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Sightlines

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A vocabulary for measurement

The Return on Physical Assets – ROPA℠

The annual investment needed to ensure buildings will properly perform and reach their useful life

“Keep-Up Costs”

Annual Stewardship

The accumulated backlog of repair / modernization needs and the definition of resource capacity to correct them

“Catch-Up Costs”

Asset Reinvestment

The effectiveness of the facilities operating budget, staffing, supervision, and energy management

Operational Effectiveness

The measure of service process, the maintenance quality of space and systems, and the customers opinion of service delivery

Service

Asset Value Change

Operations Success
Mix Between Public & Private

Institution Type

- 39% Private
- 61% Public

Narrowing Down the Peer Group

Scope: Public Institutions

- 338
- 206
Narrowing Scope by Size

Areas Impacted by Size (GSF)

<table>
<thead>
<tr>
<th>Energy Consumption</th>
<th>Economy of Scale</th>
<th>Stewardship Targets</th>
<th>Building Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Narrowing Down the Peer Group

Scope: 1M – 4M GSF

- UNO: 338
- 206
- 75
- (remaining values not visible)
Technical Complexity of Campus

Areas Impacted by Tech Rating

<table>
<thead>
<tr>
<th>Energy Consumption</th>
<th>Maintenance Staffing</th>
<th>Replacement Values</th>
<th>Stewardship Targets</th>
<th>Operational Demand</th>
</tr>
</thead>
</table>

Narrowing Down the Peer Group

Scope: 3.0 – 3.7

Tech Rating

- UNO: Tech Rating 3.38
- 206
- 75
- 30
Comparing Busy Nature of Each Campus

Density Factor

Areas Impacted by Density Factor

<table>
<thead>
<tr>
<th>Wear and Tear on Space</th>
<th>Custodial Operations</th>
<th>Energy Demand</th>
</tr>
</thead>
</table>

Narrowing Down the Peer Group

Scope: 400 – 625 Users / 100K GSF

- UNO: 338
- 206
- 75
- 30
- 11
New FY15 Peer Group

Selected based on Institution Type, Size, Tech Rating & Density Factor

FY14 Peers
Indiana University Purdue University – Indianapolis
Indiana University of PA
Kent State University
Portland State University
Shippensburg University of PA
University of Arkansas
University of Memphis
University of Missouri – Kansas City
University of Missouri – St. Louis
University of Nebraska – Kearney
University of Northern Iowa
University of Oregon
Virginia Commonwealth University

FY15 Peers
Carleton University
Fairmont State University
Florida Atlantic University
Kent State University*
New Jersey Institute of Technology
Portland State University*
University of Alaska Anchorage (UAA)
University of Michigan - Dearborn
University of North Texas
University of Texas Dallas
Washburn University
Today’s Key Focus

Physical Profile
• Young campus has specific needs for operations and capital investments.

Asset Value Change
• Discuss the benefits of keeping up with needs vs catching up.
• Evaluate key drivers for project selection.

Operations Success
• Day to day advantages of a younger campus.
• Planned Maintenance investments can be targeted as the tracking improves.
Physical Profile
Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

- **Pre-War**
  - Built before 1951
  - Durable construction
  - Older but typically lasts longer

- **Post-War**
  - Built from 1951 to 1975
  - Lower-quality construction
  - Already needing more repairs and renovations

- **Modern**
  - Built from 1976 to 1990
  - Quick-flash construction
  - Low-quality building components

- **Complex**
  - Built in 1991 and newer
  - Technically complex spaces
  - Higher-quality, more expensive to maintain & repair

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![Chart showing the percent of campus space by construction age](chart.png)

- **Pre-War**
  - Percent of Total Space 39%
- **Modern**
  - Percent of Total Space 35%

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Sightlines Database - Construction Age
State Aided Construction Age
Campus Age Profile

Understanding the Impact of Age on Capital & Operations

Campus Age by Category

- **Buildings over 50**
  Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.
  Highest risk

- **Buildings 25 to 50**
  Major envelope and mechanical life cycles come due. Functional obsolescence prevalent.
  Higher Risk

- **Buildings 10 to 25**
  Short life-cycle needs; primarily space renewal.
  Medium Risk

- **Buildings Under 10**
  Little work. “Honeymoon” period.
  Low Risk

<table>
<thead>
<tr>
<th>Category</th>
<th>UNO Construction Age</th>
<th>UNO Renovation Age</th>
<th>Peer Construction Age</th>
<th>Peer Renovation Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Risk</td>
<td>40%</td>
<td>31%</td>
<td>22%</td>
<td>15%</td>
</tr>
<tr>
<td>Medium Risk</td>
<td>19%</td>
<td>39%</td>
<td>25%</td>
<td>30%</td>
</tr>
<tr>
<td>Low Risk</td>
<td>15%</td>
<td>14%</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

- **Under 10**
- **10 to 25**
- **25 to 50**
- **Over 50**
Asset Value Change
6 Years of Project Spending

Equal spending between new and existing space

Total Capital Investment

<table>
<thead>
<tr>
<th>Year</th>
<th>Existing Space Investment</th>
<th>New Space Investment</th>
<th>Total (in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY10</td>
<td>$5.0M</td>
<td>$18.7M</td>
<td>$23.7M</td>
</tr>
<tr>
<td>FY11</td>
<td>$6.0M</td>
<td>$16.0M</td>
<td>$22.0M</td>
</tr>
<tr>
<td>FY12</td>
<td>$6.0M</td>
<td>$10.0M</td>
<td>$16.0M</td>
</tr>
<tr>
<td>FY13</td>
<td>$6.0M</td>
<td>$14.0M</td>
<td>$20.0M</td>
</tr>
<tr>
<td>FY14</td>
<td>$6.0M</td>
<td>$7.0M</td>
<td>$13.0M</td>
</tr>
<tr>
<td>FY15</td>
<td>$6.0M</td>
<td>$7.0M</td>
<td>$13.0M</td>
</tr>
</tbody>
</table>

FY10 Mammel Hall $23.7M
FY14 Community Engagement Center $13M

51% New Space Investment
49% Existing Space Investment

Average spending between new and existing space
Capital Spending into Existing Space

Asset Reinvestment sources dominate funding

### Total Spending by Funding Source

- **Unidentified**: $76,657,042
- **Legislative Bills**: $7,775,093
- **Insurance**: $982,730
- **Department Funds**: $13,366,397
- **Capital Construction Project**: $1,650,270

### Annual Stewardship

- **PM**: $962,504
- **Utility Savings**: $7,072,795
- **Parking Surplus**: $388,138
- **Bond Surplus**: $203,035

### Project Spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Spending in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2010</td>
<td>$30.0</td>
</tr>
<tr>
<td>FY2011</td>
<td>$15.0</td>
</tr>
<tr>
<td>FY2012</td>
<td>$20.0</td>
</tr>
<tr>
<td>FY2013</td>
<td>$25.0</td>
</tr>
<tr>
<td>FY2014</td>
<td>$30.0</td>
</tr>
<tr>
<td>FY2015</td>
<td>$35.0</td>
</tr>
</tbody>
</table>
Capital Spending Declining

Average spending of $9.0M per year

**Project Spending**

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Stewardship</th>
<th>Asset Reinvestment</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2010</td>
<td>$5.0M</td>
<td>$3.0M</td>
</tr>
<tr>
<td>FY2011</td>
<td>$1.0M</td>
<td>$8.0M</td>
</tr>
<tr>
<td>FY2012</td>
<td>$2.0M</td>
<td>$6.0M</td>
</tr>
<tr>
<td>FY2013</td>
<td>$0.0M</td>
<td>$6.0M</td>
</tr>
<tr>
<td>FY2014</td>
<td>$1.0M</td>
<td>$5.0M</td>
</tr>
<tr>
<td>FY2015</td>
<td>$1.0M</td>
<td>$4.0M</td>
</tr>
</tbody>
</table>

**Annual Stewardship Funds**
- Planned Maintenance, Bond Surplus, Parking Surplus, Utility Savings

**Asset Reinvestment Funds**
- Capital Construction Project, LB309, LB605, Department Funds, Gifts, Grants, Bonds, Insurance

FY11 Roskens Hall Renovation/Addition $9.3M
Defining an Annual Investment Target

Annual Funding Target: $11.4M

FY15 Annual Investment Target

- 3% Replacement Value: $21.7M
- Life Cycle Need: $14.0M
- Annual Investment Target: $4.9M + $6.5M = $11.4M

Replacement Value: $725M

Functional obsolescence drives investment prior to life cycles & discounts the annual investment target.
Chasing a Moving Target

Investment falls short of Target almost every year

Project Spending vs. Funding Target

2011 Buildings Offline:
Roskens Hall
Kayser Hall,
Welcome Center

Increasing Net Asset Value

Lowering Risk Profile

Increasing Backlog & Risk

Annual Stewardship
Asset Reinvestment
Annual Investment Target
Life Cycle Need
Minimal Annual Stewardship Resources

Peers have more recurring resources

Stewardship Spending to Target

% to Target

0% 20% 40% 60% 80% 100% 120%

2010 2011 2012 2013 2014 2015

Annual Stewardship Investment
Annual Investment Target

Peers have more recurring resources

Stewardship Spending to Target

% to Target

0% 20% 40% 60% 80% 100% 120%

2010 2011 2012 2013 2014 2015

Annual Stewardship Investment
Annual Investment Target
Peer Average
Total Project Spending Below Peers

Peers investing more given space and student population

Total Project Spending $/ GSF by AS & AR

Peers

Total Project Spending $/Student FTE

Peers

- Total AS $/GSF
- Total AR $/GSF
- Peer Group Member Average
Annual Growth in the AR Need

UNO’s Total AR Need surpassed peers in FY15
Lower Total Needs Compared to Peers

UNO had a total Asset Reinvestment Need of $106/GSF in FY15

FY15 Database Average: $83/GSF
FY15 Peer Average: $100/GSF
**ROPA+ Prediction: Developing Strategy**

**Discovery (Asset Reinvestment)**
- **State Aided Facilities**
  - $106/GSF
- **Total Dollars (Millions)**
  - $250
  - $200
  - $150
  - $100
  - $50
  - $0
- **Asset Reinvestment Backlog**
  - **$201**

**Prediction (Capital Risk)**
- **State Aided Facilities**
  - $106/GSF
- **Total Dollars (Millions)**
  - $250
  - $200
  - $150
  - $100
  - $50
  - $0
- **Modernization & Infrastructure**
  - **$153**
- **Life Cycle Need**
  - **$16**
- **Immediate Need**
  - **$33**
Total Current Need by System

$33M in current need (items currently in backlog)

10 Year Need

<table>
<thead>
<tr>
<th>Total Dollars (Millions)</th>
<th>$33</th>
<th>$16</th>
<th>$153</th>
</tr>
</thead>
</table>

Total Current Need by System

- Modernization & Infrastructure 25%
- Building Exteriors 34%
- Interiors 14%
- Plumbing 13%
- Electrical 10%
- Small Building Renovation 1%
- Roofing 3%

Immediate Need

Total Dollars (Millions)

- $33M in current need (items currently in backlog)

10 Year Need
Upcoming Life Cycle Need

$16M of renewal need coming due over the next 10 years

10 Year Need

<table>
<thead>
<tr>
<th>Total Dollars (Millions)</th>
<th>Modernization &amp; Infrastructure</th>
<th>Life Cycle Need</th>
<th>Immediate Need</th>
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</thead>
<tbody>
<tr>
<td>$0</td>
<td>$33</td>
<td>$16</td>
<td>$0</td>
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<tr>
<td>$50</td>
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<tr>
<td>$100</td>
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<tr>
<td>$150</td>
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<td></td>
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<tr>
<td>$200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$250</td>
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<td></td>
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</table>

Average Life Cycles

3 Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Dollars (Millions)</th>
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</thead>
<tbody>
<tr>
<td>2016</td>
<td>$0.5</td>
</tr>
<tr>
<td>2017</td>
<td>$0.5</td>
</tr>
<tr>
<td>2018</td>
<td>$1.0</td>
</tr>
<tr>
<td>2019</td>
<td>$1.5</td>
</tr>
<tr>
<td>2020</td>
<td>$3.0</td>
</tr>
<tr>
<td>2021</td>
<td>$3.0</td>
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<tr>
<td>2022</td>
<td>$2.5</td>
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<tr>
<td>2023</td>
<td>$2.0</td>
</tr>
<tr>
<td>2024</td>
<td>$3.0</td>
</tr>
<tr>
<td>2025</td>
<td>$2.5</td>
</tr>
</tbody>
</table>
Projected Investment vs. 10 Year Needs

Asset Reinvestment Need

Dollars in Millions

$250
$200
$150
$100
$50
$0

$153
$90
$33
$16

10 Year Capital Forecast

Dollars in Millions

$30
$25
$20
$15
$10
$5
$0


Current Need  Renewal Need  Modernization & Infrastructure  Projected Investment
Position of Campus in 10 Years

15% drop in Facilities Condition Index if don’t invest any Capital
Operations Success
Consistent Increases in Operating Resources

Look for the $/GSF to keep pace with inflation
Day-to-Day Spending Keeping Pace with Growth

6% increase in spending since 2012
Enrollment Not Keeping Pace with Space

Evaluate opportunities to increase space utilization

Daily Service
$/Student FTE

Inflation

Peer Average

Daily Service
$/Student FTE

2010 2011 2012 2013 2014 2015

$- $200 $400 $600 $800 $1,000 $1,200 $1,400 $1,600 $1,800 $2,000

$-/Student FTE

Daily Service
$/Student FTE

A B C D E F G H I UNO J K

$-/Student FTE

$- $200 $400 $600 $800 $1,000 $1,200 $1,400 $1,600 $1,800 $2,000

Peer Average

$-/Student FTE
Fossil Fuel Consumption Decreasing

Consumption above most peers

Fossil Consumption

Includes Natural Gas & Fuel Oil #2
12% Decrease in Electric Consumption

Continued reduction in consumption could lead to Best Practice

Electric Consumption

 FY10  FY11  FY12  FY13  FY14  FY15

kWh/GSF

A  B  C  D  E  F  G  H  I  J  K  UNO
Overall, **15% Reduction in Consumption**

*Continue to invest in energy savings projects*
Maintenance Success

Operations benefiting from a younger campus

Maintenance Staffing

Maintenance Supervision

Maintenance Material $/GSF

Campus Inspection General Repair Score

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Omaha</td>
<td>4.03</td>
</tr>
<tr>
<td>Peers</td>
<td>3.79</td>
</tr>
</tbody>
</table>

*FY15 data unavailable for Institution H
Custodial Success

High results achieved through strong and balanced profile

Campus Inspection Cleanliness Score

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Omaha</td>
<td>4.20</td>
</tr>
<tr>
<td>Peers</td>
<td>4.00</td>
</tr>
</tbody>
</table>

*FY15 data unavailable for Institution E
Grounds Success

Low coverage and supervision have produced high inspection scores

Campus Inspection Grounds Score

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Omaha</td>
<td>4.17</td>
</tr>
<tr>
<td>Peers</td>
<td>4.03</td>
</tr>
</tbody>
</table>

*FY15 data unavailable for Institution I
Grounds Success Compared to Urban Campuses

UNO Inspection scores reflect impact of additional staff

**Grounds Staffing**

**Grounds Supervision**

**Grounds Materials $/Acre**

<table>
<thead>
<tr>
<th>Campus Inspection Grounds Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omaha</td>
</tr>
<tr>
<td>Peers</td>
</tr>
<tr>
<td>4.17</td>
</tr>
<tr>
<td>4.04</td>
</tr>
</tbody>
</table>

Indiana University, Purdue University (Indianapolis) • Rutgers University • Temple University • The Ohio State University
The University of Chicago • University of Central Florida • Virginia Commonwealth University
University of Cincinnati • University of Massachusetts (Boston) • University of Memphis
University of Minnesota (Twin Cities) • University of Missouri (Kansas City) • University of Missouri (St. Louis)
PM Investment Dropped in FY15

Monitor new tracking closely to ensure correct reporting

Total Planned Maintenance

$/GSF

Fiscal Year

2010 2011 2012 2013 2014 2015

Inflation

Total Planned Maintenance

$/GSF

Fiscal Year

2010 2011 2012 2013 2014 2015

Peer Average

Total PM/GSF (Actual)  Peer Group Member Average
Target PM Spending Toward New Space

Even when fully funding PM in younger space, what opportunities are there for UNO?

PM by Renovation Age

<table>
<thead>
<tr>
<th>Total $</th>
<th>FY15</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.09/GSF</td>
<td>$0.15/GSF</td>
<td>$0.33/GSF</td>
</tr>
</tbody>
</table>

Campus Age by Category

- Under 10: 29%
- 10 to 25: 40%
- 25 to 50: 30%
- Over 50: 10%

FY17

- Under 10: 29%
- 10 to 25: 40%
- 25 to 50: 30%
- Over 50: 10%
Preventive/Planned Maintenance

- **PM:** Materials, labor costs, service contracts, etc. that enhance or extend the useful life of campus buildings and components. Some examples include changing belts and filters on HVAC equipment, elevator service contracts, sprinkler and fire alarm system testing/maintenance contracts, etc.

**Typical Examples**

<table>
<thead>
<tr>
<th>Mechanical</th>
<th>Electrical</th>
<th>Plumbing</th>
<th>Elevator</th>
<th>Fire Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean or replace filters</td>
<td>Temperature checks (Thermographic inspection)</td>
<td>Inspect pipes and repair leaks</td>
<td>Perform safety checks on all components according to codes</td>
<td>Perform appropriate checks to meet fire codes</td>
</tr>
<tr>
<td>Examine and change belts</td>
<td>Open &amp; close circuit breakers and disconnect switches</td>
<td>Examine and adjust pressures and temperatures</td>
<td>Clean, lubricate, and adjust motors, bearings, brakes and other components</td>
<td>Test alarms and controls</td>
</tr>
<tr>
<td>Lubricate motor bearings</td>
<td>Calibrate &amp; Test circuit breaker and relay trip devices</td>
<td>Operate and adjust faucets and flush valves</td>
<td>Check and lubricate guide rails</td>
<td>Check and adjust pump operations</td>
</tr>
<tr>
<td>Clean condenser coils</td>
<td>Oil screen test oil-filled-transformers, circuit breakers and disconnect switches</td>
<td>Clean or replace water filters</td>
<td>Examine and replace wire ropes</td>
<td>Test water flow alarms and perform main drain test on sprinkler/water spray systems</td>
</tr>
<tr>
<td>Clean and adjust blower components</td>
<td>Perform dissolved gas analysis on transformer oil</td>
<td>Check waste systems</td>
<td>Check, adjust, repair, and replace all cabin and hoist away doors</td>
<td>Check valves and lock in open position</td>
</tr>
<tr>
<td>Examine duct work for leaks</td>
<td>Leak test equipment insulated with SF6 gas</td>
<td>Ensure oil and water separator systems meet standards</td>
<td>Test and repair communication devices</td>
<td>Inspect and recharge fire extinguishers</td>
</tr>
<tr>
<td>Monitor starting capabilities</td>
<td>Clean &amp; tighten all electrical connections and equipment enclosures</td>
<td>Check accuracy of flow meters</td>
<td>Test and repair control and emergency systems</td>
<td>Inspect and replace fire hoses</td>
</tr>
<tr>
<td>Check and adjust heating and cooling systems pressures and temperatures</td>
<td>Inspect equipment for deterioration</td>
<td></td>
<td></td>
<td>Check emergency lighting</td>
</tr>
<tr>
<td>Test and adjust central control system</td>
<td></td>
<td></td>
<td></td>
<td>Test heat and smoke sensors and fire doors</td>
</tr>
</tbody>
</table>
Concluding Comments
Historic investments have created a younger age profile for UNO than at peer institutions.

The Functional Obsolescence Target has been increasing annually, as new space and renovations come online, creating more future needs for campus.

Without funding to the Target Levels, the Asset Reinvestment Need for the next 10 years has grown.
Historic investments have created a younger age profile for UNO than at peer institutions.

The younger facilities have increased mechanical and program demands, which require additional Planned Maintenance resources.

As tracking increases for Planned Maintenance, target support toward facilities with the highest need.
Questions & Comments