

Fiscal Year 2019 – 2023 Preliminary Capital Project Plan and
Preliminary FY 2020 State Appropriations Request for Capital Items
UM

The capital planning process approved at the September 2017 Board of Curators meeting includes development of a five-year capital plan that will be reviewed and approved annually by the Board of Curators. This process allows for execution of the current year plan and will provide additional time for fundraising, working with legislature, and additional due diligence during years two through five. The capital plan will assist in driving any official fundraising campaigns for capital projects. Major capital projects will have to be approved by the Board of Curators before being incorporated into any approved capital plans, budget plans, or long-range business plans. Major capital projects include any new construction over \$5 million in project cost or any renovation/infrastructure improvements over \$8 million in project cost.

The first step (Gate A) completed in November 2017, approved the projects recommended to be included in the preliminary capital plan. Campuses presented the preliminary Capital Plan with the campus priority projects including the reasoning for the priority order and how the projects supported the campus strategic and master plans.

The current step (Gate B) is the review and approval of projects to be included in the Campuses Capital Plans and the State Appropriation Request which will be recommended for approval to the Board of Curators in April. Project information includes project description; project justification; funding strategies such as donor support, internal funding, debt, or State funding; and the facilities stewardship index (FSI).

As discussed at the September Board of Curator meeting, the Association of Governing Boards' (AGB) article, *Protecting and Enhancing Campus Facilities: 6 Principles for Boards*, explored the role of the Governing Board in capital planning and was the basis for the new capital planning process. The first principle listed in this article was to “make facilities stewardship a core governing board value”. Facilities stewardship is about taking a long and broad view of an institution’s past and future. The University of Missouri System is comprised of over 1,500 buildings, four primary campuses and a hospital. Total valuation is over \$10 billion. Investment in these facilities over the past 15 years has not been a major priority for the University. With decline in State funding and restrictions on tuition, budgets have been balanced by delaying improvements to facilities. UM education and general (E&G) facilities now have over \$1.7 billion in facilities needs (FCN). Due to continued limited funding, we must be deliberate in setting capital priorities to uphold our stewardship responsibility.

The facilities stewardship index (FSI) is a tool to help both the campus and system to evaluate the impact the project will have on the campus facilities needs. The FSI is determined by scoring the following components on a 1 through 10 scale: program; facility renewal; infrastructure and functional sustainability; strategic space management;

March 20, 2018

availability of funding; on-going operational support; and state, regional, and community impact. Some projects, particularly new buildings, may have lower FSI's but are still high campus priorities (i.e. a new building). However, the overall capital plan should show a significant positive impact on the campus facilities needs.

Included herein is the FY 2019 - 2023 Preliminary Capital Project Plans for review and approval. The enclosed information includes:

- Facilities Stewardship information with historic spending as well as anticipated spending on facilities needs.
- Summary Table of all proposed projects by category (new construction or renovation/infrastructure) with campus priority, project cost, and the year anticipated for Curator approval.
- For each campus, their proposed capital plan and target facilities condition needs (FCN) spending for each fiscal year is shown with the campus anticipated spending towards that target each year.
- An executive summary of each project including campus priority, project type, FSI, building information, department information, space type, planning and programming study (PPS) including date completed and firm used, project schedule, project cost, project funding, operating cost, total gross square feet, and facilities condition needs expense (\$) impacted by the project. A project description and project justification has been provided with a funding strategy of each project that details how each campus plans to fund the project.
- The Facilities Stewardship Index (FSI) analysis is provided for each proposed project.
- The FY2020 Preliminary University of Missouri State Appropriations Request for Capital Items is provided.

UM Facilities Stewardship

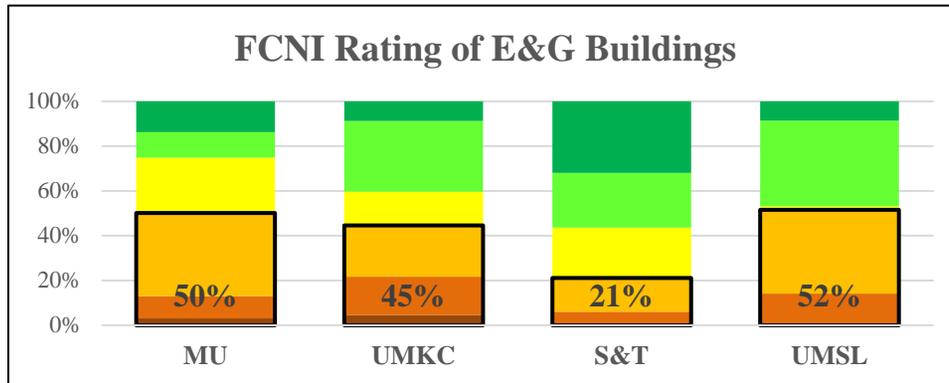
Executive Order 28

Executive Order #28 (EO 28) was issued in 1994 to address the growing deferred maintenance and repair issues on the University campuses. EO 28 mandated that each campus begin budgeting and reporting expenses for preventive maintenance and major repair. In 2012, Executive Order 28 was modified to maintain a Facilities Condition Needs Index (FCNI) of 0.30 or lower. The FCNI is calculated as the sum of the total cost of capital renewal, deferred maintenance, and plant adaption divided by the estimated replacement cost of the buildings.

Historical Five Year Spend on Executive Order 28

University of Missouri System has \$1.7 billion in Facilities Condition Needs and a Facilities Condition Needs Index (FCNI) of 0.30. Over half of the E&G facilities on the campuses fall in the category of Below Average Condition, Poor Condition, or Replacement is recommended.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|--------------|--------------|--------------|---------------|---------------|
| EO 28 Target | \$86,392,000 | \$83,652,000 | \$92,882,000 | \$117,110,000 | \$123,032,000 |
| Total Actual Spend | \$70,709,000 | \$76,686,000 | \$88,421,000 | \$83,029,000 | \$85,742,000 |
| Recurring Actual Spend | \$40,039,000 | \$44,277,000 | \$38,293,000 | \$42,897,000 | \$39,191,000 |
| One-Time Actual Spend | \$30,670,000 | \$32,409,000 | \$50,128,000 | \$40,132,000 | \$46,551,000 |



| Facility Condition Needs Index |
|--|
| Excellent Condition, typically new construction (0.000 - 0.100) |
| Good Condition, renovations occur on schedule (0.101 - 0.200) |
| Fair Condition, in need of normal renovation (0.201 - 0.300) |
| Below Average Condition, major renovation required (0.301 - 0.500) |
| Poor Condition, total renovation indicated (0.501 - 0.600) |
| Replacement Recommended (0.600 and Higher) |

Budgeted Five Year Spend on Executive Order 28

Executive Order 28 has a ten year goal of maintaining current campus FCNI or achieving campus FCNI of 0.30 in ten years. Below is a summary of campus funds designed for maintenance and repair and if the funds will be spent on capital repairs or daily service for E&G facilities.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---------------|---------------|---------------|---------------|---------------|
| FCN Target Spend | \$123,105,000 | \$128,010,000 | \$303,028,000 | \$138,163,000 | \$143,260,000 |
| Total Spend Projected E&G Only | \$92,587,000 | \$100,502,000 | \$131,222,000 | \$134,535,000 | \$144,291,000 |
| Capital Spend E&G FO and all other E&G projects | \$72,995,000 | \$80,351,000 | \$110,494,000 | \$113,210,000 | \$122,349,000 |
| Non Capital Spend daily service E&G FO only | \$19,592,000 | \$20,151,000 | \$20,728,000 | \$21,325,000 | \$21,942,000 |

Facilities Stewardship Index

The Facilities Stewardship Index (FSI) was developed as a tool for campuses to evaluate capital projects each year. Several criteria were implemented to ensure facilities needs were being addressed through the capital planning process. Each campus evaluates each project by scoring 1 through 10, with 10 being the highest for each criteria. System reviewed the Facilities Stewardship Index and justification provided by the campus and evaluates each criteria to provide a comprehensive viewpoint.

The Facilities Stewardship Index criteria are:

Program Plan: The degree to which a project directly supports the campus's programmatic goals and objectives as stated in the campus strategic plan. Examples may include projects that affect programs identified for enhancement, projects that affect accreditation and projects that will affect external funding for research. Other strategic plan considerations may include projects that correct space deficiencies and/or increase instructional capacity. The weighting should reflect the project's impact on students, faculty, programs, and the institution, the effect on revenue and cost, including any anticipated cost avoidance, economies, and economic payback.

Facilities Renewal: The degree to which a project reuses and improves existing space, improves the building and/or campus Facilities Condition Needs Index [FCNI], razes obsolete space, and/or economically eliminates leased space.

Infrastructure and Functional Sustainability: The degree to which a project is supported by existing campus infrastructure, removes deficiencies in existing campus infrastructure, improves campus energy efficiency, and/or improves campus sustainability.

Strategic Space Management: The degree to which the project allows the campus to strategically and economically reallocate and/or repurpose space to advance the campus strategic plan. For example, a new construction project creates the opportunity to build space better suited for the program than can be gained through renovation and/or created less expensively than through renovation, freeing that existing space for repurposing at a lower cost.

External Funding Support: The degree to which a project includes identified and secured funding.

Operating Cost Support: The degree to which funding for operating costs has been identified for a project.

State, Regional, and Community Impact: The degree to which a project can demonstrate:

1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or
2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or
3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project.

University of Missouri System Preliminary Capital Projects Funding

| Facility Name | Campus | Priority | Type | Facility Needs | FCNI | Project Cost | Internal | Debt | Gifts | Federal | State |
|--|--------|----------|-------|----------------|-----------|---------------|---------------|--------------|---------------|--------------|--------------|
| Translational Precision Medicine Complex (FY18 Start) | MU | 1 | NC | \$0 | 0.00 | \$200,000,000 | \$100,000,000 | \$0 | \$0 | \$50,000,000 | \$50,000,000 |
| School of Nursing - Renovation & Addition | MU | 2 | NC/RE | \$8.7M | 0.39 | \$20,000,000 | \$20,000,000 | \$0 | \$0 | \$0 | \$0 |
| Medical Science Building- Upgrade & Maintenance of Research Vivarium | MU | 3 | NC | \$13.1M | 0.47 | \$12,900,000 | \$12,900,000 | \$0 | \$0 | \$0 | \$0 |
| Conservatory of Music & Dance | UMKC | 1 | | \$0 | 0.00 | \$TBD | \$TBD | \$TBD | \$TBD | \$0 | \$0 |
| Spencer Chemistry & Biological Sciences Renovation Phase II | UMKC | 2 | RE | \$35.3M | 0.42 | \$37,657,000 | \$0 | \$0 | \$4,600,000 | \$0 | \$33,057,000 |
| Health Sciences Interprofessional Education and Research Buildings | UMKC | 3 | NC/RE | \$106.2M | 0.00-0.51 | \$300,000,000 | \$0 | \$0 | \$300,000,000 | \$0 | \$0 |
| Schrenk Hall Addition and Renovation – Phase III | S&T | 1 | RE | \$15.6M | 0.49 | \$54,005,000 | \$0 | \$0 | \$11,005,000 | \$0 | \$43,000,000 |
| Engineering Research Lab Addition and Renovation | S&T | 2 | NC/RE | \$8.7M | 0.34 | \$43,000,000 | \$10,000,000 | \$33,000,000 | \$0 | \$0 | \$0 |
| Library/Learning Common | S&T | 3 | RE | \$8.0M | 0.22 | \$10,318,000 | \$4,000,000 | \$0 | \$6,318,000 | \$0 | \$0 |
| Havener Center Renovation & Expansion | S&T | 4 | NC/RE | \$0 | 0.00 | \$26,000,000 | \$11,000,000 | \$12,000,000 | \$3,000,000 | \$0 | \$0 |

March 20, 2018

| Facility Name | Campus | Priority | Type | Facility Needs | FCNI | Project Cost | Internal | Debt | Gifts | Federal | State |
|--|--------|----------|------|-----------------|-----------|----------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| Space Consolidation and Infrastructure | UMSL | 1 | RE | \$58.0M | 0.38-0.49 | \$10,000,000 | \$2,000,000 | \$0 | \$0 | \$0 | \$8,000,000 |
| Social Science Building Renovation | UMSL | 2 | RE | \$34.2M | 0.54 | \$39,000,000 | \$7,800,000 | \$0 | \$0 | \$0 | \$31,200,000 |
| Stadler Hall Renovation | UMSL | 3 | RE | \$25.8M | 0.53 | \$29,500,000 | \$5,900,000 | \$0 | \$0 | \$0 | \$23,600,000 |
| Total | | | | \$313.6M | | \$782,380,000 | \$173,600,000 | \$45,000,000 | \$324,923,000 | \$50,000,000 | \$188,857,000 |

MU Health Care Preliminary Capital Projects Funding

| Facility Name | Campus | Priority | Type | Facility Needs | FCNI | Project Cost | Internal | Debt | Gifts | Federal | State |
|--|--------|----------|------|----------------|------|---------------------|---------------------|------------|------------|---------|------------|
| Women's & Children's Building Exterior | MUHC | 1 | RE | \$30.9M | 0.26 | \$15,000,000 | \$15,000,000 | \$0 | \$0 | | \$0 |
| Primary Care Clinic | MUHC | 2 | NC | \$0 | 0.00 | \$13,000,000 | \$13,000,000 | \$0 | \$0 | | \$0 |
| 6 West Patient Room Maximization | MUHC | 3 | RE | \$63.3M | 0.28 | \$11,560,000 | \$11,560,000 | \$0 | \$0 | | \$0 |
| Off-site Laboratory Relocation | MUHC | 4 | RE | \$1.7M | 0.33 | \$TBD | \$TBD | \$0 | \$0 | | \$0 |
| Total | | | | \$95.9M | | \$39,560,000 | \$39,560,000 | \$0 | \$0 | | \$0 |

2019- 2023 Preliminary Capital Plan for University of Missouri System

| | | | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|--------|----------|----------------------|---------------------|----------------------|----------------------|------------|
| | Campus | Priority | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | | | \$220,000,000 | \$54,005,000 | \$223,000,000 | \$26,000,000 | \$0 |
| Translational Precision Medicine Complex | MU | 1 | \$200,000,000 | | | | |
| School of Nursing - Renovation & Addition | MU | 2 | \$20,000,000 | | | | |
| Conservatory of Music and Dance | UMKC | 1 | TBD | | | | |
| Health Sciences Interprofessional Education and Research Building | UMKC | 3 | | | \$180,000,000 | | |
| Schrenk Hall Addition and Renovation - Phase III | S&T | 1 | | \$54,005,000 | | | |
| Engineering Research Lab Addition and Renovation | S&T | 2 | | | \$43,000,000 | | |
| Havener Center Renovation and Expansion | S&T | 4 | | | | \$26,000,000 | |
| Renovation/Infrastructure | | | \$60,557,000 | \$39,000,000 | \$10,318,000 | \$149,500,000 | \$0 |
| Medical Science Building- Upgrade & Maintenance of Research Vivarium | MU | 3 | \$12,900,000 | | | | |
| Spencer Chemistry & Biological Sciences Renovation Phase II | UMKC | 2 | \$37,657,000 | | | | |
| Health Sciences Interprofessional Education and Research Building | UMKC | 3 | | | | \$120,000,000 | |
| Library/Learning Commons | S&T | 3 | | | \$10,318,000 | | |
| Space Consolidation and Infrastructure | UMSL | 1 | \$10,000,000 | | | | |
| Social Science Building Renovation | UMSL | 2 | | \$39,000,000 | | | |
| Stadler Hall Renovation | UMSL | 3 | | | | \$29,500,000 | |

Capital Plan Spend Summary

| | | | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--|--|----------------------|---------------------|----------------------|----------------------|---------------|
| | | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | | | \$220,000,000 | \$54,005,000 | \$223,000,000 | \$26,000,000 | \$0 |
| Renovation/Infrastructure | | | \$60,557,000 | \$39,000,000 | \$10,318,000 | \$149,500,000 | \$0 |
| Total | | | \$280,557,000 | \$93,005,000 | \$233,318,000 | \$175,500,000 | \$0 |
| Capital Spend E&G FO and all other E&G projects | | | \$72,995,000 | \$80,351,000 | \$110,494,000 | \$113,210,000 | \$122,349,000 |

2019- 2023 Preliminary Capital Plan for MU Health Care

| MUHC* | | | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--------|----------|---------------------|-------------|-------------|-------------|-------------|
| | Campus | Priority | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | | | \$13,000,000 | \$0 | \$0 | \$0 | \$0 |
| Primary Care Clinic Facilities – Land and Buildings | MUHC | 2 | \$13,000,000 | | | | |
| Renovation/Infrastructure | | | \$26,560,000 | \$0 | \$0 | \$0 | \$0 |
| Women’s & Children’s Hospital Building Exterior | MUHC | 1 | \$15,000,000 | | | | |
| 6 West Patient Room Maximization | MUHC | 3 | \$11,560,000 | | | | |
| Off-site Laboratory Relocation | MUHU | 4 | \$TBD | | | | |

Capital Plan Spend Summary

| | | | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------------------|--|--|---------------------|-------------|-------------|-------------|-------------|
| | | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | | | \$13,000,000 | \$0 | \$0 | \$0 | \$0 |
| Renovation/Infrastructure | | | \$26,560,000 | \$0 | \$0 | \$0 | \$0 |
| Total | | | \$39,560,000 | \$0 | \$0 | \$0 | \$0 |

* MUHC Masterplan is currently underway. The capital plan for 2020 – 2023 will be developed after the completion of the master plan.

** CannonDesign study in progress to relocate labs from UH and Mizzou North. Project costs unknown until completion of study

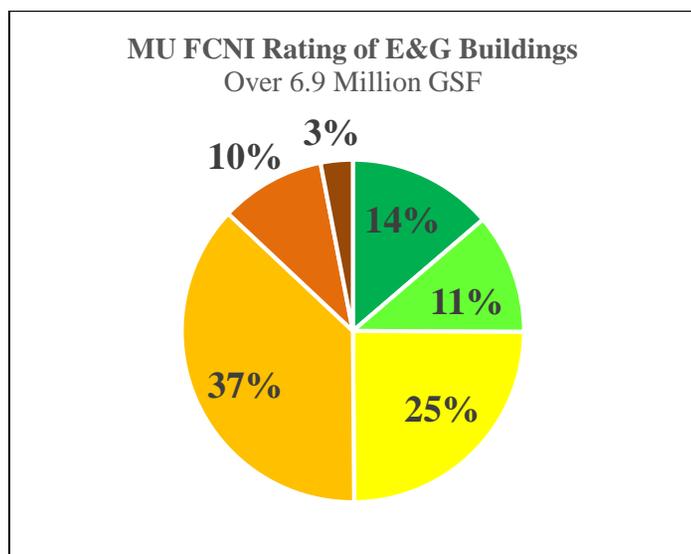
University of Missouri – Columbia
2019 – 2023 Preliminary Capital Plan

MU Facilities Stewardship

Historical Spend on Executive Order 28

MU has \$780.8 million in Facilities Condition Needs and a Facilities Condition Needs Index (FCNI) of 0.30. Half of the E&G facilities on the MU campus fall in the category of Below Average Condition, Poor Condition, or Replacement is recommended.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| EO 28 Target | \$32,764,000 | \$35,207,000 | \$46,111,000 | \$51,583,000 | \$52,622,000 |
| Total Actual Spend | \$24,836,000 | \$25,315,000 | \$41,195,000 | \$50,180,000 | \$47,463,000 |
| Recurring Actual Spend | \$19,595,000 | \$19,196,000 | \$17,521,000 | \$21,423,000 | \$20,116,000 |
| One-Time Actual Spend | \$5,241,000 | \$6,119,000 | \$23,674,000 | \$28,757,000 | \$27,347,000 |



| Facility Condition Needs Index |
|--|
| Excellent Condition, typically new construction (0.000 - 0.100) |
| Good Condition, renovations occur on schedule (0.101 - 0.200) |
| Fair Condition, in need of normal renovation (0.201 - 0.300) |
| Below Average Condition, major renovation required (0.301 - 0.500) |
| Poor Condition, total renovation indicated (0.501 - 0.600) |
| Replacement Recommended (0.600 and Higher) |

Budgeted Five Year Spend on Executive Order 28

The Executive Order 28 ten year goal for MU is achieving campus FCNI of 0.30. Below is a summary of MU campus funds designed for maintenance and repair and if the funds will be spent on capital repairs or daily service for E&G facilities.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--------------|--------------|--------------|--------------|--------------|
| FCN Target Spend | \$56,284,000 | \$58,788,000 | \$61,336,000 | \$63,930,000 | \$66,571,000 |
| Total Spend Projected E&G Only | \$56,284,000 | \$58,788,000 | \$61,335,000 | \$63,930,000 | \$66,571,000 |
| Capital Spend E&G FO and all other E&G projects | \$47,658,000 | \$49,903,000 | \$52,184,000 | \$54,504,000 | \$56,862,000 |
| Non Capital Spend daily service E&G FO only | \$8,626,000 | \$8,885,000 | \$9,151,000 | \$9,426,000 | \$9,709,000 |

March 20, 2018

2019- 2023 Preliminary Capital Plan for University of Missouri - Columbia

| MU | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|----------------------|------------|------------|------------|------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$200,000,000 | \$0 | \$0 | \$0 | \$0 |
| Translational Precision Medicine Complex | \$200,000,000 | | | | |
| Renovation/Infrastructure | \$32,900,000 | \$0 | \$0 | \$0 | \$0 |
| School of Nursing - Renovation & Addition | \$20,000,000 | | | | |
| Medical Science Building- Upgrade & Maintenance of Research Vivarium | \$12,900,000 | | | | |

Capital Plan Spend Summary

| MU | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|----------------------|--------------|--------------|--------------|--------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$200,000,000 | \$0 | \$0 | \$0 | \$0 |
| Renovation/Infrastructure | \$32,900,000 | \$0 | \$0 | \$0 | \$0 |
| Total | \$232,900,000 | \$0 | \$0 | \$0 | \$0 |
| Capital Spend E&G FO and all other E&G projects | \$47,658,000 | \$49,903,000 | \$52,184,000 | \$54,504,000 | \$56,862,000 |

| University of Missouri – Columbia | | | | | | | | | | | |
|--|--|-------|-----------------|------|------|----------------------|----------------------|------------|--------------------|---------------------|---------------------|
| Campus Capital Plan | | | | | | | | | | | |
| Educational and General Facilities | | | | | | Funding | | | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | Federal | State |
| 1 | Translational Precision Medicine Complex | NC | \$0 M | 0.00 | 5.90 | \$200,000,000 | \$100,000,000 | \$0 | \$0 | \$50,000,000 | \$50,000,000 |
| 2 | School of Nursing - Renovation & Addition | NC/RE | \$8.7 M | 0.39 | 9.30 | \$20,000,000 | \$17,000,000 | \$0 | \$3,000,000 | \$0 | \$0 |
| 3 | Medical Science Building- Upgrade & Maintenance of Research Vivarium | RE | \$45.1M | 0.47 | 9.05 | \$12,900,000 | \$12,900,000 | \$0 | \$0 | \$0 | \$0 |
| Total | | | \$53.8 M | | | \$232,900,000 | \$129,900,000 | \$0 | \$3,000,000 | \$50,000,000 | \$50,000,000 |
| Non Educational and General Facilities (Auxiliaries) | | | | | | Funding | | | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | Federal | State |
| No Projects Listed | | | | | | | | | | | |
| Total | | | | | | \$0 | \$0 | \$0 | \$0 | | \$0 |

University of Missouri Columbia
Translational Precision Medicine Complex
Executive Summary

Campus Priority: 1

Project Type:

New Construction

FSI: 5.90

Building Profile

Building Name: Translational
Precision Medicine Complex

Facility Age: New

Total GSF: 200,000 – 245,000

Total Facilities Condition Needs:
\$0

FCNI: 0.00

Department:

Interdisciplinary Medicine,
Engineering, Veterinary Medicine,
Campus Core Labs

Space Type:

Wet Labs, Data analysis labs,
Vivarium, Imaging Core Labs,
Clean Room, Offices, Support
Impacts 125 Graduate/Doctoral/
Post-Doctoral students per year

Program Planning Study

Completed by: Burns &
McDonnell

January 2016

Project Schedule

TBD depending on phasing

Project Cost

\$200,000,000

Project Funding

Internal \$100,000,000

Bonds \$0

Gifts \$0

Federal \$50,000,000

State \$50,000,000

Operating Expenses

estimated \$4,600,000/year

GSF Impacted by Project

200,000 - 245,000

Project Description

The Translational Precision Medicine Complex (TPMC) is planned to be a four story building with a basement and penthouse. This project will be with approximately 200,000 – 245,000 gross square feet (GSF) located at the corner of Hospital Drive and College Avenue. This location is an important campus nexus for interdisciplinary activities involving MU Health Care and campus research core facilities. The size and complexity of this facility lends itself to phased implementation. The entire facility will be planned comprehensively and constructed with the most critical research space needs completed. Shell space for future growth is provided as external support grows and to accommodate future recruitment and research needs. The facility will be highly flexible to adapt to emerging needs and will include biological laboratories; chemical and biomaterials laboratories; computational laboratories; core laboratories supporting high-resolution imaging, clean rooms, and laboratories capable of supporting good manufacturing practice; vivarium; vivo imaging; administrative offices; and formal and informal meeting and collaboration spaces.

Project Justification

Translational medicine brings researchers and clinicians together in a multi-disciplinary, collaborative setting supported by advanced technology and data analysis tools. The National Institute of Health (NIH) has identified translational medicine research as a major focus for grant funding. The TPMC will integrate multidisciplinary laboratory space with advanced analytical instrumentation, computational processing, and pilot scale manufacturing under one roof. This provides the synergistic platform needed for integration of biomedical, electrical, biomolecular, mechanical and industrial engineering with both veterinary and human medicine.

The space utilization study completed in 2017 indicated MU has a current research space deficit of 4%. A significant portion of the existing research space needs renovations to support today's research demands. Thirty percent (30%) of the current research space at MU is located in buildings with a facilities condition needs index (FCNI) of 0.40 or higher (poor condition). Poor space results in low productivity and increased cost for that space. The potential for additional research funding and faculty recruitment and retention increases with a cutting edge facility such as the TPMC, thus increasing MU's standing in the Association of American Universities (AAU). MU's success in this realm would place the State of Missouri at the forefront of precision medicine thanks to the bevy of engineers and clinicians uniquely equipped with skills to succeed in this new frontier of health care. Research discoveries have the potential to lead to new companies and high-paying job creation for the state. The consequences of inaction on this facility includes a potential decline in AAU status and the inability to achieve the strategic mission.

Funding Strategy:

This project will be funded with \$100,000,000 of internal funds, \$50,000,000 of State funds, and \$50,000,000 of Federal funds.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|---|
| Program Plan | 10 | Metrics important to MU's membership in the AAU will be highly enhanced due to the greater ability to function across disciplines, access to core facilities such as imaging, vivarium, and clean room will improve MU competitive advantage in attracting grants from government and industry. "One Mizzou 2020 Vision for Excellence" states that precision medicine will play a crucial role in MU's future success in medicine and research. Consequences of inaction on this facility include potential decline in AAU status and inability to achieve the strategic mission. |
| Facilities Renewal | 1 | Facilities of the quality and condition necessary to propel next generation discoveries do not currently exist at MU. Of the current research space at MU, over 30% is located in buildings of 0.40 FCNI or higher. The Space Study of 2017 indicated MU has a current research space deficit of 4% with projected 14% deficit by 2020 due to assumed growth in research expenditures. The report states "existing space offers additional capacity for increased productivity. However, significant gains in overall expenditures will require investment in providing additional laboratory space." The potential for gains in research expenditures are high with the TPMC fully functioning, thus providing a solid footing for MU in the AAU. This building constitutes new space. |
| Infrastructure & Functional | 5 | This project is located in an area of campus that has seen extension of steam, chilled water, and electrical distribution in conjunction with other building construction. Therefore, connection to these utilities will be reasonable. Capacity of these services for this building type does take capacity and must always be balanced across the system which may lead to investments for future facilities. The MU Infrastructure Fund is the process by which these costs are spread out across all projects to balance the whole of future development. |
| Strategic Space Management | 10 | Facilities of the quality and condition necessary to propel next generation discoveries do not currently exist at MU. Of the current research space at MU, over 30% is located in buildings of 0.40 FCNI or higher. |
| External Funding Support | 1 | No funding is secured. |
| Operating Cost Support | 1 | Source of funds for operation of the facility have not been identified. |
| State Regional Community Support | 10 | According to the Centers for Medicare & Medicare Services (CMS.gov) total health care spending in 2016 is \$3.3 trillion (\$10,348/person). As a share of the nation's gross domestic product, health care spending accounted for 17.9 percent. Precision medicine is an emerging approach to disease treatment and prevention. This approach that accounts for individual variability in genes, environment and lifestyle and promises medical outcomes barely imaginable today. The keys to MU leadership in these burgeoning fields of medicine are to: build on current strengths in medicine, veterinary medicine, and biomedical engineering; build on MU's unique interdisciplinary culture; centralize existing translational & precision related services; maximize opportunities to attract premier researchers; and attract grants and partnerships from government and industry. The MU Life Sciences Business Incubator and the UM System network of Research Parks are resources to which startups can incubate. This will allow scale up of their businesses in Missouri developed from discoveries at the TPMC. |

March 20, 2018

University of Missouri Columbia
School of Nursing Renovation & Addition
Executive Summary

Campus Priority: 2

Project Type:

Renovation/Addition

FSI: 9.30

Building Profile

Building Name: School of Nursing

Facility Age: 38 years old

Total GSF: 65,600

Total Facilities Condition Needs: \$8.7M

FCNI: 0.39

Department:

Sinclair School of Nursing

Space Type:

Class Labs, Bedside Simulation Lab, Classrooms, Collaborative Study, offices, support
Impacts 1,500 students per year

Program Planning Study

Completed by: MU Space Planning & Management (new building) 2016, adapt to renovation/addition

Project Schedule

Programming/Design 14 months;
Bidding & Construction 22 months

Project Cost

\$20,000,000

Project Funding

Internal \$17,000,000

Bonds \$0

Gifts \$3,000,000

State \$0

Operating Expenses

TBD

GSF Impacted by Project

85,000

Project Description

This project is a three story addition, approximately 20,000 gross square feet (GSF) to the School of Nursing Building it will include enhanced simulation labs, research labs, and collaborative environments for student success. The existing building will be renovated to include backfill of the previous simulation labs with faculty offices and graduate student spaces. Exterior improvements will be made to the building to improve the aesthetic presence to the campus while improving accessibility and functionality of the entry points.

Project Justification

The Nursing Building contains 65,600 GSF and has a Facilities Condition Needs Index of 0.39. This facility no longer meets the needs of the highly acclaimed Sinclair School of Nursing (SSON) education program. The existing building was constructed in 1979 with minimal renovations since. The facility has outdated technology and simulation labs along with unwelcoming student areas.

The health and welfare of Missouri tax payers will be impacted by this project. The Sinclair School of Nursing can assist in alleviating the State's nursing shortage and provide the needed care to our citizens. From 2005-2015, the SSON denied access to 2,202 qualified applicants to the Fifth Semester Clinical undergraduate program because of the lack of space needed to increase student enrollment and faculty. The 2017 Space Utilization Study indicated a 15% deficit of space for the SSON. The goal with this new and renovated space is to increase enrollment by 30%. This will contribute to the University's mission of expanding the number of students prepared for a marketable profession and ultimately provide more service to the citizens of Missouri and beyond.

Current space does not accommodate funded research teams on campus and as such, focus has been to accomplish research initiatives "in the field." SSON faculty have received some of the largest research grants awarded to MU. Expansion of the nursing school physical research space opens potential new avenues of research which will contribute to solidifying the MU Association of American Universities (AAU) standing, congruent with MU's Strategic Operating Plan.

Funding Strategy:

This project will be funded by internal funds and donor gifts. Internal funds will provide \$17,000,000 and donor gifts will be \$3,000,000.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|--|
| Program Plan | 8 | The Sinclair School of Nursing (SSON) currently turns away a high percentage of qualified applicants to the fifth semester clinical undergraduate nursing major because of lack of space for expanding student enrollment and faculty. Student retention is central to the mission of MU. As a result of this lack of space has resulted in 2,202 qualified applicants denied access to the undergraduate program from 2005 – 2015. The goal with new and added space is to increase enrollment by 30%. Increasing the numbers of students admitted to the clinical major (5th semester) will result in retaining more students at MU. This will contribute to the University’s mission of expanding the numbers of students prepared with a marketable profession and ultimately provide more service to the citizens of Missouri and beyond. |
| Facilities Renewal | 10 | The Nursing Building with 65,615 GSF, and an FCNI of 0.39, no longer meets the needs of our highly acclaimed SSON education program. Since the existing building was constructed in 1979 and received minimal renovations. The facility has outdated technology and simulation labs along with unwelcoming student areas. This project will construct a three story addition to the northwest to include enhanced simulation labs, research labs, and collaborative environments for student success. The existing building will be renovated to include backfill of the previous simulation labs with faculty offices and graduate student spaces. Exterior improvements will be made to the building to improve the aesthetic presence to the campus as well as improve accessibility and functionality of the entry points. |
| Infrastructure & Functional | 10 | The bulk of this project is renovation of existing space. Therefore is a benefit to the MU sustainability by eliminating facility deficiencies and improving internal systems. Continuing to utilize the existing structure, and not necessitating additional investment in utility infrastructure. |
| Strategic Space Management | 10 | This project envisions an addition to the SSON building for appropriate sized spaces for teaching in simulated environments. Repurposing existing space to be used for other functions can be accommodated in the existing building's structural grid. |
| External Funding Support | 10 | More than 50% of the funds have been secured for the project cost to complete a renovation and addition. |
| Operating Cost Support | 8 | By utilizing an existing building, the operational costs are already being incurred. Additional funds for operating costs are the only affected by the increased foot print. |
| State Regional Community Support | 10 | Nursing students meet the state’s goals to expand STEM education since the required science base for nursing includes 31 credits of natural science and math. Students master information technology to provide accurate documentation as well as to access information to support clinical decision making. |

March 20, 2018

University of Missouri Columbia
Medical Science Building – Upgrade & Maintenance of Research Vivarium
Executive Summary

Campus Priority: 3

Project Type:

Renovation

FSI: 9.05

Building Profile

Medical Science Building

Facility Age: 63 years old

Total GSF: 258,000

Total Facilities Condition Needs:

\$45.1M

FCNI: 0.47

Department:

School of Medicine with other collaborators

Space Type:

Research Vivarium

Impacts number of students per year yet to be determined

Program Planning Study

Completed by: BSA Life Structure

September 2016

Project Schedule

20 months for design, bidding, and construction

Project Cost

\$12,900,000

Project Funding

Internal \$12,900,000

Bonds \$0

Gifts \$0

State \$0

Operating Expenses

TBD

GSF Impacted by Project

20,900 GSF

Project Description

The Medical School Building (MSB) Upgrade and Maintenance of Research Vivarium will renovate 20,900 gross square feet (GSF) located on the first floor. The project will increase procedural space and modernize the mechanical system to National Institute of Health (NIH) standards. Also provided are separate entrances to manage workflow, improve infection control procedures. A generator will be installed for emergency power.

Project Justification

The MSB Vivarium was built in 1954 and expanded in 1964. Since then there have been only two modest renovations to accommodate animal care and research needs. The current space does not meet current standards which results in challenges for proper care of the research animals. Cleaning and traffic flow through the space makes infection control difficult to manage. The outdated MSB Vivarium creates research inefficiencies between the School of Medicine (SOM) collaboration groups (i.e. the College of Engineering, College of Veterinary Medicine, Human Environmental Sciences, College of Agriculture, Foods and Natural Resources, and Arts and Sciences).

SOM is a primary driver for research related Association of American Universities (AAU) metrics for the campus. SOM is a recipient of many research grants, including 47% of NIH awards and 25% of all campus-wide research awards. Over the past year, SOM had a 22% increase in NIH awards which represented 91% of the increase in total NIH funding to the MU campus. To attract new top-achieving faculty and researchers with the ability to bring and maintain funded research programs, MU must maintain modern research facilities. Visiting researchers note concerns regarding disease outbreaks, temperature control, humidity variation, breeding conditions, the availability of space behind the pathogen-free barrier and other concerns regarding research in a space that should be a controlled environment. These concerns create a limit on research growth in the SOM and throughout campus. Furthermore, this facility is necessary to support current and future high quality research, regardless of timing for the construction of the Translational Precision Medicine Complex.

The project will eliminate approximately \$3.6 million of facilities needs in the School of Medicine Building.

Funding Strategy:

This project will be funded by internal funds with \$12,900,000 from the School of Medicine.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|--|
| Program Plan | 10 | Animal care and research facilities are critically important for biomedical research because translational research uses animal species at every stage. A renovation of the Medical Sciences vivarium and other research-related infrastructure is critically important. The School of Medicine (SOM) accounts for a large percentage of the sponsored research portfolio at MU (i.e., 47% of National Institute of Health (NIH) awards and 25% of all campus-wide research awards). Over the last year, the 22% increase in NIH awards to the SOM represents 91% of the increase in total NIH funding to the MU campus. SOM is a primary driver for research-related AAU metrics for the campus. This means that research productivity for the SOM is highly correlated with research success for MU. |
| Facilities Renewal | 10 | The original animal research facility (vivarium) in the Medical Sciences Building (MSB) was built in 1954 and expanded in 1964; there have been two modest renovations over the ensuing years. The configuration and detail of the space is remarkably outdated by today's standards. As a result, surfaces are difficult to keep clean and traffic flow through the space makes infection control hard to manage. Given the extensive interdisciplinary SOM collaborations (i.e., COE, CVM, HES, CAFNR, A&S), the outdated vivarium infrastructure is creating widespread research inefficiency across the MU campus. In response, a renovation of the Medical Sciences vivarium and other research-related infrastructure is critically important. At completion of this project, the projected facility needs eliminated is \$3.6M. |
| Infrastructure & Functional | 10 | This project is renovation of existing space and therefore is a benefit to the MU sustainability by eliminating facility deficiencies and improving internal systems, continuing to utilize the existing structure, and not necessitating additional investment in utility infrastructure. |
| Strategic Space Management | 8 | Renovating this function in this location capitalizes on the investments that have been made over the years to laboratory renovations in the Medical Science Building. This provides ease of access for researchers to the animal facilities. . |
| External Funding Support | 8 | More than 50% of the funds have been secured for the project cost to complete a renovation and addition. |
| Operating Cost Support | 8 | By utilizing an existing building, the operational costs are already being incurred. Improving the mechanical systems to modern standards will have a positive impact on operating costs. |
| State Regional Community Support | 5 | This facility is directly related to STEM focused productivity on the MU campus both in the generation of research grant revenue and support of potential medical discoveries. This could spur new businesses that can be incubated and scaled up in Missouri. |

March 20, 2018

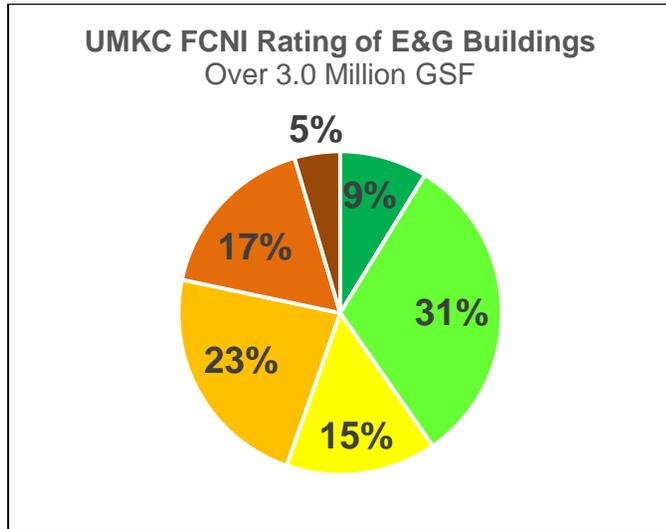
University of Missouri – Kansas City
2019 – 2023 Preliminary Capital Plan

UMKC Facilities Stewardship

Historical Spend on Executive Order 28

UMKC has \$395.8 million in Facilities Condition Needs and a Facilities Condition Needs Index (FCNI) of 0.30. Forty-Five (45) percent of the E&G facilities on the UMKC campus fall in the category of Below Average Condition, Poor Condition, or Replacement is recommended.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| EO 28 Target | \$16,716,000 | \$10,414,000 | \$12,008,000 | \$20,146,000 | \$22,316,000 |
| Total Actual Spend | \$13,570,000 | \$9,872,000 | \$15,943,000 | \$14,804,000 | \$14,182,000 |
| Recurring Actual Spend | \$5,567,000 | \$7,237,000 | \$5,832,000 | \$5,689,000 | \$6,854,000 |
| One-Time Actual Spend | \$8,003,000 | \$2,635,000 | \$10,111,000 | \$9,115,000 | \$7,328,000 |



| Facility Condition Needs Index |
|--|
| Excellent Condition, typically new construction (0.000 - 0.100) |
| Good Condition, renovations occur on schedule (0.101 - 0.200) |
| Fair Condition, in need of normal renovation (0.201 - 0.300) |
| Below Average Condition, major renovation required (0.301 - 0.500) |
| Poor Condition, total renovation indicated (0.501 - 0.600) |
| Replacement Recommended (0.600 and Higher) |

Budgeted Five Year Spend on Executive Order 28

The Executive Order 28 ten year goal for UMKC is achieving campus FCNI of 0.30 in ten years. Below is a summary of campus funds designed for maintenance and repair and if the funds will be spent on capital repairs or daily service for E&G facilities.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--------------|--------------|--------------|--------------|--------------|
| FCN Target Spend | \$24,137,000 | \$25,102,000 | \$26,107,000 | \$27,151,000 | \$28,080,000 |
| Total Spend Projected E&G Only | \$15,339,000 | \$17,953,000 | \$26,591,000 | \$27,254,000 | \$30,945,000 |
| Capital Spend E&G FO and all other E&G projects | \$10,589,000 | \$13,013,000 | \$21,453,000 | \$21,911,000 | \$25,388,000 |
| Non Capital Spend daily service E&G FO only | \$4,750,000 | \$4,940,000 | \$5,138,000 | \$5,343,000 | \$5,557,000 |

March 20, 2018

2019- 2023 Preliminary Capital Plan for University of Missouri – Kansas City

| UMKC | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---------------------|------------|----------------------|----------------------|------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$TBD | \$0 | \$180,000,000 | \$0 | \$0 |
| Conservatory of Music and Dance | \$TBD | | | | |
| Health Sciences Interprofessional Education and Research Building | | | \$180,000,000 | | |
| | | | | | |
| Renovation/Infrastructure | \$37,657,000 | \$0 | \$0 | \$120,000,000 | \$0 |
| Spencer Chemistry & Biological Sciences Renovation Phase II | \$37,657,000 | | | | |
| Health Sciences Interprofessional Education and Research Building | | | | \$120,000,000 | |

Capital Plan Spend Summary

| UMKC | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---------------------|--------------|----------------------|----------------------|--------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$TBD | \$0 | \$180,000,000 | \$0 | \$0 |
| Renovation/Infrastructure | \$37,657,000 | \$0 | \$0 | \$120,000,000 | \$0 |
| Total | \$37,657,000 | \$0 | \$180,000,000 | \$120,000,000 | \$0 |
| | | | | | |
| Capital Spend E&G FO and all other E&G projects | \$10,589,000 | \$13,013,000 | \$21,453,000 | \$21,911,000 | \$25,388,000 |

| University of Missouri – Kansas City | | | | | | | | | | |
|--|---|-------|-----------------|-----------|------|----------------------|--------------|--------------|----------------------|---------------------|
| Campus Capital Plan | | | | | | | | | | |
| Educational and General Facilities | | | | | | | Funding | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| 1 | Conservatory of Music and Dance | NC | \$0 | 0.00 | TBD | \$TBD | \$TBD | \$TBD | \$TBD | \$TBD |
| 2 | Spencer Chemistry & Biological Sciences Renovation Phase II | RE | \$35.3M | 0.42 | 8.00 | \$37,657,000 | \$0 | \$0 | \$4,600,000 | \$33,057,000 |
| 3 | Health Sciences Interprofessional Education and Research Building | NC/RE | \$106.2M | 0.00-0.51 | 6.25 | \$300,000,000 | \$0 | \$0 | \$300,000,000 | \$0 |
| Total | | | \$141.5M | | | \$337,657,000 | \$TBD | \$TBD | \$304,600,000 | \$33,057,000 |
| Non Educational and General Facilities (Auxiliaries) | | | | | | | Funding | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| No Projects Listed | | | | | | | | | | |
| Total | | | | | | \$0 | \$0 | \$0 | \$0 | \$0 |

University of Missouri – Kansas City
Conservatory of Music & Dance
Executive Summary

Campus Priority: 1

Project Type:

New Construction

FSI: TBD

Building Profile

Building Name: Conservatory of Music and Dance

Facility Age: New

Total GSF: TBD

Total Facilities Condition Needs: \$0

FCNI: 0.00

Department:

Conservatory of Music and Dance

Space Type:

Rehearsal Studios, Practice Rooms, Classrooms, Faculty Studios, Ensemble Rooms, Support Space; possible performance space
Impacts 620 students

Program Planning Study

Helix/HGA

2015

Project Schedule

TBD

Project Cost

TBD

Project Funding

Internal TBD

Bonds TBD

Gifts TBD

State TBD

Operating Expenses

TBD

GSF Impacted by Project

TBD

Project Description

TBD

Project Justification

The Conservatory of Music and Dance at the University of Missouri-Kansas City is one of the oldest conservatories in the country, founded in 1906, one year after Juilliard. It has long been a primary source of energy, creativity and talent, nurturing culture in Kansas City, and throughout western Missouri, through its renowned programs in music, dance and visual arts. For more than 30 years, UMKC has been recognized as the Campus for the Visual and Performing Arts for the University of Missouri System.

This vital regional resource faces accreditation risks if facility needs are not met within the next few years. The Conservatory enrollment has outgrown its current 54,000 net assignable square feet currently housed in two separate locations. In 2011 and 2014, facility concerns were raised by the two Conservatory accrediting organizations, the National Association of Schools of Music (NASM) and the National Association of Schools of Dance (NASD). Concerns of health risks associated with inadequate, outdated space have been documented by the accreditors. Other comments include:

“...the number of practice rooms does not appear adequate for the size of the student body.” (NASM)

“It does not appear that the facilities are sufficient to support the faculty needs, all curricular offerings, and all students enrolled in them through the period of accreditation.” (NASD)

The accreditors operate on a 10-year cycle, so will be returning to campus soon to assess progress.

The Conservatory enrolls more than 500 students in professional degree programs in vocal and instrumental performance, composition, music theory and musicology; dance; music education, and music therapy. In a new, expanded facility, enrollment is planned to increase by 24 percent, to 620 students.

Most of the premiere performing arts organizations in the region -- including the Kansas City Symphony, Kansas City Ballet, Lyric Opera and Kansas City Repertory Theatre -- trace their roots to UMKC's performing arts schools. For more than 30 years, UMKC has been the designated Campus for the Visual and Performing Arts for the University of Missouri System. One of the six primary goals for UMKC, set out in the university's strategic plan approved by the UM System, is to "excel in the visual and performing arts." Preserving and enhancing UMKC's strengths in the performing arts are not just regional priorities, they are a System priority as well.

March 20, 2018

UMKC has been exploring its options to meet the needs of the Conservatory for almost a decade. The concept of placing the Conservatory next door to the Kauffman Center has been reviewed most recently. This option mirrored the successful performing arts school/performing arts center combinations such as Juilliard/Lincoln Center in New York, and the New England Conservatory/Jordan Hall in Boston. UMKC has recently expanded the scope of project sites beyond what has been considered previously. UMKC is deeply committed to providing the best possible solution to their unique combination of four needs – academic program space, facilities requirements, location parameters and financial capacity.

UMKC intends to deliver a solution that meets the needs of the faculty and students, donors, university leaders and civic leaders, bringing all together in support of a world-class Conservatory. UMKC intends to enhance the value that the UMKC Conservatory brings to Kansas City and the State of Missouri.

In addition, discussions are under way among faculty to integrate UMKC's nationally renowned Theatre program into the Conservatory to create an even more comprehensive academic program, to increase competitiveness, to further enhance UMKC's reputation in the Greater KC metro area, across the state of Missouri, nationally and internationally as a Conservatory of the Performing Arts. This discussion will open up new possibilities in terms of academic excellence and donor support.

A new facility will allow UMKC to vacate a significant area within the Olson Performing Arts Center and Grant Hall and this vacated area will allow UMKC to move other academic programs out of older and less efficient buildings, particularly those in homes off-campus locations, with those buildings then being taken off-line or demolished to save on the operating costs to the campus.

Funding Strategy:

The funding of the project has not been determined.

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|------------|---|
| Program Plan | TBD | Direct Strategic Plan Mission Statement Linkage: Visual and Performing Arts. Addresses NASM and NASD accreditation issues and allows for enrollment growth. Accreditation visits are scheduled for 2020 and 2021. |
| Facilities Renewal | TBD | Although this is a NEW construction, the space currently occupied by the COMD on the Volker campus is in the core academic area which can be repurposed for other academic growth. This will ultimately allow highly substandard academic and support space (in homes near campus) and lease spaces (Theatre Department) to be vacated. |
| Infrastructure & Functional | TBD | As NEW construction on a new campus location, this project does not utilize existing Volker or Hospital Hill campus infrastructure, so it neither requires expansion nor does it improve the existing campus infrastructures. The project site may be able to utilize some existing utility district infrastructures. |
| Strategic Space Management | TBD | Addresses strategic space program deficiencies identified in the NASM and NASD self-assessments and accreditation reports and creates opportunities for strategic space reallocations for other programs once the project is complete. |
| External Funding Support | TBD | The funding of the project has not been determined. |
| Operating Cost Support | TBD | Potential for additional support through private gift funding and endowments. Reallocation of low efficiency space will lower operating costs after additional moves. |
| State Regional Community Support | TBD | Project developed an unprecedented level of local and regional support in prior session legislative action. |

March 20, 2018

University of Missouri – Kansas City
Spencer Chemistry & Biological Sciences Renovation Phase II
Executive Summary

Campus Priority: 2

Project Type:

Renovation

FSI: 8.00

Building Profile

Building Name: Spencer
Chemistry and Biological
Sciences Buildings

Facility Age: 50 years

Total GSF: 153,800

Total Facilities Condition Needs:
\$35.3M

FCNI: 0.42

Department:

College of Arts & Sciences
Department of Chemistry and
School of Biological Sciences

Space Type:

Teaching Labs, Classrooms,
Research Labs, Support Space
Impacts 1,000 students

Program Planning Study

PGAV Architects
2016

Project Schedule

36 months of design and
construction

Project Cost

\$37,657,000

Project Funding

Internal \$0

Bonds \$0

Gifts \$4,600,000

State \$33,057,000

Operating Expenses

\$0

GSF Impacted by Project

75,000

Project Description

This project would continue the renovation of the 153,800 gross square feet (GSF) Biological Sciences Building and Spencer Chemistry Building. The second phase will renovate approximately 75,000 GSF in both Spencer Chemistry and the Biological Sciences Building. This project will build upon the first phase of this project, which is currently underway and funded by the State with the Board of Public Buildings Bond as the primary funding source. The current phase is slated for completion in July 2018. The Phase II renovation will address additional deferred maintenance, research space, teaching spaces and other facility deficiencies that were beyond reach of the Phase I budget. The renovation will provide state of the art teaching labs and support spaces, while providing improved laboratory systems to support research activities, support student retention, meet current lab standards and encourage student collaborative learning.

Project Justification

The Spencer Chemistry and Biological Sciences Buildings were originally constructed in 1968 and had not been renovated or updated since the 1980's prior to the Phase I renovation which is currently underway. These buildings serve Chemistry and Biology undergraduate and graduate majors, as well as those who go into professional schools or graduate studies in medical and dental. They also serve as part of the teaching mission for our Pharmacy, Medicine, and Nursing Programs. The facility is outdated and provides inadequate space for teaching, and does not meet current safety codes and standards. This project will eliminate over \$35 million of facilities needs.

Funding Strategy:

The campus can include the project in the institution's State Capital Budget Request or they can pursue other financing through private gifts in the next UMKC Capital Campaign as a part of the broader Health Sciences Capital Campaign.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|------------|---|
| Program Plan | 10 | Direct Strategic Plan Mission Statement Linkage: Life and Health Sciences and Natural Sciences. The project allows for planned enrollment growth in these areas. |
| Facilities Renewal | 9 | FCNI for facility after completion of Phase I renovation of 0.41. Phase II Renovations create a fully renovated facility. |
| Infrastructure & Functional | 8 | Fully renovated facility required no new infrastructure investment and improves some elements of building infrastructure to allow greater operating efficiencies (distilled water). Central Heating Plant is not addressed by this project. |
| Strategic Space Management | 10 | Renovation provide better program usage for spaces and greater efficiencies in research labs and student spaces, but creates no new program space. |
| External Funding Support | 1 | No funding has yet been secured, but the case statement has been generated and is planned on a 3-5 year window. |
| Operating Cost Support | 10 | No new operating costs are required and operating efficiencies are created in new HVAC systems. |
| State Regional Community Support | 8 | Project is closely aligned with the local, regional and State priorities around STEM and Health Care. |

March 20, 2018

University of Missouri – Kansas City
Health Sciences Interprofessional Education and Research Buildings
Executive Summary

Campus Priority: 3

Project Type:

New Construction/Renovation

FSI: 6.25

Building Profile

Health Sciences Interprofessional Education Building, Translational Clinical Research Building, Health Sciences Research Building, School of Medicine, School of Dentistry

Facility Age: New

Total GSF: 739,800

Total Facilities Condition Needs: \$106.2 M

FCNI: 0.00 to 0.51

Department:

UMKC Health Sciences District and Schools of Medicine, Dentistry, Pharmacy and Nursing and Health Sciences

Space Type:

Classroom, Teaching Labs, Health Sciences Library, Research Labs, Clinical Research, Patient Treatment and Support Areas
Impacts 3,400 students

Program Planning Study

BNIM and The Clark Enersen Partners
2010

Project Schedule

60 months for design and construction

Project Cost

\$300,000,000

Project Funding

Internal \$0

Bonds \$0

Gifts \$300,000,000

State \$0

Operating Expenses

\$2,759,000

GSF Impacted by Project

739,800

Project Description

This integrated project consist of three collocated new buildings and two partial building renovations. This project combines elements from prior Health Sciences Program Planning Studies for the School of Dentistry completed in December 2010 and the School of Medicine completed in November 2010. The project is consistent with the Campus Master Plan.

The primary function of the 201,800 gross square feet (GSF) Interprofessional Education Building would be to provide shared classrooms, meeting spaces, teaching labs, and patient simulation lab. This project will utilize the latest teaching technology for health care professional training and co-locate existing and developing centers that support UMKC Health Sciences Initiatives. The project will also include a consolidation and substantial expansion of the UMKC Health Sciences Library.

The School of Medicine Building Renovation project renovates approximately 200,000 GSF of the 256,300 GSF existing building. The renovation will improve building systems, student spaces and research spaces to meet current standards. This project will address approximately \$50,500,000 in facilities needs.

The School of Dentistry Building Renovation project renovates approximately 195,000 GSF of the existing building. A skywalk connecting the Pharmacy/Nursing Building will also be constructed which will span over Holmes Street. This project will address approximately \$24,500,000 in facilities needs.

The primary function of the 53,000 GSF Translational Clinical Research Building on the Hospital Hill Campus will be to conduct clinical studies in which patients from the community will participate. The building includes Clinical Research and patient treatment spaces, Clinical Faculty Offices, Administrative Offices and support spaces.

The Health Sciences Research Building on the Hospital Hill Campus will be a collaborative research facility for basic and translational research. The primary use is flexible adaptable laboratory space for wet and dry research activities. To support the research there will be Administrative Offices and Support Space, Core Facilities, and Specialized Research. This includes a large animal facility and areas for Institutional Partners, Research and Technology Transfer and Incubation. The current project is programmed at 90,000 GSF.

Project Justification

The UMKC Health Sciences Interprofessional Education and Research Building will have state-of-the-art capabilities to conduct research in biomedical informatics and Big Data initiatives. In addition this project will provide laboratories for clinical research and basic biomedical research in selected areas. These capabilities will complement and enhance the work planned for the MU Translational Precision Medicine Center (TPMC). The new building in Kansas

March 20, 2018

City will enable UMKC School of Medicine and School of Dentistry to be more competitive in the recruitment of high-caliber clinician-researchers with a track record of extramural grant funding (primarily National Institute of Health (NIH) funding) and via carefully planned collaborations and combined efforts, enhance the competitiveness of faculty at MU TPMC to compete for extramural grant funding.

This project has the potential to catalyze new collaborations across our region and among University of Missouri academic campuses. It will provide the potential to attract industry partnerships and One Health partnerships to focus on advanced treatments for cancer and cardiovascular disease. As well as advance the fields of biomedical engineering, tissue regeneration, and Big Data. The long-term impact of the collaboration between UMKC and MU TPMC will be to accelerate both discovery and implementation of prevention and treatment of disease that will result in improved health outcomes for Missourians.

Funding Strategy:

This project would focus on private gifts from the significant alumni base of the UMKC Health Sciences Schools. This is the cornerstone project in the first phase of the next UMKC Capital Campaign.

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|------------|--|
| Program Plan | 10 | Direct Strategic Plan Mission Statement Linkage: Life and Health Sciences. The project allows for limited enrollment growth in Dental and Medicine programs. |
| Facilities Renewal | 8 | Combined FCNI of Medicine and Dentistry facilities is 0.38. Project fully renovates facilities. |
| Infrastructure & Functional | 1 | New projects require new infrastructure. Renovations will provide some improvement to existing building infrastructure and energy usage. |
| Strategic Space Management | 5 | New projects create opportunity for space reallocation in SOM and SOD buildings. This will allow some moves away from lease and sub-standard spaces (modular trailers). |
| External Funding Support | 1 | No funding secured. Academic units have had good success in prior fundraising efforts. This project will be the focus of the next UMKC Capital Campaign. |
| Operating Cost Support | 5 | Potential of additional support through private gift funding and endowments, as well as research indirect costs. Renovations will create operating efficiencies in new HVAC systems. |
| State Regional Community Support | 8 | Project is closely aligned to local, regional and State priorities around Health Care, as well as strong potential for UM System and MU collaboration with MU TPMC. |

March 20, 2018

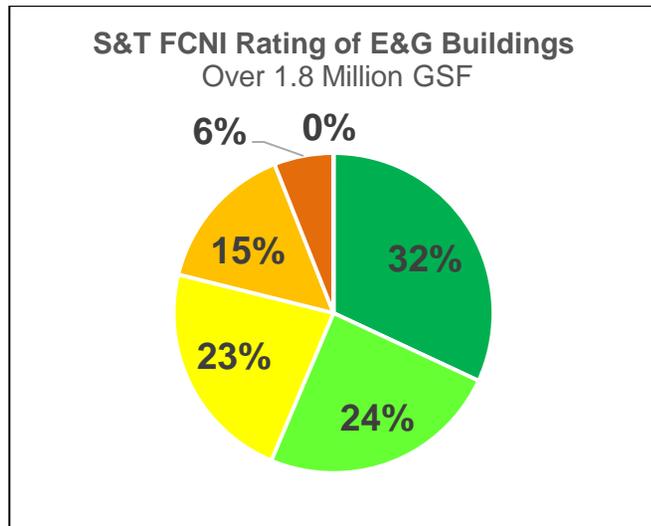
Missouri University of Science and Technology
2019 – 2023 Preliminary Capital Plan

Missouri S&T Facilities Stewardship

Historical Spend on Executive Order 28

S&T has \$154.8 million in Facilities Condition Needs and a Facilities Condition Needs Index (FCNI) of 0.20. Twenty-One (21) percent of the E&G facilities on the S&T campus fall in the category of Below Average Condition, Poor Condition, or Replacement is recommended.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| EO 28 Target | \$10,143,000 | \$10,693,000 | \$6,851,000 | \$15,749,000 | \$16,412,000 |
| Total Actual Spend | \$25,254,000 | \$29,043,000 | \$16,763,000 | \$9,678,000 | \$16,934,000 |
| Recurring Actual Spend | \$8,461,000 | \$10,319,000 | \$7,140,000 | \$8,241,000 | \$8,741,000 |
| One-Time Actual Spend | \$16,793,000 | \$18,724,000 | \$9,623,000 | \$1,437,000 | \$8,193,000 |



| Facility Condition Needs Index |
|--|
| Excellent Condition, typically new construction (0.000 - 0.100) |
| Good Condition, renovations occur on schedule (0.101 - 0.200) |
| Fair Condition, in need of normal renovation (0.201 - 0.300) |
| Below Average Condition, major renovation required (0.301 - 0.500) |
| Poor Condition, total renovation indicated (0.501 - 0.600) |
| Replacement Recommended (0.600 and Higher) |

Budgeted Five Year Spend on Executive Order 28

The Executive Order 28 ten year goal for S&T is maintaining current campus FCNI of 0.21. Below is a summary of campus funds designed for maintenance and repair and if the funds will be spent on capital repairs or daily service for E&G facilities.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--------------|--------------|--------------|--------------|--------------|
| FCN Target Spend | \$16,898,000 | \$17,617,000 | \$18,350,000 | \$19,099,000 | \$19,863,000 |
| Total Spend Projected E&G Only | \$7,390,000 | \$7,612,000 | \$17,840,000 | \$16,575,000 | \$18,317,000 |
| Capital Spend E&G FO and all other E&G projects | \$3,719,000 | \$3,831,000 | \$13,946,000 | \$12,564,000 | \$14,186,000 |
| Non Capital Spend daily service E&G FO only | \$3,671,000 | \$3,781,000 | \$3,894,000 | \$4,011,000 | \$4,131,000 |

March 20, 2018

2019- 2023 Preliminary Capital Plan for Missouri University of Science and Technology

| S&T | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|-------------|---------------------|---------------------|---------------------|-------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$0 | \$54,005,000 | \$43,000,000 | \$26,000,000 | \$0 |
| Schrenk Hall Addition and Renovation - Phase III | | \$54,005,000 | | | |
| Engineering Research Lab Addition and Renovation | | | \$43,000,000 | | |
| Havener Center Renovation and Expansion | | | | \$26,000,000 | |
| Renovation/Infrastructure | \$0 | \$0 | \$10,318,000 | \$0 | \$0 |
| Library/Learning Commons | | | \$10,318,000 | | |

Capital Plan Spend Summary

| S&T | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|-------------|---------------------|---------------------|---------------------|--------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$0 | \$54,005,000 | \$43,000,000 | \$26,000,000 | \$0 |
| Renovation/Infrastructure | \$0 | \$0 | \$10,318,000 | \$0 | \$0 |
| Total | \$0 | \$54,005,000 | \$53,318,000 | \$26,000,000 | \$0 |
| Capital Spend E&G FO and all other E&G projects | \$3,719,000 | \$3,831,000 | \$13,946,000 | \$12,564,000 | \$14,186,000 |

*FCN Target is based on maintaining current FCNI of 0.21 in lieu of 0.30. All other campuses' targets are 0.30.

| Missouri University of Science and Technology | | | | | | | | | | |
|--|--|-------|----------------|------|------|----------------------|---------------------|---------------------|---------------------|---------------------|
| Campus Capital Plan | | | | | | | | | | |
| Educational and General Facilities | | | | | | | Funding | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| 1 | Schrenk Hall Addition and Renovation – Phase III | RE | \$15.6M | 0.49 | 8.75 | \$54,005,000 | \$0 | \$0 | \$11,005,000 | \$43,000,000 |
| 2 | Engineering Research Lab Addition and Renovation | NC/RE | \$8.7M | 0.34 | 8.80 | \$43,000,000 | \$10,000,000 | \$33,000,000 | \$0 | \$0 |
| 3 | Library/Learning Common | RE | \$8.0M | 0.22 | 7.65 | \$10,318,000 | \$4,000,000 | \$0 | \$6,318,000 | \$0 |
| Total | | | \$32.3M | | | \$107,323,000 | \$14,000,000 | \$33,000,000 | \$17,323,000 | \$43,000,000 |
| | | | | | | | | | | |
| Non Educational and General Facilities (Auxiliaries) | | | | | | | Funding | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| 4 | Havener Center Renovation & Expansion | NC/RE | \$0.0M | 0.00 | 9.15 | \$26,000,000 | \$11,000,000 | \$12,000,000 | \$3,000,000 | \$0 |
| Total | | | \$0 | | | \$26,000,000 | \$11,000,000 | \$12,000,000 | \$3,000,000 | \$0 |

Missouri University of Science and Technology
Schrenk Hall Addition and Renovation – Phase III
Executive Summary

Campus Priority: 1

Project Type:

Renovation

FSI: 8.75

Building Profile

Schrenk Hall East

Facility Age: 79 years

Total GSF: 59,000

Total Facilities Condition Needs:

\$15.6M

FCNI: 0.49

Department:

Chemistry and Biochemistry

Space Type:

Teaching and Research laboratory space, classrooms, and support space

Impacts 360 students per semester

Program Planning Study

Completed by: The Clark Enersen Partners

March 2016

Project Schedule

26 months for design and construction

Project Cost

\$54,005,000

Project Funding

Internal \$0

Bonds \$0

Gifts \$11,005,000

State \$43,000,000

Operating Expenses

\$217,000 annually

GSF Impacted by Project

130,000

Project Description

This project will complete the renovation of the west wing which was started in the Phase II project. This project will demolish the existing east wing and construct a new four story 90,400 gross square feet (GSF) addition. The facility will provide teaching laboratories, research laboratories, a vivarium, classrooms, support space and administrative offices. An atrium will bring the east and west wings together to provide a collaborative environment for both students and faculty.

Project Justification

The Phase III project will build on the success of Phase I, Bertelsmeyer Hall, completed in 2013 Phase I houses Chemical and Biological Engineering, and Phase II, partial renovation of the Schrenk Hall west wing, currently in construction. The new Biosciences Building is the final phase of an interdisciplinary complex dedicated to providing world-class education and research in biological sciences, chemistry, and chemical and biochemical engineering.

This renovation and expansion project will provide a technological, student-centered anchor for innovation. By equipping with expanded research space, modern classrooms, open-concept research labs and improved accessibility, the Biosciences Building will leverage Missouri S&T's strengths in computational science, environmental engineering, and materials science and engineering to advance medical, environmental and biomedical research. The building will also be home to an interdisciplinary Center for Research in Biomaterials. Students and faculty will conduct research in bio-active, bio-inspired and bio-mimetic materials for a variety of applications. The Biosciences Building will be an integral component of the student experience at Missouri S&T. Almost every student will take at least one class here in one or more important foundational courses in biological sciences or chemistry.

The Schrenk Hall east wing was constructed in 1938 and is in very poor condition. Building systems have exceeded their expected life and the facility doesn't meet current codes and standards. Demolishing the east wing will eliminate \$15.6 million of facilities needs.

Funding Strategy:

Missouri S&T seeks state funding of \$43,000,000 while committing to raise \$11,000,000 in gifts to complete this final phase of this research and education complex. This additional funding will leverage an investment of \$40.3 million over the past seven years in university funds, private support and state support to complete the \$94.3 million initiative.

Option 1:

Two sources of support will be utilized to contribute to this \$54,000,000 project; the State of Missouri and the University. The division of this support is reflective of the commitment by the State and the University in the area of STEM.

- \$43,000,000 State Contributions (80%)

March 20, 2018

- \$11,005,000 University External Contributions or Donor Gifts (20%)

Option 2:

Three sources of support will be utilized to contribute to this \$54,000,000 project; the University of Missouri System, campus, and external support. The division of this support is reflective of the commitment by the University of Missouri in the area of STEM.

- \$13,501,250 UM System Contributions (25%)
- \$13,501,250 University Internal Contributions/Debt service with general operating funds (25%)
- \$27,002,500 University External Contributions (50%)
 - \$11,005,000 - Donor Gift(s)

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|--|
| Program Plan | 10 | This project significantly impacts the university's ability to continue growth in the Department of Biosciences and compete in several biosciences research areas which include cancer detection, air and water quality, traumatic brain injury and biomimetics. This project directly supports many of the campus's strategic plan initiatives and is an anchor for innovation space which will include expanded research space and modern technological classrooms. The building when completed will become an integral component of the student experience at S&T. Almost every student will take a least one class or more important foundational courses in biological sciences or chemistry in the facility. |
| Facilities Renewal | 10 | The current facility that will be replaced currently has an FCNI or 0.51 and has become obsolete due to its confined spaces and restricting floor to ceiling heights. |
| Infrastructure & Functional | 10 | Campus infrastructure is currently supporting the existing building. This project will allow upgrades in electric and geothermal applications in this area of campus which will result in better efficiencies and improve campus environment and sustainability. |
| Strategic Space Management | 10 | The biosciences building will leverage S&T's strengths in computational science, environmental engineering and bioenergy production that are currently being conducted in space inadequate for their needs. This new space will allow for the inadequate space to be repurposed and/or removed from inventory therefore reducing costs. |
| External Funding Support | 4 | Currently no funding has been secured. Local planned funding in one scenario is 20% resulting in 80% funded by the state. In a second scenario proposed, no money would be state funded. |
| Operating Cost Support | 5 | Funding for operating has not been secured but are not anticipated to be more than is already spent on facilities similar on campus. |
| State Regional Community Support | 8 | This project aligns directly with state priorities in STEM and education of healthcare professionals. It will also promote partnerships with other higher education institutions, public and private entities across the region and state. For example, communications have been explored with Phelps County Regional Medical Center to conduct research that would directly impact the medical field. |

March 20, 2018

Missouri University of Science and Technology
Engineering Research Laboratory (ERL) Addition and Renovation
Executive Summary

Campus Priority: 2

Project Type: New
Construction/Renovation
FSI: 8.80

Building Profile

Engineering Research Lab
Facility Age: 50 years
Total GSF: 46,000
Total Facilities Condition Needs:
\$8.7M
FCNI: 0.34

Department:

All degree programs

Space Type:

Research space
Impacts 1,300 students annually

Program Planning Study

Completed by: Dickinson
Haussman Architects
March 2013

Project Schedule

36 months for design and
construction

Project Cost

\$43,000,000

Project Funding

Internal \$10,000,000
Bonds \$33,000,000
Gifts \$0
State \$0

Operating Expenses

\$230,000 annually

GSF Impacted by Project

162,500

Project Description

The Engineering Research Laboratory (ERL) Addition and Renovation project will renovate the Engineering Research Laboratory (ERL) built in 1971 and connect it with the Straumanis- James Hall (built in 1967 and renovated in 2011). The new Research Building of approximately 86,5000 gross square feet (GSF) will be constructed east of the ERL building (45,800 GSF) and north of Straumanis-James Hall (30,200 GSF). It will incorporate the Geothermal Plant addition into its structure and it will create a unified research center of approximately 162,500 GSF that will aesthetically anchor the northeast corner of the Missouri S&T campus. This building will provide additional interdisciplinary research space which has been identified as a high priority in both the Strategic Plan and Campus Master Plan.

Project Justification

Since this project will house interdisciplinary research, its impact will be felt campus-wide and affects all degree programs. An estimated 1,300 students will be impacted by this project annually. The need for additional interdisciplinary research space has been identified as a high priority in both the Strategic Plan and Campus Master Plan. The campus space utilization study indicated a deficit of research laboratory space.

The ERL was built in 1971 and has received minimal renovation. This project will address life safety code issues; implement energy conservation measures, address accessibility issues; and replace building systems that have exceeded their life expectancy. This project will eliminate \$8.7 million of facilities needs.

Additional operating costs are estimated to be \$230,000 annually and funded by the Campus operating budget.

Funding Strategy:

Two sources of support will be utilized to contribute to this \$43,000,000 project; University sources and P3 alternative financing. The division of this support is reflective of the commitment by the University to invest in its own initiative while considering alternative financing that may differ from business as usual.

\$ 10,000,000 University Internal Contributions (23%)

\$ 10,000,000 – Internal Reserves

\$ 33,000,000 University External Contributions (77%)

\$ 33,000,000 – P3 Partnership (revenue from research and sponsored programs from awards, licenses, grants and contracts with outside partners)

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|--|
| Program Plan | 10 | This project will house interdisciplinary research. Its impact will be felt campus-wide and affects all degree programs. The need for additional interdisciplinary research space has been identified as a high priority in both the Strategic Plan and Campus Master Plan. The space utilization study completed in 2014 and updated in 2017 indicates that the campus has a shortage of 70,000 GSF of research space on campus. This planned addition and renovation will address that need. The ERL Addition Project will also address life safety codes; energy conservation measures and associated cost savings; handicapped accessibility; quality improvement, capacity and/or environmental impact; and all applicable federal regulations. |
| Facilities Renewal | 10 | This project will fully renovate ERL improving the existing space that was originally constructed in 1971 and currently has an FCNI of 0.34. To note, the FCNI has been reduced because of the improvements made to the facility as part of the geothermal project completed in 2014. This project will directly impact our current leased space inventory by increasing research space on campus. This will allow us to relocate current research activities off campus therefore eliminating the leases. |
| Infrastructure & Functional | 10 | This project will renovate 46,000 GSF of existing space and benefits S&T sustainability. The final renovation and addition will continue to use the geothermal infrastructure only increasing the improvements in campus energy efficiencies. |
| Strategic Space Management | 10 | Renovating ERL will capitalize on the investments made over the past three years to laboratory renovations in the building. This space over the years had been transitioned from research space to administrative space. After the 2014 space utilization survey was completed and a shortage of research space identified, the decision was made to reverse this action. This project will allow the process to continue. |
| External Funding Support | 5 | Currently no funding has been secured but local planned funding is set at 23% and 77% funded by a private/public partnership that will be supported by the income from the research activity within. |
| Operating Cost Support | 1 | Funding for operating the addition has not been secured and a source has not been identified. Costs are not anticipated to be more than is already spent on facilities similar on campus. The current facility will continue to be operated under the current scenario. |
| State Regional Community Support | 10 | This project aligns directly with state priorities in STEM research activities. It will also promote partnerships with other higher education institutions, public and private entities across the region and state. With the additional research space, it is anticipated that additional research grants/funding will be sought after and achieved. |

March 20, 2018

Missouri University of Science and Technology
Library/Learning Commons
Executive Summary

Campus Priority: 3

Project Type: Renovation

FSI: 7.65

Building Profile

Curtis Laws Library

Facility Age: 50 years

Total GSF: 92,000

Total Facilities Condition Needs:
\$8.0M

FCNI: 0.22

Department:

Academic Library

Space Type:

Libraries

Impacts 8,000 students per year

Program Planning Study

Completed by: Arcturis

May 2016

Project Schedule

36-60 months for design and
construction (dependent on
phasing)

Project Cost

\$10,318,000

Project Funding

Internal \$4,000,000

Bonds \$0

Gifts \$6,318,000

State \$0

Operating Expenses

\$15,000 annually

GSF Impacted by Project

92,000

Project Description

Current trends in academic library design indicate the Curtis Laws Wilson Library in need of more substantive changes to best serve the needs of the university. This building contains 92,000 gross square feet (GSF). This project includes comprehensive phased planning for the four-story structure to align with the Library's Strategic Plan. Focus was given to incorporating a Learning Commons featuring flexible, collaborative spaces for students and faculty. Wayfinding improvements include relocating the service desk and staff office space, opening the buildings east-west axis, and reconfiguring the IT help desk area. Another important effort includes incorporating technology throughout the building. Relocating non-library uses out of the facility will also contribute to the student experience while not adding to the square footage of the building.

Project Justification

The Library/Learning Commons Addition and Renovation will impact the entire Missouri University of Science and Technology (Missouri S&T) campus, serving all students, staff and faculty. One of the major goals of the project is to implement a Learning Commons with additional spaces for groups to convene. A learning commons is a place for individuals to share, meet, learn and get help. The Learning Commons at S&T will be unique in that it will also be a place to design and create. Categorizing library spaces in more detail includes: Share; collaborative open seating, semi-private flexible spaces, Meet; café, games, living room, enclosed group study rooms, Learn; collection, CLC, library classrooms, Get Help; service desk, IT help desk, Design/Create; “dogbone” graphics stations, makerspace. The Wilson Library Renovation & Addition Project will address code and standards issues; implement energy conservation measures, address accessibility issues and replace building systems that have exceeded their life expectancy. This project will eliminate \$8 million of facilities needs.

Funding Strategy:

Three sources of support will be utilized to contribute to this \$10,300,000 project; University, gifts, and auxiliary reserves. The division of this support is reflective of the diverse use of these areas.

- \$4,000,000 University Contributions (39%)
 - \$ 3,000,000 Campus Contributions
 - \$ 1,000,000 Auxiliary Reserves (Food Service)

- \$6,300,000 External Contributions/Donor Gifts (61%)

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|---|
| Program Plan | 7 | Current trends in academic library design indicate the Curtis Laws Wilson Library is in need of more substantive changes to best serve the future needs of the university and its students, staff and faculty. This building contains 92,000 GSF. This project includes comprehensive phased planning for the four-story structure to align with the Library's Strategic Plan. Focus was given to incorporating a Learning Commons featuring flexible, collaborative spaces for students and faculty. |
| Facilities Renewal | 7 | This project will completely renovate the current space with an FCNI of 0.22 and allow the current program to incorporate technology and other learning commons assets throughout the building. |
| Infrastructure & Functional | 10 | The facility was added to the campus geothermal system in 2014 and the planned renovation will not impact that. Therefore no significant improvements will be necessary. This also contributes to the low FCNI score. |
| Strategic Space Management | 10 | Relocating of non-library uses out of the facility will also contribute to reprogramming of the space and allow for more student centered activities to move in. Once these spaces are relocated, the vacated space will be reprogrammed for other needs or be eliminated from space inventory. |
| External Funding Support | 5 | Funding for the project has not been secured however University expected funding to equal 39% of project funds. External contributions are expected to support the remaining 61% needed. No state funding is expected. |
| Operating Cost Support | 10 | Funding for operating is expected to have a low impact to current budget so funding has been budgeted in operations for future. |
| State Regional Community Support | 8 | This project aligns directly with state priorities in STEM activities. The Library/Learning Commons Addition and Renovation will impact the entire Missouri University of Science and Technology (Missouri S&T) campus, serving all students, staff and faculty. |

March 20, 2018

Missouri University of Science and Technology
Havener Center Renovation and Expansion
Executive Summary

Campus Priority: 4

Project Type: New Construction

FSI: 9.15

Building Profile

Havener Center

Facility Age: 12 years

Total GSF: 106,000

Total Facilities Condition Needs:
\$0M

FCNI: 0.00

Department:

Student Affairs, Student Center

Space Type:

Meeting/Conference

Impacts 8,000 students per year

Program Planning Study

Completed by: Mackey Mitchell
Architects

February 2013

Project Schedule

24 months for design and
construction (dependent on
phasing)

Project Cost

\$26,000,000

Project Funding

Internal \$11,000,000

Bonds \$12,000,000

Gifts \$3,000,000

State \$0

Operating Expenses

\$163,000 annually

GSF Impacted by Project

148,000

Project Description

The Havener Center Renovation & Expansion will renovate and expand dining services, student recreation areas, student group study areas, and administrative areas. The project adds approximately 40,000 gross square feet (GSF) addition to accommodate the increase in the student population on campus.

Project Justification

Since its opening in 2005, the Havener Center on Missouri University of Science and Technology (Missouri S&T) campus has successfully served as the center of campus life and a gateway to the University. The 106,000 GSF facility is the campus's community and serves students, parents and guests, faculty, staff, alumni, corporate partners, and community members with programs, activities, and spaces that enrich the University's educational experience. Through services, convenience and amenities provided in the Havener Center, the university community, guests and visitors find a warm and friendly place to hold meetings, participate in social events or just relax and enjoy the collegiate atmosphere. The Havener Center is the gathering place of Missouri S&T. Its purpose is to support building leaders and community.

A study led by Mackey Mitchell Architects was conducted to evaluate the current use of space in the Havener Center. Responding to the University's growth and evolution, the Havener Center must adapt to meet the changing needs of the campus community. This study's intent is to guide and coordinate investment so the Havener Center remains a relevant part of campus life while increasing its capacity to successfully accomplish its mission to serve the needs of the University community. Additional operating costs are estimated to be \$163,000 annually and funded by the Campus operating budget. The estimated number of students impacted annually will be 8,000.

Funding Strategy:

Three sources of support will be utilized to contribute to this \$30,000,000 project; the University, gifts and student fees. The division of this support is reflective of the diverse use of the Havener Center by Missouri S&T campus use, the student population use and alumni/external client use.

- \$7,000,000 University Contributions (27%)
 - \$6,000,000 Auxiliary Reserves/Campus Contributions
 - \$1,000,000 Debt service with meal plan revenue
- \$7,000,000 External Contributions (27%)
 - \$4,000,000 Contracted Services Contributions (Bookstore, Dining, Bank)
 - \$3,000,000 Donor Gift(s)
- \$12,000,000 Student Contributions (46%)
 - \$1,000,000 Debt service with existing fee revenue
 - \$11,000,000 Debt Service with a \$5/credit hour student fee

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|---|
| Program Plan | 10 | The 106,000 GSF facility is the campus community's premier facility and services students, parents, guests, faculty, staff, alumni, corporate partners, and community members with programs, activities, and spaces that enrich the University's educational experience. The Havener Center encourages self-directed activity, giving maximum opportunity for self-realization and for growth in individual social competency and group effectiveness. In a survey conducted in 2014, students identified the Havener Center as the No. 1 popular facility on campus. |
| Facilities Renewal | 7 | This project will renovate the entire facility so that the Havener Center remains a relevant part of campus life while increasing capacity to successfully serve the needs of the university community. |
| Infrastructure & Functional | 10 | This project requires no additional investment to the campus infrastructure and the fact that the building is being renovated reflects on S&T's commitment to sustainability. |
| Strategic Space Management | 10 | The renovation and addition of space will help create program space better suited to handle the growth in student population that S&T has experienced over the past 12 years since the building was opened. The current facility is not as old as most of the buildings on campus but it has been overly taxed on its use. It needs to be updated to continue its purpose in supporting the campus strategic plan and student oriented initiatives. |
| External Funding Support | 10 | Currently 46% of the funding for the project has been secured. The additional 54% will need to be obtained. |
| Operating Cost Support | 10 | Operating costs have been identified and secured in future budgets. |
| State Regional Community Support | 5 | Economic development and partnerships will be impacted throughout the region as this facility serves many activities for the surrounding communities and other interests outside the university |

March 20, 2018

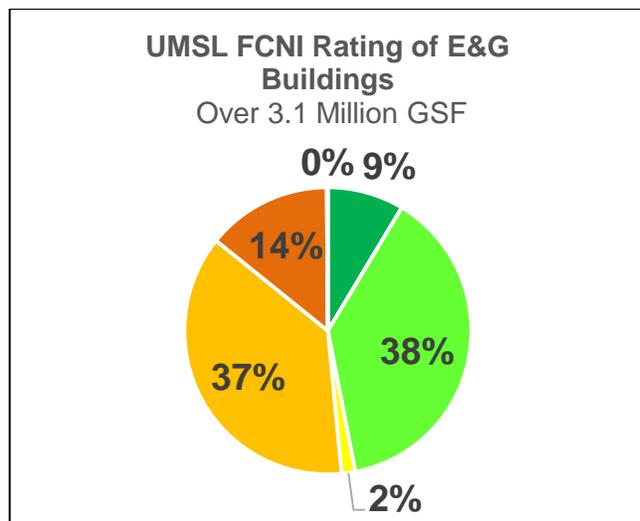
University of Missouri – St. Louis
2019 – 2023 Preliminary Capital Plan

UMSL Facilities Stewardship

Historical Spend on Executive Order 28

UMSL has \$363.8 million in Facilities Condition Needs and a Facilities Condition Needs Index (FCNI) of 0.35. Over half of the E&G facilities on the UMSL campus fall in the category of Below Average Condition, Poor Condition, or Replacement is recommended.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| EO 28 Target | \$26,769,000 | \$27,339,000 | \$27,913,000 | \$29,632,000 | \$31,682,000 |
| Total Actual Spend | \$7,050,000 | \$12,457,000 | \$14,521,000 | \$8,368,000 | \$7,163,000 |
| Recurring Actual Spend | \$6,417,000 | \$7,525,000 | \$7,800,000 | \$7,545,000 | \$3,480,000 |
| One-Time Actual Spend | \$633,000 | \$4,932,000 | \$6,721,000 | \$823,000 | \$3,683,000 |



| Facility Condition Needs Index |
|--|
| Excellent Condition, typically new construction (0.000 - 0.100) |
| Good Condition, renovations occur on schedule (0.101 - 0.200) |
| Fair Condition, in need of normal renovation (0.201 - 0.300) |
| Below Average Condition, major renovation required (0.301 - 0.500) |
| Poor Condition, total renovation indicated (0.501 - 0.600) |
| Replacement Recommended (0.600 and Higher) |

Budgeted Five Year Spend on Executive Order 28

The Executive Order 28 ten year goal for UMSL is achieving campus FCNI of 0.30. Below is a summary of campus funds designed for maintenance and repair and if the funds will be spent on capital repairs or daily service for E&G facilities.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|--------------|--------------|--------------|--------------|--------------|
| FCN Target Spend | \$25,786,000 | \$26,503,000 | \$27,235,000 | \$28,983,000 | \$28,746,000 |
| Total Spend Projected E&G Only | \$13,574,000 | \$16,149,000 | \$25,456,000 | \$26,776,000 | \$28,458,000 |
| Capital Spend E&G FO and all other E&G projects | \$11,029,000 | \$13,604,000 | \$22,911,000 | \$24,231,000 | \$25,913,000 |
| Non Capital Spend daily service E&G FO only | \$2,545,000 | \$2,545,000 | \$2,545,000 | \$2,545,000 | \$2,545,000 |

March 20, 2018

2019- 2023 Preliminary Capital Plan for University of Missouri – St. Louis

| UMSL | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|---------------------|---------------------|------------|---------------------|------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$0 | \$0 | \$0 | \$0 | \$0 |
| Renovation/Infrastructure | \$10,000,000 | \$39,000,000 | \$0 | \$29,500,000 | \$0 |
| Space Consolidation and Infrastructure | \$10,000,000 | | | | |
| Social Science Building Renovation | | \$39,000,000 | | | |
| Stadler Hall Renovation | | | | \$29,500,000 | |

Capital Plan Spend Summary

| UMSL | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---------------------|---------------------|--------------|---------------------|--------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$0 | \$0 | \$0 | \$0 | \$0 |
| Renovation/Infrastructure | \$10,000,000 | \$39,000,000 | \$0 | \$29,500,000 | \$0 |
| Total | \$10,000,000 | \$39,000,000 | \$0 | \$29,500,000 | \$0 |
| Capital Spend E&G FO and all other E&G projects | \$11,029,000 | \$13,604,000 | \$22,911,000 | \$24,231,000 | \$25,913,000 |

| University of Missouri – St. Louis | | | | | | | | | | |
|---|--|------|------------------|------------|------|---------------------|---------------------|------------|------------|---------------------|
| Campus Capital Plan | | | | | | | | | | |
| Educational and General Facilities | | | | | | Funding | | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| 1 | Space Consolidation and Infrastructure | RE | \$58.0 M | 038 – 0.49 | 9.55 | \$10,000,000 | \$2,000,000 | \$0 | \$0 | \$8,000,000 |
| 2 | Social Science Building Renovation | RE | \$34.2 M | 0.54 | 8.40 | \$39,000,000 | \$7,800,000 | \$0 | \$0 | \$31,200,000 |
| 3 | Stadler Hall Renovation | RE | \$25.8M | 0.53 | 8.30 | \$29,500,000 | \$5,900,000 | \$0 | \$0 | \$23,600,000 |
| Total | | | \$118.0 M | | | \$78,500,000 | \$15,700,000 | \$0 | \$0 | \$62,800,000 |
| Non Educational and General Facilities (Auxiliaries) | | | | | | Funding | | | | |
| # | Title | Type | Facility Needs | FCNI | FSI | Total Cost | Internal | Debt | Gifts | State |
| No Projects Listed | | | | | | | | | | |
| Total | | | | | | \$0 | \$0 | \$0 | \$0 | \$0 |

University of Missouri – St. Louis
Space Consolidation and Infrastructure
Executive Summary

Campus Priority: 1

Project Type:

Renovation

FSI: 9.55

Building Profile

Arts Administration Building,
Education Administration,
Bellerive Hall, Music Building,
and Woods Hall

Facility Age: 42 to 59 years

Total GSF: 83,000

Total Facilities Condition Needs:
\$33.0M

FCNI: 0.38 to 0.49

Department:

Human Resources, College of
Education Dean, School of
Social Work, and Department of
Music

Space Type:

Teaching, Offices, and Support
Areas

Impacts 1,300 students per
semester

Program Planning Study

TBD

Project Schedule

24 months for design and
construction

Project Cost

\$10,000,000

Project Funding

Internal \$2,000,000

Bonds \$0

Gifts \$0

State \$8,000,000

Operating Expenses

reduction of \$541,000 annually

GSF Impacted by Project

83,000

Project Description

This project will consolidate underutilized space campus-wide and provide repairs to campus buildings. The project will relocate the College of Education Dean's suite from the Education Administration Building (EAB) and decommission the EAB; relocate the School of Social Work from Bellerive Hall (BH) and demolish BH; relocate the Department of Music from the Music Building (MB) and demolish MB; and relocate Human Resources from Arts Administration Building into Woods Hall. These relocations will facilitate synergies between programs and will improve utilization rates of space in the renovated buildings.

Project Justification

According to a Space Needs and Utilization Analysis study performed in 2016, UMSL has more program space per student than peer campuses. UMSL can lower its operating costs and deferred maintenance by reducing the campus' occupied square footage. Bellerive Hall, Music Building, and Education Administration Building are underutilized buildings that are in poor condition. As such, they are good candidates for decommissioning or demolition, thereby reducing campus operating expenses and deferred maintenance. The proposed repairs will extend the life of the capital improvements, improve safety and enhance campus appearance while reducing facilities needs. This project provides significant financial benefit to the campus by eliminating \$19.0M in facilities needs (\$9M through repairs and renovations and \$10M through demolition of BH and MB) and by reducing annual operating costs by \$541,000.

In addition to the above financial benefits, the entire campus will benefit from improved space utilization, safety, reliability and efficiency. The increased density will also enhance the student experience by providing a more vibrant, energized environment.

Funding Strategy:

Project funding of \$2,000,000 from campus reserves and \$8,000,000 will be requested from State.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|------------|---|
| Program Plan | 10 | UMSL will lower operating costs and deferred maintenance by reducing the campus' occupied square footage. The proposed space consolidation begins the process of right-sizing departmental space while supporting synergies and energizing the campus via denser occupancy. This project provides significant financial benefit to the campus by eliminating \$19,000,000 in deferred maintenance and by reducing annual operating cost by \$541,000. |
| Facilities Renewal | 10 | This project decommissions or demolishes Bellerive Hall, Music Building and Education Administration Building. These are all underutilized buildings that are in poor condition, and campus FCNI will be improved with their removal. Programs currently housed in those buildings will be relocated to more efficient renovated space. |
| Infrastructure & Functional | 10 | Overall, existing campus infrastructure fully supports this project. No infrastructure upgrades are required to achieve any of the proposed work. This project provides much needed upgrades to existing electrical gear. Campus energy usage will be reduced through the reduction of occupied space. |
| Strategic Space Management | 10 | This project economically reallocates and repurposes existing space. This directly advances the campus strategic plan objective of managing space usage to consolidate currently underutilized class and office space by 2022. The objective of enhancing learning experiences is supported by improving the reliability and appearance of the campus' built environment. |
| External Funding Support | 10 | Project funding of \$2,000,000 from campus reserves and \$8,000,000 will be requested from State. |
| Operating Cost Support | 10 | Funding for all operating costs related to this project have been identified. This project will lower campus operating costs by reducing occupied and maintained square footage. |
| State Regional Community Support | 1 | This project directly improves STEM programs by upgrading buildings that house those programs. Indirectly, all campus programs are improved through campus-wide improvements and cost reductions derived from this project. |

March 20, 2018

University of Missouri – St. Louis
Social Science Building Renovation
Executive Summary

Campus Priority: 2

Project Type:

Renovation

FSI: 8.40

Building Profile

Social Science Building

Facility Age: 49 years

Total GSF: 144,000

Total Facilities Condition

Needs: \$32.2M

FCNI: 0.54

Department:

Business Administration,
Economics, Political Science,
Public Policy Administration,
Office of International Studies,
Mathematics & Computer
Science

Space Type:

Classrooms, Laboratories,
Conference/Lounge/ Offices,
Other Support Area
Impacts 675 students per
semester

Program Planning Study

TBD

Project Schedule

36 months for design and
construction

Project Cost

\$39,000,000

Project Funding

Internal \$7,800,000

Bonds \$0

Gifts \$0

State \$31,200,000

Operating Expenses

TBD

GSF Impacted by Project

144,000

Project Description

This project will renovate the Social Science Building. The project provides for state-of-the-art classrooms and lecture hall facilities to be used as a campus resource. The renovation includes a substantial replacement and upgrade of HVAC, electrical and plumbing equipment, systems, fixtures and controls. The project also provides for an extensive renovation and upgrade of building interior, accessibility provisions and building envelope. Exterior improvements include replacement/upgrade of sidewalks, accessible routes and steps.

Project Justification

The Social Science Business Building provides 144,000 gross square feet (GSF) of classroom, lab, and administrative/support space for faculty and staff and thousands of students who major in various disciplines such as business administration (currently housed in this building), economics, political science and public policy administration. Students enrolled in a total of 39,266 credit hours that were taught in this building in FY2017.

Constructed in 1968, this building has a FCNI of 0.54. Delaying replacement and upgrades of these systems will cause further deterioration of assets resulting in repairs becoming increasingly frequent and costly. Continued use of outdated, inadequately sized/configured and equipped classrooms and lecture halls for current pedagogies will increase renovation cost. The project will address code and standards issues; implement energy conservation measures, address accessibility issues, replace building systems that have exceeded their life expectancy and will eliminate \$32.2 million of facilities needs.

Funding Strategy:

Project funding of \$31,200,000 will be requested from the State and \$7,800,000 will be funded from campus reserves.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|------------|--|
| Program Plan | 10 | With 50% of total assignable space allocated to classrooms and open labs, SSB is the highest utilized general classroom facility on the campus. In FY2017, 23% or 39,266 student credit hours (SCHs) were taught in this building affecting 675 students per semester. |
| Facilities Renewal | 10 | Current facility FCNI: 0.54. This project provides for State-of-the-art classrooms and lecture hall facilities. Renovation includes upgrade of all building systems, interiors, and envelope. \$32.2M in facilities condition needs will be eliminated. |
| Infrastructure & Functional | 10 | The existing utility infrastructure is in place to support this facility. The project provides for replacing and upgrading walks, accessible routes and steps. |
| Strategic Space Management | 10 | SSB is 49 years old with 144,000 GSF. Delaying this project will cause further deterioration of the asset resulting in repairs becoming increasing frequent and costly. Newer building systems will have the potential for operating efficiencies. |
| External Funding Support | 1 | Project funding of \$31,200,000 will be requested from the State and \$7,800,000 will be funded from campus reserves. |
| Operating Cost Support | 10 | Current funding for operating costs will remain in place. |
| State Regional Community Support | 5 | Courses taught in SSB provide for general requirements for all degree seeking students including areas of science, technology, engineering, and math (STEM). |

March 20, 2018

University of Missouri – St. Louis
Stadler Hall Renovation Project
Executive Summary

Campus Priority: 3

Project Type:

Renovation

FSI: 8.30

Building Profile

Stadler Hall

Facility Age: 50 years

Total GSF: 82,500

Total Facilities Condition

Needs: \$25.8M

FCNI: 0.53

Department:

Biology, Psychology, and
Biochemistry

Space Type:

Classrooms, Laboratories,
Offices, Other Support Area
Impacts 700 students per
semester

Program Planning Study

TBD

Project Schedule

36 months for design and
construction

Project Cost

\$29,500,000

Project Funding

Internal \$5,900,000

Bonds \$0

Gifts \$0

State \$23,600,000

Operating Expenses

TBD

GSF Impacted by Project

82,000

Project Description

Stadler Hall Renovation project will renovate the 82,500 gross square feet (GSF) building to bring it up to current buildings codes and design standards to serve the primarily uses of research, class-labs, classrooms, a clinic, animal facilities and office/support spaces. This will provide consolidated, more efficient and sustainable environment. Stadler Hall, when renovated, will provide critically needed state of the art, technology equipped and flexible classrooms of various seating capacities, seminar rooms, study areas, collaborative venues, and other student spaces.

Project Justification

The space in Stadler Hall is utilized to teach in six different disciplines. Students enrolled in a total of 4,087 credit hours that were taught in this building. This renovation to meet current standards for teaching will help attract and retain students, faculty, and researchers. Stadler Hall was constructed in 1967. The original design and existing conditions of the building does not meet current codes or standards. Building systems in Stadler are old, inefficient, and in many cases have surpassed their expected useful life. Delaying replacement of these systems will allow them to continue to age and deteriorate and could eventually result in abandoning the buildings as repairs will become increasingly frequent and costly. Modern building systems will be significantly more efficient and less costly to operate than the current systems.

Currently the space has a FCNI of 0.53. When complete, the renovation of Stadler Hall will eliminate an estimated \$25.8M of facilities needs.

Funding Strategy:

Project funding of \$29,500,000 will be requested from the State and \$5,900,000 will be funded from campus reserves.

March 20, 2018

Facilities Stewardship Index

| Criteria | FSI | FSI Justification |
|----------------------------------|-----|--|
| Program Plan | 10 | Of the total campus space, this facility provides 16% of the research space (second only to the adjacent Research Building) and 10% of the lab space as well as classroom space. In FY 2017, 4087 student credit hours (SCHs) were taught to 700 students in the building per semester. |
| Facilities Renewal | 10 | This facility has a FCNI of 0.53. The project will eliminate approximately \$25.8M in deferred facilities needs. |
| Infrastructure & Functional | 10 | Current building systems are old, inefficient, and have surpassed their expected useful life. Delaying replacement and allowing continued deterioration could result in abandoning the building as repair become increasingly frequent and costly. These systems will be replaced with modern, more efficient and less costly systems. |
| Strategic Space Management | 8 | As part of the science/research complex, the upgrades to Stadler Hall will meet current teaching standards necessary to attract and retain students, faculty, and scientists. |
| External Funding Support | 1 | Project funding of \$29,500,000 will be requested from the State and \$5,900,000 will be funded from campus reserves. |
| Operating Cost Support | 10 | Current funding for operating costs will remain in place. |
| State Regional Community Support | 9 | This stem-focused facility is the location for the Biology, Psychology and Biochemistry departments. |

March 20, 2018

MU Health Care
2019 – 2023 Preliminary Capital Plan

2019- 2023 Preliminary Capital Plan for MU Health Care

| MUHC* | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---------------------|-------------|-------------|-------------|-------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$13,000,000 | \$0 | \$0 | \$0 | \$0 |
| Primary Care Clinic Facilities – Land and Buildings | \$13,000,000 | \$0 | | | |
| Renovation/Infrastructure | \$26,560,000 | \$0 | \$0 | \$0 | \$0 |
| Women’s & Children’s Hospital Building Exterior | \$15,000,000 | | | | |
| 6 West Patient Room Maximization | \$11,560,000 | | | | |
| Off-site Laboratory Relocation – Land and Buildings** | TBD | | | | |

Capital Plan Spend Summary

| MUHC | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------------------|---------------------|-------------|-------------|-------------|-------------|
| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| New Construction | \$13,000,000 | \$0 | \$0 | \$0 | \$0 |
| Renovation/Infrastructure | \$26,560,000 | \$0 | \$0 | \$0 | \$0 |
| Total | \$39,560,000 | \$0 | \$0 | \$0 | \$0 |

* MUHC Masterplan is currently underway. The capital plan for 2020 – 2023 will be developed after the completion of the master plan.

** CannonDesign study in progress to relocate labs from UH and Mizzou North. Project costs unknown until completion of study

| MU Health Care Capital Plan | | | | | | | | | |
|---|--|-------------|-----------------------|-------------|---------------------|---------------------|-------------|--------------|--------------|
| Educational and General Facilities | | | | | Funding | | | | |
| # | Title | Type | Facility Needs | FCNI | Total Cost | Internal | Debt | Gifts | State |
| No Projects Listed | | | | | | | | | |
| Total | | | | | | | | | |
| Non Educational and General Facilities (Auxiliaries) | | | | | Funding | | | | |
| # | Title | Type | Facility Needs | FCNI | Total Cost | Internal | Debt | Gifts | State |
| 1 | Women's & Children's Building Exterior | RE | \$15.0M | 0.26 | \$15,000,000 | \$15,000,000 | \$0 | \$0 | \$0 |
| 2 | Primary Care Clinic | NC | \$0 | 0.00 | \$5,000,000 | \$5,000,000 | \$0 | \$0 | \$0 |
| 3 | 6 West Patient Room Maximization | RE | \$5.8M | 0.28 | \$11,560,000 | \$11,560,000 | \$0 | \$0 | \$0 |
| 4 | Off-site Laboratory Relocation | RE | \$1.7M | 0.33 | \$TBD | \$TBD | \$TBD | \$TBD | \$TBD |
| Total | | | \$22.5M | | \$31,560,000 | \$31,560,000 | \$0 | \$0 | \$0 |

**MU Health Care
Women's & Children's Hospital Exterior
Executive Summary**

Campus Priority: 1

Project Type:

Renovation

Building Profile

Building Name: Women's &

Children's Hospital

Facility Age: 45 years

Total GSF: 223,500

Total Facilities Condition Needs:

\$45.9M

FCNI: 0.26

Department:

MU Health Care

Space Type:

Exterior

Program Planning Study

Completed by: International

Architects Atelier

2017

Project Schedule

TBD based on phasing for patient

care and comfort

Project Cost

\$15,000,000

Project Funding

Internal \$15,000,000

Bonds \$0

Gifts \$0

State \$0

Operating Expenses

TBD

GSF Impacted by Project

223,500

Project Description

The exterior building envelop of Women's & Children's Hospital (WCH) shows signs of deterioration and has exceeded the systems life expectancy. This project will remove and replace the exterior building components including the metal panels, flashings, insulation, curtain walls, windows, roofs, etc.

Project Justification

A study of the facilities exterior envelop was performed. Which included the removal of the existing metal panels, to assess damage to the exterior wall assembly and interior walls as a result of suspected water infiltration. The study showed evidence of water infiltration on the exterior, including staining on exterior sheathing, weather barrier, flashings, insulation, and metal studs. The weather barrier is damaged in all locations, and windows need to be re-anchored the structure or wall assembly. Replacement of flashing is also needed. The study also indicated water infiltration at interior locations with water staining the back of the insulation facing at the inboard side of walls. Fireproofing material has also disengaged from structural elements likely as a result of water infiltration.

The water infiltration will accelerate deterioration of the exterior skin and potentially damage interior spaces including patient care areas.

Funding Strategy:

Internal funding of \$15,000,000 will be used.

March 20, 2018

**MU Health Care
Primary Care Clinic
Executive Summary**

Campus Priority: 2

Project Type:

New Construction

Building Profile

Building Name: Primary Care Clinic

Facility Age: New

Total GSF: 15,000

Total Facilities Condition Needs: \$0

FCNI: New

Department:

MU Health Care

Space Type:

Clinics

Program Planning Study

TBD

Project Schedule

TBD

Project Cost

\$13,000,000

Project Funding

Internal \$13,000,000

Bonds \$0

Gifts \$0

State \$0

Operating Expenses

TBD

GSF Impacted by Project

15,000

Project Description

MU Health Care (MUHC) continues to see growth in primary care service. This project will construct a 15,000 gross square feet (GSF) primary care clinic building near a growing residential area. Multiple sites are being considered for this project including growth areas in the southwest and north/northeast areas of Columbia. The sites being considered range in size from three to nearly five acres. These sites are chosen to allow continued growth in these heavily populated areas of Columbia. This growth is supported by the market analysis completed in 2015 and evaluated again in 2017.

Project Justification

University of Missouri Health Care has identified primary care growth as a strategic initiative necessary to support patient access to care and continued growth of other specialty services. These services allow MUHC to be a more comprehensive provider of health care to the patients in our service area. MUHC has seen significant growth in primary care and the remaining capacity within existing facilities is limited.

Funding Strategy:

Internal funding of \$13,000,000 will be used.

March 20, 2018

**MU Health Care
6 West Patient Room Maximization
Executive Summary**

Campus Priority: 3

Project Type:

Renovation

Building Profile

Building Name: University Hospital

Facility Age: 61 years

Total GSF: 443,500

Total Facilities Condition Needs: \$63.3M

FCNI: 0.28

Department:

MU Health Care

Space Type:

Clinical

Program Planning Study

bcDesign Group

Ross & Baruzzini

Project Schedule

TBD

Project Cost

\$11,560,000

Project Funding

Internal \$11,560,000

Bonds \$0

Gifts \$0

State \$0

Operating Expenses

TBD

GSF Impacted by Project

9,000

Project Description

This project will add 2 new patient rooms and renovate 18 patient rooms in the University Hospital. The work includes the demolition and build-back with new finishes matching the aesthetic of the University Hospital 4th & 5th floor patient rooms, recently renovated, which includes new headwalls & footwalls, new flooring, ceilings and casework. Other areas include demolition and build-back of the nurse's station, clean room, soiled room, med room, nourishment room, and breakroom.

The rooms will include a patient toilet and shower as well as new IT systems and Mechanical, Electrical and Plumbing systems upgrades. A new Air Handling Unit is required for the renovation of 6 West.

Project Justification

University of Missouri Health Care (MUHC) has experienced steady inpatient growth since FY13, with University Hospital (UH) leading that growth, as shown in the following table:

| MU Health Care Bed Change | | | |
|---------------------------|-----------|-----------|-----------|
| FY13-FY14 | FY14-FY15 | FY15-FY16 | FY16-FY17 |
| 2.4% | 3.6% | 5.7% | 3.7% |

| University Hospital Bed Days Change | | | |
|-------------------------------------|-----------|-----------|-----------|
| FY13-FY14 | FY14-FY15 | FY15-FY16 | FY16-FY17 |
| 6.2% | 11.0% | 4.2% | 3.7% |

Due to the growth, UH has reached maximum occupancy. When all beds are filled, UH goes on "bed hold" and does not accept patients. A September 2017 survey of UH "bed hold" over the preceding 14-month period revealed 350 patients being diverted to other non-MUHC hospitals. This is not only a loss of current revenue, but also compromises future referral streams.

Steps have been taken to transfer UH patients to other MUHC facilities. This solution has limitations and is not always an option as many of the UH patients are high acuity, have co-morbidities and require consultations from multiple specialists and ICU level. Our other facilities are lower acuity specialty hospitals and do not have the breadth and depth of specialists available at UH or ICU level.

Funding Strategy:

Internal funding of \$11,560,000 will be used.

March 20, 2018

**MU Health Care
Off-Site Laboratory Relocation
Executive Summary**

Campus Priority: 4

Project Type:

Renovation

Building Profile

Building Name: Allton

Facility Age: 42 years

Total GSF: 20,000

Total Facilities Condition Needs:

\$4M

FCNI: 0.40

Building Name: AP Greene

Facility Age: 50 years

Total GSF: 15,000 GSF

Total Facilities Condition Needs:

\$1.7M

FCNI: 0.33

Department:

MU Health Care

Space Type:

Clinical

Program Planning Study

Cannon Design

2018

Project Schedule

TBD

Project Cost

TBD

Project Funding

Internal TBD

Bonds \$0

Gifts \$0

State \$0

Operating Expenses

TBD

GSF Impacted by Project

35,000

Project Description

CannonDesign is currently conducting a feasibility study to determine whether the Microbiology Lab at University Hospital and Special Chemistry and Molecular laboratories at Mizzou North could be moved to function efficiently and effectively in the Allton Building. CannonDesign is also studying the existing ambulance base housed at AP Greene and how that operation may be enhanced for future growth.

MU Health Care is aware of the desire for MU to close Mizzou North in the future. This decision impacts the MUHC services that are currently on that campus. MUHC is evaluating this 7 acre parcel of land for future hospital use that would include the Allton and AP Greene buildings.

Project Justification

The Master Facility Space Plan with CannonDesign has identified specific laboratory services that can successfully operate in off-site locations to help decompress hospital space that can be used for other growing services that cannot move outside of the hospital proper.

Funding Strategy:

Internal funding will be used to fund the project.

March 20, 2018

| Preliminary University of Missouri State Appropriations Request for Capital Items | | | | | | | | | |
|--|---|------------------------------------|----------------------|--------------------------|-----------------------|----------------------|----------------------------------|---------------------------|-----------------------|
| | | <i>Capital Improvement Summary</i> | | | | | <i>Economic Impact Factors</i> | | |
| System Priority | Facility Name | Campus | State Request | University Amount | Federal Amount | Total | Impact on Overall Economy | Earnings Generated | Jobs Generated |
| 1 | Translational Precision Medicine Complex | MU | \$50,000,000 | \$100,000,000 | \$50,000,000 | \$200,000,000 | \$427,900,000 | \$130,400,000 | 3,090 |
| 2 | Schrenk Hall Addition and Renovation Phase III | S&T | \$43,000,000 | \$11,005,000 | \$0 | \$54,005,000 | \$115,500,000 | \$35,200,000 | 830 |
| 3 | Spencer Chemistry & Biological Sciences Renovation Phase II | UMKC | \$33,057,000 | \$4,600,000 | \$0 | \$37,657,000 | \$80,600,000 | \$24,500,000 | 580 |
| 4 | Space Consolidation and Infrastructure | UMSL | \$8,000,000 | \$2,000,000 | \$0 | \$10,000,000 | \$21,400,000 | \$6,500,000 | 150 |
| Total State Appropriations Projects | | | \$134,057,000 | \$117,605,000 | \$50,000,000 | \$301,662,000 | \$645,400,000 | \$196,600,000 | 4,650 |