Making the Case for Funding Deferred Maintenance Before it’s Too Late

Jim Kadamus – Vice President
Sightlines

Cuba Plain – Assistant Vice President for Budget Planning and Development
University of Missouri System

Walt Branson – Vice Chancellor for Finance and Administration
Missouri University of Science and Technology

Bob Simmons – Associate Vice Chancellor for Administration
University of Missouri Kansas City
Changing the Conversation

**Space**
Understand how age profile drives capital and operational demands

**Capital**
Multiyear plans that align to mission & risk

**Operations**
Improve effectiveness & lower facilities overhead impact
Sightlines’ National and Regional Trends

Speaker:  
Jim Kadamus, Vice President

Company:  
Sightlines, LLC

Date:  
October 6, 2014
Included CACUBO States:
Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, Oklahoma, South Dakota

Purple states: Sightlines & CACUBO members
Grey States: CACUBO but not Sightlines members
Campus Space and Enrollment

Growing Campus Enrollment
CACUBO Average within Sightlines Database

Percent Change of Enrollment & Space

Regional Space Growth
Regional Enrollment Growth

2007 2008 2009 2010 2011 2012 2013

0% 1% 2% 3% 4% 5% 6% 7% 8% 9%
Square Footage by Age Category
CACUBO Region Renovation Age

% of Space

Public Average

Private Average

Under 10  10 to 25  25 to 50  Over 50

2007  2008  2009  2010  2011  2012  2013

The Aging Campus
Facilities Backlogs Continue to Rise

Backlog $/GSF
CACUBO Region

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Average</th>
<th>Private Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$77</td>
<td>$82</td>
</tr>
<tr>
<td>2008</td>
<td>$80</td>
<td>$83</td>
</tr>
<tr>
<td>2009</td>
<td>$83</td>
<td>$84</td>
</tr>
<tr>
<td>2010</td>
<td>$86</td>
<td>$87</td>
</tr>
<tr>
<td>2011</td>
<td>$90</td>
<td>$93</td>
</tr>
<tr>
<td>2012</td>
<td>$94</td>
<td>$96</td>
</tr>
<tr>
<td>2013</td>
<td>$98</td>
<td>$101</td>
</tr>
</tbody>
</table>
Facilities Operating Budgets Flat

CACUBO Operating Budget Average

<table>
<thead>
<tr>
<th>Year</th>
<th>Daily Service</th>
<th>Planned Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$3.43</td>
<td>$0.24</td>
</tr>
<tr>
<td>2008</td>
<td>$3.61</td>
<td>$0.24</td>
</tr>
<tr>
<td>2009</td>
<td>$3.59</td>
<td>$0.26</td>
</tr>
<tr>
<td>2010</td>
<td>$3.52</td>
<td>$0.27</td>
</tr>
<tr>
<td>2011</td>
<td>$3.49</td>
<td>$0.27</td>
</tr>
<tr>
<td>2012</td>
<td>$3.56</td>
<td>$0.29</td>
</tr>
<tr>
<td>2013</td>
<td>$3.52</td>
<td>$0.30</td>
</tr>
</tbody>
</table>

$/GSF
Operating Budgets 14%+ Short of Inflation

CACUBO Operating Budgets – Public vs. Private

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Average</th>
<th>Private Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$3.44</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>$3.53</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>$3.63</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>$3.50</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>$3.57</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>$3.57</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>$3.41</td>
<td></td>
</tr>
</tbody>
</table>

$/GSF

- Daily Service
- Planned Maintenance

CACUBO Operating Budgets – Public vs. Private

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Average</th>
<th>Private Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$0.23</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>$0.24</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>$0.26</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>$0.28</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>$0.29</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>$0.33</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>$0.34</td>
<td></td>
</tr>
</tbody>
</table>

$/GSF

- Daily Service
- Planned Maintenance
In the CACUBO region, campus enrollment is growing faster than campus space, increasing campus density.

Aging facilities are competing with faculty needs and financial aid for funding.

Capital funding has only just returned to historic levels following the recession, private universities in the region have surprisingly seen less growth.

Backlogs are growing and at public campuses reaching unsustainable levels.

Funding for facilities operations have not kept pace with inflation, meaning cuts in staffing and contracts.
University of Missouri System

Speaker:
Cuba Plain, Assistant Vice President for Budget Planning and Development

Institution:
University of Missouri System

Date:
October 6, 2014
Land grant institution with four campuses, hospital & clinics, system administration, experiment station and farms

- **29.5M GSF**
- **1,500+ Buildings**
- **24,000 Employees**
- **75,272 Student Headcount**
- **58,163 Student FTE**
- **Total Operating Budget:** **$3B**
- **Facilities Replacement Value:** **$8.5B**

Land grant institution with four campuses, hospital & clinics, system administration, experiment station and farms
Changes and Challenges

- 34% growth in headcount and 42% growth in FTE students since FY2001
- Legislative limits on tuition increases equal to CPI
- State operating appropriations down almost $30 million since FY2001 in nominal terms
- Flat nominal state operating appropriations since 2010 which resulted in a cumulative real loss of $300 million
- No new state capital appropriations since FY2008, minimal investment between FY2001 and FY2008
State Appropriations Over Time

- **Actual Appropriation Received**
- **CPI Adjusted Appropriation**
- **Cumulative Difference**

$ in Millions:
- $0
- $50
- $100
- $150
- $200
- $250
- $300
- $350
- $400
- $450
- $500
- $550

Years:
- FY10
- FY11
- FY12
- FY13
- FY14

Graph showing appropriations over time with different bars representing different categories.
Funding Levels Fall Short

UM Annual M&R Spending
by Sightlines

- **Institutional Recurring Capital**
- **One-time capital Sources**
- **Sightlines Recommended Annual M&R Target**

2009: $30.00
2010: $40.00
2011: $50.00
2012: $60.00
2013: $70.00

- **Backlog Stabilized**
- **Backlog Increases**
Facilities Needs Backlog by Priority

Backlog of Need Increased by 57%

FY09
- Critical - Now
- Urgent < 1Yr
- Necessary 2-5 Yr
- Recommended 6-10 Yr

FY13
- Critical - Now
- Urgent < 1Yr
- Necessary 2-5 Yr
- Recommended 6-10 Yr

$838 M

$1,317 M

$ in Millions

$0.00
$200.00
$400.00
$600.00
$800.00
$1,000.00
$1,200.00
$1,400.00

FY09

FY13
110.015 Facilities Needs Funding and Reporting

Chapter 110: Use of Facilities and Equipment

Executive Order No. 28, 4-12-94, Revised 6-26-08, Revised 12-4-12.

The University of Missouri recognizes the value of its buildings. To assure that buildings are renewed, that deferred maintenance is addressed, and that modernization occurs, an industry best practice requires an annual investment that supports the maintenance of 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.

A. Each campus will annually establish its facilities needs funding (hereinafter "Funds") by calculating the investment required to achieve and maintain the campus FCNI goal (0.30 or lower is recommended) for its Education & General (E&G) facilities within the following ten years. The required annual investment based on the FCNI goal will be stated in dollars and as a percent of the estimated replacement value. If the campus budget amount is less than the established goal, the campus will identify the funding difference and the impact on its FCNI and on its total facility needs (backlog). Non-E&G (Auxiliary supported) facilities will also budget for annual facilities needs funds but may use another campus approved reinvestment goal. A minimum expenditure of 1.0% of building replacement value is required.
Predicting Future Condition

Best Practice ≤ 0.30 FCNI

- MU: 28% (FY 2014), 41% (FY 2023)
- UMKC: 26% (FY 2014), 36% (FY 2023)
- S&T: 27% (FY 2014), 39% (FY 2023)
- UMSL: 56% (FY 2023)

FY 2014 FCNI INDEX
FY 2023 PROJECTED FCNI INDEX
Potential Funding Sources

* State Bond Issue
  
  $200 million plan

  15 Year financing

  $17.7 million annual debt service

* 50/50 Match – Private gifts and State Funding

* Dedicated Recurring State Appropriation

* Student Facilities Fee
  
  • $300 to $350 annual fee per student FTE
Projected Impact of $200M
Assuming consistent investment from FY13 and $200M spent over 5 years

UM Annual M&R Spending
by Sightlines

$ in Millions

- Annual M&R
- Renovation and Other Capital
- $200M Funding Impact
- Sightlines Recommended Annual M&R Target
Missouri University of Science & Technology

Speaker:
Walter Branson, Vice Chancellor for Finance and Administration

Institution:
Missouri University of Science and Technology

Date:
October 6, 2014
**Missouri S&T**

University of Science & Technology

- **2.7M GSF**
- **165 Maintained Acres**
- **Founded 1870**
- **Sightlines member since 2007**
- **8,100 Students**

**Leader in green:**
First US university to receive ISO 14001 certification for environmental management

Environmental village
Smaller Buildings Than Peers

STEM focus drive campus profile

Average Building Size

Operating Costs by Building Size

*Ozanne analytics

$1.00/GSF

$3.00/GSF

GSF

A  B  C  D  M S&T  F  G  H  I

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000 90,000

0 10,000 20,000 30,000 40,000 50,000 60,000 70,000 80,000 90,000

A  B  C  D  M S&T  F  G  H  I

$3.00/GSF

Ozanne analytics
Space Profile

Renovations and new construction are managing campus age

Campus Age by Renovation Age Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Missouri S&amp;T FY03</th>
<th>Missouri S&amp;T FY08</th>
<th>Missouri S&amp;T FY13</th>
<th>Peer Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>21%</td>
<td>10%</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>10 to 25</td>
<td>19%</td>
<td>28%</td>
<td>24%</td>
<td>25%</td>
</tr>
<tr>
<td>25 to 50</td>
<td>41%</td>
<td>42%</td>
<td>43%</td>
<td>29%</td>
</tr>
<tr>
<td>Over 50</td>
<td></td>
<td></td>
<td></td>
<td>29%</td>
</tr>
</tbody>
</table>
Capital Profile

Significant infrastructure spending for geothermal energy

Total Dollars in Millions


- Institutional Recurring Capital
- One-Time Capital Sources
- Infrastructure
Historic Spending Mix
Spending focused on “bang-for-buck” projects

5-Year Historical Investment Mix

- Envelope: 48%
- Systems: 32%
- Space: 3%
- Safety/Code: 17%

Average Life Cycle

- Envelope: 30 years
- Systems: 25 years
- Space: 5 years
- Safety/Code: 10 years
Total Backlog
Recent investment curbs growth in infrastructure, Repair/Maint continues to grow

Backlog Growth Since FY03

- Backlog Maint/Repair
- Backlog Modernization
- Backlog Infrastructure

$ in Millions


CACUBO
at America's Creative Crossroads
Kansas City 2014
October 9-7, 2014
Balancing Institutional Demands

Facilities Budget

Faculty Salaries

Financial Aid
University of Missouri – Kansas City

Speaker:  
Bob Simmons  
Associate Vice Chancellor, Administration

Institution:  
University of Missouri – Kansas City

Date:  
October 6, 2014
University of Missouri – Kansas City

Engaged and Green:
The President’s Higher Education Community Service Honor Roll with Distinction. RecycleMania 2012 Grand Champion Winner.

5.1M GSF
149 Maintained Acres
Founded 1933

Sightlines member since 2007
11,397 Students

University of Missouri – Kansas City

UNIVERSITY OF MISSOURI-KANSAS CITY

Universities at America's Creative Crossroads
Cacubo 2014
Changing Campus Density

2010-2020 Strategy Statement:
By 2020 we will grow enrollment to 20,000 and increase graduation rates 10% by ensuring student success through a small college experience as Kansas City’s community engaged urban research institution, while leveraging our strengths in the visual and performing arts, life and health sciences and entrepreneurship.

*Density Factor is measured in Users/100kGSF
**Campus Renovation Age**

- **Buildings Under 10**
  - Low Risk
  - Little work. “Honeymoon” period.
  - UMKC '03: 23%
  - UMKC '13: 10%

- **Buildings 10 to 25**
  - Medium Risk
  - Short life-cycle needs; primarily space renewal.
  - UMKC '03: 18%
  - UMKC '13: 21%

- **Buildings 25 to 50**
  - Higher Risk
  - Major envelope and mechanical life cycles come due.
  - UMKC '03: 45%
  - UMKC '13: 46%

- **Buildings Over 50**
  - Highest Risk
  - Life cycles of major building components are past due. Failures are possible.
  - UMKC '03: 14%
  - UMKC '13: 24%
Changing Funding Sources
As state funding decreases, shifting toward creative use of bond funding

UMKC Capital History - Sources
1990 - 2014

As state funding decreases, shifting toward creative use of bond funding.
Capital Spending and Backlog
Large infusions of capital have significant impact on backlog

Capital Spending vs. AR Backlog

Backlog $/GSF

Capital Spending $/GSF


- Backlog Maint/ Repair
- Capital Spending/GSF
Leaner Budget Than Peers

Daily Service

Daily Service Over Time

$/GSF

A  B  C  D  UMKC  F  G  H  I  J

Planned Maintenance

Increased PM efforts has improved in-house PM performance

Planned Maintenance

Institutions ordered by tech rating

UMKC PM

In-House
External

$0.13
$0.26
$0.27

$0.12
$0.31
$0.29

2011
2012
2013
Driving Capital Investment Strategy

174 Academic/Research Building of 401 Total Facilities

**Low Value to Program, High NAV**
- Focus on system work to extend life
- Repurpose as Cost Effective

**High Value to Program, High NAV**
- Maintain & Protect
- Manage for Building Life Cycle

**Low Value to Program, Low NAV**
- Emergency Work Only
- Possibly Slated for Demo or Removal

**High Value to Program, Low NAV**
- Repairs & Space
- Deferred maintenance as Cost Effective

- 48 Facilities
- 90 Facilities
- 8 Facilities
- 28 Facilities

SAMPLE DATA
Strategies to Address Deferred Maintenance

**Strategy 1: Change the conversation** throughout higher education. Educate policy makers about the impacts of the space profile, capital plans that are aligned with the institutional mission and risk, and improving operating effectiveness while lowering costs.

**Strategy 2: Set capital priorities** to address the deferred maintenance needs in aging buildings that are determined to be critical to the mission and programmatic needs of universities.

**Strategy 3: Consider eliminating or replacing aging space** with new modern facilities, especially buildings with certain construction vintages where poor quality construction was prevalent. Sometimes less is more when it comes to addressing aging buildings with lots of deferred maintenance.
Strategies to Address Deferred Maintenance

**Strategy 4:** New construction must support the mission of the university and support the future program needs of each university.

**Strategy 5:** Make annual stewardship (keep-up) investment that addresses building components as they come due a priority at every campus. The more a campus keeps-up with life cycles as they come due, the less deferred maintenance grows.

**Strategy 6:** Institute facilities operational practices that are proactive at extending the life cycles of key expensive building components like HVAC, electrical systems and roofs. Proactive maintenance is not only a good idea when it comes to managing university facilities, it will save money in the long-run.