The University of Maine

FY22 ROPA Final Presentation

Presenters: Jordan Morris and Emma Viles
Introduction
A Vocabulary for Measurement
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

Asset Value Change
Operations Success

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Core Observations

Space:
• UMaine is an older campus than peers, and is comprised of smaller, less complex buildings.

Capital:
• UMaine has funded under the Annual Investment Target for the last 8 years of analysis, adding an estimated $100 M to the Asset Reinvestment backlog over that span.

Operations:
• Operating costs increased in 2022 across all categories (people 13%, expenses 17%, utilities 16%)
# UM Facilities Peer Institutions

Benchmarking analysis includes all campus facilities totaling 4.45M GSF

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>Indiana University of PA</td>
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<tr>
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<td>University of Vermont</td>
<td>Burlington, VT</td>
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<tr>
<td>West Chester University of PA</td>
<td>West Chester, PA</td>
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## Comparative Considerations

Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions.
Qualifying Metrics: Tech Rating and Density Factor

**Tech Rating**
- Arranged by Tech Rating

**Density Factor**
- Arranged by Density Factor

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>UM</th>
<th>C</th>
<th>D</th>
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**Impacts**
- Energy Consumption
- Maintenance Staffing Levels
- Stewardship Need
- Maintenance Materials

**User Perception**
- Wear and Tear of Space
- Custodial Staffing Levels
- User Perception

**Notes**
- More Complex: UM
- More Busy: J
- Less Complex: A
- Less Busy: A
Qualifying Metric: Building Intensity

UM is comprised of more, smaller buildings than peers and database

![Building Intensity Chart]

- Daily Operating Costs
- Energy Consumption
- "Windshield Time" for Staff
- Economies of Scale

Peer Average
Database Average

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% Change in GSF and Enrollment Since FY05

Space and enrollment growth at UM are below that of peers

Change in GSF and Enrollment vs. Peers
Indexed to FY05

UM GSF

UM Enrollment

Peer GSF

Peer Enrollment
Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

% of GSF by Construction Year

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

- **Post-War**
  - Built 1951 - 1975
  - Lower quality
  - Needs more repairs & renovation

- **Modern**
  - 1975 - 1990
  - Quick flash construction
  - Low quality components

- **Complex**
  - Built post-1991
  - Technically complex
  - Higher quality
  - More expensive to maintain or repair
Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

% of GSF by Construction Year

Pre-War
- Built pre-1951
  - Durable construction
  - Older but lasts longer
  - UM E&G: 36%
  - UM AUX: 8%

Post-War
- Built 1951 - 1975
  - Lower quality
  - Needs more repairs & renovation
  - UM E&G: 26%
  - UM AUX: 71%

Modern
- Built post-1991
  - Technically complex
  - Higher quality
  - More expensive to maintain or repair
  - UM E&G: 23%
  - UM AUX: 20%

Complex
- 1975 - 1990
  - Quick flash construction
  - Low quality components
  - UM E&G: 15%
  - UM AUX: 1%
Putting Your Campus Building Age in Context

The campus age drives the overall risk profile

% of GSF by Construction Year

Pre-War
Built pre-1951
- Durable construction
- Older but lasts longer
- UMM: 14%
- DB: 20%

Post-War
Built 1951 - 1975
- Lower quality
- Needs more repairs & renovation
- UMM: 56%
- DB: 36%

Modern
1975 - 1990
- Quick flash construction
- Low quality components
- UMM: 13%
- DB: 14%

Complex
Built post-1991
- Technically complex
- Higher quality
- More expensive to maintain or repair
- UMM: 17%
- DB: 30%

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UM Renovation Age Distribution

78% of space at UM is in the high-risk (over 25 years old) category, with 61% of space over 50 years old.

- **FY22 Campus Age by Category**
  - UM Construction Age: 66% Under 10, 19% 10 to 25, 14% 25 to 50, 1% Over 50
  - Peer Construction Age: 48% Under 10, 18% 10 to 25, 13% 25 to 50, 1% Over 50
  - UM Renovation Age: 61% Under 10, 17% 10 to 25, 18% 25 to 50, 3% Over 50
  - Peer Renovation Age: 34% Under 10, 26% 10 to 25, 19% 25 to 50, 21% Over 50

- **Weighted Age**
  - UM Construction: 58
  - Peer Construction: 45
  - UM Renovation: 54
  - Peer Renovation: 36

- **Capital Risk:**
  - Medium Risk: Lower cost space renewal updates needed.
  - Higher Risk: Life Cycles coming due in core building components.
  - Lowest Risk: “Honeymoon” period – little need for capital reinvestment.

- **Operational Demands:**
  - Focus on PM: Significant need for PM in young systems.
  - Balance PM and Reactive Maintenance: Younger components still require PM.
  - React as Needed: Issues in components past the end of their lifecycles will demand reactive maintenance.
  - Aging components require reactive maintenance.
UM Has Performed Less Gut Renovations than Peers

On average, peers have offset campus age by five more years than UM

Peer Avg Age Reduction = 9 Years

*Arranged by Tech Rating
Construction Age vs. Renovation Age

On average, peers have offset 8 more years than UMM

Construction Age vs Renovation Age

Institution | Location
--- | ---
Fitchburg State University | Fitchburg, MA
Keene State College | Keene, NH
Lack Haven University of PA | Lock Haven, PA
Mansfield University of PA | Mansfield, PA
University of Alaska - Juneau | Juneau, AK
University of Maine at Fort Kent | Fort Kent, ME
University of Maine at Presque Isle | Presque Isle, ME
Worcester State University | Worcester, MA

*Arranged by Tech Rating

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Capital Profile
Total Capital Investment

Average total capital investment $23.0M/year from FY05-FY22

Total Capital Investment

$ in Millions

FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 FY19 FY20 FY21 FY22

Student Rec/Fitness
Wells
Aubert
Hilltop
MCA

Memorial Gym
Estabrooke
Nutting Hall
Alfond
Heat Plant

Engineering
Education and
Design

| $0 | $5 | $10 | $15 | $20 | $25 | $30 | $35 | $40 | $45 | $50 |

UM Total Investment FY05-FY22

50% 39% 10%

Peers Total Investment FY05-FY22

46% 41% 13%

Existing Space Infrastructure New Space
Total Capital Investment

Average total existing space and infrastructure capital investment $13.9 M/year from FY05-FY22
Total Capital Investment vs Peers

Peers investing $2.88/GSF more than UM from FY05-FY22
Total Project Spending by Package

44% of UM’s historical spending is into high ROI projects such as Envelope and Building Systems

Capital Investment by Project Package

UM Investment Mix

FY05-FY22

- Envelope: 33%
- Building Systems: 28%
- Space Renewal: 28%
- Safety/Code: 11%
- Infrastructure: 11%

44% of UM’s historical spending is into high ROI projects such as Envelope and Building Systems.
Defining an Annual Investment Target

Gordian recommends an Annual Funding Target of $26.3M into existing space

- **FY22 Annual Investment Target**
  - 3% Replacement Value: $52.6M
  - Life Cycle Need: $22.4M
  - Annual Investment Target: $11.2M

**Standard Accounting Model:**
- Replacement Value: $1.75B
- Functional obsolescence drives investment prior to life cycles & discounts the annual investment target

**Gordian Methodology:**
- Envelope/Mechanical
- Space/Program

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Capital Performance vs. Investment Targets

UM combined investment in FY22 was $16.9M below Gordian’s Annual Investment Target

Total Capital Investment vs. Funding Target

- Annual Stewardship
- Asset Reinvestment
- Annual Investment Target
- Life Cycle Need

Increasing Net Asset Value
Lowering Risk Profile
Increasing Backlog & Risk
Asset Reinvestment Need $/GSF vs. Peers

When AR Need is normalized on a $/GSF basis, UM is among the highest and well above the $100/GSF threshold.
**Prediction: UM’s Current Needs**

### Asset Reinvestment Need & Prediction

- **$920** in Mechanical
- **$428** in Envelope
- **$236** in Space Renewal
- **$256** in Envelope

### Distribution of Current Needs

- **58%** for Buildings
- **27%** for Systems
- **15%** for Exteriors

### Major Current Building Needs

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<tr>
<th>Building</th>
<th>System</th>
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<tr>
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<td>HVAC</td>
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<tr>
<td>YORK HALL</td>
<td>HVAC</td>
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<tr>
<td>FOGLER LIBRARY-ORIG</td>
<td>Exteriors</td>
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<tr>
<td>KNOX HALL</td>
<td>HVAC</td>
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Prediction: UM’s Upcoming Renewal Needs

Asset Reinvestment Need & Prediction

<table>
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<tr>
<td>MEMORIAL UNION-ORIG</td>
<td>HVAC</td>
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</tr>
</tbody>
</table>

Major Upcoming Building Needs

- Distribution of Renewal Needs (FY23-FY32)
  - Mechanical: $920m (66%)
  - Envelope: $428m (14%)
  - Space Renewal: $236m (20%)

$920 in Millions

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Historic Funding vs Current and Renewal Needs

Shift in investment allocation needed towards mechanical systems and building envelope

Historical Investment (FY05-FY22)
- Mechanical: 44%
- Envelope: 11%
- Space Renewal: 45%

Distribution of All Needs (FY23-FY32)
- Mechanical: 62%
- Envelope: 23%
- Space Renewal: 15%

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Net Asset Value Compared to Peers

UM has a NAV of 48% representing the Transitional Stage

**NAV Index**

\[
\text{NAV Index} = \frac{(\text{Replacement Value} - \text{Building Needs})}{\text{Replacement Value}} \times 100
\]

*Arranged by Tech Rating*
Operations Profile
Facilities Operating Actuals

UM has operated at $0.94/GSF more than peers from FY18-FY22
FY22 Facilities Operating Actuals vs. Peers

FY22 Facilities Operating Actuals

UM FY22 Operating Costs Distribution
- 30%
- 5%
- 64%

Peers FY22 Operating Costs Distribution
- 26%
- 6%
- 68%

Arranged by Tech Rating
FY22 Daily Service vs. Planned Maintenance

Daily Service vs Peers

- A: $4.34
- B: $4.76
- UM: $0.00
- C: $4.76
- D: $4.34
- E: $0.00
- F: $4.34
- G: $0.00
- H: $4.34
- I: $0.00
- J: $4.34

Peer Average: $0.41
Database Average: $0.30

Planned Maintenance vs Peers

- A: $0.30
- B: $0.41
- UM: $0.00
- C: $0.30
- D: $0.41
- E: $0.00
- F: $0.30
- G: $0.41
- H: $0.00
- I: $0.30
- J: $0.41

Peer Average: $0.41
Database Average: $0.30

Arranged by Tech Rating

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Covering less space per FTE than peers, similar supervision

Older campus and higher $/GSF repair needs drive lower coverage ratio
Campus conditions drive coverage ratios

Custodial coverage similar to peers with outliers removed, coverage below database average
Grounds covering more acreage with less supervision

Challenges in filling grounds positions lead to increased coverage ratio compared to peers.
FY2022 Summary

**Space**
- The University of Maine has avoided growth in campus footprint while seeing a decrease in student enrollment.
- 61% of space is over 50 years old and requires significant investments in both renewal and modernization.

**Capital**
- Total capital investment has fallen short of target FY14 - FY22.
- Since FY05 peers have invested an average of $2.88/GSF more per year into existing facilities than The University of Maine.
- Approximately $256 Million “Current Need” across campus.

**Operations**
- Operating costs increased in FY22 for people, expenses, and utilities.
- Operating costs are $0.94 per GSF more than peers FY18-22
- High backlog of needs and older campus are forcing tighter maintenance coverage ratios than peers.
Daily Service Operating Actuals FY12-FY21

While People costs stay relatively the same, expenses have more fluctuation
Planned Maintenance Internal vs. External

FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15 FY16 FY17 FY18 FY19 FY20 FY21

$ in Millions

Internal

External

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