The capital planning process approved at the September 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 2 through 5. 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 before being incorporated into any approved capital plans, budget plans, or long range business plan. Major capital projects include any new construction project over $5 million in project cost or any renovation/infrastructure project over $8 million in project cost.

The first step (Gate A), is for a project to be recommended for inclusion in the preliminary capital plan. At this step, each campus will have the opportunity to present their preliminary capital plan and explain the reason why these are the campus’ priority projects, including why they are in the priority order they are; and how they support the campus’ strategic plan and master plan. The Facilities Condition Needs (FCN) target and anticipated spend towards the target is provided to demonstrate that these top priority projects will either assist the campus in meeting the target spend or will not negatively impact the campus’ ability to meet their target spend. The FCN target is the spend on facilities needs required for the campus to not exceed a 0.30 Facilities Condition Needs Index (FCNI) over the next ten years. Missouri S&T’s FCN target is based on maintaining their current FCNI of 0.21. The curators will have the opportunity to ask questions about these projects, approve projects, remove projects, question why other specific projects aren’t included, or add projects they feel are priorities.

Once curator input is received and the campus preliminary plan is approved, the campus will further develop these projects with more defined scope, budget, funding strategies, etc. Concurrently, the system will evaluate and prioritize the projects included in all approved preliminary plans based on overall University strategy and funding capacity. At the March Board of Curators Finance Committee meeting, the campuses will present their updated capital plans for review and the system will provide the overall capital project priority plan for review. The proposed Fiscal Year 2020 State Capital Appropriations request will also be presented at the March meeting. The capital plans (including system’s priority plan) and the State request approved at this meeting will be presented at the April Board of Curators (Gate B) meeting for review and approval.

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

- Summary Table of all proposed projects by category (new construction or renovation/infrastructure) with campus priority, project cost, and year anticipated for Curator approval.
• Priority Scoring Table for each proposed project. The criteria used to prioritize projects include the relationship of the project to the campus strategic plan, facility renewal, functional sustainability, availability of funding, and plans for on-going operational support.

• For each campus, their proposed capital plan, and target facilities condition needs (FCN) spend for each fiscal year is shown with the campus anticipated spend towards that target each year.

• An executive summary of each project including campus priority, project type, priority score, 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.
## 2019 - 2023 Preliminary Capital Plan

<table>
<thead>
<tr>
<th>Campus</th>
<th>Project Name</th>
<th>Priority</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<td>Year 2</td>
<td>Year 3</td>
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* Outcome of Boone Hospital Center collaboration will effect status of proposed expansion.
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<th>Facility Name</th>
<th>Campus</th>
<th>Program Plan</th>
<th>Facilities Renewal</th>
<th>Infrastructure &amp; Functional</th>
<th>Strategic Space Management</th>
<th>External Funding Support</th>
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<td>Library/Learning Common</td>
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<td>10</td>
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<td>-</td>
<td>10</td>
<td>9</td>
<td>8.15</td>
</tr>
</tbody>
</table>
| **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. Recommended weight is 30%.  
| **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. Recommended weight is 20%.  
| **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. Recommended weight is 10%.  
| **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. Recommended weight is 15%.  
| **External Funding Support:** The degree to which a project includes identified and secured funding. Recommended weight is 15%.  
| **Operating Cost Support:** The degree to which funding for operating costs has been identified for a project. Recommended weight is 5%.  
| **State, Regional, and Community Impact:** The degree to which a project can demonstrate:  
  1.25.7.1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or  
  1.25.7.2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or  
  1.25.7.3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project. Recommended weight is 5%. |
Recommended Action - Approval – Preliminary Five-Year Capital Plan for MU

It was recommended by Chancellor Cartwright, endorsed by President Choi, recommended by the Finance Committee, moved by Curator ____________ and seconded by Curator ____________, that the:

Preliminary Capital Plans:

Translational Precision Medicine Complex,
School of Nursing - Renovation & Addition
Medical Science Building- Upgrade & Maintenance of Research Vivarium
Library Depository Addition
New Journalism Building - Redevelop Neff Hall Site

be approved for further planning and development.

Roll call vote of the Committee:

YES  NO

Curator Brncic
Curator Chatman
Curator Layman
Curator Snowden
Curator Steelman
Curator Sundvold

The motion ________________.
## 2019-2023 Preliminary Capital Plan

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
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<td>Year 2</td>
<td>Year 3</td>
<td>Year 4</td>
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<td>Library Depository Addition</td>
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<tr>
<td>New Journalism Building - Redevelop Neff Hall Site</td>
<td></td>
<td></td>
<td>$45,000,000</td>
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| **Renovation/Infrastructure** | $33,100,000 | $0 | $0 | $0 | $0 |
| School of Nursing - Renovation & Addition | $20,000,000 | | | | |
| Medical Science Building- Upgrade & Maintenance of Research Vivarium | $13,100,000 | | | | |

<p>| <strong>FCN Target</strong> | $56,284,089 | $58,787,583 | $61,335,625 | $63,929,550 | $66,570,736 |
| Total Spend E&amp;G Only | $56,284,089 | $58,787,583 | $61,335,625 | $63,929,550 | $66,570,736 |
| Capital Spend E&amp;G FO and all other E&amp;G projects | $47,657,973 | $49,902,685 | $52,184,179 | $54,503,561 | $56,861,967 |
| Non Capital Spend daily service E&amp;G FO only | $8,626,115 | $8,884,899 | $9,151,445 | $9,425,989 | $9,708,769 |</p>
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<tr>
<th>Facility Name</th>
<th>Weight</th>
<th>Priority</th>
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<th>Facilities Renewal</th>
<th>Infrastructure &amp; Functional</th>
<th>Strategic Space Management</th>
<th>External Funding Support</th>
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**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. Recommended weight is 30%.

**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. Recommended weight is 20%.

**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. Recommended weight is 10%.

**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. Recommended weight is 15%.

**External Funding Support:** The degree to which a project includes identified and secured funding. Recommended weight is 15%.

**Operating Cost Support:** The degree to which funding for operating costs has been identified for a project. Recommended weight is 5%.

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

1.25.7.1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or
1.25.7.2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or
1.25.7.3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project. Recommended weight is 5%.
Project Description
The Translational Precision Medicine Complex (TPMC) is sited at Hospital Drive and College Avenue with a planned size of 200,000 – 245,000 gross square feet. 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, and shell space for future phases to fit out space as external support grows and to accommodate future recruitment and research needs.

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, providing the synergistic platform needed for integration of biomedical, electrical, biomolecular, mechanical and industrial engineering with both veterinary and human medicine.

Facilities of the quality and condition necessary to propel next generation discoveries do not exist at MU currently. 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. The Space Utilization Study completed in 2017 indicated MU has a current research space deficit of 4% with a projected deficit of 14% by 2020 based on projected research growth. 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 additional research funding increases with the TPMC fully functioning, thus increasing MU’s standing in the Association of American Universities (AAU).

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’s ability to attract 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.

November 10, 2017
UNIVERSITY OF MISSOURI - COLUMBIA
SCHOOL OF NURSING RENOVATION & ADDITION
EXECUTIVE SUMMARY

November 10, 2017

Project Description
This project will construct a three story addition, approximately 20,000 gross square feet to the School of Nursing Building and 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 and improve accessibility and functionality of the entry points.

Project Justification
The Nursing Building contains 65,615 GSF, has a Facilities Condition Needs Index of 0.39, and no longer meets the needs of the highly acclaimed Sinclair School of Nursing (SSON) education program. The existing building was constructed in 1979 and has had minimal renovations. The facility has outdated technology and simulation labs along with unwelcoming student areas.

The health and welfare of Missouri 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 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 with 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.
### Project Description
The Medical School Building (MSB) Upgrade and Maintenance of Research Vivarium will renovate 20,900 gross square feet. The project will improve program space by increasing procedural space, modernize the mechanical system to National Institute of Health (NIH) standards, provide separate entrances to manage workflow, improve infection control procedures, and install a generator for stand-by power.

### Project Justification
The current MSB Vivarium was built in 1954 and expanded in 1964 to meet research needs. Since then there have been only two modest renovations to accommodate the animal care and research facility. The current space is outdated by today’s standards resulting in challenges of taking proper care of the research animals, such as cleaning and traffic flow through the space makes infection control hard to manage. Using the outdated MSB Vivarium creates widespread research inefficiencies with the School of Medicine (SOM) collaboration groups with 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 and is a recipient of many research grants, including 47% of 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. Consequently, SOM is highly correlated with the research success at MU. To attract new top-achieving scientists with the ability to bring and maintain funded research programs, MU must maintain top standard research facilities. Currently when scientists come to visit or to collaborate with the SOM, concerns are noted 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.
UNIVERSITY OF MISSOURI - COLUMBIA
MEDICAL SCIENCE BUILDING –
UPGRADE & MAINTENANCE OF RESEARCH VIVARIUM
EXECUTIVE SUMMARY

November 10, 2017

OPEN – FIN - 1-14
EXECUTIVE SUMMARY

Project Description
The University of Missouri Library Depository (UMLD) is located off-campus on LeMone Boulevard. This project will construct a 12,000 gross square feet addition to consolidate the Libraries mass storage collection and University Archives collection into one location. UMLD’s original design & construction anticipated a future expansion to the south of the existing building. The new facility will include the installation of a high-bay storage system and climate control system similar to the existing facility.

Project Justification
MU Libraries currently has two mass storage locations, one owned by the University (UMLD) and one leased from a private entity (UMLD2). A primary purpose of offsite book depositories is to provide appropriate temperature and humidity levels in which books can be stored safely for long periods. UMLD2 has been located in multiple leased facilities over the past few years. In 2013, the University spent $1.5M to treat and save 600,000 books from mold due to high humidity in the leased space. The contents from this location were moved to the current leased location. In early July 2017, air-conditioning units began to fail at the leased facility. Water dripped through the ceiling, and plastic tarps were placed over the books stored for protection. However, temperature and humidity monitors at UMLD2 indicated humidity well above the recommended levels after that event. Staff have worked with the landlord to address the problems, but an addition to the UMLD1 facility will provide the most consistent climate control for the University’s resources.

Campus Priority: 4
Project Type: New Construction (addition)
Priority Score: 9.5

Building Profile
UM Library Depository (UMLD)
Facility Age: 20 yrs
Total GSF: 16,789
Total Facilities Condition Needs: $581,000
FCNI: 0.13

Department:
MU Libraries

Space Type
Library Collection Storage
Thousands students per year

Program Planning Study
Completed by: PGAV
October 2015

Project Schedule
20 months for design, bidding, construction

Project Cost
$5,200,000

Project Funding
Internal $5,200,000
Bonds $0
Gifts $0
State $0

Operating Expenses
estimated $97,000/year

GSF Impacted by Project
12,000 GSF

November 10, 2017
Project Description
The new five story Journalism Building project will include the demolition of Neff Hall and its associated addition. These are low density buildings that are in poor condition. The facility will bring together the MU media brands of KOMU, KBIA, Missourian, and Vox to create a multi-platform class lab environment along with other programs such as strategic communications, documentary journalism, and leadership. This location between the “Avenue of the Columns” and the 9th Street corridor, also provides an excellent opportunity for a MU Welcome Center to be located on the first floor.

Project Justification
Since its founding in 1908, applied learning in professional settings has been the cornerstone of the Missouri School of Journalism. Through newsrooms and communication agencies, hands-on learning environments have fueled the School’s success and its prestigious global reputation. This famed Missouri Method has attracted talented students and faculty from across the country and around the world, which has ultimately strengthened MU.

Today, the industry is demanding professionals who must be able to collaborate and are capable of working across multiple platforms including print, digital, video, audio and social media. This journalist-of-all-trades expectation demands that students are exposed to all manner of reporting and producing platforms, so specializing in only one area is no longer the key to professional success.

The 2017 Space Utilization Study indicated the School of Journalism has a space deficit of 12%. With this project, the School will consolidate programs in one building which are currently located in three buildings. The space vacated will be back filled with functions not requiring colocation or other academic programs which can utilize the functions such as media labs.

The new building will allow for existing programs to adapt to the changing world of journalism. Spaces equipped for a multi-platform environment will allow students to seamlessly work across currently divided disciplines. Enhanced facilities are necessary for students in the department of strategic communications to research, create, and deliver the right message to the right people at the right time through preferred media for maximum effect and efficiency.
All of these academic programs in one facility provide maximum opportunity for all journalism students to interact with many aspects of the field.
Recommended Action - Approval – Preliminary Five-Year Capital Plan for MU Health Care

It was recommended and endorsed by Chancellor Cartwright and President Choi, recommended by the Finance Committee, moved by Curator _______________ and seconded by Curator _______________, that the:

Preliminary Capital Plans:

Women’s & Children’s Hospital Building Exterior
Primary Care Clinic Facility - Land and Building
Outpatient Clinic - Keene Street or South Providence Medical Building #2
CVSL Clinic and Diagnostic Center
Inpatient Expansion-University Hospital
Inpatient Expansion Women’s & Children’s Hospital
Health Pavilion Purchase

be approved for further planning and development.

Roll call vote of the Committee: YES NO

Curator Brncic
Curator Chatman
Curator Layman
Curator Snowden
Curator Steelman
Curator Sundvold

The motion ________________.
## 2019-2023 Preliminary Capital Plan

<table>
<thead>
<tr>
<th>MU Health Care</th>
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* Outcome of Boone Hospital Center collaboration will effect status of proposed expansion.
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, including 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.

Water infiltration will accelerate deterioration of the exterior skin and potentially damage interior spaces including patient care areas. Evidence of water infiltration is present 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 to structure or wall assembly. Replacement of flashing is also needed.

Evidence of water infiltration is also present 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.
Project Description
MU Health Care (MUHC) continues to see growth in primary care service. This project will construct a 15,000 gross square feet 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 consider 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 reviewed 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.

MUHC is currently in negotiations with the Boone Hospital Trustees related to the operation of Boone Hospital Center. The outcome of those negotiations may alleviate the need to build.
Project Description
The MU Health Care (MUHC) Outpatient Clinic project will construct a four story clinic building with approximately 98,000 gross square feet to accommodate clinics and departments, such as, the MO Center for Reproductive Medicine & Fertility, MO Center for Female Continence & Pelvic Surgery, Women’s & Children’s Hospital (WCH) Maternal & Fetal Medicine and Ultrasound, Plastic Surgery, MO OB/GYN Associates, and others, which have common patients and adjacencies. The planning & programming study identified two potential University owned sites for this clinic. The first site is a six acre, undeveloped parcel adjacent to Women and Children’s Hospital (WCH) on Keene Street. This site provide desirable adjacencies to WCH, but the site has significant challenges and to accommodate the necessary parking a parking structure may be required. The second site is adjacent to the South Providence Medical Building (SPMB).

Project Justification
MUHC currently leases multiple clinic spaces on Keene Street near Women’s & Children’s Hospital. For the past several years, in an effort to consolidate services into a centralized location and reduce the use of lease space, MUHC has discussed constructing a new clinic building in that area or on the SPMB site.

MUHC is currently in negotiations with the Boone Hospital Trustees related to the operation of Boone Hospital Center. The outcome of those negotiations may alleviate the need to build.
Executive Summary

Project Description
This project will construct clinic space to consolidate and co-locate cardiovascular medicine, vascular surgery, and cardiovascular surgery clinics with non-invasive imaging and an outpatient catheterization laboratory. The specific size and location is being assessed as part of the MUHC Master Facility Space Planning Study. The potential locations include renovation of existing space on the University Hospital campus or a new facility adjacent to the South Providence Medical Building.

Project Justification
The desired health care delivery model is to consolidate specialties that treat patients with the same conditions and disease states and have similar care needs. MU Health Care has accomplished this in the children’s, musculoskeletal, and oncology areas. Significant benefits can be realized in terms of care coordination, service quality, efficiencies with technology, etc. Additionally, the cardiovascular medicine clinic is at capacity, limiting the ability to grow. The distance from the existing clinic to diagnostic cardiology is not desirable for a patient population that is elderly, very sick and often with comorbidities and cardio-pulmonary issues and limited ambulatory capacity.
Project Description
University Hospital (UH) complex is the main campus for MU Health Care (MUHC). This project will replace the original 1956 hospital with a new inpatient facility. The new construction will allow MU Health Care to meet current codes and standards for clinical functions and ensuring adequate space for clinical care. The specific size of this expansion is being assessed as part of the MUHC Master Facility Space Planning Study.

Project Justification
A detailed analysis of the existing facilities as part of the MUHC Master Facility Space Planning Study indicates MUHC needs a slight increase in the total number of inpatient beds. However, the current type of beds and location of these beds do not meet current trends for clinical care. Overall, there has been a shift from acute care beds to observation beds as the trend in modern health care delivery.

The buildings which are least suitable for future health care facilities at UH complex are the original University Hospital patient tower and McHaney Hall, both constructed in the mid-1950’s, due to building age, limited floor to floor height, limited adaptability for modern health care standards, lack of future expandability, as well as, dated mechanical, electrical, plumbing, and fire protection systems. As a result, the original UH 1950’s patient tower is no longer suitable for contemporary patient care. The master plan process will identify the appropriate location for new patient services to capitalize on recent expansion implementation with the Patient Care Tower/Ellis Fischel Cancer Center. Throughout the study, evaluation of demolition or reuse of the facilities will be incorporated into the planning.

MUHC is currently in negotiations with Boone Hospital Trustees related to the operation of Boone Hospital. The outcome of those negotiations may alleviate the need to build.
Project Description
This project will address inpatient expansion at Women’s & Children’s Hospital (WCH). The new construction will allow MU Health Care to meet current codes and standards for clinical functions and ensuring adequate space for clinical care. The specific size of this expansion is being assessed as part of the MUHC Master Facility Space Planning Study.

Project Justification
The WCH facility was originally constructed in 1972. A detailed analysis of the current WCH facilities indicates WCH does not meet contemporary standards for clinical functions. The inpatient beds do not meet contemporary benchmarks in both room and department sizing; and inequalities in room sizing and quality can create patient satisfaction and safety issues. The layout of the surgical department is inefficient and many of the operating rooms are undersized. The pediatrics emergency department is also exceeding capacity. This facility also provides a high-risk Obstetrics program which has increased the number of babies delivered and subsequently admitted to the neo-natal intensive care unit (NICU). The current facility has limited ability for program expansion.

MUHC is currently in negotiations with Boone Hospital Trustees related to the operation of Boone Hospital. The outcome of those negotiations may alleviate the need to build.
Recommended Action - Approval – Preliminary Five-Year Capital Plan for UMKC

It was recommended by Interim Chancellor Bichelmeyer, endorsed by President Choi, recommended by the Finance Committee, moved by Curator ______________ and seconded by Curator ______________, that the:

Preliminary Capital Plans:

Downtown Campus for the Arts/Conservatory of Music and Dance
School of Computing and Engineering SCEERC
Spencer Chemistry-Biological Science Renovation Phase II
Health Sciences Interprofessional Education and Research Building

be approved for further planning and development.

Roll call vote of the Committee:     YES  NO

Curator Brncic
Curator Chatman
Curator Layman
Curator Snowden
Curator Steelman
Curator Sundvold

The motion __________________.
2019-2023 Preliminary Capital Plan

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### UMKC Capital Projects Criteria Score

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<th>Campus</th>
<th>Program Plan</th>
<th>Facilities Renewal</th>
<th>Infrastructure &amp; Functional</th>
<th>Strategic Space Management</th>
<th>External Funding Support</th>
<th>Operating Cost Support</th>
<th>State Regional Community</th>
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**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. Recommended weight is 30%.

**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. Recommended weight is 20%.

**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. Recommended weight is 10%.

**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. Recommended weight is 15%.

**External Funding Support:** The degree to which a project includes identified and secured funding. Recommended weight is 15%.

**Operating Cost Support:** The degree to which funding for operating costs has been identified for a project. Recommended weight is 5%.

**State, Regional, and Community Impact:** The degree to which a project can demonstrate:
1.25.7.1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or
1.25.7.2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or
1.25.7.3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project. Recommended weight is 5%.
CONSERVATORY OF MUSIC AND DANCE
EXECUTIVE SUMMARY

Campus Priority: 1
Project Type: New Construction
Priority Score: 7.55

Building Profile
NEW – Conservatory of Music and Dance
Total GSF: To be determined
FCNI: 0

Department
Conservatory of Music and Dance

Space Type
Rehearsal Studios, Practice Rooms, Classrooms, Faculty Studios, Ensemble Rooms, Support Space
620 students taught in a typical week

Planning & Programming Study
Helix/HGA, 2015

Project Schedule
To be determined

Project Cost
To be determined

Project Funding
TBD – Combination Internal and Gifts

Operating Expenses
To be determined

GSF & FCN Impacted by Project
To be determined

Project Description
The Conservatory of Music and Dance at the University of Missouri - Kansas City is the second oldest 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, theater, and visual arts. 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 performing arts campus 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.

Its accreditors have documented concerns of health risks associated with inadequate, outdated space. A new facility for the UMKC Conservatory would addresses several University and community needs. The Conservatory needs additional space and improved facilities. The Conservatory enrollment has outgrown its current 54,000 net assignable square feet currently housed in two separate locations.

Project Justification
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.

In 2011 and 2014 facility concerns were raised by the two Conservatory accrediting organization, the National Association of Schools of Music (NASM) and the National Association of Schools of Dance (NASD).

“...The instructional programs appear to be seriously compromised by the distance between the buildings...” (NASM)
“...the number of practice rooms does not appear adequate for the size of the student body.” (NASM)
CONSERVATORY OF MUSIC AND DANCE
EXECUTIVE SUMMARY

“It is not clear how the institution meets standards regarding facilities as articulated in the National Association of Schools of Music Handbook”. (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)

For many years UMKC has been exploring its options to meet the needs of the Conservatory. 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. We have recently concluded that we need to expand the scope of the project sites beyond what we have been considering. We are deeply committed to providing the best possible solution to our unique combination of four needs – for academic program space, facilities requirements, location parameters and financial capacity.

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

A new facility will allow us 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, with those buildings then being taken off line or demolished to save on the operating costs to the campus.
Campus Priority: 2  
Project Type: NC  
Priority Score: 7.45

**Building Profile**  
NEW – School of Computing and Engineering – Education and Research Center  
44,400 Total GSF  
FCNI: 0  
Flarsheim Hall  
7,800 NSF Renovation  
FCNI: 0.11/ $11.7M

**School of Computing and Engineering**  
Space Type  
Teaching Labs, Classrooms, Research Labs, Support Space  
1,660 students impacted daily and 16,000 student served by FEC

**Planning & Programming Study**  
PGAV Architects, 2015/2017

**Project Schedule**  
32 months

**Project Cost**  
$32,082,325

**Project Funding**  
Gifts $24,745,000  
Grants $1,937,325  
State $5,400,000

**Operating Expenses**  
$400,000

**GSF & FCN Impacted by Project**  
7,800 GSF and $325,000 FCN

---

**Project Description**  
The new 44,400 gross square feet (GSF) facility, to be located just north of the Robert H. Flarsheim Science and Technology Hall, will provide new flexible classroom space and much-needed improved laboratory space that can accommodate more students and house small and large-scale equipment vital to civil, mechanical and electrical engineering and computer science.

As originally submitted on June 17, 2013, the UMKC Free Enterprise Center (FEC) was planned as a free-standing structure on the corner of Volker and Brookside Boulevards (215 Volker). State funding withhold after the original funding approval prevented the start of construction. Those withhold, coupled with the ensuing construction inflation that occurred during the lost time, made the original planned construction impossible.

In order to preserve the original planned benefits of the FEC’s equipment and programming for the UMKC students and the greater Kansas City community, University leadership has taken steps to embed the FEC and its key components within the planned 44,400 GSF UMKC School of Computing and Engineering (SCE) Education and Research Center (SCEERC), one of UMKC’s highest capital priorities. The integrated SCEERC and FEC project will be constructed in the heart of the Volker campus adjacent and connected to the SCE’s existing home in Robert H. Flarsheim Science and Technology Hall. The project also includes renovation of 7,800 net assignable square feet (NASF) in Flarsheim Hall to include a connection to the new building on levels two through five.

**Project Justification**  
UMKC’s School of Computing and Engineering (SCE) enrolls more than 1,660 students, which includes 90 iPhD students. The undergraduate student population has grown by 113 percent over the last nine years. Interest in the school’s programs continues to grow at a rapid pace, and is anticipated to reach 2,700 students by 2022. The SCE is located on UMKC’s Volker Campus in the heart of Kansas City, which is home to top engineering firms and publicly traded technology companies that operate globally. As “Kansas City’s school for computing and engineering,” the SCE is a key player in providing area companies with highly trained engineers and computing professionals to address the strong workforce demand. Flarsheim Hall's small labs and classrooms cannot accommodate the anticipated growth of SCE, nor are they adequate for the enhanced and improved experience-based curriculum that requires collaborative space and equipment. Larger more interactive labs and classrooms will allow faculty to...
optimize teaching, mentoring and research and will allow students to optimize their hands-on laboratory experiences.

This location is highly visible from Rockhill Road as well as the Volker core campus along 51st Street, including the Academic Quad and the Miller Nichols Library and Learning Center. The integrated project will bolster UMKC’s workforce/economic development objectives to help ensure the region’s future workers have access to the education and training needed to compete. In addition, companies will be able to access the FEC resources through a series of interior walkways leading from the covered Rockhill Parking Structure as well as other UMKC surface parking lots.
SPENCER CHEMISTRY AND BIOLOGICAL SCIENCES RENOVATION
PHASE II
EXECUTIVE SUMMARY

November 10, 2017

Campus Priority: 3
Project Type: Renovation
Priority Score: 7.40

Building Profile
Spencer Chemistry and Biological Sciences Buildings
Facility Age: 49 years
Total GSF: 154,000
Total Facilities Condition Needs $35,250,000 (After Phase I)
FCNI: 0.42 (After Phase I)

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

Space Type
Teaching Labs, Classrooms, Research Labs, Support Space
1,000 students taught in a typical week

Planning & Programming Study
PGAV Architects, 2016

Project Schedule
36 Months

Project Cost
$37,657,000

Project Funding
Gifts $4,600,000
State $33,057,000

Operating Expenses
$442,500

GSF & FCN Impacted by Project
75,000 GSF and $17,700,000 FCN

Project Description
This project would continue the renovation of the 153,827 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, 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.
HEALTH SCIENCES INTERPROFESSIONAL EDUCATION AND RESEARCH BUILDING
EXECUTIVE SUMMARY

November 10, 2017
OPEN – FIN – 3-10

Campus Priority: 4
Project Type: NC/Renovation
Priority Score: 6.85

Building Profile
NEW – Health Sciences Interprofessional Education Building, Translational Clinical Research Building, and Health Sciences Research Building
Total GSF: 344,800
FCNI: 0
School of Medicine
200,000 NSF Renovation
FCNI: 0.51/ $71.3M
School of Dentistry
195,000 NSF Renovation
FCNI: 0.25/ $34.9M

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 Spaces
3,370 students impacted

Planning & Programming Study
BNIM/ 2010 and The Clark Enersen Partners/ 2010

Project Schedule
60 months

Project Cost
$300,000,000

Project Funding
Gifts $300,000,000

Operating Expenses
$2,750,000

GSF & FCN Impacted by Project
395,000 existing
344,800 new

Project Description
This integrated project, consisting of three collocated new buildings and two partial building renovations, 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.

Interprofessional Education Building: The primary function of the 201,800 gross square feet Interprofessional Education Building would be to provide shared classrooms, meeting spaces, teaching labs and patient simulation labs which will utilize the latest teaching technology for health care professional training. The project would also collocate 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.

School of Medicine Building Renovation: The project would renovate approximately 200,000 gross square feet of the 256,300 gross square feet 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 deferred maintenance.

School of Dentistry Building Renovation: The project would renovate approximately 195,000 gross square feet of the 272,760 gross square feet 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 deferred maintenance.

Translational Clinical Research Building: The primary function of the 53,000 gross square feet 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 and Administrative Offices and support spaces.

Health Sciences Research Building: 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, Specialized Research including a large animal facility and areas for Institutional Partners, Research and Technology Transfer and Incubation. The current project is programmed at 90,000 gross square feet.

**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 to 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 City will enable UMKC School of Medicine and School of Dentistry to be more competitive in the recruitment of high-caliber physician-scientists and dentist-scientists with a track record of extramural grant funding (primarily 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, and the potential to attract industry partnerships and One Health partnerships to focus on advanced treatments for cancer and cardiovascular disease, and to 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.
No. 4

Recommended Action - Approval – Preliminary Five-Year Capital Plan for Missouri S&T

It was recommended by Chancellor Maples, endorsed by President Choi, recommended by the Finance Committee, moved by Curator ______________ and seconded by Curator ______________, that the:

Preliminary Capital Plans:

- Schrenk Hall Addition and Renovation - Phase III
- Advanced Construction Materials Laboratory
- Engineering Research Lab Addition and Renovation
- Library/Learning Commons
- Havener Center Renovation and Expansion

be approved for further planning and development.

Roll call vote of the Committee:     YES    NO

Curator Brncic
Curator Chatman
Curator Layman
Curator Snowden
Curator Steelman
Curator Sundvold

The motion ________________.
## Missouri S&T

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<td>$25,995,000</td>
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| **FCN Target*** | $16,897,981 | $17,616,838 | $18,350,325 | $19,098,882 | $19,862,959 |
| **Total Spend** | $7,389,906 | $7,611,603 | $17,839,951 | $16,575,150 | $18,317,404 |
| **Capital Spend** | $3,719,330 | $3,830,910 | $13,945,837 | $12,564,212 | $14,186,139 |
| **Non Capital Spend** | $3,670,576 | $3,780,693 | $3,894,114 | $4,010,937 | $4,131,266 |

*FCN Target is based on maintaining current FCNI of 0.21 in lieu of 0.30. All other campuses' targets are 0.30.*
### Missouri S&T Capital Projects Criteria Score

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<th>Facility Name</th>
<th>Campus</th>
<th>Plan</th>
<th>Renewal</th>
<th>Infrastructure &amp; Functional</th>
<th>Strategic Space Management</th>
<th>External Funding Support</th>
<th>Operating Cost Support</th>
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**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. Recommended weight is 30%.

**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. Recommended weight is 20%.

**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. Recommended weight is 10%.

**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. Recommended weight is 15%.

**External Funding Support:** The degree to which a project includes identified and secured funding. Recommended weight is 15%.

**Operating Cost Support:** The degree to which funding for operating costs has been identified for a project. Recommended weight is 5%.

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

1.25.7.1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or
1.25.7.2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or
1.25.7.3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project. Recommended weight is 5%.
Project Description
The Schrenk Hall Addition and Renovation – Phase III will renovate Schrenk Hall (1938&1973) to accommodate the Chemistry and Biological Sciences departments. This will be the final phase with the renovation of 40,000 gross square feet of the west wing and the replacement of the east wing with a new 90,400 gross square feet facility and atrium. This will be the final phase of renovation for the west wing and replace the east wing with a new facility supporting areas in sciences that springboard careers in health professions, industry, government and education. The project also takes into consideration growth and consolidation of department entities that are spread over multiple buildings on campus.

Project Justification
Missouri S&T’s 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 at the site of Schrenk Hall will provide a technological, student-centered anchor for innovation. Equipped 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, where 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, as almost every student will take at least one class here in one or more important foundational courses in biological sciences or chemistry.
Project Description
The proposed construction of the Butler-Carlton Hall Advanced Construction Materials Laboratory on the Missouri University of Science and Technology (Missouri S&T) campus will build on rich tradition by expanding the Civil, Architectural & Environmental Engineering (CArEE) department’s current materials and structural engineering laboratory facilities. The building currently contains 165,920 gross square feet. This much-needed expansion of 16,230 gross square feet will provide increased research laboratory space that will allow faculty to engage in new scholarly activities that are critical in addressing the ever-changing infrastructure needs of the State and the Nation. Interactive areas, such as a conference room overlooking the expansion, are also included. These areas will promote vital student and faculty interaction to enhance the educational experience of students on campus and to enable the new research laboratory capabilities to be showcased to campus visitors, public agencies and industrial partners.

Project Justification
The new Advanced Construction Materials laboratory will enable the development, manufacturing, and implementation of innovative and sustainable materials for civil infrastructure, with an emphasis on cement-based materials. The development of “green” technologies that would ultimately lead to cost savings in new infrastructure construction in Missouri and the United States is of primary interest. Studies to be performed in the development of these technologies will include projects on the performance of self-consolidating concrete (SCC) in cast-in-place bridge superstructure and substructure elements, the use of high volume fly ash concrete (HVFAC) infrastructure applications, the performance of roller compacted concrete (RCC) for rigid concrete pavement for highways, rural roads, and airfield pavements, as well as the feasibility of using high contents of reclaimed asphalt pavement and reclaimed asphalt roofing shingles in flexible pavement mixtures. These activities will be facilitated by new capabilities that will allow the fabrication and testing of full-scale structural members with advanced materials that are not always readily available. The common denominators in all of these technologies are savings in construction time and cost, extension of service life, and reduction in the carbon footprint of construction materials and activities. Additional operating costs are estimated to be $109,000 annually and funded by the Campus operating budget.
Executive Summary

November 10, 2017

Project Description
The Engineering Research Laboratory (ERL) Addition and Renovation project on the Missouri University of Science and Technology (Missouri S&T) campus will connect the Straumanis-James Hall (built in 1967 and renovated in 2011) with the Engineering Research Laboratory (ERL) built in 1971. The new Research Building of approximately 86,470 gross square feet will be constructed east of the ERL building (45,950 gross square feet) and north of Straumanis-James Hall (37,880 gross square feet). It will incorporate the Geothermal Plant addition into its structure and it will create a unified research center of approximately 162,540 gross square feet 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. The need for additional interdisciplinary research space has been identified as a high priority in both the Strategic Plan and Campus Master Plan. The ERL Addition Project will 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. The Engineering Research Laboratory (ERL) was built in 1971. Additional operating costs are estimated to be $230,000 annually and funded by the Campus operating budget. Estimated number of students impacted annually will be 1300.
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY
ENGINEERING RESEARCH LAB (ERL) ADDITION AND RENOVATION
EXECUTIVE SUMMARY

November 10, 2017

OPEN – FIN – 4-9
Project Description
Current trends in academic library design indicate the Curtis Laws Wilson Library in need of more substantive changes to best serve the future needs of the university and its students, staff and faculty. This building contains 91,980 gross square feet. 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. We see a learning commons as 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 life safety codes; energy conservation measures and associated cost savings; handicapped accessibility; quality improvement, capacity and/or environmental impact; and all applicable federal regulations.
Project Description
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 as a gateway to the University. The 105,000 gross square feet 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. The Havener Center encourages self-directed activity, giving maximum opportunity for self-realization and for growth in individual social competency and group effectiveness. 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.

Project Justification
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. Estimated number of students impacted annually will be 7900.
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY
HAVENER CENTER RENOVATION AND EXPANSION
EXECUTIVE SUMMARY

November 10, 2017

OPEN – FIN – 4-13
Recommended Action - Approval – Preliminary Five-Year Capital Plan UMSL

It was recommended by Chancellor George, endorsed by President Choi, recommended by the Finance Committee, moved by Curator _______________ and seconded by Curator _______________, that the:

Preliminary Capital Plans:

Space Consolidation & Infrastructure
Social Science Building Renovation
Stadler Hall Renovation

be approved for further planning and development.

Roll call vote of the Committee: YES NO

Curator Brncic
Curator Chatman
Curator Layman
Curator Snowden
Curator Steelman
Curator Sundvold

The motion ___________________.

November 10, 2017
## 2019 - 2023 Preliminary Capital Plan

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<td>$13,604,336</td>
<td>$22,910,924</td>
<td>$24,230,958</td>
<td>$25,913,231</td>
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<td>Non Capital Spend</td>
<td>$2,545,000</td>
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<tr>
<td>Facility Name</td>
<td>Campus</td>
<td>Program Plan</td>
<td>Facilities Renewal</td>
<td>Infrastructure &amp; Functional</td>
<td>Strategic Space Management</td>
</tr>
<tr>
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<tr>
<td>Space Consolidation and Infrastructure</td>
<td>UMSL</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Social Science Building Renovation</td>
<td>UMSL</td>
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<tr>
<td>Stadler Hall Renovation</td>
<td>UMSL</td>
<td>10</td>
<td>10</td>
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</tbody>
</table>

**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. Recommended weight is 30%.

**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. Recommended weight is 20%.

**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. Recommended weight is 10%.

**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. Recommended weight is 15%.

**External Funding Support:** The degree to which a project includes identified and secured funding. Recommended weight is 15%.

**Operating Cost Support:** The degree to which funding for operating costs has been identified for a project. Recommended weight is 5%.

**State, Regional, and Community Impact:** The degree to which a project can demonstrate:
1.25.7.1. Alignment with state priorities (STEM, education of healthcare professionals, etc.), and/or
1.25.7.2. Positive impact on state and regional job creation and economic development beyond the immediate impact of the construction spending support, and/or
1.25.7.3. Creation of partnerships between state higher educational institutions, and other public and private entities, both statewide and regional, that display support for the project. Recommended weight is 5%.
UNIVERSITY OF MISSOURI – ST. LOUIS
SPACE CONSOLIDATION AND INFRASTRUCTURE
EXECUTIVE SUMMARY

November 10, 2018

Project Description
This $16.0 M project will consolidate underutilized space campus-wide and provide repairs to campus buildings and infrastructure. Space consolidation, costing $10.0 M, includes the following: 1) Relocate Human Resources from Arts Administration Building (AAB) into Woods Hall.; 2) Relocate the College of Education Dean’s suite from Education Administration Building (EAB) into Marillac Hall and decommission EAB; 3) Relocate the School of Social Work from Bellerive Hall (BH) into Marillac Hall and demolish Bellerive Hall; 4) Relocate the Department of Music from the Music Building (MB) into the J.C. Penney Building (JCP) and demolish the Music Building. These relocations will facilitate synergies between academic programs and will improve utilization rates of space in the renovated buildings. The proposed work also includes $6.0 M in repairs to buildings and site infrastructure. Overall, this $16 M project will reduce deferred facilities needs by $13 M through repairs and renovations and $9 M through demolition of BH and MB for a total reduction of $22 M.

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 improve 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 deferred facilities needs. This project provides financial benefit to the campus by eliminating $22.0 M in deferred maintenance and by reducing annual operating cost by $525,000. In addition to the above financial benefits, the entire campus benefits from improved space utilization, safety, reliability and efficiency.

Campus Priority: 1
Project Type: Renovation
Priority Score: 9.00

Building Profile
Arts Administration Building, Education Administration, Bellerive Hall, Music Building, Woods Hall, Marillac Hall, and J.C. Penney Building
Facility Age: 42 to 59 years
Total GSF: 141,000
Total Facilities Condition Needs: $58 million
FCNI: 0.38 to 0.49

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

Space Type
(Classroom/Libraries/Offices /Etc.)
Research space, teaching space, teaching laboratories, support spaces
1,700 students per year

Program Planning Study
To be completed once project is approved to proceed

Project Schedule
24 months for design and construction; total project schedule is dependent on approvals and funding

Project Cost
$16,000,000

Project Funding
Internal $8,000,000
Bonds $0
Gifts $0
State $8,000,000

Operating Expenses
$525,000 reduction annually
Project Description
This project will renovate 143,823 gross square feet in 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 mechanical, electrical, plumbing, and fire protection 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. When complete, the renovation will eliminate an estimated $34.2 million of deferred facilities needs.

Project Justification
The Social Science Business Building provides 143,823 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, and increased renovation cost. The project will explore LEED certification. Design and construction will follow UM Design Guidelines, Codes, Standards and sustainability policy.
### Executive Summary

**November 10, 2018**

**Project Description**

Stadler Hall contains 82,484 gross square feet and will be renovated to bring it to current building codes and design standards to serve the primary uses of research, class-labs, classrooms, a clinic, animal facilities and office/support spaces in a 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. Currently the space has a FCNI of 0.53. When complete, the renovation of Stadler Hall will eliminate an estimated $25.8 M of deferred facilities needs.

**Project Justification**

The space in Stadler Hall was 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 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. These upgrades to meet current standards for teaching will help attract and retain students, faculty, and scientists. 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.

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| Social Science Building | | | | |
|-------------------------|--|--|--|
| Age: 50 Years | Total GSF: 82,484 | Total Facilities Condition Needs | FCNI 0.53 | $25,843,000 |

<table>
<thead>
<tr>
<th>Departments</th>
<th>Biology, Chemistry, Physics, Psychology, and Biochemistry</th>
</tr>
</thead>
</table>

| Space Type | Classrooms 6% NASF | Labs 38% NASF | Clinic 3% NASF | Conference/Lounge 1% NASF | Office 20% NASF | Storage 3% NASF | Circulation/Nonasgn 29% NASF |
|------------|-------------------|-------------|-------------|----------------|-------------|-------------|----------------| |

<table>
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<tr>
<th>Students Impacted (FY17)</th>
<th>1,514</th>
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</thead>
</table>

**Planning & Programming Study**

TBD

**Project Schedule**

36 Months

**Project Cost**

$29,500,000

**Project Funding**

| Internal | $5,900,000 |
| Bonds | $0 |
| Gifts | $0 |
| State | $23,600,000 |

**Operating Expenses**

$0

**GSF & FCN Impacted by Project**

82,484 GSF; $25,843,000