

## **University of Missouri Waiver Request**

### **Introduction**

For the period covering FY2010-12, state appropriations for the University of Missouri (“university”) will have decreased by an estimated 12.2% (\$53 million), including a proposed 7% (\$29.5 million) decrease in the coming fiscal year. The university has been able to hold tuition and required fees for Missouri resident undergraduates flat for the past two years by cutting its operating budget and substantially reducing its expenditures, instituting a hiring freeze, withholding salary increases for university employees, implementing employee contributions to the pension plan, foregoing needed purchases of goods and services and foregoing millions of dollars in badly needed repairs to its facilities. At the same time that revenue from state aid has been decreasing, costs have been increasing. The consumer price index (“CPI”) has increased by 4.3% over the last three years and mandatory costs for such things as energy and healthcare have risen well beyond the rate of inflation. For the coming year alone, the university faces an estimated \$72 million shortfall in operating revenue before any increase in tuition. While other similar research universities responded to the national funding crisis by raising tuition an average of 15.5% over the last two years, the university has not raised tuition or required fees at all.

Given these circumstances and despite the university’s reluctance to increase tuition for FY2012 above the rate of inflation, the university’s Board of Curators, at its January 27-28, 2011 meeting, felt compelled to increase tuition and required fees by an average of 5.5% in order to sustain quality and make necessary mission-driven strategic investments. Even with this increase in tuition and required fees, the university will have a funding gap of approximately \$42 million for FY2012 that it will have to fill through a variety of painful actions, including workforce reductions and further delayed maintenance to laboratories and other important facilities.

Section 173.1003, RSMo states that the university must submit to the Coordinating Board of Higher Education (CBHE) “five percent of its current year state operating appropriation amount” or to submit a request to waive the penalty articulated in Section 173.1003, RSMo. This waiver request addresses the criteria that will be used to evaluate a waiver request according to guidance from the Commissioner of Higher Education. However, it is readily apparent that the “relationship between state appropriations and the consumer price index,” the primary factor contained in Section 173.1003, RSMo, amply justifies the increase in tuition and required fees adopted by the University of Missouri Board of Curators.

Undergraduate tuition and required fees charged to Missouri resident students are addressed by Section 173.1003, RSMo. Tuition and required fees include base tuition, the information technology enrollment fee, and student activity, facility and health services fees except those fees passed by student referendum (such as student union fees at MU and UMKC, the intramural facility fee at MO S&T and the Metro pass program fee at UMSL.). Table 1

below shows tuition and required fees for a Missouri resident undergraduate student as defined by Section 173.1003, RSMo.

Table 1. Tuition and Required Fees, Missouri Resident Undergraduate Students \*

	<u>FY2011</u>	<u>FY2012</u>	<u>Change</u>	<u>% Change</u>
MU	\$8,429	\$8,917	\$488	5.8%
UMKC	\$8,272	\$8,666	\$394	4.8%
MO S&T	\$8,483	\$9,039	\$556	6.6%
UMSL	\$8,583	\$8,990	\$406	4.7%
<b>Average</b>	\$8,442	\$8,903	\$461	5.5%

\* Excludes fees passed by student referendum per SB389

At the January 27-28 Board of Curators meeting, the board approved an increase in tuition and required fees for a University of Missouri resident undergraduate that averages 5.5% across our four campuses, with a range of 4.7% to 6.6% depending on the campus. The tuition and required fees recommended by each campus and approved by the Board of Curators were developed through careful study of the budget needs at each campus in order to support both the need for quality and the desire for access and affordability. The decisions were shaped with input on each campus from students about their needs and their preferences. The average 5.5% is 1.2% greater than the 4.3% cumulative inflation since 2009 when tuition and required fees were last increased. The difference between the 5.5% average increase approved for FY2012 and where tuition and required fees would be if the University of Missouri had inflationary increases over the past two years and in FY2012 is \$97.31 annually (or \$8.11 monthly) per student if such student were paying the full amount of tuition and required fees without any reduction resulting from grant aid as discussed below.

In FY2010, 76% of undergraduate students at the University of Missouri received grant aid which reduces the “sticker price” to students. On average, those who received aid actually paid less than half of that price for tuition and required fees (see Table 2). Thus, the difference between the 5.5% average increase approved for FY2012 and where tuition and required fees would be if the university had inflationary increases over the past two years and FY2012 would be on average \$ 48.66 annually (or \$4.05 monthly) per student for the 76% of students who receive grant aid. The average cost across the system for students with the highest need was only 15% of the sticker price. Last year at MU, for instance, on average those students with family incomes below \$40,000 received \$7,900 in grant aid and paid only 6% of the sticker price (\$600).

Table 2. Average Sticker Price vs Actual Average Cost

	FY2010 Average Grant Aid	FY2010 Tuition & Required Fees	FY2010 Average Net T&RF	Net T&RF as % of Total T&RF
MU	\$4,053	\$8,429	\$4,376	52%
UMKC	\$4,860	\$8,272	\$3,412	41%
MO S&T	\$5,598	\$8,483	\$2,885	34%
UMSL	\$3,897	\$8,583	\$4,686	55%
<b>Average</b>	<b>\$4,383</b>	<b>\$8,464</b>	<b>\$4,081</b>	<b>48%</b>

T&RF is tuition and required fees as defined by SB389

We understand that the approved increase could have an impact on our neediest students. Table 3 below provides data on the projected impact on our neediest students with family income levels of less than \$40,000. We can project FY2012 based on the last three years. In FY2010, the neediest of our students received \$7,168 in average grant aid. Assuming grant aid to those students increased at the same rate as it did from FY2008 to FY2010, those students would receive \$7,915 in average grant aid in FY2012. When the grant aid is applied to the FY2012 tuition and required fees (T&RF), the amount the neediest students would pay on average would be \$988. However, at MU and MO S&T average grant aid for our neediest students exceeds the T&RF. When this is the case, the average paid by such students for tuition and required fees is zero, and the excess grant aid is available for books, supplies and living expenses.

Table 3. Sticker Price vs Cost for Our Neediest Students

	FY2012 Projected Average Grant Aid Neediest Students	FY2012 Tuition & Required Fees	FY2012 Projected Average Net T&RF Neediest Students	% of T&RF Covered by Grant Aid Neediest Students
MU	\$9,069	\$8,917	(\$152)	101.7%
UMKC	\$7,359	\$8,666	\$1,308	84.9%
MO S&T	\$9,486	\$9,039	(\$447)	104.9%
UMSL	\$5,763	\$8,990	\$3,227	64.1%
<b>Average</b>	<b>\$7,915</b>	<b>\$8,903</b>	<b>\$988</b>	<b>88.9%</b>

T&RF is tuition and required fees defined here per SB389

We don't want to minimize what a struggle it is for many students. But our financial aid offices are committed to working with students to make it possible for them to continue. In addition, our campuses are committing 20% of new revenue from tuition and fee increases to additional financial aid for our neediest students.

As discussed in greater depth below, the University of Missouri is a major research university with a mission and responsibilities to the people of the State of Missouri which is unique among the Missouri's public institutions of higher education. The cost of operation for such a major research university is far greater than for other four year institutions which do not have the same research mission. In contrast to the University of Missouri campuses which have had no increase in tuition and required fees for the past two years, tuition and required fees for undergraduates at public doctoral universities increased an average of 6.6% and 8.9%, respectively, over the past two years.

The Board of Curators and the university administration, working with students and faculty, have worked hard to keep the magnitude of the increase to a reasonable level, balancing the need for access and affordability with quality. The 5.5% increase in tuition and required fees will only generate \$24 million in revenues after setting aside 20% for additional financial aid. **Even with a 5.5% average increase in tuition and required fees, the university will have to identify over \$42 million in budget reductions to balance its FY2012 budget.** Without the increase in tuition and required fees approved by the Board of Curators, there will be a far greater likelihood that necessary budget reductions will result in the loss of jobs for Missourians.

Our goals are aligned with the Governor's as we continue to educate more of the state's students to expand our state's educated workforce. Over the past 10 years, the number of baccalaureate degrees granted annually by University of Missouri campuses has increased 31%; the number of master's degrees has increased 50%; the number of research doctorates has increased 29% and the number of professional practice doctorates has increased 13%. Our retention rates to graduation at 68% for MU and 63% for Missouri S&T are two of the top three highest for public institutions in the state, and well above the national average of 50%.

We believe, and our data show, that the erosion in the state's investment in its research university over the past 10 years has brought us perilously close to compromising the quality of our educational mission and the cutting-edge research that support the economic growth of the state. *U.S. News and World Report* data show that for all four of our campuses' faculty resources and financial resources rankings have dropped significantly since 2002. The percentage of classes with enrollments greater than 50 has increased 36% at MU, 129% at Missouri S&T and 60% at UMKC. Student-faculty ratios at all three campuses also have increased. From 2001 to 2009, on expenditures per student, (a measure used to rank financial resources), MU has dropped from 82<sup>nd</sup> to 160<sup>th</sup>; UMKC from 74<sup>th</sup> to 151<sup>st</sup>; MO S&T from 120<sup>th</sup> to 165<sup>th</sup>; and UMSL, from 202<sup>nd</sup> to 227<sup>th</sup>. The drop in rankings parallels the reduction in state support since 2002. Without a relatively small increase in tuition and

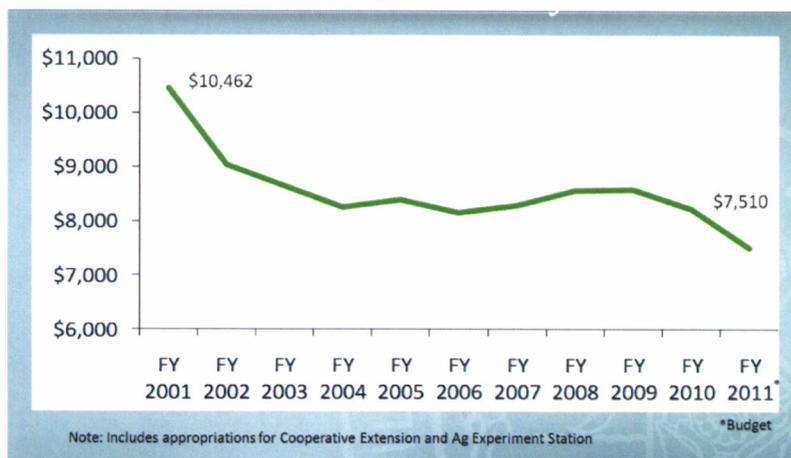
required fees above the CPI three-year average, the ability to reverse these trends will be hampered even more.

In compliance with Section 173.1003, RSMo, we are requesting a waiver of penalty due to tuition and required fee increases at a rate greater than CPI. On the following pages, the University of Missouri documents the extraordinary circumstances that warrant the increase in tuition and required fees approved by the Board of Curators.

**1. State operating appropriation for FY2010 per FTE student for academic year 2009-10 compared to the state operating appropriation for FY2011 per FTE student for academic year 2009-10.**

The state support provided to the University of Missouri in FY2010 was \$8,218 and the amount of state support in FY2011 was \$7,510, making the one-year decline 8.6% (\$708) per FTE student. Thus, the reduction in state support per FTE student from FY2010 to FY2011 was far greater than the average increase in tuition and required fees approved by the Board of Curators for FY2012, an average of \$461. Looking back historically over a longer time period, declining state support coupled with enrollment increases has resulted in a 28% decline in current (not adjusted for inflation) dollars in state support per full time equivalent (FTE) student over the past ten years from \$10,462 in FY2001 to \$7,510 in FY2011, a decline of \$2,952. In CPI inflation-adjusted dollars, the drop is 42%. This compares to the national average decline in constant or inflation-adjusted dollars of state support per FTE student for public colleges and universities over the same time period of 18.8%, as reported in the College Board study, *Trends in College Pricing 2010*.

Figure 1. State Appropriations per FTE Student.



**2. *Mandatory costs that have increased at a rate that exceeds the increase in the CPI, including but not limited to increased costs incurred in connection with the implementation of new mandates or legal requirements.***

As a public research institution we are saddled with costs that fluctuate differently than CPI. In fact, the Higher Education Price Index (HEPI) is a separate inflation index that has been developed and is used to reflect the market basket of goods purchased by higher education institutions. This index has historically run 150 basis points over the CPI and reflects the significant professional makeup of the workforce, the large physical plant operating cost, and the information technology and library investments required. The increase in medical insurance premiums alone over the two year period FY2010-2012 is \$29.8%. The University of Missouri has massive physical facility assets, including over 1,700 buildings. Building costs include utilities and insurance, and are driven largely by conditions beyond the institution's control. In FY2011, utility costs are running 16% above FY2010, and we are projecting an additional 11% (\$4.9 million) increase in FY2012.

Another area of growing unfunded mandates is in the area of regulatory compliance which increases administrative expense and is not reflected in CPI growth. In fact there may be more federal regulation of higher education than in most other industries. Our campuses have the burden of all laws applicable to any employer (ADA, I-9, HIPAA, nondiscrimination regulations, affirmative action) and, in addition, are regulated by environmental rules, rules governing "Internet Service Providers" (Digital Millennium Copyright Act) and by copyright rules in our libraries, publishing and course materials. In recent years, we also have been treated as financial institutions, and are therefore subject to compliance to regulations under Gramm-Leach-Bliley and the Antiterrorist Financing rules. We also have to maintain compliance with tax regulations, including those that govern charitable giving. In addition, given our large foreign student enrollment and our interactions globally, we are subject to extensive immigration regulations for students and scholars. Additional Federal regulations with which we must comply include comprehensive financial aid and student data reporting rules under IPEDs; campus safety under the Campus Security Act, Drug Free Schools acts and other laws; student records under the Family Educational Rights and Privacy Act (FERPA); Title IX, Sexual Assault Victim Bill of Rights; and the Equity in Athletics Act.

While it is difficult to quantify the costs of compliance described above, the Council on Government Relations (COGR) has completed several studies on the unfunded compliance costs of a research university. As a research university, we are subject to regulations governing human subject research, animal regulations, foreign export rules, classified research, federal contracts and patent law. There is a complex process involved for universities to establish effective compliance programs that meet new or expanded regulations – the Health Insurance Portability and Accountability Act, the PATRIOT Act and control of Select Biological Agents, Environmental Health and Safety, Protection of Human Subjects in Research, and most recently, Conflict of

Interest. A COGR study examined the incremental compliance costs associated with new or expanded federal regulations that impact research, as incurred and estimated for 25 major research universities for the period 2000-2005 at \$16.5 million per institution on average, for incremental compliance activities during this period. Average incremental expenditures for new and expanded requirements ranged from about \$1.8 million per university in 2000 to \$4.1 million of projected expenditures in 2005. Because of the 26% cap on recovery of administrative costs on Federal grants and the fact that administrative costs now exceed 26% of the direct research costs at most institutions, research universities have had to absorb the additional cost. For the University of Missouri this under recovered cost is annually estimated at about \$12.3 million.

### **FY2012 Budget**

Table 4 provides context to the FY2012 budget. Each campus has been working on its 2012 budget and this table reflects consolidated information from all campuses.

Currently projected mandatory cost increases total almost \$72 million, including benefit cost increases of \$18.8 million, a total of \$31.2 million in increases in M&R to raise the investment from 1.0% to the policy level of 1.5% of the plant replacement value in order to “keep up” our facilities and begin to catch up on the deferred maintenance backlog. Other mandatory cost increases of \$6.9 million include \$4.9 million in increased utility costs, with the remainder being primarily increased IT costs. And finally, \$3.6 million in costs are to accommodate increased enrollment, including additional faculty, advising and other student support staff.

Table 4. FY12 Preliminary Budget Mandatory Cost Increases.

<b>Mandatory Cost Increases</b>	<b>In millions</b>
Medical benefits	\$ 9.4
Retirement plan contributions	9.4
Maintenance & Repair to increase from 1.0% to 1.5% plant replacement value	31.2
Utilities	4.9
Information technology	2.0
Enrollment related (faculty, student support services)	3.6

In addition to those items listed in Table 4 is \$11.2 million for a 2% salary and wage merit pool for FY2012. The University of Missouri does not award cost of living increases in salary and wages. There have been no resources budgeted or allowed for merit increases over the past two years. In addition to no salary increases, employees now pay an average of 1.3% of salary/wages to the retirement fund to meet the university-required contribution and are absorbing a large increase in medical premiums -- further eroding our noncompetitive salary situation. For the past two years (FY2010 and FY2011), the budget has included an amount equal to 1% of salary and wages for

promotions, tenure and critical market adjustment. The university views the 2% merit pool, which is an additional 1% over the past two years, as mandatory if we are to compete in the national market to recruit and retain faculty. Average faculty salaries at all of our campuses rank well below the 33<sup>th</sup> percentile of their respective comparator groups with MU at the bottom of the public AAU, its peer group. Increasing faculty salaries is critical if we are to retain our best and brightest faculty as we compete nationally for talented faculty-particularly in high-demand areas.

3. *Historical trends in the institution's operating appropriations, tuition policy and other financial issues and relationships.*

As stated above, state support over the past 10 years has declined in both real dollars (inflation adjusted) and current dollars (unadjusted for inflation) (Figure 2). The blue line in Figure 2 shows state appropriations received in current dollars unadjusted for inflation. The red and green lines show state support in 2001 dollars adjusted for inflation using the CPI and the higher education price index (HEPI), respectively. The FY2011 appropriation is 3.2% below 2001 in current dollars and 17.5% below in real dollars adjusted using the CPI, and 26% below in real dollars adjusted using the HEPI. Two additional points to note: first, state support was finally beginning to recover from the cuts in the earlier part of the decade before this year's reduction and second, when adjusted for inflation, state support this year is well below that of 10 years ago. The University's total state funding for the operating budget in real dollars is the same as it was in 1984. In current dollars unadjusted for inflation, the projected funding for next year will be just above where it was in FY1999.

Figure 2. State support in nominal and real terms.

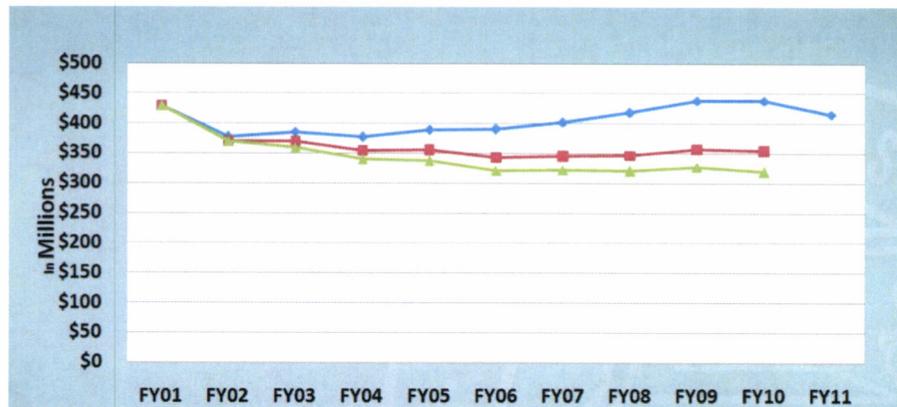


Figure 3. Enrollment Growth Fall 2000 – Fall 2010.

During the same time that state support has declined, enrollment has reached historic highs, with headcount enrollment increasing 28 percent (15,600 students) and full-time equivalent enrollment increasing 35% or 13,600 FTEs over the past 10 years as our campuses have tried to provide educational opportunities to more of the state's students (Figure 3). This growth is almost 17,000 students measuring from Fall 1999.

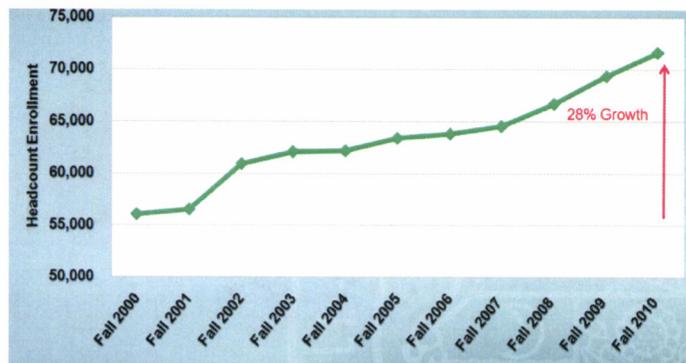
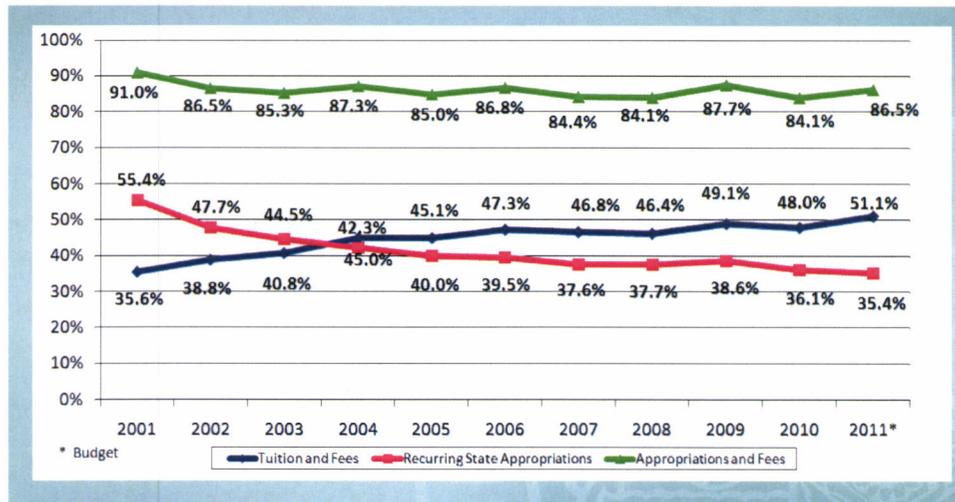


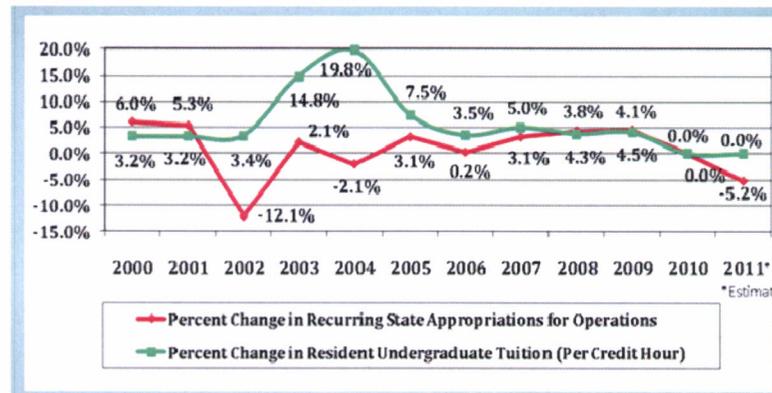
Figure 4. Tuition & Fees & Recurring State Appropriations in Operating Budget.



Students are contributing more than ever to the cost of their education as the state provides less funding support. The state, as shown by the red line in Figure 4 above, has gone from covering over 55 percent of the operating budget in 2001 to 35 percent in 2011. And as a percent of the University’s entire budget, state support is only 19 percent. The blue line depicts the change in tuition and fees from 36 percent in 2001 to 51 percent of the operating budget in 2011. The green line shows the total of these two sources in the Operating Budget.

Over the past 10 years, tuition and fees for Missouri resident undergraduates have seen modest increases, except in 2003, 2004 and 2005 due to sharp reductions in state support. The green line on Figure 5 reflects resident undergraduate tuition changes per credit hour. The red line reflects percentage change in recurring state appropriations for operations.

Figure 5. 10 Year Percent Change in State Appropriations & Resident UG tuition.



Furthermore, as Figure 6 shows, the 30-year trend of percentage changes shows spikes in tuition have been in response to reductions in state support. Also apparent is the downward trend in state support over time and the lack of historic recovery.

Figure 6. 30 Year Percent Change in State Appropriations & Resident UG tuition.

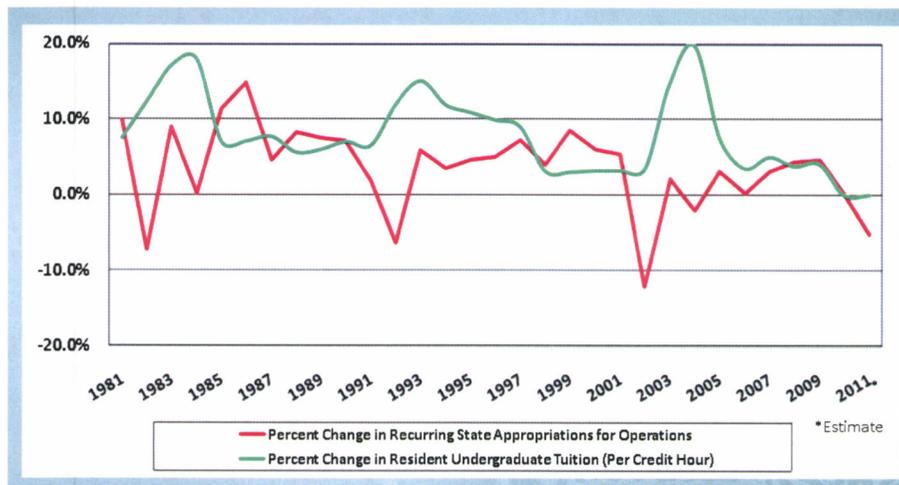
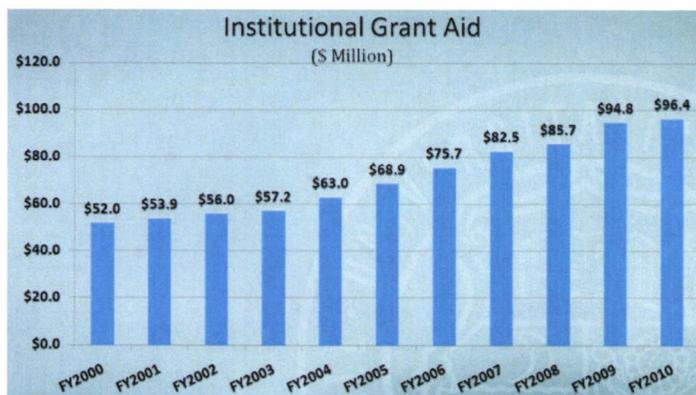


Figure 7. 10 Year Institutional Grant Aid for Undergraduates

And over that same 10-year period with declining state appropriations and increasing enrollment, Figure 7 shows the resources committed to access and affordability through institutional grant aid for undergraduates has almost doubled from \$52 million of FY2000 to \$96.4 million last year. The university is committed to helping students with financial need and will dedicate 20% of the revenues generated from the increase in tuition and course fees in FY2012 for this purpose.



It's important to point out that, in the face of serious constraints on resources and the challenge of educating growing numbers of the state's students, we have been able to improve input and output quality indicators. The quality of our students as measured by ACT scores of entering students is up, and retention rates and graduation rates are also up.

**4. *Costs related to your institution's mission that require growth in revenues in excess of the increase in CPI.***

Every day, in so many ways, the University of Missouri is advancing the health, economy, culture, and wellness of the state of Missouri. We take seriously our role as the state's sole public research, land-grant university and our unique mission to serve the state's citizens.

**The Research University Higher Cost Structure**

In looking at the university's budget, it is important to understand that as a major research university we have responsibilities to the state that result in a cost base higher than other four-year institutions. Several factors account for this. The salaries of faculty at research universities are higher than at other types of post-secondary institutions. Research based on faculty salaries (per Delaware cost studies) shows the instructional costs per doctoral student credit hour is three to eight times higher than the instructional cost per undergraduate student credit hour. In addition, teaching loads at doctoral institutions are typically lower than at non-doctoral institutions and community colleges. This lower teaching load is offset by research responsibilities and requires a larger faculty workforce, driving up total faculty cost. Further driving up the cost is the competition among research institutions, the government, and the private sector for top research faculty. Finally, to attract and retain research faculty requires start-up funding that includes funding for graduate and post doctoral students, laboratory space, and equipment.

A second factor that drives up the cost structure of research universities is infrastructure. More faculty require more office space; and research faculty require laboratories, equipment, information technology and library resources. This drives added cost.

A third factor that drives higher cost is the additional administrative costs required to support faculty research. Each campus has an office of research that may include grant writers, compliance officers, corporate liaisons and an office of sponsored programs administration. Also included are departmental administration, additional accounting and human resource expertise to support research. The regulatory compliance cost was described in response to criteria #2.

**The Higher Cost of Science, Engineering, Agriculture and Health Professions Education**

In addition to the high cost structure driven by our research mission, the diversity of our academic programs also drives cost. Biological science, engineering, agriculture and health profession education are among the most expensive courses of study and cost

from two to five times more just for undergraduate instruction (see COPHE Funding Formula Report). These programs are all critical for addressing contemporary workforce needs in Missouri and across the country so our nation can successfully compete in the global marketplace. As an example, currently 85% of Missouri S&T's students are engineering and science majors. With this large percentage of students in more expensive programs (in terms of faculty costs and lab courses), the instructional costs are higher per student than more traditional campuses. There is a constant need for maintenance and upgrades to engineering and science labs. Annually, the university under state statute requests funding for engineering equipment. The University of Missouri has not received any state funding for this purpose since 2003 and has a backlog of requests for funding totaling \$8.9 million, not including the \$1.35 million request for FY2012. Additional funding beyond CPI will help provide funding for upgrades to science and engineering laboratories on our campuses and ensure the quality of instruction.

***5. Costs related to other initiatives designed to meet specific needs of the State of Missouri that require growth in revenues in excess of the increase in CPI.***

The quality of our academic programs continues to draw record numbers of students. In FY2010, our student headcount grew to more than 71,000, bringing our growth in enrollment since fall 2000 to 15,600 students. This is directly supportive of the Governor's initiative to educate more Missourians and to achieve the goal of 60% of Missouri residents with post-secondary degrees. We demonstrated our commitment to access and affordability the last two years by holding tuition flat for Missouri resident undergraduate students. And we have continued to support student access with increased institutional financial aid. As mentioned earlier, the University of Missouri will commit 20% of the increase in tuition and course fees for FY2012 to additional financial aid.

In 2006, the university led a COPHE task force to develop a funding formula for the four-year higher education institutions in the state. The formula determined the level of state funding needed based on the cost of individual academic programs offered, the level of students being educated, and enrollment growth. Using the data included in that study and adjusting for increases in enrollment and inflation, the University of Missouri has a state funding deficiency estimated at \$105 million. This is composed of \$91.9 million from the formula plus inflation, and an additional \$13.1 million due to enrollment increases since the original study. Over the past 10 years, growth in enrollment at the University of Missouri four campuses has accounted for 69% of the growth in enrollment at the state's four-year institutions.

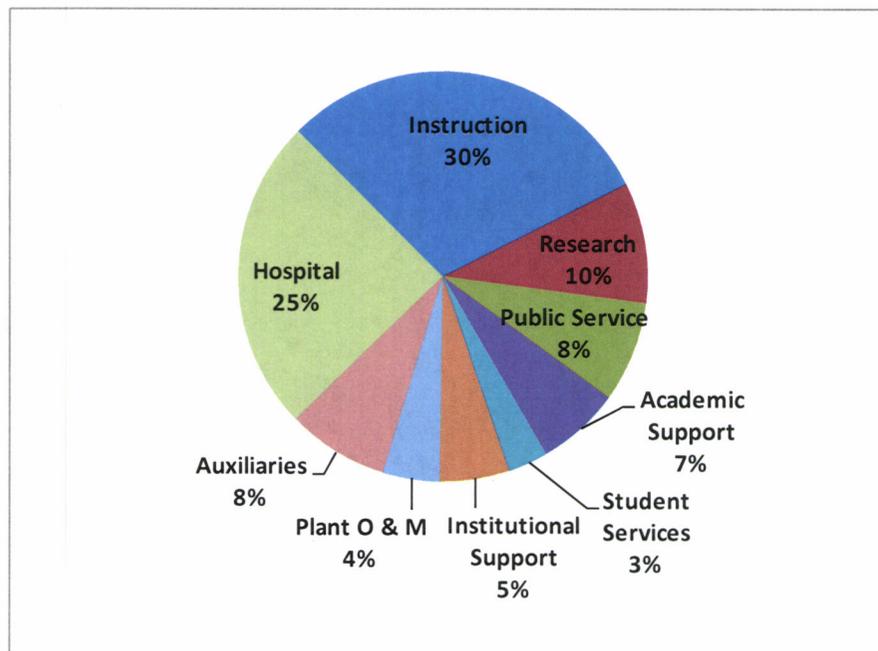
The State of Missouri needs more graduates in science, technology, engineering and mathematics (STEM). The University of Missouri has targeted increasing the number of graduates in the STEM fields. As mentioned in the response to #4, these programs are more expensive because of the salaries of the faculty who teach these subjects and the laboratory instructional requirements. The state also needs more health professionals, and the increase in tuition and required fees in excess of the CPI will support the instruction of nurses and physical and occupational therapists and the basic science instruction for pharmacists, dentists, doctors, optometrists and nurse anesthetists.

As a research university, our faculty are pioneers in research. Examples abound from all of our campuses of ground-breaking research that has the potential to change the course of mankind. Our faculty, in addition to teaching, are engaged in research that results in innovations, that through technology transfer, become a driver for economic development in Missouri. In FY2010, seven start-up companies were created in Missouri out of university-generated intellectual property. This compares to zero five years ago. Our technology transfer program for a second year in a row exceeded \$10 million in licensing income, and our invention disclosures filed increased by 17.5% compared to 2008.

5. *The current and/or historical structure of the institution's total budget, including the institution's allocations for faculty and non-faculty salaries, institutional financial aid, student support, research, physical plant maintenance and other operational activities.*

As shown in Figure 8, eighty-three (83) cents of every dollar spent by the University is for the primary missions of instruction, research and public service, including patient care and the required academic and student support services. Physical plant expenditures for operation and maintenance are 4 cents of every dollar. Finally, only 5 cents of every dollar supports the administrative needs of the university, including accounting, procurement, human resources, legal, fundraising, public relations, internal auditing, and business services.

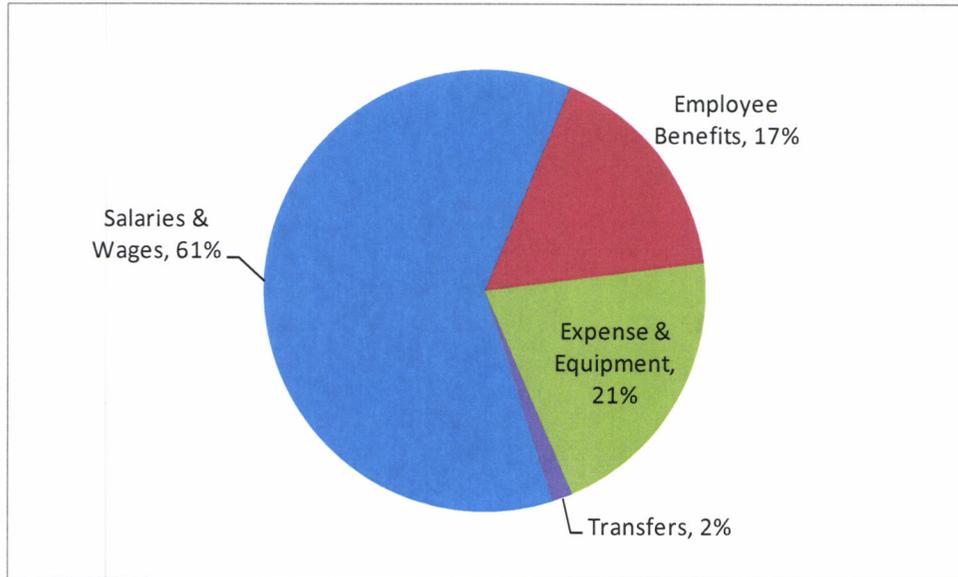
Figure 8. FY2011 \$2.5 billion Current Fund Expenditure Budgets by Program Classification.



State appropriations and tuition and required fees support the operating component of the institution's budget (which in FY2011 is \$1 billion of the total \$2.5 billion) and does not include the hospitals, auxiliary operations, and restricted research and gift expenditures.

Figure 9 below displays the percentage distribution by type of expenditure in the operating fund budget only. Almost 80 percent is spent on personnel, which is typical of higher education institutions and reflects the fact that higher education is a service-driven organization. As a research university, the University of Missouri is in a highly competitive market for the faculty and specialty staff who comprise a large percentage of the total compensation budget.

Figure 9: Operating Funds Expenditure Budget



In our highly competitive market, we know we are not competing effectively for faculty. Table 5 shows average faculty salaries at all of our campuses rank below (and in some cases, well below) the 33rd percentile of their respective comparator groups, with MU at the bottom of the public AAU, its peer group. To not overstate the challenge, we should note there is variation among our different academic programs, as not all programs have average faculty salaries below appropriate comparators. The peer groups the campuses use for comparison were selected based on a formal process in 2005 and are re-evaluated and modified periodically by the campuses.

Table 5. Faculty Salary Rankings per FY2010 IPEDS data for FY2009

	<u>Campus Rank</u>	<u>Number of Comparator Institutions</u>
MU	35 <sup>th</sup>	35
UMKC	17 <sup>th</sup>	25
MO S&T	11 <sup>th</sup>	16
UMSL	29 <sup>th</sup>	31

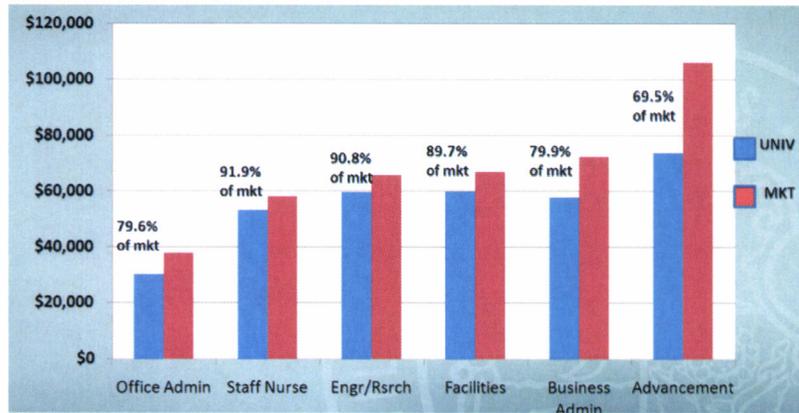
Although the downturn in the economy over the last several years has put downward pressure on faculty salaries at our comparator institutions, Table 6 below shows that at some institutions average faculty salaries have increased in part due to salary increases in the face of the challenging economy. This places continuing pressure on our campuses to recruit and retain faculty.

Table 6. Ranked Faculty Average Salary Changes at Comparators per FY2010 IPEDS data for FY09-FY10

	Comparator Institutions			UM
	<u>Low</u>	<u>High</u>	<u>Average</u>	<u>Average</u>
MU	-1.1%	4.3%	1.4%	0.2%
UMKC	-5.2%	9.5%	1.3%	0.2%
MST	-1.5%	9.2%	2.2%	0.4%
UMSL	-5.2%	9.5%	1.7%	-1.4%

Staff salaries are also below market across all occupational groups. Figure 10 is based on 2008 data; but given no staff salary increases in 2010 and 2011, the situation is not likely to have changed. The red bar indicates market and the blue the university position.

Figure 10. Staff Salary Peer Comparisons by Select Occupational Groups



In addition to no salary increases, employees now pay an average of 1.3% of salary/wages to the retirement fund to meet the university-required contribution and are absorbing a large increase in medical premiums -- further eroding the university's salary situation.

**6. *Damage, destruction, or deterioration of facilities, infrastructure, property or other physical assets of an institution for which there are insufficient funds from state appropriations or insurance proceeds to repair or replace.***

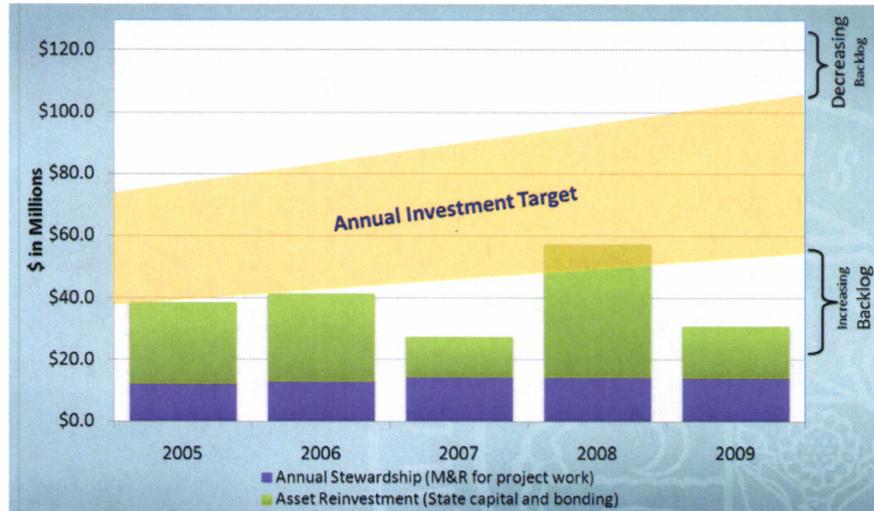
The constraints on resources have not only come at a cost to our employees but also at a cost to our physical plant. The university has seen unprecedented enrollment growth in the past decade. However, its ability to both support enrollment and provide excellent educational programs is threatened by outdated classrooms and laboratories, and by the limited supply of specialized instructional space. The university has developed plans to address these needs with a combination of new construction and renovations that adapt older facilities for current needs. Financing these improvements will be impossible without additional state support.

The university's capital funding needs are limiting enrollment growth and the competitiveness of its four campuses. The university is reaching a "tipping point" in its ability to keep current facilities functional. Today, the university faces more than a \$1 billion backlog in key renovation and repair needs. The university has been able to limit the growth of its backlog of facilities needing maintenance and repair to manageable levels with past state support and its own resources. However, the facilities improvement deferral rate is increasing, and the backlog is growing beyond the university's ability to manage it with current resources. As a result, the university is compelled to increasingly use resources to fix emergencies rather than invest in preventive maintenance and renovations that adapt older facilities to current student needs.

Monies spent on facilities fall into three categories: Daily Maintenance Service, the maintenance cost required to keep buildings in an acceptable operating condition; Annual Stewardship, the annual cost of work to insure buildings perform properly and reach full useful life; and Asset Reinvestment, the cost of the accumulated backlog of deferred repair and modernization needs. These costs occur when the first two categories are not funded appropriately.

The yellow band on Figure 11 on the next page is the annual investment target for both annual stewardship and asset reinvestment in UM's academic and research facilities using nationally benchmarked norms. The bars reflect the investment in plant from 2005 to 2009, with the purple bars showing the level of annual stewardship, and the green showing asset reinvestment using state capital appropriations and bonding. To the extent the bars fall below the target, the deferred maintenance backlog is growing.

Figure 11. Investment in Plant.



The total facilities backlog is over \$1.0 billion. This is a low estimate – while MU and UMKC have completed full reviews of the state of their facilities, we are just completing a full review of the facilities at UMSL and Missouri S&T, and these numbers will no doubt go up. Table 7 shows the data as of FY2009, our most recent available. Since 2002, the campuses have had to reduce the annual investment in maintenance and repair from 1.5% of the plant replacement value to 1%. Like the need to increase the investment in our human resources, we also have a critical need to increase the investment in our academic and research facilities.

Table 7: Facilities Reinvestment & Adaptation Backlog

MU	\$ 589 million
UMKC	\$ 215 million
MO S&T	\$ 173 million
UMSL	<u>\$ 140 million</u>
	\$1,117 million

Additional information can be found at our Facilities Planning and Development website: <http://umsystem.edu/ums/departments/fa/management/facilities/#>.

**7. *Actions your institution has taken to reduce costs and become more operationally and financially efficient. Examples may include, but are not limited to, any elimination or restructuring of academic programs or reductions in administrative structure or staff.***

Since 1998, the University of Missouri System has systematically collected and reported on initiatives that have resulted in increased effectiveness and efficiency of University operations. The results of these efforts have been impressive and demonstrate the university's commitment to responsible stewardship of university assets and resources. The fiscal and economic conditions in the State of Missouri during this decade intensified the university's efforts to improve efficiencies through process redesign, consolidation of operations, utilization of technology, strategic reallocation and various revenue enhancement initiatives. In addition, they have forced measures to cut expenditures and defer investments that cannot be continued indefinitely without significant negative impacts on the institution.

The university has focused on two major initiatives – those that produce cost savings and those that eliminate costs. Actions are considered cost savings if the initiative represents an actual decrease in current operating expenses. In other words, the action will result in the fulfillment of a business objective but at a lower cost than previously incurred. Examples include, but are not limited to, cost savings from an open position; a position that is permanently reclassified to a lower salary range; acquisition of equipment, materials, and consumable supplies through strategic contracting at lower cost; and energy conservation resulting in lower utility costs. Cost containment initiatives are the actions taken to reduce the rate of cost increases. These actions tend to be rate- and volume- related. Examples could be contracting for reduced rates even when the volume increases, or being able to reduce the volume of an item purchased even when the rates increase. Actions are considered cost elimination if the initiative represents an eradication or removal of costs from an operating unit. Examples include, but are not limited to, elimination of a position, closure of an operating unit, discontinuance of a service, and closure of a program.

Certain actions may be savings in the short run, but are only temporary measures to balance the budget and eventually must be made to protect the university's assets. These actions defer costs to the future and include such actions as lower than policy spending on maintenance, repair and renewal and equipment replacement and upgrade deferrals.

Summarized below are actions taken by the university to reduce, eliminate and defer costs since 1998. Additional details and historical reports can be found at:

<http://umsystem.edu/ums/about/reports/>

**FY2012**

- **FY2012 Cost Management Savings Identified to date in building the budget - \$11.3 million**
  - MU - \$4 M cut in general support to development activities which will have to be supported by the surcharge on gift revenue; \$1 M in energy conservation; and \$4 M in campus wide required cuts in operating budgets including personnel and operating cost cuts in the units identified in FY2011 to partially fund anticipated cuts in FY2012 state support.
  - UMKC - \$800,000 or 5% in cost reductions in general operating expenses such as travel, supplies, consulting, and non-capital maintenance and repair.
  - MO S&T - \$900,000 from programs and departments that may result in larger class sections, reductions in facility maintenance, and cuts in other operating expenses.
  - UMSL - \$600,000 from personnel cuts including layoff of current employees and elimination of vacant positions identified in FY2011 in anticipation of FY2012 cuts.

**FY2011**

- The full documentation of effectiveness and efficiency actions takes place at the end of each fiscal year. As a result, the complete listing of cost savings is not available at this time. However, in building the FY2011 budget, the University had to identify \$23.4 million in cost savings.

**Documented savings FY1998 - FY2010 - \$247.7 million**

- From FY1998 through FY2010, the University has documented \$247.7 million in savings from reducing, eliminating or deferring costs. These savings are detailed below.

**FY2010**

- **FY2010 Cost Management Savings \$61,504,041**
  - \$42.7 million is from savings from reducing and eliminating costs include
    - Competitive contracting \$ 19,189,928
    - Energy conservation, 897,889
    - Operating cost reductions (supplies, telephone, computer service) 6,332,808
    - Reductions in travel, professional development & training 3,028,296
    - Workforce savings (unfilled positions, position elimination & layoffs, overtime reduction) 13,265,731
  - \$18.8 in savings from cost deferral include
    - Deferral of building maintenance and repair 16,660,410
    - Deferral of equipment purchases 2,128,979

- **FY2010** While not included in the above reported figures, two important initiatives were undertaken:
  - The first of these initiatives was a capital debt issuance of \$256.3 million under the Build American Bond (BAB) program along with \$75.76 million in traditional tax exempt bond financing. The BAB's program coupled with favorable market rates produced a present value savings of \$40 million.
  - The second initiative was a modification to the retirement system. Historically, contributions to the retirement system were made entirely by the University. Starting in July of 2009, contributions were shared between the university and the employee. This change will result in an annual \$12 million savings in the University's cost of providing retirement benefits.

**FY2009**

- **FY2009- Cost Management Savings \$37,604,518**
  - E&E Operating Cost Reductions/Deferrals \$18,088,498
  - Competitive Contracting 8,095,983
  - Energy Conservation 4,534,454
  - Workforce Reduction 2,498,419
  - Technology Initiatives 2,312,272
  - Business Process Improvement 1,253,711
  - Outsourcing 335,904
  - Academic Program Consolidation 293,777
  - Reduction of Service 200,500

**FY2008**

- **FY2008 Cost Management Savings: Total \$21,587,740**
  - Eliminated of programs \$ 824,000
  - Energy conservation 165,000
  - Business process improvement 678,740
  - Workforce reduction 185,000
  - Technology initiatives 5,000
  - E-procurement on three campus 3,000,000
  - Renegotiated commodity contracts through e-Pro 3,000,000
  - Competitive contracting outside e-Pro 1,230,000
  - PV savings by advance refunding facility bonds 9,000,000
  - Benefit cost savings allocated to ranked faculty salaries 3,500,000

**FY2006 & 2007**

- **FY2006 & 2007: Cost Management Savings Total \$16,792,948**
  - Consolidation of organization entities \$ 554,000
  - Elimination of programs/initiatives 3,609,941
  - Business process improvement 3,364,000
  - Workforce reduction 3,787,439

- Reduction of service level 2,890,337
- Management of reserves 1,805,641
- Technology initiatives 781,590

**FY1998-2005**

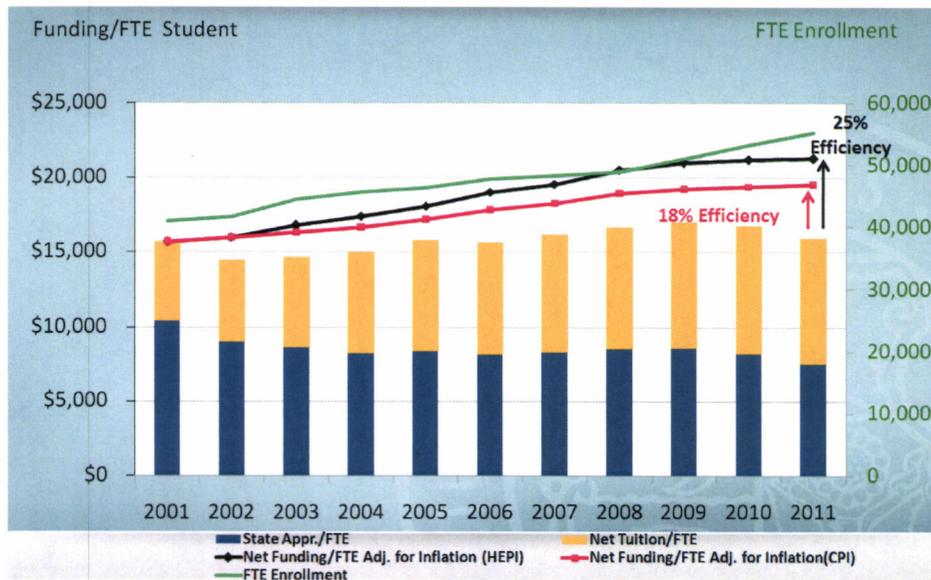
● **FY1998-2005 Cost Management Savings : \$83,684,290**

- Consolidation of organization entities \$ 3,705,000
- Energy conservation 6,167,000
- Business process improvement 40,127,790
- Workforce reduction 1,605,000
- Outsourcing 46,500
- Technology initiatives 1,020,000
- Competitive contracting 5,793,000
- Debt structuring 25,220,000

**The Impact of the Efficiency Measures on the Cost to Educate Students**

Figure 12 below shows the combined funding per FTE student provided from the state and from tuition payments. The blue part of the bar is the state funding per FTE student and the yellow is tuition net of institutional financial aid. The red line shows the level of the combined funding if it had kept pace with the CPI, and the black line shows the level of the funding if it had kept pace with the HEPI. The green line shows the growth in FTE students. Together, the total funding per FTE student has not grown over ten years in current dollars unadjusted for inflation, and funding has not kept pace with inflation.

Figure 12. FTE Enrollment vs. Funding per FTE Student.



**8. *Any other extraordinary circumstances.***

Under criteria #7 above, the under-investment over the last decade in on-going facilities maintenance, repair and renewal, and the growing magnitude of the University's deferred maintenance backlog was documented. What this does not reflect is the investment commitment that the university has had to make over the past five years and will need to do well into the future to address crumbling, failing and seriously outdated utilities infrastructure on our campuses which will be a challenge to finance without state support and in the meantime must be covered by efficiently allocating dollars obtained from some of the cost savings noted above.

Examples of these investments include the following:

**MU:** To support its academic and research mission MU is investing about \$160 million on the campus utility infrastructure and plant. These renovations and replacements were required to correct failing utility systems in order to provide the campus buildings and facilities with reliable utility service. Many of these utility systems were installed between the 1920's and the 1950's and have not been upgraded. Projects in progress or recently completed include: the main campus steam tunnel replacement, boiler and fuel handling replacement, chiller replacements, cooling tower replacements, and the replacements of various steam, water, and sewer systems. Funding for these projects comes from recharge rates for the utilities to auxiliary facilities and academic units with support from \$143 million in bond funds which will also be paid back through utility rates.

**UMKC:** \$3.9 million to replace steam lines. This project is as a result of three critical steam line failures that occurred over the past two winters serving three buildings. These three lines were of the same vintage, installed in a direct buried dual-pipe system in 1996. The failure of the piping resulted in reduced ability to heat the three directly affected academic buildings and significant loss of heating efficiencies for the two other academic buildings. Based upon the studies completed to investigate the failures, the potential exists for a catastrophic failure to the steam loop system which could make buildings untenable for teaching and for research. The loss of these core campus infrastructure components affects the basic ability to provide the campus's core teaching and research mission in an economical and comfortable manner. Failure to address the repairs could result in significant operation cost increases and potential teaching and research interruptions. The potential of additional failures of the same system at other locations (since it is all the same system and age) will continue to be the largest infrastructure challenge even after this project is completed.

**Missouri S&T:** \$30 million for a geothermal energy project. Constructed in 1945, the Power Plant at Missouri S&T currently provides steam generated heat using three coal/woodchip fueled boilers to various facilities throughout campus. The newest boiler

installed in 1981 is a vintage coal and woodchip fueled boiler. The two remaining boilers are older coal fired stoker units that are inefficient and have limited pollution controls. This project would use ground source heat pump chillers to provide heating requirements for the campus in lieu of the current boilers. This is a critical infrastructure project. Investment in this project will yield approximately \$1.4 million growing to \$2.8 million in annual energy/operational savings. It will also address \$26.4 million in deferred maintenance needs. This project is being debt financed with debt service generated from projected operating cost savings and a general revenue subsidy.

**UMSL:** Most parts of the utilities infrastructure on the North Campus of UMSL are as old as the University or approximately 50 years. However, parts of the utilities infrastructure on the South Campus are approximately 95 years old. During the period FY2006 through December 2010, the campus spent approximately \$450,000 just on utilities infrastructure repairs. Significant increases in such expenditures will be needed in future years. The campus is in the process of developing a master plan for utilities on the South Campus. It is expected that full implementation of the plan will cost millions of dollars.

9. ***Public comments about the material posted on the MDHE website pertaining to the institution's waiver request.[This section left blank and reserved for public comments]***