CAMPUS MASTER PLAN and CLIMATE ACTION PLAN UPDATE

Annual Presentation
APRIL 2016
Today’s Presentation

1. History and purpose MU’s planning
2. Planning + campus evolution
3. Planning principles
4. 2015-16 integrated planning accomplishments
The Mission of the University

Advance
The Mission of the University

Promote
Stewardship of Land and Buildings

Reaffirm
A Tradition of Innovative Planning

MU’s Legacy of Planning
• Keeps data up to date
• Gives MU flexibility to take advantage of opportunities
• Helps make intentional decisions about projects

**Advance**
The Mission of the University

**Promote**
Stewardship of Land and Buildings

**Reaffirm**
A Tradition of Innovative Planning

MU’s Legacy of Planning
MU’s Legacy of Planning

Advancing Graduate Programs
Sustain Mizzou
Mizzou Advantage
Carrying Capacity
Climate Action Plan
Educational

Land Acquisition
Open Space Framework
Expanding Residential Life
LEED Master Site
Physical
Examples of Campus Transformation

- Reynolds Alumni
- Hulston Hall
- Carnahan Quad
Examples of Campus Transformation

Jesse Hall
Examples of Campus Transformation

Former Cramer Hall

Patient Care Tower
Examples of Campus Transformation

27% renewable

$71.2 million in savings
Master Planning Principles

DISCOVERY

Diversity with Unity
Natural & Architectural Heritage

EXCELLENCE

Planning & Design Integrity
Environmental Sustainability
Prudent Expansion of Campus Functions
Facilities and Grounds Stewardship

Pride of State
Community Spirit

RESEARCH

Recruitment-Retention
Strong Sense of Place
University Mission and Values

RESPONSIBILITY

First Class
“committed to leadership in demonstrating local and global environmental stewardship”

Curriculum & Research
Natural Resources
Energy
Waste
Construction & Procurement
Food
Transportation

Ongoing evaluation and improvement
2015-16 Planning Efforts
2015-16 Planning Efforts

Integrated Planning Efforts
CAP/STARS
Current Built-Work Projects
Integrating Great Vision

Integrated Planning

Missouri’s Campus Master Plan and Climate Action Plan are updated annually, allowing for flexibility to better address the needs of an ever-changing campus. Several complimentary plans are integrated into the Campus Master Plan effort.

Res Life Master Plan

The Residential Life Master Plan (RLMP) was initiated in 2000 to anticipate enrollment growth and accommodate additional students in on-campus housing. It was renewed in 2005 and again in 2012. Current residential life projects underway include two buildings to replace Jones Hall and Dobbs Pavilion, and consideration for new graduate housing north of University Heights.

Research Facilities Master Plan

A Research Facilities Master Plan was initiated in January of 2016 to coordinate with and enhance the MU Master Plan. This study intends to provide direction for future research facility renovations or construction, and to focus the discussion around locations and types of facilities necessary to support the initiatives of various MU schools, colleges, and departments. Currently, the land use planning process at Research Commons will further the Infill Study highlighted in the 2015 Campus Master Plan, and will provide recommend densities and heights of development, consider best approaches for industry partnerships, and address access, parking, transportation, and stormwater management.

Health System Master Plan

The Health System Land Use Plan was completed in 2014 to study new future growth in Nursing, Medicine, Health Professions, and Health Care to be accommodated on the site of the Missouri Orthopaedic Institute and a New Patient-Centered Care Learning Center for the School of Medicine west of Lottis Health Science Library and planning for a new building for the School of Nursing on the site of Crowder Hall.

Intercollegiate Athletics Master Plan

Potential growth in and around Missouri Athletic Training Center continues as a primary aspect of the ongoing Intercollegiate Athletics Master Planning. Possible increased premium seating opportunities will be explored at Memorial Stadium, as will continued improvements of the game day experience for all Tiger fans. Improvement to facilities within the Sports Park, as well as the spaces in between, are also addressed by the ICA Master Plan Update.

Parking & Transportation Master Plan

MU Parking and Transportation has hired Walker Parking Consultants to create a Parking and Transportation Master Plan for campus. Walker will work with faculty, staff, and student volunteers to determine current and future parking needs as well as trends in traditional and alternative means of transportation. In an effort to fully understand the wide range of personal experiences and opinions across campus, this information will be gathered by the use of an online survey, focus groups, an open forum and other research methods. The study is projected to be finished in May 2016.

Stormwater Master Plan

In an effort to maintain the bioretention areas on campus, landscape services staff developed a care manual for storm water features across campus. This manual offers guidance on maintaining and caring for the plants that help manage stormwater runoff in these areas. Several new bioretention areas were constructed in 2015 and will be planted in 2016.

Utility Master Plan

In 2015, Energy Management began developing a Utility Master Plan to forecast necessary changes within campus utility systems to ensure MU continues to be served with reliable, efficient and sustainable utility services. Fossco Services (formerly Confluence) was hired to assist in this program. Fossco Services brings a unique, customizable analytical modeling tool which is being used to evaluate the best solutions to meet the utility needs of campus. The effort has developed a forecasted reference case to meet future utility needs while addressing necessary major system replacements which will be ending their useful lives. Additionally, with input from the Energy System Student Advisory Group (ESSAG), a number of possible scenarios were developed to help MU become more sustainable in its energy usage. Integrated with the overall campus Master Plan and Climate Action Plan, this unique Utility Master Plan is set to help MU meet the campus utility needs and continue to be a leader in the use and application of sustainable energy systems.
Utility Master Plan

EXISTING

GOALS
CONSTRANTS
DEMAND
SUPPLY

FUTURE

UNCERTAINTY
RISK
OPTIONS

FORECASTED REFERENCE CASE

ENERGY PLANNING MODEL

S_1
S_2
S_3
S_4
FRC
Utility Master Plan

CLIMATE ACTION PLAN

REFERENCE CASE

NO GROWTH

180K GSF/YR

Summary

MTCO2e

2010  2015  2020  2025  2030  2035  2040  2045  2050
Year

Utility Master Plan
Climate Action Plan

Greenhouse Gas Emissions Reductions

ACTUAL

TARGET

Climate Action Plan

2008
Emissions Baseline: 311,486 MtCO₂e*

Direct Emissions
311,486 MtCO₂e*
- 46.0% Steam
- 30.3% Electricity
- 0.7% Campus Owned Transportation
- 0.5% Refrigerants and Chemicals
- 0.3% Others

Other Indirect Emissions
39,562 MtCO₂e*
- 5.2% Commuting
- 3.4% Air Travel
- 2.1% Solid Waste
- 1.0% Transmission Losses

Indirect Emissions
33,860 MtCO₂e*
- 10.5% Purchased Electricity

2020
Emissions Baseline: 164,450 MtCO₂e*

Direct Emissions
110,791 MtCO₂e*
- 39.9% Steam
- 24.2% Electricity
- 2.1% Campus Owned Transportation
- 0.9% Other
- 0.2% Refrigerants and Chemicals

Other Indirect Emissions
28,564 MtCO₂e*
- 10.6% Commuting
- 6.1% Air Travel
- 0.7% Transmission Losses
- 0.0% Solid Waste

Indirect Emissions
25,095 MtCO₂e*
- 15.3% Purchased Electricity
Comparative Climate Action Plans

University of Missouri GHG Goals Compared to ACUPCC Sample (n=13)

Sample:
University of Missouri
Cornell University
University of North Carolina at Chapel Hill
The Ohio State University
University of Colorado at Boulder
Ball State University
Arizona State University

Clemson University
Duke University
University of Arkansas
University of Illinois at Urbana-Champaign
University of Minnesota
University of Oklahoma
Completed Projects

Gateway Hall

Johnson/Wolpers

Renew Mizzou

Completed Projects
CERTIFIED LEED

Missouri Orthopaedic Institute certified
Animal Resource Center certified
MU Health Care Patient Care Tower gold
Women’s and Children’s South Pavilion silver

PURSUING LEED

Gwynn Hall Renovation
Gateway Hall
Johnston / Wolpers Renovation
Swallow Hall Renovation
Dobbs Group Replacement Project
Missouri Orthopaedic Institute Addition
Patient Centered Care Learning Center
McKee Gymnasium Replacement
Stewart Hall Renovation
Softball Stadium
State Historical Society – Center for Missouri Studies
Trulaske College of Business Applied Learning Center
Missouri Orthopaedic Institute Addition

Projects Underway
Projects Underway

Dobbs Group Housing

Softball Stadium
Projects Underway
Projects Coming Up

Applied Learning Center

Stewart Hall Renovation
EASC
- Faculty Council appointed chair
- VC Student Affairs rep.
- VC for Operations rep.
- VC for Marketing and Comm. rep.
- VC for Finance rep.
- VC Human Resources rep.
- Dir. Intercollegiate Athletics rep.
- CF-Facility Operations rep.
- CF-Planning, Design & Constr. rep.
- Faculty members
- Staff Advisory Council rep.
- MU Health Care rep.
- MSA student rep.
- GPC student rep.

STARS AREAS
- INNOVATION
- ACADEMICS
- ENGAGEMENT
- PLANNING & ADMIN
- OPERATIONS
5 Future Projects

Future Mizzou

MU continues to invest strategically in its core Educational and General (E&G) buildings, using the Mizzou Stewardship model that emphasizes full renovation or replacement to eliminate 100 percent of facility needs including deferred maintenance and building code deficiencies. A full-time manager for sustainable design and construction oversees Mizzou’s increasing portfolio of energy efficient and sustainable projects.

1. McKee Gymnasium Replacement

McKee Gymnasium will be replaced on-site with a new mixed-use building that will include interdisciplinary class labs, a student project lab, and undergraduate scientific instrumentation core, a nutrition and exercise physiology lab, two performing arts class labs, seminar rooms, and faculty/staff workspace. This project helps Mizzou provide much needed space to support the state’s expectation for the number of students graduating in STEM fields. This project fits within the Mizzou Stewardship model which emphasizes full renovation or replacement of buildings to improve academic performance, improve building condition, and reduce the facility’s annual operating costs. Because the original structure was constructed over 50 years ago to accommodate uses different than those needed by the University today, replacement of the building was found to be more cost effective than renovation, and will result in more flexible learning spaces for the future.

2. Graduate Student and Family Apartments

The university currently is preparing a Request for Proposals (RFP) for affordable graduate student housing on portions of the former University Village site. Respondents are asked to consider apartment-style housing and opportunities to incorporate cooperative daycare space. Current on-campus childcare space includes the Child Development Lab operated by the College of Human Environmental Services and the Cub Hub operated by the College of Education through ParentLink.

3. New Sinclair School of Nursing building

This project is currently in the programming phase and would construct a new School of Nursing building on the McKee Gym site to accommodate the rising demand for highly-skilled nurses. The existing building site would become available for future development and RDOT uses currently in McKee Gym would be accommodated in another facility. The project may be completed in phases, with the target build-out of approximately 60,000 gross square feet. The building will showcase multiple simulation laboratories, research laboratories, classrooms and seminar rooms, an auditorium, and faculty, staff and student multi-purpose rooms and work spaces.

4. Translational Precision Medicine Complex

MU has completed the programming phase for a 20,000-24,000 gross square foot research laboratory facility to accommodate interdisciplinary collaboration in the areas of Medicine, Veterinary Medicine and Engineering. The new building will include a spectrum of flexible laboratory modules, computational dry labs, clean rooms, high-resolution imaging, animal holding and care facilities, and work spaces. The site currently being tested is the parcel south of Gateway Mall with frontage on both College Avenue and Hospital Drive.

5. East Campus Plant Growth Facilities (Phase 1)

A programming study has been completed for the first phase of Plant Growth Facilities. These facilities are proposed for the far eastern portion of East Campus where a portion of the surface parking is today. Phase 1 will include two buildings and a headhouse. Combined, they will contain 28 chambers, 24 growth rooms, and seed storage and processing. This site offers expansion potential in future phases.