

Communication and Use of STAR METRICS Data

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Communications Working Group



Reporting on personnel supported by Federal and Other Agencies

Examples of Possible Applications:

- External: Reporting to legislators and agencies
- Internal Institutional groups
 - Office of Research applications/reporting
 - Economic Development groups

Issue

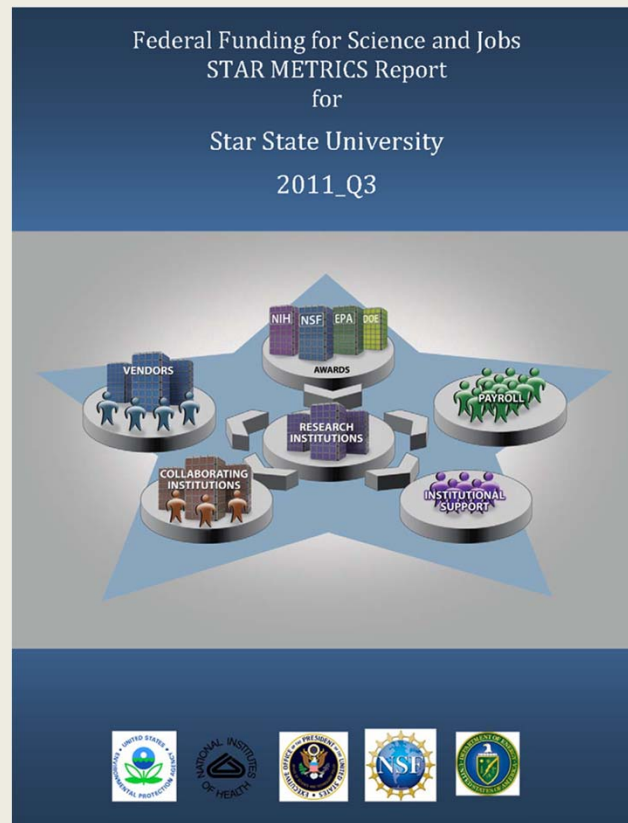
What summary information would best assist in communication of personnel support?

FTE- based?

Individual- based?

Both?

Examples of current STARMETRICS summary formats



Summary of all individuals supported by agencies

Number of individuals supported by funding sources

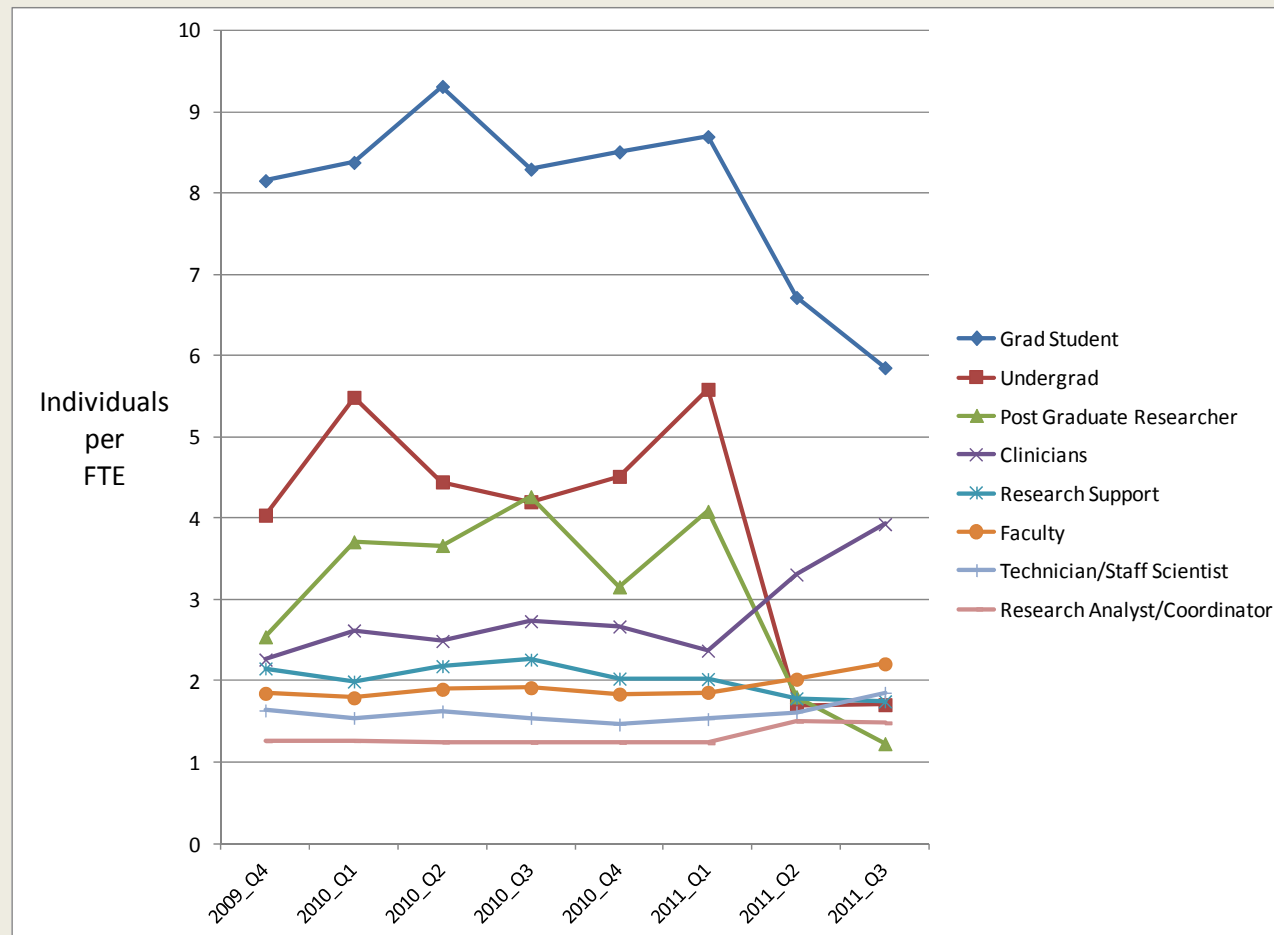
2011_Q2	Number of Individuals
All Funding (Federal & Non-Federal)	8,325
All Non-Federal	3,400
All Federal Funding	5,812
All Federal Science Funding	4,250

Rolling 12 months thru 6/2011	Number of Individuals
All Funding (Federal & Non-Federal)	11,668
All Non-Federal	5,563
All Federal Funding	8,043
All Federal Science Funding	6,053

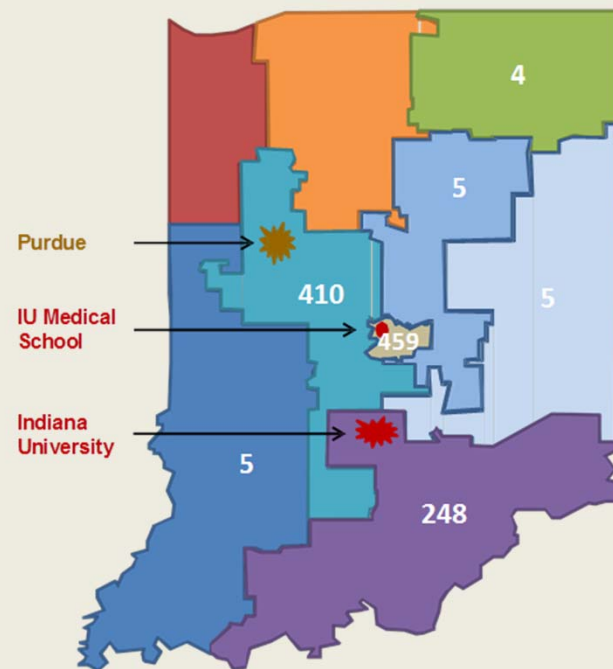
Source: STAR Metrics Report for Star State University - (All).

Note: Totals may not agree exactly due to rounding.

Summary of personnel by FTE

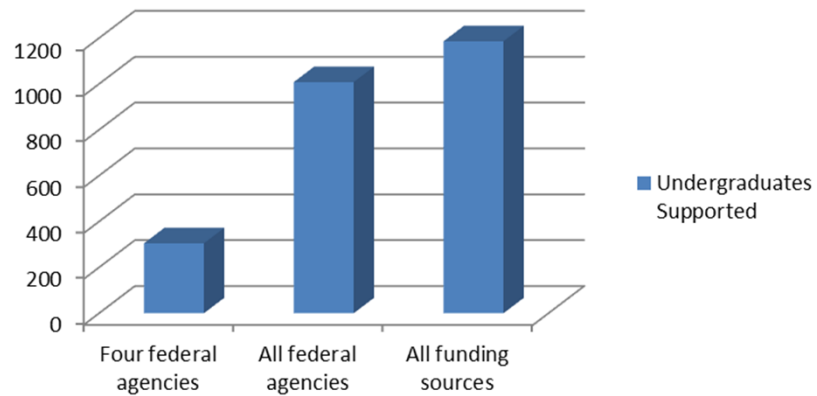


Example from Indiana:
Application of personnel summary based on individuals
and geographic location

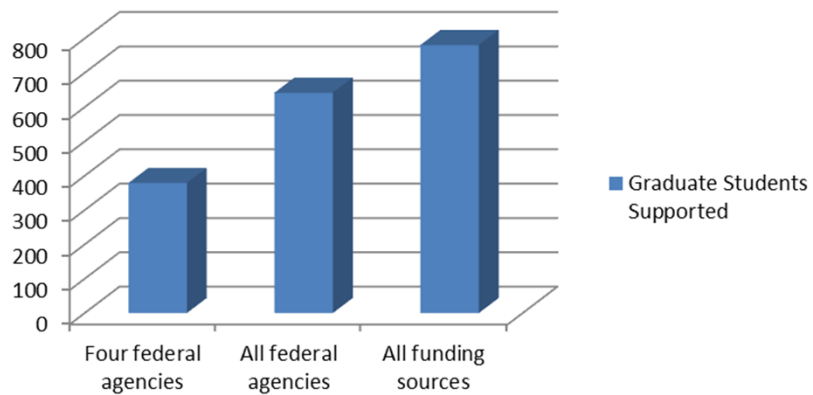


Number of jobs created by science funding
By congressional district

Undergraduates Supported



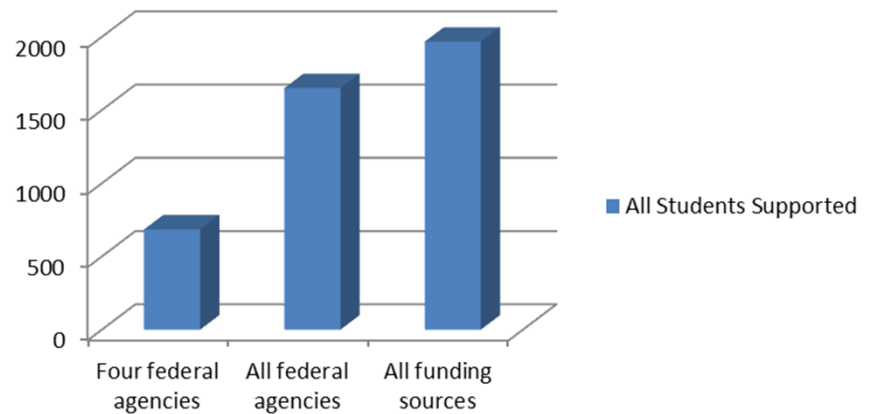
Graduate Students Supported



Example from University of Missouri:

Student support based on partial or total Research portfolios; First Quarter, 2013

All Students Supported



What has been the experience to date of STARMETRICS participants

- Utility of FTE-based summary?
- Utility of individual-based summary?
- Suggestions for combining?

Now More Than Ever, University Scientists and Scholars Deserve Our Support

BY ROBERT V. DUNCAN
Vice Chancellor for Research

DURING THE PREVIOUS fiscal year, agencies of the United States government awarded MU faculty scientists and scholars close to \$170 million for sponsored research and instruction and public service projects.

These dollars, the life's blood of MU's research enterprise, were generated mostly through competitive submission processes involving researchers from many of the nation's top institutions. Only the most important projects from the best investigators eventually gain support.

That MU has been so consistently well represented among projects selected for sponsorship is a testament to the energy, ambition and excellence of our faculty. Thanks in large part to their efforts, the University has not just enhanced its position as one of the nation's premier centers of research and higher learning, but has also emerged as a major force in Missouri's economic development. In recent years, for example, companies licensing MU-generated intellectual property have tallied over \$1 billion in sales.

The still precarious state of our nation's economic recovery — as well as intensifying competitive pressures from across the globe — make it imperative that we continue to support the economy-enhancing work of our scientists and scholars.

Instead, just the opposite is happening. Drastic cuts in federal discretionary spending, the result of the so-called sequester, threaten to severely weaken the ability of universities like MU to continue the scientific research and development activity that our nation so desperately needs. This is a profound threat to both the nation's long-term growth prospects and to the financial well-being of thousands of Missourians.

According to data compiled by Science Works For U.S., a project of the Association of American Universities, the Association of Public and Land-grant Universities, and The Science Coalition, sequestration will reduce federal funding for scientific research by nearly \$95 billion over the next nine years, which will result in a reduction of U.S. GDP by at least \$203 billion. The net impact could be 200,000 fewer jobs — many of them in important, well-paying high-tech fields — for each year between 2013 and 2016.

Here at MU, in the current year alone close to \$17 million in previously awarded federal funds are in peril, about 10 percent of the university's federal funding for research. Such cuts are of particular concern given the importance of several of MU's newly funded investigations, many of which, ironically, have the potential to save the federal treasury millions. Among the most noteworthy:

- A four-year, \$14.8 million grant from the U.S. Department of Health and Human Services' Centers for Medicare and Medicaid Services to the Sinclair School of Nursing and Curators' Professor



Vice Chancellor for Research
Robert Duncan

of Nursing Marilyn Rantz. Rantz and her team of MU researchers will use the funds to discover ways of reducing avoidable "re-hospitalizations" among nursing home residents. Unnecessary hospital admissions not only imperil the well-being of patients, but are a significant driver in pushing up national health care costs.

- A \$3 million grant from the USDA to Jerry Taylor, the Wurdack Chair in Animal Genomics at MU, to determine what specific genes play a role in breeding problems and other issues in the cattle industry — a project that could significantly increase the efficiency of cattle reproduction.

- A \$2.4 million grant from the Substance Abuse and Mental Health Services Administration to establish a Terrorism and Disaster Center that will train mental health providers to aid communities before and after natural and man-made disasters.

Last summer, MU Chancellor Brady Deaton was signatory, along with the leaders of every major research university in the nation, to a letter to Congress that neatly summed up the reasons why the sequestration cuts should be reversed. "Americans know that investments in education and scientific research pay long-term dividends," the letter read.

"Federal support for scientific research and student financial aid laid the foundation for the dramatic expansion of the 20th century U.S. economy and can do the same in the 21st. These investments produce the people and the ideas that lead to new products, new businesses, and entire new industries, as well as the jobs that go with them."

"... As national leaders in higher education, we urge you to show America and the world that our country's political system is capable of solving serious problems. The choices will not be easy, but throughout our nation's history, American leaders have overcome great challenges with difficult decisions and sensible compromises. Please do so again and do so now."

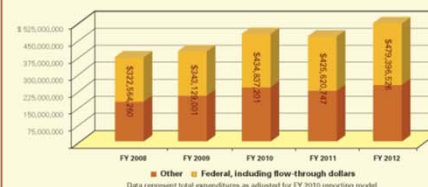
I am confident all of our faculty scientists and scholars would endorse this view, as would, I hope, every Missourian who cares about the continued vitality of research and scholarship. Let's make sure our federal representatives hear it from all of us: Now more than ever, MU scientists and scholars deserve our support.

Externally Sponsored Grants and Contracts

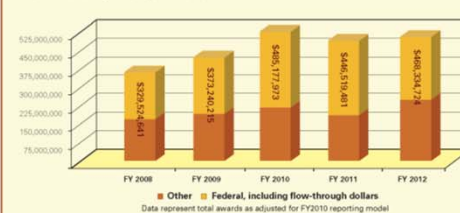
FY 2012 TOTALS

During the previous fiscal year, scientists and scholars at the University of Missouri generated record levels of sponsored research and instruction and public service support. Totals in this year's report, as seen below, have been calculated to include funding related to academic enterprises — an approach intended to more accurately reflect the size and scope of MU's research and scholarly enterprise.

Total Expenditures, Five-year Trend

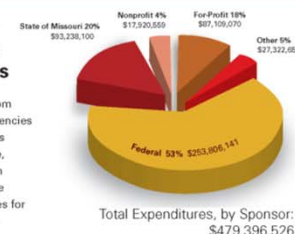


Total Awards, Five-year Trend



Expenditures Up as Federal, State Funding Increases

Increased levels of funding from federal, state and for-profit agencies helped boost MU expenditures in FY 12. Over the past decade, investigators at MU have been consistently ranked among the nation's leaders in growth rates for externally supported projects.



FY 2012 Research Annual Report

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About the Cover:
President Barack Obama in February awarded M. Frederick Hawthorne, Curators' Distinguished Professor of Chemistry and Radiology, the National Medal of Science. It is the highest honor bestowed by the nation to its scientists.



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Editor: Charles E. Reineke • reineke@missouri.edu
Photos courtesy of MU Publications
Reporting by the staff of the MU News Bureau

Expenditures and Awards

In this report you will encounter charts and graphs that reflect the extent of funders' involvement in MU research. Some are expressed in terms of "expenditures," which represent resources spent by a researcher during a given fiscal year. Others are expressed as "awards," which show the total amount of funds available for use, money often expended over a period of years.



2013



University of Missouri System
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Impact on U.S. Congressional District 4

The District at a Glance



- Population: 748,616

- UM Students: 8,821
- UM Alumni: 32,939
- UM Employees: 19,380
- UM Salary & Retirement Income: \$873,396,619
- UM State Tax Revenue: \$31,838,477
- UM Federal Tax Revenue: \$142,614,258

UM Students from the District in 2012

- 8,821 students
 - 7,092 - MU
 - 1,081 - UMKC
 - 598 - Missouri S&T
 - 50 - UMSL
 - 4,694 - Undergraduates
 - 4,127 - Graduates
 - 6,665 - Full-time students
 - 2,156 - Part-time students

UM Employees and Retirees Residing in the District in 2012

- 19,380 people employed by UM
 - 14,011 - MU
 - 137 - UMKC
 - 120 - Missouri S&T
 - 25 - UMSL
 - 4,650 - UM Health Care
 - 437 - UM System
- 3,703 UM Retirees and Beneficiaries

UM Alumni Residing in the District in 2012

- 32,939 alumni
 - 27,710 - MU
 - 3,354 - UMKC
 - 1,272 - Missouri S&T
 - 603 - UMSL
 - 11,722 Selected School Alumni
 - 867 - Medicine
 - 1,474 - Nursing
 - 1,072 - Health Professions
 - 311 - Dentistry
 - 288 - Pharmacy
 - 53 - Optometry
 - 319 - Veterinary Medicine
 - 3,345 - Agriculture
 - 2,736 - Engineering
 - 1,257 - Law

UM Alumni Teaching K-12 in the District in 2012

- 1,645 teachers
- 20% of all district teachers
- 117 principals and administrators
- 26% of all district principals and administrators

UM Services Received in the District in 2012

- 113,568 patients seen at UM Health Care, with \$29,894,576 of uncompensated care.
- 11 patients seen at the UMSL Center for Eye Care with an average of \$85 per patient in uncompensated care.
- 1,374 patients seen at the UMKC School of Dentistry with an average of \$36 per patient in uncompensated care.
- 362,130 contacts with MU Extension through MU Extension events held in district counties.

UM Construction Projects Involving Vendors located in the District in 2012

- 66 vendors involved with 129 projects, for \$26.5 million.

Select UM Properties in the District

Bradford Farm, Ellis Fischel Cancer Research Center, Foremost Dairy, Foremost Dairy - Kirby Tract (Leased), Green Meadows, Holstein Dairy, Horticulture and Agroforestry Research Center, KOMU TV, Lemone Industrial Complex, Middlebush Farm, MU Campus, Rocheford Turkey Farm, Schnabel Forest, Sinclair Farm, South Farm, Thompson Center for Autism, University Hospital, Women's and Children's Hospital

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1/4/2013

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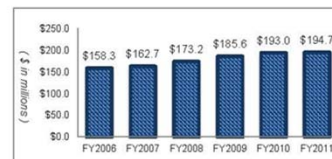
2013



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Impact on U.S. Congressional District 4

UM Research Expenditures Funded by Federal and Private Sources



Economic Development Highlights

- With \$3.2 billion in total revenues, UM would have been the 17th largest publicly held Missouri-headquartered company in the state in 2012.
- With more than 31,000 employees in the state, UM was Missouri's 2nd largest employer in 2011.
- In 2010, UM's \$169 million in federal science and engineering research expenditures represented 93% of these expenditures at Missouri public universities.
- In 2012, UM's \$22.3 million in National Science Foundation (NSF) awards represented 80% of all NSF awards made to Missouri public universities.
- UM earned \$6.8 million in licensing income in 2012.
- UM received 163 new invention disclosures in 2012.
- 8 startups were created around UM technologies in 2012.
- UM was issued 34 U.S. patents and filed 69 new U.S. patent applications in 2012.

Electronic Services to the State in 2012

- The Missouri Research & Education Network (MOREnet) provided internet connectivity and technical services to members that include:
 - 64 higher education institutions with more than 308,000 students.
 - 500 K-12 schools with 868,000 students and 76,000 faculty.
 - 134 public libraries connecting 345 library buildings that serve 5.4 million Missourians.
- MOREnet returned \$13 million in telecommunications expenditures to companies doing business in Missouri.

Financial Aid Provided to UM Students in 2012

- \$871.2 million
 - \$432.1 million - MU
 - \$202.2 million - UMKC
 - \$97.5 million - Missouri S&T
 - \$139.4 million - UMSL

Impact on Education in 2011

- UM enrolled 50% of first-time undergraduates attending four-year public institutions in 2011.
- UM awarded 49% of the 1,130 doctoral degrees earned in Missouri.
- UM awarded 42% of the 1,937 first professional degrees earned in Missouri.
- UM awarded 54% of the 28,798 bachelor's or higher degrees awarded by Missouri's four-year public institutions.

Supporting the University of Missouri is an investment in the future of Missouri.

The university advances Missouri citizens and communities through its mission of teaching, research, public service, and economic development across our four campuses and University of Missouri Extension.

Prepared in December 2012, based on the best available data.

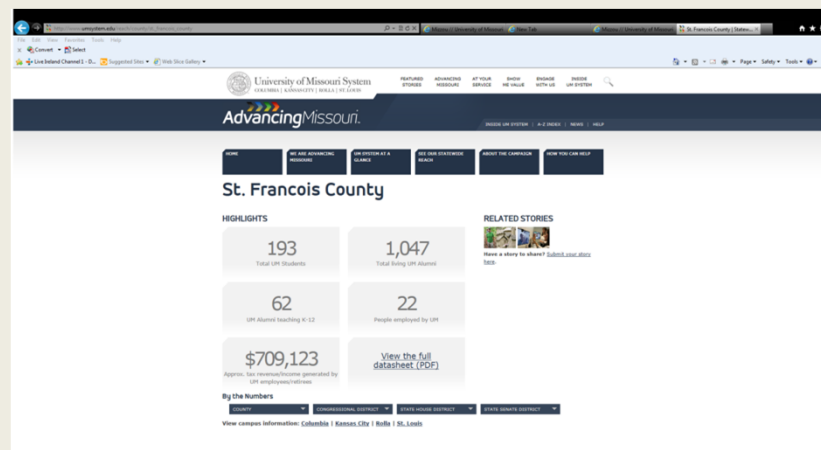
Data Sources include: Missouri Office of Administration • UM IRP • Office of Social and Economic Data Analysis (OSEDA) • Center for Applied Research and Environmental Systems (CARES) • MU • UMKC • Missouri S&T • UMSL • UM System • UM Health Care • MU Extension • US Census Bureau • US Dept of Health and Human Services • National Science Foundation

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MIZZOU MEASURES UP

MU is **accessible, affordable** and **accountable** to citizens.
Here are examples of our progress.

MU IS A NATIONALLY COMPETITIVE, GLOBAL UNIVERSITY.

MU is a member of the **Association of American Universities (AAU)** based on quality of teaching, research and scholarship.



More information about the Association of American Universities: aau.edu

MU CONDUCTS MILLIONS OF DOLLARS IN **FEDERAL RESEARCH.**

RESEARCH & DEVELOPMENT EXPENDITURES, FY2012:
\$114.3 MILLION

Research at Mizzou:
research.missouri.edu

Generous supporters worldwide invest in Mizzou. Private gifts **enrich programs and facilities, support faculty** and **make an MU education more accessible.**

IN FY2012, ALUMNI AND FRIENDS MADE



Give to Mizzou: giving.missouri.edu

SINCE 2007,

MIZZOU ALUMNI ASSOCIATION MEMBERSHIP HAS GROWN BY **24.6 PERCENT**, PROVIDING MORE FINANCIAL SUPPORT FOR **SCHOLARSHIPS, FACULTY GRANTS AND ALUMNI PROGRAMS.**

Join the Mizzou Alumni Association: mizzou.com

Data Utility

- STAR METRICS data can complement/enhance other impact information
 - Statistics
 - Stories
- Presentation format of STAR METRICS data will be important with focus on simplicity
- STAR METRICS data can assist with discussion of specific issues – e.g. workforce development; benchmarks