University of Alaska Anchorage

ROPA+ Preliminary Presentation

November 2017
A Vocabulary for Measurement

The Return On Physical Assets - ROPA\textsuperscript{SM}

- **Asset Value Change**
  - The annual investment needed to ensure buildings will properly perform and reach their useful life: **“Keep-Up Costs”**
  - The accumulated backlog of repair / modernization needs and the definition of resource capacity to correct them: **“Catch-Up Costs”**

- **Annual Stewardship**

- **Asset Reinvestment**

- **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

- **Operations Success**

- **Asset Value Change**
## Peer Institutions

<table>
<thead>
<tr>
<th>Institution</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland State University</td>
<td>Portland, OR</td>
</tr>
<tr>
<td>University of Maine</td>
<td>Orono, ME</td>
</tr>
<tr>
<td>University of Alaska Fairbanks</td>
<td>Fairbanks, AK</td>
</tr>
<tr>
<td>University of Iowa</td>
<td>Iowa City, IA</td>
</tr>
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<td>University of Missouri– Kansans City</td>
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<td>University of Missouri– St. Louis</td>
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<td>Portland, ME</td>
</tr>
<tr>
<td>West Chester University of PA</td>
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Space
Putting Your Campus Building Age into Context

Campus age drives the overall risk profile

% of GSF by Construction Year

- Sightlines Database: Construction Age
- UAA

Reaching 30+ Years Old
Reaching 20+ Years Old
Putting Your Campus Building Age into Context

Campus age drives the overall risk profile

% of GSF by Construction Year

- Sightlines Database - Construction Age
- Anchorage
- KPC
- Kodiak
- PWSCC
- MatSu
Understanding Campus Age

Campus 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
Understanding Campus Age

Campus Age by Category

- Anchorage: 25% Under 10, 34% 10 to 25, 40% 25 to 50, 40% Over 50
- KPC: 55% Under 10, 46% 10 to 25, 56% 25 to 50, 56% Over 50
- Kodiak: 100% Under 10, 100% 10 to 25, 100% 25 to 50, 100% Over 50
- MatSu: 0.29% Under 10, 0.29% 10 to 25, 100% 25 to 50, 100% Over 50
- PWSCC: 42% Under 10, 42% 10 to 25, 38% 25 to 50, 47% Over 50

Legend:
- Under 10
- 10 to 25
- 25 to 50
- Over 50
Qualifying Metrics – Tech Rating and Density Factor

Tech Rating

<table>
<thead>
<tr>
<th>Tech Rating</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>UAA</th>
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Density Factor

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<th>D</th>
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<th>UAA</th>
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Qualifying Metrics – Building and Grounds Intensity

Building Intensity

<table>
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<tr>
<th>Buildings/1,000,000 GSF</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>UAA</th>
<th>F</th>
<th>G</th>
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<td>0</td>
<td>0</td>
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Grounds Intensity

<table>
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<tr>
<th>Buildings/Developed Acre</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>UAA-Anch</th>
<th>F</th>
<th>G</th>
<th>H</th>
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<tbody>
<tr>
<td>Avg.</td>
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<td>0.1</td>
<td>0</td>
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Capital
Capital Funding Sources

Total Operations and Asset Funding

Maintenance & Repair – M&R

Repair & Renew - R&R

Fund 1

Fund 2-9

Operations & Maintenance

Projects

Recurring Project Dollars

One-Time Project Dollars

Annual Stewardship

Asset Reinvestment

Alaska Terminology

Sightlines Terminology

People

Expenses

Utilities

Daily Service & PM

Utilities

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Over half of project spending has gone towards building new space
Capital Investment into Existing Space by Package

Capital Investment in Existing space

- Envelope
- Building Systems
- Space Renewal
- Safety/Code

UAA Capital Investment by Package
FY06 - FY17
- Envelope: 15%
- Building Systems: 16%
- Space Renewal: 45%
- Safety/Code: 24%

Peer Capital Investment by Package
FY06 – FY17
- Envelope: 10%
- Building Systems: 34%
- Space Renewal: 41%
- Safety/Code: 34%
Defining an Annual Investment Target

Annual Funding Target: $29.5M

FY17 Annual Investment Target

- 3% Replacement Value: $54.4M
- Life Cycle Need: $26.4M
- Annual Investment Target: $13.2M

Replacement Value: $1.84B

Functional obsolescence drives investment prior to life cycles & discounts the annual investment target.
Existing Space Capital Investment vs. Funding Target

Capital Investment into Existing Space vs. Funding Target

Increasing Net Asset Value
Lowering Risk Profile
Increasing Backlog & Risk

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

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Existing Space Project Spending Compared to Peers

Capital Investment into Existing Space

University of Alaska Anchorage – Composite

Peer Institutions

Annual Stewardship  Asset Reinvestment  Average

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Total Asset Reinvestment Need vs. Peers

UAA needs based off of BPS analysis

Total Asset Reinvestment Need vs. Peers

$/GSF


Peer Institutions

University of Alaska Anchorage

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FY17 Total Asset Reinvestment Need vs. Peers

UAA needs based off of BPS analysis
BPS Process

Project Identification
- Inventory
- Interviews
- Other studies

Building Portfolio Creation
- Group Buildings
- Outline investment strategies

Funding Identification
- What financial resources are available?

Funding Allocation
- By Portfolio
- By Investment Criteria

Project Codification
- Timeframe
- Package
- Investment Criteria

Project Selection
- Project scores
- Meet investment objectives

Multi-year capital investment plan
Building Asset Reinvestment Need at UAA

Project / Component Identification
- Existing Reports
- Walkthrough Inventory
- Visual Inspection

Staff Interviews and Qualification
- Project Timeframes
- Project Costing

Portfolio Development
- Combining Campus Needs and Prioritization

*RSMeans costing basis, vetted by Staff Experience
Total Identified Need On Campus

$1,188
$684
$264
$52
$70
$119
$0
$200
$400
$600
$800
$1,000
$1,200
$1,400

Grand Total Identified
Identify Timeframe X Projects
A-C Building (includes Backlog) + Infrastructure Needs

Total Asset Reinvestment Need

10 Year Need = $504M
Timeframe C: 8-10 Years
Timeframe B: 4-7 Years
Timeframe A: 1-3 Years
Backlog: Past Due
Backlog by Campus

- Anchorage Campus: $258 million
- Kodiak College: $1.2 million
- Prince William Sound College: $3.7 million
- Matanuska-Susitna College: $10 thousand
- Kenai Peninsula College: $656 thousand
Identified Needs by System

Identified Needs by System, by Timeframe

<table>
<thead>
<tr>
<th>System</th>
<th>Total Need, $ in millions</th>
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<tr>
<td>HVAC</td>
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<tr>
<td>Plumbing</td>
<td>$90</td>
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<tr>
<td>Interior Shell</td>
<td>$74</td>
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<tr>
<td>Electrical</td>
<td>$72</td>
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<tr>
<td>Exterior Shell</td>
<td>$71</td>
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<tr>
<td>Safety/Code</td>
<td>$47</td>
</tr>
<tr>
<td>Mechanical</td>
<td>$6</td>
</tr>
<tr>
<td>Grounds</td>
<td>$5</td>
</tr>
</tbody>
</table>

- Backlog
- A (1-3 years)
- B (4-7 years)
- C (8-10 years)
Identified Needs by Investment Criteria

10 Year Building & Infrastructure Needs

- **Reliability** – Issues of imminent failure of compromise to the system that may result in interruption to program or use of space.

- **Safety/Code** – Code compliance issues and institutional safety priorities or items that are not in conformance with current codes, even though the system is “grandfathered” and exempt from current code.

- **Asset Preservation** – Projects that preserve or enhance the integrity of buildings systems or building structure, or campus infrastructure.

- **Economic Opportunity** – Projects that result in a reduction of annual operating costs or capital savings.

- **Program Improvement** – Projects that improve the functionality of space, primarily driven by academic, student life, and athletic programs or departments. These projects are also issues of campus image and impact.
Anchorage Building Portfolios

Portfolios based upon building use

Total Needs
$469.6M

Transitional
$74.8M
300,960 GSF

Grounds/Infrastructure
$12M

Building Needs
$394.7M
2.5M GSF

Academic/Admin
$259.6M
1.5M GSF

Housing
$72.3M
193,398 GSF

Student Life/Athletics
$27.3M
342,588 GSF

Support
$18.9M
55,449 GSF

Science/Research
$17.3
146,588 GSF
Community Campuses

Portfolios based upon building use

- **Kenai Peninsula College**
  - Total Needs: $6.5M
  - 177,132 GSF

- **Kodiak College**
  - Total Needs: $2.9M
  - 43,930 GSF

- **Prince William Sound CC**
  - Total Needs: $8.5M
  - 66,159 GSF

- **MatSu College**
  - Total Needs: $2.5M
  - 156,964 GSF

Total Needs: $20.5M
Transitional Portfolio - $74.8M

Highest need building: Wells Fargo Sports Center
Academic/ Administrative - $259.6M

Highest need building: Consortium Library

Academic/Administrative Portfolio: Need by Building

% of totals and $ in Mil. by timeframe

- $58
- $28
- $15
- $159

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Academic/ Administrative - $259.6M

Buildings with less than $2M in need

Academic/Administrative Portfolio: Need by Building

- Natural Science Building
- Beatrice G Macdonald Building
- ANSEP Building
- Engineering & Industry Building
- University Lake Building
- University Lake Building Annex
- Transportation Research Center
- Grounds Staff Building
- Grounds Main Office Building
- Engineering & Computation Building

- Backlog
- A (1-3 years)
- B (4-7 years)
- C (8-10 years)

% of totals and $ in Mil. by timeframe
- $159
- $58
- $28
- $15

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Housing - $72.3M

Highest need building: East Hall

Housing Portfolio: Need by Building

- East Hall
- West Hall
- North Hall

Millions

- $25
- $17
- $8
- $27

% of totals and $ in Mil. by timeframe

*Does not include Templewood or MAC housing (see Transitional)
Student Life/Athletics Portfolio - $27.3M

Highest need building: Student Union

Student Life/ Athletics Portfolio: Need by Building

- Student Union
- Gorsuch, Edward Lee Commons
- Alaska Airlines Center
- Arcade & Bridge Lounge
- East Parking Amenities Building - Fireside Café

% of totals and $ in Mil. by timeframe:
- $14
- $6
- $4
- $4

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Support Portfolio - $27.4M

Highest need building: Bookstore

Other Buildings:
- West Bridge (spine 1)
- Greenhouse
- Administration Utility Building
- Custodial Storage Shed
- Greenhouse Storage
- Grounds Irrigation Equipment Shop
- Grounds Equipment Shop
- Wells Fargo Sports Center Ice Plant
- Health Sciences Skybridge
Science/Research - $17.9M

Highest need building: Conoco Phillips Integrated Sciences Building

Science/Research Portfolio: Need by Building

- Conoco Phillips Integrated Sciences Building
- Ecosystem-Biomedical Laboratory

% of totals and $ in Mil. by timeframe

- $14
- $2
- $0

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Kodiak College

Kodiak: Need by Building

% of totals and $ in Mil. by timeframe

$1.0
$1.2
$0.2
$0.5

Benson, Benny Building
Campus Center
Vocational Technology Building

Backlog A (1-3 years) B (4-7 years) C (8-10 years)

Millions

$1.4
$1.2
$1.0
$0.8
$0.6
$0.4
$0.2
$0.0
Prince William Sound Community Campus

PWSCC: Need by Building

% of totals and $ in Mil. by timeframe

- $4
- $3
- $2
- $1

- $0.0
- $1.0
- $2.0
- $3.0
- $4.0
- $5.0
- $6.0

- Growden-Harrison Building
- Copper Basin Hall
- Valdez Hall
- Valdez Warehouse
- Whitney Museum
- Cordova Hall

Backlog  A (1-3 years)  B (4-7 years)  C (8-10 years)
Net Asset Value

Calculating the percent good

$$\text{NAV Index} = \frac{\text{Replacement Value} - \text{Building Needs}}{\text{Replacement Value}} \times 100$$

Campus leadership can set different NAV levels for different buildings and portfolios, helping to balance capital investments across campus and prioritize project selection.

- **Capital Upkeep Stage**: Primarily new or recently renovated buildings w/ sporadic building repair & life cycle needs; “You pick the projects”
- **Repair and Maintain Stage**: Buildings are beginning to show their age and may require more significant investment on a case-by-case basis
- **Systemic Renovation Stage**: Buildings may require more significant repairs; large-scale capital infusions/ renovations are inevitable; “The projects pick you”
- **Demolition/Transitional/ Gut Renovation Stage**: Major buildings components are in jeopardy of complete failure.
Net Asset Value (NAV) by Portfolio - Anchorage

Measurement of the % of good

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>NAV</th>
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<tbody>
<tr>
<td>Transitional</td>
<td>53%</td>
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<tr>
<td>Residential</td>
<td>51%</td>
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<tr>
<td>Support</td>
<td>66%</td>
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<tr>
<td>Academic/ Administrative</td>
<td>75%</td>
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<tr>
<td>Athletic/ Student Life</td>
<td>78%</td>
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<tr>
<td>Science/ Research</td>
<td>89%</td>
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</table>

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Net Asset Value by Campus

NAV by Campus

Anchorage Campus: 68%
Prince William Sound College: 77%
Kodiak College: 89%
Kenai Peninsula College: 96%
Matanuska-Susitna College: 97%
Identifying Priority Buildings for Investment - Anchorage

A measurement of the percent ‘good’ in a building

NAV by Building

Capital Upkeep Stage
Repair and Maintain Stage
Systemic Renovation Stage
Gut Renovation/ Transitional/ Demolition Stage

Support Portfolio

Science/Research Portfolio
Identifying Priority Buildings for Investment - Anchorage

A measurement of the percent ‘good’ in a building

NAV by Building

Academic/Administrative Portfolio

- Engineering & Industry Building
- Engineering & Computation Building
- Beatrice G Macdonald Building
- Health Sciences Building
- University Lake Building
- University Lake Building Annex
- University Additions
- Natural Science Building
- Transportation Research Center
- ANSEP Building
- University Center
- Allied Health Sciences Building
- Aviation Technology Center
- 1901 Bragaw
- Fire Arts Building
- Fine Arts Building
- Gounds Staff Building
- Rasmussen, Edward & Cathryn Hall
- Auto/Diesel Technology Building
- Hartlief, Gordon W Hall
- Grounds Main Office Building
- Bunsrud, Sally Hall
- Administration / Humanities Building
- Williamson, Wendy Auditorium
- Cuddy, Lucy Hall
- Professional Studies Building
- Consortium Library (Original 1972 Section)
- Social Sciences Building

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Identifying Priority Buildings for Investment - Anchorage

A measurement of the percent ‘good’ in a building

NAV by Building

Student Life Portfolio  Housing Portfolio  Transitional Portfolio

0%  10%  20%  30%  40%  50%  60%  70%  80%  90%  100%

- Alaska Airlines Center
- East Parking Amenities Building - Fireside Café
- Arcade & Bridge Lounge
- Gorsuch, Edward Lee Commons
- Student Union
- North Hall
- West Hall
- East Hall
- Wells Fargo Sports Center
- Short, Eugene F.
- Templewood Buildings
- Student Housing Units

Capital Upkeep Stage
Repair and Maintain Stage
Systemic Renovation Stage
Gut Renovation/Transitional/Demolition Stage
Identifying Priority Buildings for Investment – Comm. Campus

Kenai Peninsula College and Kodiak College

NAV by Building

<table>
<thead>
<tr>
<th>Kenai Peninsula College Building</th>
<th>Kodiak College Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kachemak Bay Science Building</td>
<td>Campus Center Building</td>
</tr>
<tr>
<td>Pioneer Hall</td>
<td>Vocational Technology Building</td>
</tr>
<tr>
<td>Bayview Hall</td>
<td>Benson, Benny Building</td>
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<tr>
<td>Campus Warehouse</td>
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<tr>
<td>Education Center</td>
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<tr>
<td>Mining and Petroleum Training Service Center of Excellence</td>
<td>Goodrich, Clarence Building</td>
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<tr>
<td>Dennis and Ginger Steff Building</td>
<td>Ward, Walter E.S. Building</td>
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<tr>
<td>Career Technical Education Building</td>
<td>Student Housing Complex</td>
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<td>Mclane, Enid S Building</td>
<td>Brielle, Clayton R Building</td>
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<td>Campus Center</td>
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<td>Dennis and Ginger Steff Building</td>
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<td>Career Technical Education Building</td>
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<td>Mclane, Enid S Building</td>
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<tr>
<td>Career Technical Education Building</td>
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<tr>
<td>Mclane, Enid S Building</td>
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Stage Breakdowns:
- **Capital Upkeep Stage**
- **Repair and Maintain Stage**
- **Systemic Renovation Stage**
- **Gut Renovation/Transitional/Demolition Stage**
# Identifying Priority Buildings for Investment – Comm. Campus

Matanuska-Susitna College & Prince William Sound College

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<th>Building Name</th>
<th>Matanuska-Susitna College</th>
<th>Prince William Sound College</th>
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<tbody>
<tr>
<td>Valley Center of Art and Learning (VCAL)</td>
<td>Bridge</td>
<td></td>
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<tr>
<td>Oksorn, Alaska Building</td>
<td>Shodgrass Hall</td>
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</tr>
<tr>
<td>Ortner Warehouse</td>
<td>Kertula, Jamar M Building</td>
<td></td>
</tr>
<tr>
<td>Ortnetan, Fred &amp; Sara Building</td>
<td>Cordova Hall</td>
<td></td>
</tr>
<tr>
<td>Whitney Museum</td>
<td>Valdez Hall</td>
<td></td>
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<tr>
<td>Growden-Harrison Building</td>
<td>Copper Basin Hall</td>
<td></td>
</tr>
<tr>
<td>Valdez Warehouse</td>
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### NAV by Building

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<th>Percentage</th>
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### Stages of Investment

- **Capital Upkeep Stage**
- **Repair and Maintain Stage**
- **Systemic Renovation Stage**
- **Gut Renovation/Transitional/Demolition Stage**
Total Asset Reinvestment Need less Transitional

Targeted Funding

- Total 10 Year Need: $504
- Backlog, A, B, C Timeframes: $264
- Transitional Adjustment: $75
- Adjusted 10 Year Need: $204

Total Need, $ in millions:
- Targeted Funding: $112
- Transitional Adjustment: $69
- Adjusted 10 Year Need: $44

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Targeting Funding away from Transitional Portfolio

Targeted Funding

<table>
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<th>Total Need, $ in millions</th>
<th>Targeted Funding</th>
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<tr>
<td>Total 10 Year Need</td>
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<tr>
<td>Transitional Adjustment</td>
<td>$75</td>
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<td>Adjusted 10 Year Need</td>
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Scenario A: Total State Requested Funding

<table>
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<tr>
<th>Total Need, $ in millions</th>
<th>Scenario A. Targeted Funding</th>
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<tbody>
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<td>Transitional Adjustment</td>
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<td>Unfunded Needs</td>
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Scenario B: Historical State Allocation

Scenario A. Targeted Funding

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<th>Category</th>
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<tbody>
<tr>
<td>Total 10 Year Need</td>
<td>$504</td>
</tr>
<tr>
<td>Transitional Adjustment</td>
<td>$75</td>
</tr>
<tr>
<td>Adjusted 10 Year Need</td>
<td>$429</td>
</tr>
<tr>
<td>State Funded</td>
<td>$51</td>
</tr>
<tr>
<td>Unfunded Needs</td>
<td>$377</td>
</tr>
</tbody>
</table>
Impact of Scenario C on Future Campus Need

Targeted Funding

- Total 10 Year Need: $504
- Transitional Adjustment: $75
- Adjusted 10 Year Need: $429
- State Funded: $0
- Predicted Need: $429

Total Need, $ in millions
Operating
Facilities Operating Expenditures vs. Peers

Facilities Operating Actuals

$/GSF


University of Alaska Anchorage-Main

Daily Service PM Utilities Avg.

Peer Institutions

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Facilities Operating Expenditures vs. Peers

Facilities Operating Actuals
COLI Adjusted

Daily Service  PM  Utilities  Average

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Energy Consumption vs. Peers

Total Utility Consumption by Fuel Type

University of Alaska Anchorage

Peer Institutions

BTU/SGF

0 20,000 40,000 60,000 80,000 100,000 120,000 140,000 160,000 180,000 200,000


Fossil Electric Average

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Energy Unit Cost vs. Peers

Electric unit cost has nearly doubled since FY06

Fossil Fuel Unit Cost

$/MMBTU


UAA Peers

Electric Unit Cost

$/kWh


UAA Peers
UAA Allocates More Resources to PM than Peers

Increases in PM program yield savings down the road by protecting assets
Maintenance Staffing Coverage

Maintenance Staffing

<table>
<thead>
<tr>
<th>Year</th>
<th>GSF/FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>54,199</td>
</tr>
<tr>
<td>2007</td>
<td>54,819</td>
</tr>
<tr>
<td>2008</td>
<td>55,344</td>
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<td>2009</td>
<td>59,135</td>
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<td>2015</td>
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<td>59,797</td>
</tr>
<tr>
<td>2017</td>
<td>64,569</td>
</tr>
</tbody>
</table>
Maintenance Metrics

Maintenance Staffing

Maintenance Supervision

Maintenance Materials

General Repair/Impression
Custodial Staffing Coverage

Maintenance Staffing

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<tr>
<th>Year</th>
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</tbody>
</table>
Custodial Staffing Coverage

Custodial Staffing

<table>
<thead>
<tr>
<th>Year</th>
<th>GSF/FTE</th>
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</thead>
<tbody>
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<tr>
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<td>2015</td>
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<tr>
<td>2016</td>
<td>43,194</td>
</tr>
<tr>
<td>2017</td>
<td>42,661</td>
</tr>
</tbody>
</table>
Custodial Metrics

**Custodial Staffing**

- **GSF/FTE**
  - A
  - B
  - C
  - D
  - E
  - F
  - UAA
  - G
  - H

**Custodial Materials**

- **$/GSF**
  - A
  - B
  - C
  - D
  - E
  - F
  - UAA
  - G
  - H

**Custodial Supervision**

- **FTE/Super**
  - A
  - B
  - C
  - D
  - E
  - F
  - UAA
  - G
  - H

**Cleanliness**

- Peers
  - 4
- UAA
  - 5
Grounds Staffing Coverage

Grounds has been increasing responsibility per staff member since FY13

![Grounds Staffing](chart.png)
Grounds Metrics

### Grounds Staffing

- **Acres/FTE**
  - UAA: 30
  - A: 20
  - B: 10
  - C: 30
  - D: 20
  - E: 10
  - F: 20
  - G: 10
  - H: 30

### Grounds Supervision

- **FTE/Super**
  - UAA: 5
  - A: 4
  - B: 3
  - C: 2
  - D: 3
  - E: 4
  - F: 5
  - G: 3
  - H: 1

### Grounds Materials

- **$/Acre**
  - UAA: 1,500
  - A: 1,000
  - B: 500
  - C: 1,000
  - D: 500
  - E: 1,000
  - F: 500
  - G: 1,000
  - H: 500

### Grounds Inspection Score

- **Peers**
  - Score: 4

- **UAA**
  - Score: 4

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Questions & Discussion