Oregon State University – E&G
Presenters: Peter Reeves & Chad Hancock
June 2017
Who Partners with Sightlines?

Robust membership includes colleges, universities, consortiums and state systems

Sightlines is proud to announce that:

- 450 colleges and universities are Sightlines clients including over 325 ROPA members.
- Consistently over 90% member retention rate
- We have clients in over 40 states, the District of Columbia and four Canadian provinces
- More than 125 new institutions became Sightlines members since 2013

Sightlines advises state systems in:

- Alaska
- California
- Florida
- Hawaii
- Maine
- Massachusetts
- Minnesota
- Mississippi
- Missouri
- Nebraska
- New Hampshire
- New Jersey
- Pennsylvania
- Texas

Serving the Nation’s Leading Institutions:

- 70% of the Top 20 Colleges*
- 75% of the Top 20 Universities*
- 34 Flagship State Universities
- 14 of the 14 Big 10 Institutions
- 9 of the 12 Ivy Plus Institutions

* U.S. News 2016 Rankings
Key Connections Across Facilities

Oregon State Observations:

**Space**
*Increased student density and a large amount of older space (over 50 years) increase the future capital and operational costs*

**Capital**
*Mix of capital spending (emphasis on new construction versus existing space) and type of spending (less DM versus major renovation/program improvement) have resulted in a growing backlog of needs*

**Operations**
*Challenges in the space profile (density and age) and capital profile (growing backlog) are further compounded by limited operational resources*
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”

The accumulation of repair and 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

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Annual Stewardship

Asset Reinvestment

Operational Effectiveness

Service

Asset Value Change

Operations Success
Peer Institutions

ROPAs Analysis includes E&G space totaling 5.2M GSF

<table>
<thead>
<tr>
<th>Peer Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado State University</td>
</tr>
<tr>
<td>Iowa State University</td>
</tr>
<tr>
<td>The Ohio State University</td>
</tr>
<tr>
<td>The Pennsylvania State University</td>
</tr>
<tr>
<td>The University of Arizona</td>
</tr>
<tr>
<td>The University of Tennessee</td>
</tr>
<tr>
<td>University of Colorado - Boulder</td>
</tr>
<tr>
<td>University of Florida</td>
</tr>
<tr>
<td>University of Illinois - Urbana/Champaign</td>
</tr>
<tr>
<td>University of Nebraska - Lincoln</td>
</tr>
<tr>
<td>University of Oregon</td>
</tr>
<tr>
<td>University of Utah</td>
</tr>
<tr>
<td>University of Washington</td>
</tr>
</tbody>
</table>

Comparative Considerations
Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions.
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

The campus age drives the overall risk profile.
Enrollment continues to grow

Student Enrollment

Density Factor

OSU

Average
Program Space

Less program space compared to peers
Smaller Buildings are Also the Oldest

OSU Building Size by Age Category

# of Bldgs. 15 16 59 141

GSF

Building Intensity

Buildings / 1,000,000 GSF
Similar age distribution compared to peers

Recent renovations contribute to a younger age profile

Campus Age by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>OSU</th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>10 to 25</td>
<td>16%</td>
<td>19%</td>
</tr>
<tr>
<td>25 to 50</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>Over 50</td>
<td>60%</td>
<td>42%</td>
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</tbody>
</table>

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

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

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

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

Recent renovations contribute to a younger age profile.
Older Despite Renovations at OSU

Construction vs. Renovation Age

<table>
<thead>
<tr>
<th>Letter</th>
<th>Construction Age</th>
<th>Renovation Age</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td></td>
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<tr>
<td>G</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>14</td>
<td></td>
<td></td>
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<tr>
<td>K</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Construction Age = Renovation Age

- A: 3
- B: 10
- C: 10
- D: 14
- E: 4
- F: 6
- G: 9
- H: 2
- I: 5
- J: 14
- K: 10
- L: 10
- M: 3
- N: 21

Average: 10
Future Age Projection

Preparing for future need on campus

Campus Age by Category

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*Age projection inclusive of OSU 10-year Capital Forecast*
Asset Value Change
Total E&G Capital Investment

Large investments into new space over last 5 years

Capital Investment

$30M of excluded project spending in FY13 – Sports Performance Center & Life Sciences Building

New Space Spending

- Learning Innovation Center
- Austin Hall
- Johnson Hall
- Linus Pauling

- Existing Space
- Infrastructure
- New Space
- Non-Facilities

2012
2013
2014
2015
2016

$0.0
$10.0
$20.0
$30.0
$40.0
$50.0
$60.0
$70.0
$80.0
$90.0
$100.0

$ in Millions
Investment into Existing Space & Infrastructure

Seismic upgrades lead to higher safety/code spending

Capital Investment into Existing Space

Spending Mix
FY12-16
E&G Investment Compared to Peers

Peers outspend OSU in recent years

Total AS & AR $/GSF w/o Infrastructure

Oregon State

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>$/GSF</td>
<td>3.60</td>
<td>1.20</td>
<td>3.60</td>
<td>3.60</td>
<td>3.60</td>
</tr>
</tbody>
</table>

Total AS $/GSF w/o Infra | Total AR $/GSF w/o Infra

My Average

Total AS $/GSF w/o Infra | Total AR $/GSF w/o Infra

Peer Group Member Average
E&G Annual Investment Target

Annual Funding Target: $31M

FY16 Annual Investment Target

Replacement Value: $2.2B

- 3% Replacement Value: $65.2M
- Life Cycle Need: $34.6M
  - Envelope/Mechanical: $25.2M
  - Space/Program: $12.1M
- Annual Investment Target: $18.9M

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

Total Capital Investment vs. Funding Target

Increasing Net Asset Value

Lowering Risk Profile

Increasing Backlog & Risk

$ in Millions


Annual Stewardship  Asset Reinvestment  Annual Investment Target  Life Cycle Need
Asset Reinvestment Backlog Estimates

Sightlines generated estimates for OSU’s backlog are between 15 – 23% above the peer average.

**Building Age Estimate** – Considers the age and function of each building and compares that to the average need of similar buildings in Sightlines’ database.

**Capital Spending Estimate** – Compares historical spending to the annual investment need established by Sightlines and extrapolates to establish campus backlog.
Asset Reinvestment Need Over time

Using the Building Age Estimate and historical spending trends, OSU’s backlog is estimated to have grown 14% versus peer’s at 9%.
Setting Priorities

Not all buildings are created equal

Program Value

Program Growth

Operational Demands

Space Utilization

Classroom and Lecture Hall Condition

Improving the condition of these rooms will improve the educational experience for 510 classrooms.

There are 16 “A” classrooms with room utilization less than 20%.
Operations Success
O&M Expenditures as a % of Institutional Operating

Operations and Maintenance of Plant Expenses

O&M Expense % of Institutional Budget
FY16 vs Peers

% of Institution Operating Expenses

Peer Range
Facilities Operating Expenditures vs. Peers

**Oregon State University**

**Peers**
OSU has the lowest operating budget of the peer group.
Maintenance operations

Institutions arranged by Tech Rating

General Repair/Impression Inspection Score

1 (Poor) - 5 (Excellent)

Maintenance Staffing

Maintenance Supervision

Maintenance Material $/GSF
Custodial Operations

High density on campus

Custodial Supervision

Custodial Materials

Cleanliness Inspection Score

Institutions arranged by Density Factor
Grounds Metrics

**Grounds Staffing**

- Acre/FTE
- FTE/Member

**Grounds Supervision**

- FTE/Member

**Grounds Materials**

- $/Acre

**Grounds Inspection Score**

- Institutions arranged by Grounds Intensity

- (Poor)
- (Excellent)
Executive Takeaways

Space
- Strategically adding new space may be required to manage campus density
- In addition, a plan to address older space (through investment or divestment/demo) will be needed to managing the increasing future capital and operational costs

Capital
- Increasing DM funding will allow for capital needs to be kept up with. This is especially true for younger spaces as they age
- Priorities must be set on where to target investment. Alignment of investment with institutional priorities is a must.
  - Examples: Student success, faculty success, research, etc.

Operations
- Given the limited resources and space/capital challenges, operational performance is admirable, but likely unsustainable without increased resources
- In addition to aligning investment decisions with institutional priorities, also consider those investments that will reduce operational demands/costs
Questions & Discussion