Mississippi Institutions of Higher Learning
Presenter: Peter Reeves
June 18, 2014
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.
- 93% of ROPA members renewed in 2014
- We have clients in 42 states, the District of Columbia and four Canadian provinces
- More than 100 new institutions became Sightlines members since 2013

Serving the Nation’s Leading Institutions:

- 70% of the Top 20 Colleges*
- 75% of the Top 20 Universities*
- 33 Flagship State Universities
- 13 of the 14 Big 10 Institutions
- 9 of the 12 Ivy Plus Institutions
- 7 of 12 Selective Liberal Arts Colleges

* U.S. News Rankings

Sightlines advises state systems in:

- Alaska
- California
- Connecticut
- Hawaii
- Maine
- Massachusetts
- Minnesota
- Mississippi
- Missouri
- Nebraska
- New Hampshire
- New Jersey
- Pennsylvania
- Texas
- West Virginia
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

Annual Stewardship

Asset Reinvestment

Operational Effectiveness

Service

Asset Value Change

Operations Success
Progress Since 2011

> Through a combination of new construction, renovation, and demolition, the IHL has achieved a balanced age profile

> Both E&G and Housing have reduced the average age of buildings meaningfully over the last 8 years

> Increased capital investment has closed the gap to peers systems and slowed the rate of backlog growth

> Despite having fewer resources than peer systems, operational performance across the IHL has shown improvement in both efficiency and effectiveness
Space Profile — Driver of Challenges and Opportunities
Putting Your System Building Age in Context

The system age drives the overall risk profile

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

- **Post-War**
  - Built between 1951 and 1975
  - Lower-quality construction
  - Already needing more repairs and renovations

- **Modern**
  - Built between 1975 and 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 system age drives the overall risk profile.
Total Capital Investment

Total Capital Investment (E&G)

Millions

Total Capital Investment (Housing)

Millions

New Space Investment

Existing Space Investment

FY2007
FY2008
FY2009
FY2010
FY2011
FY2012
FY2013
FY2014

35%
65%

18%
82%
Investments Have Resulted in Younger Campuses

MS IHL Space over 25 years old

Percent of Space Over 25

2007 2008 2009 2010 2011 2012 2013 2014

E&G

Housing

2007 2008 2009 2010 2011 2012 2013 2014

56% 55% 53% 53% 49% 48% 48% 68%

68% 70% 68% 59% 54% 48% 39% 38%
IHL has less space over 25 than peers

FY14 IHL vs. Peers Space Over 25

Space over 25
E&G Avg

Percent of Space Over 25

A B C D E F G H I J

Space over 25
Housing Space Younger Than E&G Space

FY14 E&G vs. Housing Renovation Age

- Renovation Age (E&G)
- Renovation Age (Housing)
IHL Density Factor vs. Other Systems

FY14 IHL Density Factor vs Peers

Users/100,000 Sq Ft

- A
- B
- C
- D
- IHL
- E
- F
- G
- H
- I
- J

Density Factor
Peer Avg
Program and Residential Space

IHL Educational vs Residential Space

Educational Space per Student
Residential Space Per Student
Peer System Average
Variation Between Campus Density

Density Factor

Users/100,000 GSF

MVSU | MUW | DSU | ASU | OLE MISS | UMMC | JSU | USM | MSU

Density

Campuses Avg
Capital Investments — Recent trends improve IHL’s position
IHL Spending Closing the Gap to Peer Systems

IHL Total Spending, Existing Space

Total $/GSF

2007 2008 2009 2010 2011 2012 2013 2014

$0 $1 $2 $3 $4 $5 $6 $7

Annual Stewardship $/GSF Asset Reinvestment $/GSF Average

Peers Total Spending, Existing Space

Total $/GSF

2007 2008 2009 2010 2011 2012 2013 2014

$0 $1 $2 $3 $4 $5 $6 $7

Annual Stewardship $/GSF Asset Reinvestment $/GSF Average

IHL Total Spending

Closing the Gap to Peer Systems

Average spending per square foot (GSF) for IHL and Peers across different years, with a focus on Annual Stewardship and Asset Reinvestment funds.
Investments Reaching Target in Recent Years

Includes only the investment in existing facilities

Total Capital Investment vs. Funding Target

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


Millions

- 2007: $50.0
- 2008: $100.0
- 2009: $150.0
- 2010: $200.0
- 2011: $250.0
- 2012: $150.0
- 2013: $200.0
- 2014: $250.0

Legend:
- Annual Stewardship
- Asset Reinvestment
- Annual Investment Target
- Life Cycle Need
E&G and Housing Differ in Approach

Includes only the investment in existing facilities

Total Capital Investment vs. Funding
Target (E&G)

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

Total Capital Investment vs. Funding
Target (Housing)

- Increasing Net Asset Value
- Lowering Risk Profile
- Increasing Backlog & Risk
**Significant Growth in Total Backlog**

*IHL E&G backlog over $1 billion and is growing*

<table>
<thead>
<tr>
<th>Years</th>
<th>IHL Total Asset Reinvestment Backlog</th>
<th>E&amp;G</th>
<th>Housing</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>$1.31 Billion</td>
<td></td>
<td>$0.35</td>
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<tr>
<td>2014</td>
<td>$1.70 Billion</td>
<td>$1.70</td>
<td>$0.50</td>
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</tbody>
</table>

30% Increase in E&G and 42% Increase in Housing Backlog from 2007 to 2014.

Sightlines System Average ($/GSF): $96 / GSF
Capital Renewal – *Understanding the upcoming 10 Year Capital Needs*
MS IHL 10 Year Capital Needs

**Infrastructure & Modernization Need**
- Estimated based on building function and age, against a Sightlines database of needs.

**Renewal Needs:**
- Life cycle needs coming due between 2016-2025.

**Current Needs:**
- The subsystem has already failed
- The subsystem is functioning with substantial degradation of efficiency or performing at increased cost
Projecting the Investment Shortfall

10 Year Capital Forecast

• Historical funding levels will NOT address all the need over the next 10 years.
• Prioritizing buildings needs is critical

Asset Reinvestment Need

<table>
<thead>
<tr>
<th>Total Dollars (Millions)</th>
<th>Asset Reinvestment Need</th>
<th>Projected Investment</th>
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<tbody>
<tr>
<td>$2,000</td>
<td>$624</td>
<td>$909</td>
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<tr>
<td>$1,800</td>
<td>$749</td>
<td>$820</td>
</tr>
<tr>
<td>$1,600</td>
<td>$387</td>
<td>$710</td>
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</table>

10 Year Capital Forecast

- Current Need
- Renewal Need
- Modernization & Infrastructure
- Projected Investment
Prioritizing helps address highest risk needs

**10 Year Capital Forecast**

- While the needs are substantial, Historical funding levels will address the Immediate needs and 70% of the renewal needs over the next 10 years.
Operational Effectiveness –

*Highlighting efficiencies that have been observed over the last 3 years*
Operating Expenditures: Investment Remains Below Peers

FY14 Actual Expenditures $/GSF

- IHL
- Peers

- Daily Service
- PM
- Average
Operational Efficiencies Realized Since 2011

**Maintenance Staffing**

- **GSF/FTE**
  - IHL
  - Peers
- **General Repair Inspection Score**
  - IHL
  - Peers

**Grounds Staffing**

- **Acres/FTE**
  - IHL
  - Peers
- **Grounds Inspection Score**
  - IHL
  - Peers
Energy Consumption

![Energy Consumption Chart](chart.png)

- **BTU/GSF**
  - **2007**
  - **2008**
  - **2009**
  - **2010**
  - **2011**
  - **2012**
  - **2013**
  - **2014**

- **Energy Consumption Breakdown**
  - **Fossil BTU Per GSF**
  - **Electric BTU Per GSF**
  - **Average**
Variations in each campus’ space profile require a customized approach to funding capital needs across the system. A successful approach will:

- Develop a “catch-up” strategy to address older campuses to address significant accumulated needs.
- Maintain and grow annual capital funding to younger campuses, slowing the growth of backlog.

Capital Renewal provides the IHL with a tool to help understand and effectively target future building needs.

- Project Selection will be crucial to maximizing the impact of the resources that the IHL campuses have.
  - Target “high risk” immediate needs to minimize operational demands and service interruptions
  - Develop portfolios of buildings to identify and potentially divest of non–core assets
Questions & Discussion

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Associate Director; Member Services
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203 – 464 – 8847
## Peer Systems

### System Comparison Group

<table>
<thead>
<tr>
<th>Connecticut State Colleges &amp; Universities</th>
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</thead>
<tbody>
<tr>
<td>Massachusetts State Colleges and Universities</td>
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<tr>
<td>Pennsylvania State System of Higher Education</td>
</tr>
<tr>
<td>Rutgers University Campuses</td>
</tr>
<tr>
<td>University of Alaska System</td>
</tr>
<tr>
<td>University of Maine System</td>
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<tr>
<td>University of Massachusetts System</td>
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<tr>
<td>University of Missouri System</td>
</tr>
<tr>
<td>University System of New Hampshire</td>
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<tr>
<td>West Virginia Higher Education Policy Commission</td>
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</tbody>
</table>

### Comparative Considerations

Size, technical complexity, region, geographic location, and setting are all factors included in the selection of peer institutions.
Appendix #1: Space Profile
IHL slightly younger than peers

**FY14 IHL Renovation Age vs Peers**

- **Age**
- **Weighted Renovation Age**
- **Peer Avg**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>IHL</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
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<td>25</td>
<td>26</td>
<td>27</td>
<td>30</td>
<td>31</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>37</td>
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</tbody>
</table>

- **IHL** is noticeably younger than peers.
Campus Age Profile

Campus Age by Category

**Ordered by increasing space over 25**

<table>
<thead>
<tr>
<th>University</th>
<th>Under 10</th>
<th>10 to 25</th>
<th>25 to 50</th>
<th>Over 50</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>OLE MISS</td>
<td>39%</td>
<td>37%</td>
<td>22%</td>
<td>19%</td>
<td>106%</td>
</tr>
<tr>
<td>JSU</td>
<td>36%</td>
<td>26%</td>
<td>25%</td>
<td>20%</td>
<td>107%</td>
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<tr>
<td>UMMC</td>
<td>22%</td>
<td>37%</td>
<td>26%</td>
<td>39%</td>
<td>107%</td>
</tr>
<tr>
<td>MSU</td>
<td>26%</td>
<td>30%</td>
<td>28%</td>
<td>18%</td>
<td>103%</td>
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<tr>
<td>ASU</td>
<td>26%</td>
<td>28%</td>
<td>34%</td>
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<td>109%</td>
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<tr>
<td>USM</td>
<td>30%</td>
<td>30%</td>
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<tr>
<td>DSU</td>
<td>17%</td>
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<td>MUW</td>
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<td>103%</td>
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<tr>
<td>MVSU</td>
<td>24%</td>
<td>2%</td>
<td>2%</td>
<td>26%</td>
<td>100%</td>
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</tbody>
</table>

% of Total Campus GSF

**Ordered by increasing space over 25**

- Under 10
- 10 to 25
- 25 to 50
- Over 50
IHL less dense than peers
Appendix #2: Capital and Backlog
Defining an Annual Investment Target

FY14 Annual Investment Target

- 3% Replacement Value: $230.7
- Life Cycle Need: $124.9
- Annual Investment Target: $43.7

Replacement Value: $7.7B

Functional obsolescence drives investment prior to life cycles & discounts the annual investment target.
Defining an Annual Investment Target

FY14 Annual Investment Target (E&G)

- 3% Replacement Value: $163.1
- Life Cycle Need: $87.4
- Annual Investment Target: $30.6

Replacement Value: $5.4B

FY14 Annual Investment Target (Housing)

- 3% Replacement Value: $50.9
- Life Cycle Need: $30.3
- Annual Investment Target: $10.6

Replacement Value: $1.7B
Significant Growth in Total Backlog

IHL E&G backlog over $1 billion and is growing

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Dollars (Billions)</th>
<th>E&amp;G</th>
<th>30%</th>
<th>Housing</th>
<th>42%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>$1.31</td>
<td></td>
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<td>$0.35</td>
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</tr>
<tr>
<td>2008</td>
<td>$1.38</td>
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<td>$0.41</td>
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<tr>
<td>2011</td>
<td>$1.58</td>
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<td>$0.44</td>
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<tr>
<td>2012</td>
<td>$1.65</td>
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<td></td>
<td>$0.46</td>
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</tr>
<tr>
<td>2013</td>
<td>$1.68</td>
<td></td>
<td></td>
<td>$0.47</td>
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<tr>
<td>2014</td>
<td>$1.70</td>
<td></td>
<td></td>
<td>$0.50</td>
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</tbody>
</table>

$/GSF
- 2007: $74
- 2008: $74
- 2009: $77
- 2010: $81
- 2011: $84
- 2012: $86
- 2013: $87
- 2014: $89

$/GSF
- 2007: $60
- 2008: $64
- 2009: $67
- 2010: $64
- 2011: $68
- 2012: $75
- 2013: $75
- 2014: $81
IHL backlog less than peers

FY14 IHL Backlog vs Peers

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<th>D</th>
<th>E</th>
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<th>G</th>
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<th>J</th>
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<tbody>
<tr>
<td>$0</td>
<td>$20</td>
<td>$40</td>
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<td>$80</td>
<td>$100</td>
<td>$120</td>
<td>$140</td>
<td>$160</td>
<td>$180</td>
<td>$200</td>
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</tbody>
</table>

Backlog $/GSF

Peer Avg
Appendix #3: Capital Renewal
Capital Renewal: Predictive Investment Model

Asset Reinvestment Need

- Current Need: $387 Million
- Renewal Need: $749 Million
- Modernization & Infrastructure: $624 Million

10 Year Capital Forecast

- Current Need (Yellow)
- Renewal Need (Grey)
- Modernization & Infrastructure (Blue)
Capital Renewal: Predictive Investment Model

**Asset Reinvestment Need**

- **Total Dollars (Millions)**:
  - $0
  - $200
  - $400
  - $600
  - $800
  - $1,000
  - $1,200
  - $1,400
  - $1,600
  - $1,800
  - $2,000

- **Capital Renewal**
  - $387
  - $749

**10 Year Capital Forecast**

- **Total Dollars (Millions)**
  - $0
  - $50
  - $100
  - $150
  - $200
  - $250

- **Year**
  - 2016
  - 2017
  - 2018
  - 2019
  - 2020
  - 2021
  - 2022
  - 2023
  - 2024
  - 2025

Legend:
- **Current Need**
- **Renewal Need**
Current Need Breakdown

- HVAC: 49%
- Roof: 3%
- Space: 6%
- Electrical: 5%
- Envelope: 4%
- Fire Systems: 15%
- Mechanical: 1%
- Plumbing: 17%
- Roof: 3%

Asset Reinvestment Need

- Total Dollars (Millions): $2,000
- Current Need: $749
- Asset Reinvestment: $387
Projected Growth of Current Need with No Investment

Potential for Significant Growth
Appendix #4: Operations
Maintenance Coverage

Maintenance Staffing

IHL

Peers

Maintenance Staffing FY14

Average General Repair Inspection Score

Institutions Ordered By: Tech Rating
Custodial Coverage

Custodial Staffing

Custodial Staffing FY14

- Institutions Ordered By: Density Factor

**Excluding UMMC from Coverage**
Grounds Coverage

Grounds Staffing

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Grounds Inspection Score

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Grounds Staffing FY14

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<tr>
<th>Institution</th>
<th>Acres/FTE</th>
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<tr>
<td>MVSU</td>
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</table>

Legend:
- Grounds Staffing
- Average
- Average Grounds Inspection Score
Energy Consumption

**Ordered by Technical complexity**

**Fossil BTU Per GSF**

**Electric BTU Per GSF**

**Average**