appreciation for the hard work and professionalism of your staff throughout this audit. The recommendations of this performance audit will help the Montana University System improve our workforce and human resource data. The final results of this effort will directly impact the ability of policymakers to effectively monitor and understand workforce trends across the Montana University System.

Sincerely,

Clayton T. Christian
Commissioner of Higher Education

MONTANA UNIVERSITY SYSTEM

Response to Administrative Cost Performance Audit
February 2, 2016

This document represents the response from the Montana University System to the performance audit on Workforce Data Reporting.

Recommendation #1

We recommend the Montana Board of Regents, through the Office of the Commissioner of Higher Education, work with the Montana University System units to establish a system-wide categorization model that allows:

A. The Montana University System units to report workforce data in a consistent manner, and
B. The Office of the Commissioner of Higher Education to obtain and validate workforce data for reporting purposes.

The Office of the Commissioner of Higher Education (OCHE) concurs with this recommendation. OCHE concurs that workforce data covering all areas of the MUS must be consistent and correct. We will take the necessary steps to meet this recommendation, including the development of a system-wide human resource data warehouse maintained by OCHE, the implementation of a consistent position categorization model, and the development of procedures to ensure reliable and valid information. The MUS will establish a system-wide human resource data taskforce to develop and carry out a detailed action plan. I expect significant progress to be made within the next six months and a completed project by the end of FY17.

Recommendation #2

We recommend the Montana University System units establish procedures to:

A. Review current workforce Banner data to ensure it is accurate, and
B. Update workforce Banner data as individuals change position.

The Montana University System (MUS) concurs with this recommendation. The MUS understands the importance of accurate Banner data and will take steps to establish and affirm the necessary procedures to ensure accurate workforce data in Banner. OCHE will begin immediately working with the MUS units to review workforce data in Banner and analyze current procedures, making changes where necessary. The majority of this work will be completed within the next year, however, this will be a business improvement process that will occur on a continuous and ongoing basis.

Recommendation #3

We recommend the Office of the Commissioner of Higher Education work with Montana University System units to:

A. Review and document current IPEDS reporting processes at each of the MUS units.
B. Identify IPEDS reporting inconsistencies across MUS units.
C. Establish and document a statewide level interpretation of IPEDS.

The Office of the Commissioner of Higher Education (OCHE) concurs with this recommendation. IPEDS is a significant data resource and the MUS must have consistent and accurate data represented in this federal reporting system. OCHE will work with the campuses to develop and implement consistent system-wide procedures. This work is estimated to be completed within the next year.