We ensure consistent and comparable analysis
Our QVQ process gives you the ability to make informed decisions

Measure
• Sightlines collects and assembles data on campus to quantify, verify, and qualify (QVQ Process) information.

Monitor
• Sightlines then analyzes data and creates a model to show the relationship between operating and capital issues.

Benchmark
• Using web-based technology, members can create custom benchmarks to document performance, strategically plan, take specific actions, and support the case for change.
A vocabulary for measurement
The Return on Physical Assets – ROPA\textsuperscript{SM}

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

- Asset Reinvestment
  - The accumulated backlog 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
Sightlines profile: 39 states, DC, Nova Scotia

Common facilities vocabulary

Consistent analytical methodology

Context through benchmarking
Identifying peer institutions

<table>
<thead>
<tr>
<th>Institution</th>
</tr>
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<tbody>
<tr>
<td>Bloomsburg University of PA</td>
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<td>West Chester University of PA</td>
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Identifying core issues on Millersville’s campus

**Space Profile**
- E&G and Auxiliary investments have made campus facilities more youthful.

**Capital Expenditures**
- Institutional funding has begun to aid Millersville in reaching their stewardship target
- Large investments from DGS has helped reduce backlog.

**Daily Operations**
- Measured planned maintenance expenditures have significantly increased at Millersville
- Relative to peers, Millersville is utilizing more resources in daily operations
- 11% reduction in energy consumption, aided through switch from electric to fossil fuel consumption.
Space Profile
Millersville in context: Density Factor

Density impacts operational demands, and capital investment need

Density Factor Impacted by the Following:

- Addition of MU Lancaster
- SMC Addition
- The Winter Visual and Performing Arts Center
- Institutional population decrease from 8,294 in FY10 to 8,134 in FY12.
Millersville in Context: Building Intensity

Building Intensity Impacts:
- Efficiency of Maintenance and Custodial Trades
- Capital Investment Need
- Energy Usage and Efficiency
Construction vs. Renovation Age

Significant renovations reset life cycles of affected buildings

Percentage of Space

- Construction Age
- Renovation Age

- Under 10
- 10 to 25
- 25 to 50
- Over 50
Historical renovation age of E&G Facilities

Purchase of the Ware Center and renovation of WVPAC make campus younger

E&G Facilities GSF

Peer E&G Facilities GSF

% of Space


% of Space

Renovation to SMC brings under 10 age group to 50%
Utilizing campus age to define capital strategies

Balanced age profile means balanced capital approach

% of Space by Age Category

Millersville

- Under 10: 43%
- 10 to 25: 16%
- 25 to 50: 7%
- 50 and Above: 31%

Peers

- Under 10: 30%
- 10 to 25: 40%
- 25 to 50: 19%
- 50 and Above: 14%

Buildings Under 10

Low Risk

- Little work. "Honeymoon" period.

Buildings 10 to 25

Medium Risk

- Lower cost space renewal updates and initial signs of program pressures

Buildings 25 to 50

Higher Risk

- Life cycles are coming due in envelope and mechanical systems. Functional obsolescence prevalent.

Buildings over 50

Highest Risk

- Life cycles of major building components are past due. Failures are possible. Core modernization cycles are missed.
Capital Expenditures
Historical capital expenditures

New Space Projects in FY11 & FY12:

- Student Memorial Center
- Winter Visual and Performing Arts Center
- The Ware Center Purchase

E&G Existing Space | Auxiliary Existing Space | New Space
Defining stewardship investment targets

Sightlines’ model utilizes specific characteristics of facilities to estimate need

Replacement Value: $723 Million

- 3% Replacement Value: $22.0
- Life Cycle Need (Equilibrium): $12.1
  - Envelope/Mechanical: $8.5
  - Space/Program: $4.2
- Functional Obsolescence (Target): $4.2
  - Envelope/Mechanical: $6.4

Depreciation Model
Sightlines Recommendation
Utilizing One-Time capital to reach life cycle need
Investments going to durable, long lasting projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Stewardship</th>
<th>Asset Reinvestment</th>
<th>Target Need</th>
<th>Equilibrium Need</th>
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<td>$15,500,000</td>
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Stewardship Mix
- Envelope/Mechanical: 80%
- Space/Programming: 20%

Equilibrium Need
- $25,000,000
- $30,000,000

Annual Stewardship
- $0
- $5,000,000
- $10,000,000
- $15,000,000
- $20,000,000
- $25,000,000
- $30,000,000

Asset Reinvestment
- $0
- $5,000,000
- $10,000,000
- $15,000,000
- $20,000,000
- $25,000,000
- $30,000,000
Capital spending vs. PASSHE peers

Significant investment into facilities aids in buying down backlog
The impact of one-time expenditures on backlog

Through one-time expenditures, Millersville has fared well compared to the peers.
Operations
Millersville in Context: Technical Complexity

Technical Complexity Impacts:

- Energy Consumption
- Maintenance Trades Demands and Efficiency
- Operational Expenditures
Operational expenditures

$576,000 change in expenditures since FY10
Tracking maintenance trades coverage ratios

Change in operating budget affect through changing GSF and FTEs

Relation of GSF and Maintenance Trades FTEs

% Change Since 2003


Maintenance Trades  Custodial Trades  Campus GSF
Increasing Planned Maintenance expenditures

Better tracking, reporting, and emphasis on work orders has helped PM increase...
Custodial operational benchmarks

**Custodial Staffing**

- Institutions Ordered By: Density Factor

**Custodial Materials $/GSF**

- Institutions Ordered By: Density Factor

**Custodial Supervision**

- Institutions Ordered By: Density Factor
Grounds trades operational benchmarks

**Grounds Staffing**

- Institutions Ordered By: Grounds Intensity

**Grounds Materials $/Acre**

- Institutions Ordered By: Grounds Intensity

**Grounds Supervision**

- Institutions Ordered By: Grounds Intensity

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**2007**

- Millersville
- Peer Average

**2008**

- Millersville
- Peer Average

**2009**

- Millersville
- Peer Average

**2010**

- Millersville
- Peer Average

**2011**

- Millersville
- Peer Average

**2012**

- Millersville
- Peer Average
Energy Consumption & Costs
Total energy consumption on Millersville’s campus

Increasing space is correlated with increasing energy consumption.

Energy Consumption and GSF

- Total MMBTU
- GSF

2003 - 2012

Fossil Consumption
Electric Consumption
GSF
Normalized consumption at Millersville

Energy Consumption

© Sightlines 2001-2012

- 90% Electric BTU/GSF
- 72% Fossil BTU/GSF
- 10% Electric BTU/GSF
- 28% Fossil BTU/GSF

Average 99,223
Impacts on total energy costs

Unit Costs by Fuel Type

Total Costs by Fuel Type
Calculating cost avoidance at Millersville

Cost avoidance is set on FY03 consumption levels at current years prices

- **Fossil Avoidance:** -$1,145,008
- **Electric Avoidance:** $2,020,413

![Graph showing cost avoidance from 2003 to 2012](image)
Millersville’s energy performance outpaces the average.
Concluding Comments

Campus Facilities

• Demolition of residence halls in future shift will dramatically shift the age of campus to younger space

Capital

• Maintaining and increasing stewardship funding will allow facilities to strategically plan future investment

Operations

• Addition of GSF, and decreasing people costs have attributed to a lower $/GSF operating expenditures
• FY12’s inspection scores remain at or below PASSHE peer average
• Continued efficient use of energy results in decreased consumption
Questions & Comments