Optimizing the University’s Physical Assets:
Facility Condition Assessment

Board of Regents Facilities and Operations Committee
September 11, 2014
• What percent of University resources should be allocated to facilities?
• How does facility quality contribute to a place-based experience, which ultimately drives competitive advantage?
• Does the University have the right type and amount of space (aligned, sustainable, managed)?
• What is an appropriate [minimum] condition standard for each facility (vintage, type, programmatic utility)?
• What is the best approach to stop adding to the backlog (e.g. strategic decommissioning, shifting to more predictable funding sources)?
Outstanding Organization; Be responsible stewards of resources, focused on service, driven by performance, and known as the best among peers.

University Goal

University Strategy

Be responsible stewards of resources

Key Indicator

Facilities Condition

Measure

Facilities Condition Needs Index (FCNI)
Enterprise Facilities

29 Million Gross Square Feet

5 Unique Campuses

19 Research and Outreach Centers & Field Stations
Campus Construction Eras

- **Pre-War**
  - All: 13%
  - UofM: 31%

- **Post-War**
  - DB: 36%
  - UofM: 39%

- **Modern**
  - DB: 18%
  - UofM: 15%

- **Complex**
  - DB: 33%
  - UofM: 15%
Facilities Condition Assessment (FCA)

• Vision:
  – The enterprise source of the most accurate and up-to-date condition information for campus facilities and infrastructure used to ensure effective operations and guide renewal investments.

• Operationally:
  – An independent, inspection based review of building conditions
  – Report prioritizes needs for facilities renewal over next ten years
  – Database provides a tool for accessing and utilizing data
  – Information used to measure long term facilities condition against established metrics and peers
FCA Assessment Scope

- Roofing
- Foundations
- Windows
- Walls
- Doors
- Structure

Building Exterior

- Equipment
- Ductwork
- Piping
- Controls
- Component List

HVAC

- Equipment
- Power Distribution
- Interior Lighting
- Exterior Lighting
- Security

Electrical

- Interiors Structure
- Ceilings
- Elevators
- Stairs
- Interior Finishes
- Classrooms

Building Interiors

- Equipment
- Fixtures
- Domestic Water
- Drain, Waste, Vents
- Storm Drains

Plumbing

- Equipment
- Alarms
- Sprinklers
- Stand Pipes

Fire / Life Safety

- Int’l Bldg Code
- State Code
- MN Access. Code
- Universal Accessibility

Code / Access

- Walkways (select)
- Plazas (select)
- Lighting (select)

Site

- Utility Generation
- Utility Distribution
- Roads / Sidewalks
- Landscape

Utilities / Landscape

- Office Furniture
- Classroom Tech
- Lab Equipment

Moveable Equipment

- Equipment
- Fixtures
- Domestic Water
- Drain, Waste, Vents
- Storm Drains

Partial

- Office Furniture
- Classroom Tech
- Lab Equipment

Focus

- Equipment
- Fixtures
- Domestic Water
- Drain, Waste, Vents
- Storm Drains

- Int’l Bldg Code
- State Code
- MN Access. Code
- Universal Accessibility

- Walkways (select)
- Plazas (select)
- Lighting (select)

- Utility Generation
- Utility Distribution
- Roads / Sidewalks
- Landscape

Out of Scope
<table>
<thead>
<tr>
<th>Campus</th>
<th>Total GSF ¹</th>
<th>Estimated Replacement Value ²</th>
<th>Projected 10-Year Needs</th>
<th>10 Year Needs/Replacement Value = (FCNI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin Cities</td>
<td>22,787,527</td>
<td>$8,639,540,998</td>
<td>$ 2,837,671,283</td>
<td>0.33</td>
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<tr>
<td>Duluth</td>
<td>3,233,888</td>
<td>$968,930,667</td>
<td>$ 262,611,844</td>
<td>0.27</td>
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<tr>
<td>Morris</td>
<td>993,166</td>
<td>$359,732,192</td>
<td>$ 131,879,334</td>
<td>0.37</td>
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<td>Crookston</td>
<td>674,626</td>
<td>$270,777,555</td>
<td>$ 56,161,631</td>
<td>0.21</td>
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<tr>
<td>ROCs</td>
<td>1,576,493</td>
<td>$240,513,943</td>
<td>$ 53,533,685</td>
<td>0.22</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td><strong>29,265,700</strong></td>
<td><strong>$10,479,495,355</strong></td>
<td><strong>$ 3,341,857,777</strong></td>
<td><strong>0.32</strong></td>
</tr>
</tbody>
</table>

¹ Total Gross Square Feet (formally assessed square feet approximately 80% of total). Excludes Rochester Campus. Does not include parking ramp decks.

² Limited portions of facility replacement value modeled pending completion of formal assessment and report.
<table>
<thead>
<tr>
<th>Year Built</th>
<th>Gross Square Feet (GSF)</th>
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<tbody>
<tr>
<td>1900-1909</td>
<td>5,088,063</td>
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<tr>
<td>1910-1919</td>
<td>2,274,852</td>
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<tr>
<td>1920-1929</td>
<td>2,854,064</td>
</tr>
<tr>
<td>1930-1939</td>
<td>3,971,454</td>
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<tr>
<td>1940-1949</td>
<td>2,589,284</td>
</tr>
<tr>
<td>1950-1959</td>
<td>3,720,293</td>
</tr>
<tr>
<td>1960-1969</td>
<td>3,730,653</td>
</tr>
<tr>
<td>1970-1979</td>
<td>3,740,192</td>
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<tr>
<td>1980-1989</td>
<td>3,750,731</td>
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<tr>
<td>1990-1999</td>
<td>3,761,270</td>
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<tr>
<td>2000-2009</td>
<td>3,771,809</td>
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<tr>
<td>2010-2020</td>
<td>3,782,348</td>
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</tbody>
</table>

**Note:** Excludes parking ramps, utilities buildings and warehouse facilities.

**Updated:** September 2014
• The U of M would need to invest an additional $4.50 per square foot every year to sustain current condition

Note: Estimate based on average annual renewal in enterprise supported space; FY10-15
Facility Investment vs. Target
Enterprise Supported

$ / SF

FY10 FY11 FY12 FY13 FY14 FY15

Decreasing Backlog
Upper Target (3%)
$12

Sustaining Backlog
Lower Target (2%)
$8

Increasing Backlog

Factors:
- Facility Renewal
- HEAPR
- R&R
- Avg ($3.65 / year)
Annual Capital Renewal Funds: FY10-15

Enterprise

$38M Supplemental Campus Renewal

$73M Supported Facility Renewal

- Facility Renewal
  - $32,332
  - $1.60/sf

- HEAPR
  - $32,583
  - $1.61/sf

- R & R
  - $8,509
  - $0.43/sf

- Utilities Infrastructure
  - $10,565

- Auxiliary Funds
  - $19,146

- Value of Razed Facilities
  - $8,004

Note: Cost per square foot figures for Supported Space only
Renewal Spending vs Peers

Twin Cities Supported

Note: Reflects investment in Infrastructure, Energy Conservation and Preventative Maintenance in addition to facilities
Facility Condition Strategies

- Utilize existing space
- Renovate existing space in coordination with Programs
- Maximize energy conservation and implement district utility strategies
- Target individual system improvements
- Demolish or decommission targeted buildings
- Build new facilities

**Renovated**
- 11 Vital Buildings
- 1,200,000 GSF
- Retired $200M+ of renewal work

**Razed**
- 23 Obsolete Buildings
- 535,000 GSF
- Avoided $31M renewal; $1.25M annual O&M

**Built**
- 15 Modern Buildings
- 1,300,000 GSF
- Provided state of the art Teaching & Research Space
Investment in New Space vs Existing Enterprise

Average: FY10-15

New Space  Existing

FY10  FY11  FY12  FY13  FY14  FY15

47%  53%
<table>
<thead>
<tr>
<th>Range</th>
<th>Criteria</th>
<th>Condition (FCNI)</th>
<th>Renovation Cost ($ per GSF)</th>
<th>Operations &amp; Maint. Costs</th>
<th>Energy Demand (kBTU)</th>
<th>Space Efficiency</th>
<th>Historical Value (NHRP Status)</th>
<th>Code Rating (Deficiency Extent)</th>
</tr>
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<tbody>
<tr>
<td>High / Poor</td>
<td></td>
<td>Critical</td>
<td>&gt;$200</td>
<td>&gt;110%</td>
<td>&gt;110%</td>
<td>Worst</td>
<td>None</td>
<td>0-Serious</td>
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<tr>
<td></td>
<td></td>
<td>Poor</td>
<td>$125-$199</td>
<td>110%</td>
<td>110%</td>
<td>None</td>
<td>None</td>
<td>1-Major</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td>Fair</td>
<td>$75-$124</td>
<td>95% to 110%</td>
<td>95% to 110%</td>
<td>Steward</td>
<td>2-Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good</td>
<td>$25-$74</td>
<td>95% to 110%</td>
<td>95% to 110%</td>
<td>Steward</td>
<td>2-Moderate</td>
<td>3-Minor</td>
</tr>
<tr>
<td>Low / Good</td>
<td></td>
<td>Excellent</td>
<td>&lt;$25</td>
<td>&lt;95%</td>
<td>&lt;95%</td>
<td>Best</td>
<td>Listed or Eligible</td>
<td>4-Not Significant</td>
</tr>
</tbody>
</table>

**STAGE 1**
- Adaptability
- Master Plan Fit
- Image/Aesthetics
- Site Use
- Program Impact
- Economics

**STAGE 2**
- **Catch-up / Keep-up**
- **Keep-up**
- **Dispose or Replace**
Facility Renewal Portfolio

- Refine the inventory of needs
- Institute a process to prioritize projects based on outcome
- Coordinate repairs with modernization
- Align needs with financial capacity
- Modify management processes
- Measure, monitor & benchmark performance

1. Project ID
   - Technical Review
   - Info by System
   - Integrate Program and Infrastructure
   - Assess Urgency

2. Multiyear Investment Plan
   - Project Impact
   - Portfolios
   - Investment Criteria
   - Financially aligned
   - Multi-year Plan

3. Project Selection
   - Annual Capital Bgt.
   - Communication
   - Portfolio “Re-align”
   - Priority Revision

4. Project Execution
   - Track Spending
   - Communicate Results
   - Contingency Management

Courtesy: Sightlines LLC
Facility Portfolio: Case Study
Morris Campus

Total Needs
$63M

Transitional Buildings
$17M
76,000 sf
$223/sf

Grounds/Infrastructure
$4.5M

Building Needs
$41.5M

Academic
$16.0M
425,000 sf
$38/sf

Student Life/Athletics
$11.8M
238,000sf
$50/sf

Residence Halls
$13.7M
227,000sf
$60/sf

<table>
<thead>
<tr>
<th>Building</th>
<th>$/sf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>$351</td>
</tr>
<tr>
<td>Multi Ethnic Res Ctr</td>
<td>$300</td>
</tr>
<tr>
<td>Camden</td>
<td>$237</td>
</tr>
<tr>
<td>Behmler</td>
<td>$200</td>
</tr>
<tr>
<td>Humanities</td>
<td>$164</td>
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</table>
Enterprise Asset Management (EAM)

- Good data and robust planning are invaluable, but the U of M needs a comprehensive, integrated approach to achieve broad and sustainable change
Better Campus Experience at Lower Cost

Improve how we:

**Build**
- for lower life cycle cost
- for flexibility in use

**Operate**
- at lower cost
- to increase reliability

**Manage Space**
- to improve productivity
- to increase utilization
- to lower total space

Enterprise Asset Mgmt. Outcomes:

Consistent Processes

Informed Decisions

Shared and Powerful Application
Current State

The University’s current approach to asset management is unsustainable, which provides a compelling case for change.

- Last year, the University spent $267 million on Operations & Maintenance, 9% of total operating expenses.
- Facility Operations expenses continue to grow as a result of the addition of space and rising service costs even though cost per square foot has been reduced.
- The percentage of the budget funded by the state continues to decrease every year.
- President Kaler has targeted $90 million of administrative cost cuts over five years; currently in year two.
The EAM program will integrate standard processes, governance and technology to help the University conduct rigorous strategic planning and control its total cost of ownership.
EAM Program Goals

The EAM Program empowers change.

Integrating Process & Lifecycle Management = Asset Efficiency, Effectiveness & Sustainability

1. Optimize University assets and resources – buildings, space occupancy and utilization, materials, equipment, etc.
2. Understand and reduce the total cost of ownership
3. Develop a common method for managing assets which integrates strategic planning, capital planning, and operations to optimize value
4. Align business processes, governance, and data across the University system
5. Implement an integrated software system which helps track and manage assets across the entire asset life cycle
Summary

• Facility needs present a significant and enduring challenge
• Predictable funding is critical to maintain a safe, functional campus and uphold competitive position amongst peers
• Optimal utilization of existing space is paramount to the success of our mission
• Updating assessments and pursuing a strategic multi-year investment approach ensures inclusiveness and balance
• Broad and sustainable improvement to asset management is possible through a comprehensive, integrated approach
• What percent of University resources should be allocated to facilities?
• How does facility quality contribute to a place-based experience, which ultimately drives competitive advantage?
• Does the University have the right type and amount of space (aligned, sustainable, managed)?
• What is an appropriate [minimum] condition standard for each facility (vintage, type, programmatic utility)?
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