Wesleyan University

FY19 ROPA+ Presentation

February 2020
Sightlines by the Numbers

Robust membership includes colleges, universities, consortiums, and state systems

- 43 States + DC
- 170 New members since 2013
- 450 Colleges & Universities
- 360+ ROPA Members
- 90% Member retention rate
- 5 Canadian provinces

FACILITIES BENCHMARKING & ANALYSIS
- Take control of your facilities and make the case for change without the guesswork

FACILITIES ASSESSMENT & PLANNING
- Plan and execute capital investment plans that are inclusive, credible, flexible, affordable, and sustainable

SPACE UTILIZATION
- Ensure your space is working up to its full potential

SUSTAINABILITY SOLUTIONS
- Measure, compare and improve environmental stewardship

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**Vocabulary for Facilities Measurement, Benchmarking & Analysis**

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

**Asset Reinvestment**
The accumulation of repair and modernization needs and the definition of resource capacity to correct them “*Catch-Up Costs*”.

**Operational Effectiveness**
The effectiveness of the facilities operating budget, staffing, supervision, and energy management.

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

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**Asset Value Change**

**Operations Success**

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# Wesleyan Peer Institutions

## SLAC Institutions

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amherst College</td>
<td>Amherst, MA</td>
</tr>
<tr>
<td>Bowdoin College</td>
<td>Brunswick, ME</td>
</tr>
<tr>
<td>Bryn Mawr College</td>
<td>Bryn Mawr, PA</td>
</tr>
<tr>
<td>Carleton College</td>
<td>Northfield, MN</td>
</tr>
<tr>
<td>Davidson College</td>
<td>Davidson, NC</td>
</tr>
<tr>
<td>Hamilton College</td>
<td>Clinton, NY</td>
</tr>
<tr>
<td>Haverford College</td>
<td>Haverford, PA</td>
</tr>
<tr>
<td>Mount Holyoke College</td>
<td>South Hadley, MA</td>
</tr>
<tr>
<td>Pomona College</td>
<td>Pomona, CA</td>
</tr>
<tr>
<td>Swarthmore College</td>
<td>Swarthmore, PA</td>
</tr>
<tr>
<td>Williams College</td>
<td>Williamstown, MA</td>
</tr>
</tbody>
</table>

### Comparative Considerations

Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions.
Complexity of Building Systems Similar to Peer Average

A higher tech complexity will typically drive operational and capital costs higher

Technical Complexity

Tech Rating Affects:
- Repair and Replacement Cost
- Energy Consumption
- Operational Demands

SLAC Peer Average
Private School Average

1. House
2. Academic building with no central cooling
3. Academic building with central cooling
4. Academic Science Facility
5. High-End Science Research or Hospital
Wesleyan Fourth Highest Density amongst Peers

More people moving through the space creates more wear and tear on facilities

Density Factor

Density: Measures number of users per 100,000 GSF

Users include all student, faculty, and staff FTEs

Measures campus building usage on a daily basis

Density Affects:
- Capital Investment Need
- Staffing Levels
- Materials and Supplies
- Wear and Tear on Facilities

Wesleyan

SLAC Peer Average
Private College Average

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Space: Understanding your largest asset
- Wesleyan’s Main Campus growth is commensurate with peers. Rental properties’ GSF decreased by 37% since FY02
- The majority of space is over 50 years old.

Capital: Investment planning to align mission and risk
- Capital investments into existing space are consistent over the last two years at approximately $18.0M in FY19
- Major Maintenance funds are growing, helping Wesleyan to achieve the FY19 Sightlines recommended Annual Investment Target
- Backlog of need is higher than peers and growing over time.

Operations: Improve effectiveness and lower overhead
- Daily service resources are lower than peers
- Wesleyan’s energy consumption lower than peers with higher costs
Space Profile
Rental Properties GSF Declining, Main Campus is More Consistent

*Rental properties GSF have decreased by 37% since FY02*
Main Campus GSF Has Changed 14% Since FY02

Peers’ GSF experienced a steady incline, where Wesleyan had more fluctuations over time.
Wesleyan Student Growth Trends Similar to Peers

Wesleyan enrollment grows by 8%, while SLAC grows by 9% since FY02
SLAC Peers Have More Space per Student Than Wesleyan

Student life space is the most dense

Space per Student

<table>
<thead>
<tr>
<th></th>
<th>Wesleyan</th>
<th>SLAC Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Space per Student</td>
<td>883</td>
<td>1,069</td>
</tr>
<tr>
<td>Program Space per Student</td>
<td>392</td>
<td>449</td>
</tr>
<tr>
<td>Residential Space per Student</td>
<td>339</td>
<td>400</td>
</tr>
<tr>
<td>Student Life Space per Student</td>
<td>121</td>
<td>188</td>
</tr>
</tbody>
</table>

*Program Space = Academic and Admin Space*
Putting Wesleyan’s Building Age in Context

% of GSF by Construction Year

- **Pre-War**
  - Built pre-1951
  - Durable construction
  - Older but lasts longer
  - 43% of Wesleyan’s Space

- **Post-War**
  - Built 1951 - 1975
  - Lower quality construction
  - Needs more repairs & renovation
  - 40% of Wesleyan’s Space

- **Modern**
  - 1975 - 1990
  - Quick flash construction
  - Low quality components
  - <1% of Wesleyan’s Space

- **Complex**
  - Built post-1991
  - Technically complex
  - Higher quality
  - More expensive to maintain or repair
  - 17% of Wesleyan’s Space
Future Forecast Determined by Life Cycle Models

Two waves of needs will come due at once

<table>
<thead>
<tr>
<th>System</th>
<th>SL Standard Life Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roofing</td>
<td>25 years</td>
</tr>
<tr>
<td>Electrical</td>
<td>25 years</td>
</tr>
<tr>
<td>Exteriors</td>
<td>30 years</td>
</tr>
<tr>
<td>HVAC</td>
<td>30 years</td>
</tr>
<tr>
<td>Plumbing</td>
<td>35 years</td>
</tr>
</tbody>
</table>
Wesleyan Offset 5 Years Through Renovations; Lowest Amongst Peers

On average, peers’ offset campus age five times more than Wesleyan

Construction Age vs Renovation Age

Years of Age

Peer Construction Age  Peer Renovation Age  Wesleyan Construction Age  Wesleyan Renovation Age

Years Offset Through Renovations

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Wesleyan’s Building Profile Aging Over Time

Campus Reno Age by Category

% of GSF


- Under 10
- 10 to 25
- 25 to 50
- Over 50

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Oldest Buildings on Campus Are Getting Older

Campus Reno Age by Category

% of GSF


- Under 10
- 10 to 25
- 25 to 50
- Over 50
Majority of Space is Over 50 Years Old

Peers’ renovation age profile is more evenly distributed

Campus Renovation 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

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Wesleyan Renovation Age

- Under 10: 2%
- 10 to 25: 17%
- 25 to 50: 12%
- Over 50: 69%

SLAC Renovation Age

- Under 10: 2%
- 10 to 25: 15%
- 25 to 50: 33%
- Over 50: 34%
Wesleyan’s Age Distribution Falls Mostly in Over 50

Wesleyan has a higher risk profile with 35% more space in the over 50 category than peers.
Wood Frames Are Older Compared to Total Campus

Wood frames make up 11% of campus GSF

Campus Reno Age by Function

Wood Frames % of Wesleyan GSF

- Wood Frames: 11%
- Rest of Campus: 89%

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Asset Value Change
Total Investment FY02-FY19: $473.1 M

FY19 investment $21.4M
Investment into Existing Space Remains Consistent In FY19

Average annual investment: $19.5M

Total Capital/Major Maintenance Investments from FY02-FY19

- Millions
- FY02 - FY19
- Existing Space Investment
- Average
Investments into Existing Space Below Peers in FY19

On average, Wesleyan invests $1.02/GSF or $2.8M more than peers.

Total Investment $/GSF vs. Peers

*Investment into existing space
Investments Focused Towards Space/Program in FY19

On average, Wesleyan invests 57% towards Envelope/Mechanical needs, Peers 59%

*Investment into existing space
Defining an Annual Investment Target for Wesleyan

Annual Funding Target: $14.7M

FY19 Annual Investment Target

Replacement Value: $1.18B

3% Replacement Value

$35.4

Life Cycle Need

$13.4

Annual Investment Target

$4.7

$13.4

$10.0

Depreciation Model

Sightlines Recommendation
Higher investment towards space/programming projects than target recommends

FY19 Annual Investment Target

- 3% Replacement Value: $35.4
- Life Cycle Need: $13.4, $13.4
- Annual Investment Target: $4.7, $10.0
- FY19 Wesleyan Actual Investment: $8.3, $6.3

Replacement Value: $1.18B
Growing Major Maintenance Funds

Major Maintenance funds have been on the rise since FY15

Total Capital/Major Maintenance Investments

$ in Millions

FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 FY19

Annual Stewardship Asset Reinvestment
Growing Major Maintenance Funds

Major Maintenance funds have been on the rise since FY16
Chasing A Growing Target

Wesleyan meets target in FY19

Capital/Major Maintenance Investments to Target

- Increasing Net Asset Value
- Lowering Risk Profile
- Increasing Backlog & Risk

*Annual Stewardship

**Asset Reinvestment

**Infrastructure

*Annual Investment Target

**Life Cycle Need

*Investment into existing space

**Sightlines Annual Investment target does not include infrastructure need. Wesleyan estimates approximately $2M of infrastructure need each year.
Planned Renovations Provide Insight into Future Target

Stewardship target increases $17.8M by 2026 due to renovations

Capital/Major Maintenance Investments to Target

- FY23: PAC Online
- FY26: Hall – Atwater Replacement

*Projection reflects Film Studies addition and renovations of PAC in 2023 and Hall Atwater in 2026

*Investment into existing space

**Sightlines Annual Investment target does not include infrastructure need. Wesleyan estimates approximately $2M of infrastructure need each year.
Asset Reinvestment Continues to Grows at Steady Pace

In the last 10 years, AR Need have increased by 27%

Total Asset Reinvestment Need

- $/GSF
- NAV %

 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 FY19

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FY19 Total Asset Reinvestment Need Above SLAC Average

Wesleyan’s Backlog is at $107/GSF; SLAC Peers: $66/GSF; SL database: $89/GSF

Total Asset Reinvestment Need vs. SLAC Average
Wesleyan’s Ten-Year Backlog of Need

Sightlines quantifies $155 Million in system-specific need

- Modernization/Programmatic need is $142M.
- Sightlines recommends a 10 year capital strategy to address the total need.
- Total 10 year renewal need is $63M.
- This represents the life cycle needs coming due between 2020-2029.
- Current Need Today (Backlog)
Top 10 Buildings with Highest Need (Total Dollars)

These buildings make up 27% of Wesleyan’s space

Buildings with Highest Total Need

<table>
<thead>
<tr>
<th>Building</th>
<th>Total Dollars (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hall-Atwater</td>
<td>$19.3</td>
</tr>
<tr>
<td>Exley Science Center</td>
<td>$19.2</td>
</tr>
<tr>
<td>Butterfield C</td>
<td>$7.1</td>
</tr>
<tr>
<td>PAC/Harriman Hall</td>
<td>$6.1</td>
</tr>
<tr>
<td>High Rise</td>
<td>$5.7</td>
</tr>
<tr>
<td>Butterfield A</td>
<td>$5.4</td>
</tr>
<tr>
<td>Butterfield B</td>
<td>$4.8</td>
</tr>
<tr>
<td>Shanklin Lab</td>
<td>$4.0</td>
</tr>
<tr>
<td>Fisk Hall</td>
<td>$3.6</td>
</tr>
<tr>
<td>North College</td>
<td>$2.9</td>
</tr>
</tbody>
</table>

*Includes only current and renewal needs

Sightlines needs do not include abatement costs or any anticipated programmatic changes.
Understanding Wesleyan’s Top 10 Total Building Needs

Buildings represents 27% of Wesleyan space and 50% of total building needs.

*Includes only current and renewal needs*
Mapping Out Buildings Needs Over $100/GSF

Top 10 Buildings with Highest $/GSF Need:
- Hall-Atwater
- Shanklin Lab
- 200 Church Street
- Butterfield B
- Butterfield C
- PAC/Harriman Hall
- Davison Art Center
- Butterfield A
- Fisk Hall
- South College
Capital Investment Does Not Map To Future Needs

FY02-FY19 Total Capital Investment Mix
- Envelope: 57%
- Mechanical: 23%
- Space/Program: 20%

FY02-FY19 Major Maintenance Funds Capital Investment Mix
- Envelope: 46%
- Mechanical: 26%
- Space/Program: 28%

FY20-FY29 Future Capital Investment Mix
- Envelope: 15%
- Mechanical: 58%
- Space/Program: 27%

*FY02-FY19 investment mix does not include new space, non-facilities, or safety/infrastructure
Matching Campus Need to Campus Values

- Program Value
- Building Function
- Space Utilization
- Campus Mission

Building Condition / Building Need

Low

High

- Poor Building Condition, High Program Value
- Excellent Building Condition, High Program Value
- Poor Building Condition, Low Program Value
- Excellent Building Condition, Low Program Value

Major Capital Renovations
Stewardship

Transitional Buildings
Maintain/Repurpose
Total Cost of Ownership for Wood Frames

Total Dollars (Millions)

<table>
<thead>
<tr>
<th>Current and Renewal Needs of Wood Frames</th>
<th>FY19 Asset Reinvestment Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9</td>
<td>$2.5</td>
</tr>
<tr>
<td>$6</td>
<td>$0.8</td>
</tr>
</tbody>
</table>

FY19 Wood Frames Annual Investment Target

- 3% Replacement Value: $2.5
- Life Cycle Need: $0.2 (Envelope/Mechanical), $0.6 (Space/Program)
- Annual Investment Target: $0.1 (Envelope/Mechanical), $0.6 (Space/Program)
Operations
Operating Efficiencies Save $8.9M Annually by FY19

Investment of $3.25/GSF or $8.9M additional resources to match inflation growth in FY19

Facilities Operating Actuals

- Planned Maintenance
- Daily Service

$8.9M
FY19 Facilities Operating Expenditures

Wesleyan operates with $1.26M less in total operating actuals compared to SLAC peer average

Facilities Operating Actuals

$/GSF

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

Planned Maintenance  Daily Service  Average

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Planned Maintenance Below SLAC Average

Additional $193K needed to reach SLAC average

Total Planned Maintenance

$1.00 invested in Planned Maintenance now

SAVES $2.78 in reactive maintenance later

Strategic Deferral of PM
- Usually in buildings/systems over 50 years old targeted for renovation or replacement
- Reallocates resources from the older buildings/systems to younger buildings and systems.
- Use Assessment in coordination with work order reporting to start identifying these opportunities.
FY19 Regional Energy Peer Consumption and Unit Costs

Energy Consumption – Regional Utility Peer Group

Energy Costs – Regional Utility Peer Group

*Regional Energy Peer Group: Babson College, Bryant University, College of Holy Cross, Connecticut College, Fairfield University, Trinity College, University of Connecticut, University of Hartford & University of New Haven*
FY19 Regional Facilities Utilities Costs

Facilities Utilities Costs

FY19 Regional Utility Peers

- Babson College
- Bryant University
- College of Holy Cross
- Connecticut College
- Fairfield University
- Trinity College
- University of Connecticut
- University of Hartford
- University of New Haven
Concluding Comments
Key Takeaways

- Campus age is increasing due to limited strategic age-resetting renovations.
- Major Maintenance funds are increasing. Sightlines Annual Investment Targets are being met.
- Facilities Operations are running with less resources than peers.
Recommendations

Utilize campus needs and values matrix to create portfolios to understand how to allocate resources to certain assets and avoid others.

Analyze Wood Frame properties to see if the generated revenue meets the total cost of ownership of these facilities.

Communicate directly with customers. Inform them of the institutions' priorities and goals. Survey customers for performance feedback to see if operational shifts should be implemented.