
Sightlines

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A vocabulary for measurement

The Return on Physical Assets – ROPA\textsuperscript{SM}

The annual investment needed to ensure buildings will properly perform and reach their useful life “Keep-Up Costs”

The accumulated backlog of repair / modernization needs and the definition of resource capacity to correct them “Catch-Up Costs”

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

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

Annual Stewardship

Asset Reinvestment

Operational Effectiveness

Service

Asset Value Change

Operations Success
Mix Between Public & Private

Institution Type

- Private: 61%
- Public: 39%

Narrowing Down the Peer Group

Scope: Public Institutions

- 338
- 206

Private  Public
Narrowing Scope by Size

Size of Public Institutions

Areas Impacted by Size (GSF)

- Energy Consumption
- Economy of Scale
- Stewardship Targets
- Building Intensity

Narrowing Down the Peer Group
Scope: 1M – 4M

GSF

UNO

338
206
75
# Technical Complexity of Campus

## Tech Ratings

![Tech Ratings Graph](image)

- **UNO**
- **Tech Rating**: 3.38

## 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 Ratings**
  - 338
  - 206
  - 75
  - 30

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*UNIVERSITY OF Nebraska Omaha*

*sightlines*
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
- Other Institutions:
  - 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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The chart illustrates the percentage of campus space by construction age from 1880 to 2015. The data shows a significant portion of the campus space is from the Pre-War period (39%), followed by the Modern period (35%). The Post-War and Complex periods contribute lesser percentages.
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

- **UNO Construction Age**
  - High Risk: 40%
  - Under 10: 19%
  - 10 to 25: 39%
  - 25 to 50: 15%
  - Over 50: 20%

- **UNO Renovation Age**
  - High Risk: 36%
  - Under 10: 31%
  - 10 to 25: 39%
  - 25 to 50: 22%
  - Over 50: 15%

- **Peer Construction Age**
  - High Risk: 35%
  - Under 10: 14%
  - 10 to 25: 25%
  - 25 to 50: 22%
  - Over 50: 15%

- **Peer Renovation Age**
  - High Risk: 30%
  - Under 10: 20%
  - 10 to 25: 30%
  - 25 to 50: 25%
  - Over 50: 15%
Asset Value Change
6 Years of Project Spending

Equal spending between new and existing space

Total Capital Investment

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

- FY2010: $25.0M
- FY2011: $16.0M
- FY2012: $7.0M
- FY2013: $12.0M
- FY2014: $21.0M
- FY2015: $8.0M

$ in Millions

Existing Space Investment

New Space Investment

Average
Capital Spending into Existing Space

Asset Reinvestment sources dominate funding

Project Spending

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

Asset Reinvestment

Annual Stewardship

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

Average spending of $9.0M per year

Project Spending

FY11
Roskens Hall
Renovation/Addition
$9.3M

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

$ in Millions
Defining an Annual Investment Target

Annual Funding Target: $11.4M

FY15 Annual Investment Target

- 3% Replacement Value: $21.7M
- Life Cycle Need: $14.0M ($8.7M Envelope/Mechanical + $6.5M Space/Program)
- Annual Investment Target: $4.9M

Functional obsolescence drives investment prior to life cycles & discounts the annual investment target.

Replacement Value: $725M
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
Total Project Spending Below Peers

Peers investing more given space and student population

Total Project Spending $/GSF by AS & AR

Total Project Spending $/Student FTE
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

$201

Prediction (Capital Risk)

State Aided Facilities
$106/GSF

$153

Modernization & Infrastructure

Life Cycle Need

Immediate Need

Total Dollars (Millions)

Asset Reinvestment Backlog
Total Current Need by System

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

10 Year Need

Total Dollars (Millions)

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

$153
$16
$33

Modernization & Infrastructure
Life Cycle Need
Immediate Need

Total Current Need by System

Small Building Renovation: 1%
Roofing: 3%
Electrical: 10%
Building Exteriors: 34%
Plumbing: 13%
Interiors: 14%
HVAC: 25%

Total Current Need by System

$33M in current need (items currently in backlog)
Upcoming Life Cycle Need

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

10 Year Need

- Total Dollars (Millions)
  - $0 - $250
  - $153
  - $16
  - $33

Average Life Cycles

- 3 Years

2016
- $0.5

2017
- $0.5

2018
- $1.0

2019
- $1.5

2020
- $3.0

2021
- $3.0

2022
- $2.5

2023
- $2.0

2024
- $2.0

2025
- $1.5

Legend:
- Modernization & Infrastructure
- Life Cycle Need
- Immediate Need
Projected Investment vs. 10 Year Needs

Asset Reinvestment Need

Dollars in Millions

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

$153
$90
$16
$33

10 Year Capital Forecast

Dollars in Millions

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


Current Need  Renewal Need  Modernization & Infrastructure  Projected Investment

Sightlines
Position of Campus in 10 Years

15% drop in Facilities Condition Index if don’t invest any Capital

FCI Projection

Index

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


FY15 NAV • FCI
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

- **2010**: $600
- **2011**: $650
- **2012**: $700
- **2013**: $750
- **2014**: $800
- **2015**: $850

**Inflation**

- **2010**: $200
- **2011**: $400
- **2012**: $600
- **2013**: $800
- **2014**: $1,000
- **2015**: $1,200

**Peer Average**

- **A**: $800
- **B**: $600
- **C**: $400
- **D**: $600
- **E**: $800
- **F**: $1,000
- **G**: $1,200
- **H**: $1,400
- **UNO**: $1,600
- **J**: $1,800
- **K**: $2,000
Fossil Fuel Consumption Decreasing

Consumption above most peers

Fossil Consumption

Includes Natural Gas & Fuel Oil #2

UNO
12% Decrease in Electric Consumption

Continued reduction in consumption could lead to Best Practice

Electric Consumption

kWh/GSF

FY10 FY11 FY12 FY13 FY14 FY15
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

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

*FY15 data unavailable for Institution H
Custodial Success

High results achieved through strong and balanced profile

Campus Inspection Cleanliness Score

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
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<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

Grounds Staffing

Grounds Supervision

Grounds Materials $/Acre

Campus Inspection Grounds Score

<table>
<thead>
<tr>
<th>Institution</th>
<th>Score</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

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<tr>
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<tbody>
<tr>
<td></td>
<td>Grounds Coverage</td>
<td>Peer Group Member Average</td>
<td></td>
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<tr>
<td></td>
<td>Grounds Supervision Ratio</td>
<td>Peer Group Member Average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grounds Materials/Acres</td>
<td>Peer Group Member Average</td>
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</table>

Campus Inspection Grounds Score

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<tr>
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<td>4.17</td>
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<tr>
<td>Peers</td>
<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

*Peer Average*

Inflation

Total Planned Maintenance

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>$100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$200,000</td>
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<tr>
<td>$700,000</td>
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<tr>
<td>$800,000</td>
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</tbody>
</table>

Campus Age by Category

<table>
<thead>
<tr>
<th>% of Campus GSF</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>29%</td>
</tr>
<tr>
<td>10 to 25</td>
<td>40%</td>
</tr>
<tr>
<td>25 to 50</td>
<td>30%</td>
</tr>
<tr>
<td>Over 50</td>
<td>30%</td>
</tr>
</tbody>
</table>

PM per $/GSF

- Under 10: $0.09/GSF
- 10 to 25: $0.15/GSF
- 25 to 50: $0.33/GSF
- Over 50: $0.33/GSF
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
FY2015 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.
**FY2015 Concluding Comments**

**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.